

The Secretary  
Financial System Inquiry  
GPO Box 89  
Sydney NSW 2001

March 24, 2014

**Re: Submission to the Financial System Inquiry**

Dear Sir/Madam,

Please find attached a submission from the Australian Centre for Financial Studies (ACFS) responding to the call for submissions for the Financial System Inquiry. This submission provides information from our Funding Australia's Future project that is relevant to the following sections of the terms of reference:

- 1.1. How Australia funds its growth
- 1.2. Domestic Competition and International Competitiveness
- 3.3. Changes in the way Australia sources and distributes capital, including the intermediation of savings through banks, non-bank financial institutions, insurance companies, superannuation funds and capital markets;

The submission comprises three documents:

1. Funding Australia's Future: From where do we Begin?
2. Funding Australia's Future: The Future Demand and Supply of Finance
3. Funding Australia's Future: Improving Australia's Financial Infrastructure

Key points raised in the reports relating to the specified sections of the terms of reference follow below:

1. **Patterns of financing in Australia have not caught up with the fundamental long run shift in the flow of household savings into superannuation.** This leads to two important issues:
  - First, super funds are traditionally thought of as vehicles for investment in existing financial assets, rather than creators (such as banks) of new financial assets associated with new real investment opportunities.
  - If banks face a declining share of new savings, how will the supply of new financial assets (securities) available for super fund investment be created? Will super funds take on, in some way, a larger role as creators of financial assets?

2. **The role of banks as liquidity creators will change.** An important traditional role of banks has been the creation of liquidity by issuing liquid liabilities (deposits) and investing in illiquid assets (loans). But with the development of superannuation, there is now a large pool of illiquid savings currently invested primarily in liquid assets (long term securities such as equities and debt which are given liquidity through the existence of secondary capital markets such as the ASX). Aligned with prudential regulation (the liquidity requirements of Basel 3) inducing less liquidity creation by banks, this growth of illiquid savings raises the prospect of less liquidity transformation being required, as well as alternative ways of it being done. Not only could super funds invest directly in new illiquid assets (with risk and return of the underlying real investment proposals and financial arrangements assessed either in-house or by third parties such as investment banks), they could also buy illiquid assets originated by others such as banks. An important issue in this regard is the extent to which super funds currently feel constrained to limit investments in illiquid assets to allow for potential future changes in asset allocation (or member withdrawals), and whether there are investment structures (perhaps of the mutual fund variety) which could evolve to mitigate such liquidity constraints.
3. **Technology advances will provide further scope for disintermediation.** To date there has been relatively little direct financing of households by households (P2P) and of business by business (B2B), apart from trade credit, however ongoing developments in technology and information availability could facilitate such developments. Reflecting these potential changes, it can be expected that existing financial institutions will attempt to influence the speed and direction of change (through both market responses and lobbying) and that their activities and structures may change as a result.
4. **The current system is not well equipped to meet infrastructure investment needs.** Population growth and technological change are driving a need for significant infrastructure investment which governments are unwilling to fund on-budget, while bank lending is heavily focused on households and, arguably, constrained by deposit supply. Superannuation funds appear averse to the risk and illiquidity of large positions in individual infrastructure projects, and taking on project risk of “greenfield projects”.
5. **The competitive advantage of banks relative to non-bank lenders has decreased significantly.** With households increasingly having access to wholesale market interest rates through other means such as mutual funds, the longstanding competitive advantage of banks of large scale, low cost, retail deposit funding is in decline. Whether banks retain a funding advantage depends on how much depositors value the liquidity features, payment facilities, and low risk characteristics of bank deposits – and on the costs to banks of providing these characteristics relative to those of potential competitors. For example, cash management trusts (money market mutual funds) can provide liquidity, payments services and relatively

low risk, but their growth in Australia has been hampered by a relative lack of short term high quality money market instruments available for investment. More speculatively, the potential for “e-money” such as pre-paid credits on mobile phones, transferable via SMS messages, to emerge as an effective competitor for bank deposits as a form of money should not be ignored.

**6. The current system does not adequately provide products tailored to our ageing population.**

Banks and other lenders have been slow to develop attractive, low risk, products such as reverse mortgages to enable retirees to access the equity in their homes. Similarly, a wide range of pension products has failed to develop, or be taken up, in the face of the ability of retirees to maintain managed account (allocated) pensions or take lump sum payouts. While banks could, in principle, offer longer-term annuity style deposit products for retirees based on their diversified loan portfolios (and partially offset the effect of household super contributions on deposit inflow), other potential providers are handicapped by the absence of long term fixed interest securities available in the market.

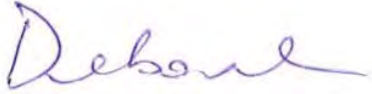
**7. The securitisation market is likely to increase in significance.** If banks hold assets on their own books they will face a significant capital impost. It will thus make sense for them to pass assets, and particularly long lived assets, on to other institutions which do not face the same costs. This suggests there will be a general tendency for the asset holdings of banks to shrink, as assets are passed on to households, insurance companies and superannuation funds which have a greater appetite for long dated investments than will banks under Basel III. By cutting the duration of equity this will reduce the term risk of banks.

**8. The question of whether domestic competition amongst financial system participants is sufficient deserves further attention.** The contribution of finance and insurance to gross value added (and GDP) appears to be significantly larger for Australia than for any of the G7 countries (Table 9). The crucial, unanswered, question here is whether this reflects a larger real contribution to economic activity, perhaps reflecting financing requirements of the high level of investment in Australia, or higher relative rewards to factors of production in that sector in Australia. Gross Value Added is, essentially, remuneration of employees plus profits, such that higher GVA could reflect a lower level of competition with the consequences being higher remuneration and profits.

**9. Policies to promote the export of Australian financial services should be considered.** The degree to which Australia’s financial sector is engaged with the international economy has increased significantly since the financial liberalization process that commenced in the mid-1980s. However, Australia’s finance sector is less outward looking than the finance sector of many otherwise comparable economies. Opportunities for further integration and policies to promote international competitiveness should be explored.

We would be happy to discuss the issues raised in the submission in more detail with Treasury if required.

Yours sincerely,

A handwritten signature in purple ink, appearing to read 'Deborah', is positioned above the printed name.

Professor Deborah Ralston

Executive Director, ACFS

# Funding Australia's Future:

From where do we begin?

---



Professor Kevin Davis

---

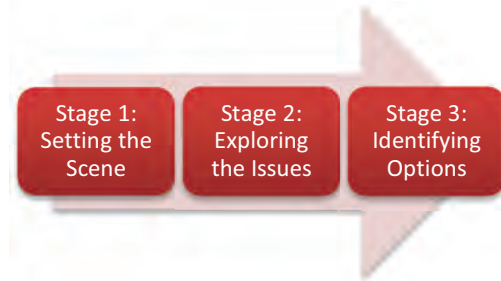
[www.fundingaustraliasfuture.com/fromwheredowebegin](http://www.fundingaustraliasfuture.com/fromwheredowebegin)

## **Funding Australia's Future**

The Australian Centre for Financial Studies (ACFS) instigated the project *Funding Australia's Future* in late 2012 to undertake a stocktake of the Australian financial system, and its role in facilitating economic growth within the wider economy.

In an economy which has enjoyed 21 years of consecutive economic growth and shown a resilience through the Global Financial Crisis (GFC) which is the envy of many nations, the financial sector has played a strong and pivotal role. The past decade, however, has been one of significant change. The impact of the GFC and the subsequent wave of global re-regulation have had a profound effect on patterns of financing, financial sector structure, and attitudes towards financial sector regulation. Identifying the extent to which these changes are transitory or likely to be more permanent is crucial to understanding how financing patterns and the financial sector will develop over the next decade or so.

The *Funding Australia's Future* project is in three stages, the first of which analyses the interaction between suppliers of funds, financial sector participants, and end users throughout the economy and assesses future demand for and supply of finance in Australia.



In undertaking this analysis, ACFS has worked with a group of financial sector stakeholders, including the Australian Bankers Association (ABA), Abacus, the Australian Finance Conference (AFC), the Australian Financial Markets Association (AFMA), the Association of Superannuation Funds of Australia (ASFA), the Australian Securitisation Forum (ASF), the Australian Securities Exchange (ASX), the Future Fund, the Financial Services Council (FSC), the Insurance Council of Australia (ICA), and National Australia Bank (NAB), as well as Treasury and the Reserve Bank of Australia (RBA).

This paper is one of three in Stage One, which include:

- “Financing Australia’s Future: from where do we begin?” – authored by Professor Kevin Davis, Australian Centre for Financial Studies, University of Melbourne;
- “The Future Demand and Supply of Finance” – authored by Professor Rod Maddock, Monash University and Victoria University; and
- “Improving Australia’s Financial Infrastructure” – authored by Dr Daniel Mulino, Pottinger.

Issues identified in Stage One of the project will be examined in some detail in Stage Two, with policy options being addressed in Stage Three.

## Notes on the Authors

**Professor Kevin Davis:** Kevin is the Research Director of the Australian Centre for Financial Studies and has been Professor of Finance at The University of Melbourne since 1987. He currently holds a part time appointment at Melbourne University and also as a Professor at Monash University in his role as Research Director of ACFS. He is a member of the Australian Competition Tribunal, a Director of SIRCA, and was on the Board of Melbourne University Credit Union from 1991 – 2011. Kevin has co-authored/edited sixteen books and has published numerous chapters in books and articles in academic journals. Kevin has extensive consulting and training experience, is a regular contributor to public debate on financial matters, and a regular speaker at industry and academic conferences. In 2003 Kevin was appointed by the Federal Treasurer to prepare a report on “Financial System Guarantees”, assessing the case for introduction of deposit insurance.

**Dr Daniel Mulino:** Daniel is the Director, Policy at Pottinger (an independent corporate advisory firm). He has a PhD in Economics from Yale University (2005), a Master of Economics from the University of Sydney (Hons, 1st), and a Bachelor of Arts/Bachelor of Laws (Hons) from Australian National University. Daniel has undertaken research into the relationship between international capital flows, migration and the impacts of an ageing society at the Board of Governors of the Federal Reserve of the United States and worked as a consultant to the Private Sector Advisory Services Group of the World Bank. In Australia, he was Economic Adviser to the Minister for Employment and Workplace Relations, Minister for Financial Services and Superannuation, where he worked on the establishment of, and the Minister's interaction with, the Natural Disaster Insurance Review, as well as government adoption of the Investment Manager Regime, one of the key recommendations arising from the Johnson Review into Australia as an international financial centre.

**Professor Rodney Maddock:** Rod is an Adjunct Professor at Monash University and was been a senior executive at the Commonwealth Bank for the last decade after earlier stints as Chief Economist for the Business Council of Australia, and Head of Economic Policy in the Victorian Cabinet Office. Prior to that, Rod was one of Australia's leading academic economists as Professor of Economics at Latrobe University. He is currently working on a book on the history of the Australian economy.

**Peter Munckton:** Peter is a Sydney-based consultant, He has long experience in the sector having been general manager for strategy at the Commonwealth Bank and earlier Head of Debt Market Research at CBA.

\* The Australian Centre for Financial Studies (ACFS) is a not-for-profit consortium of Monash, RMIT, Deakin, Griffith and Melbourne Universities, and Finsia (Financial Services Institute of Australasia). ACFS facilitates industry-relevant and rigorous research and consulting, thought leadership and independent commentary. Drawing on expertise from academia, industry and government, the Centre promotes excellence in financial services.

[www.australiancentre.com.au](http://www.australiancentre.com.au)

## Table of Contents

<b>1. Introduction .....</b>	<b>4</b>
<b>2. Consequences of the GFC for Australian financial flows.....</b>	<b>11</b>
2.1 Financial Sector Structure and Size .....	11
2.2 Sectoral Trends.....	18
<b>3. Current Australian Financing Patterns .....</b>	<b>28</b>
3.1 Financial Sector .....	29
3.2 Household Sector .....	33
3.3 The Corporate/Business Sector.....	35
3.4 Government Finances.....	38
3.5 International Position .....	39
3.6 Interrelationships .....	41
<b>4. An Assessment .....</b>	<b>44</b>
<b>Reference List.....</b>	<b>53</b>



## 1. Introduction

The objective of this paper is to provide an overview of the current structure and trends in financing patterns and portfolio allocation in Australia plus an initial, high level, assessment of how those factors may affect the efficiency of the financing process and influence its future development. It aims to provide background material for subsequent research focused on identifying and influencing future possible developments in Australia's financial structure affecting efficient financing of economic activity.

Inherent in the approach of the paper is the premise that the financial sector is in a constant state of adaptation to new developments in technology, innovation and regulation, and changes in the pattern of demand for and supply of finance by end users<sup>1</sup>. While the ultimate economic functions of the financial sector<sup>2</sup> can be assumed to remain constant, the types of financial services and products used, and relative importance of different types of financial firms and markets, can be expected to adapt over time in response to such underlying forces. Understanding future possibilities for financial sector evolution thus requires recognition of its current structure and recent trends as the starting point – even though future developments in technology, innovation and real sector developments are, to large degree, unpredictable.

Also important to the analysis of this paper are a number of core principles:

1. The level of risk in the economy must ultimately be borne by individuals (both local and foreign) as the ultimate owners of real and financial assets and taxpayers. The financial sector can influence the amount of aggregate risk taking (through allocation of funds to different real investments), affect how that risk is distributed (through financing structures), and amplify or moderate the effects of shocks to the system.
2. In the short run in aggregate, and absent financial crises, the role of bank deposits as money gives them an aura of indestructibility. Financial and real decisions by others involve primarily a change in the ownership of system wide bank deposits rather than their total.
3. In the longer run, the quantity of bank deposits and other financial assets will reflect portfolio preferences of ultimate end users of the financial sector (households, business, government and the overseas sector). That may involve adjustments to the absolute scale of bank balance sheets, reflecting preferences of end users, banks themselves, and governments (via the monetary authorities) regarding desired levels of leverage in the economy. (For example, expansionary monetary policy can

---

<sup>1</sup> Australian households, business, government and entities in the rest of the world engaged with Australia.

<sup>2</sup> As described in (Merton 1995) and discussed further in the paper in this collection by Dr Mulino

accommodate or induce increased bank lending which leads to increased bank deposits). However, at least some part of the adjustment is via any disequilibrium in asset holdings leading to changes in aggregate real income, prices, interest rates and exchange rates which affect asset demands and thus remove the disequilibrium.

4. While one of the key roles of the financial sector is facilitating the efficient flow of new savings into new real investments, these (very important) flows are relatively small compared to the aggregate stock of financial assets (arising from past savings and investment decisions) in the economy.<sup>3</sup> Changes in portfolio preferences, including for leverage, which affect asset prices and returns can thus have significant effects on savings and investment. Analysis of sectoral balance sheet sizes, composition, and leverage are thus important in considering how underlying real shocks and financial sector shocks may be distributed and transmitted throughout the economy. A greater emphasis on determinants of balance sheet structures, financial products and financial institutions is the main point of differentiation with the paper by Professor Maddock and Mr Munckton (also in this collection) which pays more attention to real sector flows.

The Global Financial Crisis (GFC) marked a turning point in the dynamic evolution of the structure of the Australian financial sector (Davis 2011), (Brown, Davis et al. 2011). A number of pre-existing trends disappeared and many of the changes can be linked directly or indirectly to the GFC. Whether these changes are likely to be transient or longer-lasting is a key question for further research and analysis. Significantly, the disruption caused by that event meant that much attention was diverted from underlying structural changes in financing arrangements which are important for future financial development.

As at 2013 the structure of Australian financing arrangements is marked by a number of characteristics which differentiate it from structures observed overseas and which are important in determining whether the economic functions of the financial sector are performed as efficiently as possible. Some of those characteristics reflect legislative and regulatory influences, while others can be traced to distinguishing characteristics of the Australian economy and historical patterns of financial sector development.

But there are also some other underlying trends and influences relevant for future development – some of which are international, some domestic. At the international level, one short term consideration is the world-wide pervasiveness of a low-inflation, low interest rate environment with real interest rates being negative in many countries. A second is the widespread international adherence to freedom of international trade and capital flows,

---

<sup>3</sup> Gross national saving is typically in the order of 20-30 per cent of GDP, whereas assets of financial institutions (which excludes direct holdings of equities etc by households) is currently in the order 350 per cent of GDP.

which links the Australian financial system to those overseas – such that expected real risk-adjusted rates of return tend to be linked (perhaps imperfectly) internationally. Also relevant has been the emergence of an international financial regulatory agenda emanating from the G20 and international organizations such as the BIS, Basel Committee, IOSCO, FSB, and the IMF, which is likely to increase the cost of intermediation relative to capital market funding.

At the domestic level, demographic factors, including an ageing population, are relevant to financing trends – particularly given the role of compulsory long term savings via superannuation. One of the major themes of this paper is that patterns of financing in Australia have not caught up with the fundamental long run shift in the flow of household savings into superannuation. This leads to two important issues. First, super funds are traditionally thought of as vehicles for investment in existing financial assets, rather than creators (such as banks) of new financial assets associated with new real investment opportunities. If banks face a declining share of new savings<sup>4</sup>, how will the supply of new financial assets (securities) available for super fund investment be created? Will super funds take on, in some way, a larger role as creators of financial assets?

Second, there is also a more fundamental, complementary, change in prospect, illustrated by reference to Figure 1. An important traditional role of banks has been the creation of liquidity by issuing liquid liabilities (deposits) and investing in illiquid assets (loans). But with the development of superannuation, there is now a large pool of illiquid savings currently invested primarily in liquid assets (long term securities such as equities and debt which are given liquidity through the existence of secondary capital markets such as the ASX). Aligned with prudential regulation (the liquidity requirements of Basel 3) inducing less liquidity creation by banks, this growth of illiquid savings raises the prospect of less liquidity transformation being required, as well as alternative ways of it being done. Not only could super funds invest directly in new illiquid assets (with risk and return of the underlying real investment proposals and financial arrangements assessed either in-house or by third parties such as investment banks), they could also buy illiquid assets originated by others such as banks. An important issue in this regard is the extent to which super funds currently feel constrained to limit investments in illiquid assets to allow for potential future changes in asset allocation (or member withdrawals), and whether there are investment structures (perhaps of the mutual fund variety) which could evolve to mitigate such liquidity constraints.<sup>5</sup>

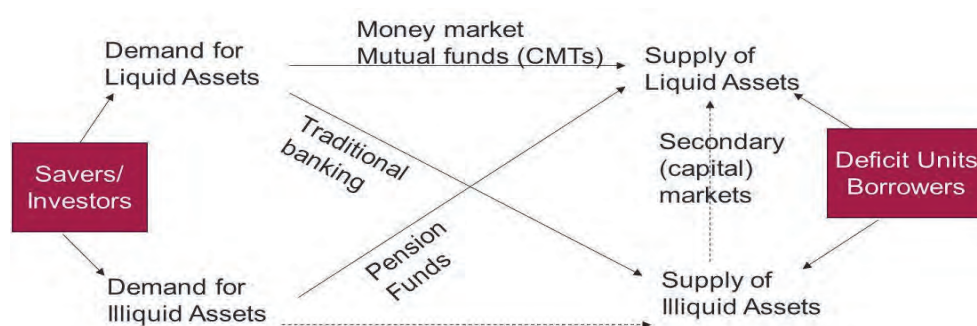
---

<sup>4</sup> As noted earlier, in the short run, the role of bank deposits as money means that household super contributions lead to increased superfund holdings of bank deposits. But, unless there is a long run demand for such deposits by the super funds or by others from whom they purchase other financial assets, the long run consequence will be a decline in bank deposits relative to other financial assets.

<sup>5</sup> While a real asset, such as a pipeline might be “illiquid”, liquidity can be created by having a number of transferable financial claims on that asset (such as shares, debt, etc.) held by a significant number of investors.

Such greater “matching” of illiquid savings and investments could have significant structural implications. One is for the relative importance of capital markets (for equity and debt) where the role of creating secondary market liquidity would have lessened (albeit it still significant) importance. While there will always remain an important role for such markets to enable investors to make portfolio reallocations in response to new information or liquidity needs, a larger proportion of illiquid assets could be held directly (off-market) by entities (such as super funds) without such substantial liquidity needs. Such investments need not be held directly. Private equity investment firms cater to such investors and, via different governance arrangements for investee firms, may be able to improve their operational performance.<sup>6</sup> Whether such investments are held directly or indirectly, if such liquidity needs arise (or portfolio reallocation is desired for other reasons) continual advances in technology and financial innovation can be expected to find means to accommodate such demands via over the counter or brokered transactions.<sup>7</sup>

**Figure 1 Resolving Liquidity Preferences**

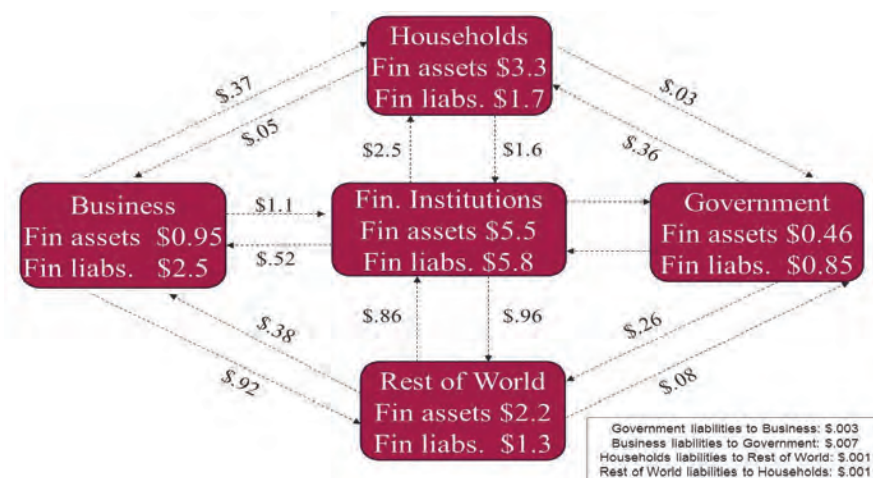


Much of the analysis of this paper is based around the structure used for the National Financial Accounts which identifies four end-user (or real) sectors (households, non-financial businesses, government, and the rest of the world) as well as the financial sector which facilitates financial flows between (and within) those sectors. Figure 2 shows the stocks of financial assets and liabilities of each sector as at December 2012, together with the pattern of inter-sectoral claims.

<sup>6</sup> Whether private equity produces above normal, risk adjusted, returns is open to debate. (See Phalippou, L. and O. Gottschalg (2009).

<sup>7</sup> It is worth noting that although individual super funds may face liquidity risk due to member choice of fund, withdrawals (except by members in the decumulation phase), do not affect pension fund assets in aggregate, but require a transfer of assets between funds. There is, to date, a relatively low use by members of the option to switch funds. It could be envisaged that, should switching become significant, technological advances and innovation would lead to mechanisms enabling efficient asset transfers between funds (such as of parcels of listed securities) rather than liquidation of assets to effect cash transfers.

**Figure 2 Inter-sectoral financial claims Australia: December 2012 (\$ trillion)**



Source: ABS Australian National Accounts: Financial Accounts, Cat No 5232.0, December 2012

Note: Only major inter-sectoral claims are shown. Government asset and liability stocks are for General Government (including State and Local) and do not include public sector non-financial corporations nor State Government Central Borrowing Authorities.

It is worth noting that domestic financial institutions provide less than half of the funding of incorporated businesses with the rest attributable to overseas funding (of both locally and foreign owned businesses) and household and SMSF equity investments. Bank lending to unincorporated businesses is included in funding of households.

While consolidated figures such as those in Figure 2 are useful in providing a perspective on the relative importance of particular sectors as suppliers and users of funds, it is also important to recognize that there is considerable heterogeneity within the sectors identified which also needs to be considered. There are also financial flows between entities within each sector, and financial transactions between end users can be undertaken directly via financial markets or through brokers and agents as well as via financial intermediaries.

Figure 3 thus provides another perspective on financing arrangements, useful for contemplating future possible developments. At any time, some individuals (households) will be savers (providing funds) and others will be investors (seeking funds) – with individual circumstances changing over the life-cycle. Similarly, some companies provide finance direct to others such as via trade finance, while financial flows between foreigners and domestic entities involve some with foreigners as recipients of funds and others with them as providers of funds. The Australian government(s) may be in surplus or deficit at different times.

Figure 3 shows the four broad mechanisms available for enabling provision of finance from savers to investors, and through which transactions enabling structural changes in existing

balance sheet portfolios can be adjusted. There are a range of financial sector agents (banks, super funds, stockbrokers, advisers etc.) and markets involved in enabling such transactions, and a wide range of financial instruments which can be created in the process. The characteristics of those instruments will determine the risk-sharing between savers and investors, while the financial sector agents (such as banks) may be involved in a role as principals and take on risk (albeit ultimately borne by those savers providing funds to them as shareholders, depositors etc).

**Figure 3 Financing Processes**

Savers	Financing & Risk Allocation Processes	Investors
Companies	Direct (& Brokered)	Companies
Households	Traditional Intermediation (Originated & Funded)	Households
Governments	Securitisation etc (Originated & not funded)	Governments
Foreigners	Capital Markets (exchanges and OTC)	Foreigners

The relevant messages to be drawn from Figure 3 are as follows. First, the competitive advantage of each of the four broad mechanisms for linking various types of investors and savers can change over time, due to technological change, innovation and regulation. Arguably, we are at a point in history where the interaction of those factors is pointing towards a significantly lessened relative role for traditional intermediation.<sup>8</sup> Second, and for the same reasons, the past competitive advantages of particular financial agents in facilitating flows of funds to particular types of investment, and/or providing preferred avenues (and particular) types of financial instruments for the flow of funds from savers, are open to question. (For example, will the competitive advantages of banks in housing mortgage finance, evidenced by their dominant market share, be sustained into the future? And while there is relatively little direct financing of households by households (P2P) and of business by business (B2B), apart from trade credit, ongoing developments in technology and information availability could facilitate such developments.) Reflecting these potential changes, it can be expected that existing financial institutions will attempt to influence the speed and direction of change (through both market responses and lobbying) and that their activities and structures may change as a result. Finally, the different risk allocation arrangements associated with different funding arrangements can be further altered through the use of derivatives or guarantee arrangements.

<sup>8</sup> Of course, the Wallis Inquiry reached a similar view some fifteen years ago, but the subsequent changes have been less than they anticipated.

Recognizing that financial sector development is evolutionary (sometime revolutionary –and the introduction of compulsory superannuation in Australia may fit into that category), to assess future prospects it is important to know where we have been and where we are currently. In the next section of this paper, a number of major differences between the pre and post GFC environment are examined. This is then followed by an analysis of major characteristics of Australian financing patterns as at 2013, including comparisons with those observed overseas. The final section of the paper provides some thoughts on how such arrangements might develop, and implications for future development of the financial sector and financial flows, drawing on the evidence assembled in the earlier sections.



## 2. Consequences of the GFC for Australian financial flows

Although Australia escaped much of the economic and financial disruption experienced by the rest of the world from the Global Financial Crisis (GFC) which began to emerge in 2007, the experience has had a profound effect on subsequent patterns of financing, financial sector structure, and attitudes towards financial sector regulation. Identifying the extent to which these changes are transitory or likely to be more permanent is crucial to understanding how financing patterns and the financial sector will develop over the next decade or so.

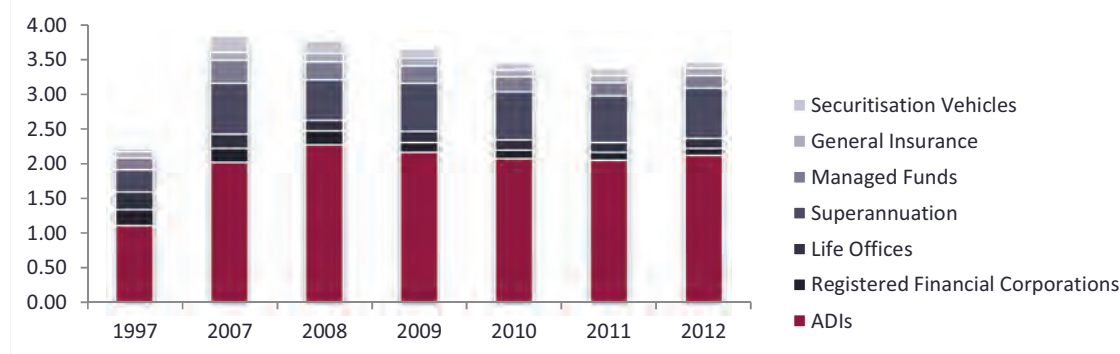
The major observable trend changes pre and post the GFC, although interrelated, can be divided into changes affecting the structure of the financial sector, those related to end-users of the financial sector, and attitudinal and regulatory changes towards the financial sector.

### 2.1 Financial Sector Structure and Size

#### 1. Growth of the financial sector relative to GDP has ceased.

In the decade prior to 2007, assets of the financial sector grew from 2.2 to 3.8 times GDP, and have since declined somewhat to be around 3.5 times GDP at end 2012 (Figure 4).<sup>9</sup>

**Figure 4 Financial Sector Assets/GDP**



Source: RBA Bulletin Tables B01. ABS Cat No. 5206.0 Australian National Accounts

\* Total excludes assets of self managed superannuation funds.

The experience of pre GFC growth in the size of the financial sector is not unique to Australia, and has been accompanied by some questioning by researchers internationally of whether, following the widespread deregulation of the 1980s (and prompted partly by the GFC experience), financial sectors had grown too big. (Greenwood and Scharfstein 2013)

<sup>9</sup> Edey, M. (2013) suggests factors relevant to explaining the pre GFC include: long run demographic and income trends; shorter term adjustment to lower inflation and deregulation; and the possibility of excessive expansion of the finance sector.



pose this question for the US, noting both the social benefits and costs of the significant growth in asset management and household credit (which has also occurred in Australia). In response, (Cochrane 2013) argues that size *per se* is not important and that the focus of attention should be on the efficiency of the sector, identification of distortions, and assessment of regulation.

Because some part of the growth reflects financial inter-relationships within the financial sector (such that assets of some institutions are liabilities of others), it is also useful to consider the contribution of the financial sector to national output. A similar pattern emerges, with the sector's contribution to Gross Value Added (Gross Domestic Product less indirect taxes plus subsidies) having fallen somewhat since 2007, after growing strongly over the previous two decades (Table 1).

**Table 1: Finance & Insurance: percentage contribution to Gross Value Added**

1979*	1985	1990	1995	2000	2005	2006	2007	2008	2009	2010	2011	2012
4.70	5.04	6.38	6.85	8.05	9.37	10.03	10.65	10.27	10.06	10.22	10.13	10.27

Source: ABS 5206 Table 6

\* December quarter (trend value)

The slowdown in growth of the financial sector, and financing generally since the GFC, is also reflected in the pattern of net financial claims growth shown in Table 2.<sup>10</sup> Net claims of the household sector on financial institutions (dominated by superannuation assets plus bank deposits less bank loans) ceased to grow, while financial sector provision of finance to the business sector also declined in net terms.

**Table 2 Inter-Sectoral Net Financial Claims (\$ billion, at September)**

Net financial claims of	On	2002	2007	2012
Household	Financial Corporations	388	826	857
	Non-Financial Corporations	87	219	357
	General Government	116	166	335
Rest of World	Financial Corporations	177	285	198
	Non-Financial Corporations	223	383	613
	General Government	22	28	149
Financial Corporations	Non-Financial Corporations	354	862	677
	General Government	57	-65	58

Source: ABS 5232.0 - Australian National Accounts: Financial Accounts

\*This table excludes the net position of government relative to the business sector which is of minor amount). The figures are at market value and are thus affected by valuation changes.

<sup>10</sup> These figures can also be derived from inter-sectoral gross claims such as shown in Figure 2. It should be noted that they are based on market values such that changes reflect both transactions and valuation effects.

The more rapid growth in net financial claims in the five years prior to 2007 relative to the subsequent five years is also reflected in the size of credit and investment markets (Table 3). In the five years to September 2007, total financial instruments outstanding<sup>11</sup> grew at an annual rate of 14.0%, whereas the average rate for the subsequent five years was 3.5%. Table 3 shows that within that aggregate: deposit growth did not slow down as much; short term paper (Bills and Commercial Paper) on issue has declined; bonds outstanding which were issued in Australia have increased significantly since 2007 (Kangaroo, Government and financial institution bond issuance offsetting a decline in RMBS issuance), while bonds outstanding which were issued offshore have remained relatively constant; growth in loans and placements slowed after 2007 (to around 6% p.a.). Both listed shares and equity and unlisted shares and equity declined in aggregate size, with much of this decline reflecting valuation effects.

It is worth noting (given the focus of most academic finance research on listed equities) that the size of unlisted shares and equity exceeds the listed amounts.<sup>12</sup> Suppliers of these financial assets into the Australian market include private non-financial corporations (around 30 per cent of the \$1.82 trillion outstanding at September 2012), non money-market financial investment funds (around 20 per cent) and the rest of the world (around 35 per cent). Of that latter category about one third is held each by Australian pension funds (such as equities listed on foreign stock exchanges) and private non-financial corporations (such as through foreign direct investment in subsidiaries).

**Table 3 Australian Financial Instruments: September 2012**

	Growth rate - 2002- 2007	Growth rate - 2007- 2012	Size (\$ trill) at September 2012
Deposits & Currency	14%	9%	1.81
Bills & CP	15%	-6%	0.44
Bonds issued in Australia	13%	20%	1.15
Bonds issued overseas	13%	3%	0.56
Derivatives	21%	7%	0.40
Loans	13%	6%	2.84
Listed shares & equity	20%	-6%	1.24
Unlisted shares & equity	14%	-1%	1.82
Accounts receivable	2%	6%	0.47

Source: ABS cat No 5232.0 Tables 23-34, September 2012

The contribution of the financial sector to GDP involves activities of financial firms organizing and participating in over the counter (OTC) and exchange traded financial markets – not just the financial institutions whose assets are shown in Figure 4..

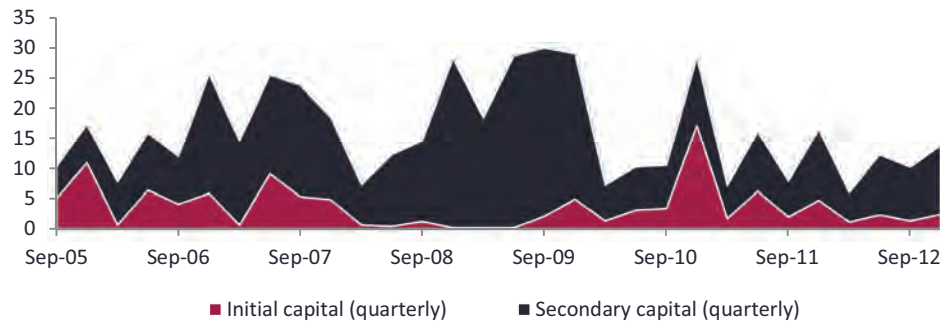
<sup>11</sup> ABS Cat 5232.0, Sept 2012, Tables 23-34. Financial instruments included are currency, transferable and other deposits, bills of exchange, one-name paper, bonds, derivatives, short and long term loans, listed and unlisted shares and equity, accounts receivable.

<sup>12</sup> It is also worth noting that unlisted shares and equity do not include household equity in sole proprietorship or partnership businesses.

It is less easy to identify clear changes post-GFC in the contribution of those markets to GDP.

Equity security issuance on the ASX is shown in Figure 5, and the picture is dominated by the dearth of IPOs in the initial years of the crisis and the balance sheet rebuilding by listed firms (particularly banks) at around the same time.

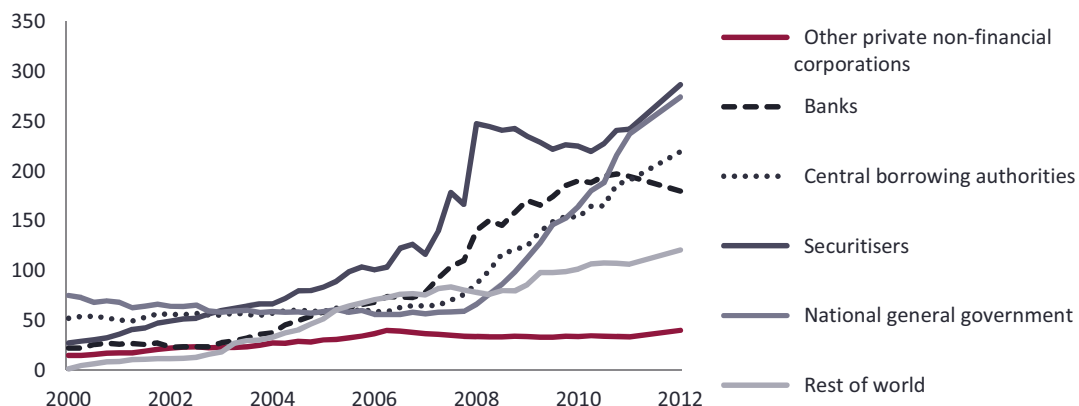
**Figure 5 ASX Equity Capital Raisings (\$ billion)**



Source: ASX <http://www.asx.com.au/research/market-statistics.htm>

Similarly the bond market experience is varied. Figure 6 shows the time-series for bonds on issue in Australia, by different types of issuers.<sup>13</sup> Increased issuance by governments (due to budget deficits), banks (replacing overseas debt financing – facilitated by government guarantees), and international institutions (kangaroo issuers) saw increases in these types of bonds on issue. However, issuance by securitisers within Australia was limited – and initially restricted largely to issues supported by involvement of the Australian Office of Financial Management.

**Figure 6 Bonds on Issue in Australia (\$ billion)**



Source: ABS 5232.0 Table 28

<sup>13</sup> It thus does not include bonds issued overseas by Australian securitisers, financial institutions, or non-financial corporates.

Somewhat more discernible effects can be seen in the levels of trading in the secondary markets for financial instruments and markets for derivatives.

## 2. Turnover in Australian physical and derivative, OTC and exchange traded financial markets for currencies and equity had been increasing strongly till the GFC and stagnated or declined thereafter. (Table 4)

**Table 4: Financial Markets Activity**

Year	Turnover (AUD billion)					
	Debt		Currency		Equities	
	Physical	Derivative	Physical	Derivative	Physical	Derivative
1999-00	8,804	11,886	5,706	10,842	361	541
2004-05	17,306	29,767	9,675	25,156	806	950
2009-10	11,134	46,110	14,680	27,461	1,359	2,801
2010-11	13,430	63,850	11,853	33,395	1,339	3,198
2011-12	13,549	65,903	10,843	30,007	1,185	3,387

Source: AFMA

While these figures suggest some slowdown in activity in the currency and equities markets (but not debt markets) interpreting these figures is somewhat problematic. The stagnation of the value of turnover in equities occurred at a time when equity market prices had declined substantially, although new issues meant that overall market capitalization did not fall by as much.<sup>14</sup> But turnover/market capitalization fell from around 110 per cent in 2007-8 to around 90 per cent in 2012. While this decline may seem *a priori* inconsistent with the increased prevalence and concern over high frequency trading (HFT), it is consistent with much of that activity involving more frequent submissions and withdrawals of bid and offer quotes for small parcels – rather than increased execution of trades. It is also one potential contributor to a significant reduction in recent years to the average trade size, although the use of algorithmic trading by fund managers to place orders in a way which reduces execution costs is also relevant.

Similarly, a valuation effect may provide part of the explanation for the decline in the AUD value of currency trading. This occurred at a time when the AUD increased strongly from around 0.64 USD per AUD in early 2009 to parity or above in recent years - such that the amount of foreign currency involved in those trades would show considerably less, if any, decline.

<sup>14</sup> It was \$1.49 trillion in 2007/8 and \$1.27 trillion in 2011/12. AFMA (2012). Australian Financial Markets Report. Sydney, Australian Financial Markets Association.

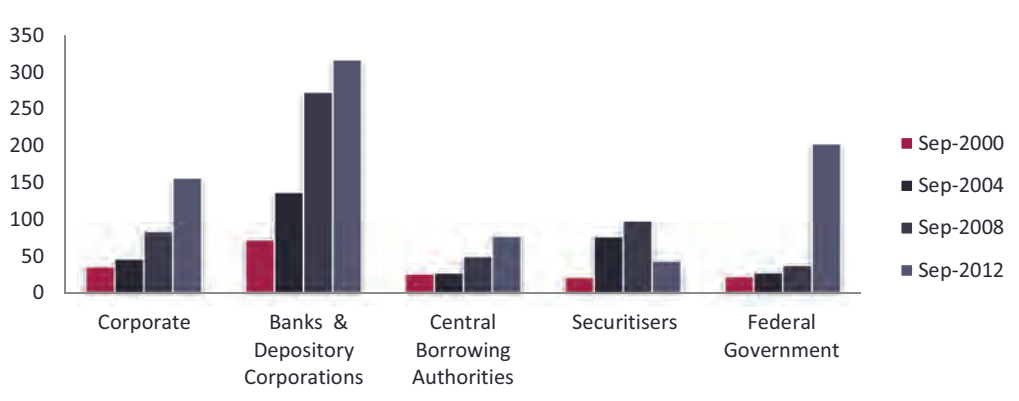
<sup>14</sup> DeBelle, G. (2013) provides more detail (including experiences in debt markets more generally)

Given the size of the increase in debt securities outstanding (Figure 6) the physical debt market turnover values suggest a slower rate of turnover. In contrast, turnover in the debt derivatives market has continued to grow. Much of that growth has occurred in two segments of the market. One is the repurchase agreement (repo) market which, unlike its importance as a funding and leverage source for investment banks in the US and Europe prior to the GFC, had played a relatively minor role in Australian financial markets other than RBA use of such instruments for monetary policy operations. The other is growth in the OIS (Overnight Index Swaps) market used by banks, and others, for managing short term interest rate risk.

### **3. The previously rapid growth in domestic securitisation (of primarily residential mortgages) prior to the GFC slowed dramatically, while international issues largely ceased**

Very little use of this funding technique was made for several years after 2007 (other than in issues supported by the AOFM as a keystone investor), although several large banks did make domestic issues (Figure 6). Although evidence of some recovery appeared in 2012 the introduction of covered bonds (permitted by legislation in October 2011), which may have cash flow and risk characteristics more appealing to institutional fixed interest investors may impede growth of traditional securitization products. Reflecting the lack of investor interest in securitized products internationally following the GFC, there was virtually no international issuance, despite the low risk nature of Australian securitization products (Figure 7).

**Figure 7 Australian Bond Holdings of Rest of World (\$ billion)**



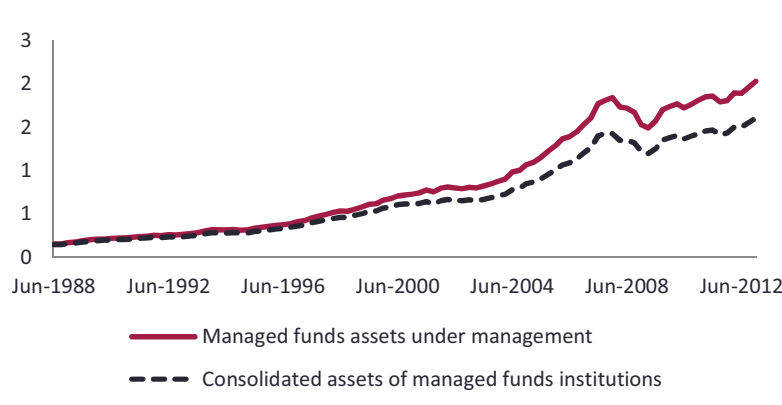
Source: ABS 5232.0 Australian National Accounts: Financial Accounts, Table 21

### **4. Strong growth in the funds management industry prior to the GFC was interrupted.**

Figure 8 illustrates the slowdown in what was previously a very high growth rate of the managed funds industry. In the five years to December 2007, the annual growth rate of funds under management was 16.5 per cent. (The growth in mandates given by super funds

to other fund managers is reflected in the widening gap between total fund manager assets and the consolidated figure). In the following four years to December 2011, the growth rate was effectively zero. A significant component of this is a valuation effect, reflecting the decline in the market value of assets under management, and less being a reduction of flows into fund managers – reflecting the compulsory nature of contributions into superannuation funds. From December 2011, the growth rate has increased significantly, reflecting recovery of asset values and ongoing contributions into superannuation. Other parts of the sector have not, however, experienced such a recovery, with little sign of any growth in direct investments by households in other publicly available managed funds vehicles. There is also an apparent trend towards more in-house asset management by super funds, which would reduce mandates available to specialist fund managers. While hedge funds have established a presence in the Australian market, and some are making offers to the public retail market, including SMSF, under PDS, the sector is still a relatively small one.

**Figure 8 Australian Managed Funds Industry: 1988 – 2012 (\$ trillion)**



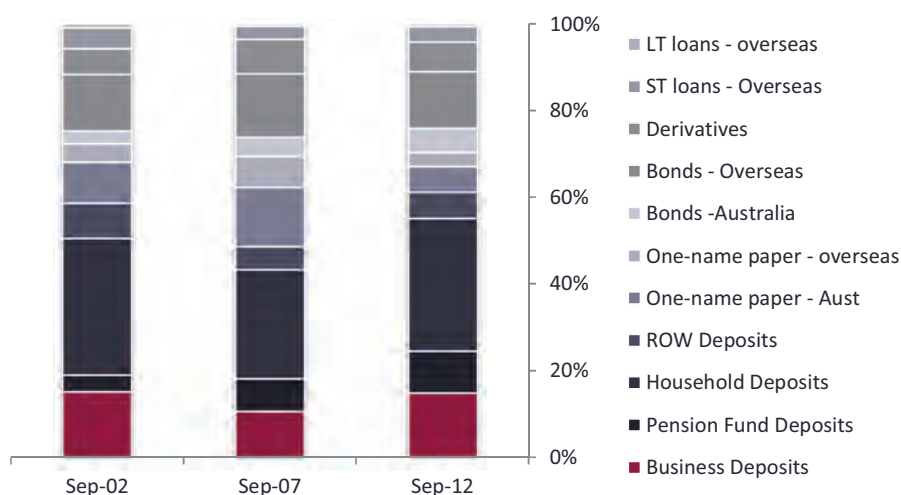
Source: ABS. 5655.0 Managed Funds, Australia, Table 1

Note: The difference between the two series is funds managed on behalf of investors other than other managed funds

**5. Australian banks reduced their reliance on domestic deposits and increased their reliance on offshore funding between Sept 2002 and Sept 2007, but have reversed that trend since, with domestic deposits initially declining from around 51 to around 43 per cent of liabilities before increasing to around 53 per cent.**

Figure 9 illustrates the change in the composition of bank liabilities. There has been a reduction in the use of short term, one-name paper. The increased usage of deposit funding is likely to be reinforced by Basel 3 liquidity requirements which, in general, give greater weight to retail deposits as stable sources of funds and also induce use of longer term funding instruments.

**Figure 9 Bank Liability Distribution**



Source: ABS 5232.0 Australian National Accounts, Financial Accounts, Table 8

## 2.2 Sectoral Trends

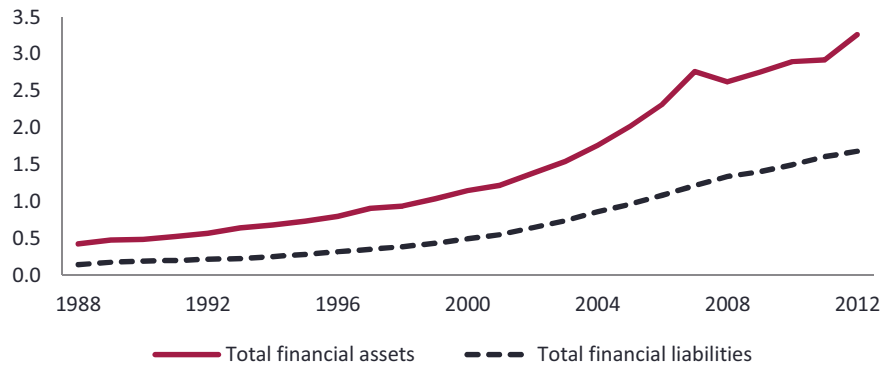
### 1. Increasing scale and leverage of household balance sheets has ceased.

In the two decades prior to 2007, the household debt/income ratio increased from below 50 per cent to around 150 per cent and has since stabilized. Over the same pre-GFC time period, household financial assets relative to disposable income doubled from around 170 per cent to 350 per cent (since declining to around 300 per cent) partly due to increased leverage, but also due partly to increasing valuations of assets such as housing and equities (Figure 10, Table 5). Relatively little of the pre GFC increase could be attributed to savings out of current income, although compulsory superannuation savings did have a positive influence in this regard.<sup>15</sup> The increased willingness of households to take on debt can be attributed to a number of factors. These include the consequences of financial deregulation and expansion of new bank lending and investment products which facilitated increased debt, while forced accumulation of illiquid long term superannuation savings may also have been a factor. Also relevant are the incentives which the Australian tax system gives to households to make levered investments in times when asset prices are expected to increase. However, it could also be argued that this pre-GFC experience reflected more a catching up to international norms for household balance sheets following the financial deregulation of the 1980s, and similar developments (albeit from a higher initial leverage position) were observed overseas. A further “short-run” adjustment explanation often argued by the Reserve Bank (see Ellis 2013) is that the transition to a lower inflation (and

<sup>15</sup> Connolly, E. (2007) estimates that each dollar of superannuation savings led to a net increase of around \$0.70 - \$0.90 in total household savings.

nominal interest rate) environment has reduced the “front end loading” of real repayments which occurs in inflationary periods for standard credit foncier mortgage loans, enabling households to take on larger loans.

**Figure 10 Household Sector Financial Assets and Liabilities (\$ trillion)**



Source: ABS 5232.0 Australian National Accounts: Financial Accounts, Table 20

**Table 5 : Household Leverage Trends 1987 - 2012**

	Debt/ Assets	Housing Debt/ Housing Assets	Debt/ Income*	Total Assets/ Income	Financial Assets/ Income	Interest Payments/ Income	Housing Interest Payments/ Income
Jun-1987	8.7	11.9	43.3	430.1	169.1	7.6	5.2
Jun-1997	11.6	18.6	74.7	560.4	222.0	6.1	4.7
Jun-2007	16.1	25.8	153.5	841.1	350.6	11.3	9.2
Jun-2008	17.1	26.9	150.9	787.6	318.3	13.1	10.8
Jun-2009	18.4	29.6	146.1	714.7	288.7	9.0	7.2
Jun-2010	17.3	26.9	152.2	783.8	302.1	11.1	9.0
Jun-2011	17.7	28.3	150.1	743.7	296.2	11.5	9.4
Jun-2012	18.2	30.0	148.0	723.6	299.2	10.4	8.5

Source: RBA Bulletin Table B21

\* Income measure is household disposable income

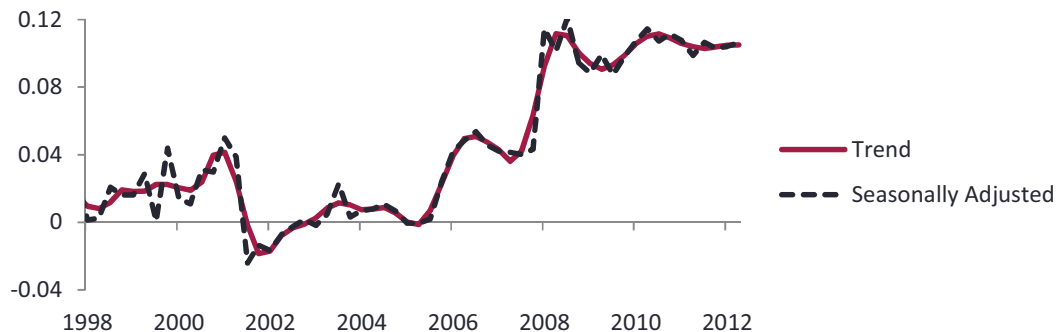
The growth in household balance sheets, relative to GDP, ceased with the advent of the GFC, when equity values fell with particularly adverse consequences for those in or near retirement with retirement savings particularly exposed to equity values. Notably, household savings out of current income increased, partly offsetting the effect of the decline in asset values on household wealth. Both household debt and asset holdings as ratios to income appear to have stabilized at levels somewhat below their GFC peaks, with



low nominal interest rates facilitating debt servicing. Measured in dollar terms, household financial assets and liabilities have continued to grow albeit at more subdued rates of around 5 per cent p.a. (compared to rates in the mid teens in the years prior to the GFC).

**2. The household savings ratio (measured on a national accounts basis – i.e. excluding asset value changes) has climbed from a near zero figure in the two decades prior to 2007 to a level of around 11 per cent at end 2012.**

**Figure 11 : Household Saving Ratio (National Accounts Basis)**

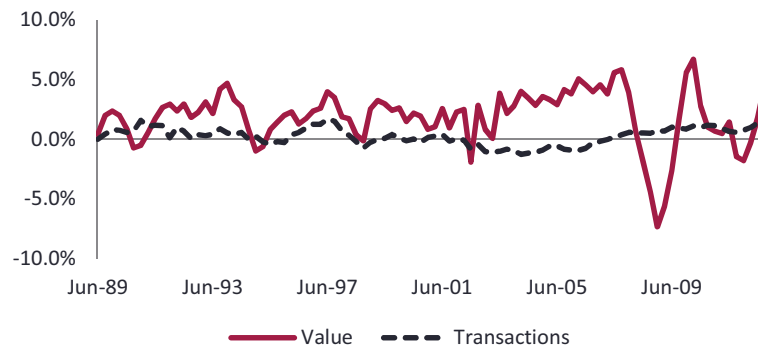


Source: ABS Cat No 5206.0, June 2013

Despite having increased since the mid 2000s, the household savings ratio (Figure 11) remains substantially below its high-teens value of the decade prior to the mid 1980s. Part of the explanation for the change in savings behavior can be seen from Figure 12 which shows the change in the net financial position of the household sector as a percentage of its prior financial position. The change in the value of the financial position reflects both asset valuation changes as well as contributions – with the change due to the latter also shown (as the dashed line). Some part of the reason for a low savings ratio in the decades prior to the GFC can be seen from the higher change in the value of the financial position due to asset value increases. These figures exclude real investments (housing) of the household sector, and strong growth in property prices over the same period is also relevant.<sup>16</sup>

<sup>16</sup> Note that these figures understate household savings because they refer only to the change in value of financial assets, and exclude accumulation of equity in housing.

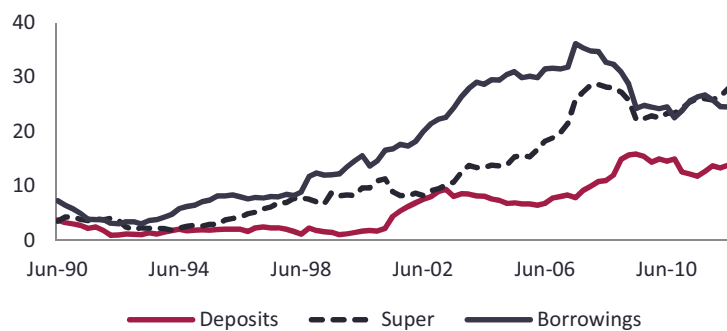
**Figure 12 Change in Financial Position: Four Quarter Moving Average**



Source: ABS cat 5230.0 Table 20

Moreover, that figure is consistent with households making relatively little savings in the form of financial assets above that implied by compulsory superannuation contributions. Figure 13 illustrates, showing the (smoothed, eight quarter moving average) path of household acquisition of deposits, superannuation contributions, and borrowings. This suggests that, in aggregate, growth in household holdings of other financial assets (such as deposits) cannot be expected to grow faster than GDP growth unless accompanied by household debt growth. Rebuilding of balance sheets impacted by falling asset values is widely seen as one reason for the increase in the savings ratio arising from reduced use of debt to fund consumption – and reflected in the slow down in bank balance sheet growth.

**Figure 13 Household Sector: Net transactions: eight quarter moving average**



Source: ABS Cat No 5320.0, Table 20

### **3. The long run decline in the share of bank deposits in household asset portfolios was reversed.**

Table 6 illustrates the dramatic reversal of the prior decline in the share of bank deposits in household financial asset portfolios. Some part of the increase in deposit share from 15 to

22 per cent from 2007 to 2012 (perhaps half) reflects the effect of asset price declines and poor returns on investments.

**Table 6: Composition of Household Financial Assets**

	Deposits	Shares	Super/Life	Unfunded Super	Other
Sep-1990	29%	10%	36%	13%	11%
Sep-2000	19%	19%	44%	9%	9%
Sep-2007	15%	27%	46%	6%	5%
Sep-2012	22%	16%	46%	11%	5%

Household shareholdings declined in value terms between 2007 and 2012 much in line with the decline in the S&P/ASX200 share price index, and an average return on super balances of around zero over this period, meant that growth in aggregate super balances was primarily attributable to net contributions. This suggests that the reversal in trend is unlikely to be long lasting. While some part of the increase in the total value of household bank deposits possibly reflects a reallocation of wealth to a perceived safety haven, some of it also reflects a once-off increase in the level of inter-bank competition for household deposits to replace international wholesale borrowings (leading to higher deposit interest rate), while the attempts of the authorities to ensure ongoing expansion of credit and bank balance sheets is also relevant.<sup>17</sup>

**4. The long term decline in the share of non-bank lenders to the household sector and growth in the share of bank and securitized lending has ceased (with only a minor market share now being held by non-bank lenders).**

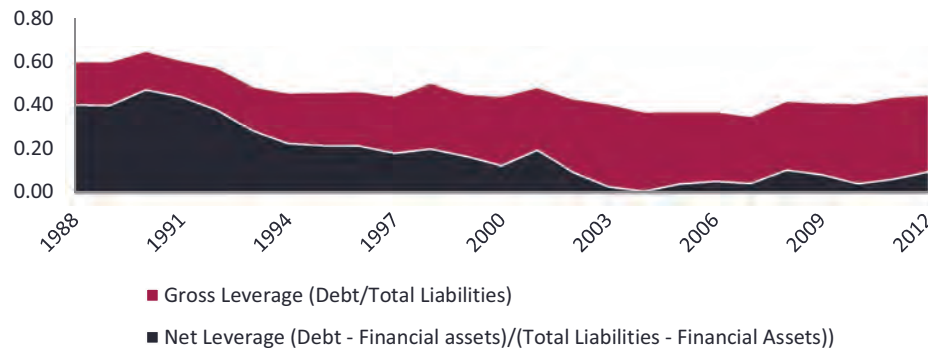
In 1988 non-bank lenders had around 1/3 of the market and securitization was in its infancy. Between then and 2007, securitization grew to a share of around 20 per cent, many non-banks converted to bank status, and the share of non-bank depository corporations fell to less than somewhat less than 10 per cent. Since 2007, the relative shares have remained relatively stable.

**5. The gradual decline in corporate leverage (debt/(debt + equity) measured using market values) in the decades prior to the GFC ceased.**

The change in leverage of non-financial private corporations (using the market value of equity) is shown in Figure 14, where a “net leverage” figure is also shown by adjusting for corporate holdings of financial assets. The decline in leverage prior to the GFC was at a time of (generally) increasing market values in equity, but that cannot be seen as purely a valuation effect.

<sup>17</sup> Because of the role of bank deposits as money, expansion of bank lending leads, in the short run at least, to an increase in bank deposits such that long run trends can be hidden by such short run effects.

**Figure 14 Corporate Leverage Trends**

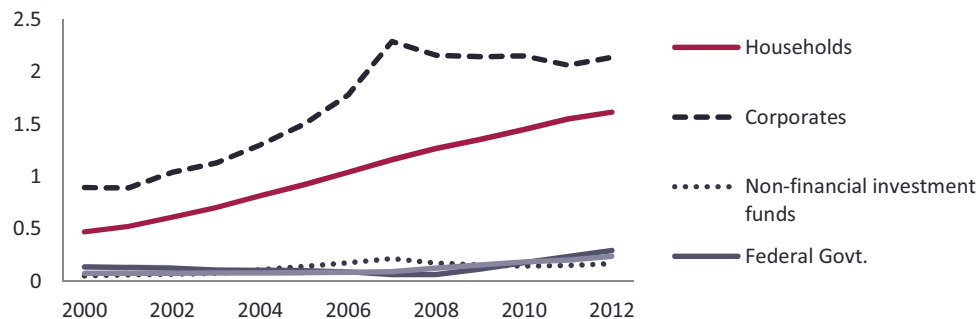


Source: ABS Cat No 5232.0 Table 04

Rather, it can be interpreted as a response to the introduction of the dividend imputation tax system in 1987 which largely removed tax incentives for use of debt relative to equity by Australian owned companies. Whether the post GFC stabilisation of the ratio reflects a new equilibrium or the effect of lower equity values remains to be seen. Figure 15 shows how the value of corporate total liabilities (debt plus equity) ceased to grow after the GFC.

Somewhat mixed signals are provided by Figures 16 and 17. Figure 16 shows the ratio of share issues to total new liabilities for the corporate sector. From the mid 1990s until mid 2000s, share issues (listed and unlisted) were around half of total new external liabilities.<sup>18</sup> These (ABS) figures become distorted in the mid 2000s due to such transactions as a transfer of domicile of NewsCorp in December 2004 and a global restructuring of another major company in June 2005. In contrast, listed equity raisings (Figure 17) indicate substantial growth, both of IPOs and seasoned (secondary) issues in the years leading up to the GFC, when IPOs largely ceased, but large companies (including the banks) used secondary issues to strengthen their capital positions.

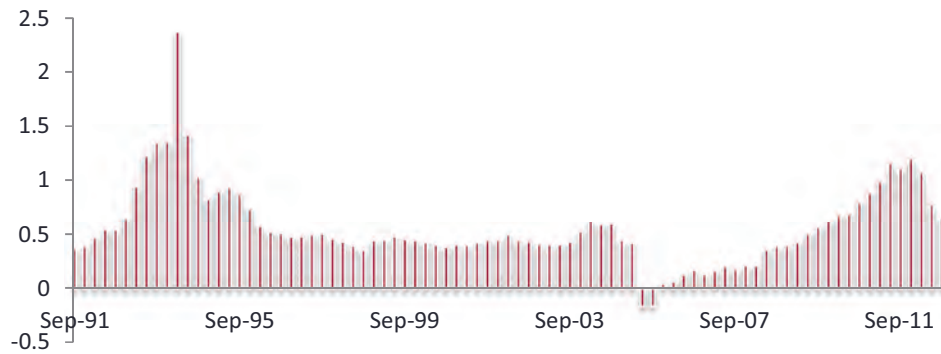
**Figure 15 Liabilities Outstanding (\$ Trillion)**



Source: ABS 5232.0 Australian National Accounts: Financial Accounts, Table 1

<sup>18</sup> Those figures do not include retained earnings as a source of financing (although they do include funding from dividend reinvestment plans).

