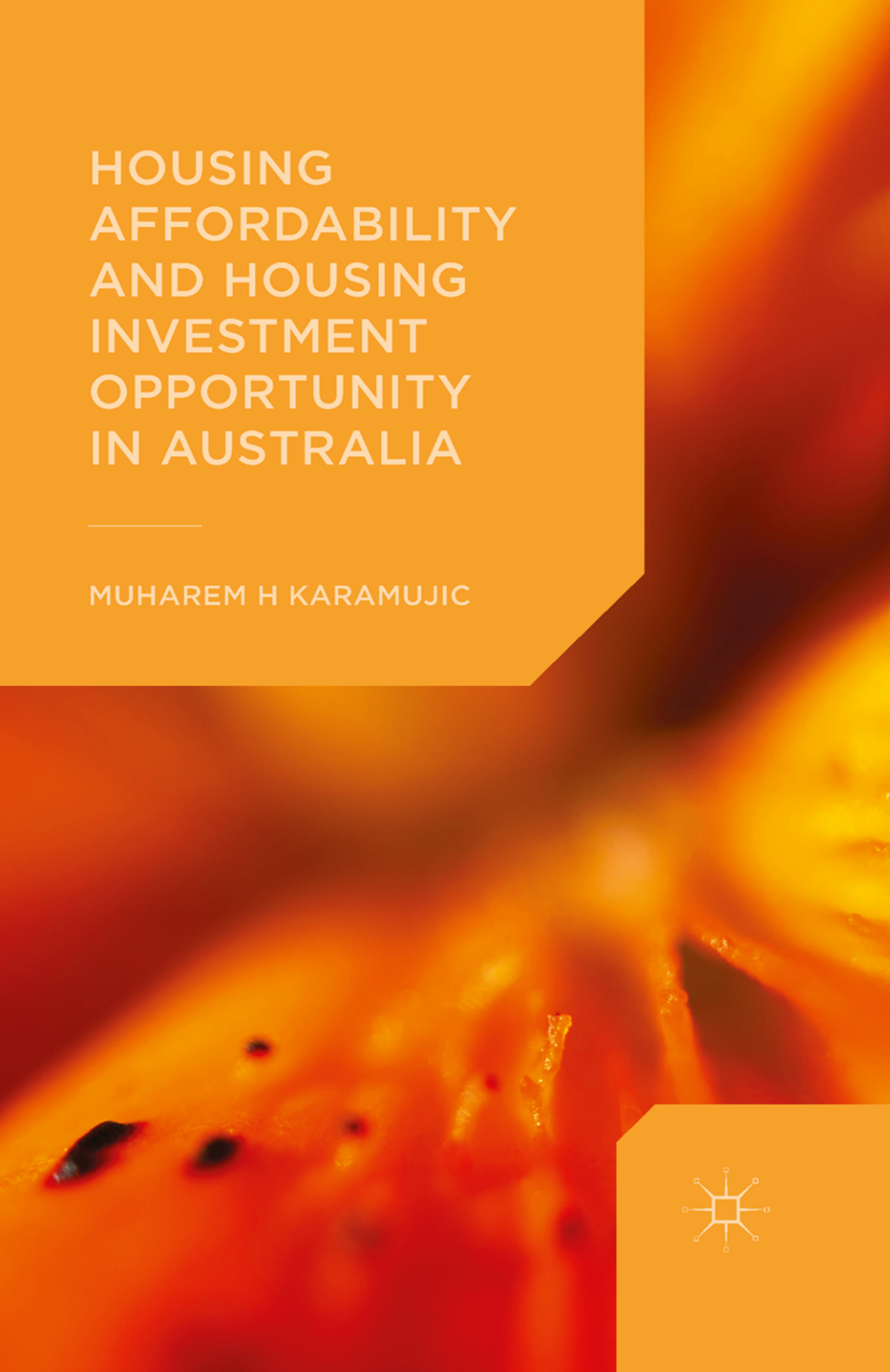
HOUSING AFFORDABILITY AND HOUSING INVESTMENT OPPORTUNITY IN AUSTRALIA

MUHAREM H KARAMUJIC



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To my parents, Ishak and Dzevida

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Special gratitude goes to my wife, Alma, and my children, Kerim and Amina.

List of Abbreviations

AASHAI	Affordability and Available Stock Housing Affordability Indicator
ABCB	Australian Building Codes Board
ABN	Australian Business Number
ABS	Australian Bureau of Statistics
ACS	American Community Survey
ACT	Australian Capital Territory
ADGM	Accessibility/Deposit Gap Method
ADIs	Authorised Deposit-Taking Institutions
AFIs	Australian Financial Institutions
AFTWE	Average Full Time Weekly Earnings
AHURI	Australian Housing and Urban Research Institute
ALGA	Australian Local Government Association
ALP	Australian Labour Party
ANZ	Australia and New Zealand Banking Group
ATM	Automatic Teller Machine
ATO	Australian Taxation Office
AWE	Average Weekly Earnings
BCA	Building Code of Australia
BHL	Basic Home Loan
BICOE	Building in Course of Erection
CAHAI	Centre for Affordable Housing Affordability Index
CBA	Commonwealth Bank of Australia
CIE	Centre for International Economics
CM	Canadian Model
COAG	Council of Australian Government
COFs	Cost of Funds
CPI	Cost Price Index
CRA	Commonwealth Rent Assistance
CSHA	Commonwealth State Housing Agreement
FHBs	First Home Buyers
FHOB	First Home Owners Boost
FHOG	First Home Owners Grant
FHSA	First Home Saver Account
FRHLs	Fixed Rate Home Loans

FRIOHLs	Fixed Rate Interest Only Home Loans
FTPR	Funds Transfer Pricing Rate
GFC	Global Financial Crisis
GST	Goods and Services Tax
HAF	Housing Affordability Fund
HIA-CBA HAI	The Commonwealth Bank of Australia – Housing Industry Association Housing Affordability Index
HLAI	Home Loan Affordability Index
HOR	Home Ownership Rates
IGA	Intergovernment Agreement
IO	Interest Only
LGA	Local Government Area
LMI	Loan Mortgage Insurance
LOC	Line of Credit
LVR	Loan to Value Ratio
MHA	Measure of Housing Affordability
MHAR	House Price to Rent Ratio
MSD	Melbourne Statistical Division
NAB	National Australia Bank
NAHA	National Affordable Housing Agreement
NAHAHAI	National Affordable Housing Agreement Housing Affordability Index
NAM	Net Affordability Measure
NBFIs	Non-banking Financial Institutions
NCC	National Construction Code
NEAM	Net Equivalent Affordability Measure
NHSM	National Housing Strategy Measure
NRAS	National Rental Affordability Scheme
NSW	New South Wales
NTHLP	National Tailored Home Loan Package
OECD	Organisation for Economic Cooperation and Development
P&I	Principal and Interest
RBA	Reserve Bank of Australia
RC	Risk Capital
RCCA	Risk Capital Charge Amount
REIAHLAI	Real Estate Institute of Australia Home Loan Affordability Indicator
RIM	Residual Income Measure
RMP	Rent to Mortgage Payment Ratio
SAAP	Supported Accommodation Assistance Program

SHS	Specialist Homelessness Services
SIH	Survey of Income and Housing Costs
SPSHAI	Sales by Price Segment Housing Affordability Indicator
SVRHL	Standard Variable Rate Home Loan
TCM	Traditional Consumption-Based Measure
UK	United Kingdom
UN	United Nations
USA	United States of America
Westpac	Westpac Banking Corporation

1
Introduction

1.1 Background

Due to its importance (discussed in detail in Chapter 2), the housing sector has always been the topic of much discussion. In recent times, it is even more so due to the global financial crisis (GFC) of 2007/09 and the lurking possibility of a global double-dip recession in 2015/16.