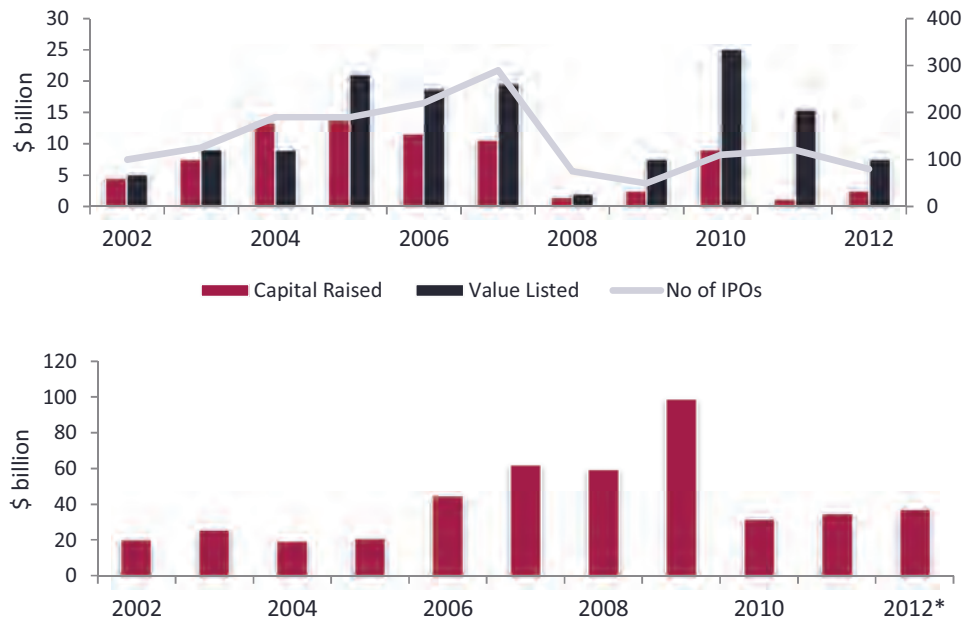
**Figure 16 Corporate Financing Transactions: Share Issues/Total New Liabilities (12 Quarter Moving Average)**



Source: ABS Cat No 5232.0 Table 04

Note: A moving average is used to smooth out the effects of one-off transactions.

**Figure 17 ASX IPOs and Secondary Offerings 2002-2012**



Source: ASX communication

## **6. Net funding of the business sector directly by households and the ROW has increased relative to funding from the financial sector.**

Between Sept 2002 and Sept 2007, increased net funding of (claims on) non-financial corporations by the ROW and the household sector occurred both directly as well as indirectly via increased net funding of those sectors by financial corporations. At September 2007, the direct and indirect sources of funding of the non-financial corporate sector were roughly equal. Between Sept 2007 and Sept 2012, the direct funding increased by around 50

per cent while the indirect funding (via financial corporations) declined by around 20 per cent (see Table 2).

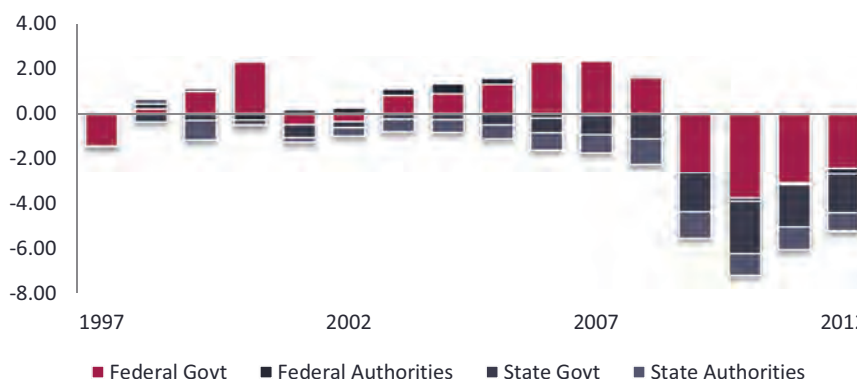
## **7. Corporate accumulation of financial assets slowed markedly after the GFC**

The corporate sector increased its holdings of financial assets at an annual rate of 13.2% from September 2002 to September 2007, and this growth rate dropped to 3.1% in the five years after September 2007. Deposits (primarily with banks), Shares (primarily overseas) and Accounts Receivable have consistently accounted for around 80 per cent of the total financial asset holdings, although individual components have varied somewhat. The main source of slowdown in growth since 2007 has been a negative growth rate of share holdings of -5.1 % p.a. (from 12.1% p.a. over the previous 5 years, partly reflecting share price movements), while accounts receivable growth slowed from 17.3% to 4.3% p.a.

## **8. The decline in Government Debt/GDP over the prior decade was reversed.**

While the Federal Government remains committed to the principle of budget balance over the cycle, the run of budget surpluses ("headline" cash basis) over the past decade which saw Australian government debt on issue fall to 9.7% of GDP in 2007-8 was broken in 2008-9 and has continued to date, with the debt/GDP ratio increasing to 22.7% at June 2012. (If debt of State Governments is included the corresponding ratios were 11.9 per cent at December 2007 and 32.1 per cent at December 2012).<sup>19</sup> Public sector lending/borrowing (including State Governments and public authorities) moved from near balance over the decade to 2007 (causing, in conjunction with GDP growth, the decline in debt/GDP), to an average borrowing of 6 per cent of GDP in the four years ending June 2012. (Figure 18)

**Figure 18 Government Lending/GDP (%)**



Source: RBA Bulletin Table E11

<sup>19</sup> Source: RBA Bulletin Table D4, ABS 5206.0

**8. The marked decline in Australian financial institution holdings of Federal Government debt was significantly reversed, but dwarfed by the increased holdings of the ROW.**

**Table 7: Government Debt: Percentage held by Rest of World**

	<b>State CBAs</b>	<b>Federal</b>
<b>Mar-2000</b>	36%	30%
<b>Mar-2001</b>	33%	28%
<b>Mar-2002</b>	31%	37%
<b>Mar-2003</b>	31%	34%
<b>Mar-2004</b>	31%	46%
<b>Mar-2005</b>	37%	56%
<b>Mar-2006</b>	41%	53%
<b>Mar-2007</b>	48%	55%
<b>Mar-2008</b>	47%	65%
<b>Mar-2009</b>	40%	61%
<b>Mar-2010</b>	40%	69%
<b>Mar-2011</b>	40%	69%
<b>Mar-2012</b>	36%	79%
<b>Mar-2013</b>	32%	70%

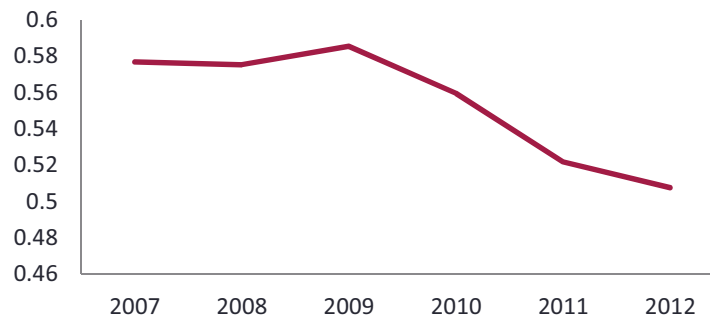
*Source: ABS 5232.0 Table 28.*

The increase in foreign holdings of Australian federal government debt may be attributable to its high credit rating (AAA) during a time of financial crisis, as well as the higher interest rates in Australia relative to most other major countries – although this implies that foreign investors are happy to carry the foreign exchange rate risk involved. Combined with increased bank demand due to Basel liquidity requirements, it can be argued that Australian government bond rates are no longer an indicator of risk free time preference rates, but are pushed lower due to a liquidity effect. Notably, however, a similar increase in the foreign share of semi-government bond holdings has not occurred.

**9. Growth in net claims of the Rest of the World (ROW) on Financial Corporations turned negative, while ROW claims on Government and the non-financial corporate sector grew.**

Table 2 shows the change in net claims. One reason for the decline in net claims of the ROW on the financial sector is the ongoing investments by Australian superannuation funds in international assets. However, also relevant are lower international borrowings by Australian banks plus the effect of exchange rate appreciation on the value of outstanding international debt issued in foreign currencies. Figure 19 shows the decline in the share of foreign liabilities of the finance and insurance sector.

**Figure 19 Finance and Insurance Share of International Liabilities**



*Source: ABS 5302 Table 84*

## **10 Since the GFC there has been an increase in concentration in Australian Financial Markets**

The increase in concentration and dominance of the four major banks has been most evident in housing loan markets. But similar changes can be observed in the markets for wealth management (with financial planning firms/dealer groups owned by banks increasing their share of total funds under advice), and in the syndicated loan market due to reduced participation of many overseas banks.

## **11. There has been a significant strengthening of financial sector regulation**

Brown et al, (2011) provide an overview of regulatory changes in Australia (and also New Zealand) following the GFC. These include increased capital and (new) liquidity requirements on banks and enhanced resolution arrangements. How significant is the penalty (or removal of prior implicit subsidies) to bank intermediation<sup>20</sup> is a matter of ongoing debate (Admati and Hellwig 2013). In Australia it interacts with several major changes in flows of funds outlined above – including increased flows of savings to superannuation and less reliance by banks on offshore funding. There has also been increased emphasis on protection of consumers of financial products and investors. The paper by Dr Mulino in this collection provides more detail.

<sup>20</sup> In Australia, the dividend imputation tax system means that any cost faced by most international banks due to reduced leverage causing a loss of interest tax shield would not occur (or be significantly moderated).



### 3. Current Australian Financing Patterns

The fundamental question addressed in this section is whether there is anything special about the structure of the Australian financial system and patterns of financing. Addressing such a question requires identification of a benchmark against which comparisons can be made, and the obvious benchmark is that of other developed economies. While there is little homogeneity in financial structures internationally, it is possible to identify some key departures from international norms as well as other aspects where the Australian situation is not substantially different from the average. Identifying why significant departures exist is important for understanding how financing patterns may develop in future years, as well as for assessing whether there are aspects of current arrangements that may impede the efficiency of financing arrangements.

We commence by focusing on the financial sector, and follow that by considering each of the ultimate suppliers and demanders of funds (households, business, government and the rest of the world). Thirteen significant features of Australian financing arrangements are identified:

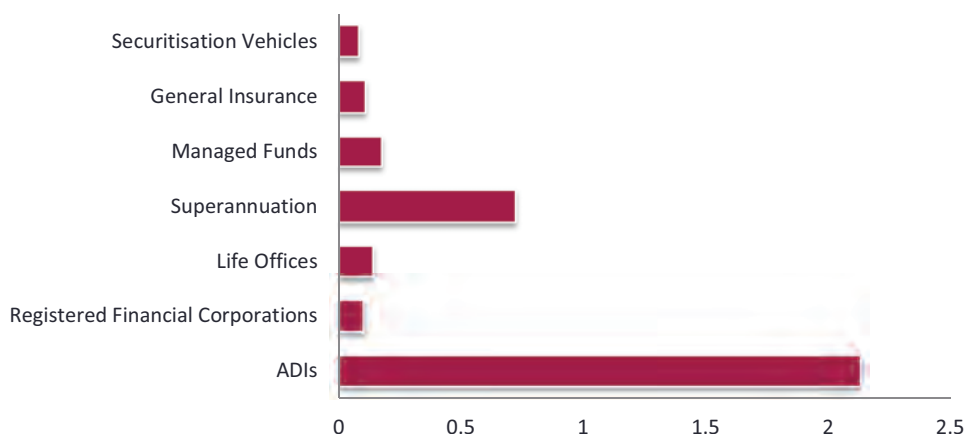
1. There are relatively few significant sized financial institutions which are outside the regulatory perimeter
2. Banks and superannuation funds dominate the financial sector in scale
3. The Australian banking sector is not unduly large compared to other developed economies
4. The superannuation (pension) sector is very large by international standards
5. The ASX (ie listed corporate equities) is relatively large by international standards
6. Australian banks have asset portfolios which are heavily skewed towards residential (and commercial) mortgage loans
7. The contribution of the financial sector to GDP appears somewhat larger than in most other developed economies
8. Households are significant net borrowers from banks
9. Household balance sheet scale and leverage does not appear markedly at variance to that of other developed economies
10. The Corporate sector has very low leverage by international standards
11. Australian government debt/GDP ratio is low by international standards
12. Australia has large private sector international liabilities arising from ongoing current account deficits as well as lesser international asset holdings

13. A significant part of the foreign exchange exposure arising from net foreign liabilities appears to be held by the rest of the world.

### 3.1 Financial Sector

Two main types of financial institutions, banks and superannuation funds dominate the financial sector, holding approximately ¾ of financial sector assets. (Figure 20)

**Figure 20 Financial Institution Assets/GDP: December 2012**



Source: RBA Bulletin Table B01 and ABS Cat No 5206 Table 3

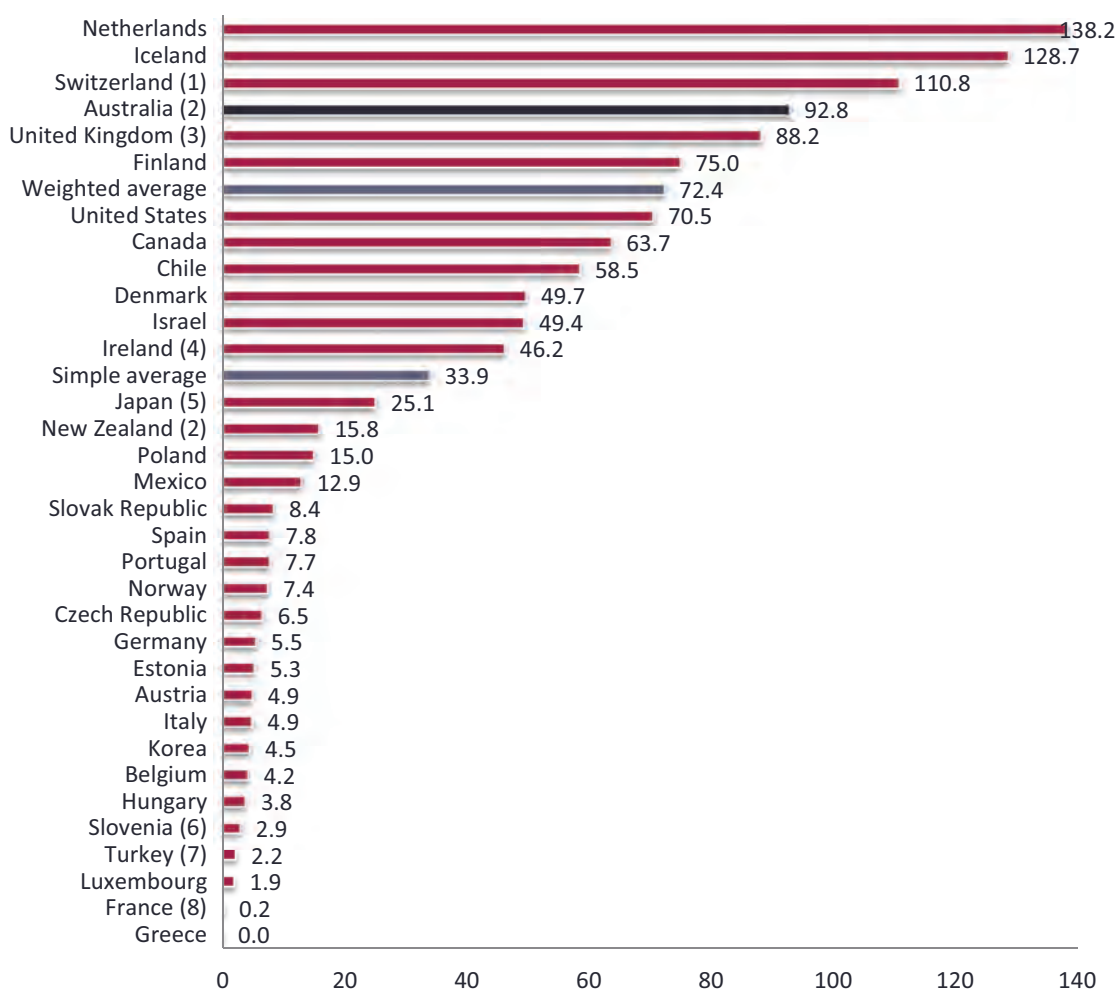
Note: The figure for superannuation excludes self managed super funds.

***There are relatively few financial assets held by non-prudentially regulated financial institutions*** (or, other than claims on such institutions, by other domestic investors). Registered Finance Corporations (RFCs)<sup>21</sup> managed funds and securitization vehicles hold around 10 per cent of financial institution assets. The household sector had financial assets of around \$3.26 trillion at end 2012, of which around \$0.5 trillion is held directly in shares and managed funds (outside of superannuation) and \$0.3 trillion invested in a range of assets (including bank deposits, shares, managed funds etc) via self-managed super funds, with most of the remainder in bank deposits and institutional superannuation funds. The corporate sector's financial asset holdings are primarily in bank deposits and foreign shares.

***Australia has one of the largest pension fund sectors in the world***, both in absolute terms (third largest behind USA and Japan in 2011) and relative to GDP (fourth largest behind Netherlands, Iceland and Switzerland).

<sup>21</sup> RFCs are money market corporations and finance companies

**Figure 21: Fund Assets as a Percentage of GDP – Selected OECD Countries: 2011**

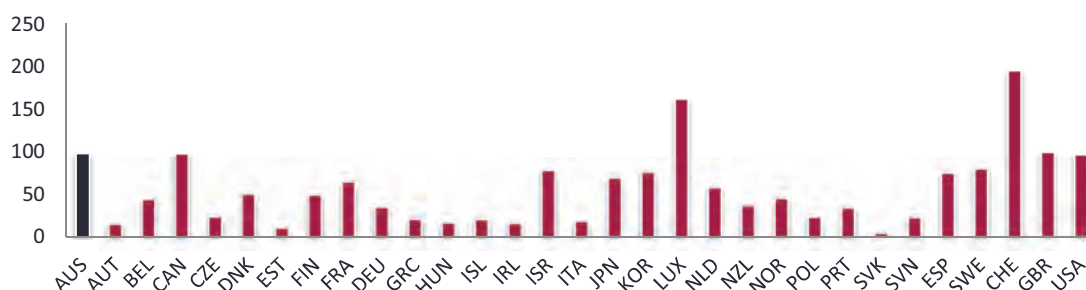


Source: Pension Markets in Focus: September 2012, Issue 9, OECD

**The Australian funds management sector has relatively few foreign assets under management for foreign clients.** At December 2012 funds managed on behalf of overseas investors were only 4.8 per cent of the consolidated assets of the Australian funds management sector. According to (Johnson 2010) the “percentage of funds under management sourced offshore in the UK, Hong Kong and Singapore are 31 per cent, 64 per cent and 80 per cent respectively.”

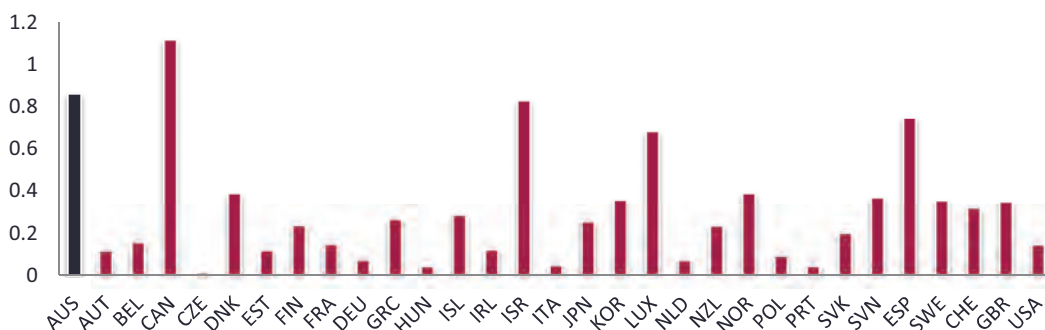
**Australia's Stock Market is large by international standards,** whether measured by market capitalization/GDP (Figure 22) or listed companies/population (Figure 23). The ASX is the 7<sup>th</sup> largest exchange internationally measured by market capitalization and 5<sup>th</sup> largest measured by free-float market capitalization.

**Figure 22 Stock Market Capitalisation/GDP:2010**



Source: World Bank A Database on Financial Development and Structure (updated September 2012), <http://go.worldbank.org/X23UD9QUX0>

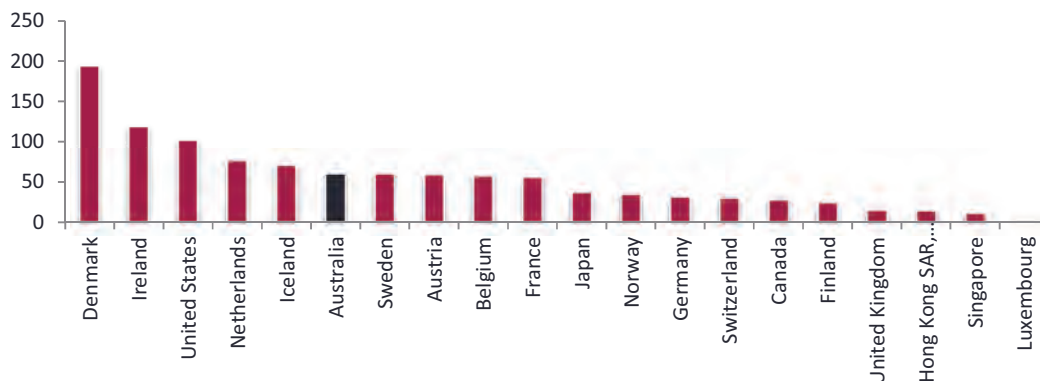
**Figure 23 Listed Companies/Population (10,000): 2010**



Source: World Bank A Database on Financial Development and Structure (updated September 2012), <http://go.worldbank.org/X23UD9QUX0>

**Relative to GDP, Australia's domestic bond market is of comparable size to most other OECD countries (Figure 24).** But amount on issue by non-financial corporations is relatively small, with banks, securitisers, overseas entities ("Kangaroo" issuers), and in recent years Federal and State Governments being the major issuers (Figure 6).

**Figure 24 Private Debt Securities/GDP: 2010**



Source: World Bank Global Financial Development Database (GFDD) <http://go.worldbank.org/AWACYAMMM0>

*The Australian banking sector is of comparable size to that of other OECD countries* (with bank assets/GDP = 131.4 in 2010 versus median bank assets/GDP = 130.9 for the OECD). (There is significant dispersion in this measure with the USA = 64.6 and the UK = 202.6). Similarly bank deposits/GDP at the lower figure of 98.8 (reflecting the role of wholesale and equity funding of assets) is close to the OECD median.<sup>22</sup>

The Australian banking sector has a significantly higher ratio of housing mortgage loans/total loans than other OECD countries.

**Table 8: Bank Real Estate Lending Concentration: Selected Countries**

	Residential real estate loans/total loans	Commercial real estate loans/total loans
Australia	62.7	9.7
Canada	34.7	2.9
China	15.8	6.8
Germany	16.7	5.7
Ireland	29	15.5
Italy	18.7	8.8
Korea	21.8	20.6
Norway	41.4	2
Portugal	32.9	10.4
South Africa	32.8	9.5
Switzerland	33.6	6.8
UK	16.2	3.6
USA	35.6	15.8

Source: IMF Financial Soundness Indicators; End 2011 Data.

There are always difficulties in making cross country comparisons. In that regard, it should be recognized that a significant part of home mortgage lending by Australian banks (perhaps twenty or more percent) is in fact small business lending which is secured by mortgage against the family home. International differences in the role of public housing provision and securitization arrangements are also relevant. Nevertheless the differences in Table 8 appear quite stark.

The contribution of finance and insurance to gross value added (and GDP) appears to be significantly larger for Australia than for any of the G7 countries (Table 9). The crucial, unanswered, question here is whether this reflects a larger real contribution to economic activity, perhaps reflecting financing requirements of the high level of investment in Australia, or higher relative rewards to factors of production in that sector in Australia. Gross Value Added is, essentially, remuneration of employees plus profits, such that higher

<sup>22</sup> Source : World Bank Financial Structure Database, 2012

GVA could reflect a lower level of competition with the consequences being higher remuneration and profits.

**Table 9 Finance and Insurance Sectors Share of Gross Value Added**

	Year	Gross Value Added
Australia	2010	10.6%
Canada	2008	6.6%
France	2011	4.7%
Germany	2011	5.2%
Italy	2011	5.4%
UK	2011	8.3%
USA	2012	7.9%

Source: UN, BEA

### 3.2 Household Sector

***The household (and unincorporated enterprises) sector is a significant net borrower from banks.*** At September 2012 household bank deposits were around \$660 billion and loans from banks around \$1,130 billion. Other claims on financial corporations included equity in super and insurance at that time of around \$1,491 billion, shares in financial corporations of around \$151 billion and prepaid insurance premiums of \$54 billion.

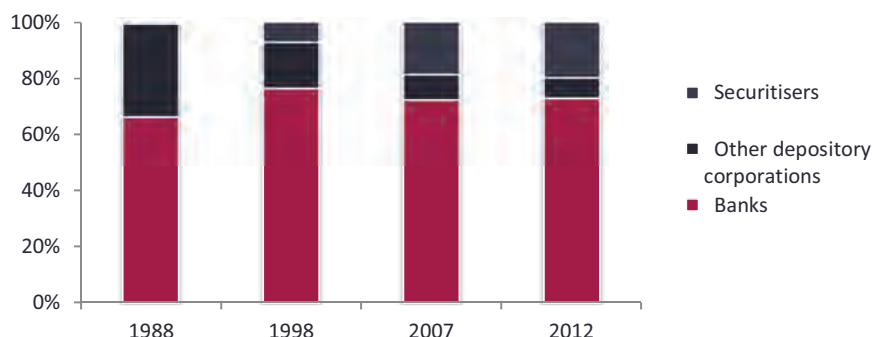
Other liabilities to the financial sector included loans from securitisers of around \$310 billion and from other depository corporations of around \$100 billion. Together with other minor amounts these aggregate to give net claims on all financial corporations overall of around \$857 billion.

The composition and sources of household debt is also worthy of note. The share of loans for investment housing increased dramatically from around 15 per cent in the mid 1990s to around 30 per cent by the GFC and has stabilized since. The share of owner occupied housing loans has fluctuated between 55 and 65 per cent but has been relatively stable at around 60 per cent since the GFC. The share of non-housing related borrowings has thus declined over time to recent values of around 10 per cent. Some part of this decline presumably reflects the development of housing loan arrangements which enable individuals to access finance for other purposes within mortgage loan limits.

Over the longer term there has been a significant change in the relative shares of lenders to the household sector (Figure 25). In the mid 1980s, banks provided around two-thirds of household sector finance and non-bank lenders the other third, with virtually no securitization financing. By the mid 2000's, and relatively unchanged since, the share of securitisers in loans outstanding is around 20 per cent, with banks having around 70 per

cent, and other lenders around 10 per cent.<sup>23</sup> Although securitization involves capital market rather than bank balance sheet funding of loans, a significant part of the origination and servicing activities for such loans occurs within banks - such that the growth of securitization includes some disguised growth in the role of banks in this market.

**Figure 25 : Household Sources of Debt Finance**



Source: ABS 5232.0 Australian National Accounts: Financial Accounts, Table 1

The advent of compulsory (and tax incentives for voluntary) superannuation savings have had relatively limited impact on the broad composition of household wealth. Since the mid 1990s, the share of financial assets in household total assets has fluctuated between 37 and 42 per cent, with increased value of superannuation assets largely matched by increased valuations of housing.

In terms of financial asset allocation (see Table 6), superannuation, privatizations and demutualizations have led to Australian households having significant direct and indirect holdings (via super funds) of shares and other assets exposed to market risk. Moreover, the structure of the Australian personal tax system gives substantial incentives for households to invest in, and take levered positions in, assets with market risk. Favourable tax treatment of capital gains, dividend imputation, and negative gearing are the main factors, and the adverse tax treatment of low risk fixed interest investments such as bank deposits is shown in Chart A1-19 of (Henry 2010).

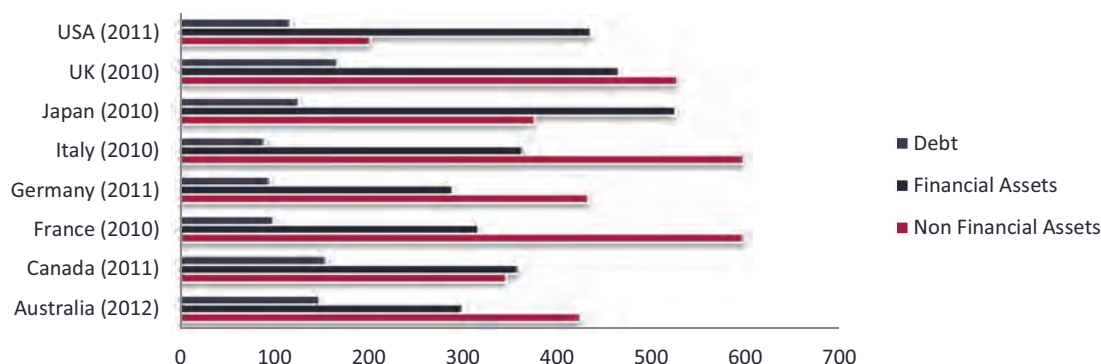
Households have increased their net financial wealth position substantially over the past decade (Table 2). In the five years to 2007 net claims on financial institutions (including superannuation funds) increased markedly but have stagnated since – largely a consequence of the decline in equity prices after November 2007. In contrast, net claims on non-financial corporations have continued to grow steadily, while claims on general government (primarily unfunded superannuation) increased significantly after 2007.

<sup>23</sup> Some part of the earlier change reflected conversions of building societies into banks and the reclassification of some mutual credit unions and building societies as banks which commenced recently will tend to further reduce the relative size of the "other" category.



Figure 26 provides a comparison of the Australian household sector balance sheet with those in G7 countries. While the scale and composition (financial / non-financial assets) of the Australian balance sheet relative to disposable income does not look unusual by this comparison, the debt/assets ratio of 20.5 per cent is somewhat higher than the average (15.6 per cent) and exceeded only by Canada (21.9 per cent).

**Figure 26 Household Balance Sheets: International Comparison (Assets & Liabilities relative to Disposable Income)**



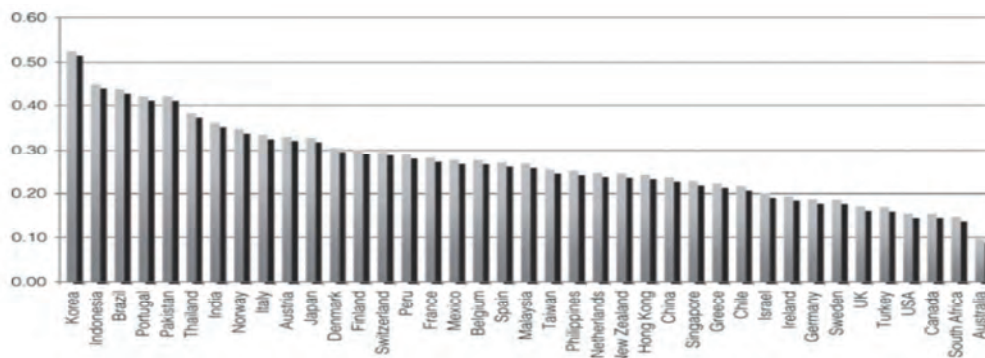
Sources: OECD Economic Outlook No. 92 (database); RBA Bulletin

### 3.3 The Corporate/Business Sector

#### 1. The Australian corporate sector has relatively low leverage by international standards.

As Figure 14 shows, for non-financial private corporations leverage stands at around 0.4 on a gross basis (debt/(debt + market value of equity)) and near zero on a net basis – if measured as (debt – financial asset holdings)/(debt + market value of equity – financial asset holdings). (Fan, Titman et al. 2012), based on a large sample of listed companies on international exchanges, show Australian leverage to be easily the lowest internationally on average over 1991-2006 (see Figure 27).

**Figure 27 Median Leverage Ratio of Sample Firms: 1991-2006**



Source: (Fan, Titman et al. 2012)



A look at total liabilities of the non-financial corporate sector, shown in Figure 28, illustrates the relatively low leverage of Australian companies (both listed and unlisted) and the relatively small contribution made by debt capital market funding relative to loans and placements of debt. Also noticeable is the relatively small contribution of funding via bills of exchange or one-name (commercial) paper.

The relatively low leverage of Australian companies (and the decline since the late 1980s) can be attributed in large part to the operation of the dividend imputation tax system in operation since 1987. Unlike the classical, or non-integrated, tax systems operating in most other countries<sup>24</sup>, the imputation tax system provides no (or less) tax incentive towards leverage.<sup>25</sup> The only tax incentive for leverage is for companies with significant international shareholder clienteles, for whom franking credits cannot be used to reduce tax at the investor level. Higher leverage levels for unlisted subsidiaries of foreign owned companies can be expected – with thin capitalization rules aimed at preventing undue exploitation of the tax minimization strategies otherwise possible.

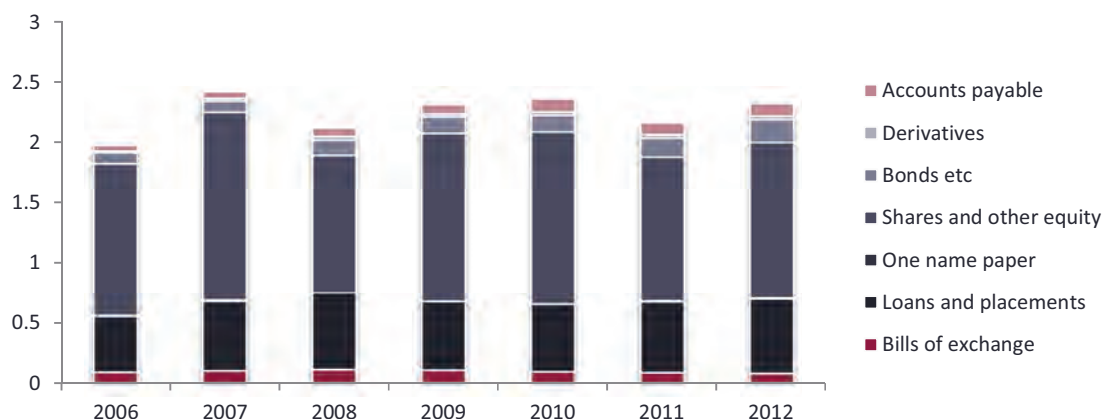
There are significant differences in leverage within the corporate sector. Whereas resources and industrial companies have relatively low leverage, infrastructure companies and real estate investment trusts have relatively high leverage, reflecting the high level of fixed assets, and characteristics of expected future cash flows. In 2009, for example, market value gearing (debt/equity) of resources and industrial companies was in the order of 30 per cent, whereas for infrastructure and real estate, the corresponding figures were 146 and 82 per cent (Reserve Bank of Australia 2010). It is perhaps worth noting that at least some part of the high gearing of the latter two sectors can be attributed to the significant use of stapled securities (where units in a trust are stapled to a loan note and/or equity of an associated company).

---

<sup>24</sup> Fan, J. P. H., S. Titman, et al. (2012) provide relevant information on tax systems in range of countries.

<sup>25</sup> In classical tax systems, deductibility of interest payments at the corporate level reduces the total tax paid (at company and investor level) on income generated by the company. Under the imputation system, such a reduction in company tax reduces the amount of franking tax credits which are available for distribution with dividends to shareholders, and whose use by shareholders offsets the tax paid at the company level.

**Figure 28 Corporate Liabilities (\$ trillion)**



Source: ABS 5232.0 Australian National Accounts: Financial Accounts, Table 1

Note: Shares and other equity outstanding are measured at market value

## **2. Australia has one of the highest ratios of private gross investment/GDP among OECD countries.**

Australian private gross investment/GDP ranks 26<sup>th</sup> in world at 28.2%, compared with Canada 23.7%, Japan 21.1%, European Union 18%, UK 13.9%, USA 12.9%.<sup>26</sup> A significant part of this investment is financed by foreign capital flows (including retention of earnings by foreign owned companies operating in Australia)<sup>27</sup>. This larger than average level of investment could provide an explanation for a financial sector larger than in other developed economies in order to facilitate the financing requirement.<sup>28</sup>

## **3. Australia has a relatively large SME sector**

“Small businesses play a significant role in the Australian economy, accounting for almost half of employment in the private non-financial sector and over a third of production” (Connolly, Norman et al. 2012). In general, leverage of small business is less than that of listed companies, with major sources of debt finance including credit card and mortgage financing. The attrition rate of small businesses is relatively high.

There is a relatively large use of the limited liability corporate form for small business in Australia. Australia has around 6 new limited liability firms per 1,000 of working age population registered each year compared with an OECD average of around 4. (World Bank, Entrepreneur Database). One reason (as well as the benefit of limited liability), suggested by (Connolly, Norman et al. 2012) is that the corporate tax rate is lower than the personal tax

<sup>26</sup> CIA FactBook (2012)

<sup>27</sup> This gives rise to an income debit in the current account of the balance of payments and an equal offsetting capital inflow in the accounts.

<sup>28</sup> However, a high level of business saving and internal financing via retained earnings would be an offset.

rate for many owners. Retention of earnings and subsequent realization of profits via sale is a tax preferred strategy due to concessional capital gains tax arrangements.

Although use of debt finance by SMEs is lower than for large companies, equity funding is largely from personal sources (Matic, Gorajek et al. 2012). The Venture Capital industry in Australia is quite small (Table 10). There are a considerable number of small businesses listed on the ASX, which provides an alternative source of equity finance to owner's equity and venture capital firms.

**Table 10 Funds Raised by Venture Capital and Private Equity Firms, AUD Million**

Year	Venture Capital		Private Equity		Total	
	Amount	No. of Funds	Amount	No. of Funds	Amount	No. of Funds
FY2003	161.82	5	391.3	5	553.12	10
FY2004	96.09	5	1,631.11	5	1,727.20	10
FY2005	349.87	6	1,496.35	19	1,846.21	25
FY2006	120.6	4	4,092.69	15	4,213.29	19
FY2007	356.92	4	8,690.04	20	9,046.96	24
FY2008	313.4	5	1,817.74	16	2,131.14	21
FY2009	174.89	9	1,485.21	17	1,660.10	26
FY2010	158	13	1,207.92	10	1,365.92	23
FY2011	80	2	2,014.79	10	2,094.79	12
FY2012	240.02	4	3,094.74	17	3,334.76	21

Source: AVCAL, 2012 Yearbook <http://www.avcal.com.au/documents/item/441>

The private equity sector in Australia does not appear atypical in size (relative to GDP) compared to other developed economies. Increasing amounts of funds under management which have longer term horizons (such as with superannuation) and able to make longer term illiquid investments could be expected to promote growth of this sector.

### 3.4 Government Finances

***Australia still has one of the lowest Government Debt/GDP ratios in the developed world*** despite the emergence of government deficits since 2008 (Table 11). There are significant overseas holdings of that debt (all issued in AUD).

**Table 11 Gross Government Debt/GDP**

Country	AUS	CAN	CHN	DNK	FRA	DEU	ITA	JPN	KOR	ESP	GBR	USA
Gross Government Debt /GDP 2012	27	88	22	47	90	83	126	237	33	91	89	107

Source: IMF WEO Database

### 3.5 International Position

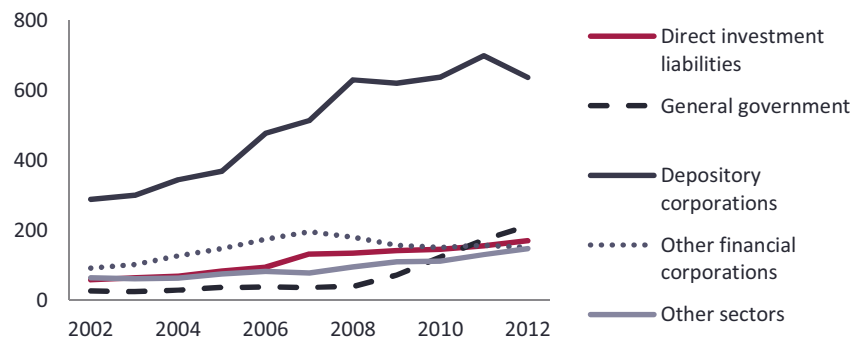
The Australian banking sector has around half of the outstanding gross liabilities to the ROW (Figure 29) associated with offshore borrowings providing capital inflow which offsets the Balance of Payments current account deficit. In net terms borrowings overseas by banks and others are partly offset by holdings of foreign assets by superannuation funds (Table 12). Together with foreign direct investment abroad, the composition of Australian holdings of overseas assets is highly concentrated in equities (Figure 30).

**Table 12 Industry Assets/Liabilities**

	Assets 07	Assets 12	Liabilities 07	Liabilities 12
Mining	119,488	154,594	157,195	282,261
Manufacturing	70,589	57,211	106,260	137,424
Utilities, Trade, Power, Transport	16,889	22,709	68,865	111,069
Financial/Insurance	746,860	889,723	959,422	1,076,652
Other	95,989	140,473	371,259	513,254

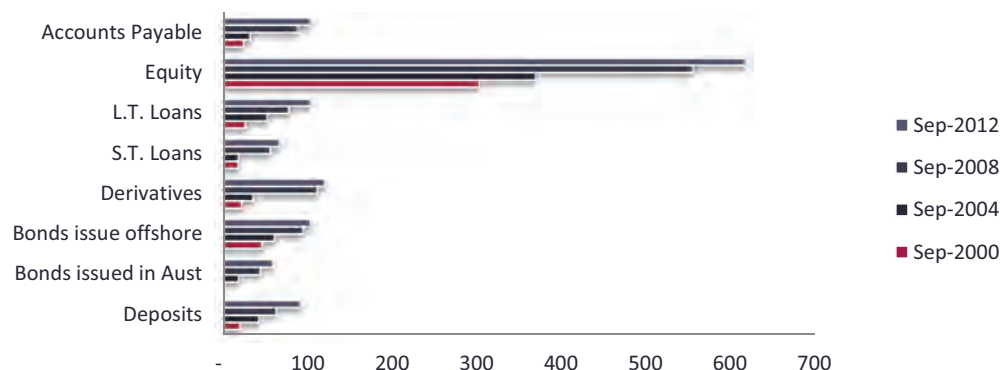
Source: ABS 5302.0 Table 84.

**Figure 29 Gross External Debt (\$ billion)**



Source: ABS 5302.0 Table 31

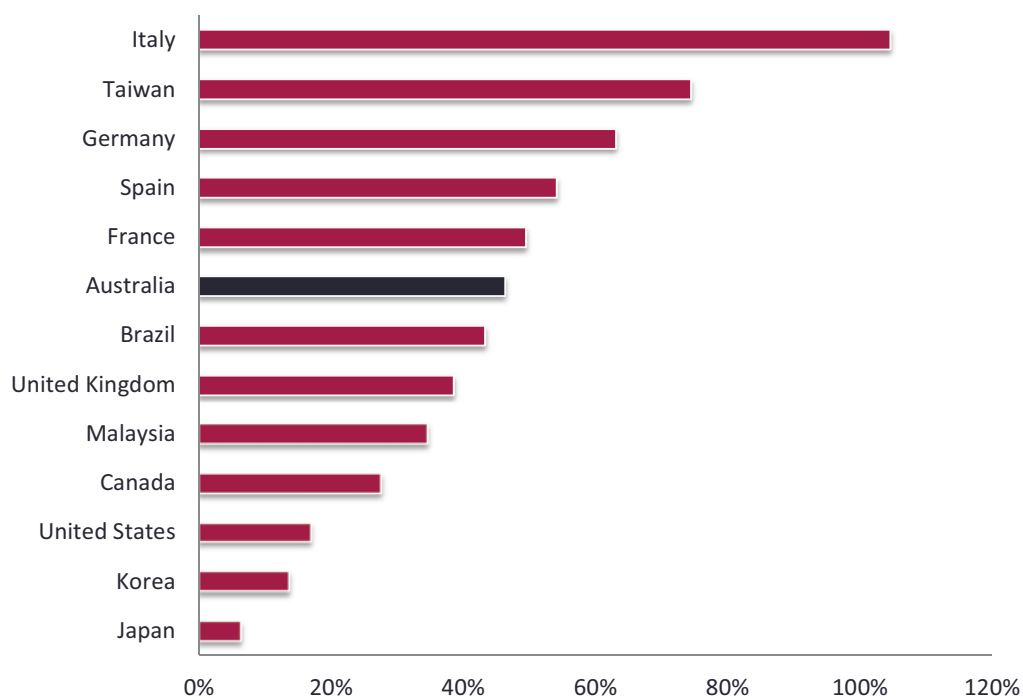
**Figure 30 Australian foreign financial asset holdings (\$ billion)**



Source: ABS 5232.0 Australian National Accounts: Financial Accounts, Table 21

The Rest of the World (ROW) has significantly reduced its net claims on financial corporations since 2007 and has significantly increased claims on non-financial corporations and also on general government. While Australian banks substantially increased bond issuance to foreigners in the early years of the GFC (aided by government guarantees), outstanding debts peaked in 2010 and have since fallen while foreign holdings of government and corporate bonds have grown. One characteristic of Australia's international capital flows is a relatively large component of inward foreign direct investment giving rise to a significant number of Australian domiciled companies which are foreign owned. (Figure 31 provides some international benchmarking, where the expectation that countries in the EU would have larger foreign ownership should be noted). This is particularly relevant for the potential future development of the Australian bond market, because such companies do have a tax-based incentive towards debt finance. In contrast Australia's level of outward foreign direct investment is relatively low – such that while the G7 countries are net providers of foreign direct investment, Australia is one of the largest net receivers (Figure 32). While the dividend imputation tax system may be a factor (given the apparent preference of Australian investors for franked dividends, which offshore profits do not enable) this seems unlikely to provide the full explanation.

**Figure 31 Inward Stock of FDI/Stock Market Capitalisation**



Source: OECD, FDI Stocks 2011

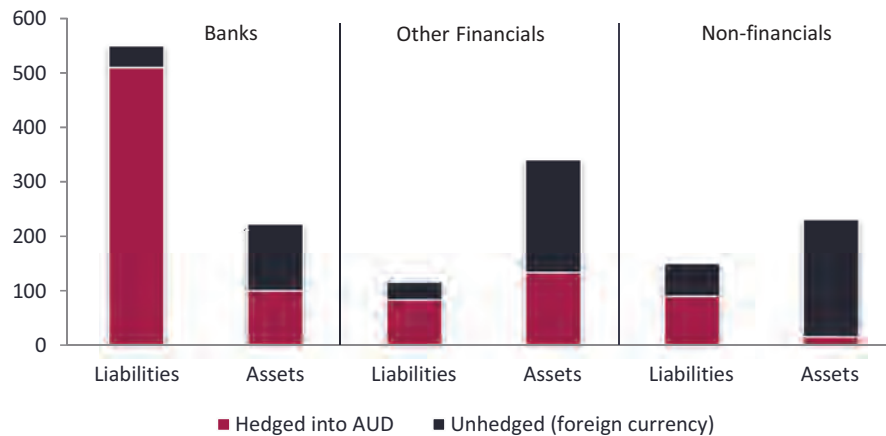
**Figure 32 Net Stock of Inward FDI (USD mill): 2011**

Largest net recipients		G7 (& 7 of 10 largest net providers)	
China	1440000	Canada	-75415
Brazil	467084	Italy	-179528
Mexico	190221	Germany	-504464
<b>Australia</b>	<b>172790</b>	United Kingdom	-532216
Indonesia	152427	France	-628203
Poland	147494	Japan	-737005
Turkey	112354	United States	-1772778
Czech Republic	109776		
Russian Federation	95373		
India	90475		
Chile	89128		

Source: OECD Statistics 2011

One consequence of the significant build-up of net international liabilities is that there is significant foreign exchange exposure which must be shared between Australian entities and foreigners. In this regard, Figure 33 is relevant as it shows hedging positions of Australian entities. The size of the net unhedged positions (around \$0.3 trillion) relative to net external liabilities of around \$0.9 trillion (see Table 2) suggests that a large part of the forex exposure is being borne by foreigners.

**Figure 33: Foreign Exchange Exposures of Australian entities**



Source: RBA Statement on Monetary Policy, February 2010, Box C

### 3.6 Interrelationships

Households are significant net providers of funds in aggregate to financial corporations (banks, superannuation funds etc) and thereby indirectly to other end users – particularly business (non-financial corporations). Households also are significant providers of direct

finance to business, primarily through investments in shares and other equity. Households are also significant providers of funds to government<sup>29</sup>.

***Households are net borrowers from banks (primarily for physical residential property investments) and their holding of other financial assets involve exposure to market risk.***

The overall net position of households as providers of funds to financial corporations disguises a significant leverage and a marked compositional effect. The total net claims on other sectors of \$1.58 trillion can be decomposed into financial asset holdings of \$3.26 trillion, primarily in bank deposits of around \$0.7 trillion, \$1.85 trillion in super etc., and \$0.5 trillion in shares, offset by around \$1.68 trillion in loans primarily from banks and securitisers. Thus the net liabilities of the household sector to banks were just under \$1 trillion in 2012, having increased from around \$0.4 trillion in 2002 and around \$0.8 trillion in 2007. Assets held in equities and super increased from around \$1 trillion in 2002 to around \$2.2 trillion in 2007 and were around \$2.4 trillion in 2012.

Reflecting a longstanding deficit position on the current account of the Balance of Payments, and consequent need for capital inflow, the Rest of the World (ROW) has significant net financial claims on, primarily, the private sector (although its holdings of Government bonds issued in Australia has increased in the last few years). Much of that net position constitutes equity in, and loans to non-financial corporations. The smaller net position vis a vis financial corporations hides significant offshore borrowings by banks which are offset by overseas equity and debt investments of superannuation funds. Also missing from that picture is the extent of ROW investments in physical assets (property) which is another substantial source of capital inflow.

The business (non-financial corporate) sector is a net user of funds provided ultimately from the other sectors. Around 60 per cent of net financial claims on the business sector are held directly by households and the ROW and 40 percent by financial corporations. This includes bank loans and equity investments by superannuation funds (and although offset by business deposits etc seems low, particularly given the small size of the corporate debt market).

Net financial claims on Government have increased substantially since 2007, but are still relatively low by international standards.

The difference in 2012 between net financial claims on (\$1055 billion) and net financial claims of (\$735 billion) the financial sector of around \$320 billion corresponds, in principle, to the physical assets of the sector (such as direct property investments).

---

<sup>29</sup> Primarily through unfunded superannuation liabilities of public sector super funds, which were \$353 billion as at September 2012.

While private sector bond markets have grown over the past decade, little of this reflects business debt issuance, rather than issues by banks, securitisers and overseas (Kangaroo) issuers. Particularly noticeable is the fact that unlisted shares and equity are a larger source of finance for Australian businesses than listed equity. This is even more striking if equity in listed financial corporations (banks, insurance companies etc) is excluded, and can be attributed in large part to the significant role of subsidiaries of foreign businesses operating in the Australian economy.



## 4. An Assessment

It was suggested in section 1 that there are four fundamental influences which will influence the future of financing arrangements in Australia in the light of recent trends (Section 2) and current financial system structure (Section 3). These are:

1. The need for the financial sector to catch up with the implications of the long term shift of household savings flows into superannuation.
2. The impact of post GFC regulatory changes and private sector reassessments of risk of particular financing arrangements.
3. Technological change and innovation changing the prior competitive advantage of particular forms of financing and risk management
4. Changes in the pattern of demand and supply of finance associated with possible structural changes in the real sector of the economy (including demographic trends).

At a broad level, it seems apparent that the Australian financial system has not fully adapted to the interaction of demographic trends and the growth of the superannuation system. Population growth and technological change are driving a need for significant infrastructure investment which governments are unwilling to fund on-budget, while bank lending is heavily focused on households and, arguably, constrained by deposit supply.<sup>30</sup> Superannuation funds appear averse to the risk and illiquidity of large positions in individual infrastructure projects, and taking on project risk of “greenfields projects”.

More generally while it is one of the functions of the financial sector to provide liquidity by transforming short term savings into long term investments, another consequence of the growth of superannuation has been the development of a large and growing pool of long term savings. In these circumstances, it can be asked whether the current and historical structure of financing patterns remains appropriate. In particular, Australian banks finance long term housing mortgage loans with much shorter term deposit and debt financing, rather than there being a perhaps better “matching” of long term illiquid savings and investments (an issue which is also relevant to the case of infrastructure).

The impact on potential bank deposit growth and need for banks to adjust their activities arising from household savings flowing primarily into super funds may be relevant to the resolution of these issues. Increased wealth from the flow of household savings appears to be largely accounted for by superannuation contributions and increases in household equity

---

<sup>30</sup> “Arguably” because general expansion of credit by banks leads to some accommodating increase in aggregate bank deposits at least in the short run due to the role of bank deposits as money.

in dwellings – although this is a topic deserving of much closer analysis.<sup>31</sup> In the short term, increased bank lending, funded by for example bank equity issues, which enables increased leverage of the non-bank sector can cause aggregate bank deposits to grow due to the role of bank deposits as money.<sup>32</sup> In the longer term, the consequences of household portfolio allocation away from bank deposits into superannuation means that banks must attract funds in forms other than household deposits (such as from super funds or overseas) or tend to shrink in relative size.

The role of bank deposits as money is also relevant in understanding the effect of bank competition for funds on market interest rates. An individual bank offering higher deposit interest rates can expect an increase in deposits – but that will generally be at the expense of deposits in other banks.<sup>33</sup> If all banks attempt to increase deposits as part of competition for funds, the net effect will be primarily an increase in the interest rate paid on such deposits with little if any increase in the total stock of bank deposits.<sup>34</sup> This is essentially what happened following the onset of the GFC as Australian banks attempted to replace wholesale market funding (particularly from overseas) with initially cheaper retail domestic deposits, and pushed their cost closer to wholesale market rates (Figure 34). With households increasingly having access to wholesale market interest rates through other means such as mutual funds, the longstanding competitive advantage of banks of large scale, low cost, retail deposit funding is in decline. Whether banks retain a funding advantage depends on how much depositors value the liquidity features, payment facilities, and low risk characteristics of bank deposits – and on the costs to banks of providing these characteristics relative to those of potential competitors. For example, cash management trusts (money market mutual funds) can provide liquidity, payments services and relatively low risk, but their growth in Australia has been hampered by a relative lack of short term high quality money market instruments available for investment.<sup>35</sup> More speculatively, the potential for “e-money” such as pre-paid credits on mobile phones, transferable via SMS messages, to emerge as an effective competitor for bank deposits as a form of money should not be ignored.

---

<sup>31</sup> It seems likely that superannuation contributions and building up of home ownership equity account for most of new savings of lower income groups, whereas there is scope for greater discretion in wealth allocation for higher income groups. The planned increase in contribution rates from 9 to 12 per cent of wage and salaries is relevant here, although an increasing proportion of households moving into retirement and asset decumulation may provide an offset.

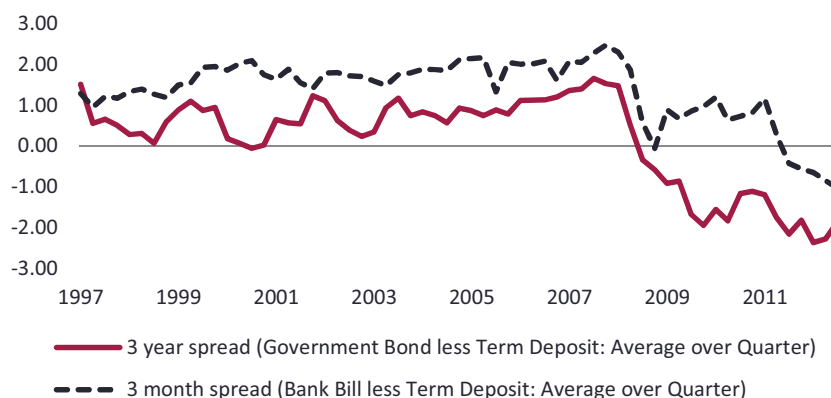
<sup>32</sup> That is, bank deposits can grow in aggregate as a result of increased scale of financial asset portfolios financed by increased borrowings (leverage) or savings, even if there is an ongoing reallocation of financial asset holdings away from deposits towards other financial assets.

<sup>33</sup> As well as the potential direct effect of transfer of deposits from one bank to another, an individual's decision to sell other assets (eg shares) to increase deposits leads to a reduction in bank deposits of the purchaser. Leakages from this process occur if, for example, the purchaser reduces holdings of currency or funds the purchase by way of a bank loan.

<sup>34</sup> The actual outcome depends in part on the reaction of the Reserve Bank – if it does not wish to see upward pressure on loan interest rates, it will provide additional liquidity to the market, enabling some expansion of bank deposits.

<sup>35</sup> The sector has declined significantly in size recently due to the decision of Macquarie Group to convert its cash management trust into a bank deposit account facility.

**Figure 34 Wholesale Retail Deposit Spreads: 1997-2011**



Source: RBA Bulletin Table F2

Some of the potential implications of these influences are as follows.

**1. Banks will need to find alternative ways to fund the origination of loans and other financial assets where they possess competitive advantages in risk assessment (and subsequent monitoring).**

With reduced deposit flows, less reliance on international wholesale borrowings, and regulatory pressures to reduce liquidity creation and balance sheet leverage, several scenarios can be envisaged. Greater use of securitisation can enable the creation of capital market assets based on housing (and other) loans suitable for investment by superannuation funds where their ability to bear the liquidity risk of long term investments can reduce costs of such loans. Removal of the funding role can also be achieved via bank provision of guarantees to entities seeking to raise funds (such as through bank accepted bills). However, because banks still face credit risk exposure (and liquidity risk of bill facilities), the attractiveness of this process is reduced by capital and liquidity regulation.

A second potential change (already in progress) is the development of mechanisms enabling savings flows into superannuation to flow on as longer term investments in other institutions (such as banks) involved in assessment and financing of new real investment opportunities. Innovations in deposit types and bank bond (including covered bonds) or hybrid securities issuance aimed at such investors are such mechanisms already appearing. A third possibility is the greater use of (and role of banks in managing) primary capital market financing of new real investments (either directly via equity and debt issues) to create securities which absorb the flow of super savings.

Whether other structures such as mortgage trusts can provide an alternative vehicle for dealing with the changed pattern of fund flows remains an open question – albeit one

suffering from the failures of such entities in recent years due to poor loan decisions and other governance and investment failures. Similarly, the extent to which other ways of removing assets from bank balance sheets, such as direct loan sales to investors, or placing bank loans into a mutual fund structure have not been widely used. For example, unlike some overseas countries, a secondary market in domestic syndicated loan participations has not developed with banks instead retaining such assets on balance sheet.

**2. The implied lengthening of the financial intermediation chain if funds flow through super funds and then through banks raises the possibility of increased overall cost of intermediation.**

Together with increased deposit funding costs induced by competition, this suggests that the competitive advantage of banks in originating loans and securities may be threatened. This raises the possibility of the expansion of super fund activities directly into assessment and financing of real investment opportunities (beyond the limited current scope of investments in construction of commercial property and infrastructure). This could occur through development of in-house credit risk assessment expertise or through partnerships with other specialist entities.

**3. The development of financial products for the retirement (drawdown) phase which is becoming increasingly important with an ageing population has also lagged.**

Banks and other lenders have been slow to develop attractive, low risk, products such as reverse mortgages to enable retirees to access the equity in their homes. Similarly, a wide range of pension products has failed to develop, or be taken up, in the face of the ability of retirees to maintain managed account (allocated) pensions or take lump sum payouts. While banks could, in principle, offer longer-term annuity style deposit products for retirees based on their diversified loan portfolios (and partially offset the effect of household super contributions on deposit inflow), other potential providers are handicapped by the absence of long term fixed interest securities available in the market.

**4. Another potential implication is for the future structure of the largest asset market in Australia – that of residential mortgages.**

Australian banks are outliers, by international standards, in terms of the very high proportion of assets created and held in the form of residential (and commercial) mortgages. Residential mortgage lending has traditionally been an important business area for banks, and its appeal is enhanced by low associated regulatory capital requirements.

However there is little reason to think that banks will, in the future, have a competitive advantage in creating and funding these illiquid assets. Competition for deposits has largely removed any funding cost advantages over other potential funding arrangements (although government guarantees under the Financial Claims Scheme may provide some potential advantage). Regulatory liquidity requirements (the Net Stable Funding Ratio of Basel 3) also reduce the opportunity for banks to fund such illiquid, long term, assets by use of (arguably cheaper) short term deposits.

But perhaps the most important factor is the developments in technology and information available for credit risk assessment and underwriting of retail mortgage loans, reducing the benefits to banks arising from long standing customer relationships. Credit risk assessment of secured residential mortgage lending is not a highly complicated process (despite what the US sub-prime experience might suggest) and loan funders can outsource the loan servicing management (collections, monitoring) to specialist third parties. (Commercial property lending is a different story). It is perhaps only in the area of small business financing, where mortgages over the owner's residence are part of financing arrangements, that the role of banker-customer relationship provides a potential advantage.

Another factor relevant to determining whether residential mortgage funding becomes more of a "non-bank" activity is the fact that banks have had to rely on capital market funding, including from overseas, to maintain their level of mortgage lending. Contrary to typical textbook expositions, where household savers provide deposits to banks who then lend to businesses, Australian households are substantial net borrowers from banks - primarily for residential property investments.

**5. Infrastructure finance arrangements warrant re-examination to enable better opportunities for matching suitable types of savings with such investments.**

Government commitment to budget balance over the business cycle, reduces the scope for government budget debt financing for major infrastructure projects. Because both capital and current expenditures are included in budget outlays, government funded infrastructure spending increases budget deficits unless higher taxation or reductions in other expenditures occur as an offset. It is an unfortunate political fact that the resulting deficit financing of infrastructure spending is not generally interpreted as a mechanism for creating valuable real assets with future economic and social benefits. And, in the case of (successful) economic infrastructure projects, the assets can be sold at some future date to pay off the debt created to finance construction.

PPPs have had mixed success in raising funding from and transferring risk in infrastructure projects to the private sector. In the absence of political will to fund capital expenditures by borrowings, there is scope to explore alternative mechanisms for private sector funding and risk sharing.

Among the potential class of long term illiquid assets which might be “matched” with long term illiquid pension fund savings are large scale infrastructure projects. However, such projects are typically characterised by significant project risks for investors in the “greenfield” stage before ultimately transitioning to lower risk investments once project maturity is reached.<sup>36</sup> While mature infrastructure investments appear to have risk and return characteristics suitable for super fund investments, there are currently impediments to them making such investments at the greenfield stage. These include lack of the specialist risk assessment expertise required in-house, together with the concentration risk arising from the required scale of investment.

While increased scale of super funds (in large part by mergers) should tend to reduce these impediments, they are likely to remain significant indicating a need for alternative mechanisms to be developed. Two are apparent. One is risk transfer to (absorption by) some other party. Whereas the PPP approach involved attempts to jointly transfer both funding and most risks of greenfield projects to the private sector on a project by project basis, it is worth examining whether separation of these functions is warranted and feasible. In particular, some (eg construction cost) risks could be transferred to private sector project participants, who are separate from private sector funders, and with government bearing and diversifying its project success/failure risk within a large portfolio of such projects (by, for example, providing guarantees over returns to providers of debt finance to individual projects).

The alternative possible approach also involves diversification and shifting away from an approach where the funding of each infrastructure project is treated as an independent event. Given a sufficiently large number of projects warranting initiation, some form of special purpose vehicle/mutual fund structure could be established to enable many suppliers of funds to obtain a diversified investment across that range of greenfields projects. Given the widespread concern over the need for increased infrastructure investments, and the potential ready “match” of mature infrastructure asset characteristics to super fund savings needs, finding ways to facilitate greenfields investments (and ultimate transition to brownfields assets), while ensuring good project selection, should be a high public policy priority.

---

<sup>36</sup> That generally applies even for projects which are failures from the perspective of initial investors, because decline in the market value of the mature asset (below construction cost) can provide subsequent purchasers an adequate risk adjusted rate of return.

**6. There is considerable debate surrounding the question of whether Australian superannuation funds (and thus their members) are overly exposed to risky investments such as equities.**

Several issues need to be considered. First, ultimately, the aggregate risk associated with equity investments needs to be held by some-one. If superannuation funds have less equity risk, some other investors must have more. Unless more such risk is transferred to the overseas sector, ultimately households will be the principal bearers of such risk via direct investments or managed funds. Second, superannuation investors hold other assets, outside of their superannuation accounts, including real estate and a contingent claim on the government provided age pension. Recognising these asset positions in household balance sheets suggests that the total (direct and indirect) exposure of households to equities is much less in aggregate than often assumed.<sup>37</sup> At the individual level, however, households have diverse circumstances such that average exposure implied by super fund equity holdings may be quite different to that suitable for particular households. With technology providing greater scope for information aggregation, increased tailoring of superannuation products to individual needs can be expected.

**7. One partial explanation for the high equity share of super fund portfolios is the paucity of domestic corporate bond issuance and consequent lack of availability of domestic fixed interest investments.**

There has been particular legislative and regulatory attention on measures to develop such a market. However, there are a number of impediments – particularly in the case of developing a retail corporate bond market. These include (a) inability of retail investors to adequately assess and price credit risk and (b) the existence of deposit insurance for relatively large scale retail bank deposits (c) investor attraction to franked dividends on shares. Overcoming the first impediment seems likely to require the creation of retail corporate bond mutual funds – which in turn requires adequate investment opportunities, creating something of a chicken and egg problem.

More generally, with profitable Australian owned corporations having no (or little) tax-based incentives towards debt rather than equity financing, it should not be expected that a significant domestic corporate bond market will develop rapidly - particularly if major industrial companies can obtain bank loan funding or access international bond markets. However, given the structural change in flow of funds patterns due to superannuation,

---

<sup>37</sup> Wood (2013) presents such an argument



there is potential for such development – albeit one requiring greater spread of credit risk assessment skills outside of banks.

**8. Identifying the appropriate perimeter of prudential regulation and designing appropriate investor protection arrangements outside of this perimeter remains a major issue.**

One feature of the Australian financial system is its dominance by two types of financial institutions (banks and super funds) together with a large (by international standards) stock exchange. There are very few financial assets held by financial institutions which are not part of the prudentially regulated sector – although SMSFs are a rapidly growing savings/investment vehicle outside the prudential perimeter, while managed fund and direct investments in equities and debt instruments also escape prudential regulation.

The higher cost of “safe” intermediation due to ongoing regulatory changes suggests a likely increase in activity outside the prudentially regulated sector – including capital market innovations. This raises the question of investor protection in the non-prudentially regulated sector and in terms of arrangements for direct issues of securities by firms to investors. Both disclosure issues and issuance requirements are important in this regard. We have seen both attempts at reducing costly disclosure requirements and ability of companies to have more discretion in issuance arrangements (such as placements) which reduce the transaction costs of issuance, but create greater risks for investors. The net effect on the availability and cost of such finance is thus unclear.

Herein lies one of the most pressing issues facing government regulatory policy. Prudential regulation and supervision is designed to both protect investors in particular financial institutions making “strong” financial promises and ameliorate financial stability issues arising from potential failure of such institutions. While financial regulation has long ago eschewed direct controls over investment decisions of regulated entities, the application of capital and liquidity regulations indirectly influence the nature of such decisions. Arguably, not all of the activities of institutions within the prudential perimeter warrant such oversight, but are caught because they are undertaken by the regulatory focus on the institutions involved. There may be valid arguments, on the grounds of encouraging a greater degree of appropriate risk taking from an economic perspective, for a smaller proportion of financial sector activities being undertaken within the prudential net and more outside.

But to achieve such an outcome involves two substantive problems. One is that it may require some structural separation of some prudentially regulated institutions – in particular



banks. Developments overseas, such as proposals for “ring fencing” of retail banking in the UK and Europe, and the Volker rule in the USA Dodd Franks Act, appear to be heading in this direction. Whether there would be significant social costs in the form of efficiency losses from reduced scope, greater than the hoped for social gains from enhanced financial stability, are unclear. The second problem is that while the concept of a significant, non-prudentially regulated, financial sector facilitating risk taking and investment is economically appealing, there is little evidence that participation in such a sector would involve only those who are able to appropriately assess, manage, and bear the risks involved. With an increasing amount of household wealth being accrued in SMSFs, this is an increasingly important concern. Policies focused upon disclosure, education, and advice as the pillars for reconciling freedom of choice and investor (and borrower) protection have had limited success.

Appropriately delineating the prudentially regulated sector and politically and socially managing the consequences of risk taking outside of that sector remain major unsolved regulatory and political challenges.

## Reference List

Admati, A. and M. Hellwig (2013). *The Bankers' New Clothes: What's Wrong with Banking and What to Do about It*. Princeton, New Jersey, Princeton University Press.

AFMA (2012). *Australian Financial Markets Report*. Sydney, Australian Financial Markets Association.

Brown, C., K. Davis, et al. (2011). *The Global Financial Crisis and Financial Regulation in the Antipodes. The World in Crisis: Insights from Six Shadow Financial Regulatory Committees*. R. Litan. Washington, American Enterprise Institute.

Cochrane, J. H. (2013). "Finance: Function Matters, Not Size." *Journal of Economic Perspectives* 27(2): 29-50.

Connolly, E. (2007). *The Effect of the Australian Superannuation Guarantee on Household Saving Behaviour*. Research Discussion Paper 2007-08. Sydney, Reserve Bank of Australia.

Connolly, E., D. Norman, et al. (2012). *Small Business: An Economic Overview*. Small Business Finance Roundtable, Sydney, Reserve Bank of Australia.

Davis, K. (2011). *The Australian Financial System in the 2000's: Dodging the Bullet. The Australian Economy in the 2000s*. H. Gerard and J. Kearns. Sydney, Reserve Bank of Australia, Sydney: 301-348.

Debelle, G. (2013) *Some Recent (and not so recent) Trends in Australian Debt Markets*. Address to the KangaNews DCM Summit. KangaNews DCM Summit

Edey, M. (2013). *The Financial System in the Post-crisis Environment*. Remarks to the Australian Centre for Financial Studies (ACFS) and Financial Services Institute of Australasia (Finsia) Leadership Luncheon Series, Melbourne, Reserve Bank of Australia.

Ellis, L. (2013). *Housing and Mortgage Markets: The Long Run, the Short Run and the Uncertainty in Between*. Address to the Citibank Property Conference, Sydney, Reserve Bank of Australia.

Fan, J. P. H., S. Titman, et al. (2012). "An International Comparison of Capital Structure and Debt Maturity Choices." *Journal of Financial and Quantitative Analysis* 47(1): 23-56.

Financial System Inquiry (1997). Final Report. Canberra, AGPS.

Greenwood, R. and D. Scharfstein (2013). "The Growth of Finance." *Journal of Economic Perspectives* 27(2): 3-28.

Henry, K. (2010). *Australia's future tax system*, Treasury.

Johnson, M. (2010). *Australia as a Financial Centre, Building on our strengths*, Treasury.

Matic, M., A. Gorajek, et al. (2012). *Small Business Funding in Australia*. Small Business Finance Roundtable, Sydney, Reserve Bank of Australia.

Merton, R. C. (1995). "A Functional Perspective of Financial Intermediation." *Financial Management* 24(2): 23-41.

Phalippou, L. and O. Gottschalg (2009). "The performance of private equity funds." *Review of Financial Studies* 22(4): 1747-1776.

Reserve Bank of Australia (2010). *Box B: Listed Corporates' Gearing Ratios*. Statement on Monetary Policy, May 2010. Sydney, Reserve Bank of Australia.

# Funding Australia's Future:

## Improving Australia's Financial Infrastructure

---



Dr Daniel Mulino

---

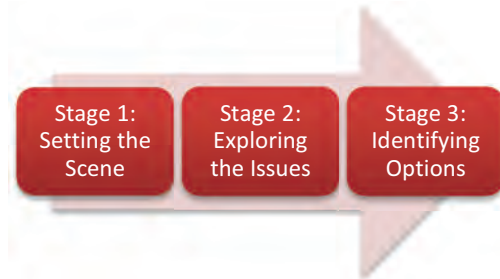
[www.fundingaustraliasfuture.com/improvingaustraliasfinancialinfrastructure](http://www.fundingaustraliasfuture.com/improvingaustraliasfinancialinfrastructure)

## **Funding Australia's Future**

The Australian Centre for Financial Studies (ACFS) instigated the project *Funding Australia's Future* in late 2012 to undertake a stocktake of the Australian financial system, and its role in facilitating economic growth within the wider economy.

In an economy which has enjoyed 21 years of consecutive economic growth and shown a resilience through the Global Financial Crisis (GFC) which is the envy of many nations, the financial sector has played a strong and pivotal role. The past decade, however, has been one of significant change. The impact of the GFC and the subsequent wave of global re-regulation have had a profound effect on patterns of financing, financial sector structure, and attitudes towards financial sector regulation. Identifying the extent to which these changes are transitory or likely to be more permanent is crucial to understanding how financing patterns and the financial sector will develop over the next decade or so.

The *Funding Australia's Future* project is in three stages, the first of which analyses the interaction between suppliers of funds, financial sector participants, and end users throughout the economy and assesses future demand for and supply of finance in Australia.



In undertaking this analysis, ACFS has worked with a group of financial sector stakeholders, including the Australian Bankers Association (ABA), Abacus, the Australian Finance Conference (AFC), the Australian Financial Markets Association (AFMA), the Association of Superannuation Funds of Australia (ASFA), the Australian Securitisation Forum (ASF), the Australian Securities Exchange (ASX), the Future Fund, the Financial Services Council (FSC), the Insurance Council of Australia (ICA), and National Australia Bank (NAB), as well as Treasury and the Reserve Bank of Australia (RBA).

This paper is one of three in Stage One, which include:

- “Financing Australia’s Future: from where do we begin?” – authored by Professor Kevin Davis, Australian Centre for Financial Studies, University of Melbourne;
- “The Future Demand and Supply of Finance” – authored by Professor Rod Maddock, Monash University and Victoria University; and
- “Improving Australia’s Financial Infrastructure” – authored by Dr Daniel Mulino, Pottinger.

Issues identified in Stage One of the project will be examined in some detail in Stage Two, with policy options being addressed in Stage Three.

## Notes on the Authors

**Professor Kevin Davis:** Kevin is the Research Director of the Australian Centre for Financial Studies and has been Professor of Finance at The University of Melbourne since 1987. He currently holds a part time appointment at Melbourne University and also as a Professor at Monash University in his role as Research Director of ACFS. He is a member of the Australian Competition Tribunal, a Director of SIRCA, and was on the Board of Melbourne University Credit Union from 1991 – 2011. Kevin has co-authored/edited sixteen books and has published numerous chapters in books and articles in academic journals. Kevin has extensive consulting and training experience, is a regular contributor to public debate on financial matters, and a regular speaker at industry and academic conferences. In 2003 Kevin was appointed by the Federal Treasurer to prepare a report on “Financial System Guarantees”, assessing the case for introduction of deposit insurance.

**Dr Daniel Mulino:** Daniel is the Director, Policy at Pottinger (an independent corporate advisory firm). He has a PhD in Economics from Yale University (2005), a Master of Economics from the University of Sydney (Hons, 1st), and a Bachelor of Arts/Bachelor of Laws (Hons) from Australian National University. Daniel has undertaken research into the relationship between international capital flows, migration and the impacts of an ageing society at the Board of Governors of the Federal Reserve of the United States and worked as a consultant to the Private Sector Advisory Services Group of the World Bank. In Australia, he was Economic Adviser to the Minister for Employment and Workplace Relations, Minister for Financial Services and Superannuation, where he worked on the establishment of, and the Minister's interaction with, the Natural Disaster Insurance Review, as well as government adoption of the Investment Manager Regime, one of the key recommendations arising from the Johnson Review into Australia as an international financial centre.

**Professor Rodney Maddock:** Rod is an Adjunct Professor at Monash University and was been a senior executive at the Commonwealth Bank for the last decade after earlier stints as Chief Economist for the Business Council of Australia, and Head of Economic Policy in the Victorian Cabinet Office. Prior to that, Rod was one of Australia's leading academic economists as a Professor of Economics at La Trobe University. He is currently working on a book on the history of the Australian economy.

**Peter Munckton:** Peter is a Sydney-based consultant, He has long experience in the sector having been general manager for strategy at the Commonwealth Bank and earlier Head of Debt Market Research at CBA.

\* The Australian Centre for Financial Studies (ACFS) is a not-for-profit consortium of Monash, RMIT, Deakin, Griffith and Melbourne Universities, and Finsia (Financial Services Institute of Australasia). ACFS facilitates industry-relevant and rigorous research and consulting, thought leadership and independent commentary. Drawing on expertise from academia, industry and government, the Centre promotes excellence in financial services.

[www.australiancentre.com.au](http://www.australiancentre.com.au)

## **Table of Contents**

<b>1. Executive Summary .....</b>	<b>5</b>
<b>2. Introduction – scope of the report .....</b>	<b>9</b>
2.1 The Project.....	9
2.2 Defining “Financial Infrastructure” .....	9
2.3 Functions of a financial system .....	10
2.4 Scope and structure of the report .....	14
<b>3. Defining Australia’s financial infrastructure – key institutions and regulatory     arrangements .....</b>	<b>15</b>
3.1 Key Financial institutions.....	15
3.2 Key regulatory arrangements .....	17
<b>4. Regulatory reform of the financial sector over recent decades .....</b>	<b>19</b>
4.1 The rationale for regulation of the financial services system .....	19
4.2 Major regulatory reforms over recent decades .....	22
<b>5. A vision for the financial services sector .....</b>	<b>25</b>
<b>6. The payments system .....</b>	<b>31</b>
6.1 Australia’s payments system for cash transfers.....	31
6.2 Clearing and settlement on financial markets .....	35
6.3 Priority issues warranting further analysis: The Payments System .....	37
<b>7. Pooling resources .....</b>	<b>38</b>
7.1 Vehicles to pool resources .....	38
7.2 Corporations law.....	41
7.3 Priority issues warranting further analysis: Pooling Resources .....	42
<b>8. Allocating resources across time and space .....</b>	<b>43</b>
8.1 Allocating resources across geography and industries.....	43
8.2 Allocating resources through financial markets.....	54
8.3 International connectedness.....	57
8.4 Allocating resources across time .....	60
8.5 Priority issues warranting further analysis: Allocation of resources.....	64
<b>9. Managing risk .....</b>	<b>65</b>

9.1	Insurable risks of individuals and firms.....	65
9.2	Liquidity .....	67
9.3	Investment risks .....	69
9.4	Systemic risk .....	70
9.5	Key live and emerging issues: Risk Management.....	73
<b>10.</b>	<b>The dissemination of information .....</b>	<b>74</b>
10.1	Price signals.....	74
10.2	Transparency in financial markets .....	76
10.3	Key live and emerging issues: Dissemination of Information.....	78
<b>11.</b>	<b>Governance .....</b>	<b>79</b>
11.1	Asymmetric information.....	79
11.2	Principal agent problems .....	82
11.3	Key live and emerging issues: Governance.....	83
<b>12.</b>	<b>Attributes of the economy affecting the performance of all six functions .....</b>	<b>84</b>
12.1	Competitive environment.....	84
12.2	General business environment .....	94
12.3	Human capital .....	97
12.4	Key live and emerging issues: Enablers .....	98
<b>13.</b>	<b>Conclusion.....</b>	<b>99</b>
<b>14.</b>	<b>Appendix.....</b>	<b>101</b>
14.1	Different Frameworks for Assessing the Functions of a Financial System.....	101
14.2	Recent Policy Inquiries.....	102
14.3	Recent Reforms Affecting the Financial Services Sector .....	106
	<b>Reference List.....</b>	<b>107</b>



## 1. Executive Summary

The productivity of Australia's financial system is one of the key determinants of Australia's overall economic performance and the wellbeing of its population. Throughout the economy, the finance sector underpins the efficient allocation of existing resources, the accumulation of resources for future use and the management of risk. It affects the performance of every aspect of the economy either directly or indirectly. This paper identifies six key functions for a financial services sector:

- Clearing and settling payments
- Pooling resources and subdividing shares in firms and investment vehicles
- Transferring resources across space and time
- Managing risk
- Disseminating information
- Governance – managing incentive issues and information asymmetries

These six functions are chosen as the prism through which Australia's financial architecture will be assessed as they are comprehensive, broadly agreed upon in policy and academic circles and relatively stable over time (compared to institutional forms and regulatory practices).

The word “assessed” is used loosely here. It does not mean that every element of Australia's financial architecture will be individually examined and rated. Space restrictions will not permit either the development of rigorous, evidence-based performance measures or a detailed examination of the pros and cons of all serious policy proposals. Rather, a three step process will be completed.

First, the key elements of Australia's financial architecture will be mapped against the six key functions. Given the size, scope, dynamism and heterogeneity of the financial services sector, even this task is significant.

Second, existing measures of performance will be collated, where available. These will be a mixture of objective and relative metrics. Where the performance of an element of the financial architecture is notably strong or weak (either in absolute terms or relative to other advanced economies), this will be taken to suggest, *prima facie*, that the element either does or doesn't warrant further examination.

Finally, where there is a prima facie case that an element of the architecture is performing less effectively than it might, a brief analysis of possible options will be outlined. Where possible, this will draw on recent industry, academic or regulatory reviews.

For each of the six functions, the following summarises the findings of the paper:

**Clearing and settling payments**

- Australia's clearing and payments system currently works well, both in terms of cash payments and clearing and settlement on financial markets.
- There are several areas where Australia's cash payments system could be improved in order to approach world's best practice, such as the time taken to clear some payments. The RBA has laid out a plan to address many of these issues following its recent review of innovation in the payments system.

**Pooling resources and subdividing shares in firms and investment vehicles**

- The vast majority of Australia's financial system assets are held by banks and superannuation funds.
- The share of resources controlled by superannuation funds relative to banks is increasing – a trend that is likely to continue given recent regulatory changes.

**Transferring resources across space and time**

- There do not appear to be any significant barriers to the overall efficiency of the allocation of capital within the Australian economy. The trend towards greater financial liberalisation over recent decades has probably increased the overall allocative efficiency of the economy.
- Despite this, there appear to be barriers to efficient levels of investment in some specific areas, including greenfield public sector infrastructure and funding the high-risk commercialisation of innovation. These are challenges faced by many, if not all, advanced economies. The solutions are likely to involve a mixture of regulatory change and evolutionary market responses.
- While the superannuation industry has been subjected to considerable reform over recent years, two key areas are likely to require regulatory review in the medium term: the availability and take-up of appropriate post-retirement products, including annuities; and the sufficiency of the regulatory arrangements for SMSFs.
- Despite the sophistication of Australia's financial services sector and the interconnectedness of the economy as a whole with the global economy (eg high proportional trade and investment flows) – the level of exports and imports of

financial services is low relative to comparable economies. A higher level of trade in financial services could boost the productivity of the financial services sector and the economy as a whole. Unlocking these benefits will require a mixture of regulatory and behavioural change.

**Managing risk**

- The financial services sector provides individual investors and firms with many opportunities to manage risk both through insurance and financial markets. The transparency of some newer products is an issue for less sophisticated investors.
- Australia's regulatory management of systemic risk appears to be robust as does the resilience of key financial market institutions (including banks and financial markets).

**Providing information:**

- Financial liberalisation has tended to improve the efficiency of price signals within the economy, including: a highly liquid, floating exchange rate; an independently set interest rate; and well regulated, transparent and efficient financial markets.

**Governance – managing incentive issues and information asymmetries**

- The regulation of incentive issues and information asymmetries within Australia's financial sector is broadly similar to most other advanced economies.
- The GFC highlighted the importance of governance issues, including the regulation of systemically important institutions such as ADIs.
- Given the recent pace of change in the sector, including the growing number and complexity of new products and services, the protection of consumers is as important as ever.

The degree of competitive tension within Australia's financial sector affects how quickly the system evolves so as to improve its performance in undertaking all six of the functions outlined above. One of the key benefits of financial liberalisation over the past two decades has been the increased potential for competition, both from domestic and international sources. This has been supplemented by a number of technological innovations that have impacted the sector. The evidence as to the degree of competition across the sector is somewhat mixed, which suggests that it would be worthwhile examining the extent to which any existing regulations may be unnecessarily hampering competition.

The financial services sector is also affected by the overall business environment which is generally favourable in Australia, particularly in relative terms.

Access to highly skilled human capital will probably become increasingly important for the sector if it is to maintain productivity growth and compete in the most innovative and high value-add services. For the financial services sector to respond quickly to changing market conditions in the face of specialisation and innovation, it will probably be necessary to import skilled labour in specific areas given the limits of domestic labour supply.

## 2. Introduction – scope of the report

- The elements of Australia's "financial infrastructure" defined.
- The functions of a financial system described and an explanation of why the report will be structured around these key functions.

### 2.1 The Project

This report is one of three that will form the first tranche of research for the project *Funding Australia's Future*. It will assess Australia's financial infrastructure and identify key areas of regulatory reform worthy of further analysis.

Given the breadth and heterogeneity of Australia's financial infrastructure, it will not be possible to analyse each element in detail. Rather, this report will:

- Map the elements of Australia's financial architecture against the six key functions that a financial services system should perform.
- Collate measures of performance for each of the six functions. These will be a mixture of absolute and relative metrics. Where the performance of an element of the financial architecture is notably strong or weak, this will be taken to suggest, prima facie, that the element either does or doesn't warrant further examination.
- Where there is evidence that an element of the financial architecture is performing less effectively than it might, a brief analysis of possible options will be outlined. Where possible, this will draw on recent industry, academic or regulatory reviews.

### 2.2 Defining "Financial Infrastructure"

The term "financial infrastructure" is commonly used to refer to the combination of formal regulatory arrangements, informal practices, technological capabilities and institutional linkages within a country's financial system. While there is no universally agreed definition, references to the term "financial infrastructure" usually include most or all of the following elements:

- The payments system;
- Capital and credit allocation mechanisms;
- Regulation of the financial services system, including: licensing arrangements; prudential standards; governance/accountability; accounting/audit; incentive structures; business resolution/insolvency; and disclosure obligations;

- Financial markets including exchanges, clearing houses and settlement facilities;
- Regulation providing for consumer protection and public and private sector initiatives encouraging financial literacy; and
- The general business environment, including: the legal environment and protection of property rights; corruption (freedom from); and human capital.

Other elements of society might be thought of as being part of a broader conception of a country's financial infrastructure – or at least closely related to it. The tax system is closely related to the financial system in that it involves large financial transfers and significant risk management (eg the progressive nature of income taxation is arguably a risk management tool for individuals against uncertain income outcomes in addition to being a response to inequality). Some public insurance institutions such as motor vehicle and workers compensation schemes have many characteristics of what fall within a narrowly defined financial system. Similarly, the National Disability Insurance Scheme (NDIS) will involve both substantial financial transfers and risk management and will most likely be organised along similar lines to a private sector insurance firm.

While this paper will not explicitly deal with the tax system or broader “social insurance” arrangements, it is important to note that they have similar characteristics to elements of the financial system and are often interdependent with it.

### **2.3 Functions of a financial system**

Merton adopts a “functional” prism through which to evaluate financial systems. He argues that the functions of a financial system vary less both across countries and over time than do institutional arrangements. This is an approach adopted by others, including Levine and, more recently, Glenn Stevens (Merton, 1995; Levine 2005, Stevens 2010).

A functional approach provides a holistic approach to an economy's financial architecture, starting with the question of what the architecture is seeking to achieve. The identification of areas of underperformance in the achievement of core goals can be undertaken by mapping the financial architecture onto the functions of a financial system.

In contrast, an approach that is built around institutions does not point as clearly to gaps since the institutional structure is somewhat idiosyncratic in each country and is also constantly evolving. A functional gap can be difficult to identify amongst the sector's complex network of regulatory responsibilities and private sector capabilities.

Merton identifies six key functions of a financial system. Other frameworks have been proposed (e.g. Levine 2005, Stevens 2010, among many). Merton's structure has been adopted in this paper due to its canonic status and since it encompasses the functions contained in most other frameworks. Appendix 1 maps the functions listed by Merton and several other prominent analysts to show how Merton's list broadly covers the field.

The key functions are:

### **1. Clearing and settling payments**

The payments system is the set of relationships between financial institutions and their clients that allows for the transfer of money. The effective transfer of money underpins almost all transactions in a modern economy, including: the purchase of goods and services; the hiring of labour (and the payment of compensation); the distribution of benefits by the government; and the allocation of funds to investment vehicles.

The transfer of money occurs through a wide range of mechanisms, including traditional means such as cheques and other negotiable instruments through to more recent innovations such as credit and debit cards, electronic funds transfers, ATMs, direct debits and credits, internet banking and e-commerce. The options for making transfers continue to proliferate at a rapid pace.

The payments system in Australia is constituted by a set of protocols and connections between ADIs and other financial intermediaries on the one hand and individual consumers and businesses on the other. The system is largely managed by financial institutions but is overseen by the Reserve Bank of Australia (RBA) and the Payments System Board (PSB).

For the purposes of this paper, the clearing and settlement of payments will be defined broadly to include clearing and settlement (CS) functions on financial markets, including markets for cash securities, derivatives, futures and foreign exchange transactions.

### **2. Pooling resources and subdividing shares in firms and investment vehicles**

Large scale enterprises have contributed significantly to productivity growth over the past century. The financial system enables the creation of such enterprises by providing mechanisms through which individuals and firms with funds can pool their resources. This is beneficial both for firms seeking access to funds (whether via equity or debt) and also to investors.

Pooling by households occurs through financial intermediaries such as Authorised Deposit-taking Institutions (ADIs), investment funds and financial markets. Access to financial intermediaries provides individuals with a safe vehicle through which to save. Financial

markets, by breaking large enterprises into shares, enable individuals to diversify their investments by investing in a large number of different enterprises.

Securitisation is another means by which the owners of assets can be matched with investors. It enables the removal of non-traded assets from an intermediary's balance sheet by packaging them in a convenient form for outside investors. This is beneficial for the owner of the asset and also for investors, who gain access to an income stream that suits their portfolio of investments.

### **3. Transferring resources across space and time**

Transferring resources across space is taken to mean the efficient allocation of capital to its most productive use in the economy. This is a core function of the financial system. The allocation of capital will be determined by the investment choices made by individual investors and fund managers. The efficiency of these decisions will be affected by enablers (such as the efficiency of price signals in the economy) and constraints (such as prudential and other limits on investment choices).

The financial system also allows for the allocation of resources across time. For example, in the case of individuals, the financial system facilitates the management of life-cycle allocations of household consumption. This can include: borrowing while younger (in anticipation of high future income); borrowing in order to invest in assets (e.g. a home) or family expenses; saving during working years to supplement retirement income; and investing while in retirement to manage longevity risk.

It is not easy to disentangle the transfer of resources (function 3) from the management of risk (function 4) since almost all investments are risky. Therefore, the allocation of funds between competing demands and the allocation of resources across time will almost always involve risk management.

### **4. Managing risk (hedging, insuring, diversifying)**

Many diversifiable individual and firm-level risks can be managed by private insurance firms. In Australia, there are well-developed insurance markets for: (i) human capital (e.g. death and disability, income); (ii) physical property (e.g. home and contents, and theft); and (iii) financial assets (e.g. bond-default insurance).

As noted in the description of function 3, the allocation of resources across time to manage life cycle consumption also involves the management of risks, such as: longevity risk; risks associated with the level and sequencing of investment returns; and post-retirement inflation risk. A well-functioning financial system will allow the simultaneous management of the allocation and risk management challenges.



Similarly, investment decisions will almost always involve both resource allocation and risk management. Mutual funds and other collective investment vehicles enable investors to manage risk through diversification.

Derivatives also allow for risk management but, as can be seen from the GFC, they can have systemic impacts if transactions are not sufficiently transparent.

This paper will treat risk management broadly to include systemic risks. In Australia, systemic risks are managed by the members of the Council of Financial Regulators (CFR), being: the Treasury, the RBA, APRA and ASIC.

## **5. Providing information**

The financial system disseminates information through the economy in many ways. Information is provided to consumers, governments and investors through well-functioning markets.

For example:

- Efficiency in securities prices facilitates efficient asset allocation;
- A floating exchange rate allows optimal capital and trade flows and can send signals in relation to the efficient allocation of capital between firms and industries; and
- Independently set interest rates send signals that affect the inter-temporal allocation of resources and investment decisions.

The financial system also provides information to consumers of financial products through a wide range of product disclosure mechanisms. Information is also provided to investors through Prospectuses, Information Memoranda and disclosure obligations surrounding events such as capital raisings and mergers and takeovers.

## **6. Governance**

Two main types of governance issues arise in the regulation of financial services. The first are incentive problems, including principal-agent issues arising from the different interests of the owners and managers of businesses, moral hazard and adverse selection. The second broad category covers situations involving information asymmetry. Information asymmetry typically arises when markets are not transparent or in transactions in which one or more of the parties lack the capacity or resources to undertake the due diligence and analysis necessary to protect their interests (typically retail investors/consumers).

In addition, there are numerous governance arrangements that arise in the provision of financial services, which are undertaken both within and by financial organisations. Governance undertaken within financial organisations includes compliance with the Corporations Act and various legislative and regulatory instruments covering trustee obligations. Governance undertaken by financial organisations includes ex-post monitoring of loans by bank and other lending institutions. Appendix 2 maps the elements of Australia's financial infrastructure to the functions outlined by Merton. Some elements of the infrastructure appear against more than one function. This table reflects the structure of the report.

## 2.4 Scope and structure of the report

Section 3 outlines the elements of Australia's financial architecture. This includes both the key institutions and the main regulatory arrangements. Section 4 provides a summary of reforms that have been implemented over recent decades and the motivation for this reform agenda.

Section 5 outlines the motivation for the use of the six functions identified by Merton, examining in more detail the role that the financial sector should ideally play in the economy and broader society.

The subsequent sections address each of Merton's six functions in turn. Each section contains the following three elements:

- Identify the elements of Australia's financial infrastructure that seek to achieve the function – both institutional and regulatory.
- Assess the performance of Australia's financial infrastructure in achieving the function.
- Identify key live and emerging issues.

Given the breadth of subject matter covered, this review will necessarily be high level. It intentionally casts a wide net in order to be comprehensive. The trade-off is that it necessarily scratches the surface of some issues.

Where weaknesses in Australia's financial infrastructure or potential beneficial regulatory changes are identified, this will not be accompanied by a detailed assessment of the merits of any particular way forward. That work is left for Phase 2 of the project.

### 3. Defining Australia's financial infrastructure – key institutions and regulatory arrangements

#### Executive Summary

- This section sets out the key elements of Australia's financial infrastructure. The first sub-section identifies the key institutions. The second sub-section provides an overview of regulatory arrangements.

Before assessing Australia's financial infrastructure against the six core functions, it is important to define the elements of the system. The financial system is a combination of private institutions and the regulatory arrangements within which they operate. While the regulatory arrangements within which the sector operates are critical to its performance, many aspects of the financial system have evolved largely organically and are a reflection of technological and financial innovation more than regulation.

#### 3.1 Key Financial institutions

**Banking system:** Australia's banking system is dominated by four major banks: Westpac Banking Corporation (WBC), the Commonwealth Bank of Australia (CBA); the National Australia Bank (NAB) and the Australia New Zealand Banking Group Ltd (ANZ). Banks manage over 60 per cent of the assets in Australia's financial system (ABS, APRA 2013). As at April 2013, Australia's big four banks all ranked in the world's top 20 by market capitalisation.

The Australian banking system exhibits high levels of concentration and has done so for decades. On most key measures such as deposits, earnings and total assets, the largest four banks combined have over 80 per cent market share (APRA, 2013). Given their size and the role that they play in the economy, all four banks are systemically important domestically. However, none of these banks is systemically important globally (IMF, 2012c, p5).<sup>1</sup>

Australia's big four banks have broadly similar business models. This includes a similar reliance on wholesale funding, significant recent investment in IT and a diversification over recent decades into non-core banking areas such as financial advice. This potentially exacerbates concentration risks (IMF, 2012c). However, despite these similarities, there are some important differences between the strategies across the big four, such as a variation in the emphasis on sourcing revenue from foreign markets.<sup>2</sup>

---

1 This was tested using an indicator methodology that includes size, interconnectedness, substitutability/infrastructure, complexity and cross-jurisdictional activity.

2 For example, ANZ set a target of sourcing 25 per cent of revenue from outside of Australia and New Zealand by 2017.

**Insurance Sector:** Australia has a sophisticated and stable insurance industry. The general insurance industry is well funded and has coped well with several successive years of intense natural disasters. Claims management and dispute resolution following natural disasters are well managed on the whole, but are likely to be the subject of ongoing regulatory review over the coming decade. By market value, both QBE and IAG rank amongst the world's top ten pure general insurers. Australia's largest general insurers are critically dependent on the availability of reinsurance from offshore, in order to protect against the impact of major perils including cyclones, hailstorms, bush fires and flooding.

Australia's key general insurance firms have adopted different strategies in terms of engagement with foreign markets. For example, QBE has concentrated on commercial lines and has made over 100 acquisitions over the last twenty years, the large majority of them in overseas markets and relatively small in size. In contrast, both Suncorp and IAG have focused on securing a top two position in personal lines products in Australia and New Zealand and have each undertaken major acquisitions to achieve this.

The life insurance industry offers a wide range of products, although the next two decades will be challenging for the sector as retirees seek products that provide them with protection against longevity and inflation risk.

Like the banking sector, Australia's life and general insurance sectors are highly concentrated. In both life and general insurance, the largest three firms have at least 60 per cent market share on most industry measures. Market concentration appears to have increased over the past two decades (KPMG, 2011, p5). A high proportion of life insurance is currently sold through group policies offered via superannuation accounts.

**Funds Management:** Australia's funds management industry is very large relative to the economy. Australia has the fourth largest pool of funds under management in the world largely due to the size of the superannuation sector. The size of this sector is expected to continue grow, both in absolute terms and relative to the economy, due to a range of factors including demographic change and the rise in the superannuation guarantee (SG) from 9 to 12 per cent.

The superannuation sector currently manages approximately \$1.6 trillion. Of this, around 61 per cent is in retail and industry funds, with most of the remainder (around 30 per cent of the total) in self-managed superannuation funds (SMSFs). The share of total funds managed by SMSFs has grown over recent years, a trend that is expected to continue. Around 40 per cent of the money invested in industry funds and 10 per cent of the money invested in retail funds is allocated to "default" strategies, which are generally weighted

towards domestic and foreign equities. The investment strategies of SMSFs are more heterogeneous and more weighted towards cash and domestic equities.

Industry and retail funds are regulated by APRA, which has indicated that it will be imposing stricter controls on asset management and risk control. In contrast, SMSFs are subjected to much less onerous oversight, with the ATO playing the key regulatory role.

**Financial Markets:** Australia has very sophisticated, highly liquid financial markets. In 2011-12, the total volume of trades on exchange traded markets was \$48.5 trillion, of which \$1.19 trillion was on ASX equities, \$0.82 trillion was on ASX derivatives and \$46.1 trillion was on ASX futures (AFMA, 2012). Over the counter (OTC) markets were very actively traded, with a total volume of \$76.6 trillion in 2011/12. Of this, the largest individual components were foreign exchange (\$39.9 trillion), overnight index swaps (\$8.7 trillion) and repurchase agreements (\$7.5 trillion). (AFMA, 2012)

**Financial Advice:** Financial planning, stockbroking and related advisory services employ approximately 100,000 people, approximately one out of every four people working across the finance and insurance sector (ABS, 6202.0). This includes approximately 16,000 to 18,000 financial planning practitioners with around \$650bn in funds under advice. These practitioners work in bodies ranging from large banks through to independent advisory practices.

**Private equity and venture capital:** The private equity and venture capital sectors in Australia include approximately 86 firms managing around \$29 billion (AVCAL, 2012). Based on funds raised in the last 10 years, Australia has the third largest PE/VC market in the Asia-Pacific region and the 9<sup>th</sup> largest globally (Thomson ONE, 2013). As of June 2012, Australian superannuation funds accounted for 54.2 per cent of total funds committed to Australian PE and VC (ABS, 2012). To put this in context, this constituted less than 1 per cent of total superannuation funds. By comparison, the average target allocation of US pension funds to PE alone was 8.3 per cent in January 2013 (Bain and Company, 2013, p52).

### 3.2 Key regulatory arrangements

The principal regulators with responsibility for the Australian financial services sector are:

- **The Treasury:** financial regulation and policy advice to Government
- **The Reserve Bank of Australia (RBA):** payments system and financial stability
- **The Australian Prudential Regulatory Authority (APRA):** prudential regulation of ADIs, insurance and superannuation and financial stability

- **The Australian Securities and Investments Commission (ASIC):** market conduct and consumer protection
- **Council of Financial Regulators (CFR):** responsible for co-ordinating the activities of the Treasury, the RBA, ASIC and APRA, particularly in times of financial crisis
- **The Australian Competition and Consumer Commission (ACCC):** competition policy
- **AUSTRAC:** anti-money laundering and combating financial terrorism

Ministers:

- **Treasurer:** oversight of CFR, broad responsibility for fiscal and monetary policy; directions power over ASIC/APRA (albeit rarely used)
- **Assistant Treasurer:** delegated some day-to-day powers with respect to tax policy, oversight of ACCC and partial oversight of ASIC
- **Minister for Financial Services:** regulation of financial markets, insurance, superannuation (usually)

## 4. Regulatory reform of the financial sector over recent decades

### Executive Summary

- This section examines the rationale for regulating the financial services sector. This sets a useful benchmark against which to assess current regulatory arrangements.
- The section then identifies the major policy reviews that have been conducted over recent decades and the reforms that have arisen from these reviews. This establishes a context for current arrangements and (hopefully) avoids reinventing the wheel.

Some, but not all, of the “gaps” that will be identified in this paper will relate to regulatory arrangements. Before assessing Australia’s regulatory arrangement, it is important to set out the fundamental rationale underpinning regulation of the sector. This section will also set out the reform agenda of the past several decades as this is useful context for current live and emerging issues, many of which are a continuation of long-lasting reform agendas.

### 4.1 The rationale for regulation of the financial services system

Regulation can be justified on a number of grounds, including addressing market failures, promoting financial stability and achieving distributional goals. Following is a non-exhaustive list of the high level goals of regulating the financial services sector:

**1. Enhance efficiency of the allocation of capital and the payments system.** The financial system is critical in “deploying” capital – i.e. allowing national savings to accumulate to an appropriate level given the inter-temporal preferences of individuals and firms and attracting foreign capital. It also underpins long-run economic growth by transferring and then allocating capital to its best use in the face of uncertainty.

The efficiency of the financial system in doing this relies in part upon market forces. However, the effectiveness of market forces relies upon information flowing to decision-makers, which in turn relies upon regulation in relation to transparency and disclosure. In addition, the efficiency of much of the financial system, including the payments system and financial markets, relies upon consumers and investors being confident that appropriate standards of behavior and disclosure are being enforced.

**2. Monitor and (ideally) manage systemic risk.** Systemic risks arise from the interdependencies between entities in a system. In most economies, the banking system poses the greatest risk of systemic financial crises. Banks often have a difference in liquidity between their assets (which are often illiquid, long-term assets) and their liabilities (e.g.

deposits, which are “on-call”). When there is a crisis in confidence, this can create “runs” which, in turn, can spread to other banks/financial institutions and cause a general lack of liquidity across the economy as a whole. Regulation can be beneficial both as a preventive measure and in managing crises once they arise.

There are also avenues through which insurance companies and larger super funds can create systemic risks – e.g. through corporate conglomerates which include banks and ADIs and/or knock-on impacts to banks through direct relationships.

**3. Consumer protection.** This is a very broad area of regulatory intervention and there is a range of justifications that covers many different areas of the industry:

- Information asymmetries.
- Unequal bargaining power.
- Bounded rationality (i.e. difficulty in dealing with complexity).
- Decision making biases (e.g. myopia in relation to savings decisions or loss aversion).

**4. Distributional goals.** The financial system is an avenue through which the government can pursue distributional goals. For example, distributional goals will inform policies such as the taxation of savings and income streams in the superannuation system and who bears the burden of funding government expenditure on ex-post bailouts.

**5. Specific public policy goals.** The four rationales outlined above are generally agreed to provide the key rationale for regulating the financial services sector. There are additional specific public policy goals that often complement such regulation and affect the way in which regulation is implemented.

- Retirement saving – the retirement savings system has mandatory elements largely in response to perceived limitations in individuals’ decision-making.
- Insurance – a number of regulatory interventions aim to deal with widespread non- and under-insurance, for example in relation to natural disasters.
- Money laundering and organised crime – ensuring that financial institutions and transactions are transparent enough to minimize the extent to which Australia’s financial system can be used as a conduit or home to the proceeds of crime.

**Regulatory trade-offs:** There can be a trade-off in regulating the financial services sector between promoting stability across the economy and allowing for or even supporting innovation. Stability in the financial system is critical for the economy as a whole given the importance of capital accumulation and access to credit in all sectors. However, placing too tight a set of regulatory constraints on the financial services sector can limit productivity



enhancing innovation, both in terms of new financial products and the way in which existing products and services are delivered.

The relationship between innovation and regulation is complex. In areas of systemic importance, there can be direct trade-offs between stability and innovation or flexibility (eg capital controls arising from prudential regulation). In other areas, such as new product offerings (eg internet banking, new types of accounts such as offset accounts) regulators can safely adopt a more light touch approach. Finally, as will be noted in section 10, in some areas, regulation can enhance competition and innovation (eg regulation that improves consumers' access to information and choice).

At a deeper level, following the GFC, some commentators both from within and outside the financial services sector have queried the benefits of much innovation in the sector. Some argue that innovation, particularly in recent years, has too often resulted in unnecessary complexity and less transparency. Financial derivatives were a significant innovation of the 1980s – a development later derided by Warren Buffett as “financial weapons of mass destruction.”

The Times reported that, in 2009, Paul Volcker responded to the long-run increase in the financial sectors' share of the economy from 2 per cent to 6.5 per cent with the question “Is that a reflection of your financial innovation, or just a reflection of what you're paid?” (Hosking and Jagger, 2009) He also claimed that the biggest innovation in the financial sector in the past 20 years was the ATM. Volcker's broader concerns are shared by many.

In contrast, Robert Shiller (and others) see significant potential for financial innovation to benefit society (Shiller, 2012). Shiller argues that, rather than stifling the sector, the key is to promote the right kind of innovation – even if it involves growing complexity. He cites a number of examples of emerging financial tools such as: GDP indexed bonds and warrants<sup>3</sup>; social impact bonds<sup>4</sup>; crowd funding<sup>5</sup>; and benefit corporations.<sup>6</sup>

There can also be trade-offs between different regulatory goals. In some instances, there could be multiple rationales that act at cross purposes. For example, a fit and proper test to determine eligibility to be a market operator might be motivated by consumer protection

---

<sup>3</sup> These were used by Argentina in 2005 following the 2002 crisis. They were also used in early 2012 by Greece to secure funding.

<sup>4</sup> For example, Social Finance, which in the UK raised funds to improve the operation of the Peterborough prison and bonds issued by New York City in August 2012 for an initiative at Rikers Island Prison. In Australia, social bonds have been issued in NSW (the Newpin SBB and Benevolent Society SBB) and several other state governments have expressed an interest. See “Forging Bonds” in *the Australian Financial Review*, Capital, June 2013 and also NSW Treasury:

[http://www.treasury.nsw.gov.au/site\\_plan/social\\_benefit\\_bonds/social\\_benefit\\_bonds\\_trial\\_in\\_nsw\\_FAQs#faq11](http://www.treasury.nsw.gov.au/site_plan/social_benefit_bonds/social_benefit_bonds_trial_in_nsw_FAQs#faq11)

<sup>5</sup> Such as Kiva.

<sup>6</sup> It is a mixture between a for-profit corporation and a not-for-profit organisation. It is a corporate form designed for organisations that aim to both make profit and consider social or environmental goals. Maryland was the first state to pass legislation enabling benefit corporations in April 2010. By February 2013, thirteen states had legal frameworks for establishing benefit corporations.

and market stability. However, such a measure could also create barriers to entry that act counter to the goal of efficiency enhancement.

**Regulatory goals and financial system functions:** There is overlap between the rationales for regulation and the core functions of a financial system outlined above. However, they are not identical – which is why in most advanced economies, many aspects of financial infrastructure are regulated lightly and left to develop and evolve organically.

## 4.2 Major regulatory reforms over recent decades

### 4.2.1 Campbell Inquiry (1981)

Following the Great Depression, the Commonwealth Government established the Napier Royal Commission which recommended increased regulation of the financial services sector. Over the subsequent decade, the key recommendations of the Royal Commission were implemented, including licensing requirements for banks, the vesting of central banking powers with the Commonwealth Bank and direct control on interest rates and credit volume. The Commonwealth Bank's saving bank and central bank functions were separated in 1960.

Tight regulation of the banking sector over the three decades immediately following WWII was partly responsible for the growth of other types of financial institutions. The share of total assets of financial assets held by banks fell from 66.4 per cent in 1929 to 57.4 per cent in 1948, 46.7 per cent in 1960 and then to 42.3 per cent in 1970 (Committee of Inquiry into the Australian Financial System, Ch 14, p578, 1981). This took a number of forms including increased mortgage lending by life insurance companies and specialist finance companies offering "hire purchase" arrangements for household durables.

Interest rate controls were particularly onerous for banks. The share of assets held by building societies rose from 1.2 per cent in 1948 to 4.6 per cent in 1970 in part due to their capacity to charge and pay higher rates of interest relative to banks. The difficulties associated with nominal interest rate caps were exacerbated by the high inflation of the 1970s. The Campbell Committee was formed in 1979 in the context of the declining market share of banks and other challenges to the effectiveness of regulation including technological change and the collapse of the Bretton Woods system.

The Campbell Report, which was handed down in 1981, contained approximately 260 recommendations covering the entire financial services system. The recommendations were a mixture of deregulation (such as floating the dollar, removing barriers to entry and abolishing interest rate caps) and strengthening the existing regulatory framework (such as

stronger prudential standards). Over the coming two decades, most of the Campbell Report's recommendations were implemented.

Two of the key themes addressed in the Campbell Report – competitive neutrality and the efficiency (or productivity) of the sector remain very topical today. Also relevant was the Committee's desire to achieve these goals while maintaining the overall stability of the financial system.

#### **4.2.2 Financial System Inquiry (1997)**

The Financial System Inquiry (the "Wallis Report") was the most recent overarching review of Australia's financial services sector. The Wallis Report undertook a stock-take of the financial services sector in the period following the deregulation implemented during the 1980s. The Wallis Report made recommendations in three key areas.

First, the inquiry recommended the establishment of two new regulators (which were ultimately named APRA and ASIC), with the Reserve Bank remaining responsible for monetary policy and the payments system. Under the "twin peaks" model, APRA would be responsible for prudential regulation and ASIC for the regulation of business conduct and compliance with the Corporations Act.

The inquiry also recommended new regulatory arrangements for mergers and acquisitions and electronic commerce. The latter was a reflection of the already significant impact on financial services of information technology.

This report was broadly accepted by the Government and was followed by the establishment of APRA and ASIC.

One of the key notions underpinning the Wallis Report was that investors and consumers of financial products should be able to have faith in "promises". In particular, the intensity of the promise made by financial institutions should be a key determinant of the regulation of the entity making the undertaking. Two key factors were raised in the report as relevant to deciding whether an entity should be subjected to prudential regulation. The first was whether there is a reasonable expectation that the promise will be satisfied in full. The second was whether there are inherent difficulties in the consumer undertaking due diligence as to the capacity of the entity to fulfill the promise.

According to these criteria, there has been broad agreement that banks and insurance firms fall within the umbrella of institutions that should be subjected to prudential regulation. Prudential regulation of these sectors in Australia and most other advanced economies has

become more onerous since the GFC as regulators try to cope with the difficulty of quantifying and managing systemic risk.

In practice, the delineation of which institutions should be subject to prudential regulation can be difficult. Industry and retail superannuation funds are subjected to a lighter touch form of prudential regulation than banks and insurance firms, although recent regulatory reforms have strengthened APRA's oversight role, and further strengthening has been foreshadowed. While not subjected to prudential regulation, some financial advisers are required to hold funds as "reserves" in order to increase their capacity to repay investors. While this may be justifiable, it is important to note the trade-off between consumer protection and the cost of advice.

Over the coming decade, the boundary of activities covered by prudential regulation and the stringency of prudential regulation for different sectors will undoubtedly be the subject of ongoing examination.

#### **4.2.3 Policy reviews held within the last five years**

Over the last five years, almost every aspect of the financial system has been subjected to a review dealing either with regulatory arrangements or institutional capacity. These reviews have taken a number of forms, including Parliamentary inquiries, reviews led by independent panels and reviews led by regulators or government departments.

Most, if not all, of these reviews have allowed for input from industry, consumer advocates and other stakeholders. Appendix 3 outlines the key regulatory reviews undertaken over the past five years. Any future review of the financial services sector should take account of the extensive body of work already completed.

## 5. A vision for the financial services sector

This paper will assess Australia's financial infrastructure against the six core functions of a financial services system. As stated, this set of functions provides a holistic and at least somewhat stable framework.

At this stage, it is worth making the obvious point that the functions outlined above are not ends in themselves. (Most) individuals do not open bank accounts or invest in sub-divisions of large assets or seek up-to-date financial data for their own sake. This begs the question of what the ultimate outcomes are that individuals and society are seeking.

### 5.1.1 Ends not means

**Individual ends:** The ultimate objectives for most people are to maximise their lifetime opportunity set and to smooth lifetime consumption. The more effectively are the six functions performed, the greater will be extent to which participation in the financial system allows individuals to satisfy these objectives.

A person's lifetime opportunity set is a combination of that person's lifetime income and what it can be traded for. People gain from a wide range of material and non-material goods ends. The financial system assists people in achieving these ends by allowing them to boost their lifetime income: primarily through earning remuneration and investment income (the latter requiring the pooling and allocation of resources). The opportunity set is then expanded to the extent that the trading of goods, services and financial products is facilitated by an efficient payments system and low-cost, transparent financial markets.

At a concrete level, for most people this involves two key inter-temporal transactions. First, borrowing while young to buy a house and second, saving for retirement while in middle age. The financial system is critical in facilitating both of these transactions which, fundamentally, are motivated by a desire to smooth consumption.

Smoothing lifetime consumption doesn't mean that consumption should be constant – but rather that it should be smoothed taking account all of a person's circumstances, including: a person's dependents at each point in time, the disutility experienced from other factors (such as work); and the need to make provision for uncertainty surrounding health, longevity and other factors. The financial system assists in income smoothing in many ways, including: the lifetime allocation of resources through superannuation and other savings mechanisms; credit markets; and insurance against catastrophic loss.

**Societal ends:** While the economy as a whole is made up of individuals – it is also worth separately identifying high level macroeconomic outcomes.

First, is the capacity of the financial system to underpin investment in the most productive asset classes. This drives long run economic growth and higher living standards. This is worth identifying separately from the greater lifetime income of the individuals investing directly in the assets for two reasons:

- Some of the benefits of long run economic growth accrue to the government and can be distributed according to social objectives. For example, the pension incomes of some people will be determined exclusively by the returns on their investments. For other people, who are supported by income supplements or in-kind benefits provided by the State in retirement, higher long run economic growth produces indirect benefits.
- The efficient allocation of resources will boost investment returns (i.e. the returns to individual investing via the financial system) – but it will also assist in addressing externalities such as congestion, pollution and innovation, thereby benefiting society as a whole.

The second macroeconomic impact worth noting is that the effective management of systemic risk helps to smooth the business cycle. This has beneficial impacts that are broader than those that are felt directly through participation in the financial system.

These high level “final outcomes” are a simplification, but they capture the core benefits of an effective financial system. Figure 1 links the six functions of a financial system with these four high level outcomes (two associated with individuals participating in the financial system and two broader societal outcomes).

### **5.1.2 Intermediate outcomes**

Figure 1 also refers to “intermediate outcomes” as a way of linking the six functions with the four final outcomes. Decomposing the relationship between functions and outcomes makes it easier to identify specific issues that warrant further examination.

It is worth noting that the effectiveness of almost all of the functions is linked to transaction costs. In turn, transaction costs will be a key determinant of the lifetime opportunity set of individuals. The reduction of transaction costs often appears to be of minor importance on a case-by-case basis, but the cumulative effect is significant.

The dissemination of information affects all of the intermediate outcomes. Accurate and timely information flows underpin every aspect of the sector. The arrows linking this function to all intermediate outcomes are not shown for the sake of the diagram's clarity.

### 5.1.3 Enablers

In addition to final and intermediate outcomes, Figure 1 identifies “enablers”. Each of these enablers affects the financial services sector as a whole:

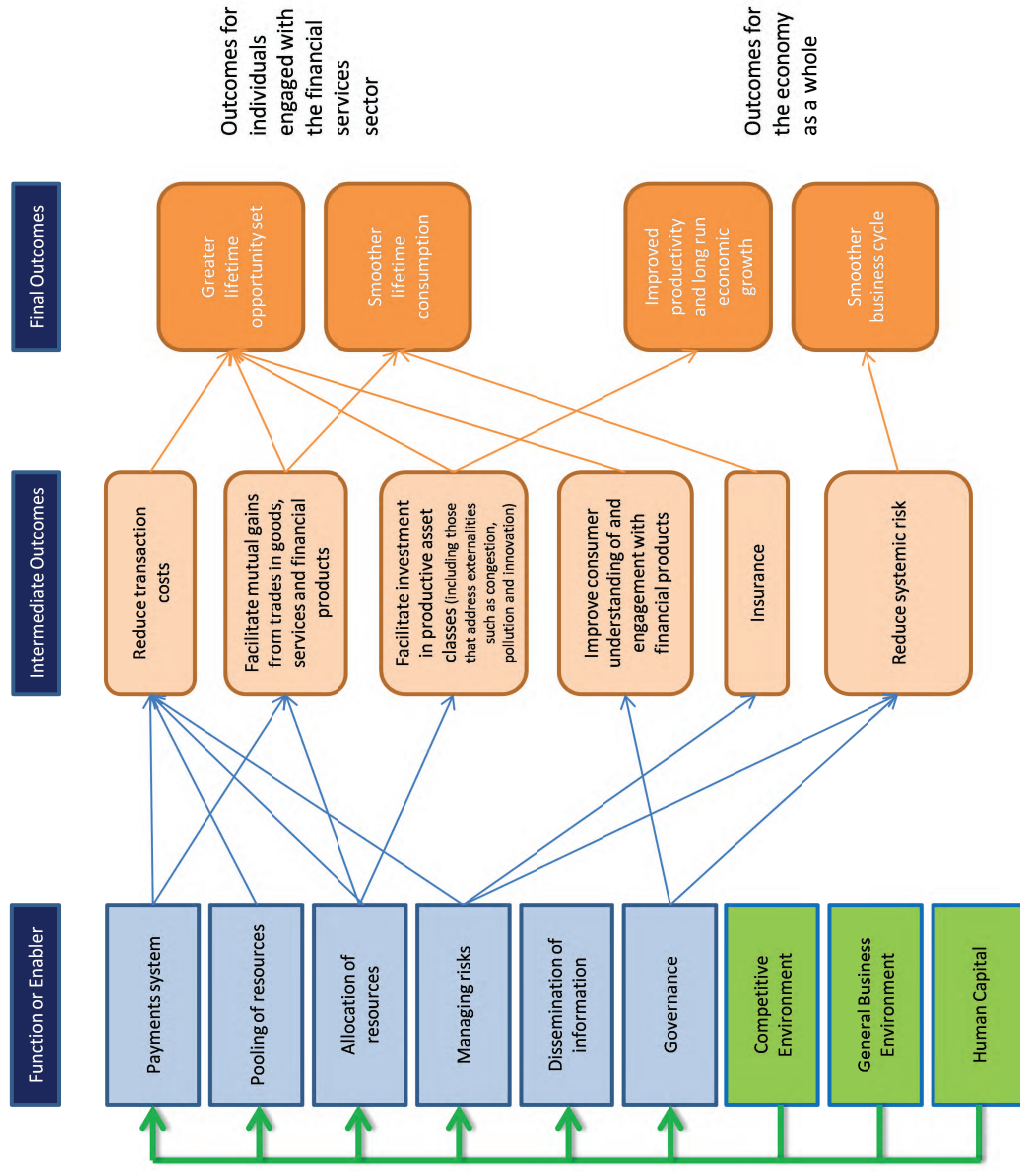
- **Competition.** The market structure of the financial sector will affect the level of competition. Merton (and others) argues that the greater is the degree of competition, the greater will be the tendency for the sector to improve in the performance of all six functions.
- **General business environment.** The general business environment will also affect the performance of all functions. It will impact on the scope and scale of activities that can be undertaken, the efficiency of transactions (and transaction costs) and the certainty with which contracts can be entered into and enforced.
- **Human capital.** Human capital is often thought of as a component of the general business environment. It is separately identified in this paper as it is increasingly being seen as particularly critical in the financial services sector. Internationally mobile firms and capital will increasingly search for pools of highly skilled workers.

These enablers drive the effectiveness of all six functions. Regulatory changes or capacity enhancements that improve the enablers will drive change throughout the sector.



## The Funding Australia's Future Project

Figure 1: Connecting the functions and desired outcomes of the financial system





#### 5.1.4 Macro trends affecting the finance sector

There are a number of broad changes affecting Australia that are relevant to the finance sector. While the precise evolution of these issues is difficult to predict, they have a long-term momentum that is so irresistible that it is almost certain that they will have a significant impact on the economy and society more generally over the coming decades.

**Technological innovation:** Technological change in IT and communications is a driving force behind productivity growth across the economy – and in the finance sector in particular. As noted earlier, the finance sector stands out over recent years in terms of capital deepening and multi-factor productivity (MFP) growth. This is reflected in billions of dollars of investment across the sector over recent years. The finance sector's share of total IT spend rose sharply between 1960 and the 1980s. In 1960, the financial and insurance services sector contributed around 2 per cent of the economy's computer and electronic equipment spend (including software). This rose to around 10 per cent in 1980 and has remained at that level since (rising slightly before the GFC to 11 per cent and falling back to 10 per cent since then). (ABS, CAT 5204.0) This change has already produced a number of positive impacts, including: empowering consumers (e.g. via internet comparison sites and new mobile device accessibility); reducing transaction costs; and increasing the range of financial products. Notwithstanding recent strong MFP growth, an emphasis on promoting greater competition – both domestically and through greater international engagement – is likely to result in higher levels of innovation.

**The ageing of society:** Demographic projections indicate that Australia's population will age considerably over the coming decades. The proportion of the population over the age of 65 was 8.3 per cent in 1970, a figure expected to almost treble to 22.7 per cent in 2050. The increase in the proportion of the population over 85 will be even sharper, from 0.5 per cent of the population in 1970 to over ten times that share (5.1 per cent) in 2050 (Australian Government, 2010, p5). The latter group is critical as health care and nursing home costs are much higher, on average, for those over the age of 85 than for younger retirees. In addition to increasing as a share of the population, the number of older Australians will grow significantly in absolute numbers, with a projected 8.1 million people over the age of 65 in 2050, of which 1.8 million will be over the age of 85. Providing lifetime savings and post-retirement income products for these people will be both an opportunity and a challenge for the financial services sector.

**Environmental challenges:** Financial markets play an increasingly important role in the efficient delivery of utilities, including energy and water.<sup>7</sup> This will increase as governments

---

<sup>7</sup> For example, the National Electricity Market and markets for water rights.

and the private sector resort to markets to deal with scarcity and promote the efficient allocation of capital. The establishment of new markets is also likely to occur where policy makers attempt to deal with externalities. A good example is greenhouse gas abatement. Most (although not all) countries that are taking action in relation to this issue accept that a market-based solution or a carbon tax are likely to be the most efficient approaches. For Australia, if a market-based mechanism is adopted, one challenge will be to design a mechanism that allocates abatement efficiently but that also interacts effectively with trading schemes established overseas. The finance sector will be integral to establishing markets that work effectively. Environmental challenges also raise risk management issues, including uncertainty in relation to the long-term impacts of climate change (eg increased storm activity, sea inundation). The insurance and reinsurance industries are already facing the challenge of pricing these risks on the basis of imperfect information.

**The rise of Asia:** The economic rise of Asia represents a once in a lifetime opportunity for Australia's financial services sector. Over the past 20 years, China and India have tripled their share of world GDP and their absolute economic size almost six times (AG, 2012, p6). In just a little over a decade, four of the largest ten economies in the world will be in Asia.<sup>8</sup> By that time, Asia will be the engine of world economic growth, constituting over 60 per cent of world output growth in PPP terms (AG, 2012, p51). According to the Brookings Institution, by 2030, there will be over 3 billion middle class people living in the Asia Pacific. Moreover, the proportion of the world's middle class living in that region will have increased from 28 per cent in 2009 to 66 per cent in 2030. (Kharas, 2010) In addition to experiencing rapid growth, both in total and per capita GDP, much of Asia will experience pronounced population ageing (including large economies such as China and Japan). In addition to geographic proximity and a shared (or close) time zone, Australia has many advantages in providing the financial services that will be highly sought after by these increasingly wealthy and, in some cases, old societies including funds management and retirement income products. The dramatic rise in Australia's terms of trade over the past decade has largely been driven by the rise of China. When the demand for resources slows, there is no reason why Australia should not be in a position to continue to benefit from regional growth, but with a greater emphasis on tradable financial services.

### 5.1.5 Key issues for the coming decade

The remainder of the paper will examine Australia's financial architecture in light of the six functions and three enablers. In doing so, it will place key live and emerging issues into the broader context of how progressing the issues could improve outcomes for individuals, firms and the economy as a whole.

---

<sup>8</sup> Adjusted for PPP: "Australia in the Asian Century: White Paper", Australian Government, October 2012, p52.

## 6. The payments system

### Executive Summary

- This section covers the key elements of Australia's payments system, including banking and credit union payments and clearing and settlement on securities markets.
- Australia's payments system is broadly effective, although there are some areas that have been identified as being below world's best practice.

### 6.1 Australia's payments system for cash transfers

In its recent strategic review, the Reserve Bank defined the payments system architecture as "the set of physical and logical structures that allow institutions to exchange payment instructions, initiate settlement and perform any additional functions associated with a payment." (RBA, 2012, p14)

The payments system in Australia has a number of interconnected elements that cover cash payments. These include the key elements of the retail payments system: Direct Entry (a combination of bulk payments such as salaries and one-off payments), the processing of negotiable instruments, credit/debit cards, internet banking and e-commerce, ATMs and EFTPOS.

The payments system is also comprised of high value payment infrastructure, including the Reserve Bank Information and Transfer System (RITS). This is used by banks and other approved institutions to settle payments on a real-time gross settlement basis.

This paper will define the payments system broadly, to also include the clearing and settlement of transactions relating to securities, derivatives, debt instruments and foreign exchange on financial markets. Given the complexity of the payments system and the breadth of technological innovation currently impacting on the system, this section focuses on key issues rather than attempting to be comprehensive.