Among other things, the housing sector is well known for its cyclical behaviour (commonly expressed in terms of house price changes). The most frequently quoted initiating factors for the observed cyclicality are interest rate sensitivity and the intrinsic construction lags.[1] After defining the initiating point, the rest of the cyclical behaviour is attributed to housing supply being significantly more sluggish than housing demand. For example, an interest rate reduction can almost immediately increase the demand for housing; however, the supply-side cannot react in such a short time due to constraints such as build time and resources availability. Contrary to other developed economies, Australia has experienced a long-run deterioration in housing affordability even between housing price boom cycles. After the last housing price boom cycle (ending with the emergence of the GFC), housing affordability stress levels remained high because house prices did not fall back as in other countries (such as the USA and the UK) to the levels prevailing before the boom. According to Burke and Hulse (2010), the Australian housing market was barely affected by the GFC: "there was a slight hiccup and then borrowing, construction and house price inflation continued on its pre-crisis course". The house price boom that came after the GFC (and started in late 2009) has ratcheted Australian housing affordability stress to yet higher levels.

Demographia (2009) in its measurement and ranking of housing affordability in English-speaking countries (Australia, Canada, Ireland, New Zealand, UK and USA) observed that over the 2008/09 period, house prices declined in all markets except Australia, causing housing affordability in those countries to improve. This is primarily caused by the fact that during the GFC, compared to other developed economies, the Australian economy proved much more resilient. The persistence of stable financial and banking systems and the prevalence of moderate interest rates have maintained mortgage activity, sustained overall consumer spending and, as such, supported Australian economic performance. In fact, a high level of concern existed in the Australian economy only in early 2009. This was short-lived owing to effective and efficient fiscal and monetary policy measures, so that by the end of 2009, economic momentum began to lift.

Given unwavering house price inflation, moderate-income growth and the demand for housing outstripping supply, housing affordability in Australia is likely to continue to be a concern for some time to come.[2] This is bad news for the Australian population for at least two reasons: (i) a deterioration in housing affordability has a substantial impact on living standards (housing costs take up an increasing share of the typical household budget) and (ii) reduced access to affordable housing yields a range of non-shelter social issues (Bridge et al., 2003).

The desire to own a home is not an Australian-centric phenomenon, but a well-recognised worldwide aspiration of the vast majority of people.[3] It is therefore commonly recognised that an average household's single largest expense is the purchase of a residential property, whether to live in it (owner occupied) or for investment purposes. Hence, it is not surprising that home loan affordability is seen as crucial for the well-being of an average family. Through its influence on a significant portion of the population, housing affordability greatly influences the whole economy. Consequently, providers of credit (lenders), construction companies and governments, among others, are keenly interested in housing affordability.

Housing is known to provide an ongoing stream of investment and consumption services i.e. a house concurrently serves two purposes: it is a home (shelter) and an investment. The equity that has accumulated in a home is typically the largest individual component of household wealth.[4] Consequently, it is a widely accepted form of collateral for credit, not only for funding the purchase of a home but increasingly to fund consumption expenditure. In recent years, homeowners have borrowed large amounts against the equity in their homes. The major

reason for using home equity as a security for funding consumption expenditure is that it represents a lower risk for lenders and lowers the interest expense and monthly repayment amounts for borrowers.

Everything we have said so far clearly demonstrates the global importance of housing affordability and, as such, the importance of research which examines housing affordability and its practical applications. Due to the fact that Australia has well-developed housing markets (a necessary condition for contemporary and comprehensive analysis of the issues considered), a well structured and stable financial sector, and the aforementioned peculiarities of its housing markets' performance and overall economic performance, this book will utilise an Australian example for empirical analysis.[5] With this in mind, in addition to having several supporting objectives (see the next section), this book has two main objectives, namely: (i) to review a range of available approaches to the measurement of housing affordability, and (ii) to show how all of it is relevant and functions in practice by examine the evidence on housing affordability in Melbourne, Australia, from 2001 to 2010. Overall, this book consolidates much of the work done by researchers in this field in recent years and focuses on those aspects that continue to be controversial despite many years of debate.

1.2 Objectives

The fundamental intent of this book is to contribute to the formal literature on the topic of housing affordability. This will be achieved by tackling the two main objectives plus a set of accompanying ones. As we have said, the two main objectives are: (i) to review a range of available approaches to the measurement of housing affordability and (ii) to show how all of it is relevant and functions by examining the evidence on housing affordability in Melbourne, Australia. The book is envisaged as a sequential exposition on pertinent, logically connected themes.

The book starts with a discussion of the importance of housing. To do this we consider a number of complementary topics. In addition to discussing housing trends, the following three topics are examined: the relevance of housing to governments at different levels, the emergence of the housing affordability problem and why housing affordability is important. Ultimately, the core purpose is to enhance our understanding of the complexity and importance of housing and, by doing so, to inform the discussion, to different degrees, of the other chapters in this book.

Having completed our exposition on the importance of housing, the subsequent generic research objective is to briefly explore the major reasons for the recent explosion in the number of institutions offering home loan products and in the number of home loan products offered in Australia. In doing so, the following topics are considered: the size, composition and changes in total lending and in home lending in Australia; the consequences of the two most recent rounds of financial system deregulation; trends in interest rate and property prices; and recent changes in typical borrower behaviour. This is relevant to this project mainly for the following three reasons: (i) the discussion will be a good introduction to the discussion in Chapter 4 of various contemporary home loan products and packages; (ii) it will enable a more comprehensive understanding of contemporary housing affordability measures (the focus of Chapter 5), especially those based on home loan repayments (Section 5.2: Home loan affordability measures); and (iii) it will, to a certain degree, inform the interpretation of the empirical portion of this book (the focus of Chapter 6).

Having covered the two more generic parts of the exposition, the focus is then narrowed to consider contemporary residential mortgage lending (home loan) products. The core purpose of providing a detailed account of various contemporary home loan products is twofold: (i) it will enable a more comprehensive understanding of contemporary housing affordability measures (the focus of Chapter 5) and (ii) it will aid the interpretation of the empirical part of this book (Chapter 6).

As previously outlined, this book has two main objectives: (i) to review a range of available approaches to the measurement of housing affordability and (ii) to examine the evidence on housing affordability in Melbourne, Australia. Having covered all the necessary background components of the book, we will be in a position to review a range of available approaches to the measurement of housing affordability. Despite the fact that it is widely accepted that affordability problems are commonly present, there is no universally accepted definition of affordability or of a threshold beyond which housing is deemed as not affordable. Instead there are a number of measures that attempt to measure housing affordability. Housing affordability measures are divided into: home-ownership affordability measures (home loan affordability measures and housing price-based affordability measures) and rental affordability measures. Both categories are discussed in detail.