#### 6.1.1 Current Governance Arrangements

**Payments Systems Board:** At present, the payments system is largely operated by industry with the RBA playing an oversight role. This role is conducted through the Payments Systems Board (PSB) which has responsibility under four separate Acts.<sup>9</sup> The PSB must

---

<sup>9</sup> Reserve Bank Act 1959, Payments Systems (Regulation) Act 1988, Payment Systems and Netting Act 1998 and the Cheques Act 1986.

exercise its authority so as to promote the efficiency of the payments system and competition in the market for payments services. In doing so, it must have regard to the overall stability of the financial system.

**Key Attributes of a well-functioning payments system:** The key attributes of a well-functioning payments system as valued by end users are (RBA, 2011, pp3-4):

- Timeliness – either as availability of funds to the recipient or, in the case of point-of-sale or online purchases, confirmation by merchant that payment has been authorised and funds will be received.
- Accessibility – ability to access payments system when required and to make payments to whomever required. This has improved over recent years with telephone and internet banking – and now mobile banking and payments.
- Ease of use – this can include: the number of steps in a payments process; the amount and type of information to be provided (e.g. account and BSB numbers); and the process by which information is provided.
- Ease of integration with other processes – this could include integration of a payments system process with accounting and business systems.
- Safety and reliability.

For any given set of characteristics, the payments system should provide services at the lowest cost to the system as a whole.

### 6.1.2 Assessment of performance

**Accessibility:** Australia has a highly accessible banking system both in terms of physical points of presence and consumer access to financial products.

Physical access: As of June 2012, banks provided 7,918 face-to-face points of contact across Australia, of which 5,783 provided branch level service. (APRA, 2012) This represented a 3 per cent and 4 per cent rise from the year before respectively. (APRA, 2012)<sup>10</sup> The number of points of presence at June 2012 was approximately the same as at June 2003 (7,918 vs 7,873 respectively) – so a decade of rapid technological change, including a dramatic increase in internet banking, has not led to an erosion in branch numbers. The number of points of presence has oscillated over the past decade, increasing after 2003 to a maximum of 8,413 in 2006, then falling each of the following three years and increasing each year since 2009. Similar trends have occurred within each category of remoteness, with the

---

<sup>10</sup> Part of this rise is attributable to some building societies and credit unions becoming banks. APRA, “ADI Points of Presence: June 2012”, issued 29 August 2012, p6.

number of points of presence in “Remote” and “Very Remote” locations only slightly down on 2003. (APRA, 2012, p7) As with most aspects of the banking system, the Big Four banks have significant market share with around 66 per cent of points of presence.<sup>11</sup>

The number of points of presence in Australia is high relative to other banking systems, both in terms of bank branches and ATMs. Australia ranks fifth highest globally in terms of ATMs per 100,000 population (IMF, 2011)<sup>12</sup> and 13<sup>th</sup> highest globally in terms of commercial bank branches per 100,000 population. (IMF, 2011)<sup>13</sup>

Social access: Physical access is one dimension of access – but it is also important to assess whether people are able to access services in practice. The Global Financial Inclusion (Global Findex) database has been compiled by the World Bank to measure how people in 148 economies interact with the financial services sector. (Demirguc-Kunt and Klapper, 2012). The first round of information contained in the database is based on survey data from 150,000 nationally representative, randomly selected individuals across the 148 economies during the 2011 calendar year. Australia ranks highly on the key levels of engagement. This includes: 3<sup>rd</sup> highest in terms of market penetration of bank accounts<sup>14</sup>; 11<sup>th</sup> highest in terms of debit card penetration<sup>15</sup>; and 11<sup>th</sup> highest in terms of having a loan from a financial institution.<sup>16</sup> Mobile payments systems are emerging, such as Paypal, which have the potential to operate in parallel with the traditional banking system, thereby introducing significant new competition to this sector globally.

**Reserve Bank strategic review:** The Reserve Bank completed a strategic review of Australia's payment system in 2012. (RBA, 2012) The review identified two key problems with the current approach. First, how to deal with public interest objectives when decision-making rests largely in the hands of for-profit commercial entities. Second, how to overcome coordination issues that might hamper socially optimal outcomes (e.g. through discouraging new entry, through failure to account for externalities).

The Board's strategic review recommended three initiatives to improve governance of the payments system (RBA, 2012, pp18-20). First, that the Board set high level strategic objectives for the industry. Second, the creation of an industry coordination body to interact with the Payment Systems Board. Finally, that a framework be developed for more direct interaction between the industry coordination body and the Board itself.

---

<sup>11</sup> Westpac 1,270; CBA 1,026; ANZ 794 and NAB 748 out of total of 5,783. Other notables include: Bendigo and Adelaide Bank Ltd 594; Rural Bank Ltd, 464; and BoQ Ltd 263.

<sup>12</sup> Accessed from <http://fas.imf.org/> June 2013. See also World Economic Forum (2012), pp64-67.

<sup>13</sup> Accessed from <http://fas.imf.org/> June 2013. See also World Economic Forum (2012), pp64-67.

<sup>14</sup> Defined as the percentage of the population older than 15 with an account at a formal financial institution in 2011.

<sup>15</sup> Defined as the percentage of the population older than 15 with a debit card in 2011.

<sup>16</sup> Defined as percentage of respondents who have borrowed from a financial institution in the past year.

### 6.1.3 Opportunities to enhance regulation or institutional capacity

Potential gaps highlighted in the RBA strategic review:

- **Real-time payments.** Speeding up payments processing includes the timing of clearing, the timing of funds' availability in the banks' system and the timing of settlement. An option proposed by the RBA was real time settlement of DE files, which could result in same day settlement. The Faster Payments Service in the UK, which is a combination of real-time clearing, several intraday settlements and the provision of credit between receiving institutions between settlement periods, could form the basis for such a reform.
- **Payments out of hours.** This has already increased substantially with the growth of ATMs and card payments in the 70s and 80s, BPAY in 1997 and the increasingly widespread use of internet and mobile phones in recent years. One of the gaps at present is the receipt of low value payments via a transfer or cheque. The RBA proposed consideration of a low-value payment system out of hours, particularly on weekends and public holidays. This could include recipient of a DE payment on a Friday after the current cutoff who may otherwise have to wait until the following Tuesday to access their payment. Some financial institutions have already begun to implement seven day a week settlement for eftpos. This will be positive for merchants.
- **Transmission of data with payments.** One way to improve the ease of integration with accounting and business systems would be to adopt message standards that allow additional data to be incorporated.
- **Addressing payments.** Currently, payee's BSB and account number must be provided with all payments. This can result in administrative waste, errors and security concerns. The RBA proposed consideration of an identifier such as a phone number, as has been adopted in the UK (VocaLink) and US (clearXchange).
- **Cheques.** The current emphasis is making cheque processing more efficient even as volumes fall (rather than removing cheques by mandate, as was unsuccessfully attempted in the UK between 2009 and 2011). APCA recommended no major structural changes to the current system. Rather, it recommended allowing market forces to address the needs of cheque users as usage declines. (APCA, 2012, pp13-14)

## 6.2 Clearing and settlement on financial markets

### 6.2.1 Current Governance Arrangements

CS facilities for financial markets clear and settle trades conducted on those markets, but are typically (and in Australia, in all cases) distinct legal entities subject to licensing regimes separate to the markets they serve.

Both the RBA and ASIC have an oversight role for the clearing and settlement of transactions undertaken in financial markets. Financial markets are defined broadly in the paper to include any facility through which offers to buy and sell financial products are regularly made. (CFR, 2011, p8) Under the *Corporations Act 2001* (the Corporations Act), the RBA assesses facilities in relation to Financial Stability Standards (FSS). The FSS deal with the robustness of each FMI and seek to ensure that all reasonable actions have been taken to reduce systemic risk. Under the *Reserve Bank Act 1959*, the Payments System Board has a statutory responsibility to ensure that the RBA exercises its powers under the Corporations Act.

ASIC assesses each facility against market licence obligations and has powers to make directions to licensed operators. Together, ASIC and the RBA regulate clearing and settlement (CS) facilities under the Corporations Act. Part of their role is to provide advice to the Minister for Financial Services, who has responsibility for granting CS facility licences.

Central counterparties (CCP) in clearing add confidence in markets by reducing the risks associated with counterparty creditworthiness. However, CCPs also create systemic risks given the potential for market disruption if they fail. CCPs mitigate credit and liquidity risk in two ways: (i) requiring margin from market participants; and (ii) holding resources in reserve. Other risks, such as operational and legal risks, are mitigated in a variety of other ways. The management of systemic risk will be dealt with in Section 4. In short, the level of robustness required of a CCP is set out in the FSS. In Australia, the CCP for cash equities (and options and derivatives related to equities) is ASX Clear Pty Ltd and for derivatives and futures, the CCP is ASX Clear (Futures) Pty Ltd.

In Australia, ASX Settlement Pty Ltd provides settlement services for cash equities and Austraclear Limited provides settlement services for government and corporate bond services. The ASX operates both markets and the CS facilities which serve them, but the CS facilities are distinct from the markets.

Over the past 18 months, the Minister has authorised numerous financial markets in addition to the two ASX group companies listed above, including Chi-X Australia Pty Ltd



which provides trading in ASX listed equities. CS services for Chi-X are provided through the facilities listed above. Besides Chi-X, the trades conducted on the other markets authorised by the Minister are not cleared by a CCP.

### 6.2.2 Assessment of performance

**Overarching regulatory compliance:** The RBA and ASIC undertake an annual review of CS facilities for Australian cash equities. CS facilities have been found to be compliant with both agencies' requirements.

**Competition in clearing and settlement on cash equities markets:** In June 2012, the CFR issued a discussion paper in relation to competition in the settlement and clearing of the Australian cash equity market. (CFR, 2012b) A final report was released in December 2012 (CFR 2012c). The CFR review was undertaken in collaboration with the ACCC.

The review determined that there were mixed views about the net benefits that clearing competition would bring to Australia's financial markets. Some stakeholders thought that competition would deliver lower fees, innovation and user responsiveness. Others were less convinced it would deliver a net benefit. While they were supportive of competition in principle, they raised the scale of the Australian market and that clearing competition was almost exclusively a European phenomenon driven by greater integration, operational costs and costs of regulation.

Ultimately, the CFR recommended that:

- a decision on any license application from a CCP seeking to compete in the Australian cash equity market be deferred for two years;
- the ASX be required to develop a *Code of Practice for Clearing and Settlement of Cash Equities in Australia* within six months. The ASX has committed to do this; and
- at the end of two years the CFR should carry out a public review of the Code's implementation and effectiveness, and ASX's adherence to it, while at the same time it reviewed the prospect of granting a license to a competitor or pursuing other regulatory outcomes.

The Government accepted the CFR's recommendations.

**Clearing and Settlement on OTC derivatives markets:** The regulation of OTC derivatives raises a number of complex operational and risk management issues.



Central clearing: There is a growing tendency towards the central clearing of OTC derivatives transactions in the world's largest markets. This is due to a combination of regulatory incentives (eg Dodd-Frank and margin requirements for non-centrally cleared transactions under Basel III) and market forces. To date, Australian regulators have not considered it necessary to mandate either central or domestic clearing.

Competition in clearing: In its review of financial market infrastructure (CFR, 2011 and CFR, 2012a), the CFR was open to competition in the clearing of OTC derivatives. Indeed, at the time of writing this report, the ASX is preparing to clear OTC derivatives and an application by LCH was under active consideration by the government based on the application of location requirements in a graduated manner taking into account the "systemic importance of the underlying market and the composition of the FMI's participants." (RBA, 2012) The ASX will have its OTC derivatives clearing service operational by July 2013 for dealer to dealer and expects to have client clearing operational by the end of the year.

Global OTC markets are evolving rapidly. The regulatory response to these changes is still developing in some of the larger markets and it is not clear that a uniform approach will ultimately be adopted. To date, Australian regulators have recommended a measured approach according to which more interventionist reforms are delayed until a clear case has been made and the reform can be shown to interact effectively with the regulatory arrangements emerging in major markets.

### 6.3 Priority issues warranting further analysis: The Payments System

#### Key Issues

- Continue to pursue the forward work program of issues arising from the RBA's strategic review of the payments system, including:
  - real-time payments
  - payments out of hours
  - enhanced transmission of data with payments;
  - improved addressing of payments.
- Continue working towards a sustainable model for cheques.
- Monitor international developments in relation to the clearing and settlement of OTC derivatives.

## **7. Pooling resources**

### **Executive Summary**

- ADIs, superannuation funds, insurance firms and investment trusts enable the pooling of resources. ADIs and superannuation funds together constitute over 90 per cent of the funds managed by the financial services system. ADIs currently manage around twice the quantum of funds as superannuation funds – but the proportion managed by superannuation funds has increased steadily over the past decade. Demographic change and the shift from 9 to 12 per cent in the SG will probably result in a continuation of this trend.
- Most medium and large businesses in Australia are corporations. Other vehicles, such as partnerships and sole trader businesses tend to be used for microbusinesses or in providing professional services.

### **7.1 Vehicles to pool resources**

The key vehicles used to pool resources in the Australian economy are ADIs, superannuation funds (mostly retail, industry and SMSFs), insurance firms and investment trusts.

#### **7.1.1 Current pooling arrangements**

**ADIs and superannuation funds:** Banks are by far the largest pool of resources in the Australian economy. As of June 2012, authorised deposit-taking institutions (ADIs) held \$3.53 trillion in assets, approximately two thirds of the assets in the entire financial system. (APRA, 2013c, see also RBA<sup>17</sup>) Of total resident assets held by ADIs, 79 per cent was held by the largest four banks.

Superannuation funds are also a key source of funding for the Australian economy. As of the December 2012 quarter, estimated superannuation assets stood at \$1.51 trillion. (APRA, 2013b, p6) This ranks as the fourth largest pension fund system in the world. (Towers Watson, 2013, p7) Together, banks and superannuation funds manage over 85% of the financial system's assets. (RBA, statistical table b2)

The majority of the superannuation sector is held by three types of funds: retail; not-for-profit; and SMSFs. Retail funds and not-for-profit funds manage just under two thirds of

<sup>17</sup> The APRA figures include consolidated operations. Many of these assets are more meaningfully considered to be part of foreign financial systems rather than the Australian financial system. According to RBA figures which exclude consolidated operations (Table B1, <http://www.rba.gov.au/statistics/tables/>), total ADI assets are around \$3 trillion. While around \$500 bn less than the APRA figures, ADIs are still by far the largest part of the financial system even on the RBA figures.

total funds under management (28 per cent and 35 per cent respectively). These funds are managed by APRA. Under the *Superannuation Industry (Supervision) Act 1993* (the “SIS Act”), a trustee is required to ensure that the fund is managed for the core purpose of providing benefits after a member’s retirement.<sup>18</sup> This is often referred to as the Sole Purpose Test. Trustees are also obliged to ensure that the fund’s investments are appropriately diversified and that the fund has an investment strategy which takes into account the fund’s overall circumstances.

SMSFs manage just over \$400 billion in funds (or approximately 30 per cent of funds under management). The share of funds managed by SMSFs has grown over recent years. These funds are not regulated by APRA, with light-touch regulatory oversight being provided by the Australian Taxation Office (ATO).

**Collective investment vehicles:** Collective investments vehicles (CIVs)<sup>19</sup> take a number of forms in Australia. The key investment vehicles are managed funds and hedge funds, with a significantly higher proportion of funds invested in the former. The key types of managed funds are:

- **Registered Managed Investment Schemes (MISs):** these schemes are registered by ASIC and operated by a responsible entity. They can be invested in by any class of investor and are often targeted at retail investors.
- **Unregistered Managed Investment Schemes:** Unregistered MISs can seek investments from wholesale investors. The managers of these schemes must be registered with ASIC.
- **Managed Investment Trusts (MITs):** MITs are a sub-class of unregistered MISs. They are aimed at wholesale investors, often based offshore. MITs include property trusts, which are often referred to as REITs. These vehicles are governed by the *Corporations Act 2001* and the *Income Tax Assessment Act 1936*.
- **Listed Investment Companies (LICs):** a closed-end CIV similar to an investment trust in the UK.
- **Limited Partnerships (LPs):** similar to a general partnership, except that one or more partners are “limited” – ie that they have limited liability, similar to that enjoyed by shareholders of a corporation.

---

<sup>18</sup> See section 62 of the *Superannuation Industry (Supervision) Act 1993*.

<sup>19</sup> This can be defined in a number of ways. In a recent review of tax arrangements applying to CIVs, the Board of Taxation limited its review to CIVs that were widely held and that undertake primarily passive investment activities.

Investment trusts are very widely used in Australia with over \$1.4 trillion being managed in trusts, mostly in widely held unit trusts. Unlike in overseas markets, much of this total is in superannuation rather than in unregulated investment funds.

### 7.1.2 Assessment of pooling mechanisms

**ADIs and superannuation funds:** Australia's financial sector includes a wide range of institutions through which investors can store their savings. The two key mechanisms for individuals at present are deposits in accounts with ADIs and superannuation accounts.

Both ADIs and superannuation funds offer a wide range of products. Most retail superannuation funds have dozens of investment options. Industry funds currently offer 12 options per fund on average, which is considerably less than for-profit funds. However, the trend is towards greater member choice. For example, Australia Super is now offering members the option of allocating funds to particular ASX listed equities.

**Collective investment vehicles:** The regulatory environment for collective investment vehicles (CIVs) in Australia is complex, in particular, the taxation arrangements. Reforms to the taxation treatment of Managed Investment Trusts (MITs) enacted in 2010 represented a major effort on the part of government and industry to simplify taxation arrangements and make them more comprehensible to foreign investors. A second tranche of reforms has since stalled and been delayed several times.

### 7.1.3 Opportunities to enhance regulation or institutional capacity

**Collective investment vehicles:** The Board of Taxation has recently reviewed taxation arrangements relating to CIVs. This is an important area in which there is considerable uncertainty at present (eg the treatment of "unders and overs" in respect of MITs, what constitutes an arms' length transaction, the definition of "clearly defined rights" and other issues). The Government is currently reviewing this report and is likely to deal with any issues arising as part of its response to the review of the tax treatment of trusts more broadly (Division 6 of the ITAA). There is also a broader set of issues relating to the types of CIVs that are legally recognised in Australia. Many of the trust arrangement are not well understood by investors outside countries with legal systems based on the UK.

An additional issue is whether the regulatory provisions providing for a single "responsible entity" are functioning well.<sup>20</sup> Current arrangements are administratively simpler than the previous requirement for certain CIVs to engage both a trustee and manager. However, the

---

<sup>20</sup> The new regulatory arrangements were introduced through passage of the *Managed Investment Scheme Act 1998*.

potential for responsible entities to become involved in transactions, particularly where the some or all of the assets require ongoing management – and the potential for this to create conflicts of interest – is worth examining.

## 7.2 Corporations law

### 7.2.1 Current arrangements

The formation, governance and supervision of corporations in Australia is governed by the *Corporations Act 2001* and the *ASIC Act 2001*. These laws are a combination of federal powers granted under the Constitution and powers referred to the Australian Government by the States. Together, the laws govern corporations and some provisions also relate to partnerships and managed investment schemes.

### 7.2.2 Assessment of current arrangements

Australia's corporations laws are largely based on the UK's corporations laws. As such, they are based on principles that are well established and that many international investors are familiar with.

One criticism of Australia's corporations laws is that they are too complex. The Australian laws are thousands of pages long. This can be contrasted with Sweden's legislation which is around 200 pages in length. Sir Anthony Mason attributed the complexity of Australia's corporations law to a number of factors. The first was a response to a number of corporate collapses and the need to "put our corporate house in order" at least in part to retain the interest of foreign investors (although of course complexity runs counter to the latter objective). A second factor was a greater emphasis on covering off on all relevant details in drafting the legislation – an emphasis motivated in part by the growing complexity of the commercial world. (Mason, 1992)

Mason contrasts the Australian legislation with US legislation, which provides "broad outlines ... leaving the courts to fill in the large interstices ..." He argues that there are elements of the US approach that are worth adopting but that a "happy medium" between the two approaches is probably ideal.

Jordan acknowledges the strengths of Australia's corporate law. It is a one-stop shop, obviating the need for multiple jurisdiction filings. It has benefited from the work of the Corporations Law Simplification Task Force. It has also incorporated innovations that reflect Australia's particular circumstances (although perhaps in some core areas, there is too much exceptionalism). But there are serious shortcomings. Australia's corporations law is based

on the “chassis of old UK companies law” with many disparate elements bolted on. (Jordan, 2008) This has compromised the coherence of the law and its comprehensibility for many foreign investors. Ultimately, Jordan finds it to be “complex, ungainly, badly drafted, internally inconsistent, conceptually troubled” – and certainly weaker than laws implemented in comparable jurisdictions such as New Zealand, Canada, the US and Hong Kong. (Jordan, 2008)

### 7.2.3 Opportunities to enhance regulation or institutional capacity

Simplification of Australia's corporations law has been on the agenda for decades. While a worthwhile aspiration, it is unlikely that anything other than a wholesale rewriting of the legislation would make a material difference to its complexity. This would probably not be warranted given the resources that it would consume and the uncertainty that it would generate both amongst both domestic and foreign investors.

## 7.3 Priority issues warranting further analysis: Pooling Resources

### Key Issues

- Greater regulatory certainty for widely held CIVs, including taxation treatment for both domestic and foreign investors.
- Introducing regulatory arrangements for a new “corporate CIV” that is better aligned with CIVs used in major economies that trade with and invest in Australia.

## 8. Allocating resources across time and space

### Executive Summary

- Transferring resources between geographic regions and industries is largely undertaken by ADIs, superannuation funds, insurance firms and investment trusts.
- The allocation process often involves financial markets. Australia's financial markets are large and highly liquid, both in regional and global terms.
- Australia's financial infrastructure also facilitates the allocation of resources through time at the individual level (life cycle savings, including through superannuation accounts) and via financial instruments such as derivatives.

### 8.1 Allocating resources across geography and industries

#### 8.1.1 Current institutional and regulatory arrangements

APRA has broad responsibility for the prudential regulation of the financial sector. This includes the prudential regulation of ADIs<sup>21</sup>, insurers<sup>22</sup> and superannuation funds<sup>23</sup>.

**ADIs:** On 13 December 2012, APRA released the final package of measures to implement Basel III capital regulation measures for ADIs.<sup>24</sup> (APRA, 2012c) The new package will raise the quality, consistency and transparency of the capital base of ADIs and establish minimum requirements in relation to counterparty credit risk.

The Basel III requirements relating to minimum common capital ratios came into operation on 1 January 2013. Australia was one of only six countries that implemented these standards without a transition period. The new standard will require a common capital ratio of 4.5 per cent. A higher minimum ratio (7 per cent) will be implemented on 1 January 2016. Preliminary data indicates that the big four banks already satisfy the higher standard.

**Superannuation:** The key regulatory issues affecting asset allocation for superannuation funds are choice of fund requirements, the sole purpose test and prudential regulation.

Choice of fund: choice of fund legislation allows members to elect which fund their contributions are to be made to and to move funds between investment options within a fund. The portability rules allow most employees to transfer balances from one fund to

<sup>21</sup> Including banks, credit unions, building societies and friendly societies.

<sup>22</sup> Including general insurance and reinsurance companies and life insurance.

<sup>23</sup> All funds other than SMSFs.

<sup>24</sup> See the full suite of papers at <http://www.apra.gov.au/adi/PrudentialFramework/Pages/Basel-III-CCR-Final-November-2012.aspx>

another within 30 days. Given that retail and industry funds offer a range of products with widely varying asset allocations, choice of fund provisions mean that funds need to hold assets in reserve to deal with the possibility of a shift of members across products.

Sole Purpose Test: The superannuation framework does not prescribe the asset classes or types of investments that funds must choose. The principal regulatory guidance in relation to asset allocation is provided in the *Superannuation Industry (Supervision) Act 1993* (SIS Act) which states that trustees must formulate an investment strategy according to the Sole Purpose Test. This applies to trustees of both APRA regulated funds and also SMSFs. The Sole Purpose Test provides that trustees must manage the fund for the core purpose of providing members with income in retirement.

APRA Prudential Regulation: APRA's powers to regulate superannuation funds were strengthened following the GFC. APRA's Investment Governance Prudential Standards SPS530 require that superannuation funds develop and implement a liquidity management plan and undertake rigorous stress testing. APRA's Prudential Standard SPS 510 sets out the minimum requirements for good governance for superannuation funds. These include that boards must have procedures for assessing board performance and that an Audit Committee must be established. APRA Prudential Practice Guide (SPG 520), which was issued in August 2010, states that there is an expectation that each trustee board should have a governance policy that identifies the skills and competencies that a trustee board is expected to collectively possess in order to effectively carry out its duties. APRA has indicated that many of the requirements proposed within the new prudential standards are already current practice for most superannuation fund trustees. Smaller funds may have the greatest difficulty in complying with the new obligations.

**General and life insurance:** APRA is responsible for the prudential regulation of the life and general insurance sectors in Australia. In May 2010, APRA commenced a review of capital standards for life and general insurance companies (LAGIC). The key goals of the review were to improve the risk-sensitivity of insurance firms and the appropriateness of their capital holdings and to improve the alignment of capital standards across industries (for example between insurance and ADIs). (APRA, 2012b) The new capital framework has been effective since 1 January 2013, although there will be transition periods for some elements of the new arrangements.

### 8.1.2 Assessment of asset allocation

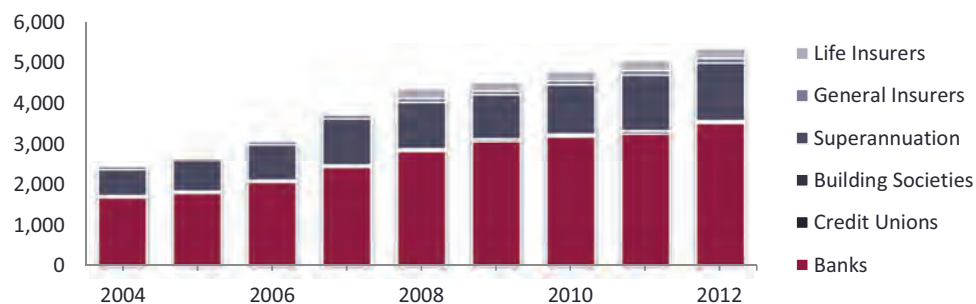
**Description of current patterns of asset allocation:** This paper will not examine the performance of asset allocation against measures such as risk adjusted returns or the performance of investments when matched to institutional or member interests. This is a



matter of considerable complexity and is beyond the scope of a paper of this nature. Rather, it will describe asset allocation by institutional category in order to determine the relative size of institutional groupings as managers of financial assets and to compare and contrast how different institutional categories allocate funds.

Asset allocation across the finance sector: Asset allocation across the sector is dominated by banks and superannuation funds which together hold over 90 per cent of the sector's assets. The proportion held in superannuation funds has grown over the past decade. This trend is likely to continue, particularly with the move from 9 to 12 per cent in the SG.

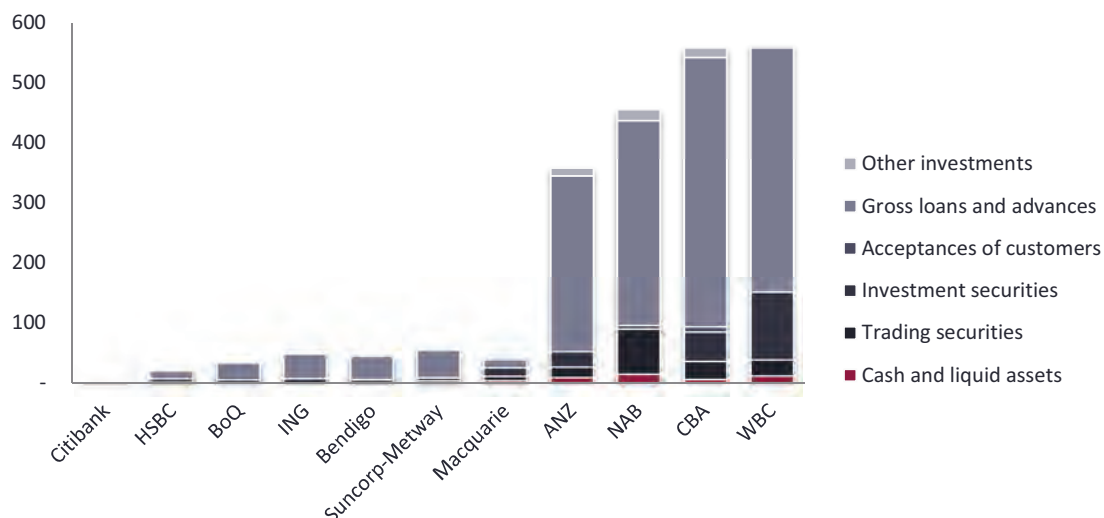
**Figure 2 Total Assets by Sector, \$ billion**



Source: APRA, statistics 2012

Banking sector: The banking sector holds more assets than any other part of the financial services sector. Figure 3 decomposes the total resident assets held by the largest 10 banks in Australia as of December 2012.

**Figure 3 Total Resident Assets of Top 10 Banks: December 2012, \$ billion**



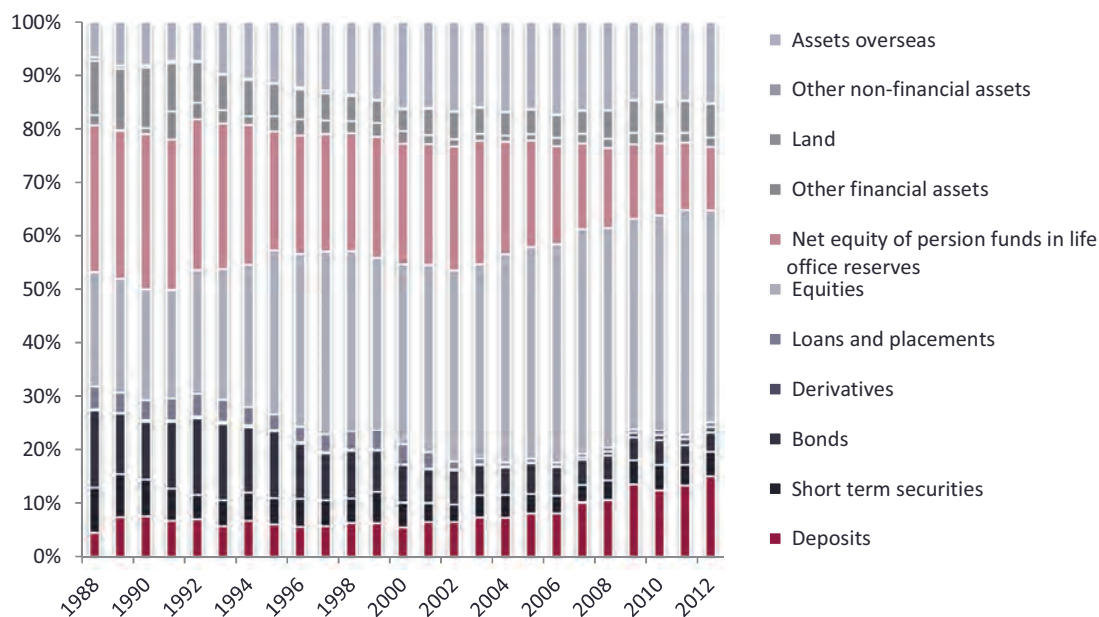
Source: APRA, monthly banking statistics, December 2012

**Superannuation sector:** Total funds under management by superannuation funds has grown substantially over the last ten years – from \$634 billion in 2004 to \$1.4 trillion in 2012.

Figure 4 contains a breakdown of the asset classes held by superannuation funds. (ABS, CAT 5655.0)

Superannuation funds invest heavily in numerous asset classes. As at December 2011, superannuation funds had \$435 billion invested in the ASX 200. (ASFA, 2012a, p3) Superannuation funds are also a significant source of funding for infrastructure investments. For example, superannuation funds have been consortium partners in many successful PPP bids over recent years. Research from Rice-Warner indicates that APRA-regulated superannuation funds in Australia allocate approximately five per cent of their total asset allocation to infrastructure. (ASFA, 2012b, p8) The key trends in asset allocation over the past twenty five years have been: (i) that the proportional weighting to equity has grown; (ii) that the share of assets held overseas has grown; and (iii) that the proportion of assets held in bonds, short term securities and deposits combined is approximately the same in 2012 as it was in 1988. While the share of funds in this group of assets has remained relatively constant, the proportion held in bonds has fallen from around 15 per cent to under five per cent.

**Figure 4 Australian Pension Fund Asset Holdings: 1988-2012**

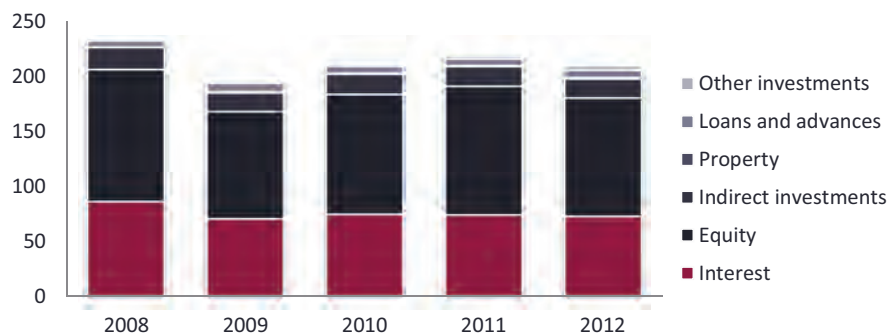


Source: ABS, CAT 5655.0

**Insurance:** Figure 5 and Figure 6 set out the asset allocation for the life insurance and general insurance sectors. In 2012, the life insurance industry held around double the assets compared to general insurance (\$238 billion vs \$118 billion in 2012, ABS). The life

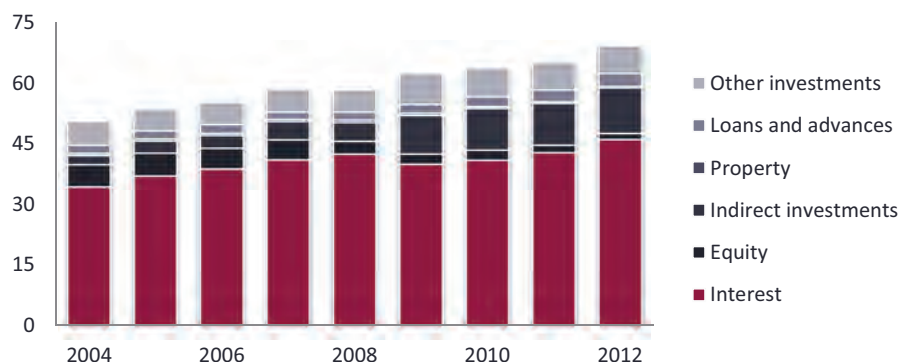
insurance industry is much more heavily weighted towards equities compared to general insurance (which reflects the longer term nature of its asset holding and capacity to invest for growth). The general insurance industry holds a greater proportion in “indirect investments”.

**Figure 5 Asset Holdings: Life Insurance, \$ billion**



Source: APRA, Quarterly Life Insurance Performance Statistics, September 2012

**Figure 6 Asset Holdings: General Insurance (\$ billion)**



Source: APRA, Quarterly General Insurance Performance, September 2012

**Private Equity and Venture Capital:** As of 30 June 2012, venture capital (VC) and private equity (PE) funds were responsible for managing \$29.4 billion which was invested across 539 companies. (AVCAL, 2012) Total commitments raised by VC and PE funds in Australia in FY2012 totalled approximately \$3.3 billion, the largest annual total since the GFC. Of this total, around \$250m was raised by VC funds and just under \$3.1 billion by PE funds.

### 8.1.3 Key live and emerging issues

**Issues relating to prudential regulation:** The Wallis inquiry set out the broad policy rationale for the scope of prudential regulation. At the core of this is the “twin peaks” arrangement in which APRA has sole responsibility for prudential regulation. In theory there is a clearly defined boundary between institutions that are subject to prudential regulation

and those that are not. In practice, prudential regulation is more complex. Regulators are faced with a number of complex issues.

Is too much of the financial services sector prudentially regulated? On some measures, such as assets under management, the vast majority of the financial services sector is prudentially regulated. This is an example of the trade-off between the competing goals of increasing systemic stability on the one hand and leaving financial institutions freedom to compete on the other. While prudential regulation probably doesn't directly hamper innovation, it creates barriers to entry which may reduce competitive tension.

Should SMSFs be prudentially regulated? Even though a very high proportion of assets under management are prudentially regulated, SMSFs, the largest and fastest growing segment of the super industry, remain subjected to very light touch regulation by the ATO. While there are good reasons to apply a different regulatory regime to SMSFs than is applied to ADIs and large funds, current arrangements may be too laissez faire given the difficulties that many SMSF trustees face in making informed investment allocations, detecting fraud and dealing with other challenges. If for no other reason than consumer protection, SMSFs may need to be subjected to some form of appropriately tailored prudential regulation.

Is prudential regulation applied with sufficient differentiation? Another issue is whether prudential regulation is applied in a manner that reflects the different levels of systemic risk across sectors. The IMF cites three factors as being particularly important in assessing the systemic importance of financial institutions: (i) size (the volume of transactions that the institution is involved with as a proportion of the financial sector); (ii) substitutability (the extent to which other parts of the financial system can perform the functions of an institution should it fail); and (iii) interconnectedness (the extent to which it is linked with other institutions). (IMF, 2009, pp2-3) Importantly, the IMF notes that systemic importance is not a binary variable: institutions have varying degrees of systemic importance.

Banks are generally seen as the most systemically important financial institutions due to: (i) their role in providing credit and the link between the availability of credit and the capacity of firms to invest, to hire and to trade; (ii) their role in money creation via loaning deposits; and (iii) their relatively large size and, therefore, role as counterparty to a high proportion of transactions. These reflect all three characteristics identified by the IMF.

**Asset categories where investment flows might be constrained**

1) Infrastructure: Australia has experienced very high rates of investment in infrastructure over the past twenty years, primarily in the resources sector.<sup>25</sup> The finance sector has played a key role in the funding of infrastructure. For example, superannuation funds have invested directly in a wide range of infrastructure projects, including transport infrastructure<sup>26</sup>, desalination plants, public hospitals, energy networks and the resources sector. Overall, superannuation fund allocations in infrastructure typically range from two to ten per cent. (ASFA, 2012c, p5) The ISN recently examined the allocation by industry funds and found that most funds allocated between 10-16 per cent to infrastructure. (ISN, 2013, p4)

Despite this, it is widely agreed that Australia is experiencing a number of infrastructure bottlenecks and that significant investment in infrastructure over the next several decades will be important to underpin continued economic growth. The OECD found that Australia “suffers from an infrastructure deficit” and that transport infrastructure ranked 34<sup>th</sup> overall and 46<sup>th</sup> in relation to the quality of port infrastructure. (OECD, 2011, p99) This is reflected in a growing backlog of priority projects such as major rail projects (Melbourne Metro, North West Rail, Cross River Rail, High Speed Rail); major road projects (WestConnex, East-West in Melbourne); the expansion of ports; and much needed investment in power, water and telecommunications networks.

There appear to be two key barriers to attracting funds to public sector greenfield infrastructure projects. First, fiscal constraints on both Federal and State governments have limited their capacity to invest in major projects directly. Second, it is becoming increasingly difficult to generate market interest in the traditional PPP model in a post GFC world, particularly for greenfield projects.

There are a number of factors that are tending to reduce market interest in greenfield infrastructure projects. First, are the liquidity constraints on Australian superannuation funds arising from legislated choice of fund provisions and APRA's recent prudential guidance (similar constraints apply to some overseas pension funds). Infrastructure investments are generally considered to be less liquid than equities or most fixed income assets, particularly if they are unlisted. The ISN has argued that industry funds are generally better placed than other managed funds (particularly SMSFs) to benefit from the advantages of unlisted assets. (ISN, 2013, p13) These benefits include the illiquidity

---

<sup>25</sup> Mining investment increased from under 2% of GDP in 2004, to around 4% by 2010/11 and over 8% in 2012/13. This represents over \$100 billion per annum in investment. – ABS.

<sup>26</sup> Recent Australian transport projects include CityLink, Peninsula Link, EastLink (Vic), CLEM7 (Qld), Lane Cove Tunnel (NSW) and Cross City Tunnel (NSW): ASFA, 2012c, p4.

premium and the opportunity to exercise greater control over the management of assets. The scope for funds to benefit from the illiquidity premium was supported by recent APRA research. (APRA, 2011) Funds will generally be in a better position to invest in unlisted assets if they have the following characteristics: scale; net cash inflows; younger member demographics.

A second factor is the difficulty faced by small and medium funds in undertaking due diligence and maintaining diversification when faced with large, lumpy investments. These problems are particularly pronounced for SMSFs, which will probably require new types of products (eg retail infrastructure bonds) if they are to participate in funding infrastructure.

Risk allocation is an additional, critically important issue for government funded greenfield projects. Australian and international funds are willing to pay a reasonable price for long-run income streams – but do not want to assume project risk. In particular, investors are reluctant to assume construction risk and usually want limited exposure to greenfield patronage risk. Project financing structures will need to be developed that match investment returns with the risk allocation preferences of investors. Investor concerns in relation to risk have been exacerbated by the post-GFC retreat of global monoline insurers from the Australian market and significant losses on some high profile projects due to errors in forecasting patronage.

The Infrastructure Finance Working Group (IFWG) made a series of recommendations in its final report in April 2012. (IFWG, 2012) These included recommendations relating to risk allocation, regulatory barriers to corporate bond issuance and the regulation and taxation of post-retirement income products. Infrastructure Australia issued a consultation paper in January 2013 which picked up on many of these points. The following issues are worth considering further:

- **Credit enhancement.** The Australian Government (or, to a lesser degree, State governments) could provide credit enhancement through: (i) provision of long-term subordinated debt for significant projects; (ii) Government reducing construction risk by providing construction guarantees from credit worthy counterparties such as banks; and (iii) a bespoke project risk guarantee scheme for specified projects.
- **A liquidity facility.** The Government could provide backstop liquidity for certain infrastructure debt instruments. This could be similar to the RBA's current arrangements with banks in relation to Commonwealth bonds.<sup>27</sup>

---

<sup>27</sup> See discussion in (Deloitte, 2013a, p44)

- **Enhanced project assessments and the development of a national pipeline.** This will increase the likelihood of funds and constructors maintaining teams of dedicated experts.<sup>28</sup>
- **Innovative financing arrangements.** One proposal developed by Pottinger is Converting Infrastructure Bonds. (Lake et al, 2013) Under this arrangement, the constructor and government would share construction risk (as mutually agreed). Pension funds and infrastructure funds would receive bonds that provide defined payments until construction completion after which they would convert to equity.
- **Post-retirement products.** The structure, regulation and taxation of pension income products. (IFWG, 2012 – recommendation 12)
- **Linking income streams from infrastructure to investor returns.** If governments credibly dedicate a portion of the income from new infrastructure (eg user charges such as tolls and public transport tickets, or alternative income sources such as land tax uplift or congestion levies) – this would provide investors with greater confidence of being repaid in inflation-hedged payments.
- **Improved bidding arrangements.** Improvements to bidding arrangements could include measures such as full or partial bid cost reimbursement for some or all bidders and shared consultancies across the bidding consortia, possibly paid for by the government (eg traffic modeling).<sup>29</sup> The ISN recently proposed separating the tendering of the operation of the asset from the construction and financing of the asset. (ISN, 2013, pp15-16)

2) Innovation/ Venture Capital: Australia does not have a well-established venture capital market. This is reflected in the asset allocations outlined above. It is telling that FY2012 was the third year in a row that the majority of VC commitments were sourced from Government-backed programs.<sup>30</sup> The lack of depth in Australia's VC market is due to many factors. Potential explanations include: the relatively small size of economy, which means that many viable projects migrate to the US when moving closer to commercialisation and a business culture that does not embrace risk in the same way that other centres of VC/commercialization do (such as Silicon Valley or Israel's IT sector).

Pension funds were the largest single source of investment in VC and PE in FY2012, accounting for 36 per cent or around \$1.2 bn in investments. However, of this share, only

---

<sup>28</sup> One way of increasing the credibility of a national pipeline is for State Governments to commit to "capital recycling", ie to the sale of mature assets to fund greenfield projects. This would reduce the likelihood of infrastructure funding being impaired by the fiscal impacts of the business cycle.

<sup>29</sup> These reforms should be considered for all public sector infrastructure projects, including privatising brownfield infrastructure assets.

<sup>30</sup> Innovation Investment Fund (IIF), Renewable Energy Venture Capital Fund (REVCF) and the Innovation Investment Follow-on Fund (IIF2). (ACVAL, 2012, p9)



19 per cent was provided by Australian industry and retail funds, with 17 per cent sourced from overseas pension funds. The share of total pension fund investments in PE/VC sourced from Australian funds has fallen from 87% in FY2010 to 69% in FY2011 and 53% in FY2012. (AVCAL, 2012, p10) Liquidity constraints (such as choice of fund) have been cited as a barrier to Australian superannuation funds investing more in PE and VC.

3. Private Equity: PE contributes to the efficiency of capital markets in three ways: (i) better aligning the interests of business owners and management; (ii) providing another dimension to capital liquidity by buying and selling equity in both private and public companies; and (iii) as with some other alternative asset classes, providing opportunities to lock in investments for the medium to long-term, which often matches the needs of investors such as superannuation funds.

In a recent report on the economic contribution of PE to the Australian economy, Deloitte Access Economics found that PE investee firms contributed around \$58 billion in total value add and employed 512,000 FTE jobs. The study also found that PE management affected change and that new management was introduced in 90 per cent of firms and additional capital was injected in 70 per cent of firms. (Deloitte Access Economics, 2013b)

As noted above, the share of Australian retail/industry fund investment out of total pension fund investments in PE/VC has fallen over the past three years. In addition, the number of PE companies and investments has fallen each year since the GFC.

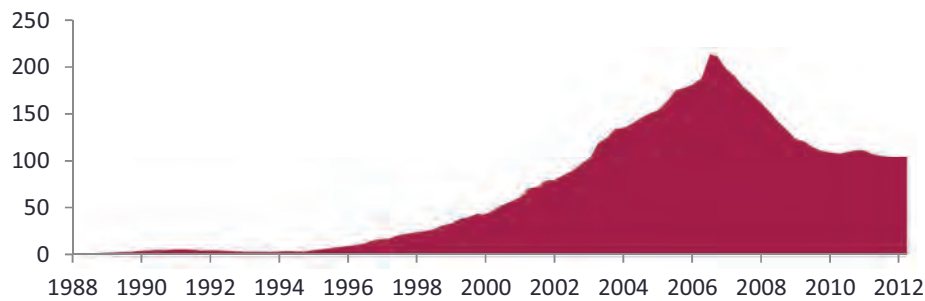
4. Fixed income assets: the market for fixed income (FI) assets in Australia is relatively undeveloped compared to the overall sophistication of the financial services sector.<sup>31</sup> The weakness of the corporate bond market is one example (discussed below). Another example is the market for residential mortgage backed securities (RMBS). The RMBS market grew strongly in the lead-up to the GFC from a very low base. It has suffered a significant decline following the GFC. That decline has proved to be difficult to arrest, notwithstanding the intervention of the Australian government via the Australian Office of Financial Management (AOFM) to support liquidity. The fragility of the market in the face of the GFC, despite government intervention, is worth further examination. Figure 7 shows the level of RMBS outstanding over the past 15 years. (RBA, Table B19)

---

<sup>31</sup> See, for example, the allocation of assets by pension funds. Australian superannuation funds allocation to FI is 9%, which is well below the average of 52.3% for pension funds across the OECD. Source: OECD Global Pension Statistics 2012.



**Figure 7 Australian RMBS Outstanding (\$ billion)**

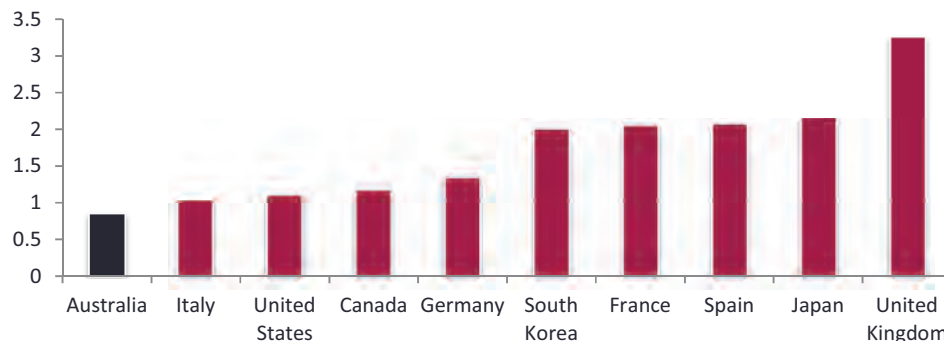


Source: RBA, Table B19: Securitisation Vehicles

**5. Corporate Bonds:** The absence of a broad, liquid corporate bond market in Australia is seen by most financial sector stakeholders as a significant barrier to the efficient allocation of domestic savings. Australian businesses rely heavily on bank loans for financing. At present, large Australian companies have access to international bond markets. In contrast, small and medium companies can find themselves caught in a market gap. Many are too small to borrow directly from international bond markets. That means that, should they have difficulty in accessing credit from domestic banks, it can be difficult for them to take advantage of commercial opportunities. The limitations on Australia's corporate bond market are reflected in the fact that, as of 2012, more than 70 per cent of the top 200 companies on the ASX were unrated according to analysis undertaken by *The Australian Financial Review*. (AFR, 2013, p44)

Figure 8 shows corporate debt outstanding as a proportion of GDP for ten selected advanced economies. (ASF, 2012, p5) In Australia, non-financial corporations rely more heavily on bank debt and equity raisings than on the corporate bond market than in many otherwise comparable economies. For example, in the US, non-intermediated debt accounts for approximately 80-90 per cent of corporate finance. (ASF, 2012, p6)

**Figure 8 Corporate debt outstanding/GDP**



Source: RBA, Global Finance Magazine

The weakness of the corporate bond market in Australia is long-standing and is due to many factors, including: regulatory barriers; the size of the economy (which could affect the liquidity of secondary markets); the ability of large Australian corporations to borrow from overseas markets (which might remove the most liquid corporate bonds from having to trade in the local market); taxation arrangements (ie the favourable treatment of equity through franking credits) and cultural inertia.

In both the papers by Professor Maddock & Mr Munckton and by Professor Davis, a number of trends are identified that could facilitate a medium-term rebalancing from intermediation to market-based funding mechanisms. One of the key potential drivers identified is the possibility of the cost of funds rising for banks, creating pressure to remove some long-lived assets from their balance sheets. This could create opportunities for securitisation.

Recent regulatory reforms are a significant step forward in facilitating the supply of corporate bonds, including changes to prospectus requirements and limiting civil penalties for directors. Further reforms aimed at the demand side could include: education campaigns aimed at retail investors (eg SMSFs) and improved access to bond market participation through platforms such as mobile devices and tablets.

## 8.2 Allocating resources through financial markets

### 8.2.1 Current institutional and regulatory arrangements

**Regulation of financial markets:** Financial markets in Australia are primarily regulated by ASIC and the RBA. ASIC has primary responsibility for the day-to-day regulation of markets, including monitoring real-time trading on financial markets and developing market integrity rules (MIRs)<sup>32</sup> and regulatory guidance material. ASIC is also responsible for supervising holders of Australian Financial Services Licence (AFSL) holders and enforcing the laws proscribing misconduct on Australia's financial markets. As noted in section 4, the RBA is responsible for oversight of clearing and settlement on Australia's financial markets. The granting of Australian Financial Markets Licenses (AFMLs) is the responsibility of the Minister for Financial Services on the advice of ASIC and the Treasury.

**Financial market competition:** In March 2010, the Australian Government committed to the introduction of competition in financial markets trading in listed shares.<sup>33</sup> In the lead-up to market competition, market supervision responsibilities were transferred from the ASX to ASIC, which will have primary responsibility for the day-to-day regulation of financial

---

<sup>32</sup> The power to produce MIRs is granted by the *Corporations Amendment (Financial Market Supervision) Act 2010*. MIRs for ASX, ASX24, APX, IMB, NSXA and SIM VSE were released on 1 August 2010. MIRs for Chi-X were released on 29 April 2011.

<sup>33</sup> Media Release by the Hon. Chris Bowen, Minister for Financial Services:

<http://mfsscl.treasurer.gov.au/DisplayDocs.aspx?doc=pressreleases/2010/032.htm&pageID=003&min=ceba&Year>

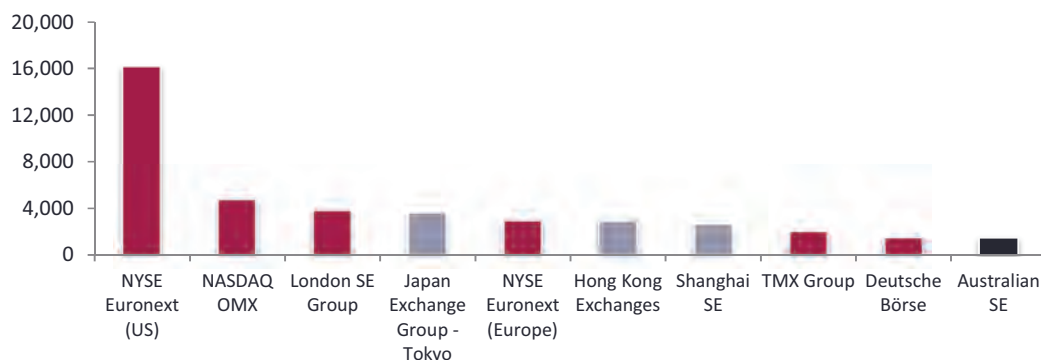
markets. In 2011, ASIC issued MIRs dealing specifically with competition (in addition to the MIRs in place for each exchange).<sup>34</sup> ASIC has also issued regulatory guidance in relation to the application of these MIRs.<sup>35</sup>

On 4 May 2011, a licence was granted to Chi-X to operate a financial market trading in equity products listed on the ASX.<sup>36</sup> On 11 April 2013, FEX was granted a licence to operate a derivatives market in Australia.<sup>37</sup>

## 8.2.2 Assessment of performance

**ASX size and liquidity:** ASX is one the largest, most liquid markets in the region (and the world). The ASX is a multi-asset class, vertically integrated exchange. This means it facilitates the trading of equities and derivatives as well as the listing of companies, and clearing and settlement of trades. This type of exchange model is similar to others in Asia including Hong Kong and Singapore. As at January 2013, the market capitalisation of stocks listed on the ASX was US\$1.442 trillion (for cash equities). This was ranked 10<sup>th</sup> largest in the world and fourth largest in the East Asian region (see Figure 9<sup>38</sup>).

**Figure 9 Market Capitalisation of Stocks Listed on International Stock Exchanges (\$ billion)**



Source: World Federation of Exchanges

The ASX's interest rate futures market had a turnover last year of \$44 trillion, making it the largest in Asia and fourth largest in the world, and Australia's OTC interest rate swap market is the largest in Asia at \$15 trillion, with 44 per cent of all Asian turnover and the fifth largest in the world. (ASX, 2013)

<sup>34</sup> ASIC Market Integrity Rules (Competition in Exchange Markets) 2011.

<sup>35</sup> RG223, ASIC, 2011.

<sup>36</sup> <http://www.asic.gov.au/asic/asic.nsf/byheadline/11-89AD+ASIC+publishes+Chi-X+licence?openDocument>

<sup>37</sup> [http://www.thetradeinsider.com/news/Regions/Asia/FEX\\_LCH\\_Clearnet\\_receive\\_approval\\_for\\_Australian\\_operations.aspx](http://www.thetradeinsider.com/news/Regions/Asia/FEX_LCH_Clearnet_receive_approval_for_Australian_operations.aspx)

<sup>38</sup> Regional exchanges in grey. Source: [www.world-exchanges.org](http://www.world-exchanges.org). Accessed April 2013.

Liquidity on the ASX, when measured as turnover divided by market capitalisation, increased fairly consistently from around 35 per cent in 1998 to over 100 per cent in 2008. Since the GFC, it has fallen to around 85 per cent – although even after this decline, it remains very high compared to the average of the last two decades. (ASX, 2013)

**Other measures of financial market performance:** Australia's financial markets are ranked highly in the latest World Economic Forum Financial Development Report. Australia ranks 8<sup>th</sup> overall for financial markets (out of 62) and similarly highly for foreign exchange markets (7<sup>th</sup>), derivatives markets (8<sup>th</sup>) and equity market development (4<sup>th</sup>). (WEF, 2012) Australia also ranks in the top ten globally according to the latest BIS Triennial Central Bank Survey in each of the following categories: spot foreign exchange turnover, foreign exchange swap turnover, interest rate derivatives turnover (forward rate agreements and swaps), foreign exchange derivatives turnover (currency swaps. (WEF, 2012, p67 and BIS, 2012a)

**Financial market competition:** Chi-X's market share is currently about 8 to 9 per cent based on the sub-set of stocks that are being traded on it. Its market share has risen steadily since it began operating on October 31, 2011. After Chi-X expanded to trading on all ASX listed stocks, its market share may have fallen slightly.

While the impact of Chi-X on competitive tension within the industry is difficult to estimate precisely, it is likely that the introduction of competition has placed downward pressure on fees and increased incentives towards innovation. The Australian Financial Centre Forum stated that: "Evidence from other countries where traditional exchanges are now competing with new trading platforms suggests that competition has resulted in innovation and generally lower transaction costs." (ACFC, 2009, pp93-94)

In Australia, the granting of a licence to Chi-X appears to have put downward pressure on transaction fees, both in the lead-up to competition and after its introduction. In evidence to the House of Representatives Standing Committee on Economics, ASIC noted that ASX fees had reduced by around \$23 million in 2010-11 and \$21 million in 2011-12. At least some of this reduction is likely to have been due to the potential introduction of competition. (HoR SC on Economics, 2011, p7)

These benefits have to be balanced against costs. Some regulatory costs have increased, at least in part as a result of the transition to competition. For example, ASIC's market supervision costs, which are being recovered from industry, are estimated to be around \$21m per year from 2012/13 through to 2014/15 and then around \$20m per year for the following five years. (ASIC, 2013c) This is significantly more than the costs of market supervision under the ASX when it performed that role. This additional cost is partly

attributable to the added complexity of competition. It is also partly attributable to the government's desire to separate the roles of market operator and market supervisor, which is widely accepted as the preferred regulatory model. (ACFC, 2009, p92) In response to industry concerns in relation cost recovery, the government established the Market Supervision Cost Recovery Stakeholder Panel. Competition will also mean additional IT and other costs for market participants which may be substantial.

Other potential downsides to competition are market fragmentation and, arguably, greater incentives to high frequency trading and dark venue trading. In its 2012 Annual Report, the ASX says that: "The experience of a new equity market structure raises an important question about whether market structures that are appropriate for large jurisdictions, such as the US or Europe, are relevant for markets the size of Australia? ASX is of the view that Australia, and other similarly sized markets, should generally tread carefully in copying structures and regulations from markets that have fundamentally different economics. There is increasing academic research that supports this view. Smaller markets tend to benefit from maximum liquidity being channeled to a single central limit order book."

The academic literature is inconclusive as to the overall impact of recent market changes. Some recent academic studies have pointed to potential problems with market quality arising from fragmentation and dark venue trading. (Comerton-Forde et al, 2012 and Frino, 2012) In contrast, a recent study assessing the impact of competition taking into account the impacts on transaction costs, the potential impacts of fragmentation, increased IT costs and market supervision costs found net welfare benefits. (Aitken et al, 2013)

On balance, the HoR SC on Economics expressed bipartisan support for the introduction of competition and the broad cost recovery principles being proposed. While competition appears to have generated lower fees and increased incentives for innovation, concerns remain in relation to cost recovery for market supervision and market quality. ASIC and Federal Treasury have released several discussion papers on these issues and related matters including levies on messages, on trades or a combination, high frequency trading and dark pools. Further examination of the impact of competition is warranted.

### **8.3 International connectedness**

#### **8.3.1 Current arrangements for capital and trade flows**

**Capital flows:** Australia has been deeply integrated with the global economy throughout most of the past two centuries, with only minor interruptions. Capital inflows are one of the key benefits of this interconnectedness. Australia has generally relied on foreign capital due

to the high per capita infrastructure requirements of a small, dispersed population and a reliance on capital intensive industries. As Professor Maddock and Mr Munckton show, even with saving levels at around the OECD average, Australia has relied on capital inflows over the past decade to fund our high investment requirements. This has been particularly evident in resources booms throughout Australia's history. They also show that, over the past 30 years, households, business and government have all oscillated between periods of being net savers and net borrowers. Of the major sources of savings for the Australian economy, only foreign sources have remained consistently net savers.

Foreign direct investment into Australia is largely regulated on the basis that transactions will be permitted unless they are not in the national interest. Decisions relating to proposals by foreign interests to invest in Australia are made by the Treasurer or the Assistant Treasurer. These ministers act on advice provided by FIRB.

**Trade in goods and services:** The financial services sector facilitates the trade in goods and services by the economy as a whole. In addition, the sector is directly engaged with the export and import of services. One of the key services exports directly engaged in by the financial services sector is the management of foreign funds. The Johnson Report concluded that the taxation system created barriers to the cross-border flow of funds either into or through Australia. The principal barriers were the scope of the tax system on internationally sourced passive investments and uncertainty in the operation of the tax system. The Report recommended the introduction of an Investment Manager Regime (IMR) to provide greater clarity and certainty in relation to cross-border transactions undertaken in Australia. The implementation of an IMR would bring Australia into line with other major financial centres, such as the US, the UK, Singapore and Hong Kong.

The Government accepted the Report's recommendation to adopt an IMR and committed to implementing an IMR in three phases. Legislation was passed to implement IMR Elements 1 and 2 in 2011. This resolves the "FIN 48" issue that had affected many US funds investing passively in Australia. Legislation dealing with IMR Element 3 is currently under consideration.

### 8.3.2 Assessment of performance

**Connectedness of Australia's markets:** Australia's financial services sector plays a similar role to that in many other advanced economies such as the US, the UK and Canada – and contributes a similar share of GDP value add.<sup>39</sup> However, the Australian financial services

---

<sup>39</sup> Professor Maddock and Mr Munckton show that while Australia's financial sector has a similar share of GDP to other largely deregulated economies, it is noticeably higher than in more regulated economies such as Japan and the EU. The share is around 7-9 per cent for the

sector is less exposed to international trade than other comparable financial sectors. The Johnson Report found that both imports and exports constituted less than five per cent of the sector's value add. This is lower than France, around half the level of the US and significantly lower than Canada, Hong Kong, Singapore and the UK. (AFCF, 2009, p22)

**Openness to foreign capital flows:** According to the latest financial sector assessment by the World Economic Forum, Australia ranks moderately in terms of some measures of capital account openness. Australia ranks 28<sup>th</sup> (out of 62 countries) in terms of capital account liberalisation.<sup>40</sup>

In contrast, Australia ranks very highly in terms of domestic sector liberalisation.<sup>41</sup> The WEF, based on its own calculations and the work of Schmukler and Kaminsky ranks Australia in the top category of countries in terms of domestic liberalization (which takes into account factors such as whether there are floors or controls on interest rates and whether deposits in foreign currency are allowed).

**Foreign Direct Investment:** A high proportion of applications for FDI are accepted. Of thousands of applications over the past decade, only a handful has been rejected. In addition, a small minority of approvals are given subject to conditions. Despite the high rate of acceptance, many foreign investors claim that Australia's processes are not transparent, largely due to the lack of clarity in relation to the "national interest" test.

### 8.3.3 Key live and emerging issues

**Technology and interdependency:** Increased international engagement is being facilitated by technological change that is increasing the scope and reducing the cost of financial transactions. In the context of a world that is being made ever more interconnected by technological change, Australia already has one of the most traded currencies in the world and is very open to international capital flows and skilled migration.

**Regulatory harmonization:** Australia, like all other advanced economies, is faces pressure to comply with new multilateral regulatory standards such as Basel III. While many of these multilateral regulatory reforms will undoubtedly create benefits, it is worth noting that the pressure to adopt international standards can result in some loss of regulatory autonomy.

---

Anglosphere countries vs around 5 per cent for Japan and the EU. In addition, there has been less growth in the share of GDP in the more regulated economies over the past three decades (around three percentage points increase in Australia, Canada and the US vs almost no change in Japan and the EU).

<sup>40</sup> This ranking is based in part on the Chinn-Ito Index, a measure of financial openness. (Chinn and Ito, 2008) See [http://web.pdx.edu/~ito/Readme\\_kaopen2010.pdf](http://web.pdx.edu/~ito/Readme_kaopen2010.pdf) for 2010 update. Australia ranks 74<sup>th</sup> for capital account openness in 2010.

<sup>41</sup> This is based on WEF calculations and (Kaminsky and Schmukler, 2003).



**Trading in Remnibi:** In April 2013, Australia and China agreed to trade each other's currency directly. This will lower costs for investors by avoiding the need for them to trade via a third currency such as the US dollar. This makes Australia only the third country after the US and Japan to have such an arrangement with China. (Austrade, 2013)<sup>42</sup>

**Asian Passport:** This reform would facilitate the export of Australian investment products to Asian investors and improve Australian access to investment products in Asia. The next steps in the development of the Asian Passport involve detailed work in relation to policy and implementation issues, particularly with the governments of Hong Kong and Singapore.

**Islamic Finance:** The global market for Islamic finance services has grown significantly over recent decades as high oil prices have resulted in capital accumulation by oil exporting countries. The key elements of Islamic finance are Sharia compliant investments offered by banks and *sukuk* (the Islamic alternative to conventional bonds). (ACFC, 2009, p70) The UK has already implemented a number of changes to accommodate Islamic financial services including changes to the regulation of mortgages and banking. (Ainley, 2007; IFSL, 2009)

**Interest withholding tax:** In general terms, an interest withholding tax (IWT) is levied on interest paid by Australian borrowers to non-resident lenders. The Johnson Report argued that withholding tax on foreign borrowings should be removed as it: raises the cost of capital for Australian banks borrowing offshore; results in significant distortions due to uneven application; and limits access by borrowers to foreign funds. The report also found that the imposition of an IWT is not consistent with current practice in most leading financial centres. (ACFC, 2009, pp64-67)

**Other tax issues:** Other tax issues also affect international interconnectedness including: the LIBOR cap on tax deductibility; the fact that non-resident taxpayers do not benefit from imputation credits; and the tax treatment of offshore banking units.

## 8.4 Allocating resources across time

### 8.4.1 Current institutional and regulatory arrangements

The superannuation system is one of the key mechanisms for allocating resources across time in the Australian economy. Through superannuation, individuals accrue savings via a combination of compulsory and voluntary contributions. The system allocates resources across time by two key mechanisms. First, the system limits access to superannuation

---

<sup>42</sup> China is already Australia's largest trading partner and Australia is the most significant recipient of Chinese outbound investment since 2006, with cumulative investment flows into Australia totaling more than US\$50 billion in 2012.



accounts before a set age other than in exceptional circumstances. Second, the system provides tax concessions on income from investments received after retirement.

In addition to superannuation investments, Australia individuals and firms can invest savings in wide range of other investment vehicles as noted above including ADIs (eg deposits), managed funds and trusts (including REITs).

## **8.4.2 Assessment of performance**

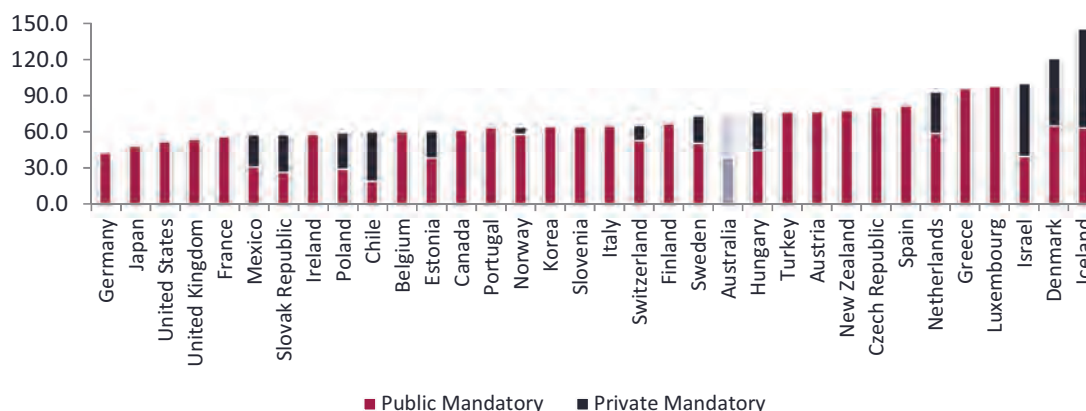
### **Australia's pension system**

In its most recent review, Mercer found that Australia's pension system ranked 3<sup>rd</sup> (out of 18 countries). (Mercer, 2012) Mercer ranked national pension systems by developing an index based on three measures: adequacy (40%); sustainability (35%); and integrity (25%).

Australia's superannuation system provides a gross pension replacement rate that is above the OECD average. As can be seen in Figure 10, for people earning half the median wage, the gross pension replacement rate of mandatory savings from both public and private sources is 73 per cent in Australia compared to an OECD average of 57 per cent.<sup>43</sup>

In addition to having a high mandatory gross replacement rate, the sources of post-retirement income for retirees in Australia are more evenly balanced between public and private sources compared to many other countries. This is critical as fully publicly funded schemes are likely to come under severe pressure as populations age. In addition, Australia is ageing at a more modest pace than most other OECD countries, which means that its public pension system will be more sustainable all other things equal.

**Figure 10 Gross Pension Replacement Rate 0.5 Median Wage**

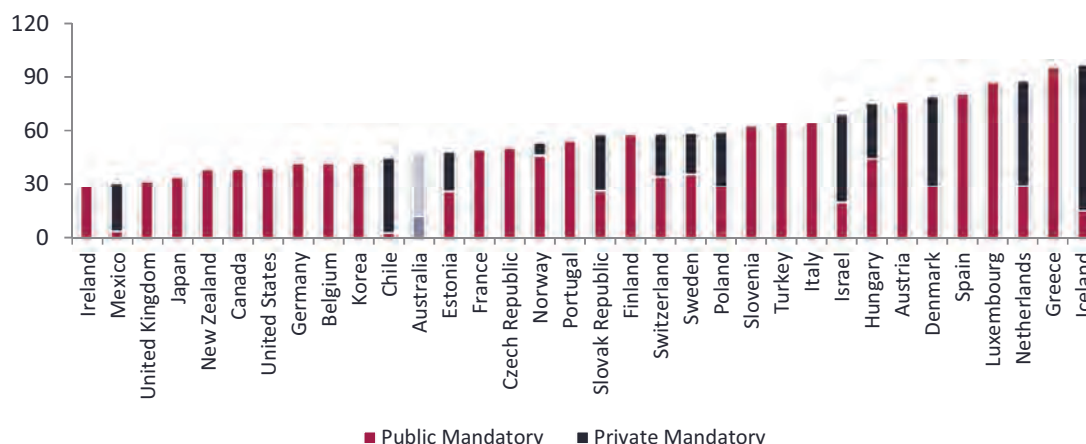


Source: OECD, OECD Pension Indicators, March 2011

<sup>43</sup> Voluntary contributions add to this total in some countries (eg over 30 additional percentage points in Canada, the UK and the US). Figure 10 only shows mandatory contributions for simplicity and because they are a firmer basis on which to assess sustainability.

Figure 11 shows Australia's gross pension replacement rate from mandatory sources for the median wage. In this case, Australia is closer to the OECD average. However, Figure 11 tells a similar story in that Australia has a higher rate of replacement than the OECD average (47 per cent vs 42 per cent) and is less reliant on public funding.

**Figure 11 Gross Pension Replacement Rate 100% Median Wage**



Source: OECD, OECD Pension Indicators, March 2011

For future generations of workers that enjoy the benefits of superannuation over their entire working lives, replacement rates will probably be higher.

### 8.4.3 Key live and emerging issues

Australia's pension system is performing well by global standards. Nonetheless, there are a number of emerging issues.

Sufficiency of savings. Between 2000 and 2011, the proportion of retirees receiving the full age pension decreased for all age cohorts above 65. In 2000, over 40 per cent of 65 year old retirees were on the full pension. This fell to around 27 per cent by 2011. In contrast, the proportion of self-funded 65 year old retirees rose from just over 20 per cent to just over 30 per cent. Similar changes were observed for 85 year olds. The proportion of 85 year olds on the full pension fell from around 65 per cent in 2000 to around 55 per cent in 2011 and the proportion of self-funded retirees rose by around five percentage points, from 10 per cent to 15 per cent. (Rice Warner, 2012, p6) This partly reflects the fact that recently retired cohorts have benefited from the SG for a longer period of time. The trend towards greater self-sufficiency will probably continue.

Recent Treasury modeling suggests that an individual earning median wages in 2012 (or 75 per cent of average weekly ordinary time earnings), who is aged 65 and retiring in 2017

would have a projected replacement rate of around 65 per cent. In contrast, Treasury's projections indicate that a 30 year old, entering the workforce in 2012, earning median wages and contributing over a working life of 37 years would enjoy a replacement rate of 90 per cent. (Parkinson, 2012) This suggests that the increase in the SG and other regulatory measures should together contribute towards a reasonable replacement rate for a person earning the median wage.

This would allow for the age pension to be targeted to those with low lifetime savings (e.g. due to low lifetime average earnings, low or negative investment returns or an interrupted working life). Targeting the age pension would reduce pressure on taxpayers and be justifiable on equity grounds.

Even though there is a trend towards higher replacement rates on average, it is important that policy reflects the fact that the elderly remain at higher risk of poverty than average. ACOSS found that more than one third of people over the age of 64 have an income of less than 60 per cent of median income. (ACOSS, 2012)

The regulation of SMSFs. As noted in section 8.1, SMSFs are currently subjected to light touch regulation by the ATO. The appropriateness of this approach warrants examination given that superannuation is the second largest asset for most people (after the family home).

Annuities and other products to provide longevity and inflation protection: It may not be sufficient to ensure that mandatory savings levels for most people are high enough to generate a reasonable income replacement rate in retirement. A key emerging issue is the extent to which accumulated savings are effectively deployed in providing people with a secure stream of post-retirement income. In particular, it appears that many people are not effectively managing longevity risk and inflation risk. Retirees in Australia have been reluctant to purchase annuities. While recent growth rates of investment in annuities have been high, this is off a low base.<sup>44</sup> According to DEXX&R research, \$2.8 billion flowed into annuities in the year to September 30 2011.<sup>45</sup>

The low level of voluntary annuitisation beyond social security payments and defined benefit retirement schemes poses a challenge to the long-term sustainability of the pension system. There are many theories as to why people are reluctant to invest in annuities including: (i) a fear of illiquidity (Society of Actuaries, 2004); (ii) intra-family mortality risk

---

<sup>44</sup> Comminsure General Manager Greg Ballard reports a 50 per cent increase in annuities products between 2011 and 2012 to InvestorDaily, August 20, 2012: <http://www.investordaily.com.au/cps/rde/xchg/id/style/15015.htm?rdeCOQ=SID-0A3D9633-B77116C5>

<sup>45</sup> An increase of 66 per cent on the previous year – but still a very small proportion of post-retirement investment flows. Sydney Morning Herald, February 15, 2012. <http://www.smh.com.au/money/super-and-funds/annuities-pros-and-cons-20120214-1t2ma.html>

sharing; (iii) bequest motives; (iv) a lack of comprehension of products; (v) a tendency to mistakenly view annuities as a gamble (Kahnemann and Tversky, 1979); and (iv) a tendency to overestimate the likelihood of dying shortly after retirement. (Hu and Scott, 2007)

The low average rate of investment in annuities and similar products raises a number of issues.

- **Access to lump sums:** Should limits be placed on the proportion of funds people access as a lump sum? Or, to reverse the onus, should there be a regulated minimum that must be invested in products that provide protection against longevity risk? At the very least, incentives could be offered that encourage the post-retirement take-up of products offering secure income streams. (Deloitte, 2013a)
- **Improved financial literacy:** While less likely to result in short-term behavioural changes, this approach improve peoples' capacity to match their post-retirement investments to their individual circumstances in an informed manner.

## 8.5 Priority issues warranting further analysis: Allocation of resources

### Key Issues

- **Prudential regulation.** What institutions should be subject to prudential regulation? Of those institutions subject to prudential regulation, should there be varying regulatory approaches based on the degree of systemic risk?
- **Infrastructure.** Reducing barriers to investment in greenfield public sector infrastructure, including the development of new funding models and greater participation by the Australian Government in supporting credit arrangements for large, complex projects.
- **Innovation.** Reducing barriers to the commercialisation of high-risk innovation, possibly by addressing barriers arising from the illiquidity of such investments.
- **PE/VC.** Facilitating investment/removing barriers to investment in certain asset classes – e.g. illiquid assets such as VC/PE/commercialisation.
- **Corporate bond market.** What measures should be adopted to promote a deeper, more liquid corporate bond market? The next phase of reforms should focus on the demand side, building understanding amongst and accessibility for retail investors.
- **International fund flows.** Reducing barriers to the flow of investment funds to and through Australia (IMR, Asian Passport, IWT).

## **9. Managing risk**

### **Executive Summary**

- The general and life insurance industry in Australia provides a wide range of products for individuals and firms to invest risks relating to property, human capital and financial risk.
- Investment risks are insurable through the diversification that is possible on local and international markets and also through financial derivatives.
- Systemic risk is managed through the Council of Financial Regulators, with each agency taking primary responsibility for a distinct area of the sector.

### **9.1 Insurable risks of individuals and firms**

#### **9.1.1 Current institutional and regulatory arrangements**

The insurance industry is largely governed by the *Insurance Contracts Act* and the General Insurance Code of Practice. The latter is a form of self-regulation that provides guidance in relation to consumer rights, dispute resolution and claims processing. The Code of Practice is reviewed every three years. (General Insurance Code of Practice, Clause 1.14) Ian Enright is currently undertaking a review of the Code that is expected to report by mid-2013. Some stakeholders have recommended that the Code be given more regulatory status – for example, that ASIC be given the power to formally review the Code. As is outlined above, the insurance industry is also subjected to prudential regulation by APRA (see section 8) and to conduct regulation by ASIC.

#### **9.1.2 Assessment of performance**

**Insurance penetration:** Insurance penetration is defined as the ratio of total premiums to GDP. It is a widely accepted measure of insurance activity relative to the size of the economy. Risk can be borne by the state (eg some elements of natural disaster risk, some motor vehicle and accident compensation schemes), private insurance firms (for an actuarially fair premium) or by individuals and firms (self-insurance). Insurance penetration is an indicator of how much risk is covered by insurance firms and how much is borne by the state or individuals and firms. Figure 12 shows the insurance penetration rate in Australia compared to other OECD countries in 2011. In 2011, Australia's penetration rate was approximately two-thirds of the OECD average.<sup>46</sup>

<sup>46</sup> Source: OECD Stat Data Base: <http://stats.oecd.org/Index.aspx?DatasetCode=INSIND#>

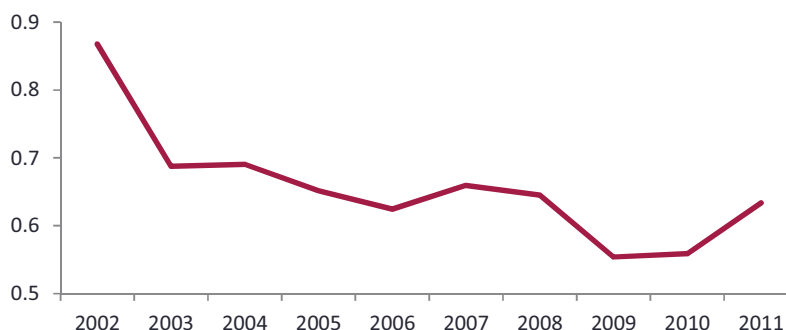
**Figure 12 Insurance Penetration OECD 2011 (%)**



Source: OECD Statistics, 2013

Figure 13 shows the trend in the penetration rate in Australia compared to the OECD average over the past decade. The trend has been downward, albeit with a slight increase over the past two years.

**Figure 13 Australian Insurance Penetration/OECD Average Penetration: 2002-2011**



Source: OECD Statistics, 2013

It is important to interpret insurance penetration figures with care. A higher price of insurance does not necessarily mean a higher level of insurance consumption. These figures are supported by recent analysis undertaken by the World Economic Forum, which ranked Australia 21<sup>st</sup> (out of 62 countries) in terms of life insurance penetration and 14<sup>th</sup> (out of 62 countries) in terms of general insurance penetration.<sup>47</sup> (WEF, 2012) Notwithstanding the difficulties of making international comparisons, Australia's ranking suggests that the availability and take-up of insurance is around the average for advanced economies.

Insurance density is defined as the ratio of total premiums to total population. This is a measure of insurance take-up that is closely related to insurance penetration. It provides a

<sup>47</sup> Source for life insurance penetration: Swiss Re, "World Insurance in 2011: Non-life Ready to Take Off", 2012; GDP data from IMF; World Economic Database; WEF calculations, source for general insurance: WEF, 2012 Report.

per capita rather than a share-of-GDP measure. In terms of insurance density, Australia is currently just below the OECD average.<sup>48</sup> The ratio of Australia's insurance density relative to the OECD average has been fairly stable over the past decade, largely oscillating between 0.8 and 0.9 of the OECD average.<sup>49</sup> This is supported by recent analysis by the World Economic Forum, which ranked Australia 22<sup>nd</sup> (out of 62 countries) in terms of life insurance density and 28<sup>th</sup> (out of 62 countries) in terms of general insurance density. (WEF, 2012)

**Natural disasters:** Australia's insurance sector has generally coped well with a large number of natural disasters since 2010. This includes the Melbourne and Perth storms of 2010, the major floods in Queensland, NSW and Victoria of 2010/11, Cyclone Yasi (2011), the Perth bushfire of 2011, the Christmas Day storms in Melbourne of 2011, and further flooding in Queensland, NSW and Victoria in 2012. In addition, the domestic insurance industry was significantly exposed to the Christchurch earthquake of 2011.

Despite being subjected to a large number of significant events in a short period of time, the general insurance industry was able to process a large volume of claims quickly (sometimes numbering in the tens of thousands) and, in addition, to cope financially with the high value of claims that were paid.

In general the vast majority of customers received payments quickly even when whole communities were affected by natural disasters. Despite this, there are still areas in which claims handling can be improved, particularly in the case of flood insurance. A not insignificant number of claims were left unresolved for more than 6 months after each major flood incident during the past several years. These delays often arose from definitional issues. Claims handling issues were considered by the NDIR and also by parliamentary inquiries into claims processing.<sup>50</sup> All of these reviews recommended changes to the Code of Practice. Some of the recommended changes have been implemented, while others are being reviewed by Ian Enright as part of the overall review of the Code.

## 9.2 Liquidity

### 9.2.1 Current institutional and regulatory arrangements

Liquidity is critical for the efficient functioning of markets. Liquidity reduces transaction costs (such as the bid-ask spread in financial markets) and also costs associated with risk (such as the risk of not being able to sell an asset in a timely manner).

---

<sup>48</sup> Source: OECD Stat Data Base: <http://stats.oecd.org/Index.aspx?DatasetCode=INSIND#>

<sup>49</sup> Source: OECD Stat Data Base: <http://stats.oecd.org/Index.aspx?DatasetCode=INSIND#>

<sup>50</sup> See the Natural Disaster Insurance Review and "In the Wake of Disasters", Part 1 and Part 2, House of Representatives Standing Committee on Social Policy and Legal Affairs.

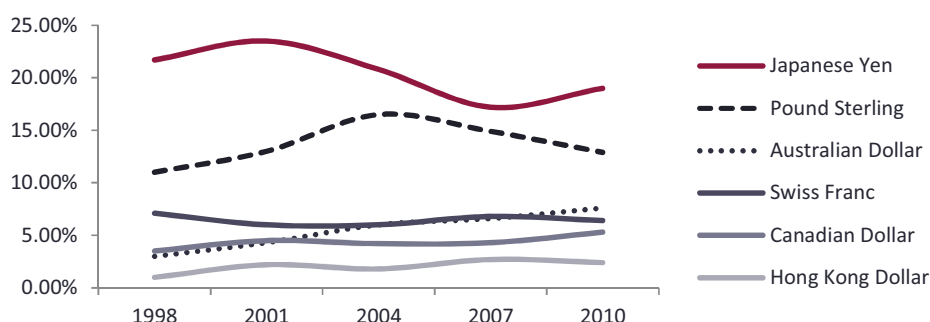


### 9.2.2 Assessment of performance

**Financial Markets:** as noted in section 8.2, liquidity has been steadily increasing on the ASX over the past two decades, with only a slight reduction following the GFC.

**Currency markets:** Australia has the fifth most traded currency in the world. As can be seen in Figure 14, which shows the percentage of world currency trading of the top six currencies (excluding the US dollar and Euro), Australia's market share has increased significantly over the last 15 years from 3.0 per cent in 1998 to 7.6 per cent in 2010<sup>51</sup> (overtaking the Swiss Franc).

**Figure 14 Percentage of World Currency Trading of Various Currencies**



Source: Bank of International Settlements, 2010

**OTC derivatives:** The trading of non-exchange traded securities represents over 70 per cent of turnover on Australian markets. (AFMA, 2012) While a considerable amount of trading exists in OTC derivatives, it is difficult to assess liquidity in relation to these transactions.

### 9.2.3 Key live and emerging issues

**OTC derivatives:** As noted in section 6.2, APRA, ASIC and the RBA have been considering the functioning of Australia's over-the-counter (OTC) derivatives markets. In addition to the clearing and settlement issues outlined in section 6, other recommendations worth noting were that (APRA, ASIC, RBA, 2012):

- the government consider a broad-based mandatory trade reporting obligation for OTC derivatives.
- a mandatory clearing obligation for Australian dollar-denominated interest rate derivatives is not necessary at this time. However, should substantial industry progress towards central clearing in this class of derivatives not be evident in the near future, the regulators would revisit this recommendation.

<sup>51</sup> The shares total to 200% because there are two currencies in each transaction.



- participants should ensure that adequate credit support arrangements are in place for all OTC derivatives transactions.
- for large and more active market participants, daily collateralisation of exposures should be adopted as best practice in the market where possible. It was recognised that this needs to be balanced against the operational costs and liquidity risks that this may create for some types of counterparties.

### 9.3 Investment risks

#### 9.3.1 Current institutional and regulatory arrangements

The two principal means of protection against investment risks are diversification and the use of derivatives or hedging.

**Capacity to diversify:** Diversification is possible in the Australian financial system for both large and small investors. This can be achieved directly by investing in a range of financial instruments with low or negative correlation, or indirectly by investing in a fund or index that reflects the returns of a basket of instruments with this characteristic. The latter approach is particularly well suited to smaller investors as a means of reducing transaction costs and overcoming difficulties associated with due diligence.

**Derivatives trading and hedging:** Today's financial markets offer a huge array of derivatives, with new products being created at an ever increasing rate. Derivatives can offer investors protection against movements in: the price of equities (either individually or in groups); currencies; interest rates; resource prices; and, increasingly, macroeconomic variables.

#### 9.3.2 Assessment of performance

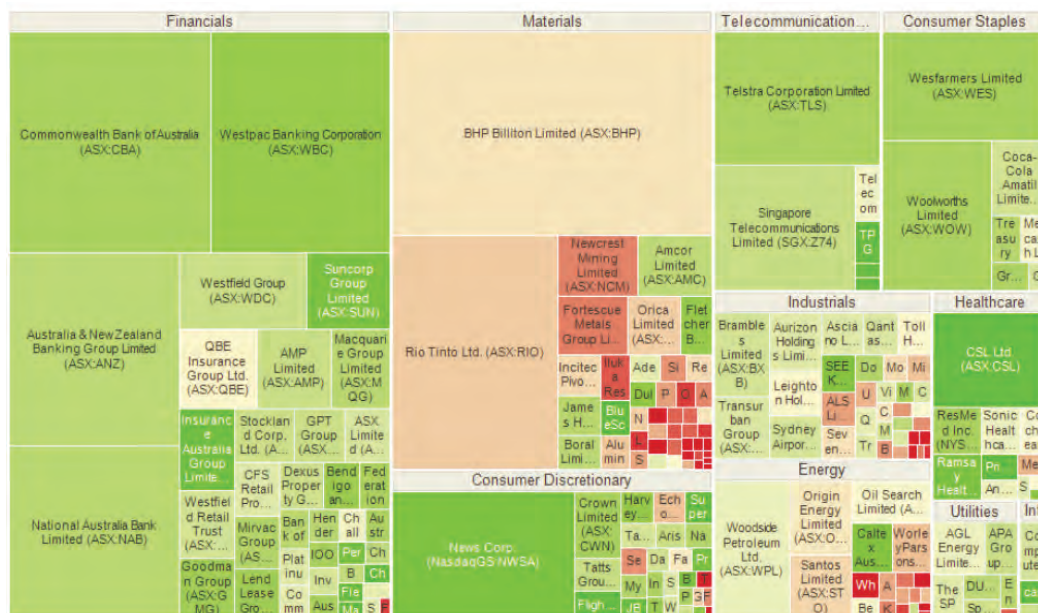
**Investment opportunities:** The Australian financial system has a wide range of well-developed equities, derivatives, currency and property markets. There is also an increasing range of ETFs and index-linked investments that offer investors some protection against volatility in individual assets or asset classes. In addition, the openness and interconnectedness of the Australian financial system gives investors additional channels for diversification via overseas investments. This opportunity has been widely taken up, including by superannuation funds and banks (e.g. for wholesale funding).

**Capacity to diversify in equities:** For a large stock exchange, the ASX is relatively undiversified. Over the past 25 years, materials (which includes resources) and financial stocks have together constituted between 50 and 70 per cent of the ASX. Over the past

decade, materials has been the larger of these two sectors, constituting over 30 per cent of the overall market on its own. Clearly, this reflects the impact of the resources boom.

Compared to other large equities markets, the ASX is overweight in materials and financials and underweight in health care, information technology and industrials. This affects the capacity of large funds to diversify through domestic equities and also limits the depth of some domestic markets, such as health care and IT. This is important given the potential of these markets to be future drivers of growth. Figure 15 shows the current composition of the ASX by market capitalisation. Financials and materials stand out in terms of their overall share of market capitalisation. So does the relatively concentrated nature of each of sector. Australia tends to be an oligopolistic economy across many sectors. It is not surprising that the financial services sector exhibits similar tendencies.

**Figure 15: Market capitalisation of major Australian listed companies**



Source: IRESS Australia

## 9.4 Systemic risk

### 9.4.1 Current institutional and regulatory arrangements

**Overarching crisis management arrangements:** Crisis management is the joint responsibility of the key financial regulatory bodies through the CFR. There is a Memorandum of Understanding (MoU) between members of CFR in relation to financial distress management that “sets out the objectives, principles and processes for dealing with stresses

in the Australian financial system.”<sup>52</sup> In addition, there are specific MOUs between the RBA and APRA and ASIC. While the regulators cooperate in arriving at a response to financial distress, each regulator has its own area of primary responsibility. Since the GFC, some additional measures have been taken to strengthen the resilience of the financial system including the Financial Claims Scheme (FCS), improved access to covered bonds and stronger prudential arrangements.

#### 9.4.2 Assessment of performance

**Overarching crisis management arrangements:** The IMF conducted a Financial Sector Assessment Program (FSAP) review of Australia in 2012.<sup>53</sup> It found that Australia’s “financial system is sound, resilient and well-managed. Major banks are conservatively run, well capitalized and profitable, and they are likely to withstand severe shocks.” The IMF also found that the “financial regulatory and supervisory framework exhibits a high degree of compliance with international standards.” (Vinals and Anoop, 2012, p1)

**Systemic risk and financial markets:** In its 2011 issues paper, the CFR noted that the “current regulatory system for FMIs reflects the findings of the *Wallis Inquiry* 1997 in respect of the need to balance competing economic objectives. The Wallis Inquiry sought an appropriate balance between achieving competitive outcomes and ensuring financial safety and market integrity.”<sup>54</sup> (CFR, 2011, p5)

The CFR found that the “... overarching framework continues to be appropriate and that the regulatory regime for financial stability promotes sound risk management with a view to minimising the probability of financial distress or dysfunction.” (CFR, 2011, p6) However, the CFR also noted that, while “... the risks of systemic disruption are arguably at least as great as those arising from the failure of an ADI, existing powers to issue directions to, impose conditions on, licencees of CS facilities and markets, as well as the sanctions for breaches of the same, are considerably less powerful than similar provisions applying to ADIs.” (CFR, 2011, p15 – see p16 for list of APRA powers in relation to ADIs)

The CFR proposed:

- Strengthened directions powers and sanctions for ASIC and the RBA, along the lines of those currently provided for in the Banking Act. This could include step-in powers.

---

<sup>52</sup> Memorandum of Understanding on Financial Distress Management, RBA, APRA, ASIC, the Treasury.

<sup>53</sup> Two missions were held from April 23 – May 15 and July 9 – July 24.

<sup>54</sup> This is reflected in the Explanatory Memorandum to the Financial Services Reform Bill 2001, para 2.5.

- Location requirements: that all systemically important FMIs be subject to a location requirement. This could apply to default resources and margin funds, staff and certain operations (such as IT).
- Portability and segregation. The problems were highlighted with MF Global. There are three main options: (i) full pooling; (ii) omnibus; and (iii) full separation.

**WEF assessment:** WEF ranked Australia 9<sup>th</sup> (out of 62 countries) in terms of overall financial stability. This included high rankings in relation to stability of the banking system (9/62) and the risk of a sovereign debt crisis (6/62). (WEF, 2012) The low risk of a sovereign debt crisis is reflected in the Australia being one of very few countries to simultaneously hold AAA ratings across all three major credit rating agencies.

#### 9.4.3 Key live and emerging issues

**IMF FSAP recommendations around crisis management:** Following its 2012 review of Australia's financial sector, FSAP made a number of recommendations. Its high priority recommendations include that (IMF, 2012a, p7):

- stress testing by APRA and the RBA be strengthened;
- ASIC improve conduct supervision of insurance companies and on-site supervision of bank liquidity;
- Australian regulators examine the benefits of ex-ante funding for the FCS;
- Introduce higher loss absorbency for systemic ADIs; and
- Extend risk based capital requirements, large exposure rules and reporting requirements to ensure that AFSL holders are appropriately covered.

These recommendations were broadly agreed to by the CFR and implementation of outstanding matters is currently under review.

**Systemic risk and financial markets:** Systemic risk and crisis management was a key concern raised in the CFR's Review of Financial Market Infrastructure: "... the increasing interconnectedness of global markets means that the Australian regulatory framework must keep pace with developments offshore. In that regard, if Australia's FMIs are to link with an offshore FMI, or offshore-owned FMIs are to operate in domestic markets, there is a need to maintain robust oversight and appropriate control of such infrastructures. These regulatory concerns extend to crisis management." (CFR, 2011, p3) These issues have been considered in many advanced economies following the GFC and have resulted in reforms that include: the *Wall Street Reform and Consumer Protection Act* (2010) (Dodd-Frank); the

proposed European Market Infrastructure Regulation (EMIR); and the UK Treasury's White Paper on Financial Markets. (CFR, 2011, p4)

**Systemic risk and OTC derivatives transactions:** In light of the growing systemic importance of OTC transactions, the 2012 review of OTC derivatives transactions recommended that the government consider broad-based mandatory trade reporting. (APRA et al, 2012) As is noted in section 6.2, another way to increase transparency would be to mandate or at least encourage central clearing. To date, regulators have not considered this necessary.

**Exposure of Australia to foreign markets:** At the 2012 ASFA conference, Ken Henry argued that: "We are a relatively small economy with a large and growing exposure to international financial markets in respect of both assets – principally foreign equities held by our super funds – and liabilities – principally the offshore wholesale borrowings of our banks." (Henry, 2012)

Dominic Stevens, the former CEO of Challenger reinforced the point: "We borrow overseas to fund our current account deficit and in addition we further borrow in offshore markets to fund purchases of offshore equities and, to a lesser extent, offshore fixed income. ... The purpose of this offshore investment is the valid attempt to diversify our holdings of investment assets. However, with a significant current account deficit and challenging global financing markets, this may reduce overall efficiency and add to instability." (Henry, 2012)

Openness to the international economy is critical for the efficiency of Australia's financial services sector and the economy more broadly. However, exposure to foreign markets (through debt or investments) can create systemic risks. It is important that the CFR and its members monitor international capital flows to ensure that imbalances and macroeconomic risks are identified early enough to manage any risks appropriately.

## 9.5 Key live and emerging issues: Risk Management

### Key Issues

- Investment risks: greater listing diversity on the ASX.
- Systemic risk: IMF FSAP recommendations in relation to crisis management and continued monitoring of macroeconomic exposure.

## 10. The dissemination of information

### Executive Summary

- Australia's financial markets work efficiently in providing price signals through: independently set interest rates; a freely floating exchange rate; and efficient securities and derivatives prices.
- Australia's financial markets are highly transparent with continuous disclosure ...

### 10.1 Price signals

#### 10.1.1 Current institutional and regulatory arrangements

The Australian financial system is characterized by a high degree of transparency and efficient information flows.

**Financial markets:** Australia's financial markets (including equity, bond, foreign exchange and derivative markets) are liquid and transparent. This has been enhanced through recent moves that increase competitive tension.

**Floating exchange rate:** Australia has had a freely floating exchange rate since 1984. The level of the exchange rate sends signals throughout the economy. It affects almost all aspects of the economy, including: the pattern of investment across industries; inbound and outbound capital and trade flows; and the trade-off between consumption and saving.

**Independently set interest rates:** Interest rates are one of the key prices signals in the economy. In Australia, the cash rate is set by a central bank that has become increasingly independent over recent decades. This has been a gradual process involving both formal changes to regulatory arrangements and an evolving culture. Changes in the cash rate impact on the entire term structure. The RBA sets interest rates to achieve three main objectives: (i) stability of the currency; (ii) maintenance of full employment; and (iii) economic prosperity and welfare of the people of Australia. The interest rates set by the RBA affect, among other things: the inter-temporal allocation of resources; business and consumer confidence; and the exchange rate.

#### 10.1.2 Assessment of performance

**Efficiency in security markets:** As noted earlier, Australia's financial markets are highly liquid and transparent markets.



**Floating exchange rate:** Australia's floating exchange rate has provided an effective buffer against external shocks over the past two decades. A floating (versus fixed) exchange rate regime has helped Australia to reduce volatility in GDP, consumer price levels and wages.<sup>55</sup> (Gruen, 2011) The major external shocks affecting Australia over recent years have often (although not always) involved large, unexpected changes in resource prices. The floating exchange rate has, to some degree, directly offset the impact of the shocks (eg by making exports more competitive during a fall in the terms of trade). In addition, a floating exchange rate has arguably given more scope for monetary policy to be set so as to offset the shock. (Cockerell et al, 2012)

The direct impact of a floating exchange rate arises through price signals sent to almost all parts of the economy. These price signals affect investment decisions (both between industries and over time), decisions relating to the purchases of goods and services (both imports and exports) and international capital flows. For example, in response to the Asian financial crisis in 1997 and the bursting of the tech bubble in 2000/2001, the Australian dollar depreciated significantly. One of the key impacts was that the contribution of net exports to growth was higher than it would have been with a fixed exchange rate. In addition, nominal and real interest rates fell, further increasing growth. This would not have been possible if the central bank was forced to defend the currency. (Cockerell et al, ref, pp434-436) The post-GFC response also saw an initial, sharp decline in the dollar – and a corresponding increase in net exports compared to a fixed exchange rate. In contrast to the earlier two crises however, the dollar rose over the following years given the terms of trade boom that Australia experienced.

**Independent central bank:** During major economic shocks, the RBA has tended to manage interest rates in a manner that promotes stable inflation and moderates economic cycles. In the examples analysed by Cockerell et al, the RBA reduced interest rates in response to the Asian Crisis and the tech crisis and increased interest rates as the terms of trade boom of the 2008/09 began to gather steam. (Gruen, 2011 and Cockerell, ref) This was largely effective in reducing the volatility in GDP and price levels.

### 10.1.3 Key live and emerging issues

The key information dissemination mechanisms in the Australian economy are broadly functioning well. The priority is to continue to implement reforms that improve the efficiency of financial markets and that preserve the independence of monetary policy.

---

<sup>55</sup> See (Gruen, 2011) for a comparison of the impacts of the 1970s and 2000s terms of trade booms on the economy. The impact of the 1970s boom, under a fixed exchange rate regime, resulted in far more volatility in both GDP growth and price levels. In the 2000s, the floating exchange rate provided an effective buffer.

## 10.2 Transparency in financial markets

### 10.2.1 Current institutional and regulatory arrangements

**Disclosure obligations:** Continuous disclosure is a core principle of Australia's financial markets. It is governed by market integrity rules established by ASIC and managed on a day-to-day basis by market operators with ASIC providing oversight. In 2012, the ASX, following consultation with ASIC, released rewritten draft Guidance Note 8 *Continuous disclosure: Listing Rules 3.1-3.1B* (GN8). This guidance note details the systems that companies should have in place to ensure timely disclosure and the scope of disclosure requirements. There are also specific disclosure requirements set out in the Corporations Act in relation to prospectuses and information memoranda. These provisions are enforced by ASIC.

**Dark trading venues and high frequency trading:** Dark pools and high frequency trading (HFT) are separate but related issues. They have created concerns in relation to transparency, market quality and fairness. They also impact on liquidity (section 9)

Dark trading refers to trading on electronic markets in which trades occur that are not known on the "lit" markets until the orders have been matched. These trades can occur where market participants (usually large brokers) fill an order from their own inventory or match orders between clients. The advantages for clients include greater privacy, reduced transaction costs and less likelihood of market movements while completing large transactions.

The risks of dark trading relate to concerns about reduced liquidity on lit markets (a particular concern for some given the relatively small size of the Australian market) and potentially a lack of transparency for investors (particularly small investors).

HFT is difficult to define, potentially encompassing a wide range of trading activity. The International Organization of Securities Commissions (IOSCO) describes HFT as a sub-set of algorithmic trading that typically exhibits a number of features, including:

- Sophisticated, quantitative tools for implementing a range of strategies, including market making, arbitrage, trend-following and breaking up larger transactions (also a reason for using dark pools);
- High daily turnover and order-to-trade ratio; and
- Flat or near flat positions at the end of each trading day. (IOSCO, 2011)

While technology is dramatically increasing the speed with which it possible to conduct trades, it is important to note that there are characteristics of both dark venue trading and



HFT that have long been in existence. For example, settling trades off lit markets between different clients of the same broker is a long-standing practice. This is analogous in many ways to what occurs on dark trading venues. Moreover, many of the trading strategies implemented by traders labeled as HFT are simply faster versions of strategies that have been used for decades, such as arbitrage or trend-following.

### 10.2.2 Assessment – Transparency of markets

**Overall transparency of markets:** While Australia's financial markets are generally considered to be relatively transparent and well regulated by international standards (see WEF, 2012), there are live or emerging concerns in some areas. For example, the growth of volume on OTC markets and dark trading venues are creating questions in relation to transparency for both regulators and investors. Moreover, information asymmetry issues arise in a number of contexts which raise questions of transparency for at least one side of some transactions. (this issue is dealt with in more detail in section 11)

**Dark Trading Venues:** In a recent review of dark trading, ASIC made a number of conclusions, including:

- While the volume of dark trading has remained around 25-30 per cent of total equity market share, there has been a change in its composition and a reduction in trading by fundamental investors on lit markets;
- Growth in dark trading has resulted in higher bid-offer spreads for some securities;
- While market participants and crossing system operators appear to be complying with their obligations, there are issues worth examining, including clients having limited visibility of the operation of crossing systems. (ASIC, 2013a)

**High Frequency Trading:** ASIC's recent examination of HFT made a number of conclusions, including (ASIC, 2013a):

- Some commonly held perceptions of HFT are not supported by ASIC's analysis – including high order-to-trade ratios and low holding times.
- There is some basis for concerns relating to HFT contributing to noise and predatory or gaming behaviour – but this is not exclusive to HFT trading.

### 10.2.3 Key live and emerging issues

A number of reforms are either being implemented or considered for dark trading venues including (ASIC, 2013b): the development of MIRs dealing with transparency and conflicts;

meaningful price improvement; and the development of a new licensing regime by the Treasury.

Reforms being considered for HFT (ASIC, 2013b) include: continued monitoring of order resting times and bid-ask spreads by ASIC; and consideration of amendments to the rules in relation to manipulative trading.

### 10.3 Key live and emerging issues: Dissemination of Information

#### Key Issues

- Overall, Australia's economy appears to have effective information dissemination and price signals.
- A range of policy responses are being implemented in relation to dark venue trading and HFT. These issues warrant continued monitoring by the government and regulators.

## 11. Governance

### Executive Summary

- Information asymmetry is a widespread issue given the growing complexity of financial products and services and the fact that many retail consumers forego professional advice. The heterogeneous nature of transactions means that a uniform regulatory response is unlikely to be appropriate.
- Principal-agent issues in the Australian financial services sector are largely governed by the Corporations Law and State legislation governing trustees.

### 11.1 Asymmetric information

#### 11.1.1 Current institutional and regulatory arrangements

Information asymmetry arises in a growing number of situations given the increasing complexity of many financial products and the desire of many retail investors to manage their own affairs. One of the key rationales for regulation to deal with asymmetric information is to ensure that sufficient information is disclosed to allow consumers and investors to make informed decisions.

The potential for information asymmetry to create problems arises in a wide range of situations, including:

- **The purchase of complex financial products:** This affects the financial services sector, ranging from banking and insurance to the products sold on financial market such as equities and derivatives. Possible regulatory responses include doing nothing, imposing disclosure obligations and, at the most extreme, a total ban on participation in some markets for small investors (eg a ban on purchasing some types of derivatives or opening accounts with foreign bank branches).
- **Default products and rules of thumb:** Arguably, this is a sub-category of the first set of issues. It has been dealt with separately as “default” arrangements are becoming increasingly prevalent as a factor in consumer choice. This occurs in many contexts, including: banking and insurance (eg take-it-or-leave-it contracts which provide standardised coverage<sup>56</sup>); and superannuation (default asset allocation strategies<sup>57</sup>). There are good reasons to believe that the high rate of acceptance of default

---

<sup>56</sup> One example that arose following the 2010 Queensland floods was whether or not the default home and contents insurance package included flood coverage. At the time, this varied across firms, causing considerable confusion. Whether justified or not, most consumers thought that they had coverage for flood damage. As it turned out, many had either partial coverage or no coverage for flood.

<sup>57</sup> There are many references on this point. As an example, see a discussion and brief literature review of the effect of framing and default choices for retirement products. (Mitchell and Utkus, 2003, p8)

products reflect a disengagement with the process that calls into question whether consumers fully understand what they are committing to.

- **Dealing with potentially conflicted advisers:** In many situations, an adviser to a client may have conflicts of interest that are not easily identifiable to the client. This can occur with small and large clients – but arguably regulatory intervention is more justifiable in the case of small investors due to the unevenness of the relationship and their lack of resources. One of the more prominent regulatory interventions in response to this type of problem in recent years is the Future of Financial Advice (FOFA) suite of reforms, which includes a ban on certain commissions.
- **Participation in dispute resolution processes:** Disputes can arise even when a consumer enters a transaction with eyes wide open (eg how to interpret a contractual clause). The risk of dispute is magnified if the consumer doesn't fully understand what is being bought or sold. The growing potential for disputes given the complexity of financial products means that it is worth examining whether current dispute resolution options (both formal and informal) are well suited to the needs of both consumers and product providers.

**AFSL regime:** One of the key underpinnings of consumer protection in Australia is the requirement for providers of financial advice to hold an AFSL. A business must apply to ASIC for an AFSL if it undertakes a financial services business, which includes: providing financial advice; dealing in a financial product; making a market for a financial product; or providing custodial or trustee services. The obligations of holding an AFSL are set out in the Corporations Act<sup>58</sup>, and relate to matters including: conduct and disclosure; training; management of conflicts of interest; and dispute resolution.

ASIC is largely responsible for enforcing the obligations arising under the AFSL regime and from the regulation of financial service providers more broadly. This includes financial services disclosure and product disclosure. ASIC is also responsible for enforcing the ban on conflicted advice that was part of the FOFA reforms.

**Stronger Super – MySuper accounts:** A significant number of superannuation fund members opt for default products (45.6 per cent of accounts in retail funds and 10.1 per cent of accounts in retail funds – Cummings and Ellis, 2011). It is possible that a high proportion of people opting for default funds pay little attention to whether such accounts suit their circumstances. This is not a trivial matter since default funds are often invested in a diversified portfolio of assets with between 60 and 70 per cent invested in growth assets. The Cooper Review concluded that superannuation fund members were often paying for

---

<sup>58</sup> See Chapter 7 of the Corporations Act. Section 911A-D defines when an AFSL must be held and section 912A sets out the general obligations of holding an AFSL.

product features that were not being used. If true, this would result in cross-subsidisation between members. The Cooper Review recommended the mandating of low cost, simple default funds, called MySuper accounts. Legislation giving effect to this was passed in 2013.

**Dispute resolution:** The Financial Ombudsman Service (FOS) was established in 2008. It resulted from the merger of five existing dispute resolution services focused on specific sectors. The mission of the FOS is to provide an independent, fair, affordable and timely dispute resolution option to consumers of financial products. Importantly, the outcome of any FOS process, whether in favour of the applicant or not, in no way limits the applicant's rights to pursue further legal courses of action against the financial service provider.

The key rationales for creating such a service include: the imbalance in bargaining power between large financial institutions and most consumers; and the expense and delay involved with most formal court proceedings. FOS's jurisdiction extends to all key areas of the financial services sector, including banking, credit, general and life insurance, financial planning and superannuation. The majority of FOS' cases related to credit (50%), general insurance (28%), the payments system (7%), deposit taking (6%) and investments (5%). (FOS, 2012, pp 26-27) While FOS is funded by industry, it is independent. It has a Board that includes representatives of key consumer groups. This Board appoints the ombudsmen. In addition, FOS is regulated by ASIC and must report to ASIC on a quarterly basis. Finally, FOS must undertake an independent review every four years to ensure it is meeting its obligations under Regulatory Guide 139.

In addition to the increasingly prominent role being played by FOS, it also worth noting that litigation funding is also playing a greater role in dispute resolution.

#### 11.1.2 Assessment of performance

**Consumer protection:** There are a range of consumer protection mechanisms currently in place ranging from outright prohibitions on retail investors participating in some transactions (eg opening foreign bank branch saving accounts) through to enhanced disclosure mechanisms (eg KFS for home loans and home and contents insurance, standard definition of flood). It is difficult to determine how effective these measures have been. Even though FOS is handling a growing number of disputes, the counterfactual – ie what would have occurred without such consumer protection measures – may well have been an even higher level of disputation, albeit with less access to resolution for many consumers.

**Dispute resolution:** In 2011-12, FOS accepted 36,099 disputes and settled 36,049 disputes that had already been accepted. (FOS, 2012, p1) This number of disputes resolved is more than twice as high as three years ago (17,007 in 2008-09) which partly reflects FOS'

commitment to reducing the backlog of outstanding cases. The overall caseload has been increasing at around 20 per cent a year over recent years, in part due to a string of serious natural disasters and the fallout from the GFC. FOS is handling a majority of cases within 4 months (74 per cent of cases resolved within 120 days). While this represents a faster average resolution time than the courts, 19 per cent of cases referred to FOS take longer than six months to resolve. (FOS, 2012, p22)

A high proportion of cases handled by FOS are settled by agreement between the applicant and the financial service provider. This probably reflects the fact that FOS cases are a form of alternative dispute resolution aimed at speedy and less adversarial handling of cases. Of the remaining cases, 4 per cent end in a decision in favour of the financial service provider, 3 per cent end in a decision in favour of the applicant, 7 per cent are discontinued and 11 per cent are deemed to be outside FOS's terms of reference. (FOS, 2012, pp23-24)

FOS has a high degree of transparency, publishing comparative tables each year which summarise the number and outcome of disputes by both category of service but also by financial service provider. They also publish a comprehensive Annual Review and Determinations (formal written records of FOS's decisions) are published on their website.

## 11.2 Principal agent problems

### 11.2.1 Current institutional and regulatory arrangements

The two key agency problems that arise in the financial services sector are managers acting as agents for shareholders and trustees acting as agents for fund members.

**Managers as agents for shareholders:** This is a difficult problem to regulate with very large, widely held companies. The ownership of large bundles of shares by pension funds does little to ameliorate the problem when pension funds behave in a very passive manner. Principal agent problems relating to corporate control are largely regulated in Australia's financial sector through the Corporations Law. These provisions are enforced by ASIC. The key measures include: general provisions in the Corporations Act relating to shareholder rights; provisions relating to the powers of the Board of Directors; the three strikes policy in relation to executive remuneration; and minority shareholder protection.

**Trustees as agents for unit holders or superannuation fund members:** Trustee obligations are governed in a variety of ways depending on the nature of the trust. For investment trusts (including unit trusts), trustee obligations are governed by Trustee Acts for each State and common law. For superannuation funds, the obligations of trustees are primarily governed by the SIS Act which requires that: the fund is managed for the core purpose of

providing benefits after a member's retirement; the fund's investments are appropriately diversified; and the fund has an investment strategy.

### 11.2.2 Key live and emerging issues

**Protection of minority shareholders:** The World Bank/IFC ranking of "ease of doing business" ranked Australia highly in both 2013 and 2012 (10<sup>th</sup> and 11<sup>th</sup> respectively). However, Australia was ranked poorly (70<sup>th</sup>) in relation to "protecting investors". This category is a measure of minority shareholder protection. It measures the strength of minority shareholder protections against directors' misuse of corporate assets for personal gain. The indicators used by the World Bank incorporate three dimensions of investor protections: transparency of related-party transactions (extent of disclosure index), liability for self-dealing (extent of director liability index) and shareholders' ability to sue officers and directors for misconduct (ease of shareholder suits index).<sup>59</sup>

**Independent Directors of superannuation funds:** While the framework provided by the SIS Act is broadly supported, there has been considerable debate over recent years in relation to the practice of having half the board members nominated by employees and half by employers. Some commentators have argued that at least some members of the Board, and possibly a majority, should be independent directors.<sup>60</sup> Independent directors may be a way of improving the mix of skills required of ever larger, more complex funds operating in challenging markets. Opponents of such a change argue that the current system is balanced and has served the superannuation sector well over a long period of time.

### 11.3 Key live and emerging issues: Governance

#### Key Issues

- FOS capacity (i.e. resourcing) and scope (i.e. which cases can be brought)
- Independent directors for superannuation funds

<sup>59</sup> The data used to develop these indexes comes from a survey of corporate and securities lawyers and are based on securities regulations, company laws, civil procedure codes and court rules of evidence.

<sup>60</sup> See for example, "Raising the Bar", in which the Financial Services Council argues that the Chair and a majority of directors should be independent. <http://www.fsc.org.au/downloads/file/submissionsfile/fscsupercorporategovernancefinal.pdf>

## 12. Attributes of the economy affecting the performance of all six functions

### Executive Summary

- This chapter examines features of the financial services sector and the broader economy that impact on the performance of all six core functions.
- Many elements of Australia's financial services sector are oligopolistic. Competitive forces are increasing in some segments through technological innovation and regulatory change. However, on at least some measures, Australia's financial services sector appears to be less competitive than in comparable economies.
- Australia's general business environment is ranked highly by international bodies such as the World Bank, the IMF and a wide range of independent agencies.
- Financial services firms in Australia have access to a large and growing pool of highly educated workers.

### 12.1 Competitive environment

Merton argues that the greater the degree of competition, the more will a financial services sector improve in the performance of all six functions. While this is true in general, more competition is not always a good thing. There can sometimes be a tension between competition and stability. For example, prudential regulation arguably raises barriers to entry in the banking and insurance sectors by increasing the level of capital that needs to be held. However, lowering prudential standards will not necessarily be a good thing, even if it increases competitive tension in the short run. In this instance, regulators need to make a judgment about the trade-off between the benefits of more competition and the danger of greater systemic risks. Notwithstanding the potential for such trade-offs, the presumption should be that more competition is in general a good thing and the onus should be on justifying regulatory interventions that inhibit competition.

#### 12.1.1 Measuring competition

It is difficult to directly observe the degree of competition in most industries. There are a number of useful proxies, each of which can provide partial guidance:

- **Market share concentration.** A high degree of market concentration may be associated with market power, although empirical tests of the connection between concentration levels and competition have produced mixed results.<sup>61</sup> There are

---

<sup>61</sup> The relationship between concentration ratios and competition is complicated. In a review of the literature, (Davis, 2007, p271) finds that "The empirical literature has produced mixed results, partly reflecting the fact that there is relatively little correspondence between measures of bank concentration and competition or contestability."



many measures of market concentration. The two most commonly used are the concentration ratio (i.e., the market share of the n-largest firms) and the Herfindahl Index (a weighted measure of concentration). Most elements of the financial services sector in Australia have high levels of market concentration for the largest 3-5 firms. The evolution of market share concentration can be an indicator of whether competition is increasing or decreasing.

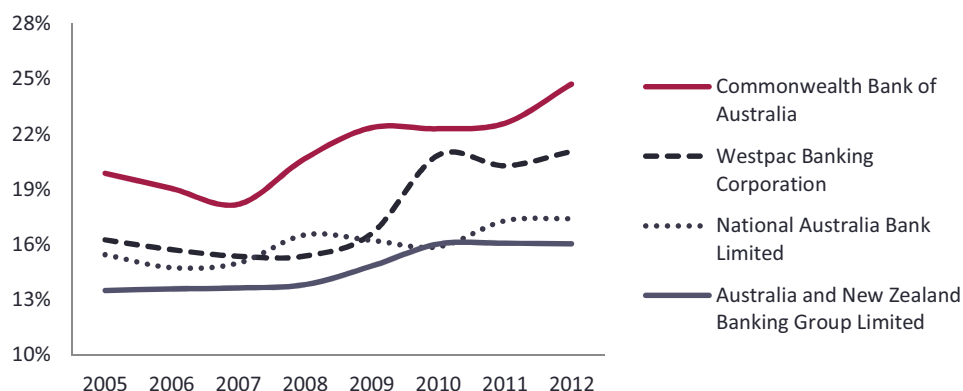
- **Market share composition.** If market share concentration of the largest n-firms is somewhat stable but the market share of individual firms changes materially over time, the changes in market composition might indicate competitive pressures. This is generally not the case in the Australian financial services sector, with both the concentration ratio and the composition within that ratio quite constant over time.
- **Customer churn.** Even if market share concentration and the firm level composition of market share are both stable over time, there might be significant levels of customer churn. Customer churn puts pressure on firms to attract new customers to replace those that are lost. The rate of customer churn is not publicly reported in most segments of the Australian finance sector.
- **Barriers to entry/contestability.** Another indicator of competition is whether new firms enter and leave the industry. An absence of entry does not mean that competition doesn't exist per se. There might still be contestability, or the threat of entry. However, an absence of entry over a prolonged period of time suggests that it is worth examining whether there are material barriers to entry. Barriers to entry can be overt (eg a regulatory ban on entry) or more difficult to identify (eg some non-tariff trade barriers or the costs associated with prudential regulation). Where barriers to entry are the result of regulatory intervention, that regulation should be justified as being in the public interest and monitored over time.
- **Technological innovation.** In some industries, the absence of competitive forces can result in high profit levels and rates of return that attract innovation. Potentially, the entry of comparison web-sites is an example of a new technology seeking to take advantage of low customer churn rates and high margins.

### **12.1.2 Assessing competition in Australia's finance sector**

#### **Market concentration**

Banking sector: The Australian banking sector has a very high four-firm concentration ratio and has had for some time. As can be seen in Figure 16, the four firm ratio has been above 60 per cent for the last 8 years and has increased following the GFC. Moreover, the composition of the four-firm market share has been relatively stable.

**Figure 16 Deposits: Market Share of Major Banks**



Source: APRA, *Monthly Banking Statistics Back Series*

A high level of concentration is not unusual in banking sectors. Based on 2005 World Bank data, Davis finds that 85 countries had a three-firm concentration ratio above 50 per cent (out of 103 countries for which data was available), 53 above 75 per cent and 31 above 90 per cent. (Davis, 2007) Between 1995 and 2005, there was no tendency for increased concentration across the OECD, with economies fairly evenly distributed between increased concentration, reduced concentration or no change. (Davis, 2007, p259)

An additional dimension of concentration is the proportion of mortgages funded by banks compared to securitisation vehicles. The value of mortgages backed by securitisation fell from a peak of \$215.2 bn in June 2007 to \$106.3 bn in March 2013.<sup>62</sup> While it is difficult to disentangle how much of this is due to the decline in securitization firms since securitisation is still undertaken by banks, the overall decline in this mechanism suggests that competition from non-bank mortgage originators has substantially declined following the GFC.<sup>63</sup>

Insurance sector: The Australian general insurance market is dominated by three players: QBE, IAG and Suncorp. On most measures, these three companies have over 60 per cent market share. In the year to 31 December 2011, the level of gross written premiums for these three companies was \$13,629 bn (US\$), \$8.050 bn and \$7.280 bn respectively. This represented around 70 per cent market share. When the next three firms were included (Allianz, Wesfarmers Insurance Division and Zurich Australian Insurance), the market concentration rose to around 85 per cent. (KPMG, 2011, p5 and KPMG, 2012, p46)

The level of dispersion of general insurance firm size within the top ten appears to have increased substantially over the past 25 years. In 1985, the largest general insurance firm (by gross written premium) was around twice as large as the tenth firm - NRMA Insurance

<sup>62</sup> RBA, Table B19.

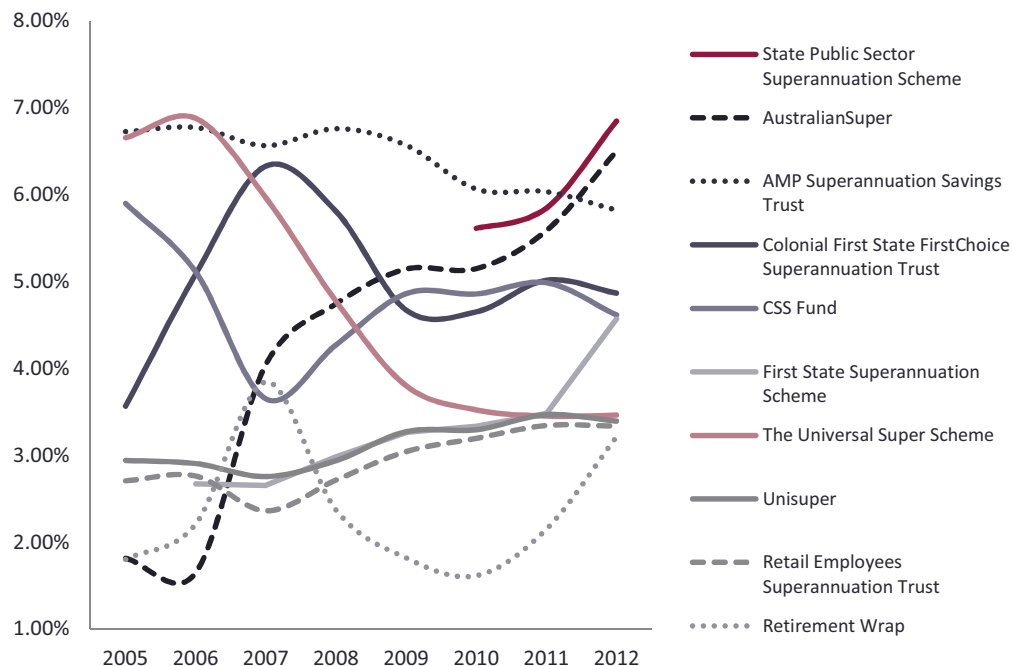
<sup>63</sup> One example is CBA's outright purchase of Aussie Home Loans in 2013 following the purchase of a 33% stake in 2008. After its founding in 1992, Aussie Home Loans was a source of innovation and competitive tension as its market share rose.

Ltd (\$345m) and NZ Insurance Company Ltd (\$140m) respectively. In 2011, the largest firm was over thirty times larger than the tenth largest firm. (KPMG, 2011, p5)

The life insurance market is also heavily concentrated. It is dominated by AMP, OnePath Australia, NAB/MLC and Challenger on most performance measures. Other key players include Comminsure, BT/Westpac and Suncorp. On most key metrics, AMP has by far the largest market share at over 30 per cent. The share of the top four firms is over 70 per cent based on most key measures: total inflows (77 per cent); total sales (87 per cent); new single premiums (91 per cent); and FUM (91 per cent). (Plan for Life, 2012 and FSC)

Superannuation sector: The superannuation sector is less concentrated than the banking or insurance sectors. In 2012, the market share (by total assets) of the largest ten funds was just over 45 per cent of the combined retail and industry fund sectors. This figure does not take account of smaller funds. The superannuation sector is even less concentrated when taking SMSFs and other smaller funds into account. (ABS) In addition to having a lower market concentration ratio, it is also worth noting that the fund-level composition of market share within the superannuation sector has changed markedly over the past ten years. Figure 17 shows the market share for new contributions of the largest ten funds, many of which have experienced large proportional changes. (ABS)

**Figure 17 Market Share of Top 10 Superannuation Funds**



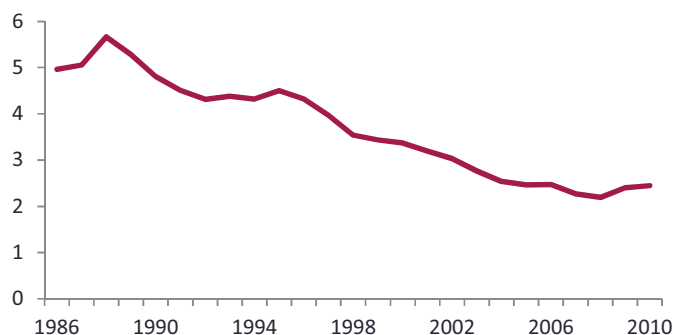
Source: APRA, Quarterly Superannuation Performance Statistics, September 2012

## **Profit margin**

Banking sector: Net interest margins have been declining in the banking sector over the past 25 years. This decline seems to have stalled over the past decade (and even reversed somewhat). Figure 18 shows the fall in the net interest margin since the mid 1980s. In recent years, the decline in net interest margin has been attributed at least in part to increased funding costs which in turn can be attributed to factors such as the increased cost of wholesale funding and greater competition for deposits. Nonetheless, the credit rating of Australia's largest banks remains solid, with all four of Australia's big four banks amongst the top banks in the world.