After providing a review of contemporary housing affordability measures, the last major generic objective of this project is to empirically examine the geography of housing affordability and housing

investment opportunity in Melbourne, Australia. More precisely, while tackling this generic objective, the study first seeks to unpack the geography of Melbourne's affordability problem at the local level through understanding structural changes in housing affordability during the last decade. This is followed with an examination of whether housing affordability in different Melbourne suburbs converges or diverges, i.e. the study looks into whether the selected suburbs and the four suburb groups considered become more (converge) or less (diverge) affordable over the whole considered period and year to year, for people living in those suburbs. In other words, the question here is whether there is a level of adjustment of housing affordability to equilibrium or not. Finally, the study sets out to explore which Melbourne housing market segment represents the better investment opportunity during housing boom periods. The analysis examines both high and low interest rate environments. The exposition on which Melbourne housing market segment represents the better investment opportunity completes the study.

1.3 Outline

This book is structured as follows. Chapter 2 explores the importance of housing. Although not the direct focus of this book, a comprehensive understanding of housing is fundamental to understanding the complexities relating to the behaviour of all parties involved in the housing markets (such as the general population, government at all levels, construction companies, materials suppliers, financial institutions, etc.) and through this to a comprehensive understanding of the fundamental forces that determine the level of housing affordability. To achieve this, the chapter is structured into the following four sections: housing trends, the relevance of housing to government (at different levels), the emergence of the housing affordability problem and why housing affordability is important. This chapter provides the background to all the other chapters in the book.

The primary motivation of Chapter 3 is to briefly explore the major reasons for the recent explosion in the number of institutions offering home loan products and in the number of home loan products offered. While doing so, in addition to providing an outline of the size, composition and changes in total lending and in home lending in Australia, the chapter also examines the consequences of the two most recent rounds of financial system deregulation: trends in interest rate and property prices and recent changes in the typical borrower's behaviour.

To enable a better understanding of contemporary housing affordability measures (the focus of Chapter 5), especially those based on home loan repayments (Section 5.2: Home loan affordability measures), it is necessary to comprehensively understand the various contemporary home loan product groups and packages. Chapter 4, therefore, provides a detailed and structured account of contemporary home loan products and packages. In addition to discussing home loans from the point of view of the type of offering (home loans can be provided as either standalone products or through various financial packages), home loan products are also categorised with respect to their major functionality (based on the lender's point of view of the determining function of a home loan), major purpose type (what they are used for, e.g. owner occupied or investment), distribution segment (how are they distributed), interest rate structure (what kind of interest payments they have) and conformation status (whether they conform to typical home loan lending standards or not). All of the above home loan categories principally differ with respect to the number of features allocated to them. Typically, the higher the sophistication, the higher the gross margin the lender realises. Also important to note is that, normally, with an increase in gross margin and the level of sophistication comes an increase in the costs associated with the product.

Having discussed the importance of housing, the major reasons for the recent explosion in the number of institutions offering home loan products and in the number of home loan products offered and the major categories of home loans, the focus of Chapter 5 is on providing a review of the available approaches for the measurement of housing affordability. An introduction to the chapter is followed by an outline of home loan affordability measures, the housing price-based affordability measures and the rental affordability measures. The chapter ends with some concluding remarks.

After our review of contemporary housing affordability measures, the generic focus of Chapter 6 is on examining the geography of housing affordability and housing investment opportunity at the local level (suburban) in Melbourne, Australia, during the last decade. The focus of the empirical portion of the book is on understanding structural changes in housing affordability as measured by the Median Multiple indicator. The study also examines whether housing affordability in different Melbourne suburbs converges or diverges, i.e. the study will look into whether the selected suburbs and the four suburb groups considered become more (converge) or less (diverge) affordable over

the whole period and year to year, for people living in those suburbs. Finally, the study sets out to explore which Melbourne housing market segment represents the better investment opportunity during housing boom periods.

The book concludes with Chapter 7, which provides a brief summation of the findings, identifies the study's limitations and provides suggestions for future research.

2
Housing: Why Is It Important?

2.1 Introduction

A thorough understanding of the importance of housing, although not the direct focus of this book, is vital for understanding the complexities of the behaviour of all interested parties engaged in the housing market (such as the general population, governments at all levels, construction companies, materials suppliers, financial institutions, etc.) and through this, for comprehensive understanding of the fundamental forces that determine the level of housing affordability. It is commonly accepted that the well-being of both individuals and families is substantially affected when the need for satisfactory housing is not met. Access to adequate housing has long been viewed as a basic human right and is considered to be an integral factor for the enjoyment of other economic, social and cultural rights. According to the United Nations (UN) Committee on Economic, Social and Cultural Rights, satisfactory housing consists of: legal security of tenure; availability of accessible services, facilities and infrastructure; habitability; accessibility (e.g. access to employment, health services, schools, etc.); cultural adequacy; and affordability.

Unsatisfactory fulfilment of any, or a group of, the above-mentioned housing needs, among other things, may cause poor health outcomes resulting in an increased financial burden on the healthcare system. It also typically results in significantly reduced educational opportunities while other less essential activities (such as cultural, recreational and leisure activities) are dramatically suppressed or cut back altogether. Furthermore, inappropriately high housing costs will impede the movement of a skilled workforce to the community and cause lower paid workers and post-secondary students to consider moving to other, less

expensive communities. Consequently, both business concerns and educational institutions in the community will be affected.

Given its relevance to an individual's well-being, it is not surprising that for most people the world over, homeownership is of utmost importance. Traditionally, homeownership holds a special place in the Australian psyche as it is perceived as integral to both the stability of family life and the creation of wealth. Australia's love affair with homeownership is nicely illustrated by the fact that those with higher incomes do not articulate any stronger preference for homeownership than do low-income households (Dockery and Milsom, 2005). Housing is also very significant for the national economy in terms of investment levels, building activity, employment and personal wealth creation. According to the Australian Productivity Commission (2004), historically non-financial assets in Australia account for almost three-quarters of private sector wealth.[1] This is well above the levels in countries such as the USA (37 per cent), Canada (49 per cent), the UK (56 per cent) and Netherlands (39 per cent), and modestly above countries such as Germany (69 per cent), Czech Republic (66 per cent), Italy (62 per cent) and France (60 per cent) (Isabelle, 2008).[2]

To explain the importance of housing, a number of complementary topics are considered. In addition to discussing housing trends, this chapter will examine the relevance of housing to governments at different levels, the emergence of the housing affordability problem and why housing affordability is important. Ultimately, the core purpose of this chapter is to enhance our understanding of the complexity and importance of housing in general and housing affordability in particular, and by doing so, to inform the discussion, to different degrees, of all the other chapters in this book.

2.2 Housing trends

Housing tenure expresses the relationship that determines the legal right to live in a dwelling. This relationship is embodied in the financial arrangements under which the right was obtained. According to the types of dwellings, dwellings can be disaggregated into: "detached houses", "flats/units/apartments" and "semi-detached/row or terrace houses/townhouses".[3,4,5] On the other hand, the most common types of housing tenure are: rented and owner-occupied.

According to the Australian Bureau of Statistics (ABS) (2011), in 2009/10 there were approximately 21.6 million people in Australia, living in about 8.4 million households. As shown in Figure 2.1, out of

Figure 2.1 Dendogram of selected household characteristics – Australia
Source: Extracted from ABS (2011).

8.4 million households, 68.8 per cent of households lived in owner-occupied dwellings. Out of all households living in owner-occupied dwellings, 32.6 per cent owned their dwelling outright with no mortgage while the other 36.2 per cent had mortgages. Renters in total comprised 28.7 per cent of households, with the largest group belonging to private renters (82.5 per cent) followed by state/territory housing authority renters (13.6 per cent) and other renters (3.8 per cent). Approximately 2.5 per cent

Table 2.1 Housing tenure, international comparison 1980

	Tenure type (% of total)				Average dwelling size m^2	
	Owner-occupiers	**Private renters**	**Social rental**	**Other**	**Existing**	**New**
Australia	71	22	5	2	132	186
Austria	57	17	23	3		
Belgium	74	16	7	3		
Canada	66	6	28	0	114	
Denmark	53	18	19	10		
France	56	21	17	6	88	103
Germany	43	51	6	0	87	102
Ireland	77	11	7	5		
Netherlands	53	12	35	0		
New Zealand	67	26	26	7	132	
Switzerland	35	59	6	0		
United Kingdom	70	10	20	0	84	76
United States	69	29	3	0	157	200

Source: Extracted from Senate Inquiry (2008).

of total households belonged to the "other tenure" household type. The "other tenure" household type includes arrangements such as cooperative ownership, squatting occupation and land trust. Cooperative ownership refers to an arrangement where the entire building or complex is held in common by a homeowners' association. Individual members of the cooperative have the right to occupy a particular apartment by mutual agreement, nevertheless they do not hold exclusive ownership of it. Squatting occupation refers to an illegal occupation i.e. occupation by a non-owner without permission of the owner. Finally, land trusts are commonly used as an alternative to ownership for privacy and legal reasons.

As shown in Table 2.2, the proportion of homeowners without a mortgage has been declining over time (from 41.8 per cent in 1994/95 to 32.6 per cent in 2009/10), which is an indication of the increased indebtedness of the Australian population (Rahman, 2009). Similarly, the proportion of homeowners with a mortgage has been increasing over time (from 29.6 per cent in 1994/95 to 36.2 per cent in 2009/10). The proportion of the total number of homeowners also declined over time, from 71.4 per cent in 1994/95 to 68.8 per cent in 2009/10. In line with the rise in the proportion of homeowners with a mortgage, Table 2.2

Table 2.2 Housing tenure, estimates per cent, Australia 1994/95–2009/10

Tenure/Years	**1994/95**	**1995/96**	**1996/97**	**1997/98**	**1999/00**	**2000/01**	**2002/03**	**2003/04**	**2005/06**	**2007/08**	**2009/10**
Owner without a mortgage	41.8	42.8	41.3	39.5	38.6	38.2	36.4	34.9	34.3	33.2	32.6
Owner with a mortgage	29.6	28.1	28.3	30.9	32.1	32.1	33.1	35.1	35.0	35.1	36.2
Total owners	**71.4**	**70.9**	**69.6**	**70.4**	**70.7**	**70.3**	**69.5**	**70.0**	**69.3**	**68.3**	**68.8**
Renters											
State/territory housing authority	5.5	6.0	5.6	5.8	5.8	5.0	4.9	4.9	4.7	4.5	3.9
Private landlord	18.4	19.0	20.4	20.0	19.9	21.0	22.0	21.2	22.0	23.9	23.7
Other renters	1.8	1.9	1.9	1.4	1.5	1.4	1.3	1.5	1.8	1.3	1.1
Total renters	**25.7**	**26.9**	**27.9**	**27.2**	**27.2**	**27.4**	**28.2**	**27.6**	**28.5**	**29.7**	**28.7**
Other tenure	**2.9**	**2.2**	**2.5**	**2.4**	**2.1**	**2.3**	**2.3**	**2.4**	**2.2**	**2.0**	**2.5**
All Households	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Source: Extracted from Table 3, ABS (2011).

shows an increase in the number of renters in the Australian market, from 25.7 per cent in 1994/95 to 28.7 per cent in 2009/10.

According to 2009/10 state/territory distribution (Table 2.3), the proportion of the total number of homeowners was the highest in Victoria (78.6 per cent) and the lowest in the Northern Territory (56.6 per cent). The proportion of homeowners without a mortgage was again the largest in Victoria (35.4 per cent) and the lowest in the Northern Territory (19 per cent), and the proportion of homeowners with a mortgage was the highest in the Australian Capital Territory (ACT) (40.9 per cent) and the lowest in New South Wales (NSW) (35.4 per cent). Not surprisingly, the proportion of the total number of renters was the highest in the Northern Territory (41.6 per cent) and the lowest in Victoria (26 per cent).

In addition to having a relatively stable homeownership level, Australia has one of the highest levels of homeownership in the world. As shown in Table 2.1, out of the countries listed only Ireland and Belgium had somewhat higher ownership rates. It is important to note that, compared to Australia, both of those countries had a larger proportion of social renters and a lower proportion of private renters, implying the likelihood of a higher level of overall housing satisfaction.

With respect to dwelling type, most Australians in 2009/10 lived in "detached houses" (78.6 per cent) followed by "flats/units/apartments" (10.7 per cent) and "semi-detached/row or terrace houses/townhouses" (10.4 per cent). As shown in Table 2.4, these proportions have not changed much during the observed period. The only noticeable change occurred with "semi-detached/row or terrace houses/townhouses" where the proportion increased from 7.8 per cent in 1994/95 to 10.4 per cent in 2009/10. This indicates a slight change in people's housing preferences.

Moreover, out of the total of 8.4 million households, over 1.07 million households acquired their dwelling in the three years prior to the 2009/10 survey. In particular, these households are divided into first home purchasers (40 per cent) and recent changeover purchasers (60 per cent). Most first home buyers (FHBs) purchased established homes and were households with the reference person aged less than 35 years (67 per cent). On the other hand, more than half (52 per cent) of recent changeover purchasers had a reference person aged 45 years and over. As expected, the proportion of homeowners without a mortgage was the highest for the "75 and over" age reference group (82.1 per cent) and the lowest for the "15–24" age reference group (0.6 per cent) (see Table 2.5). With respect to the proportion of

Table 2.3 Housing tenure by states and territories, estimates per cent, Australia 2009/10

Tenure/States and territories	**NSW**	**Vic.**	**Qld**	**SA**	**WA**	**Tas.**	**NT**	**ACT**	**Aust.**
Owner without a mortgage	32.2	35.4	25.3	31.9	26.6	33.4	19.0	29.1	31.3
Owner with a mortgage	35.4	36.3	39.5	38.6	43.4	37.3	37.6	40.9	37.7
Total owners	**67.6**	**71.7**	**64.8**	**70.5**	**70.0**	**70.7**	**56.6**	**70.0**	**69.0**
Renters									
State/territory housing authority	4.0	1.5	4.5	6.0	4.0	5.2	8.2	6.4	3.9
Private landlord	25.6	24.2	28.4	20.6	22.9	20.8	29.6	21.3	24.7
Other renters	1.3	0.3	0.9	0.9	0.6	1.5	3.8	1.0	0.8
Total renters	**30.9**	**26.0**	**33.8**	**27.5**	**27.5**	**27.5**	**41.6**	**28.7**	**29.2**
Other tenure	**1.5**	**2.3**	**1.4**	**2.0**	**2.5**	**1.8**	**1.8**	**1.3**	**1.8**
All Households	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Source: Extracted from Table 23, ABS (2011).