This suggests that competitive pressures may have been increasing, notwithstanding little change in market concentration. Ken Henry argues that "the sustained downward pressure on the net interest margin is one of the clearest, long-term economy-wide benefits of the deregulation of the Australian financial system..." Henry argues that this includes the removal of the cap on home loan interest rates in 1986 and increased competition from non-prudentially regulated lenders and new bank entrants around 1995. (Henry, 2010)

**Figure 18 Net Interest Margin: Major Banks**



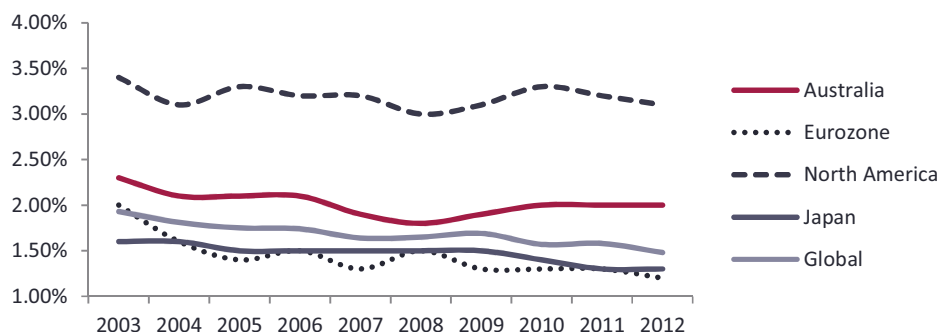
Source: RBA, Chart Pack, June 2013

Despite the downward trend in the net interest margin over the past 25 years, bank profitability in Australia remains high compared to other large economies. Figures 19 and 20 show the net interest margin and return on equity of the Australian banking sector compared to other major economies and the global average. The net interest margin of Australian banks is lower than for North American banks but higher than the global average and around half a percentage point higher than the Eurozone and Japan over the past decade. It is worth noting that the half a percentage point gap is small relative to the decline in the net interest margin over the past 25 years in Australia (around 4 percentage

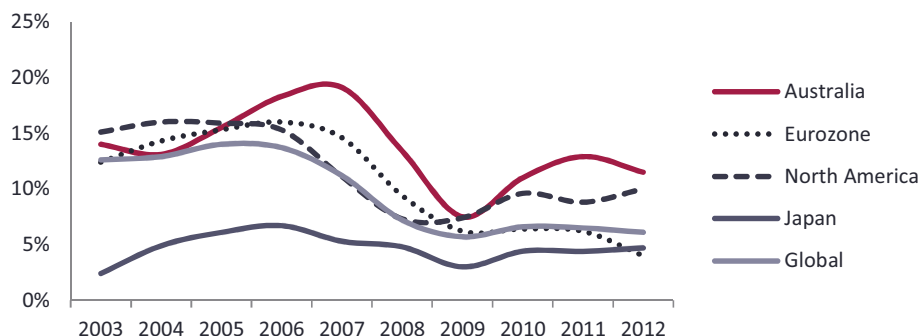
points) and that international comparisons of net interest margins can be complicated by a number of factors.<sup>64</sup> Nonetheless, the persistent gap is warrants further analysis.

Return on equity (RoE) is another relevant measure. The RoE for Australian banks is relatively high. As figure 20 shows, even though it declines during the GFC – the RoE for Australian banks has been persistently higher than the global average over the past decade and higher than the RoE for banks in North America, the Eurozone and Japan during most of the period.

**Figure 19 International Net Interest Margins: FY2003-FY2012**



**Figure 20 Bank ROE International Comparison: FY 2003-2013<sup>65</sup>**



Source: Pottinger analysis, Capital IQ for non-Australian firms

While not a direct measure of profitability, the H-statistic is relevant, as it reflects the responsiveness of firm revenue to changes in factor input prices. A value of one indicates perfect competition and zero (or less) perfect monopoly with values in between indicating the degree of competition.<sup>66</sup> The H-statistic has been found to bear little relationship to

<sup>64</sup> Net interest margins should be used with care in assessing competition, particularly where international comparisons are made. Differences in accounting treatment, business models and risks (e.g. housing versus business lending involves different spreads to compensate for losses), fees and other factors complicate any analysis.

<sup>65</sup> Figure 20 is broadly consistent with Graph 1.7 in (RBA, 2013) – although there are some differences, particularly around the GFC. This could be due to different data sources and time periods. Despite the differences, in both graphs, Australia's RoE is relatively high.

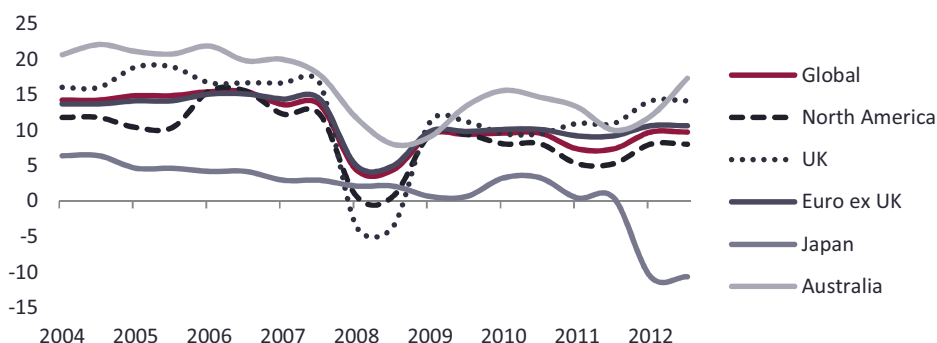
<sup>66</sup> Davis, p265.

concentration measures which indicates that competition may be present even where there is sustained concentration.<sup>67</sup> Claessens and Laeven calculate an H-statistic of 0.8 for Australia. This is supported by Bikker and Haaf who find H-statistics of 0.63 and 0.68 in 1991 and 1997 respectively. While these results should be treated with caution<sup>68</sup>, they suggest that high concentration per se does not indicate a low level of competitive tension.

According to the World Economic Forum, Australia ranks 7<sup>th</sup> overall in terms of banking financial services. This includes ranking 3<sup>rd</sup> in terms of efficiency. (WEF, 2012)

Insurance: Figure 20 shows the RoE for insurance firms globally and in selected major economies. As can be seen, the RoE for Australian insurance firms has been consistently above the global average over the past decade. The gap narrowed immediately following the GFC and then again following the 2010 Queensland/NSW floods. But in general, the gap has been five percentage points or more. The RoE for North American insurance firms has generally been above the global average (although it fell more significantly than other major regions during the GFC). In contrast, the UK and Europe have experienced returns below the global average. The Japanese insurance industry has achieved persistently low returns since 2004, with returns of lower than five per cent during almost the entire period.

**Figure 21 Insurance ROE International Comparison: 2004 - 2012**



Source: Pottinger analysis, Capital IQ for non-Australian firms, APRA Quarterly General Insurance Performance Statistics for Australian firms.

**Customer churn:** Informal discussions by the author have indicated that customer churn rates are low in both the banking and insurance sectors. This could be due in part to high customer satisfaction – although inertia caused by the complexity of choice and high switching costs are other possible causes. One possible barrier to customer churn is the increasing number of products that individuals hold with each firm. In recent years, the government has enacted several reforms that have aimed to reduce the barriers to

<sup>67</sup> The H-statistic measures market power by the extent to which changes in factor input prices translate into equilibrium revenues earned by each bank  $i$ . In other words, "H is a measure of the sum of the elasticities of the reduced-form revenues with respect to factor prices." (Schaek and Cihak, 2007, pp6-7) This measure was created by Panzar and Rosse (1997).

<sup>68</sup> Issues include data quality and the fact that the H-statistic was developed for single-product markets.

customer churn. One example is the prohibition, introduced in 2011, on exit fees on home loan mortgages as part of the Government's banking package.

**Productivity Growth:** While not conclusive – high rates of productivity growth are circumstantial evidence in favour of either competitive tension or contestability (ie incumbents innovating to prevent entry). Multifactor productivity (MFP) growth has slowed significantly across the Australian economy since the 1990s. It fell from 2.5 per cent in the productivity cycle running from 1993/94 and 1998/99 to 1.2 per cent between 1998/99 and 2003/04. Since then it has fallen to zero between 2003/04 and 2007/08. (Parham, 2012, p1) This recent performance can be compared to a long run MFP growth rate for the economy of a bit under one per cent per annum. At an industry level, manufacturing and mining were the key contributors to the slowdown in MFP. The sharp economy-wide reversal in MFP during this period can be partly attributed to one-off factors such as the drought (low capital utilisation across the agriculture and utilities sectors) and the rapid rise in the terms of trade which resulted in a spike in investment (low initial capital utilisation and some inefficiency due to the speed of investment in the mining sector).

In contrast, the finance and insurance sector contributed by far the largest offsetting productivity improvement, accounting for a positive offsetting MFP gain of 0.44 percentage points. (Parham, 2012, p6) In the most recent full productivity cycle (2003/04 to 2007/08), the financial and insurance services sector experienced by far the highest industry level MFP growth rate of 4.4 per cent. As with all productivity growth rates, this result should be treated with caution due to measurement difficulties and volatility - and it is worth noting that the figures from the latest (incomplete) cycle from 2007/08 to 2010/11 show a slight reduction in MFP for the sector of 0.2 per cent. Nonetheless, over the past twenty years, the finance sector has experienced MFP growth at a higher rate than the economy as a whole. This finding is supported by analysis by the ABS which assessed productivity growth across twelve industries between 1994/95 and 2003/04. The research found that, across the twelve sectors, the financial services sector had the highest rate of labour productivity growth, the highest rate of IT capital deepening, the highest rate of labour quality growth and the greatest contribution to MFP growth. (Hui and Zhao, 2012<sup>69</sup>)

**Overarching assessment:** The level of competition within an industry as complex and rapidly evolving as financial services is difficult to assess. The evidence in the public domain is mostly circumstantial. Moreover, it is somewhat mixed.

---

<sup>69</sup>See slides 8, 10, 12 and 13. The twelve sectors covered: (i) Agriculture, Forestry and Fishing; (ii) Mining; (iii) Manufacturing; (iv) Electricity, Gas, Water and Waste; (v) Construction; (vi) Wholesale Trade; (vii) Retail Trade; (viii) Accommodation and Food Services; (ix) Transport, Postal and Warehousing; (x) Information, Media and Telecommunication; (xi) Financial and Insurance Services; and (xii) Arts and Recreation Services.



On the one hand, the falling level of net interest margin over the past quarter century and the low H-index point to a plausible case that competition is increasing. This is supported by circumstantial evidence such as: (i) product innovation; (ii) a high level of service as measured by branch and ATM access (as noted in chapter 4, Australia ranks high by international standards on both).

On the other hand, there is a high level of concentration in banking and insurance. In addition, the market shares of the major banks does not seem to have changed materially over recent years and the level of customer churn appears to be low (compared to highly competitive industries). In insurance, the level of market concentration appears to have increased over the past 25 years. International comparisons seem to support the contention that there is limited competition. While net interest margins have fallen, they have been higher than the global average over the past decade, and the RoE for banks and insurers has been considerably higher than the global average.

In addition, there are a number of changes in market dynamics following the GFC that point to less competitive pressure. One is the slow recovery of the RMBS market, which has adversely impacted on the capacity of the smaller banks to raise funds at competitive prices. Second is the withdrawal of many foreign banks, a key potential source for competitive tension. Third is the fact that, in banking at least, the market shares of the largest firms has increased following the GFC.

Together, these observations suggest that the level of competition in key parts of the financial services sector warrants ongoing examination and, where appropriate, a regulatory response. This is consistent with the observation in section 8.2.2 that it would be beneficial to undertake further analysis into the impacts of competition in financial markets.

### **12.1.3 Opportunities to increase competition – Domestic**

**Market driven changes:** An absence of competition will tend to raise profit levels and rates of return. This can be a spur to innovation.

Insurance: Arguably, one example in the financial services sector is the growth of comparison web-sites such as iSelect. The market share of comparison web-sites has grown significantly over recent years. For example, iSelect had approximately 7.8 million visits to its websites in the year ended 31 March 2013. iSelect's revenue has risen from \$43.5 million in FY10 to a forecast of \$121.6 million in FY13. (iSelect, 2013)

Banking: In the post-GFC environment, banks have competed for deposits as wholesale funding costs have risen. Part of the differentiation between banks is based on price – but

in a market in which there is limited scope to pay higher interest rates than competitors, improved service is critical. Examples of recent innovation in banking service include apps such as Kaching (CBA) and other similar products.

**Regulatory change:** Competition can sometimes be constrained due to unnecessary regulation. It can also, on occasion, be promoted by well-designed regulation. Examples of such regulation that are either under active consideration or that are emerging include:

EFTPOS. The entry of EFTPOS as a major player in the payments system required regulatory intervention. In particular, the new regime required the intervention of the Payments System Board (PSB) to reduce interchange fees in the Mastercard and Visa credit card system, the Visa debit system and domestic debit cards. The PSB made these changes because it had determined that the previous fees did not reflect the resource costs of each element of the payments system and, therefore, that they were not sending appropriate signals to consumers. By more accurately reflecting costs, the new pricing regime should result in lower transaction costs for consumers. (BIS, 2012a, p45)

One page Key Facts Sheets (KFSs). Focus group testing suggests that the introduction of one page KFSs will improve consumer understanding of a number of financial products including residential mortgages and home and contents insurance policies. These documents – and similar products – could also be used as a tool for improving competition. First, these sheets make it easier to compare products across firms. Second, it is possible to introduce elements into the KFS (eg a comparison of last year's price or premium with this year's price/premium) that make it easier for customers to detect rapid price escalation – something that arguably goes unnoticed at present and is a barrier to customer churn.

Prudential standards. The prudential regulation of ADIs, insurers and superannuation funds is widely accepted as necessary. However, while strong prudential standards improve the stability of the financial system and the economy, they can also act as a barrier to entry due to the high cost of meeting capital requirements. Balancing this trade-off is a constant challenge for regulators and there is often devil in the detail, as was experienced during the implementation of Basel III and LAGIC.

Financial Claims Scheme (FCS): the FSC provides an advantage to ADIs that benefit from it, arguably disadvantaging other financial entities seeking funds. Nicholas Gruen (among others) has argued that this provides a cost advantage to banks that creates a barrier to entry to potential competitors such as securitisation vehicles. (Gruen, N, 2013) This may be justified given systemic issues – but the nature of the guarantee (and, arguably, the implicit subsidy) to banks warrants ongoing examination and justification.

### 12.1.4 Opportunities to increase competition – International

Australia's connectedness with the international economy has already been discussed as an important avenue for the efficient allocation of resources. It is critical in a much more general sense. Engaging with economies in the Asia-Pacific region and beyond will create a financial services system that is more outward focused, more competitive and more innovative. It will increase the likelihood that our economy can attract globally competitive firms and more skilled human capital. All of this will increase the capacity of the financial services sector to achieve the outcomes discussed in Chapter 2.

**International engagement as a way of enhancing competition:** Australia's engagement with the international economy is a potential source of competition and productivity growth. One example is the entry of foreign banks. The entry of foreign banks into Australia was permitted in the early 1980s. As of September 2012, foreign subsidiary banks<sup>70</sup> held \$80.6 bn in deposits and foreign branch banks<sup>71</sup> held \$102.3 bn in deposits. (APRA, 2013) Restrictions are still in place as to the deposit-taking activities of foreign branch banks. Even though these figures are not small in absolute terms, as of September 2012, foreign subsidiary banks represented 4 per cent of total deposits and foreign branch banks 5.1 per cent of total deposits.<sup>72</sup> Further market entry by foreign banks, subject to appropriate prudential controls and consumer protection, could represent a possible source of additional competitive tension.

It should be noted that the trend in some jurisdictions is to tighten controls on foreign bank entry. For example, the UK is consulting on proposals that would limit foreign banks to subsidiary banks. New Zealand already has such measures in place. One challenge for regulators is to ensure that the foreign bank has a sufficient presence within the jurisdiction to enable the recovery of funds in the case of disputes.

## 12.2 General business environment

### 12.2.1 Current institutional and regulatory arrangements

Many elements of the broader business environment are important enablers for the financial services sector. They provide both domestic and foreign investors with the

---

<sup>70</sup> Those foreign banks authorised to carry on banking business in Australia through a locally incorporated subsidiary. Eight entities operating in Australia satisfied this definition as at September 2012.

<sup>71</sup> Those foreign banks authorised to carry on banking business in Australia through branches. 39 entities operating in Australia satisfied this definition as at September 2012.

<sup>72</sup> The latter figure represents wholesale customers and accounts in which the initial deposit is greater than \$250,000.

confidence to invest in or through the sector. The key elements of the broader business environment of relevance to the financial services sector are:

- a legal system that is reliable, transparent and well understood;
- low levels of corruption;
- highly transparent regulatory processes and transparent, reviewable administrative decision-making processes;
- low business taxes that are generally not changed without consultation;
- low levels of red tape compared to comparable economies; and
- low levels of sovereign risk.

### 12.2.2 Assessment of performance

#### Overarching assessments of Australia's business environment

Global Financial Centres Index (GFCI): This is a quantitative report produced annually by the Z/Yen Group. (Z/Yen, 2013) The ranking is compiled from 87 instrumental measures and responses to a questionnaire completed by financial services professionals.<sup>73</sup> The GFCI ranks both Sydney and Melbourne highly. In the most recent ranking, Sydney ranked 15<sup>th</sup> and Melbourne 18<sup>th</sup> globally. Over the past 10 years, Sydney has trended down slightly (it was ranked 7<sup>th</sup> in the initial GFCI ranking in 1998) and Melbourne has trended up.

World Bank (WB) / International Finance Corporation (IFC): the WB/IFC ranking of "Ease of doing business" ranked Australia highly in both 2013 and 2012 (10<sup>th</sup> and 11<sup>th</sup> globally respectively), particularly in relation to starting a business and credit. The categories in which Australia was ranked relatively poorly are highlighted in Table 1 below. (WB, 2013)

**Table 22 World Bank/IFC Ease of Doing Business rankings (2012 and 2013)**

MEASURE	RANK - 2013	RANK - 2012
<b>Overall - Ease of doing business</b>	<b>10</b>	<b>11</b>
Starting a business	2	2
Registering property	37	35
Getting credit	4	
Protecting investors	70	66
Paying taxes	48	50
Trading across borders	44	43
Enforcing contracts	15	17
Resolving insolvency	18	17

<sup>73</sup> 26,180 assessments from 1,890 professionals were submitted last year.

Bloomberg/Schumer Review: Michael Bloomberg (the Mayor, NY) and Charles Schumer (Senator, NY) commissioned research by McKinsey and the NY City Economic Development Corporation to examine the contribution of the finance sector to the US economy and how best to maintain or improve its competitive position. (McKinsey, 2007) Of a range of factors determining the competitiveness of global financial centres, the following were rated as very important: the availability of professional workers; government and regulators' responsiveness to business needs; and fair and predictable business environment.

World Economic Forum (WEF) Report: Australia ranked 5<sup>th</sup> globally in terms of financial development in both 2011 and 2012 according to the WEF. (WEF, 2012, p12) The financial development index comprised seven categories: (i) institutional environment; (ii) business environment; (iii) financial stability; (iv) banking financial services; (v) non-banking financial services; (vi) financial markets; and (vii) financial access. Australia was ranked highly by the WEF along all key dimensions reflecting the business environment. (WEF, 2012, pp13-14)

### **Specific issues**

Corruption: Australia was ranked seventh globally (top ranking being least corrupt) on Transparency International's (TI) corruption perceptions index. (TI, 2011)

Transparency: The Milken Institute Opacity Index ranked Australia 3<sup>rd</sup> out of 48 countries in 2009 behind only Finland and Hong Kong. (Milken Institute, 2007) A ranking of corporate governance compiled by Governance Metrics International ranked Australia 4<sup>th</sup> globally (behind Ireland, the UK and Canada). (GMI, 2009)

Insolvency: Australia was ranked 17<sup>th</sup> (out of 62 countries) in relation to the cost of closing a business. This is in contrast to being in the top 10 in all other elements of the cost of doing a business. (WEF, 2012 and WB 2011) The cost is calculated on the basis of questionnaire responses and includes court fees and government levies; insolvency administrator fees and the costs of auctioneers, lawyers and other court fees and costs. Australia ranks higher (8/62 countries) in terms of the time to close a business. This is measured as the time from default until the payment of some or all money to the bank. (WEF, 2012, p66 and WB, 2012)

### **12.2.3 Key live and emerging issues**

Overall, Australia ranks very highly in major international assessments of the general business environment. Despite this, there are some specific issues on which Australia occasionally performs relatively poorly, such as: minority shareholder protection; insolvency; and taxation certainty.

## 12.3 Human capital

### 12.3.1 Current institutional and regulatory arrangements

In surveys with financial sector executives, McKinsey found that a high-quality workforce was the most important factor (among 18 factors) in predicting the success of a financial centre. (McKinsey, 2007, p16 and p62 for a full ranking of factors) This was supported by the Bloomberg/Schumer report. One of its key recommendations was to ease restrictions on skilled non-US professionals working in the finance sector.

### 12.3.2 Assessment of performance

In 2012, WEF ranked Australia 13<sup>th</sup> globally in terms of human capital. (WEF, 2012, pp13-14) The WEF cited survey data in relation to measures of human capital. Australia ranks moderately highly on some measures developed from these survey results (eg quality of management schools 14<sup>th</sup>/62 countries and the quality of math/science education 11/62 countries). On other measures, Australia ranks around the middle of the countries assessed (eg the extent of staff training 22/62) and the “brain drain” 23/62). (WEF, 2012, pp64-67)

Australia ranks highly in terms of the objective measures of the pool of highly trained employees that the financial sector can draw from. For example, Australia has a high gross tertiary enrolment rate<sup>74</sup>, ranking 8<sup>th</sup> in the world in 2010.<sup>75</sup> In addition to having high current rates of enrolment, a high proportion of the overall working age population has a tertiary qualification compared to the OECD average. (OECD, 2012b) Thirty four per cent of Australia's labour force has a tertiary qualification, which ranks in the top 10 in the OECD.<sup>76</sup>

### 12.3.3 Key live and emerging issues

Despite Australia's existing strengths in relation to human capital, the local labour force may need to be supplemented if specialised skills requirements arise unexpectedly. This is a real possibility given the speed with which the sector is evolving. Should that occur, similar reforms to those suggested by the Bloomberg review would need to be considered.

---

<sup>74</sup> This is defined as the ratio of total tertiary enrolment, regardless of age, to the population of the age group that officially corresponds to the tertiary education level. Because people outside the age group corresponding to the tertiary education level may be enrolled in tertiary institutions, this ratio may be more than 100 per cent (eg it was 103 per cent for the Republic of Korea in 2010).

<sup>75</sup> See UNESCO Institute for Statistics, accessed April 2013. Australia was ranked 5<sup>th</sup> on the latest World Economic Forum list (2012), which was based on a combination of UNESCO data and data from national sources. See (WEF, 2012, p332)

<sup>76</sup> See UNESCO Institute for Statistics, accessed April 2013.

## 12.4 Key live and emerging issues: Enablers

### Key Issues

- On at least some measures, Australia's finance sector appears to be less competitive than in comparable economies. The degree of competition should be monitored and, in addition, measures to improve competition should be explored including: reducing barriers to entry (subject to managing systemic risk); promoting consumer empowerment; and facilitating greater international engagement.
- Australia's general business environment is ranked highly. However, some aspects are ranked only moderately. Regulation of these issues should be reviewed.
- The evolution of the finance sector is likely to create increased demand for highly specialised skills that cannot be supplied entirely domestically. A skilled migration program should be developed that can plug gaps in local labour supply.



### 13. Conclusion

Australia's financial architecture underpins the productivity and growth potential of the entire economy. It is performing well by most absolute and relative measures. This is supported by the performance of the financial sector and the economy as a whole in the face of the GFC and recent natural disasters. In general, financial sector participants and the regulatory regime within which they operate performed well.

In addition, Australia's financial architecture effectively provides individuals with considerable capacity to manage their lifetime consumption patterns and to protect themselves against catastrophic risk.

Notwithstanding the successes, it is important to look to areas in which the sector can improve its performance. When assessed against the six functions that all financial systems aim to perform, it is possible to identify a range of reforms that warrant serious examination.

Australia's payments system, while efficient and accessible overall, is noticeably less efficient along several dimensions than the systems in the UK, the US and Europe. The reform process that is already underway should be continued.

The financial sector appears to be efficient in the allocation of capital. Despite this, there are some specific investment classes that appear to face barriers to efficient levels of investment. These include public sector greenfield infrastructure and high-risk commercialisation of innovation. A combination of regulatory change and market responses will be required.

With minor interruptions, Australia has been deeply engaged with the international economy since European settlement. This has, in part, been driven by Australia's high investment requirements per capita given a small, widely dispersed population and a reliance on capital intensive industries. International capital flows have been highly beneficial to the Australian economy and will remain so if allowed to be guided in large part by market forces and only restrained where clearly in the national interest.

The degree to which Australia's financial sector is engaged with the international economy has increased significantly since the financial liberalization process that commenced in the mid-1980s. However, Australia's finance sector is less outward looking than the finance sector of many otherwise comparable economies.

Opportunities for further integration should be explored. The entry of foreign banks has promoted greater innovation and competition. Whether more entry can be permitted will be a judgment based on a range of considerations including systemic stability and consumer protection. There is also the potential for far greater trade in financial services, with Australia becoming a more integrated regional financial services centre. This could include Australia becoming a regional (or global) leader in pension fund management, infrastructure and innovation funding or other high value-add financial services.

The regulation of Australia's financial sector is generally viewed to be effective – both in terms of crisis management and day-to-day prudential and conduct regulation. However, there are a number of longer term regulatory issues that require consideration including: the appropriate boundary of prudential regulation, particularly given increasingly stringent international standards; and the role for consumer protection, including the barrier between wholesale and retail investors and whether SMSFs require more stringent regulation.

Finally, in addition to improving the performance of specific functions, it is vital that the role of competition be examined. Greater competition has the potential to improve the performance of all six functions, unleashing improvements in dynamic efficiency that could drive higher productivity and innovation. The last twenty five years have seen significant improvements in competition in some areas. To some degree, technological innovation and the growing internationalisation of some aspects of financial services are adding to competitive pressures.

However, there is circumstantial evidence to suggest that further improvement is possible. As a starting point, any regulatory barriers to competition within the sector should be reviewed. The onus should be for the removal of regulatory barriers unless restrictions can be justified as being in the public interest.

## 14. Appendix

### 14.1 Different Frameworks for Assessing the Functions of a Financial System

Function	Merton (1995 et al)	Levine (2004)	Stevens (2010)
<b>Payments system</b>	Payments system for the exchange of goods and services	Ease the exchange of goods and services	Reliable way of making payments
<b>Pooling resources</b>	Mechanism for the pooling of funds to undertake large scale indivisible enterprise	Mobilize and pool saving	A way of transferring resources from savers to borrowers
<b>Allocating capital</b>	Transfer economic resources through time and across geographic regions and industries	... and allocate capital	
<b>Risk management</b>	A way to manage uncertainty and control risk	Facilitate the trading, diversification and management of risk	A means of pricing and pooling certain types of risks
<b>(will be dealt with as part of risk management)</b>			Liquidity
<b>Price information</b>	Price information that helps coordinate decentralised decision-making in various sectors of the economy	Produce information ex ante about possible investments and ...	
<b>Governance of borrowers and managers</b>	A way to deal with asymmetric information and incentive problems when one party to a financial transaction has information that another party does not	Monitor investments and exert corporate governance after providing finance	A way of transferring the returns back again, which requires that the savers' money is not lost and which, in turn, requires monitoring of borrowers and managers

## 14.2 Recent Policy Inquiries

Review Title	Topic of Inquiry	Responsible Agency	Date	Publication	Submissions
<b>Campbell Inquiry</b>	Broad – system wide inquiry	Campbell Committee	1981	Final Report	
<b>Financial System Inquiry</b>	Broad – system wide inquiry	Wallis Committee	November 1996	Discussion Paper	268
			March 1997	Final Report	
<b>Inquiry into home loan lending practices and processes</b>	Banking	HoR S.C. on Economics, Finance and Public Administration	September 2007	Final Report	26
<b>Inquiry into competition in the banking and non-banking sectors</b>	Banking	HoR S.C. on Economics, Finance and Public Administration	June 2008	Final Report	60
<b>Inquiry into Aspects of Bank Mergers</b>	Banking	Senate S.C. on Economics	September 2009	Final Report	21
<b>Inquiry into Bank Funding Guarantees</b>	Banking	Senate S.C. on Economics	September 2009	Final Report	27
<b>Inquiry into the Banking Amendment (Keeping Banks Accountable) Bill 2009</b>	Banking	Senate S.C. on Economics	September 2009	Final Report	7
<b>Inquiry into Access of Small Business to Finance</b>	Banking	Senate S.C. on Economics	June 2010	Final Report	52
<b>Competition within the Australian banking sector</b>	Banking	Senate S.C. on Economics	April 2011	Interim Report	137
			May 2011	Final Report	
<b>Access for Small and Medium Business to Finance</b>	Banking	Joint C'tee on Corporations and Financial Services	April 2011	Final Report	19
<b>Inquiry into the post-GFC banking sector</b>	Banking	Senate S.C. on Economics	November 2012	Final Report	158 (28 not public)

Review Title	Topic of Inquiry	Responsible Agency	Date	Publication	Submissions
<b>Review into the Governance, Efficiency, Structure and Operation of Australia's Superannuation System</b>	Superannuation	Cooper Committee	August 2009	Issues Paper – Operation and Efficiency	453
			December 2009	Issues Paper - Structure	
			April 2010	Preliminary Report	
			July 2010	Final Report (Vol 1 and 2)	
<b>Inquiry into the collapse of Trio Capital and any other related matters</b>	Superannuation	Joint C'tee on Corporations and Financial Services	Interim Report	November 2011	77
			Final Report	May 2012	
<b>Australia as a Financial Centre: Building on our Strengths</b>	International Engagement	Johnson Committee	November 2009	Final Report	
<b>Reforming Flood Insurance – Clearing the Waters</b>	Insurance	Treasury	May 2011	Consultation Paper	12
<b>Natural Disaster Insurance Review: Inquiry into flood insurance and related matters</b>	Insurance	Trowbridge Committee	June 2011	Issues Paper	121 (12 not public)
			November 2011	Final Report	
<b>In the Wake of Disasters, Volume 1: Operation of the insurance industry during natural disasters</b>	Insurance	HoR S.C. on Social Policy and Legal Affairs	February 2012	Final Report	79
<b>In the Wake of Disasters, Volume 2: The affordability of residential strata title insurance</b>	Insurance	HoR S.C. on Social Policy and Legal Affairs	May 2012	Final Report	429
<b>Central Clearing of OTC Derivatives in Australia</b>	OTC derivatives	CFR	June 2011	Issues Paper	37 (7 not public)

Review Title	Topic of Inquiry	Responsible Agency	Date	Publication	Submissions
<b>Central Clearing of OTC Derivatives in Australia Review of Tax Arrangements for Collective Investment Vehicles</b>	OTC derivatives	CFR Board of Taxation	December 2010	Discussion Paper	31
			March 2012	Final Report	
<b>Review of Tax Arrangements for Collective Investment Vehicles Strategic Review of Innovation in the Payments System</b>	CIVs	Board of Taxation	June 2011	Issues for Consultation	31 (15 not public)
			September 2011	IMR Report	
			December 2011	Final Report	
<b>Strategic Review of Innovation in the Payments System Review of Financial Market Infrastructure Regulation</b>	Payments system	RBA	October 2011	Consultation Paper	18
			February 2012	Summary of consultations	
			June 2012	Conclusions	
<b>Review of Financial Market Infrastructure Regulation</b>	Broad - system wide inquiry	CFR	October 2011	Issues Paper	22 (4 not public)
			February 2012	Letter to Deputy Prime Minister	
<b>Competition in the Clearing and Settlement of the Australian cash equity market</b>	Financial Markets	CFR	June 2012	Discussion Paper	16
			December 2012	Supplementary Paper	
<b>Dark liquidity and HFT: Proposals: CP202 and REP331</b>	Financial Markets	ASIC	March 2013	Consultation Paper and Report	

Review Title	Topic of Inquiry	Responsible Agency	Date	Publication	Submissions
<b>Regulatory Capital in the Global Banking System</b>	Prudential Regulation	Basel Committee	December 2010	Package of Basel III reforms	
<b>Implementing Basel III Capital Reforms in Australia</b>	Prudential Regulation	APRA	September 2011	Discussion Paper – Capital reforms	13
<b>Life and General Insurance Capital Review</b>	Prudential Regulation	APRA	November 2011	Discussion Paper – Liquidity Requirements	
			March 2012	Response to submissions – Capital reforms	
			September 2012	Final prudential and reporting standards	
			November 2012	Response Paper	
			May 2012	Consultation Paper	>140 written submissions
<b>Life and General Insurance Capital Review Australia's Financial Market Licensing Regime: Addressing Market Evolution</b>	Prudential Regulation	APRA Treasury	October 2012	Response to Submissions	
			October 2012	Release of new Prudential Standards	
			November 2012	Options Paper	21 (10 not public)
<b>Infrastructure Finance and Funding Reform</b>	Infrastructure Funding	Infrastructure Finance Working Group	April 2012	Final Report	
<b>Infrastructure Debt Financing – Policy Options Consultation Paper</b>	Infrastructure Funding	Infrastructure Australia	January 2013	Options Paper	



**14.3 Recent Reforms Affecting the Financial Services Sector<sup>77</sup>**

Reform	Elements of reform	Date	Comment
<b>Establishment of APRA and ASIC</b>	<ul style="list-style-type: none"> <li>Act establishing ASIC and APRA</li> <li>Changes to Banking Act</li> </ul>	1997(?)	
<b>Superannuation</b>	<ul style="list-style-type: none"> <li>Choice of Fund Legislation</li> </ul>	2005	
<b>Liquidity assistance</b>	<ul style="list-style-type: none"> <li>Increased use of long term Repos</li> <li>Accept "self-securitisations" in repos</li> <li>Term deposit auction facility</li> </ul>	October 2008	
<b>Deposit guarantees</b>	<ul style="list-style-type: none"> <li>Unlimited deposit guarantee</li> </ul>	12 Oct 2008	Response to GFC
	<ul style="list-style-type: none"> <li>Reduction of guarantee to \$1m cap uncharged, larger guarantee for a fee</li> </ul>	28 Nov 2008	
	<ul style="list-style-type: none"> <li>Commitment to permanent deposit guarantee up to \$1m</li> </ul>	2012(?)	
	<ul style="list-style-type: none"> <li>Guarantee Scheme for Large Deposits and Wholesale Funding</li> </ul>	Oct 2008 – 31/3/2010	
<b>Residential Mortgage Backed Securities Market</b>	<ul style="list-style-type: none"> <li>Government intervention via AOFM to support liquidity</li> </ul>	2010-12	
<b>Superannuation</b>	<ul style="list-style-type: none"> <li>MySuper</li> <li>Stronger Super</li> </ul>	2012	Response to Cooper Review
<b>Banking</b>	<ul style="list-style-type: none"> <li>Banning exit fees</li> <li>Covered bonds</li> <li>Enhanced disclosure: inc one page KFS for mortgages</li> <li>Price-signalling</li> <li>Credit card reforms</li> </ul>	2010/11	Banking Package
<b>Financial markets</b>	<ul style="list-style-type: none"> <li>Introduction of competition in financial markets</li> </ul>	2011	Partly in response to Johnson Review
<b>Insurance</b>	<ul style="list-style-type: none"> <li>Standard definition of flood</li> <li>Flood mapping initiative</li> </ul>	2012	Response to Qld Floods and Trowbridge Review
<b>Credit Protection</b>	<ul style="list-style-type: none"> <li>Phase 1 and 2 reforms</li> </ul>	2010-2013	
<b>Tax treatment of foreign funds</b>	<ul style="list-style-type: none"> <li>IMR elements 1, 2 and 3</li> <li>MIT withholding tax</li> </ul>	2011-12	Response to Johnson Review
<b>Corporate Bonds</b>	<ul style="list-style-type: none"> <li>Package of reforms</li> </ul>	2012-2013	

<sup>77</sup> Table based on compilation of reforms listed in (Brown et al, 2011)

## Reference List

- Ainley M, A Mashayekhi, R Hicks, A Rahman and A Ravalia (2007), "Islamic finance in the UK: Regulation and challenges", Financial Services Authority, London.
- Aitken, Michael, Haoming Chen and Sean Foley (2013), "How beneficial has competition been for the Australian equity marketplace?", Capital Markets Cooperative Research Centre.
- Association of Superannuation Funds of Australia (2009), "Better living standards and a stronger economy: the role of superannuation in Australia."
- Association of Superannuation Funds of Australia (2012a), "The development of Australia's capital markets: Discussion Paper."
- Association of Superannuation Funds of Australia (2012b), "Establishing an academic research program with the superannuation sector: Discussion Paper."
- Association of Superannuation Funds of Australia (2012c), "Investing in transport infrastructure: Discussion Paper."
- ASX Group (2011), "Submission to ASIC Consultation on Equity Market Structure Regulatory Framework", ASX Submission, 21 January 2011.
- ASX Group (2013), "Dark Liquidity and High Frequency Trading: Proposals", ASX Submission, 10 May 2013.
- Austrade (2013), "Investor Update", 18 April 2013.
- Australian Council of Social Service (2012), "Poverty in Australia", ACOSS Paper 194.
- Australian Financial Centre Forum (2009), "Australia as a Financial Centre: Building on our Strengths", Report by the Australian Financial Centre Forum, known as "the Johnson Report".
- Australian Financial Markets Association (2012), "2012 Australian Financial Markets Report".
- Australian Financial Review (2013), "Like it or not, firms need the credit", 4 April 2013, p44.
- Australian Government (2010), "Australia to 2050: future challenges", The 2010 Intergenerational Report Overview, Canberra.
- Australian Government (2012), "Australian in the Asian Century: White Paper", Canberra.
- Australian Payments and Clearing Association (2012), "The decline of cheques: Building a Bridge to the Digital Economy", Final Report on the APCA public consultation 'The role of cheques in an evolving payments system'.
- Australian Prudential Regulation Authority (2001), "The Sole Purpose Test", Superannuation Circular No. III.A, February 2001.
- Australian Prudential Regulatory Authority (2011), "Risk and return of illiquid investments: A trade-off for superannuation funds offering transferable accounts", APRA Working Paper, November 2011.
- Australian Prudential Regulatory Authority (2012a), "ADI Points of Presence: June 2012", issued 29 August 2012.

Australian Prudential Regulatory Authority (2012b), "Review of capital standards for general insurers and life insurers: Response to Submissions", October 2012.

Australian Prudential Regulatory Authority (2012c), "Implementing Basel III capital reforms in Australia – counterparty credit risk and other measures: Response to Submissions", November 2012.

Australian Prudential Regulatory Authority (2013a), "Quarterly Bank Performance Statistics: September 2012".

Australian Prudential Regulatory Authority (2013b), "Quarterly Superannuation Performance: December 2012", issued 21 February 2013.

Australian Prudential Regulatory Authority (2013c), "Monthly Banking Statistics: April 2013", issued 31 May 2013.

Australian Prudential Regulatory Authority, Australian Securities and Investments Commission and the Reserve Bank of Australia (2012), "Report on the Australian OTC Derivatives Market."

Australian Private Equity and Venture Capital Association – in partnership with Ernst and Young (2012), "AVCAL 2012 Yearbook: Australian Private Equity and Venture Capital Activity Report", November 2012.

Australian Securities and Investments Commission (2013a), "Dark liquidity and high-frequency trading", Report 331, March 2013.

Australian Securities and Investments Commission (2013b), "Dark liquidity and high-frequency trading: Proposals", Consultation Paper 202, March 2013.

Australian Securities and Investments Commission (2013c), "Market Supervision Cost Recovery Impact Statement – 1 July 2013 to 30 June 2015. Supervision of Australia's domestic licensed financial markets."

Australian Securitisation Forum and Deloitte Access Economics (2012), "Out on a Limb: Domestic fixed income assets in Australia", 23 October 2012.

Bain and Company (2013), "Global Private Equity Report 2013", Massachusetts.

Bank for International Settlements (2012a), "Innovation in retail payments: Report of the Working Group on Innovation in Retail Payments", Committee on Payment and Settlement Systems, May 2012.

Bank for International Settlements (2012b), "Triennial Central Bank Survey: December 2012."

Brown, Christine, Kevin Davis, Mervyn Lewis and David Mayes (2011), "The Global Financial Crisis and Financial Regulation in the Antipodes", in The World in Crisis: Insights from Six Shadow Financial Regulatory Committees From Around the World, ed Robert Litan, November 2011.

Chinn, Menzie and Hiro Ito (2008), "A New Measure of Financial Openness", Journal of Comparative Policy Analysis, Volume 10, Issue 3, September 2008.

Cockerell, Lynne, Chamath de Silva and Chris Potter, "Chapter 12: Australia's Experience with a Floating Exchange Rate", in Exchange Rate Appreciation, Capital Flows and Excess Liquidity: Adjustment and Effectiveness of Policy Responses, ed Victor Pontines and Reza Siregar, 2012.

Comerton-Forde, Carole and Talis J. Putnins (2012), "Dark trading and price discovery", working paper dated 26 November 2012 (available at: <http://ssrn.com/abstract=2183392> )

Committee of Inquiry into the Australian Financial System (chair: Keith Campbell), *Australian Financial System - Final Report*, AGPS, Canberra, September 1981

Council of Financial Regulators (2011), "Consultation Paper: Review of Financial Market Infrastructure Regulation", Canberra.

Council of Financial Regulators (2012a), Letter to Deputy Prime Minister, Glenn Stevens on behalf of CoFR.

Council of Financial Regulators (2012b), "Competition in the clearing and settlement of the Australian cash equity market: Discussion Paper", June 2012.

Council of Financial Regulators (2012c), "Competition in Clearing Australian Cash Equities: Conclusions. A Report by the Council of Financial Regulators", December 2012.

Cummings, Dr James Richard and Dr Katrina Ellis (2011), "Risk and return of illiquid investments: A trade-off for superannuation funds offering transferable accounts", APRA Working Paper, November 2011.

Davis, Kevin (2007), "Banking Concentration, Financial Stability and Public Policy", RBA Conference – The Structure and Resilience of the Financial System.

Deloitte Access Economics (2013a), "Maximising superannuation capital: A report prepared for The Association of Superannuation Funds of Australia", June 2013.

Deloitte Access Economics for AVCAL (2013b), "The economic contribution of private equity in Australia."

Demirguc-Kunt, Asli and Leora Klapper (2012) "Measuring Financial Inclusion: The Global Findex Database", Policy Research Working Paper 6025, The World Bank Development Research Group, Finance and Private Sector Development Team, The World Bank, Washington D.C.

Financial Ombudsman Service (2012), "Building Service Excellence: 2011-2012 Annual Review".

GovernanceMetrics International, country rankings as of September 22 2009, accessed at: [http://www.gmiratings.com/GMI\\_Country\\_Rankings\\_as\\_of\\_09\\_22\\_2009.pdf](http://www.gmiratings.com/GMI_Country_Rankings_as_of_09_22_2009.pdf)

Gruen, David (2011), "The Macroeconomic and Structural Implications of a Once-in-a-Lifetime Boom in the Terms of Trade", address to the Australian Business Economists, 24 November 2011.

Gruen, Nicholas (2013), "Too-big-to-fail banks warp the level playing field", *The Sydney Morning Herald*, February 6, 2013.

Henry, Ken (2010), "The Australian Banking System – Challenges in the Post-Global Financial Crisis Environment", speech to the Australasian Finance and Banking Conference – 15 December 2010.

Henry, Ken (2012), Keynote Speech given at the Association of Superannuation Funds of Australia, Developing Australia's fixed interest markets, published in ASFA Discussion Paper, *Developing Australia's fixed interest markets*, June 2012.

Hosking, Patrick and Suzy Jagger (2009), " 'Wake Up, Gentlemen', world's top bankers warned by former Fed Chariman Volcker", The Times, December 9, 2009.

Hu, Wei-Yin, and Jason S. Scott (2007), "Behavioral Obstacles to the Annuity Market", Pension Research Council Working Paper PRC WP2007-10, Pension Research Council, The Wharton School, University of Pennsylvania.

- Hui, Wei and Pengfei Zhao (2012), "The Industry Sources of Australia's Productivity Slowdown", Australian Bureau of Statistics.
- Industry Super Network (2013), "Building Australia: Super investment initiative", June 2013.
- Infrastructure Australia (2013), "Infrastructure Debt Financing – Policy Options Consultation Paper", January 2013.
- Infrastructure Finance Working Group (2012), "Infrastructure Finance and Funding Reform".
- International Financial Services London (2009), "Islamic Finance 2009", IFSL Research, London.
- International Monetary Fund (2009) "Guidance to Assess the Systemic Importance of Financial Institutions, Markets and Instruments: Initial Considerations", Report to the G-20 Finance Ministers and Central Bank Governors, Washington D.C.
- International Monetary Fund (2011), "Financial Access Survey", <http://fas.imf.org/>
- International Monetary Fund (2012a) "Australia: Financial System Stability Assessment", IMF Country Report No. 12/308, Washington D.C.
- International Monetary Fund (2012b) "Australia: Report on the Observance of Standards and Codes (ROSC) – Summary Assessments", IMF Country Report No. 12/307, Washington D.C.
- International Monetary Fund (2012c) "Australia: Addressing Systemic Risk Through Higher Loss Absorbency – Technical Note", IMF Country Report No. 12/311, Washington D.C.
- International Monetary Fund (2012d) "Basel Core Principles for Effective Banking Supervision: Detailed Assessment of Observance", Financial Sector Assessment Program Update: Australia, Washington D.C.
- International Organisation of Securities Commissions (2011), Technical Committee of IOSCO, "Regulatory issues raised by the impact of technological changes on market integrity and efficiency", July 2011.
- iSelect (2013), "Prospectus for the offer of 116.4 million shares in iSelect Limited at \$1.85 per share."
- Jordan, A/Prof Cally (2008), "Unlovely and Unloved: Corporate Law Reform's Progeny", Working Paper, Faculty of Law, the University of Melbourne, April 26, 2008.
- Kahnemann, D and A. Tversky (1979), "Prospect Theory: An Analysis of Decision Under Risk", Econometrica, 47, 263-291.
- Kaminsky, Gracelia and Sergio Schmukler (2003), "Short-run Pain, Long-run Gain: The Effects of Financial Liberalization", NBER Working Paper Series, Working Paper 9787, Cambridge, Massachusetts, June 2003.
- Kharas, Homi (2010), "The Emerging Middle Class in Developing Countries", Wolfensohn Center for Development at the Brookings Institution.
- KPMG (2011) "General Insurance Industry Survey 2011."
- KPMG (2012) "General Insurance Industry Survey 2012."
- Lake, Nigel, Jonathan Wong, Daniel Mulino and Andrew Agnew for Pottinger (2013), "Building Australia – new approaches to financing infrastructure: White Paper", April 2013.

Levine, Ross (2005) *Finance and Growth: Theory and Evidence*, in "Handbook of Economic Growth Volume 1A", ed Aghion, Phillipe and Steven Durlauf, Elsevier, Amsterdam.

Mason, Sir Anthony (1992), "Corporate Law: The Challenge of Complexity", Australian Journal of Corporate Law, Vol. 2, No. 1, 1992.

McKinsey & Co. and New York City Economic Development Committee (NYCEDC) (2007), "Sustaining New York's and the US' Global Financial Service Leadership", January 2007.

Mercer and the Australian Centre for Financial Studies (2012), "Melbourne Mercer Global Pension Index: October 2012."

Merton, Robert and Zvi Bodie (1995) *A Conceptual Framework for Analyzing the Financial Environment* in "The Global Financial System: A Functional Perspective", Global Financial System Project, Harvard Business School, Harvard Business School Press, Boston.

Milken Institute (2009), "2009 Opacity Index: Measuring Global Risks."

Mitchell, Olivia and Stephen Utkus (2003), "Lessons from Behavioral Finance for Retirement Plan Design", Financial Institutions Center, The Wharton Financial Institutions Center, Pension Research Council Working Paper, The Wharton School.

Organisation for Economic Cooperation and Development (2011), "Strategic Transport Infrastructure Needs to 2030", International Futures Programme.

Organisation for Economic Cooperation and Development (2012a), "Global Pension Fund Statistics: 2012", OECD Publishing.

Organisation for Economic Cooperation and Development (2012b), "Education at a Glance 2012: Highlights", OECD Publishing.

Panzar, J.C. and J.N. Rosse (1987), "Testing for Monopoly Equilibrium", Journal of Industrial Economics, 35(4), 443-456.

Parham, Dean (2012), "Australia's Productivity Growth Slump: Signs of Crisis, Adjustment or Both?", Visiting Research Paper, Productivity Commission, April 2012.

Parkinson, Martin (2012), "Future Challenges: Australia's Superannuation System", Speech to ASFA 2012 Conference – New Directions, 28 November 2012.

Plan for Life (Actuaries and Researchers) (2012), "Life Insurance Industry Report", 31 December 2012.

Reserve Bank of Australia (2011), "Strategic Review of Innovation in the Payments System: Issues for Consultation."

Reserve Bank of Australia (2012), "Strategic Review of Innovation in the Payments System: Conclusions."

Reserve Bank of Australia (2013), "Financial Stability Review", March 2013.

Rice Warner Actuaries (2012), "Reforming the Age Pension", August 2012.

Schaek, Klaus and Martin Cihak (2007), "Banking Competition and Capital Ratios", IMF Working Paper, Washington D.C.

Shiller, Robert (2012), "Finance and the Good Society", Princeton University Press, New Jersey, 2012.

Society of Actuaries (2004), "Retirement Plan Preferences Survey Report of Findings."

Stevens, Glenn (2010) "The Role of Finance", The Shann Memorial Lecture, University of Western Australia, Perth.

The Allen Consulting Group (2011), "Enhancing Financial Stability and Economic Growth: The Contribution of Superannuation."

Thomson Reuters (2013), "Thomson ONE Analytics".

Towers Watson (2013), "Global Pension Assets Study 2013", released January 2013.

Transparency International (2011), "Corruption Perceptions Index 2011."

Vinals, Jose and Anoop Singh (approved by) (2012), "Financial Stability Assessment: Australia", prepared by the Monetary and Capital Markets and Asia Pacific Departments, International Monetary Fund, Washington D.C., October 26 2012.

World Bank and International Finance Corporation (2012), "Doing Business 2012: Doing Business in a More Transparent World", October 2011.

World Bank and International Finance Corporation (2013), "Doing Business: Measuring Business Regulations", accessed at: <http://www.doingbusiness.org/rankings> (benchmarked to June 2012)

World Economic Forum (2012), "The Financial Development Report 2012: Insight Report", Geneva/New York.

Zhao, Shiji (2012), "An overview of Australia's productivity performance", Productivity Commission-ABS Productivity Perspective Conference 2012, 20 November 2012.

Z/Yen Group (2013), "Global Financial Centres Index", GFCI13, March 2013.



# Funding Australia's Future:

## The Future Demand and Supply of Finance

---



Professor Rodney Maddock and Peter Munckton

---

[www.fundingaustraliasfuture.com/thefuturedemandandsupplyoffinance](http://www.fundingaustraliasfuture.com/thefuturedemandandsupplyoffinance)

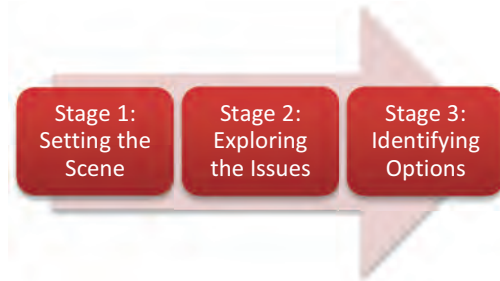


## **Funding Australia's Future**

The Australian Centre for Financial Studies (ACFS) instigated the project *Funding Australia's Future* in late 2012 to undertake a stocktake of the Australian financial system, and its role in facilitating economic growth within the wider economy.

In an economy which has enjoyed 21 years of consecutive economic growth and shown resilience through the Global Financial Crisis (GFC) which is the envy of many nations, the financial sector has played a strong and pivotal role. The past decade, however, has been one of significant change. The impact of the GFC and the subsequent wave of global re-regulation have had a profound effect on patterns of financing, financial sector structure, and attitudes towards financial sector regulation. Identifying the extent to which these changes are transitory or likely to be more permanent is crucial to understanding how financing patterns and the financial sector will develop over the next decade or so.

The *Funding Australia's Future* project is in three stages, the first of which analyses the interaction between suppliers of funds, financial sector participants, and end users throughout the economy and assesses future demand for and supply of finance in Australia.



In undertaking this analysis, ACFS has worked with a group of financial sector stakeholders, including the Australian Bankers Association (ABA), Abacus, the Australian Finance Conference (AFC), the Australian Financial Markets Association (AFMA), the Association of Superannuation Funds of Australia (ASFA), the Australian Securitisation Forum (ASF), the Australian Securities Exchange (ASX), the Future Fund, the Financial Services Council (FSC), the Insurance Council of Australia (ICA), and National Australia Bank (NAB), as well as Treasury and the Reserve Bank of Australia (RBA).

This paper is one of three in Stage One, which include:

- “Financing Australia’s Future: from where do we begin?” – authored by Professor Kevin Davis, Australian Centre for Financial Studies, University of Melbourne;
- “The Future Demand and Supply of Finance” – authored by Professor Rod Maddock, Monash University and Peter Munckton, independent financial consultant; and
- “Improving Australia’s Financial Infrastructure” – authored by Dr Daniel Mulino, Pottinger.

Issues identified in Stage One of the project will be examined in some detail in Stage Two, with policy options being addressed in Stage Three.

## Notes on the Authors

**Professor Kevin Davis:** Kevin is the Research Director of the Australian Centre for Financial Studies and has been Professor of Finance at The University of Melbourne since 1987. He currently holds a part time appointment at Melbourne University and also as a Professor at Monash University in his role as Research Director of ACFS. He is a member of the Australian Competition Tribunal, a Director of SIRCA, and was on the Board of Melbourne University Credit Union from 1991 – 2011. Kevin has co-authored/edited sixteen books and has published numerous chapters in books and articles in academic journals. Kevin has extensive consulting and training experience, is a regular contributor to public debate on financial matters, and a regular speaker at industry and academic conferences. In 2003 Kevin was appointed by the Federal Treasurer to prepare a report on “Financial System Guarantees”, assessing the case for introduction of deposit insurance.

**Dr Daniel Mulino:** Daniel is the Director, Policy at Pottinger (an independent corporate advisory firm). He has a PhD in Economics from Yale University (2005), a Master of Economics from the University of Sydney (Hons, 1st), and a Bachelor of Arts/Bachelor of Laws (Hons) from Australian National University. Daniel has undertaken research into the relationship between international capital flows, migration and the impacts of an ageing society at the Board of Governors of the Federal Reserve of the United States and worked as a consultant to the Private Sector Advisory Services Group of the World Bank. In Australia, he was Economic Adviser to the Minister for Employment and Workplace Relations, Minister for Financial Services and Superannuation, where he worked on the establishment of, and the Minister's interaction with, the Natural Disaster Insurance Review, as well as government adoption of the Investment Manager Regime, a key recommendation arising from the Johnson Review into Australia as an international financial centre.

**Professor Rodney Maddock:** Rod is an Adjunct Professor at Monash University and was a senior executive at the Commonwealth Bank for the last decade after earlier stints as Chief Economist for the Business Council of Australia, and Head of Economic Policy in the Victorian Cabinet Office. Prior to that, Rod was one of Australia's leading academic economists as Professor of Economics at Latrobe University. He is currently working on a book on the history of the Australian economy.

**Peter Munckton:** Peter is a Sydney-based consultant, He has long experience in the sector having been general manager for strategy at the Commonwealth Bank and earlier Head of Debt Market Research at CBA. He has also worked as an economist and equity strategist at Bankers Trust of Australia, and earlier he worked in various roles at the Commonwealth Treasury.

\* The Australian Centre for Financial Studies (ACFS) is a not-for-profit consortium of Monash, RMIT, Deakin, Griffith and Melbourne Universities, and Finsia (Financial Services Institute of Australasia). ACFS facilitates industry-relevant and rigorous research and consulting, thought leadership and independent commentary. Drawing on expertise from academia, industry and government, the Centre promotes excellence in financial services.

[www.australiancentre.com.au](http://www.australiancentre.com.au)

## Table of Contents

<b>Executive Summary .....</b>	<b>4</b>
<b>Introduction .....</b>	<b>9</b>
<b>Part A: Saving, borrowing and the fall in capital inflows .....</b>	<b>10</b>
1. Introduction .....	10
2. Demand for funds.....	11
3. Supply of funds.....	19
4. Balance.....	24
5. Scenarios .....	29
<b>Part B: Institutions.....</b>	<b>32</b>
1. Introduction .....	32
2. Banks.....	34
3. Superannuation .....	42
4. Markets .....	50
5. Regulations.....	55
<b>Conclusions .....</b>	<b>58</b>
<b>Reference List.....</b>	<b>60</b>

## Executive Summary

The paper is in two parts:

- Part A deals with the broad question of the availability of funds to support Australia's economic growth. Its broad conclusion is that sufficient funding will be available even though the relative contributions of households, businesses, government and foreign are likely to change.
- Part B then traces the impact of those aggregate level changes onto the flow of funds within the Australia economy. We discuss likely changes to the position of banks and superannuation funds as intermediaries, and to the balance between direct, market-based financing and that which passes through intermediaries. The final section deals with the impact of these changes on regulation, and the extent to which the changes will be driven by regulation.

The main focus is on flows rather than balance sheets, and we have looked towards longer terms trends, rather than at the last decade in particular (covered by the Davis chapter) or institutional arrangements (covered in the Mulino chapter).

One general observation is that each sector is in the process of profound but slow-moving change. Households appear finally to have come to an end of their adjustment to financial liberalization in the 1980s and the decline in inflation in the 1990s; businesses do not yet seem to have recovered from the scars of the recession of the early 1990s; it is unclear whether we will get back to the government budgetary discipline of a decade ago; and banks and superannuation funds are still adapting to the changes in the flow of funds caused by the growth of compulsory saving through super; self-managed funds do not seem to have settled their underlying asset allocations; and regulations are on a long term glide path. The processes involved seem likely to take a long time to converge on their natural conclusions.

The second general observation is that finance operates as a system. Banks, superannuation funds, and financial markets all compete with one another to help economic agents address their problems and exploit their opportunities. Changes in one component of the system inevitably cause adaptation in others.

### Part A

Households, businesses, and government experience periods when their demand for funds exceeds their own savings, and other periods when their savings exceed their needs. There are period when they are net borrowers and periods when they are net lenders. For most of

Australia's history their collective demand for funds has exceeded their savings, and capital (savings from offshore) has made up the difference. In understanding how Australia will fund its future, we thus need to form views about the net savings/borrowings of the domestic sectors and about the availability of foreign capital to fill any shortfall.

Surprisingly, understanding the household sector's net savings is amongst the most difficult. Historically the household sector has been a natural net saver, a sector which provides funds to businesses which invest for growth. However, for much of the past twenty years the household sector has been a net borrower, rapidly building its stock of assets (real estate and equities in the main). There are clear signs that this period has now finished and households are again net savers.

The reasons for the unusual behaviour of households are not completely understood. Globally, the combination of liberalized capital market and lower inflation meant that it became easier for more households to borrow larger amounts. This led to an upwards movement in asset prices, not the least housing prices. Privatizations, de-mutualizations and the growth of defined contribution superannuation also encouraged the development of an equities culture and broader access to capital gains which may have played a role in the willingness of households to reduce savings and to borrow to invest. Whatever the reasons, that behaviour has now changed and households have reverted to more traditional savings patterns. It is completely unclear whether the current savings rate will persist, and whether households will push savings higher (the re-1980s pattern) or lower (the early 2000s pattern). Our working assumption is that it will stabilize about the current level.

Corporations too have been in an unusual savings pattern. Businesses have retained more earnings than the norm. While business investment is always more volatile than retained earnings, what is remarkable about the past few years is that businesses have been able to fund the big upsurge in investment associated with the boom and still generate high levels of internal savings. The demand by businesses for credit is particularly low. As resource prices fall, we are likely to see both a reduction in internal funding by businesses and a return to their borrowing rather more than they have of late. In this we are assuming a re-balancing of the economy away from resources and towards other sectors. Again we are suggesting a return to corporate borrowing (credit and debt) at around about 5% of GDP, and growing roughly at the rate of nominal GDP. In the very short term corporate savings are likely to fall as resource prices come off and investment stays high as the investment in gas continues. The result may therefore be that corporates use of savings from other sectors may spike above that level.

Government savings is also in an unusual phase. Government became a big net borrower during the financial crisis and is now struggling to return to the more neutral position it established over the decade to 2006. Given growing demand for government funding it is unclear how successful the move back to surplus will be.

Australian history teaches us that capital has normally flowed in to take advantage of our investment opportunities. In a world in which Australian households return to saving, and corporates to borrow at moderate levels, Australia's call on foreign savings is likely to be lower, particularly if government is able to run closer to balance. The timing is opportune as developing countries are likely to provide better returns to global capital over the medium term than is Australia. National savings and investment closer to balance means that the current account will be closer to balance.

In a broad sense then Australia's future will be funded by significantly more domestic savings than we have seen in the past twenty years. Capital inflows will make up any deficiency although the call is likely to be smaller.

## **Part B**

The three major sets of financial institutions involved in channeling funds from savers to investors are banks, superannuation funds and financial markets. Each will be impacted by changes in the gross flows, particularly the rise in households saving and re-emergence of corporate borrowing.

Banks compete with superannuation funds, equity and bond markets for households' savings. One reason banks borrowed extensively offshore over the past twenty years has been both the reduction in the level of households' savings and their redirection through superannuation funds and into equity markets. The financial crisis exposed the risks being undertaken by banks as a result of their substantial exposure to wholesale, and particularly offshore short-term, funding markets. Management, regulators, rating agencies, and the lenders themselves have all 'required' our banks to ensure greater certainty of funding. This has led the banks to push hard for retail deposits, that is, to compete for more of household savings.

We expect the pressure to retain a high proportion of retail deposit funding will be sustained. In the long run, we expect banks' ability to borrow offshore to grow at the same rate as their deposit funding. As such it constrains banks' capacity to lend with consequences for their rates of growth and their business models. It makes banking growth very dependent on the extent to which households are willing to save and the form such savings takes. Almost certainly it means that banks will have to pay more for retail deposits

(that is, closer to the rates available in other outlets for household savings). It also means that bank lending growth is likely to settle at the rate of growth of deposits, which will probably be close to the rate of growth of nominal GDP.

The superannuation industry manages assets about half the size of those in the banking system. The tax system ensures the continuing inflow of funds, with the ramp up to 12 per cent ensuring it will grow faster than the economy as a whole. Besides lowering current consumption, superannuation changes the path of savings within the economy, ensuring more is professionally managed and bringing greater international diversification, increased exposure to risk assets like equities, and potentially more patient investment given the long-lived nature of their liabilities. Compulsory superannuation is both a major social experiment and major financial experiment.