Table 2.4 Dwelling structure, estimates per cent, Australia 1994/95–2009/10

Dwelling Structure	**1994/95**	**1995/96**	**1996/97**	**1997/98**	**1999/00**	**2000/01**	**2002/03**	**2003/04**	**2005/06**	**2007/08**	**2009/10**
Detached (separate) house	79.9	79.7	80.0	79.4	79.4	78.1	77.7	80.0	79.0	78.1	78.6
Semi-detached/ row or terrace house/ townhouse	7.8	7.9	7.8	8.6	9.8	9.9	10.2	8.3	9.4	8.6	10.4
Flat/unit/ apartment	11.4	11.7	11.5	11.5	10.0	11.3	11.4	11.2	10.6	12.9	10.7
Other types	0.9	0.7	0.7	0.5	0.8	0.7	0.7	0.5	1.0	0.4	0.3
All Households	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Source: Extracted from Table 3, ABS (2011).

Table 2.5 Housing Tenure by age of reference person, estimates per cent, Australia 2009/10

Tenure/Age of reference person	15–24	25–34	35–44	45–54	55–64	65–74	75 and over	All households
Owner without a mortgage	0.6	3.3	9.3	23.9	50.3	74.7	82.1	32.6
Owner with a mortgage	16.2	41.3	54.4	52.3	31.4	9.3	3.2	36.2
Total owners	**16.8**	**44.6**	**63.7**	**76.2**	**81.7**	**84.0**	**85.3**	**68.8**
Renter								
State/territory housing authority	4.1	2.3	3.7	4.2	4.2	4.6	5.1	3.9
Private landlord	71.3	49.1	29.7	16.5	11.1	7.9	4.4	23.7
Other renters	1.5	1.6	1.1	1.0	0.7	0.6	1.3	1.1
Total renters	**76.9**	**53.0**	**34.5**	**21.7**	**16**	**13.1**	**10.8**	**28.7**
Other tenure	6.3	2.4	1.8	2.1	2.3	2.9	3.9	2.5
All households	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Source: Extracted from Table 9, ABS (2011).

homeowners with a mortgage, the highest prevalence was observed for the "35–44" (54.4 per cent) and the "45–54" age reference groups (52.3 per cent) while the lowest prevalence was observed for the "75 and over" (3.2 per cent) age reference group. Similarly, the "15–24" age reference group had the highest proportion of renters at 76.9 per cent while, as expected, the "75 and over" age reference group had the lowest proportion of renters at 10.8 per cent.

Typically, taking a partner leads to the purchase of a home, and this occurs because of the advantage of having two incomes to meet housing costs. According to the ABS (2011), couple households (just under half of these included children) made up the vast majority (67 per cent) of FHBs with a mortgage in 2009/10.

2.3 Governments and housing

Due to the nature of the functions that housing performs and its importance to the economy and the whole society (particularly in developed economies), governments worldwide are heavily involved in the housing sector. In Australia, governments at various levels are involved in:

- housing regulation (e.g. land release and zoning) by state/territory governments,
- housing taxation,
- provision of public housing and development of land by state/territory governments,
- the housing-related functions of local governments and
- housing assistance.

2.3.1 Housings regulation by state/territory governments

The Australian housing sector is one of the most regulated sectors in the economy. In relation to the housing sector's building regulations, the following activities are the two most important that Australian state and territory governments are responsible for:

i. implementation and enforcement of building and related regulations; and
ii. land release and zoning.

With respect to building regulations: "the Australian Building Codes Board (ABCB) addresses issues relating to safety, health, amenity and

sustainability in the design and performance of buildings through the National Construction Code (NCC) Series, and the development of effective regulatory systems and appropriate non-regulatory solutions" (ABCB, 2012). The ABCB is the writing body for the Council of Australian Government (COAG) standards. On behalf of the Australian Federal Government and the state and territory governments, the ABCB is ultimately responsible for the NCC, which encompasses the Building Code of Australia (BCA) and the Plumbing Code of Australia (PCA).[6,7] The board was established by an Intergovernment Agreement (IGA) signed by the Commonwealth, state and territory governments on 1 March 1994. The latest IGA was signed by the Commonwealth, state and territory ministers on 30 April 2012.

Australian state and territory governments are also responsible for the regulation of new housing developments' land releases and zoning. The term "zoning" is derived from the practice of designating permitted uses of land based on mapped zones which separate one set of land uses from another. Zoning is predominantly use-based. In addition to regulating land use, it also regulates building height, lot coverage and similar characteristics. Simply said, the purpose of zoning is to prevent new development from producing negative effects on new or existing residents or businesses and to preserve the appeal of a community. In other words, zoning restrictions control development so that infrastructure is better utilised and less costly. For example, it aims to minimise the negative externalities of particular types of development, such as ensuring that heavy industry isn't set up in the middle of a residential area with associated air and noise pollution issues (Centre for International Economics (CIE), 2011). Although managed by local governments, the scope of the zoning regime is determined by state, territory or national planning authorities.

It is important to note that the standards required for building new dwellings, zoning restrictions and development controls are the most prevalent hidden taxes for any type of housing development.[8] The basic logic for treating zoning restrictions as a tax is that in the absence of these zoning restrictions, both for infill and greenfield developments land would most likely be cheaper (for more on housing taxation, see the next section).[9,10] The impact of zoning restrictions on inhibiting housing affordability was noted in the Henry (2009) tax review, indicating a need for COAG to review institutional arrangements to ensure that zoning and planning do not unnecessarily constrain housing supply and housing affordability.

Like zoning restrictions, building standards could significantly increase the cost of construction by imposing stricter than necessary conditions (e.g. standards for surviving fires or cyclones or reducing the ongoing costs of living in a particular dwelling). An unnecessary delay in obtaining a planning approval acts like a hidden tax, primarily by increasing the cost of financing new developments. For example, for greenfield developments, the planning time involves many steps (such as time needed to urbanise the land, local planning time leading to rezoning, time to extend trunk and lead-in infrastructure to the area, time needed for the preparation and approval of development and (if need be) time needed for the preparation of an application for subdivision and subdivision approval) and can take many years. A consequence of so many steps involved is an ever present planning uncertainty, which, ultimately increases the risks and hence costs that the developers face.

2.3.2 Housing taxation

Historically, the residential construction and dwelling sector's value added income accounts for around 8.2 per cent of the Australian nation's total value added. The construction sector's value of output is considerably higher than value added because of the sector's heavy use of intermediate inputs such as steel, concrete, cement, sand and rock, aluminium, other metals, glass, fuel, timber, plastics, ceramics, textiles, transport, machinery and financial services. Following the logic of usage, taxes on these intermediate inputs are also treated as the housing sector's indirect taxes.

Various taxes apply to housing, such as land tax, stamp duty, the goods and services tax (GST) and capital gains tax. Both in absolute and relative terms, the housing sector is the second most heavily taxed sector of the Australian economy (CIE, 2011).[11] The Australian housing sector adds between A$36 billion and A$40 billion in taxation revenue each year to federal, state and local governments in Australia. This represents approximately 11 to 12 per cent of the total revenue collected by all levels of government. From the housing affordability point of view, it is important to note that new housing in particular is inequitably taxed, accounting for around 1.2 per cent of value added in the economy yet contributing more than two times its share (2.8 per cent) to government taxation revenues. With respect to the GST, the residential building sector accounts for 13 per cent of all GST revenue raised by the Australian Commonwealth Government.

A logical way to assess the potential impact of taxes on new houses is to calculate the cost for financing these taxes. According to CIE (2011), a young couple (between 24 to 35 years of age) buying a median priced house in Sydney as of 2011, may expect to pay $267,879 in taxes. Assuming an interest rate of 7.5 per cent and the average wage for their age group, on a pre-tax basis, the total housing taxes would equate to a staggering 77 per cent of their pre-tax income.

As previously mentioned, during both construction and throughout the life of a dwelling, the housing sector is exposed to a range of taxes and so-called quasi-tax. According to CIE (2011), the housing sector's taxes are categorised as follows:

- explicit direct and indirect taxes – these taxes are charged with the aim of raising general government revenue (such as payroll tax, stamp duty and income tax);
- ambiguous taxes – these taxes are normally referred to as user charges or taxes (such as infrastructure levies, long service leave levies and building permit fees);
- hidden taxes – refer to charges relating to arrangements such as building standards and zoning restrictions which are covered in the previous section; and
- subsidies or negative taxes – such as assistance for FHBs and capital gains exemptions.

2.3.2.1 Explicit direct and indirect taxes

Explicit direct and indirect taxes can be further subdivided into: taxes applied across the economy, property-specific taxes and ongoing taxes on dwellings. Taxes applied across the economy are general in their application to different types of economic activity and as such are also applied to the housing sector. These taxes are incurred at both the intermediate and final stages of production. These, generic taxes that are applied across the Australian economy are shown in Table 2.6. Out of all the listed taxes, payroll tax is the only one that varies across states.

The most substantial of the property-specific taxes and the ongoing taxes on dwellings is stamp duty. Stamp duty is levied when a property is sold. Indications are that, on average, dwellings in Australia are sold once every 11 years. Given exemptions, stamp duty is incurred on all transacted properties and, thus, provides a significant source of revenue for state/territory governments.

In addition to stamp duty, there is also land tax, which in contrast to stamp duty has much more widely available exemptions. Similar to

Table 2.6 Major direct taxes applied across the Australian economy

Tax	Details
Capital gains tax	Capital gains are a component of income, typically with a 50% discount on the amount of the capital gain. Owner-occupied dwellings are exempt from capital gains.
Income tax	0% for each dollar between $0 and $18,200 19% for each dollar between $18,201 and $37,000 32.5% for each dollar between $37,001 and $80,000 37% for each dollar between $80,001 and $180,000 45% for each dollar over $180,000
Company tax	At the rate of 30% on profits
GST	At the rate of 10% on most goods and services
Fuel excise	Heavy vehicles using public roads pay 22.6 cents per litre of fuel, and Machinery and plant pay 19.0715 cents per litre of fuel
Payroll tax	
NSW	At the rate of 5.45%. Not applicable if the total wages bill is less than $658,000.
Victoria	At the rate of 4.9% from 1 January 2011. Not applicable if the total wages bill is less than $550,000.
Queensland	At the rate of 4.75% from 1 January 2011. Not applicable if the total wages bill is less than $1,000,000.
Western Australia	At the rate of 5.5% from 1 January 2011. Not applicable if the total wages bill is less than $750,000.
South Australia	At the rate of 4.95% from 1 January 2011. Not applicable if the total wages bill is less than $600,000.

Source: Extracted from the Australian Tax Office and state revenue authorities websites, accessed December 2013.

payroll tax, each of the states has different arrangements for the threshold rates applied to stamp duty and land tax. As shown in Tables 2.7 and 2.8, tax exemptions for FHBs are available for stamp duty in most states.

While for land tax, all states have exemptions for the principal place of residence. Other taxes that apply to developers are council rates (during construction, developers are required to pay council rates, which are based on the value of the land), tariffs, anti-dumping duties (currently levied on glass and cement) and sales taxes such as fuel excises.

Housing is also subject to a number of general taxes on an ongoing basis. For example, as specified earlier, stamp duty is paid by the buyer every time a dwelling is transacted. In particular, if a house is frequently transacted, this tax can amount to hundreds of thousands of dollars. Similarly, though to a lesser extent, assuming ongoing house price

Table 2.7 Australian stamp duty for the selected states

State	Highest rate	Average rate for $600,000 property	Exemptions
NSW	7%	3.7%	Concession available for FHBs for dwellings costing less than $600,000.
Victoria	6%	4.7%	Concession available for FHBs with a family for dwellings costing less than $200,000 buying principal place of residence.
Queensland	5.25%	2.1%	Concession available for FHBs for dwellings costing less than $550,000.
Western Australia	5.15%	4.4%	Concession available for FHBs for dwellings costing less than $600,000.

Source: Extracted from state revenue authorities websites, accessed December 2013.

Table 2.8 Australian land tax

State	Lowest threshold	Highest threshold	Range of rate
NSW	$387,000 – $2,366,000	>$2,366,000	1.6% – 2%
Victoria	$250,000 – $600,000	>=$3,000,000	0.2% – 2.25%
Queensland	$600,000 – $999,999	>=$5,000,000	1% – 1.75%
South Australia	$300,001 – $550,000	>$1,000,000	0.5% – 3.7%
Western Australia	$300,000 – $1,000,000	>=$11,000,000	0.09% – 2.16%
Tasmania	$25,000 – $349,999	>=$350,000	0.55% – 1.5%

Source: Extracted from state revenue authorities, accessed December 2013.

inflation, capital gains tax can be a substantial revenue base for the government. Furthermore, council rates are collected annually from owners of dwellings and are based on the estimated value of the land. Equally, if applicable, owners of investment properties may be liable for land tax. It is a common standard in developed countries for most dwellings to be insured. All mortgaged properties are insured because banks require that a dwelling purchased through a loan must be insured. Then taxation comes into play as insurance is a heavily taxed sector.

2.3.2.2 Ambiguous taxes

These taxes are labelled as such as it is often ambiguous as to what these taxes actually are i.e. whether they are a usage charge or a tax.

Notionally, these taxes can be divided into infrastructure charges and other levies and fees.

Funding appropriate housing-related infrastructure charges for the delivery of new urban infrastructure has been an important issue and a policy dilemma for governments around the world for some time now. Housing-related infrastructure charges aim to cover a proportion of the costs of providing urban infrastructure (such as local roads, storm water and community facilities and parks) to new housing developments. The charge is normally a one-off charge levied on the developer, commonly at the time of rezoning and/or planning approval (Been, 2005; Burge, 2008).