The increase in funds managed professionally, resulting in more international diversification, is part of a global spreading of risk, and has boosted gross flows from Australia. This has made the regulatory challenges more difficult and provided both risks and opportunities for domestic market operators. The derivative markets have grown disproportionately, improving wellbeing by providing insurance against a wider range of risks, but it too poses risks and challenges for regulators and market operators. While moving trading into markets is desirable and should boost trade, Australia is unlikely to be able to go it alone and global consensus still seems a way off.

The very rapid growth of self-managed superannuation funds however challenges this. Surprisingly self-managers make very different asset allocations to professional managers: maintaining a lot more cash and a more domestic focus. It suggests that individuals are not happy with the allocations made by the professionals, but it is unclear who will change. It is a very important question since self-managed funds have been growing so much more quickly than other funds.

The other major uncertainty for super funds is how they manage their own growth. Projections for the assets managed by the sector suggest significant growth in scale and it is not yet clear how the funds will manage this transformation. Most notably, they may choose to bring more activities in-house with consequences from the largely-outsourced current model.

The convergence of retail deposit rates towards wholesale market rates reduces some of the advantages banks have had in funding and improves the relative position of other vehicles which fund themselves in the wholesale market. Market-funded institutions are likely to grow relatively faster as a result.

Banks are likely to respond by moving more of the assets they have held off into markets, or by selling more of them directly to superannuation funds. This latter is a sensible adjustment since super funds should match their longer-date liabilities with longer-dated assets. Bank business models are likely to migrate to accommodate this.

The slow pace of behavioural change, with households still adjusting to changes made over last twenty years, combined with sometimes furious bursts of product innovation complicates regulation, supervision and governance of the sector. The increase in gross financial flows means that risks can be transmitted more quickly around the world and across institutions raising the cost of mistakes significantly.

Regulators face two broad choices. They can choose to slow innovation and flows so that risks can be more clearly understood before they become large, or they can ring-fence and strengthen key parts of the financial market so that problems arising outside the net do less damage. To date they seems to have focused on the latter. The risks to the strategy are that (i) tighter regulation of the core still does not guarantee stability, (ii) the excessive regulation can slow the economy and impose excessive costs, and (iii) the potential damage arising from activities in the periphery could still be large. With regulations based on national laws, and institutions easier to regulate than markets, it seems that some limits on financial globalization are inevitable and some regulators are moving more down this path already.



## Introduction

This paper considers the future primarily in the context of longer run trends in the economy, and looks predominately at flow issues. Professor Davis's paper complements it by studying the recent period more intently and dealing with balance sheets matters. Dr Mulino's paper deals more intensely with issues of formal design of the system, with regulations and legislation.

Households, businesses and governments all feed in to the domestic demand for funds, and all have a role to play in the supply. Foreign capital can also make a net contribution to savings, or deduct from it. Part A of the paper describes how behaviour has changed and is likely to evolve at this macro level.

A comparison of Australia's savings and investment patterns with those of OECD countries is presented in the table below. What is quite obvious is that in recent history Australia has saved somewhat more than the OECD average and that any perception of a savings gap is driven by the very high levels of investment. As for most of our history, with abundant natural resources and an immigration-augmented population, the country has proven an attractive location for offshore capital. But despite the focus on dependence upon foreign saving, more than three-quarters of Australian investment is still funded domestically.

**Table 1 Gross national savings and investment (% of GDP)**

	Savings		Investment	
	1980-2007	2008-2012	1980-2007	2008-2012
Australia	21	24	26	28
New Zealand	17	15	22	20
United States	17	12	20	16
Canada	20	21	21	23
Germany	22	24	22	18
UK	16	13	18	15
Japan	30	23	27	21
OECD average	22	20	22	20

*Source: IMF World Economic Outlook Database (April 2013)*

Part B of the paper then goes on to look at how a number of major institutions respond to the changes we foresee. We deal first with banks, then superannuation funds, then markets. The section is concluded with a discussion of some of the regulatory implications.

Since we are taking a long view of trends, we assume throughout that growth in the domestic economy in nominal terms will stay around 5 to 6% while noting it may track lower as the terms of trade come down. Implicit in this assumption is that the international economy will grow broadly in line with IMF longer term forecasts.

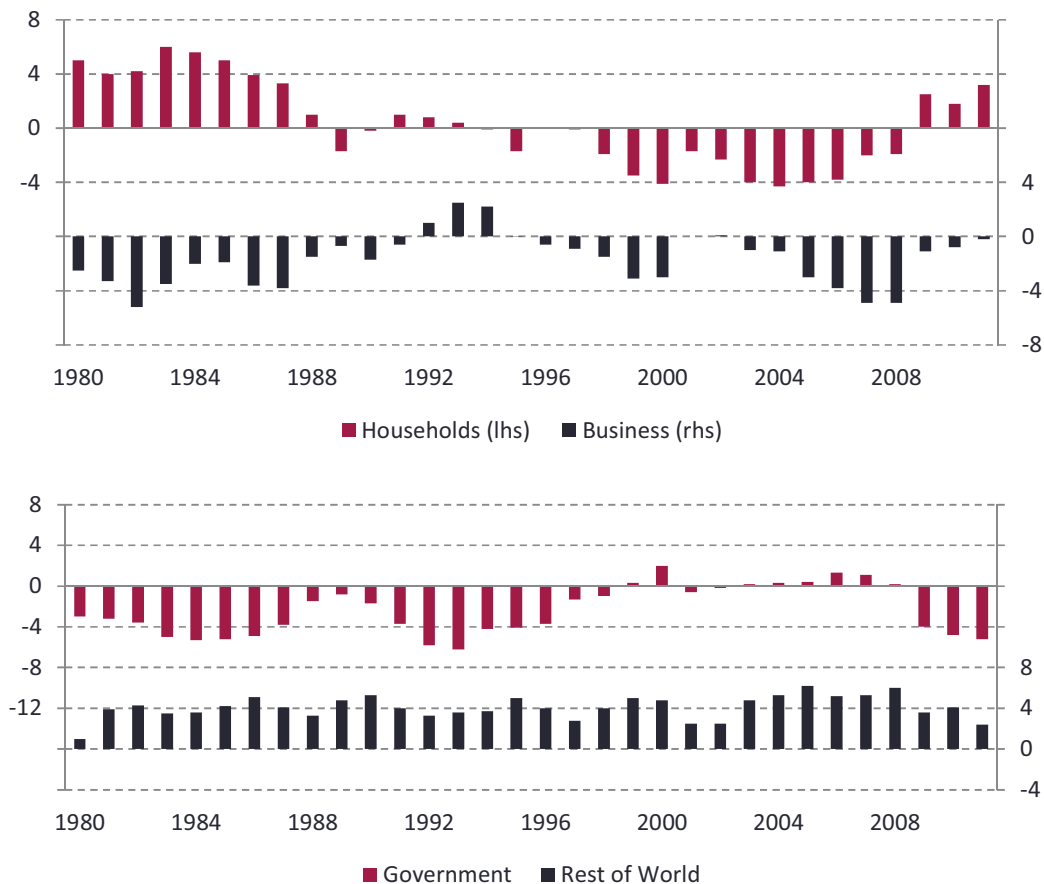
## Part A: Saving, borrowing and the fall in capital inflows

### 1. Introduction

Figure 1 below sets out the basic pattern of net lending in the Australian economy over recent decades. The most dominating inference is that the “Rest of the World” has been the only consistent net lender into the economy. Each of the other sectors has spent periods as a net lender and others as a net borrower. The debate over causes and consequences of such deficits is surveyed in Belkar et al (2007).

The fundamental question when we are thinking about funding Australia's future is to consider these underlying patterns and reflect on how they will evolve into the future. For each domestic sector, households, businesses and governments, there are drivers of their demand for funds (investment, consumption), on their supply for funds (consumption smoothing, retaining earnings for investment), and a budget constraint that each should meet imposed because of the need to pay back borrowings.

**Figure 1 Sectoral contribution to lending (% of GDP)**



Source: CBA

By contrast with domestic entities, foreign capital has contributed to Australian investment and consumption for most of our history. Some of it has been in the form of equity and some debt, and collectively it has allowed other groups to all be net borrowers at the same time. If capital inflows were to stop, domestic sectors would need to fund each other. This is the subject of the last section in this part of the paper.

## **2. Demand for funds**

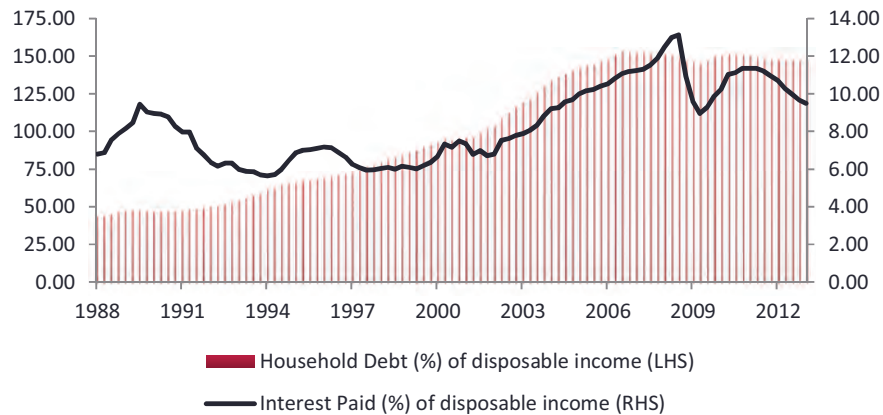
### **2.1 Households**

By historical standards, the unusual feature of Figure 1 above is the fact that the household sector borrowed heavily during the decade centred around 2000. Historically and in most economies the household sector has been a net saver, the corporate sector a net borrower, and the government relatively neutral. The period of increasing household leverage, most notably at the upper end of the income distribution, is only matched in our history by the run up towards the 1890s recession. Australian household leverage is towards the top end globally although over the past five years it has levelled out (Stevens 2011). Our central case assumption will be that households maintain their current level of borrowing as a proportion of their disposable income sustaining their current levels of gearing.

The increase in debt from about 1990 more than offset the reductions in interest rates resulting in a sharp rise in the debt servicing ratio of households. While their debt to income ratio stabilized after 2003, it was only after the large decline in interest rates post the financial crisis, that the debt servicing ratio has fallen. Households appear to have been happy to increase their debt prior to the crisis because of the large increases in the value of their assets (especially houses and shares). The subsequent decline in house prices, and the fall in the equity market, reduced the value of household assets. This has played an important role on the asset side of the balance sheet.

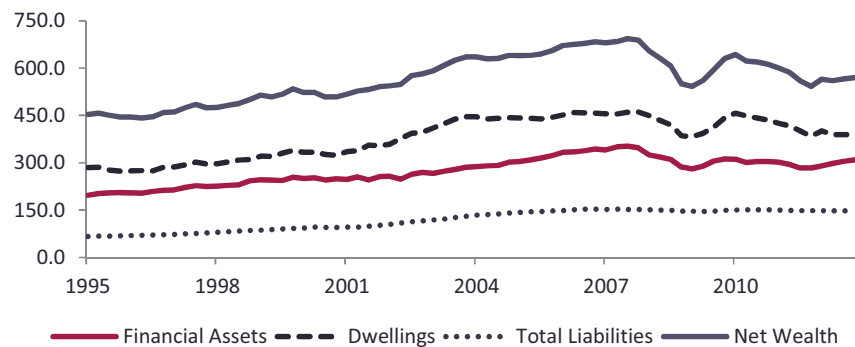
As is clear from Figure 1, faced with an increase in economic uncertainty, households have responded by stabilizing and then increasing saving. This, combined with the fall in interest rates has allowed households to move well ahead on the debt repayments. The combined impact of these factors has reduced aggregate household vulnerability to any economic shock, most notably in unemployment.

**Figure 2 Household financial Position**



Source: RBA Chart Pack, 2013

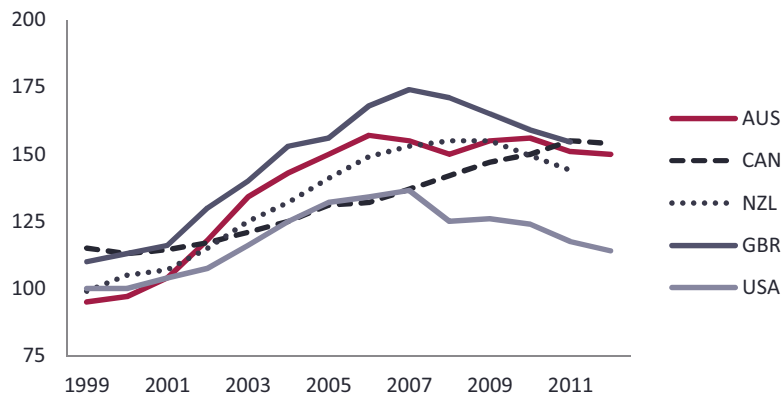
**Figure 3 Household wealth and liabilities (% of disposable income)**



Source: RBA Chart Pack, 2013

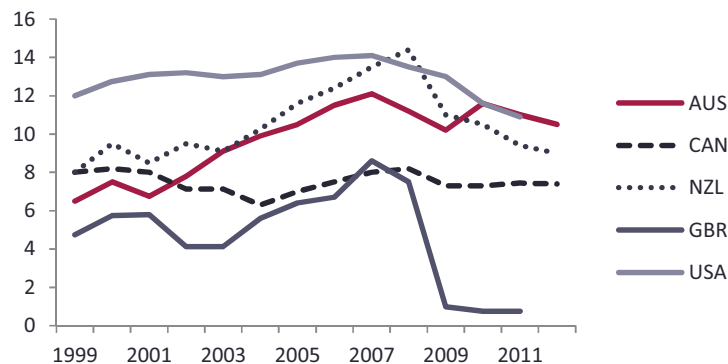
Rising household debt was a feature of most OECD countries over the past couple of decades, driven by the same drivers – lower interest rates and deregulation of financial markets. When measured by debt-to-income ratios (whether household income or GDP), Australian households moved from being very under leveraged by international standards in the early 1990s, to being towards the top end of the household debt table by global standards by 2010 (Figure 4). Using alternative measures of leverage, such as the debt-to-assets ratio, Australia's leverage does not appear as high by global standards. This reflects the large run-up that has taken place in house prices in Australia, although higher financial asset prices has also played a part reflecting the strong weighting of Australian saving portfolio directed towards equities.

**Figure 4 Household Debt to Disposable Income (%)**



Source: IMF Article IV Review 2012: Australia

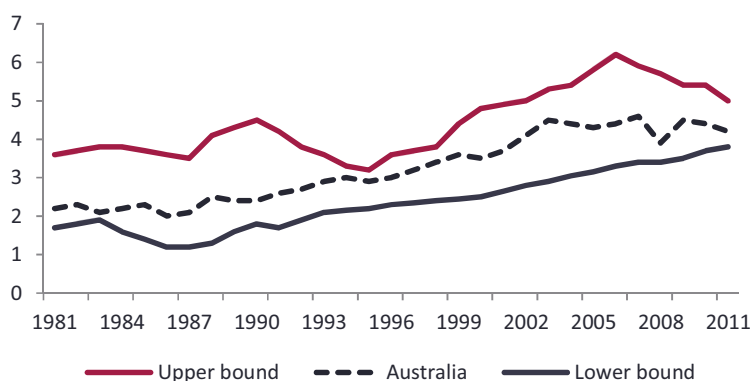
**Figure 5 Household Interest Payment to Disposable Income (%)**



Source: IMF Article IV Review 2012: Australia

The bulk of the rise in household debt has been caused by mortgage debt, and the main driver of total mortgage debt has been the increased size of mortgages taken out. In this, the trend in Australian house prices does not appear very different from prices elsewhere. Figure 6 below tracks the upper and lower bounds of movements for a range of countries which suggests global explanations for the broad upwards shift: lower inflation and financial liberalization seem the most likely candidates (Ellis 2006).

**Figure 6 Average dwelling price to average disposable income for Australia versus a range of OECD countries**



*Note: Countries cover Belgium, Denmark, Canada, France, Germany, Ireland, Italy, Netherlands, New Zealand, Norway, Spain, United Kingdom. Extracted from RBA Bulletin, December 2012.*

In Australia's case not all households participated in the move to pay more for houses. The evidence from the HILDA survey is that the bulk of the increase in mortgage debt held by Australian households has been undertaken by the wealthiest quintiles of the population. Indeed, in 2010 the top income quintile accounted for almost half of total debt, while the top two quintiles accounted for over 70 per cent of debt. The survey also indicates that the largest increase in gearing has taken place in the wealthiest income quintiles (Connolly and McGregor 2011). Relative to countries with similar financial systems (the US, Canada, UK and New Zealand), the proportion of middle and higher income households that hold debt is about the same as Australia

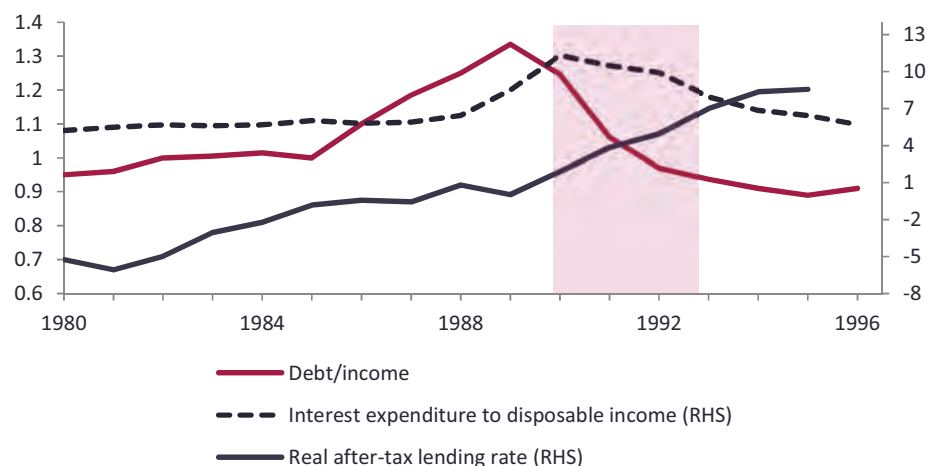
Our view of household borrowing as growing about in line with nominal income is based upon the view that households have adjusted to the new lower level of interest rates, and have reached a new equilibrium level. But there is no certainty that households will maintain their current levels of leverage.

International comparisons suggest that household leverage can be higher than our central-case assumption. Canadians hold a higher level of debt than Australians relative to their income (Figure 4), although it is noticeable that their debt servicing ratio is lower than Australians'. And keeping current debt per head levels constant, a rise in the number of households borrowing towards the level of the UK would see an extra 5-10% of households hold mortgages. However the general pattern revealed in Figure 5 above suggests that for Australians to increase their leverage ratio, interest rates would probably have to be lower to allow them to maintain their debt servicing ratios at about the current level. An extended period of low, or even negative, real interest rates could be expected to lead to an increase in borrowing.

It is also clear that richer Australians have greater capacity to invest in property should they choose to do so.

On the other hand declines in household leverage were also observed in the Netherlands, and the Nordic countries following their recessions of the early 1990s. In Sweden during its crisis of the 1990s the debt to income ratio fell from about 135% of household disposable income to under 90% with the adjustment taking about six years. The precursor was a large run up in household debt, a financial crisis, and then a significant economic recession. Accordingly, the decline in household debt was both a demand side shock (households reducing demand for credit because of higher unemployment) and supply side shock (banks offering less credit as they tried to fix their balance sheets). (Remember that Sweden nationalised banks, and established a separate bad bank, to keep the banks operating as normally as possible: as the chart shows, rates rose: Ergungor 2007)

**Figure 7 Adjustment by Swedish households after the crisis**



Source: O. Ergungor, Federal Reserve Bank of Cleveland Discussion Paper, 2007.

\* Shaded bar marks recession

The high level of household debt in Australia means that households are more sensitive to expected changes in income. And with most of their debt sitting on bank balance sheets, this makes the banking sector more vulnerable to a significant rise in household debt, particularly if it coincides with a major correction to house prices. This scenario is one that is very widely recognized. Indeed, it is the basis for many of the stress tests run by the banks and APRA (Davis 2011). These stress tests typically also assume that there will be a substantial slowing of household credit growth, if not an outright decline.

Summary: We believe that the most likely course is that household demand for debt will broadly grow in line with income growth. The recent volatility in global economies and

declining asset price growth is likely to have had a long-lasting and moderating impact upon household demand for credit.

This scenario assumes that there will be a moderate decline in the terms of trade over the next few years, and the policy and exchange rate response will be appropriate. In the event of a more substantial decline in the terms of trade, and without an offsetting exchange rate and policy response, there may well be a substantial decline in national income. What happens to nominal levels of debt obviously depends on what happens to inflation and underlying macro management (Gale and Orszag 2004).

It is easy to envisage scenarios for both higher and lower household leverage. Although households have had a 'scare', the fact that there has not been a sustained rise in unemployment means that the caution on spending exhibited post-GFC might be temporary. International comparisons also suggest that there is scope for the proportion of lower income households to hold mortgage debt to increase.

In effect while our central belief is that household demand for credit appears likely to stabilize at around the current levels, a movement (possibly significantly) in either direction is a decent possibility.

## 2.2 Business

For much of the forty years since 1960 the trend in private business investment was relatively flat, fluctuating between 10-15% of GDP. Over the past decade the trend has increased, driven by the extraordinary increase in mining investment partially offset by weaker investment in many non-mining sectors. While resource sector investment should remain strong in the near term, the signs are that mining investment will decline over the next decade as projects come on stream (ABARES 2013). This is similar to the patterns exhibited following previous mining booms.

Is it possible for total business investment to increase further over the next decade? We see it as unlikely. For this to happen a mix of the following pre-conditions needs to be in place: (i) a strong global and domestic economy; (ii) any reduction in mining investment over the next decade be modest, effectively a condition that Chinese demand for resources not collapse; (iii) India moving to a higher investment growth plane, and therefore of mineral consumption; (iv) a rise in non-mining investment. This would require strong growth and continued low real interest rates; and (v) a continued upwards movement in Australian real wages that would induce further capital labour substitution.



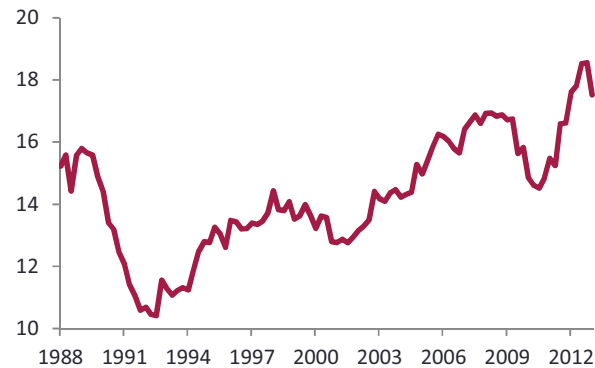
Chinese growth is clearly important, for us directly as a major trading partner but also for global growth. The resource-intensive phase of China's economic development is still incomplete - if historical international benchmarks are relevant as demonstrated by RBA and other research which should support investment here to meet the volumes required (Berkelmans and Wang 2012). The rebalancing of the Chinese economy away from export-oriented and manufacturing-driven growth and toward a more consumption-driven model should reduce its direct competition with American and European manufacturers and increase demand for their service exports. There are risks in the adjustment but the overall effect of adding several hundred million of additional consumers to the global marketplace should provide net stimulus to world growth.

The commercial property sector plays an important cyclical role. Crashes in that sector in the later 1980s and early 1990s were instrumental in provoking Australia's recession of that era. One of the big drivers of the rise in business investment in the middle of the last decade was a large increase in borrowing to finance property. These sudden swings in the desire to construct/buy commercial property appear to represent a stock adjustment process and hence to come on to the economy somewhat unexpectedly (Ellis and Naughton 2010). If non-mining investment is to rise sharply, one likely source will be the commercial property sector.

The alternative case is that the corporate demand for funding declines. This is not a hard scenario to imagine given that business investment is currently at an all-time high relative to the size of the economy. As noted, mining investment can be expected to decline (ABARES 2013). While some rise in non-mining investment can be expected, particularly if it corresponds with a decline in the exchange rate, it will be hard to replicate the strength of the current mining investment boom.

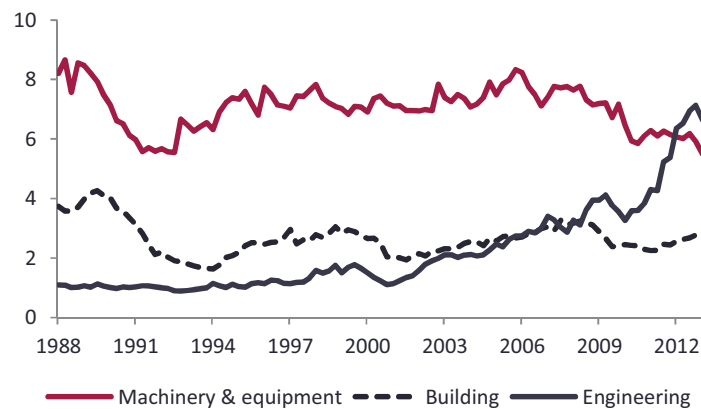
How much might business investment decline? The heavy cyclicity of business investment means that the main driver will be the performance of the domestic and global economies. The lessons from the history of past mining booms are mixed. The moderation of growth in business investment following the end of the 1960s and late 1970s/early 1980s booms was modest (by around 2.5 percentage points of GDP). By contrast following the 1890s boom, business investment declined from almost 14% of GDP at the peak, down to around 2.5% in around ten years (Maddock 2013a). To achieve a decline of the magnitude of the 1890s would require both mining investment to decline substantially, and non-mining investment to decline further from current levels. This would probably require a combination of very weak economic growth in Australia and the global economies, and for the real exchange rate to remain relatively high.

**Figure 8 Business Investment Share of Nominal GDP (%)**



Source: RBA Chart Pack, 2013

**Figure 9 Business Investment Components (Share of Nominal GDP (%))**



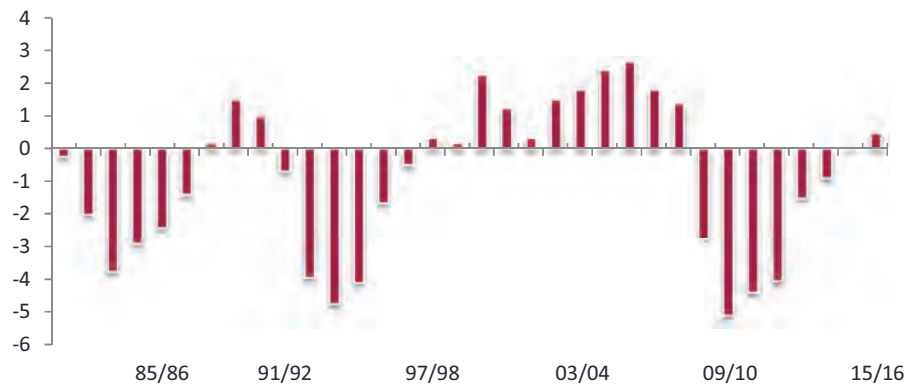
Source: RBA Chart Pack, 2013

## 2.3 Government

The Federal Government is currently committed to achieving budget balance over the business cycle. We expect this commitment to be honoured. While the task is looking harder, the commitment is important. Our base line assumption is that there will be no net increase in government borrowing over the ten year forecast window. State governments' deficits in aggregate are expected to be modest. History indicates that budget surpluses typically take place in an environment of extended strong economic growth. It is not clear we will see such conditions again soon.

An ageing population is at times mentioned as a driver of higher budget deficits, and therefore an increased government demand for funding. While an aging population is forecast to lead to pressure on the budget, Treasury projections in the 2010 intergenerational review suggest that pressure on the budget from an ageing population will not start to become noticeable until the 2020s (Treasury 2010).

**Figure 10 General government cash balance (as % of GDP)**



*Source: RBA Statement on Monetary Policy, 2013*

One interesting point from Figure 10 is that there appears to have been a general trend increase in the size of government deficits relative to the size of the economy over the past thirty years. Indeed, the surpluses achieved in the early part of this century appear very much the outlier. The increase in the size of the budget deficits can be explained in part by the growth of automatic stabilizers but the recent crisis was also characterized by a philosophy of “go big, go household” which may characterize the responses of future governments to falls in aggregate demand.

If this is the case, government borrowing may constitute a more volatile element of future capital flows than it has in the past. Although the response is one designed to be countercyclical, depending on the nature of the event it may mean that the government, the major banks, and others are all looking for offshore funds at the same time.

The main driver of the cyclicity of government demand for funds arises from the use of normal budget stabilizers. The profile of public investment historically has not necessarily reflected the state of the economic cycle, but more likely reflecting the underlying need of the industry. Given the substantial planning and implementation of many public investment projects, its use to dampen the economic cycle is difficult. Nonetheless, there does appear to be room for better planning to increase the role of public investment as an economic cycle counter-weight.

### **3. Supply of funds**

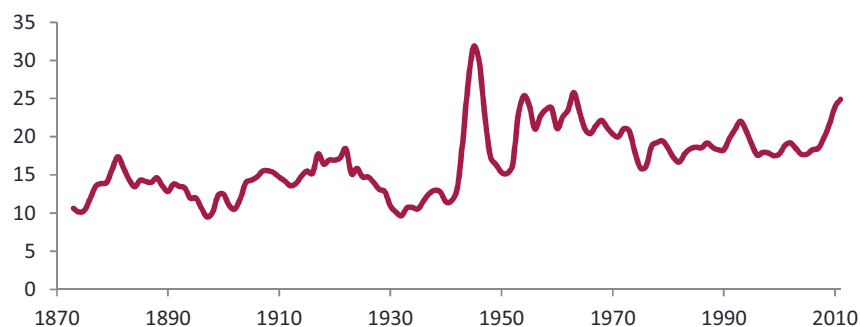
The long term pattern of domestic savings in the economy is shown in Figure 11. The most notable feature is the upward shift in savings after World War II. It is not completely clear why this occurred (many countries saw this same rise but not the US) but higher living standards seem likely to be part of the explanation. It may also have been that a constrained

borrowing environment meant that households in particular had to fund a higher proportion of their desired investment from saving. Ignoring that adjustment, domestic savings has sat within a range of 15% to 25% of GDP for the last sixty years.

Looking more closely we note that during the Great Depression, and during the Second World War, periods when the offshore markets were largely closed to Australian borrowers, domestic savings rose to compensate. This tendency for domestic savings to rise when foreign capital inflow falls also features in the period around the 1890s recession when foreign capital flowed out but was substituted for by increased domestic savings (Maddock 2013a).

The other obvious feature of the long term chart is the fact that savings fell to and sustained a level of about 18% of GDP (incidentally the OECD average rate) during most of the post-liberalization period. The exception is the recent surge. Indeed, the current level of national saving is near post-war highs.

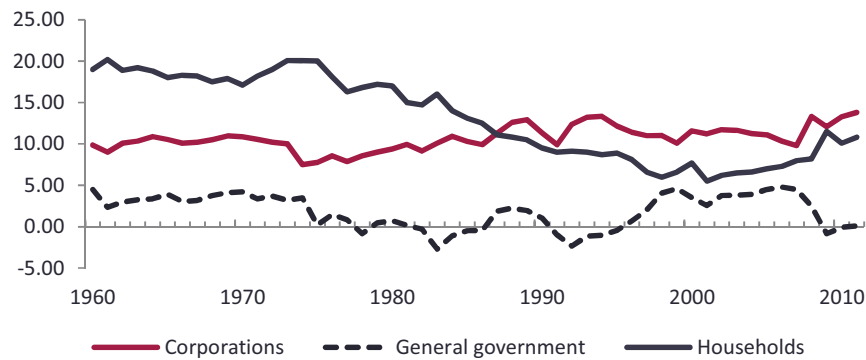
**Figure 11 Domestic savings as percentage of GDP**



*Source: Madsen data set. Three year averages.*

The more recent swings (Figure 12) in domestic savings are harder to explain. The fall in domestic savings from 1970 through to the early 2000s was almost all a result of the fall in household savings. And most of the upswing in total domestic savings is also the result of the recent rise in household savings. By comparison, swings in other components of savings appear relatively muted: the (smallish) decline in government savings is almost completely matched by an offsetting rise in corporate savings.

**Figure 12 Recent swings in domestic savings**



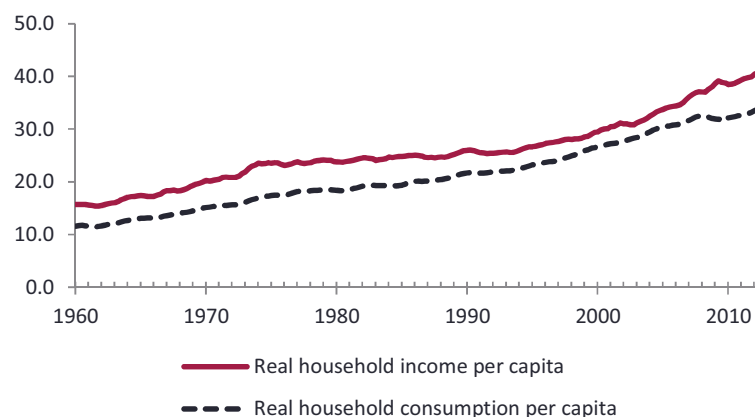
Source: Bishop and Cassidy (2012), original data ABS.

### 3.1 Households

The most surprising feature of Figure 1 above on net lending by Australian sectors is the fact that the household sector became heavy net borrowers during the decade centred around 2000. This reflected changes on both sides of the household balance sheet, with a big increase in net borrowing at the same time as a substantial decline in household saving.

For an extended period there was no clear and accepted explanation for this savings behaviour by households. Households usually save to smooth their consumption cycle (and hence savings patterns reflect underlying demographics) and maintain a stock of savings to facilitate transactions. Figure 13, and a series of speeches by the Governor of the Reserve Bank, throws some light on the subject.

**Figure 13 Trends in real household consumption and income (in 2009-10 dollars)**



Source: RBA, Glenn Stevens' speech 2012

Household consumption and income grew in parallel for the period between 1960 and 1974. For the subsequent periods and up until very recently, consumption grew faster than

income: the savings rate fell and household leverage rose. This occurred both when income was growing quickly (1995 to 2005) and when it was growing slowly (1975 to 1994). The likely drivers were the rise in inflation which made saving less attractive and financial liberalization which made it easier for households to access funds. There was a change in the series in the early 2000s when income started to grow more quickly as the terms of trade started to improve, and a fall in consumption later in the decade with the advent of the financial crisis.

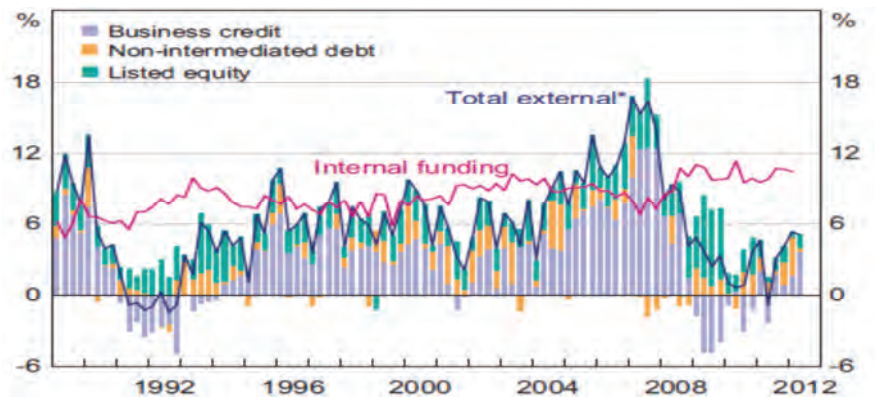
After the shocks to inflation, financial liberalization, a major change in the terms of trade, and then a global financial crisis, it is hardly surprising that households found it difficult to adjust. Post those events it seems probable that consumption will grow in line with income and that savings will stabilize. What is not clear is the level at which household savings stabilize. The Governor's view is clear: *"A rapidly rising savings rate isn't normal but nor is a continually falling one. While the rise in the savings rate has been unusually rapid, the level of the savings rate we have seen recently looks a lot more 'normal', in historical perspective, than the much lower one we saw in the middle of the last decade"*.

### **3.2 Businesses**

As seen in Figure 12 above, corporate savings have averaged about 10% of GDP over the last fifty years while increasing significantly above that level over the past five years. This has rendered the business sector a net contributor of savings to the economy. There may be an element of miscalculation in that taxation incentives have moved activities which were traditionally done in household into the corporate sector but the primary explanation for the high level of corporate profits has been the period of high prices for many of Australia's mining exports and the expected need for funds to invest.

We saw in Figure 1 that business is normally a net borrower although it has recently been a net saver. Figure 14 shows that business funds a lot of its investment internally and that internally funding has tended to rise relative to GDP over time. Part of this is due to a large part of mining investment having been funded from the elevated mining profits over the last few years. The business call on the savings of others, its demand for external funding, averages about 6% of GDP but fluctuates very significantly. As the economy rebalances away from the period of high resource prices, internal funds will be harder to find and the corporate sector seems likely to return to being a net borrower.

**Figure 14 Business funding as % of GDP**

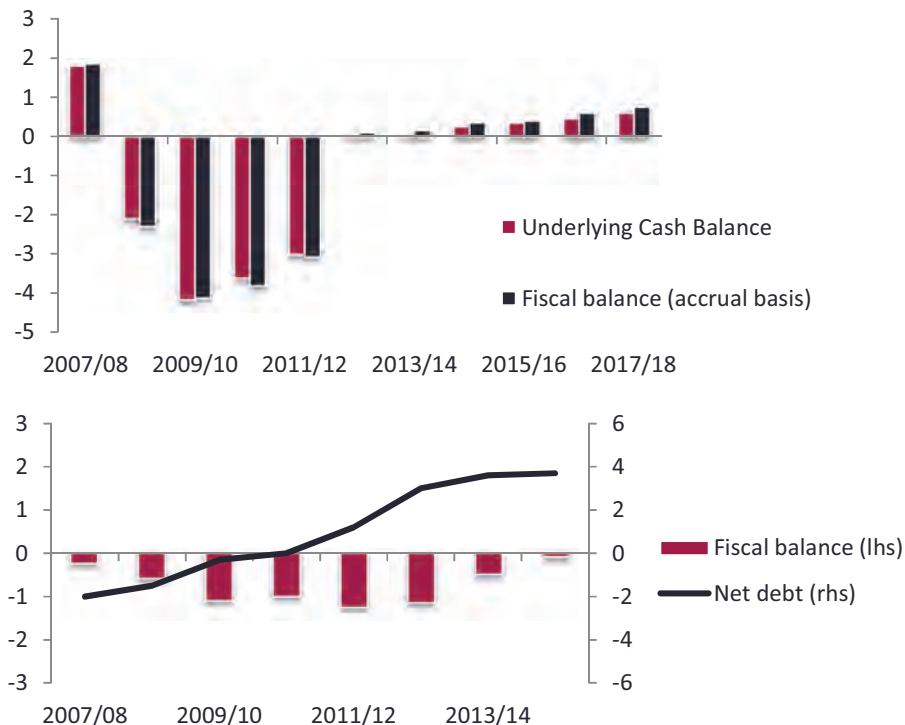


Source: RBA

### 3.3 Government

The IMF Article IV review of Australia was quite sanguine about government savings in Australia projecting a return to saving by the Commonwealth government and a reduction in deficits by the State governments. This would be consistent with the long stated and agreed policy that government should maintain balance over the cycle. As one of the charts above demonstrates, this has been the norm in Australia since the mid-nineties with the exception for the period of unusual stimulus provided during the financial crisis.

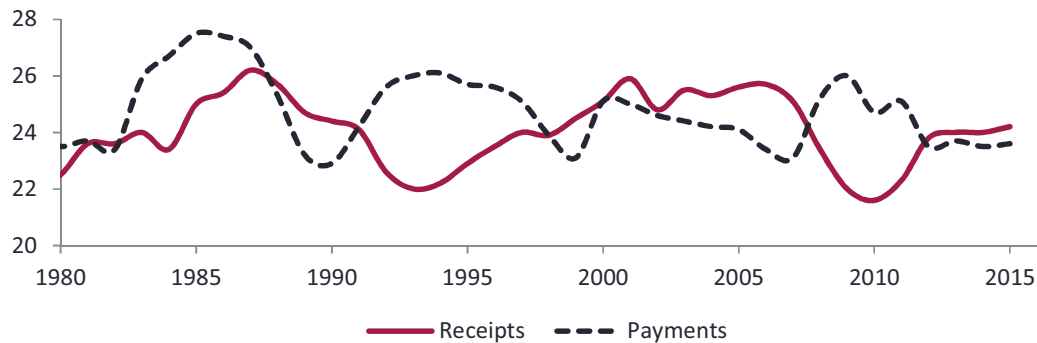
**Figure 15 Government net financial position: State/Local Governments (in per cent of GDP)**



Source: IMF Article IV Review: Australia 2012

The situation with government appears completely different from that of corporations and households. As Figure 16 reveals the volatility comes into the balance from either the revenue or the expenditure side. The underlying impression is that government can alter revenue or expenditure to achieve any desired budget balance. The inference is that we should expect government to maintain receipts and expenditure in accordance with public sentiment which at the moment requires balance over the cycle. For this to happen, government saving has to rise from its current level. This is planned but there is a lot of community and professional concern about whether it will be achieved.

**Figure 16 Commonwealth government revenue and expenditure trends**



*Source: 2012 Budget papers*

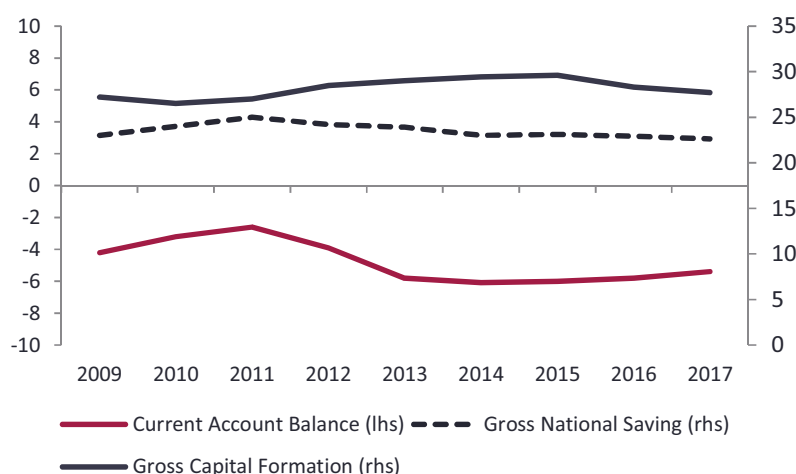
#### **4. Balance**

Putting the supply and demand segments together provides some idea of range of outcomes we might expect of Australia's future funding needs.

The IMF view is that domestic savings will fall and domestic investment rise in the next five years opening up the space for a greater inflow of capital from offshore. Their view is motivated mainly by a decline in savings by both the household and the corporate sectors while investment grows.



**Figure 17 IMF view of savings-investment balance**



Source: IMF Article IV Review 2012

More detail on these forecasts is provided in Figure 18. It presents a somewhat unusual view with government savings reaching sustained levels which are outside the range of recent experience. While the indicated capital inflow of over 6% of GDP is conceivable, and potentially 8% if government savings is lower, it looks a fairly extreme case and at the very upper end of historical experience. We believe that investment is more likely to stabilize and savings to grow relative to these forecasts.

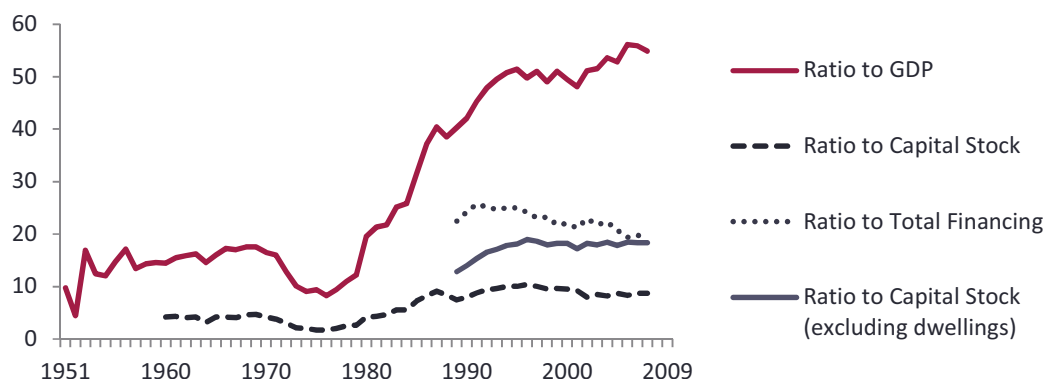
**Figure 18 IMF forecasts of savings and investment (% of GDP)**

	1998-2008 av.	2010	2011	2012	2013	2014	2015	2016	2017
Government	3.9	-0.1	-0.1	2.4	5.4	5.2	5.2	5.1	5.1
Households	6.8	10.5	11.1	10.6	10.1	9.4	8.9	8.5	8.1
Businesses	11.1	13.5	13.9	11.3	8.0	8.5	9.1	9.1	9.2
Savings	21.8	23.9	24.9	24.3	23.5	23.1	23.2	22.8	22.4
Investment	26.5	26.8	27.2	28.4	29.0	29.1	29.2	28.6	28.0
Foreign	4.8	2.9	2.3	4.1	5.5	6.1	6.0	5.9	5.6

Source: IMF Article IV review, Table 2 and associated notes

If the IMF scenario were to play out, it would be because the high levels of investment contemplated were largely funded directly by offshore direct investment. The IMF analysis actually suggests that half the capital inflow would take the form of direct and half in portfolio investment which probably makes sense as the decline in resource prices is likely to reduce free cash flows to the sector (but compare Debelle 2013). One consequence of this investment being funded by foreign equity is a probable increase in Australia's net foreign liabilities. In the past such increases have incurred political anguish and we may well see the same again.

**Figure 19 Foreign Ownership: Australia's Net Foreign Liabilities**



Source: RBA chart pack, 2013

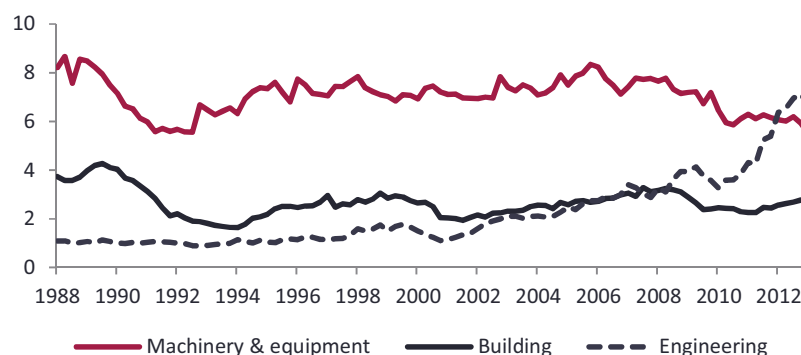
We are not enamoured with the IMF scenario. We think it is more likely that government savings will be lower than those indicated by the IMF but so will investment, and household savings will be somewhat larger. The outlook for household saving is very uncertain but the current level does not look obviously wrong, so it may well be stronger than the IMF scenario even if it weakens somewhat. The overall effect would be a much smaller capital inflow.

To date the resources boom has been driven by prices so that the large miners have enjoyed high profits and this has allowed them to both increase their investment and also to increase their retained earnings. With the peak of prices probably having passed and with them investing in increasing the volumes they produce, their contribution to total corporate savings is likely to decline. However with iron ore and coal boom moving into a volume-driven phase at the same time that we have a separate resources boom in gas just starting, it does seem likely that business investment will decline gradually rather than sharply (ABARES 2013). Figure 20 demonstrates how important the investment phase of the mining boom has been to the domestic economy, with engineering investment rising by nearly three percentage points of GDP in about three years. If investment fell sharply, the capital inflow needed to service it would be lower, and it is quite possible that it could all be financed from domestic savings.

If the IMF scenario for investment holds, but government savings does not reach the lofty heights considered, it is difficult to believe that if there are profitable opportunities that they will not be funded. What seems likely however, relative to the IMF scenario is that more of the funds would be provided domestically. So while there may be some reluctance by foreign investors to fund (say) a current account deficit of 8%, domestic investors would inevitably increase their savings to take advantage. And if the investment could not be

funded it will not go ahead (noting the potential for lags), so investment will be lower, and the current account deficit smaller.

**Figure 20 Business investment components**



Source: ABS, RBA

A second important element of this debate is what role banks might play in financing domestic investment. If rating agencies, regulators and managers all insist on banks not exceeding some particular ratio of wholesale funding to retail deposits, then banks' ability to fund this higher level of investment will depend on their ability to raise deposits (discussed in more detail in Part B). Since a normal level of deposit growth will approximate the rate of growth of nominal incomes and hence nominal GDP, if investment needs grow faster, then the role of banks in providing the necessary finance may well be curtailed (Clyne 2012). Slower growth would put less pressure on financing mechanisms: in this case banks are likely to be able to finance demand without meeting constraints.

If the demands for finance continued to grow strongly, it would be more sensible for Australia to allow or encourage banks to borrow more from wholesale markets at term, to provide a stable funding platform, and to on-lend into any investment shortfall. As Debelle (2012) has argued, there is nothing intrinsically wrong with moderate levels of offshore borrowing to fund worthwhile projects; particularly if that funding is long term and the currency risk is hedged.

The historical discussion above leads to the view that in the medium term

- The volume of savings demanded across the economy is likely to fall as the peak of resource investment passes
- The volume of savings supplied will rise somewhat as both households and governments save more but will be partly offset as corporate savings falls and the corporate sector reverts to being a net borrower

- Foreign funds will fill any gap, as they have always done, but may be less important over the next five to ten years than they have for much of the past thirty years.

The proposition that foreign funds will be available to fill the gap may be seen as more contentious than the others. There were periods in our history, such as the 1890s, the 1930s, and during the two World Wars, when such funding was not available. In those cases, when capital inflow suddenly stopped, domestic consumption fell and domestic savings rose. Adjustment was abrupt and social dislocation high (Maddock 2013a). What distinguishes those events from our current circumstances is the fact that our exchange rate is now flexible and the international capital market better developed. This flexibility allows much of the adjustment to any reduction in the availability of funds offshore to take place through prices rather than quantities and more smoothly as a result as for example during the Asian crisis.

The literature on sudden stops is large. Much of it is focused on situations where the exchange rate is fixed and particularly on cases where the debt is denominated in foreign currency. This approximates the case of Australia in the 1930s but more recently in a number of countries during the Asian crisis. Edwards (2004) provides a substantial review of the literature. As an example, the Financial Times (March 31, 2006) was of the view that: *"Countries with large external imbalances such as Iceland and New Zealand, as well as Hungary...Turkey, Australia and South Africa, are seen as most vulnerable as foreign investors head for the exits."* However Reinhart and Belen Sbrancia (2011) find that no advanced economy has defaulted on local currency sovereign debt during the period of floating exchange rates; noting that Greece's recent experience is not a counter example since it is effectively on a fixed rate.

Experience during the recent financial crisis reinforces the impression that despite large unbalanced investment positions, most countries have adjusted to large shocks through swings in domestic macroeconomic management and via exchange rate movements. The most problematic adjustment is in countries like Hungary, Latvia and Iceland which have flexible currencies but which have borrowed extensively in euros. Professor Davis's paper (in this volume) discussed balance sheet effects from currency movements.

Currency movements act as a shock absorber which works to offset any sudden change in capital flows. This is not to argue that there are not real impacts. A sustained period of reduced capital inflow followed by a fall in the exchange rate changes the competitiveness of different Australian industries and sectors. We have actually seen the opposite recently, with a period of sustained strength in the AUD and endured the consequential uneven industry impacts. The impacts of swings in the exchange rate are spread through the economy through a wide range of price adjustments and to the extent that the economy is

flexible, those adjustments can be accommodated more easily than the sorts of abrupt adaptation Spain, Greece, Ireland and others now face.

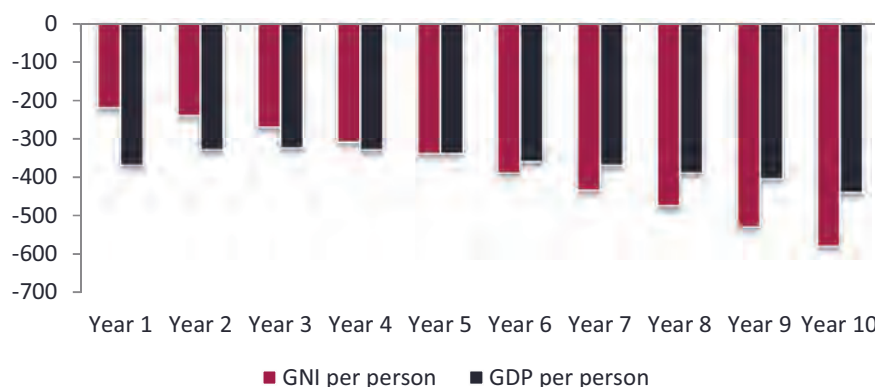
## 5. Scenarios

We consider two basic scenarios: (i) the adjustment process to a sudden stop, and (ii) the impact of a long term decline in the level of real interest rates.

A sudden reduction in capital inflow means foreigners buy fewer Australian dollars so that the exchange rate (TWI) falls. This raises the domestic price of imports which immediately reduces the living standard of Australians. It also makes exporting more rewarding relative to production for the home market. To the extent that the capital inflow was funding investment, the capital stock grows more slowly and Australia's growth path is lower.

Figure 21 below comes from a Monash simulation done for the Federal Treasury which shows the impact on gross domestic product and gross domestic income per person arising from a reduction in capital inflow equal to one per cent of GDP (Gali and Taplin 2012). Note that such swings are uncommon: in the past fifty years capital inflow has only twice fallen by more than one percentage point of GDP (of -1.3% and -1.1% respectively).

**Figure 21 Impact of a 1pp of GDP reduction in capital inflow (reduction from baseline)**



*Source: Treasury estimates from MMRF model*

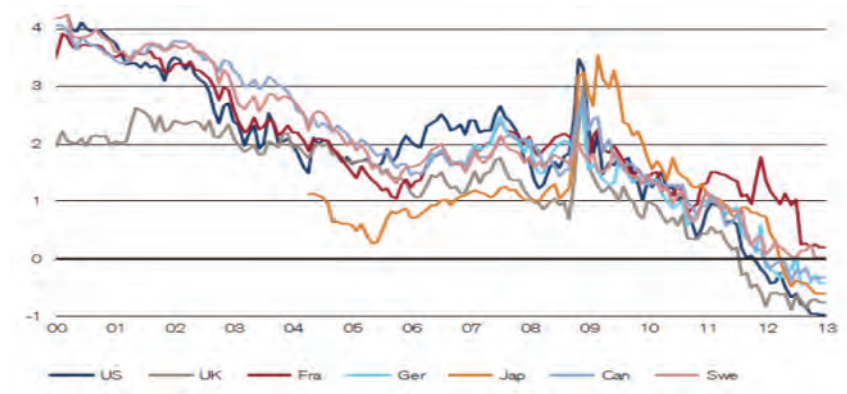
Clearly this assumes all else equal. In the 1950s and 1960s, capital inflow was lower than it is today as part of the tight controls on capital flows under the Bretton-Woods arrangements. However, because the world economy was growing rapidly, and productivity rising sharply, lower levels of capital inflow coincided with a period of strong economic growth. By contrast other periods when capital inflow has fallen (notably the First World War and during the two big depressions), income and living standards have fallen sharply. All of these events

occurred when Australia operated under a fixed exchange rate, which made the relative price adjustment and fall in incomes more painful.

The second scenario, of a further fall in real interest rates would provide a different challenge. For this to happen, there would have to be an excess of world savings relative to world demand. This was certainly the case during the run-up to the financial crisis as outlined in Bernanke (2005).

At the time of writing, real yields were already close to, if not negative, in most major countries (Figure 22). In Australia real yields were more clearly in positive territory reflecting the stronger performance of the domestic economy. Nonetheless, real bond yields were still near all-time lows, and well below long term averages both for Australia and the US of around 2.5 per cent per annum (although the series are very volatile, and serially correlated).

**Figure 22 Declining bond yields**



*Source: Credit Suisse Global Investment Returns Yearbook*

The impact of sustained lower real interest rates on the Australian economy would depend upon the underlying state of the economy and financial sector. Assuming that these remain in reasonable shape, negative real yields will see investors shift along the risk curve on a search for yield. This process has started to take place. It should lead to a supply response in the creation of more higher-yielding assets, and more real investment in income generating businesses and high growth countries. A low real interest rate world advantages borrowers relative to savers.

There are two issues important to this scenario. The first is that too much risk could be built up in the economy with too many marginal borrowers being funded and more investors having high proportion of their investment portfolio in risky assets. The sum of the individual risks is to create a systemic risk. With asset values and hence collateral values

rising, financial intermediaries for example would increase their lending to risky borrowers, potentially creating a Minsky event (Minsky 1982): inappropriately low real interest rates were one of the key causes of problems in the financial crisis. The second major risk is that individual retirement savings are more likely to be inadequate as a result of the low returns putting more long run pressure on governments and on any institution operating a defined benefit scheme.

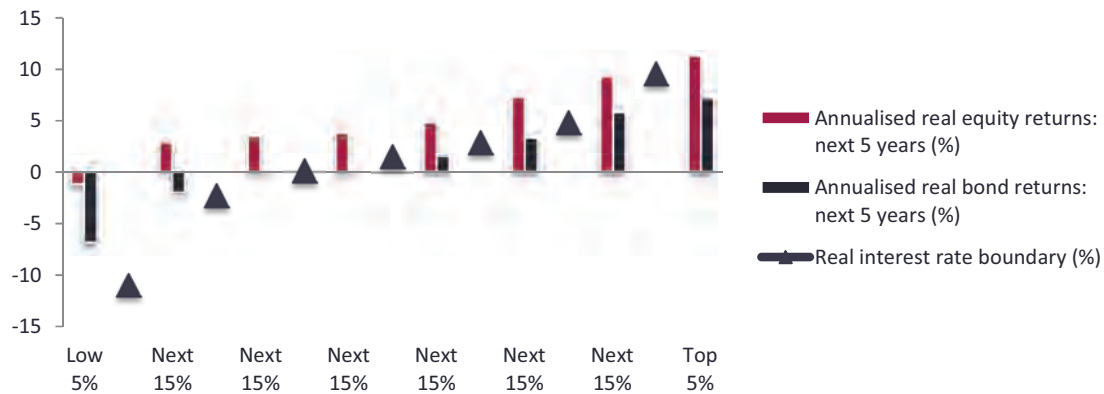
Japan currently provides a quite different example of negative real interest rates where the central bank is trying to deliberately create such rates in the hope of inducing higher spending. If Australia's economy were to be as weak as Japan's for an extended period with a failure of demand, the excess savings would almost certainly be channeled offshore. The value of the currency would fall as a result, and the current account go into surplus as exports rose and imports fell. The domestic economy would rebalance towards many of those sectors suffering under the current elevated trade weighted index (Gali and Taplin 2012).

Under both scenarios, capital-heavy businesses would gain relative to capital-light ones. Further, regulated firms, whose rate of return is tied to the risk-free rate, would enjoy excess returns during the period before the regulatory setting catches up. For investors (such as many super funds) that have set absolute return targets during a more return-friendly period would be unlikely to find their investment goals difficult to achieve over the next 5-10 years.

The evidence is that such a low starting point on real yields means that investors are not likely to earn substantial returns over the next 5-10 years. Analysis conducted by Dimson, Marsh and Staunton (in the Credit Suisse Global Investment Returns Yearbook 2012) points to a very strong relationship between the starting point of real interest rates and subsequent bond and equity returns over the following five years (Figure 23). The triangles indicate the boundary between bands (e.g., for the lowest 5 per cent of historical cases, the starting year real interest rate was -11 per cent, and over the next five years bond returns were -6.8% annualized, and so on). The bars are what real equity and bond returns were achieved in the subsequent five years given that particular starting point. With the current level of real yields in many developed countries, real bond yields are likely to be negative, with moderate real (positive) equity returns.



**Figure 23 Future real asset returns positively correlated with starting year real interest rates**



Source: Credit Suisse Global Investment Returns Yearbook

From this historical standpoint at least, there is one bit of good news for Australian investors. The returns historically earned from the Australian equity market have been amongst the highest in the world.

## Part B: Institutions

### 1. Introduction

Part A of the paper sets out a macro view of the supply and demand for funds within the economy and the ways in which overall balance between the two sides is likely to be maintained. This section looks below the macroeconomic level to consider structural changes which seem to be underway when we look at a more disaggregated level.

This part of the paper focusses on four broad drivers of change:

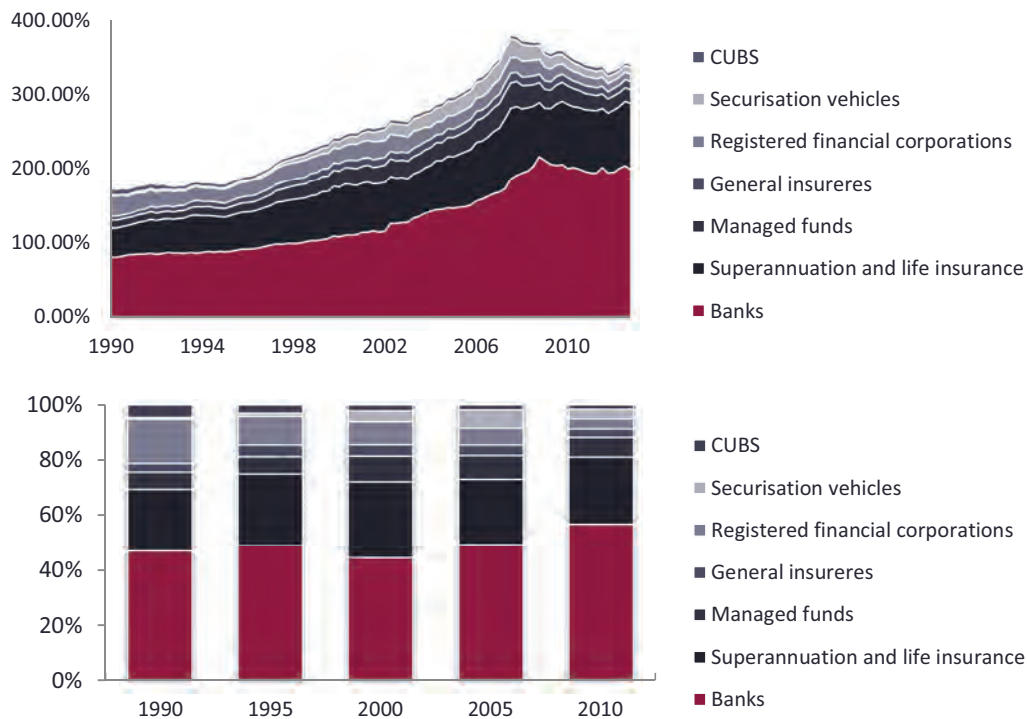
- The way in which the role of the Australian banks will evolve under the impact of regulation and their large presence in the global wholesale markets
- The way in which the growth of superannuation pools is changing the flow of funds within Australia
- The way in which the financial sector is broadening away from banks and superannuation vehicles and more specialized entities evolving and developing towards a more market based system, in the process becoming more closely integrated into global markets
- The way regulators are responding to this changing environment.