The fee is traditionally borne by the government; nevertheless, in high growth areas where new services are required to support swelling populations, governments have been increasingly reluctant to fund such infrastructure through general revenue (Been, 2005; Evans-Cowley and Lawhon, 2003). Even though the infrastructure charge was initially introduced to transfer the burden of infrastructure provision in high growth areas from the public to developers, in practice this is not in evidence.[12] Primarily due to market competitiveness, a number of empirical studies clearly show that the fee, in virtually all instances, is passed on to home buyers in the long run (Been, 2005; Evans-Cowley and Lawhon, 2003; Burge and Ihlanfeldt, 2006).

The charge allegedly aims to cover the costs of the infrastructure associated with a new development directly, as observed by Henry (2009) in his review of the Australian tax system: "infrastructure charges can sometimes be used to raise tax revenue, rather than focusing on providing efficient user charging". The actual amounts charged for both greenfield and infill areas significantly differ across (and within) states. According to CIE (2011), in 2011, greenfield areas in NSW faced total infrastructure contributions of A$37,300 on average, while outside NSW, total infrastructure charges ranged from just over A$3,000 per dwelling in South Australia to A$27,000 per dwelling in Queensland. Because infills are located in areas with already developed infrastructure, infill areas typically attract significantly smaller charges.

Other levies and fees imposed by state governments are levies related to training and long service leave, issuing of permits and application fees.[13,14] Although these fees are often small in size, they add up and may materially influence the cost of building a new dwelling (CIE, 2011).

2.3.2.3 Negative taxes

In general, a negative tax or subsidy is assistance paid to a person, business or economic sector or to producers. Most subsidies are set in place by

the government and are distributed as subventions to support a particular activity. With respect to housing subsidies, they are often applied to a particular housing segment type. Representative examples in Australia are the First Home Owners Grant (FHOG) and the First Home Owners Boost (FHOB).[15]

2.3.3 Provision of public housing and development land by state and territory governments

All Australian state and territory governments provide some form of public housing and, through corporatised state land development agencies, most supply serviced dwelling lots. As shown in Table 2.3, state/territory housing authorities in Australia provided on average 3.9 per cent of rental accommodation in 2009/10. It must be observed that this ratio has been decreasing, not because of a lesser need for public housing, but due to the constrained supply of government supported housing. Furthermore, Australia is experiencing a shortage of available affordable housing due to, among other things, increasing population and increasing costs in the private rental market. Consequently, this has resulted in a large and increasing extent of homelessness. According to the ABS (2006a), there were 99,900 homeless people in 2001. The number of homeless people increased to 104,676 in 2006. This is not surprising since without access to affordable housing, people on a low-income face homelessness or struggle to obtain other life necessities. The most relevant social housing programs for the sustained satisfaction of housing needs for people in need are public and community housing.

Public housing is government-managed form of housing irrespective of whether the property is government-owned or leased. In addition to providing tenure security, the main purpose of public housing is to provide affordable rental accommodation. Typically, the price of public housing is set at less than the market rate, with rent not being more than 25 per cent of the tenant's income. On the other hand, community housing is normally managed by not-for-profit organisations. Community housing rents are determined as a percentage of the market rate and unlike public housing may exceed 25 per cent of the tenant's income.

The demand for public housing is indicated by the number of households on the public housing waiting list. According to the Victorian Auditor-General's Report (2012), in June 2011 there were 38,244 households in Victoria on the waiting list. Being on the waiting list does not guarantee that the applicants will imminently be housed. In 2009/10, applicants on a priority allocation list waited an average of 8.5 months, while non-priority applicants waited several years.

With respect to the new development land releases, all Australian state and territory governments each year prepare Indicative Land Release Programs setting out the intended program for residential, commercial, community and non-urban and industrial land releases. For example, in the ACT several land release programs (2007/08, 2008/09 and 2009/10) saw a significant increase in the release of residential land. In particular, in 2007/08 the ACT Government released 3,470 dwelling sites, being the largest residential program since self-government. During 2008/09, the ACT Government released 4,339 dwelling sites while during 2009/10 the number of dwelling sites released reduced somewhat to 4,061. As stated by the ACT's Department of Land and Property Services (2010), the main principles of its 2009/10 Land Release Programs included:

- promoting the economic and social development of the Territory, including contributing to the vision set out in the Canberra Plan of a city representing the best in Australian creativity, community living and sustainable development;
- meeting the ongoing strong demand for residential land in the Territory, generated particularly by increased levels of migration into the ACT;
- establishing an appropriate inventory of serviced land;
- maintaining flexibility of land releases to ensure they reflect market conditions and do not contribute to rapid land price changes;
- providing a mix of land and housing options;
- facilitating the provision of affordable housing;
- addressing the locational objectives set out in key government documents such as the Territory Plan and the Spatial Plan;
- achieving satisfactory returns to the Territory from the sale of unleased Territory land; and
- assisting the operation of a competitive private sector land development market.

2.3.4 The housing-related functions of local government

Australian local government is primarily instituted by state/territory local government legislations. During the last 10 to 15 years, the relevant legislations have been thoroughly reviewed and significantly amended or replaced with completely new legislation. These changes gave local councils greater general competence powers to better meet the needs of their local communities. Among other activities, this encompassed the provision of housing-related functions in their local communities.

Local governments are primarily seen to perform a central role in influencing sustainable urban development through their planning and community service responsibilities. According to the Australian Housing and Urban Research Institute (AHURI) (2004), the Australian Government's definition of sustainable urban development refers to development that "uses, conserves and enhances the community's resources so that ecological processes, on which life depends, are maintained and the total quality of life, now and in the future, can be increased".

Local governments have direct and indirect influences on the provision of housing. The direct involvement of local government pertains to the actual provision of housing, and indirect involvement pertains to the role that local government plays in facilitating the provision of housing. While the direct housing-related functions of local government somewhat differ across the states/territories, they typically consist of: supervision of land development, the administration of associated planning requirements and the supply of some infrastructure. Gurran (2003) concluded that there are substantial variances in the housing-related roles recognised by local government councils in the three states studied: New South Wales, Queensland and Victoria. These differences correspond to the diverse policy and planning frameworks governing local government housing activities.

The housing-related functions of local government in Australia are well documented in the National Housing Strategy from 1991 (Purdon and Burke, 1991) and by the Australian Local Government Association (ALGA) in 2001. In general, the aim of local government's housing planning activities is to ensure land use and development meets the present and future needs of the community. At a minimum, it should reflect the minimum community standards of health, safety and amenity, protect the environment, provide a process for resolving competing interests and ensure there is a reasonable level of housing choice.