We start with banks because, as is clear from the Figure 24 below, they hold more assets than any of the other intermediaries; some 60% of the total. It is also notable that banks have increased their share over time, mainly at the expense of finance corporations. Superannuation funds are the other major category although their assets are less than half the size of the banks.

What is notable about Figure 24 is the relative stability of the shares. The increase in bank share of assets is largely the result of the large increase in household leverage seen since 1990. Unlike many banks in other countries trading has remained a small part of bank activities (only about 5%) which meant that local banks missed out on much of the explosive growth in the lead up to the crisis, and also the sharp contraction seen subsequently by such banks.

**Figure 24 Assets of financial institutions; in aggregate and relative share**



Source: ABS, APRA, RBA

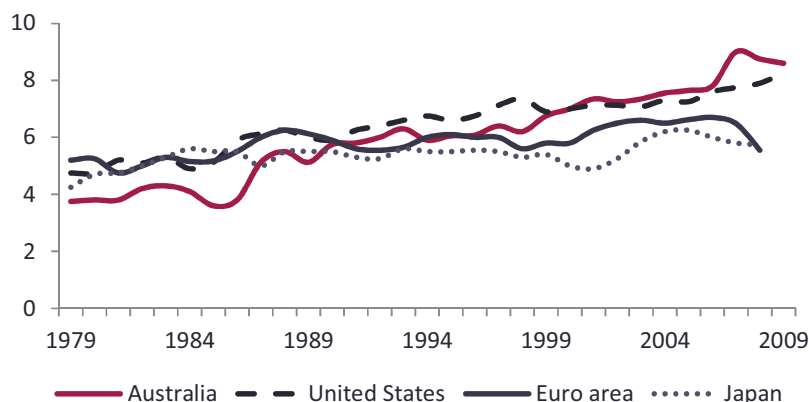
\* % of Nominal GDP

## 2. Banks

### 2.1 Growth

The Australian financial system has grown faster than the economy since its liberalization in the 1980s. It is a pattern shared with many other economies (Figure 25). This reflects a disequilibrium, an institutional adjustment to liberalization, which may or may not be complete – quite obviously the financial sector cannot grow faster than the economy forever! It is notable however that the three market oriented economies, Australia, Canada and the US, seem to be oriented towards a larger system than the more regulated economies (Greenwood and Scharfstein 2013, Philippon and Reshef 2013).

Figure 25 Financial sector as % of the total value added in the economy



Source: BIS

So the basic picture is one in which the financial system has grown strongly and banks have increased their share. It is not clear what this implies for the future. Some financial systems such as in Germany are dominated by banks and others, like the US, by markets, with no consensus in the literature about the superiority of either. Further over time banks have become more entwined with markets as they have made greater use of a wide variety of market instruments.

The most reasonable conjectures seem to be first that the share of the financial system in the economy will stabilize, probably at a level not far from where it is now; and second that there is no particular presumption that the share represented by banks will decline: *“empirical research has not yet ascertained whether the relative demand for the types of financial services provided by banks and by markets changes as economies grow”* (Demirguc-Kunt et al 2012). Issues related to the size of the financial sector are discussed further in Maddock 2013b.

Notwithstanding issues of size, the dependence of the sector on banks does influence the nature of the economy, the financial system, and its regulation.

## **2.2 Wholesale funding issues**

The Australian banks have become heavy users of global wholesale funding. As Professor Davis's chapter sets out, it constitutes about one-third of their funding, a proportion which is high by comparison with banks globally. This only constitutes a particular risk if such funding proved to behave differently to other forms of funding.

There are two concerns. The first is that offshore wholesale funding proved to be fickle during the crisis and a major route by which risk was transferred around the international financial system: *"short-term wholesale funding – a variable strongly related to interconnectedness and liquidity risk exposure - is positively and significantly related to systemic risk, whereas other features of the firm, such as leverage or relative size, do not seem to provide incremental information over wholesale funding"* (Lopez-Espinosa et al 2012). While the Australian banks were able to access such funding during the period (with government guarantees playing a role), their funding was subjected to considerable uncertainty. In some sense, in a modern economy runs on wholesale funding pose a more immediate risk to banks than do runs on retail deposits.

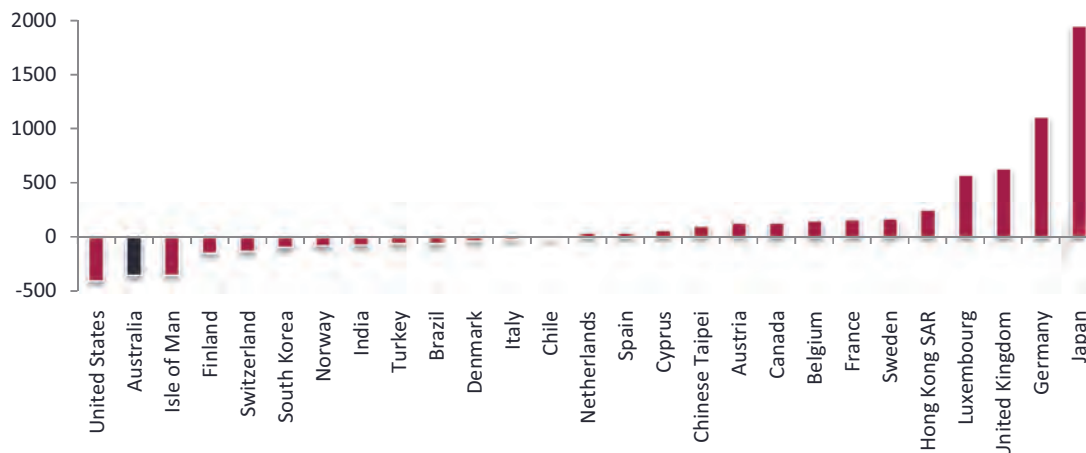
The second issue is that Australia is a very big issuer in such markets. Figure 26 below shows how large the net external funding position of the Australian banks is, and the gross liabilities appear similarly disproportionate (along with Netherlands and Switzerland). By comparison Canada has a positive net external funding position, and its gross liabilities are less than half Australia's. One consequence is that Australian banks have become more aware of the potential that they might reach lenders' limits if their borrowing continues to grow rapidly.<sup>1</sup> While the willingness of foreigners to lend to Australian banks is partly a result of their sound performance, high ratings and the underlying strength of the economy, at some stage there will be a limit to lenders' appetite for Australian bank paper.

The crisis brought home to all parties the risks involved on banks being so dependent on wholesale funding. The adjustment to reduce the reliance was driven within the banks themselves, ratings agencies, investors and more expensive access to finance, and by regulators concerned with systemic risk.

---

<sup>1</sup> Note that here we are referring to the traditional banking activities of banks. As financial conglomerates most banks manage a considerably wider range of businesses in superannuation, in insurance, in broking, in fee related activities, and offshore.

Figure 26 Banks' net external funding position (\$US bill)



Source: BIS

The banks have taken two main steps to address their dependence of offshore wholesale funding: they have diversified their wholesale funding sources and placed far greater emphasis on strengthening retail, mainly domestic, funding (Robertson and Rush 2013). As well, the willingness of the local regulators to remove the restriction on banks issuance of covered bonds has helped in the process since the market for such bonds has proven to trade somewhat differently from other wholesale markets. But global regulators' move to increase the cost of cross currency swaps could sharply reduce the attractiveness to banks of offshore funding.

Because of the changes to bank behaviour it seems unlikely that they will be exposed to the same degree of wholesale funding risk in future. The two systemic consequences are either or both of:

- greater use of domestic funding sources
- dis-intermediation of the banks as funding bypasses them

The other alternative, of use of foreign retail deposits, is possible and has been canvassed locally by ANZ. European banks do make far greater use of cross-border retail deposits than Australian banks. However, while some scope may exist to transfer retail funding between countries it seems unlikely that regulators will be supportive given the contretemps between Iceland and Britain over deposit insurance in relation to offshore retail deposits, the issues in Cyprus with Russian deposits, and the broad issue of regulation (and especially of deposit protection) across borders (BIS 2013).

### 2.3 Greater use of domestic funding sources

If banks are to be less dependent on offshore wholesale funding, and limited in their ability to repatriate offshore retail deposits, they will have to finance growth from alternative domestic sources (or limit growth as discussed below). This means that they will have either to attract new sources of savings or bid savings away from existing sources.

**Figure 27 Differences in bank funding sources (% funds as of June 2012)**

	<b>Wholesale funding ratio</b>	<b>Customer deposit funding ratio</b>	<b>Foreign funding ratio</b>	<b>Loan-to-deposit ratio</b>
<b>Australia</b>	34	4	24	135
<b>Canada</b>	23	67	10	103
<b>Euro area</b>	23	41	15	110
<i>France</i>	20	32	19	110
<i>Germany</i>	20	46	18	107
<b>Japan</b>	21	72	12	73
<b>Sweden</b>	33	40	34	129
<b>Switzerland</b>	21	55	27	97
<b>United Kingdom</b>	24	59	48	138
<b>United States</b>	13	73	24	77

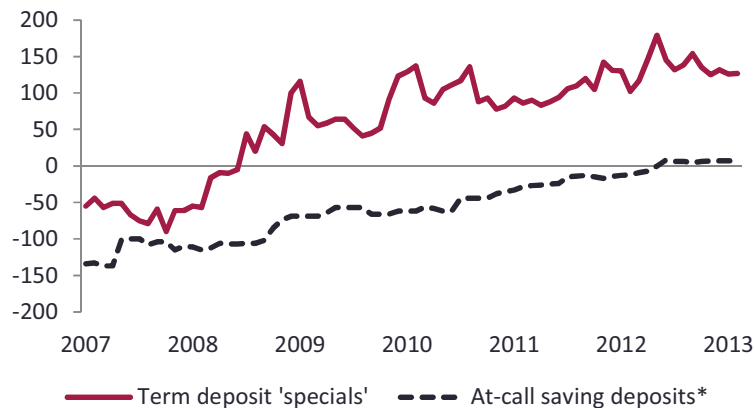
Source: APRA, BIS, Bloomberg

It might seem logical that the upper bound to what they would be willing to pay for funds would be given by the wholesale market rate for any particular term. While this is broadly correct, regulators are distorting the choice through their assumptions about how sticky various sources of funding are. By assuming some forms of funds (eg retail transaction account deposits) are safer than others (e.g. wholesale or even online savings deposits), regulations are creating differences in how attractive different forms of domestic funds are to the banks, which will ultimately be reflected in the prices.

Some of these differences will have to change. There are currently no differences between a deposit from an APRA-regulated superannuation fund and a corporate deposit even if they behaved differently during the crisis, but gradually the new regulations can be expected to evolve to reflect the true characteristics of the deposit. Of course, in time the regulations themselves may influence the characteristic of the deposits as investors react to adjustment in risk-adjusted returns on offer.

Nevertheless two effects have become apparent. First, the prices being paid overall for deposits are rising as banks try to reduce their shorter term wholesale, and especially the offshore component, with domestic deposits. Secondly, the prices of various classes of deposit are starting to be differentiated. Most obviously, term deposits, being sticky by construction, are attracting a premium. These are trends we can expect to continue.

**Figure 28 Bank deposit rates relative to wholesale rates**



Source: Bloomberg, RBA

\*Spread to cash rate: existing customers only: excludes temporary bonus rates

Banks have an incentive to increase the prices paid for (more and more categories of) retail deposits up to the point where they approximate wholesale prices. It is not clear precisely where they will settle: possibly priced at a slight premium given the regulatory and ratings advantages of heavy dependence on sticky retail funding, or a slight discount because depositors may value the convenience etc. Gradually the higher prices paid for retail deposits will erode the relatively cheap funding banks enjoy from their back books, as seen above where deposits were cheaper than wholesale funding, and all sources of funding will be equally rewarded (risk, and duration adjusted). For a period the relative prices amongst deposit products will be driven by regulatory decisions although eventually new products will be designed to optimize with respect to those rulings, ironing out some of the inconsistencies. This is likely to involve further unbundling of bank borrowing rates, with banks for example paying a market rate on funds kept in transaction accounts (because they count as deposits for regulatory purposes and should be stimulated) but offsetting the higher prices by introducing account keeping fees for all accounts. Alternatively, banks will need to invest substantial sums in payment systems to remain relevant to their clients.

The net effect is that all deposit rates will approximate the rates paid on wholesale funds of similar term. There will always be differences but our key point is that these differences will reflect minor differences in cost, risk etc, rather than the market being segmented as sharply as it has been.

The drift away from bank deposits into equities (until recently) and superannuation is clear in Table 2.

**Table 2 Household financial asset composition**

	Deposits	Shares/Units	Super/Life	Unfunded Super	Other
Sep-90	29%	10%	36%	13%	11%
Sep-00	19%	19%	44%	9%	9%
Sep-07	15%	27%	46%	6%	5%
Sep-12	22%	16%	46%	11%	5%

Source: Davis (2013)

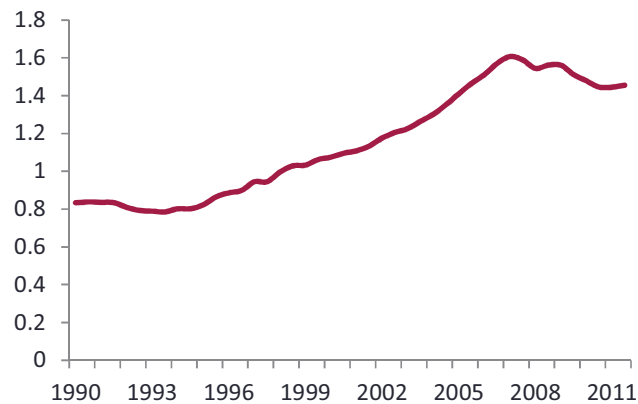
## 2.4 Dis-intermediation of the banks

For Australia, the normal situation is one in which the demand for funds within the economy will exceed the volumes that banks are able to supply. Foreign direct investment, foreign portfolio investment, and direct borrowings by non-bank Australian corporates add to the pool of funds which are available to meet any shortfall. Professor Davis's chapter points out the relevant magnitudes. To the extent that banks are limited in their capacity to borrow offshore to fund domestic investment, these alternative sources will expand to fill the gap. The underlying idea is that if there are profitable opportunities to invest in Australia, then investors will seek them out and fund them by the most profitable route.

We believe that banks will actually be constrained in their ability to raise sufficient funds to satisfy domestic needs themselves (Clyne 2012).

Because of the position taken by the ratings agencies and lenders which effectively requires banks not to fall below a certain proportion of retail deposits in their overall funding, banks will only be able to borrow wholesale funds at the same rate that they can increase their deposits. Clearly then, banks will not be able to meet the shortfall if the demand for credit exceeds the rate of growth of deposits. This result is driven by the inferred constraint that banks must maintain a minimum proportion of retail deposits in their overall funding mix. This is not likely to be sufficient to satisfy credit demand in many circumstances. As is clear from Figure 29 there have been long periods when credit has grown faster than GDP, and hence the prospect that banks will not be able to fund the community's demand for credit.

**Figure 29 Credit has often grown faster than GDP: Credit Ratio to Nominal GDP**



Source: RBA

The form which such non-bank funding is likely to take will depend on circumstances. Large corporates with good credit ratings will be able to borrow directly, and have increasingly been doing so (see Figure 35 and Figure 36 below). As well as funding their own investment, this may then lead to an expansion of inter-company lending as they, rather than banks, act as intermediaries. There is however a practical limit to this since many corporates will lack the knowledge and skills to appropriately assess the risks involved. The role of banks, and bank guarantees, may well change to adapt.

Foreign direct investment is also likely to rise. Offshore investors with access to funds will buy capital-constrained local firms and internalize the appropriate capital flows. Such investment has caused political resentment in the past and may well in the future.

## **2.5 Consequences for banks**

As institutions banks will respond to these evolutionary trends. Clearly the first response has been to pay more for deposit funding. Through time this has two main effects. It will

- cannibalize the profitability of their back books, and
- reduce any competitive advantage they have over entities which are funded directly from the wholesale market.

The impact on bank profitability depends then on their ability to pass these higher costs through to borrowers. While the industry structure is often referred to as oligopolistic, the banks' ability to pass on costs to maintain their margin is actually quite limited:

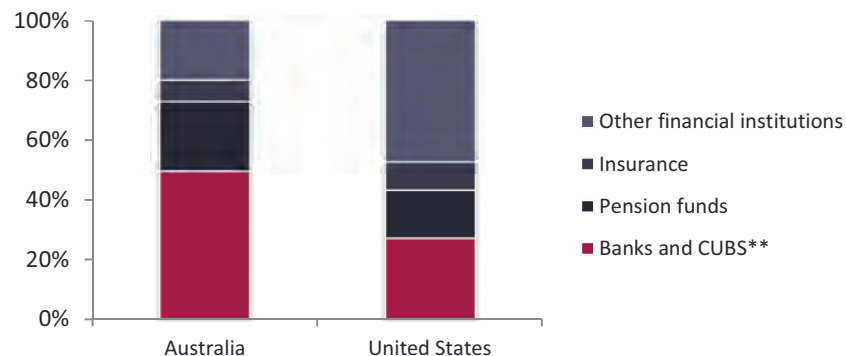
- There are four major firms, a number which is normally considered in the theory to be large enough to make cooperation problematic



- There is a competitive fringe which competes on output price even through its higher cost of funds has meant it has had lower profitability. As the funding disadvantage of these institutions lessens, though is not eliminated since they are likely still to have lower credit ratings than the majors, they have the potential to become more aggressive competitors
- As deposit funding reaches par with the cost of wholesale funding, any other entity which can obtain funds on the market will be able to compete with banks
- It is a market which has seen entry in the past and is likely to in the future.

The main overall effect then is to reduce the advantage banks have had relative to markets which suggests that the structure of the Australian financial system overall is likely to move closer to the US model where markets play a bigger role (Demirguc-Kunt et al 2012).

**Figure 30 Banks versus markets**



Source: ABS APRA

There are three obvious strategies for banks after the short-term strategy of chasing deposits plays out. The first is to make much greater use of markets and other institutions themselves.

The securitisation market is likely to be a significant beneficiary. If banks hold assets on their own books they will face a significant capital impost. It will thus make sense for them to pass assets, and particularly long lived assets, on to other institutions which do not face the same costs. This suggests there will be a general tendency for the asset holdings of banks to shrink, as assets are passed on to households, insurance companies and superannuation funds which have a greater appetite for long dated investments than will banks under Basel III. By cutting the duration of equity this will reduce the term risk of banks. Securitisation is discussed further below.

The second strategy is to convert a larger pool of savings into deposits of the form which meet regulatory approval. Some of this is natural: as deposit rates approach or exceed wholesale market rates, superannuation and other funds will place more funds with banks as deposits. But banks will also have strong incentives to shift relative pricing away from (say) online at-call deposits and towards term deposits. While this will improve the liquidity position of banks it will come at the cost of other investors', particularly unsophisticated savers who may not recognize that placing their funds in higher return deposit products has come at the cost of making their assets more illiquid.

Banks can also be expected to make it progressively easier for superannuation funds to make deposits as, for example, by lobbying to have the behavioural assumptions underlying how APRA treats deposits from superannuation funds it regulates, adjusted to reflect their relative stability (OBPR 2013). Super funds can be expected to support this argument, given the increasing competition they are facing from the SMSF sector and their disposition for higher cash weightings

A third strategy will be to find alternative ways of funding their businesses. While smaller business lending is quite heterogeneous and hence difficult to put into standardized packages for securitization, we are likely to see a continuation of the trend whereby the credit analysis skills which sit inside banks is unbundled from the lending task. The recent arrangement between Axa and Societe General provides an example of how this may evolve: *"Axa will fund 70–80% of the loans with SG, which will provide risk analysis and co-financing of the deal, retaining 20–30% of the risk. The partnership provides Axa with in-depth knowledge of the French mid-cap sector – an area in which SG is particularly well versed"* (Risk.net, October 2012).

We discuss the regulatory perspective on some of these adjustments below.

### 3. Superannuation

#### 3.1 Growth

The decision as to how to allocate Australian household assets is increasingly moving into superannuation vehicles. The increase in the contribution rate from 9 to 12 per cent will further accelerate the process.

The compulsory superannuation system is still in the process of maturing and it will be several decades more until all workers will have contributed during their full working lives. While governments continue to modify the structure, the basic path forward is clear. NAB's forecast for instance is that the superannuation pool will grow from \$t1.4 in 2012 to some

\$t3.4 in 2022 which assumes a 9% per year CAGR (NAB 2013). There are a range of other forecasts but the consensus is for the system to more than double within a decade, and perhaps treble.

Reserve Bank modelling suggests that superannuation has added significantly to national savings while conceding that some of this compulsory savings will displace other saving which might have occurred (Connolly 2007, Gruen and Soding 2011). As a net contribution to savings, a simple closed-economy investment multiplier model would suggest this should stimulate economic growth, but Allen Consulting (2011) found that the growth impact of the forthcoming move from 9% to 12% compulsory contribution will be minimal. From the discussion in Part A of this paper, it is clear that there is an element of substitution between domestic and foreign savings so that a higher level of domestic savings will probably see less foreign investment thereby neutralizing some of the impact. This, after all, is a benefit from having an open capital account although higher domestic saving does have the potential benefit of reducing the risk of a sudden stop. It may also mean lower levels of foreign ownership of Australian assets.

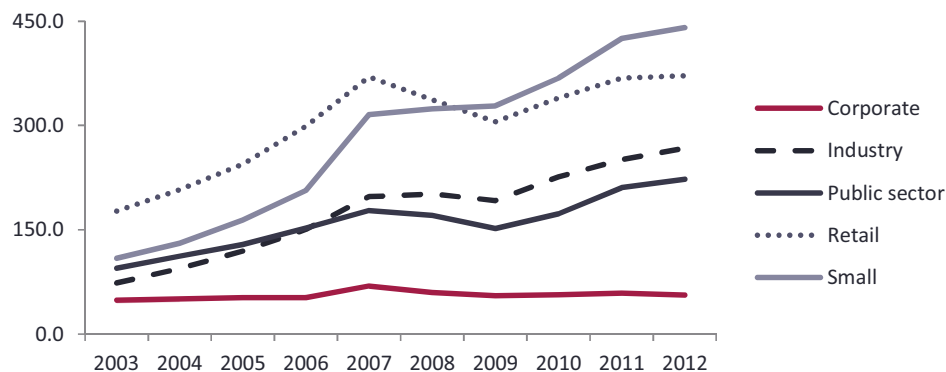
This suggests that the main impact of the growth of the superannuation sector is to be felt in how they allocate funds and thus alter the flow of funds within the economy. To address this we need to recognize that funds are not homogeneous. Figure 31 below highlights the rapid growth of small funds, the broad similarity of growth rates between retail funds, industry funds, and public sector funds, and the slow decline of corporate funds. Whether we continue to see not-for-profit funds continue to grow slightly faster than retail funds is an open question. Industry funds have had advantages in recruitment through the industrial award process which seem likely to disappear through time while offering members a slightly different mix of options with fewer choices but slightly higher returns (Cummings 2012). It is interesting that in insurance the not-for-profit sector gradually squeezed out the for-profit sector in Australia, but then decided to convert to for-profit status at a later stage in its development. There may be a similar movement at some stage for the not-for-profits to convert their status and demutualize – much will depend on how their precise structures and management incentives evolve overtime.

The other important distinguishing feature of the funds is that there appear to be economies of scale in operating a fund, which suggests that (non-SMSF) funds will continue to consolidate to the stage where we have a smaller number of large funds, a process enhanced by moves towards the simpler and more standardized MySuper format (Cooper 2010, Bikker 2013).

The growth of the self-managed sector has been particularly focused on larger funds and older participants with 84% of members 45 years or older, and an average balance of

\$480,397, compared with corporate funds \$101,825, public sector funds of \$66,056, retail funds \$24,105, and not-for-profit funds of \$22,916 (Cummings 2012). While this may be an accident of history, it does point towards a transition path whereby as people get older and richer they move towards taking greater control of their finances. If this is true we can expect the SMSF sector to continue to grow faster than other funds with population ageing and continued economic growth although the trend will stabilize as retirees are likely to move back into a managed environment at more advanced ages (albeit with diminished balances).

**Figure 31 Size and growth of different types of fund (\$ billion)**



Source: APRA

### 3.2 Allocation and the flow of funds

While the macroeconomic effects of higher levels of superannuation might be muted, the channeling of more of the savings pool through superannuation vehicles is likely to have a significant impact on the flow of funds within the economy.

For example the effect of sequestering a certain proportion of everybody's income, and channeling it into superannuation, has the immediate effect of reducing the pool of savings directly available to the banks from which they seek deposits. At first blush, this reduces the supply of deposits and hence the pool of funds available to be lent. The effect would however be exactly offset if superannuation funds provided deposits into the banking system on the same terms as savers did pre-superannuation (although retail deposits and superannuation deposits are treated differently by the regulator). The fundamental point however is that professional managers will not leave lazy balances in deposit and transaction accounts and work as a force to increase the return paid on 'deposit' monies.

This observation highlights the importance of contrasting how superannuation fund managers differ from other investors in how they allocate funds.

The typical asset allocation across fund types is remarkably different:

- Australian equities: Professional managers and self-managed funds allocate about the same proportion of their portfolios to Australian equities
- Cash: Professional managers make a minimal allocation to cash, individuals much more
- Fixed interest: Professional managers prefer this asset class to cash, SMSF take very much the opposite view
- Offshore equities: Professional managers pursue significantly more geographically diversified portfolios than do individuals – individuals virtually ignore the asset class
- Unlisted and other: Retail funds allocate a lot smaller proportion of their funds to these opaque and lumpy investments than do individuals or not-for-profit managers.

**Table 3 Differences in asset allocation by super fund type: 2011**

	Not-for-profit	Retail	Small	Small 2008
Cash	3.0	3.4	29.3	26.4
Fixed interest	24.9	30.9	0.7	1.3
Aust equities	30.9	37.9	37.3	41.2
Other equities	17.2	17.9	0.3	0.8
Unlisted property	16.7	5.5	14.9	12.5
Other	7.2	4.5	17.0	17.8

*Sources: APRA and ATO, noting some differences in classification*

The high allocation by SMSF individuals to cash may be a reflection of the uncertain times, but it may also reflect greater freedom in strategy relative to professional managers who may be required to be fully invested. Individuals also have a higher weighting towards illiquid assets, so a high cash weighting reduces the illiquidity risk of their overall portfolio (although arguably a long-term saving vehicles such as superannuation should be comfortable taking sizeable illiquidity risk).

While the self-managed sector is important, some two-thirds of the total superannuation pool is still managed professionally, so the overall effect of a gradually rising pool of superannuation is to direct funds away from cash and towards bonds and other fixed interest products.

It is clear from some of the HILDA data that households have reduced their direct holding of equities and increased their positions in cash (Finlay 2012). This may be a precautionary stance or a strategic one – we will not know for several years. If it is strategic then we would expect the professional managers to gradually adapt their allocations more closely to that of

the people with whom they have a fiduciary relationship. This would increase the flow back to cash holdings and increasingly through the banking system rather than the bond market. The heavy allocation to cash is somewhat odd within a normal asset portfolio framework, and so a move by self-managers back towards fixed interest, equities or property seems more likely. The offsetting proposition is that SMSFs cater to older clients who may want to lock in returns from fixed interest products as they move into retirement phase. However there are clearly issues with the availability of fixed interest products which may also deter individuals who manage their own funds, and franked equities and direct property will still enjoy advantages for owners of self-managed funds which continue to make them attractive.

SMSFs allocate few resources to offshore markets relative to the choices made by professional managers. Since most retirees will spend their post-retirement income in Australia, and they do not have access to inexpensive currency hedging products, their concentration on domestic assets seems entirely sensible. This tendency would be reinforced by individuals being less confident than professional managers in investing in foreign environments, and by the additional complexity in buying offshore assets (which has been lessened with the increasing range of ETFs on offer).

On the other hand, standard portfolio theory would suggest that individuals can gain by diversifying their portfolios away from home (Mercereau 2006). The relevance of the theory is a little less clear in recent years when the correlation across markets has increased. There has also been little investigation of the extent to which such international diversification has been appropriately hedged, or to which performance can be partly explained by exchange rate movements.

The allocation of retail funds to alternative and unlisted assets is much smaller than for the other two types of fund. It is not clear why this should be.

The other notable feature of funds, including in the self-managed sector, is the similarity in allocations between the accumulation phase and the retirement phase (Rice Warner 2011). The SMSF allocation to cash is virtually the same between the categories as is the allocation to equities. The main difference is that in pension phase SMSFs allocate less to direct property. This is somewhat surprising since one would normally expect people to shift towards more conservative allocations as they age. One explanation is again the high equity risk premium which would make the cost of being too conservative too early very expensive, particularly if they have concerns about the level of their saving (Brailsford et al 2012). Another is that the system is still immature and that the bulk of retirees are too young still to make the switch in their allocations. A third possibility is that the system is immature and

that gradually we will see products emerge and become broadly available which are better tailored to SMSF needs.

This lack of major portfolio adjustment with the onset of the pension phase stands out in contrast to the HILDA data which finds that cash holdings increase sharply as a share of assets after age 65, and the 'equities, trusts and superannuation' fall (Finlay 2012).

### 3.3 Consequences for the flow of funds

The sharp difference between the allocations by SMSF and those by other superannuation funds means that it is important to form a view about whether the difference is likely to be sustained, and how the different segments are likely to evolve.

The difference in allocation between cash and fixed interest is not simply explained by the absence of fixed-interest product suitable for SMSF investors. The large average size of SMSFs suggests that the owners are relatively sophisticated investors, and the fact that they allocate a significant share of their assets to risky classes (unlisted property, alternative assets and direct equities) reinforces that impression. This may well be a sensible balance amongst alternatives in respect of their views as to their personal portfolio frontiers. The stability of the allocations in the SMSFs shown in the table above suggests the latter, although it is a very difficult period across which to form judgments.

This is clearly an important issue for the development of both the deposit and the corporate bond markets.

A second major difference in allocation is the small proportion of retail funds which go into alternative asset classes when compared with the other fund-types. With a number of listed infrastructure funds in Australia, and with a large listed property-fund sector, retail funds may feel that they have a significant exposure to products which are not simply equities and which avoid the risks of being stuck with assets which are not easily brought to market. It does however suggest that there is room for retail funds to join with banks and to take assets off bank balance sheets (as in the Axa/Societe General example cited above).

There has been a lot of loose discussion about the need to increase Australians' private investment in infrastructure in an environment where government is reluctant to borrow. Given the investment programs of a number of the state governments, and investors comfort in buying government bonds, there appears to be little economic need for greater private sector infrastructure funding. Of course governments may wish to optimize both the size and returns from their balance sheet by selling assets to either reduce debt or to re-invest in other assets. The question about the sale conditions and price is then essentially a



commercial arrangement between governments and private investors. To the extent that private investors want to allocate more funding towards infrastructure assets because of their long duration nature, the financial markets in Australia have been very innovative, and as noted, there is a lot of listed infrastructure (Connolly 2012).

There is a perception that Australian infrastructure needs significant additional investment. Whereas historically governments provided such investment, and bore the associated risks (as with the poor railways investments in the 1920s), they are now reluctant to do so. The government share of total investment has fallen over time (Chan et al 2009). Private investors have funded some of the project and assumed the risk in a number of projects, as with Leighton Holdings in the Victorian desalination plant and a range of investments in private roads. In some of these cases risk was shared between government and private investors. The key issue relates to project risk since mature projects find sufficient investment given their long term, stable and utility-like, stream of dividends. If private individuals are to take on project risk, they are likely to want very significant returns for it which are likely to be politically unpopular but necessary to compensate for the risks involved. Alternatively governments could re-assume the risk and manage it on a portfolio basis (but see Gomes and Pouget 2008 on international tax competition). An intermediate form would be some sort of time-limited infrastructure bond whereby effectively the government shares some of the shorter-term risks with the investor and so gets projects built without the need to generate excessive long-term returns. The increased scale we anticipate for the superannuation funds provides an alternative wherein their scale allows them to assume more project risk on a portfolio basis.

Some form of risk sharing between government and private investors seems the best long-term solution. A form of infrastructure bonds would shift the funding onto the market, and appeal to both but particularly to SMSFs which would never have the scale to invest directly. It seems possible that the government will eventually get to this solution. The other alternative, of pushing such infrastructure funding back into the public sector, with governments incurring debt to fund investment, faces the standard problem that there are few bounds on governments incurring debt (the initiatives in the 2013 NSW Budget are an intermediate step in this direction but the real test will be as it tries to exit for any investments). Australia's dramatic economic problems in the Great Depression arose precisely because of excessive government borrowing, much financing inefficient railway investment and not because of any problems in the banking system (Schedvin 1970). There are also important current examples of governments incurring excessive debt. If governments were always sensible government provision would be a good solution, but history teaches us otherwise.



Of course, infrastructure (like many other assets) is highly illiquid so investors wanting to have a balanced portfolio will need to hold a larger proportion of liquid assets (as SMSF do) or have a long-term investment horizon that is able to benefit from the assets' illiquidity premium.

### 3.4 Consequences – adaptation with growth

The rapid growth to be expected in the scale of funds will be accelerated by the move from a 9% contribution rate to 12%. One significant uncertainty involves how this plays into the historical move towards greater industry concentration. The number of funds (excluding SMSFs) has fallen sharply over the decade, probably because of economies of scale in management, but rapid growth we anticipate for the sector will partly offset the tendency to increased concentration as smaller funds find it easier to reach efficient scale (Dyck and Pomorski 2011). It is quite unclear how MySuper will interact with these effects.

Large funds are different from small ones, even if we ignore for the moment the decisions made by SMSFs. Cummings (2012) makes clear that there are economies of scale: *“operational expense ratios ... decrease with size for both retail and not-for-profit funds”*. By contrast he finds that investment expense ratios (including investment management fees, brokerage fees, and other transaction costs) do not exhibit any clear pattern across fund sizes. It is not obvious from his analysis but it seems possible that the retail funds substitute a greater menu of investor choices for cost efficiencies. The data indicates that large not-for-profit funds offer members typically offer 13 investment choices versus 280 for a large retail fund.

Logic suggests that the very significant increases in funds would allow the institutions to reap economies of scale. For example industry funds seem likely to offer more choice as they continue to grow in size as they face more competition from the changes to awards. This is likely to be accompanied by a larger marketing and service presence. Overall we are likely to see greater convergence in performance and operations between these fund types. The risk, however, as funds grow larger is that while they benefit from economies of scale they face diseconomies of scope as the size and complexity of the business makes it increasingly difficult to manage. Growth by acquisitions also can lead to integration problems of people and systems. This will be a challenge for managements as they develop their business models.

The increasing size of superannuation funds and the reduction in the funding advantage for banks means that it is more likely that a system will evolve which allows natural long term lenders (such as super funds) to pair up directly with long term borrowers (mortgagees, infrastructure funds etc). This is particularly the case since regulation is reducing the ability

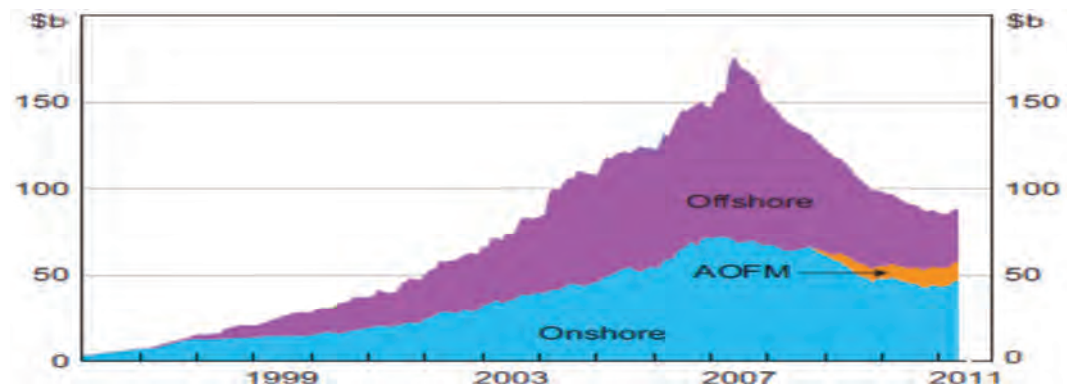
of banks to run major funding mismatches – financing long term loans with short term funding.

*"Pension funds are cutting out the middlemen by bidding for companies directly rather than leaving it to the private equity groups in which they have invested. Canada's biggest public pension fund manager by assets is considering a bid for Ista, a German metering company put up for sale by its private equity owner Charterhouse for €3.5bn, people with knowledge of the matter said". Financial Times, March 2013.*

#### 4. Markets

Working with the assumption that retail and wholesale rates will tend to converge, businesses which depend on wholesale market funding will become more competitive. This should give a significant stimulus to the securitisation industry. While the sector did decline during the crisis, it seems certain to reappear strongly as confidence returns and any of the perceived design weaknesses are resolved. The regulatory environment will push banks in this direction, and as discussed above superannuation funds are a more natural holder of many long-lived assets than are banks. Recent signs indicate this process has started to occur.

**Figure 32 Australian RMBS outstanding (\$ billion)**



Source: RBA

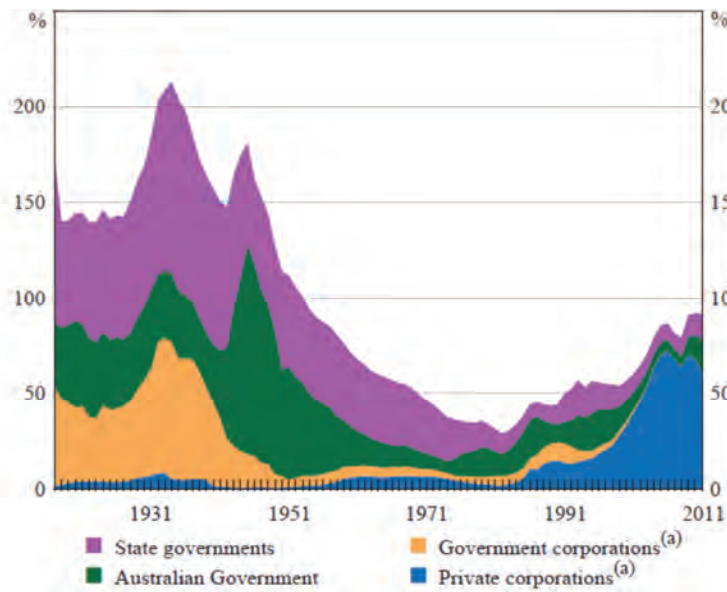
Equity markets have grown significantly both in value and turnover in recent decades. This has made sense while the equity premium has been large, transaction costs have been falling, and the taxation model has been simplified (Chaudhuri and Smiles 2004). The strengthening of the asset-backed sector (i.e. mortgage or other form of backing) will further deepen the market and provide greater choice. The addition of infrastructure bonds would further increase the choice of asset types available as has the availability of government bonds in smaller parcels.

There are two other broad concerns for exchanges. The first is the increasing demand for international diversification of investment. Even if home country bias remains strong, the sheer increase in the volume of savings managed professionally means that international flows will increase. The flow will be significant and in both directions with inflows from Asia likely to provide particular opportunities as for example China liberalizes its capital markets. ETFs are providing some mechanisms to facilitate the trend to international diversification for retail investors but cross listings seem likely to rise as companies access the broader capital flows directly (while recognizing some of the issues with dual or multiple listing).

Domestic exchanges may be able to sustain their local dominance even in a more globalized financial world by contrast with foreign exchange markets, where scale and span have allowed a handful of global banks to dominate. The key issue will be the ability of the local exchanges to maintain frontier infrastructure and deep markets for local stocks, bonds and contracts. Regulation will also play an important role (Harvey 2008). For example, the forced move of derivatives onto markets from over-the-counter provides significant new local opportunities but requires significant development to work effectively (Heller and Vause 2012).

Markets for both equities and bonds have grown significantly both in value and turnover in recent decades. For bonds this has largely been driven by banks which have made greater use of on-market bond financing as they have grown faster than their deposit base alone would have allowed. The bond market was suppressed during the Bretton-Woods era but has re-emerged after liberalization. Notably government was a heavy issuer, particularly to finance infrastructure, in the period before World War II, but the strength now lies with private issuers (Black et al 2012).

**Figure 33 Australian bond market (% of GDP)**

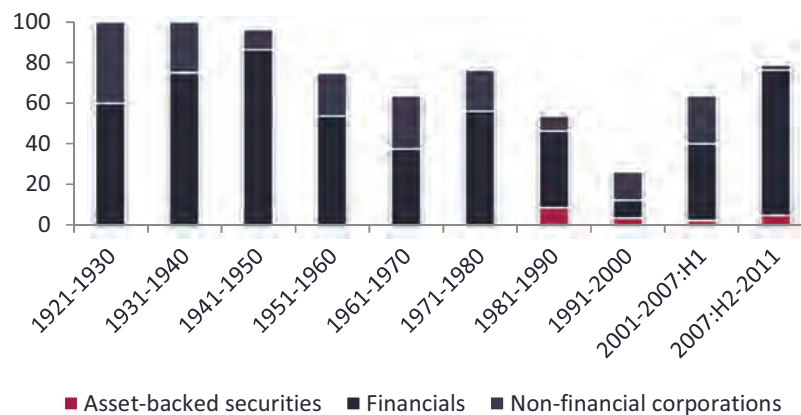


Source: RBA

The switch of the bond market towards financial issuers, notably the banks, is apparent from Figure 34. Some of this is to be expected, as banks act as aggregators which take advantage of their strong credit ratings to borrow in the market and then on-lend to parties which do not have ratings or for whom it is too expensive to go to market. However as the market grows and becomes more sophisticated a greater proportion of funds will be accessed directly without bank intermediation. The simplification of issuance rules will help.

Progressively we also expect to see an increased appetite for lower grade, higher expected yielding product as entities, particularly superannuation funds, grow, diversify and increase their own skills in the evaluation of debt.

**Figure 34 The share of the top 20 bond issuers in the overall issuance by domestic names and their sector composition: Proportion of onshore and offshore issuance, averages**

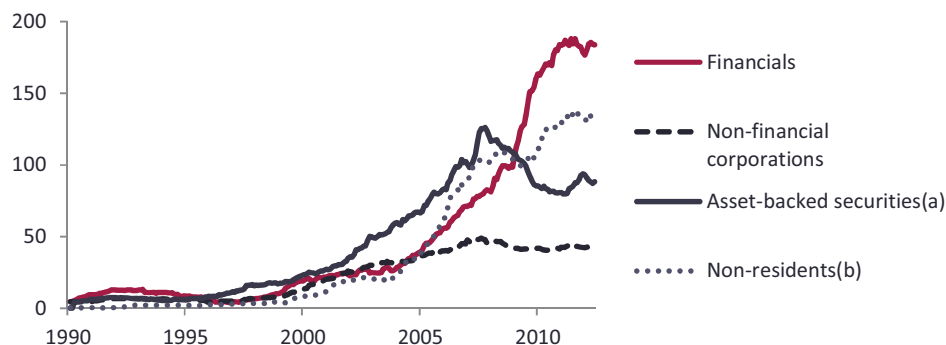


Source: Black et al (2012)

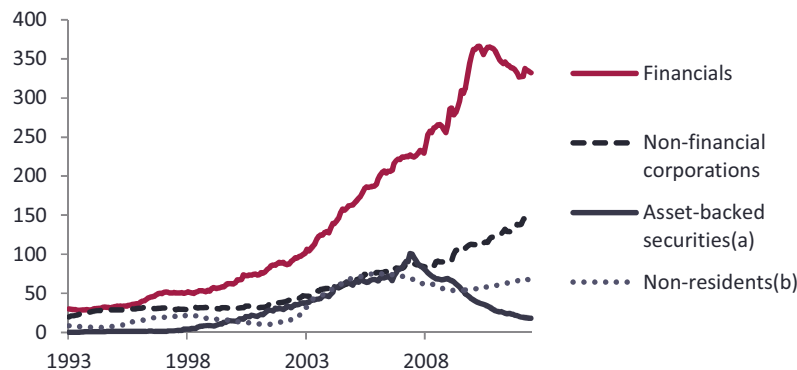
The bond market's importance is not simply domestic. As discussed in Part A, Australia's open capital account makes the flow of funds into and out of Australia an essential part of our adjustment to the ebbing and flowing of rates and sentiment between different funding opportunities. The Figures below indicates some important differences in who has access to the different markets. The starkest difference lies in the use by non-financials of the offshore market which has continued to rise, particularly relative to the limited growth in their domestic offerings. Major domestic corporations which have demonstrated an ability to borrow internationally, increasingly access offshore markets as those markets provide the maturity and price for the amount of funding they desire. To the extent that non-financial corporates replace banks as the major offshore borrower of funding, there may be additional systemic risk being added as a result of the lower levels of hedging of Australian corporate borrowings offshore undertake relative to that of banks. How much this leads to an increase in systemic risk is unclear since corporates with offshore businesses may have matching offshore revenue flows. Foreigners now hold much more of the domestic bond base than do residents.

*"Woolworths, based in Sydney and rated A- by Standard & Poor's, sold A\$500 million (\$506 million) of five-year notes priced to yield 105 basis points more than the swap rate yesterday, according to data compiled by Bloomberg. Commonwealth Bank of Australia (CBA), the nation's biggest lender, paid the same spread on 4 1/2-year notes in January, while GE's local finance unit, rated AA+, paid a spread of 110 basis points on a sale of three-year bonds last month, the data show." Bloomberg March 8, 2011*

**Figure 35 Market funding: onshore (\$ billion)**



**Figure 36 Market funding: offshore (\$ billion)**



Source: RBA Chart Pack, 2013

The story of the equity markets is simpler. Market volumes and market capitalization have grown strongly over recent decades. There was a major shift towards direct holding of equities by households after the privatizations of major corporations like the Commonwealth Bank and Telstra in the 1990s and the de-mutualisation of entities, the reduction in transaction costs, technology change allowing for more transparent and faster trading, and an extended period of high returns (particularly given the taxation advantages). Subsequently we have seen a partial pull-back from equities during and after the financial crisis. The long term question raised by an increased flow of funds into equities relative to other assets is whether it pushes up market valuations and reduces the equity risk premia which attracted the equity investment in the first place (compare Brailsford et al 2012). Over time one imagines that any excess premium for equities should disappear and the average investor should be indifferent between equities and other classes of asset on a risk-adjusted basis.

As Professor Davis has pointed out, the markets for secondary assets like derivatives and futures has grown far more quickly than the markets for the underlying assets (Davis this volume). In part this reflects growing sophistication of the parties involved as they become more skilled at risk management and should be encouraged. There would seem to be a natural limit to the insurance values achieved by such trading, a point at which the value of additional insurance does not justify the cost although it is unclear how near we are to such a boundary. As with any investment some is for speculative purposes. This latter is not an issue since it involves a zero-sum game, redistributing income between participants in a neutral way as long as the parties are well informed. Entities like ASIC have a fundamental obligation to ensure this is so.

The management of the risks involved in dealing with a wider range of counterparties across a wider range of asset types creates the potential for market failures due to coordination

and informational issues. Some greater standardization is likely to be the result even if regulators do not require it. It is not clear just who will enable this to happen. Investment banks make their livings out of designing specific products for clients and seem to have little interest in standardization whereas exchanges should be working hard to develop standards, to facilitate flows and hence boost their business. The analogy is with the electronics industry which (usually) cooperates on standards and then competes within that standard framework. As with electronics it is possible that a number of different standards will develop and only over time will some be eliminated. The payoffs to the exchanges appear large so regulation may not be necessary. The long-term question is whether the benefits of competition to produce the best standard are outweighed by the costs of having a number of different standards. As markets develop, the relative question of costs and benefits becomes more obvious.

## 5. Regulations

Regulators face a host of issues (where regulators are taken to include both policy makers and those responsible for implementing the rules).

The biggest and most important issues flow from the underlying need to ensure systemic stability: in Stephen Cecchetti of the Bank of International Settlements' words *"regulation ... has systemic stability as its ultimate objective"* (Cecchetti 2012). While the financial system contributes strongly to growth and wellbeing, it also has the potential to cause significant economic damage.

The Cecchetti view that systemic stability is fundamental focusses the issue of regulation directly onto institutions like banks and financial markets which are more prone to rapid swings in sentiment, and somewhat away from other savings institutions like superannuation funds and insurance companies which hold funds under longer term contracts and on a fiduciary basis. Even for these institutions, regulation becomes central when they interact with banks, markets and the flow of funds. Clearly there is a second tier of regulations which deals with fiduciary issues, important in its own right, but less likely neither to result in spill-over effects onto the rest of the financial system nor to do significant damage to the real economy.

In order to make the overall system more stable, regulations have tightened the regulatory circle around banks. The Basel III regulations have pushed bank capital and bank liquidity to levels far higher than they have been for decades. Through time and collectively they seem likely to make banking less profitable than it has been although (at least partly)



compensated for by lower risk. The outcome for individual banking entities will depend on how they respond and on the structure of their businesses.

The broad policy question concerns the extent of regulatory reach. One approach has been to try to reduce the domain which is subject to intense regulatory supervision (eg ring-fencing parts of banks - see the UK Vickers report). We see some of the same approach adopted with the MySuper proposal: define something relatively small and stable to provide a safe harbour for most investors. The question is also relevant to other aspects of the financial system. The proposed takeover of the ASX by the Singapore exchange led to a much clearer understanding by regulators of just which aspects of the financial system most need to be protected to ensure the integrity of the domestic financial system. The four pillars structure is essentially an attempt at the policy level to grapple with this same issue. Rather than protecting the whole of an industry or a sector, the regulatory focus has shifted appropriately to the essential elements. This seems likely to continue.

However the difficulty with this approach, very evident in Australia in the 1960s and 1970s, was the tendency of other less regulated entities to grow rapidly to fill the space so that regulators hold tightly onto something which is less and less systemic importance (Drake 1997). The current move to shift the bulk of derivatives onto markets could well succeed in its immediate intention but lead to more and riskier products being built on a bespoke, off-market basis.

This approach amounts to establishing a graduated regulatory structure. In practice it is unclear how the financial system would operate with regulation gradually weakening progressively as we move from the core of the system towards the outer fringes. Of course it is possible in principle, but very hard to implement appropriately and subject to creep at every level.

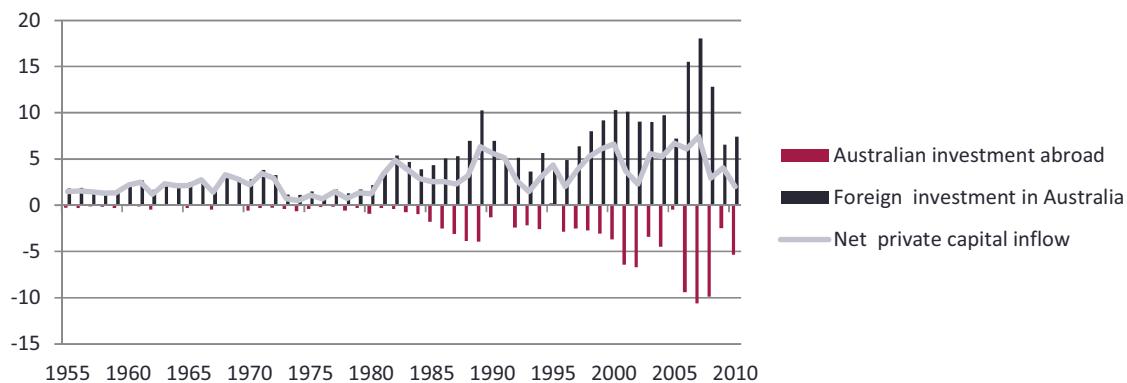
A second open issue is the extent to which finance should flow around the globe. It seems clear that banks will be increasingly forced to operate away from their home country through subsidiaries rather than branches with local capital in each market which can support local resolution of failing institutions. This will challenge the business model of many global banks. Higher capital imposts for SIFIs impose similar restrictions. While this deals with banks, how regulation will evolve to deal with other capital flows and notably the shadow banking system is still unclear (but the focus of increasing regulatory attention).

Gross financial flows have grown significantly over the last twenty years while net flows have barely changed. It is also clear from Figure 37 that most of the flows are private, and have traditionally thought not to be of policy concern (Cerutti et al 2012). However one of



the lessons of the financial crisis is that gross positions can be important if there is trouble with a market participant (think Lehman Brothers or AIG). Large flows to and from multiple counter-parties make it more difficult for regulators to understand where risks lie, and particularly to understand the extent to which domestic entities are exposed to risks which are (hopefully effectively) delegated to other countries. In this environment there is a clear temptation for regulators to try to reduce the size of such 'offsetting' positions making the system more transparent and more manageable. At least it requires a different analysis of positions, the nature of offsetting arrangements etc.

**Figure 37 Rise in gross flows relative to net flows (% of GDP)**



Source: ABS, RBA

Dark pools are one example, and over-the-counter products another, but simpler platforms for unsophisticated investors are emerging. Two aspects we have seen as fundamental to the financial system have been the matching function and the verification function, but businesses like eBay and Amazon have found ways to provide these functions in a non-institutional format. Regulators face challenges in deciding what is in the regulatory net and what out, with an immediate consequence of any regulations being to increase the incentives to find ways around them. This is likely to prove an increasingly difficult problem.

Regulation also needs to be sensitive to the evolution of the system. If banks are going to undertake less maturity transformation, then the transformation needs to happen elsewhere in the economy if we are to retain the underlying economic dynamic. Long term assets have their natural risk counterpart in long term liabilities, so that many assets banks now hold should sensibly move towards insurance companies and superannuation funds. Regulation along the lines of Solvency 2, forcing insurance companies to shorten their exposures at the same time banks are being forced to, prevents the desirable adjustment (Deutsche Bank 2011). Similarly the routing of more funds through superannuation reduces the flow towards banks. With fewer deposits, banks will be constrained and more lending will happen outside the banking system. This raises systemic risks but can easily be offset by facilitating the flow of deposits from superannuation towards the banks through the

adoption of behavioural assumptions about run-offs which encourage rather than discourage such flows.

## Conclusions

The most obvious conclusion is that we do not see any major issue involved in funding Australia's growth. We expect domestic savings to provide most of the savings needed, with any shortfall being met by capital inflows (and any surplus flowing into offshore investment).

This is not to minimize the importance of capital inflow for our growth. When capital is funding investment, it builds the national stock of capital and increases total production for the benefit of all of us. While the flexible exchange rate makes such adjustment relatively smooth, the fall in the exchange rates following a cut in inflow would reduce our living standards relative to trend.

The issues in finance seem mainly to concern changes in the flow of funds within the economy, between asset classes and across institutions. These will provide challenges for investors, institutions and governments.

Banks are likely to lose any long term funding advantages they have from deposits, as differentials between the cost of funding off wholesale markets and deposits narrow (or disappear). They are likely to adapt by securitizing more of their assets, particularly the long-lived assets, and transferring them onto superannuation funds and insurers which have long term liabilities.

Superannuation funds will grow and probably continue to consolidate. It seems likely that retail and industry funds will manage more of their assets in-house. The growth of self-managed funds will continue to outpace the other entities since richer and older individuals have revealed a strong preference to allocate their assets idiosyncratically.

Markets accordingly will grow strongly. More assets will be securitized, a market-based solution will be found to the task of funding infrastructure, and the bond market will deepen. The demand for derivative assets and for forward protection can be expected to grow as investors become more sophisticated although it is a process with natural limits – as cost comes to exceed the value being created. Closer inter-linkages with global markets can be expected.

Regulators face a difficult transition. The current approach has been to define key institutions, like banks and other aspects of the financial system (including payments), and to regulate them more tightly. This creates a natural tendency for more risk to be taken outside the regulated boundaries. It will be difficult to graduate regulation from the core to the periphery of the system.

Structuring regulations to encourage appropriate transitions would be desirable. Allowing long term assets to move smoothly to their natural owners is essential, and allowing deposits to fund banks rather than sitting in superannuation funds is equally important.

There are important unresolved policy questions about the offshore growth of trade in financial services.

## Reference List

ABARES (2013), 'Minerals and energy: major development projects', April 2011 Listing on *ABARES website*.

Allen Consulting (2011), *Enhancing financial stability and economic growth: the contribution of superannuation*, on the Association of Superannuation Funds of Australia website.

Bank of International Settlements (2013), 'Highlights of BIS international statistics', *BIS Quarterly*, June

Belkar, R., L. Cockerell and C. Kent (2007), "Current account deficits: the Australian debate", *RBA Research Discussion Paper 2007:02*.

Berkelmans L and H. Wang (2012), 'Chinese urban residential construction to 2040', *RBA Research Discussion Paper No 2012-04*.

Bernanke, B. (2005), 'The global saving glut and the US current account deficit', remarks at the *Sandridge Lecture*, Virginia Association of Economics, Richmond, Virginia (March).

Bikker, J. (2013), 'Is there an optimal pension fund size? A scale-economy analysis of administrative and investment costs', *DNB Working Papers* 376.

Black, S., J. Kirkwood, A. Rai and T. Williams (2012), 'A history of Australian corporate bonds', *RBA Research Discussion Paper*.

Brailsford, T., Handley, J. and K. Maheswaran (2012), 'The historical equity risk premium in Australia: post-GFC and 128 Years of data', *Accounting & Finance*, 52:1.

Burstein, A., M. Eichenbaum and S. Rebelo (2007), 'Modelling exchange rate pass-through after large devaluations', *Journal of Monetary Economics*, 54:2.

Cerruti, E., S. Claessens and P. McGuire (2012), 'Systemic risk in global banking: what can available data tell us and what more data are needed?' *BIS Working Paper*, 376.

Chaudhuri, K. and S. Smiles (2004), 'Stock market and aggregate economic activity: evidence from Australia', *Applied Financial Economics*, 14:2.

Clyne, C. (2012), "Funding Australia's future", speech on *Lowy Institute* website.

Cecchetti, S. (2012), 'The future of financial intermediation and regulation', speech *Bank of International Settlements* website.

Coleman, A., N. Esho and M. Wong (2006), 'The impact of agency costs on investment performance of Australian pension funds', *Journal of Pensions Economics and Finance*, 5:3.

- Connolly, E. and D. McGregor (2011), 'Household borrowing behaviour: evidence from HILDA', *RBA Bulletin*, March.
- Connolly, E. (2007), "The effect of the Australian superannuation guarantee on household saving behaviour" *RBA Research Discussion Paper* 2007-08.
- Connolly, N. (2012), 'Australians and infrastructure investment', *Russell Investments*.
- Cooper Report (2010 ), *Review into the governance, efficiency, structure and operation of Australia's superannuation system*, Australian Government.
- Cummings, J. (2012), 'Effect of fund size on the performance of Australian superannuation funds', *APRA Working Paper*
- Davis, K. (2011), 'The Australian financial system in the 2000s: dodging the bullet', *RBA Conference Volume*.
- Davis, K. (2013), 'Financing Australia's future: from where do we begin?', Powerpoint presentation: Kevin Davis website.
- Debelle, G. (2013), "Funding the investment boom". Speech on RBA website.
- Deloitte (2009), 'Dynamics of the Australian superannuation system', *Deloitte Discussion Paper*
- Demirguc-Kunt, A., E. Feyen and R. Levine (2012), 'The evolving importance of banks and securities markets', *NBER Working Paper* 18004.
- Deutsche Bank (2011), 'Solvency 2 and Basel III: reciprocal effects should not be ignored', client note *Deutsche Bank Research*.
- Drake, P. (1997), 'Financial deregulation in Australia: a success story?', in K. Gupta ed *Experiments with financial liberalisation*, Springer.
- Dyck, I. and L. Pomorski (2011), 'Is bigger better? size and performance in pension plan management', *Rotman School of Management Working Paper No. 1690724*
- Edwards, S. (2004), 'Thirty years of current account imbalances, current account reversals and sudden stops', *IMF Staff Paper*, 51.
- Ellis, L. (2006), 'Housing and housing finance: the view from Australia and beyond', *RBA Research Discussion Paper*, 2006:12.
- Ellis, L. and S. Naughtin (2010), 'Commercial property and financial stability – an international perspective', *RBA Bulletin*, June.

- Ergungor, O. (2007), 'On the resolution of financial crises: the Swedish experience', *Federal Reserve Bank of Cleveland Discussion Paper*.
- Finlay, R. (2012), 'The distribution of household wealth in Australia: evidence from the 2010 HILDA survey', *RBA Bulletin*, March.
- Fry, R., V. Martin and N. Voukelatos (2010), 'Overvaluation in Australian housing and equity markets: wealth effects or monetary policy', *Economic Record*, 86.
- Gale, W. and P. Orzag (2004), 'Budget deficits, national savings and interest rates' *Brookings Papers on Economic Activity*, 2.
- Gali, J. and B. Taplin (2012), 'The macroeconomic effects of lower capital inflow', *Treasury Economic Roundup*, 3.
- Gomes, P. and F. Pouget (2008), 'Corporate tax competition and the decline of public investment', *ECB Working Paper* No. 928
- Greenwood, R. and D. Scharfstein (2013), 'The growth of finance', *Journal of Economic Perspectives*, 27:2.
- Gruen, D. and L. Soding (2011), 'Compulsory superannuation and national savings', *Treasury Economic Roundup*, 3.
- Harvey, B. (2008), 'Exchange consolidation and models of international securities regulation', *Duke Journal of Comparative and International Law*, 151.
- Heller, D. and N. Vause (2012), 'Collateral requirements for mandatory central clearing of over the counter derivatives', *BIS Working Paper*, 373.
- Kirkwood, J. (2010), 'Securitisation and banks' net interest margins', *Economic Record*, 86.
- Lopez-Espinosa, G., A. Moreno, A. Rubia and L. Valderrama (2012), 'Short-term wholesale funding and systemic risk: a global CoVaR approach' *IMF Discussion Paper*
- Maddock, R. (2013a), 'Banks, capital markets and Australian economic development', <http://ssrn.com/abstract=2258843>
- Maddock, R. (2013b), 'Is the Australian financial sector too big?'. Paper presented to *Australian Centre for Financial Studies Conference*, July 2013.
- Mercereau, B. (2006), 'Financial integration in Asia: estimating the risk-sharing gains for Australia and other nations', *IMF Working Paper*, 06/267.
- National Australia Bank (2013), 'Analyst presentation', on *NAB website*.

Office of Best Practice Regulation (2013), 'Implementing Basel III capital reforms in Australia', Regulatory Impact Statement', *OBPR ID: 2012/13813*.

Chan, C , D. Forwood, H. Roper and C. Sayers. (2009), 'Public infrastructure financing: an international perspective', *Productivity Commission Staff Working Paper*.

Philippon, T. and A. Reshef (2013), 'An international look at the growth of modern finance', *Journal of Economic Perspectives*, 27:2.

Reinhart, C. and M. Belen Sbrancia (2011), 'The liquidation of government debt', *NBER Working Paper*, 13946.

Reserve Bank of Australia (various years), *Financial Stability Review*, RBA.

Rice Warner (2011), 'Investing in the retirement years', *Rice Warner Touchstone*.

Robertson, B. and A. Rush (2013) 'Developments in banks' funding costs and lending rates', *RBA Bulletin*, March.

Schedvin, C.B. (1970), *Australia and the Great Depression*, Sydney University Press.

Stevens, G. (2011), 'The cautious consumer', *RBA Bulletin*, September.

Stevens, G. (2012), 'The Australian economy: some perspectives, Speech, on RBA website.

Treasury (2010), *The intergenerational report 2010*, Canberra: AGPS.