As shown in Table 2.9, the housing-related functions of local government can be divided into the following four broadly defined areas of activity: planning, production, consumption and management. Local government's housing production-related activities entail: local government statutory planning responsibilities, the administration of development controls through the management of development assessment processes, subdivision controls and occasionally, the direct provision of housing (ALGA, 2001). The direct provision of housing by local government in Australia is quite limited. On the other hand, local governments have complete control over development assessments i.e. are able to

Table 2.9 Local government's housing activities

Areas	Activities
Planning	Housing research and policy development Strategic planning Land use planning including identifying land for housing development
Production	Application of planning and development controls Building regulations Direct provision of housing (aged persons housing, for example) Joint ventures Donation of land Land assembly, subdivision and sale
Consumption	Employee housing Emergency housing Supported accommodation Nursing homes/hostels Rental housing Rate rebates Other financial assistance
Management	Management of local government housing stock Management of home maintenance program Emergency housing

Source: Extracted from Purdon and Burke (1991); BBC (1995) and Gurran (2003).

grant approval, grant approval with conditions or refuse an application. In doing so, local governments regulate: allowable density; height; external design and setting; usage of building materials; open space provision and in some jurisdictions the level of developer contribution required to cover physical and/or community infrastructure costs; and the demolition of buildings. Local governments play a more restrained role in relation to land release/supply and coordination. This is especially the case in the major capital cities. It is important to note that local governments do not play a part in setting building regulations, they only administer them. The local government function regarding the planning and provision of basic infrastructure is considerable, though it varies from state to state and even within states. The main local government consumption functions consist of the levying of local government rates, determining rate rebates and its involvement in rental housing. Finally, local government activities in relation to the direct management of housing focus on the management of local government housing stock, home maintenance programs and emergency housing.

2.3.5 Housing assistance

In the broadest terms, housing assistance in Australia is intended for Australians who need help in meeting the costs of finding suitable housing. Their eligibility for receiving housing assistance could be determined by a number of factors such as domestic violence, affordability, family conflict, discrimination, disability or health status. The key assistance areas for housing assistance in Australia are provided through the following programs and funding arrangements (AIHW, 2008):[16]

- Commonwealth Rent Assistance (CRA),
- Commonwealth State Housing Agreement (CSHA),
- First Home Owner Grant (FHOG) and
- Various programs to support people experiencing or who are at risk of homelessness, of which the Supported Accommodation Assistance Program (SAAP) is the largest.

The CRA is a non-taxable income supplement payment added on to the pension, allowance or benefit of eligible people who rent in the private rental market in recognition of the excessive costs of private rental housing. In 2005/06, low-income renters in the private rental market received A$2.1 billion in assistance through the CRA program (AIHW, 2007b). Several recent studies (such as Australians for Affordable Housing and Anglicare Australia's Rental Affordability Snapshot) clearly show that high rents are locking low-income households out of Australia's capital cities.

The CSHA is a multilateral agreement between the Australian Commonwealth Government and each state and territory which aspires to deliver appropriate, affordable and secure housing assistance for people who most need it. The following six housing assistance program areas operate under the CSHA: public housing, state owned and managed Indigenous housing, community housing, crisis accommodation, private rent assistance and home purchase assistance. In 2005/06, housing assistance under the CSHA amounted to A$1.3 billion.

The FHOG is a one-off grant to FHBs, funded and administered by state and territory governments. Through the FHOG, the Australian state and territory governments provided A$4.3 billion to more than half a million FHBs in the three and a half years to January 2004. In 2005/06, a total of A$751 million was paid through the FHOG. As of 2012, the grant is at A$7,000 and applies only to residential dwellings and does not apply to vacant land, business premises, holiday houses or renovations to an existing home. Contrary to the majority of other grants, the FHOG is not means tested i.e. there are no income or assets tests needed

to qualify for the FHOG. According to the First Home Owner Grant Act 2000, applications must satisfy the following eligibility criteria:[17]

- Each applicant must be a natural person (i.e. not a company or trust).
- Each applicant must be 18 years of age or over at the commencement date of the eligible transaction.
- At least one of the applicants must be an Australian citizen or permanent resident at the time of making an application.
- Each applicant and/or their spouse cannot have previously received a FHOG under this scheme.
- Each applicant and/or their spouse cannot have owned residential property anywhere in Australia before 1 July 2000.
- Each applicant and/or their spouse cannot have previously owned residential property anywhere in Australia on or after 1 July 2000 and occupied that property as a place of residence before 1 July 2004.
- Each applicant must occupy the home being purchased or built as their principal place of residence for a continuous period of at least six months, commencing within 12 months of completion of the eligible transaction.
- Each applicant must have entered into an eligible transaction on or after 1 July 2000. An eligible transaction is defined under section 14 of the First Home Owner Grant Act 2000, but is generally a contract for the purchase or construction of a home, or commencement of construction of a home as an owner builder.
- For eligible transactions commencing on or after 1 January 2010, the total value of the home must not exceed the cap amount. The cap amount is:
  - $750,000 if the property is located south of the 26th parallel of South Latitude or
  - $1,000,000 if located north of the 26th parallel of South Latitude

and an application for the FHOG must be made within 12 months of completion of the eligible transaction.

The SAAP is yet another program jointly funded by the Australian Commonwealth and state/territory governments. SAAP started in 1985 when Commonwealth and state/territory funding programs were brought together. It is the major program assisting people experiencing homelessness or who are at risk of homelessness. According to AIHW (2007a), in 2005–06, SAAP received about A$349 million in funding. Out of this amount, the state and territory governments contributed 49 per cent in total. Since 1 July 2011, a newly created program called Specialist Homelessness Services (SHS) replaced the SAAP.

2.4 The emergence of the housing affordability problem

Due to the rise of neoliberal ideologies in Australia in the 1970s and late 1990s, the overall policy course on the federal level has taken the direction of a reduced government role. Furthermore, Australian housing policy was significantly affected by a set of financial system deregulations. The first financial system reform was undertaken in the early 1980s while a second round of reform began in 1998 as a result of the government-initiated Financial System Inquiry (for more, see Chapter 3). These reforms have substantially changed the state of Australia's financial system.

In 1996, a new government led by the Liberal party was elected that, driven by neoliberal ideologies, decided from the beginning to ignore housing policy as an issue. This was so much the case that they even opted not to have a dedicated national housing minister. This whole shift in policy direction, not surprisingly, resulted in a noticeable increase in the demand for lower-priced private rental housing (from 150,000 dwellings in 1996 to 251,000 dwellings in 2006) (Wulff et al., 2009). In addition to an increase in the demand for lower-priced rental houses, clear signs emerged pointing to the financial and social unsustainability of the entire social housing system. All of this, together with government ignorance regarding housing in general has resulted in the issue of housing affordability becoming increasingly prominent.

Many believe that public awareness in regard to the housing affordability problem prompted a political response in the 2007 election from the Australian Labour Party (ALP), which seized the opportunity to differentiate itself and won the election from the incumbent conservative government (Rudd et al., 2007). The emergence of the global financial crisis (GFC) provided additional impetus whereby the ALP government, aiming to tackle the GFC, targeted a number of measures towards the housing sector. During the GFC, compared to other developed countries, the Australian economy proved much more resilient. According to the Australian Bureau of Statistics (ABS) (2010), Australian house prices fell from March 2008 to March 2009 by 5 per cent. Nevertheless, already in the year to the last quarter of 2009, house prices increased by 15 per cent. The relentless house price rises continued in the following quarter (the year to the first quarter of 2010), peaking at 20 per cent. Rising house prices, together with persistently stable financial and banking systems and the prevalence of moderate interest rates, have maintained strong mortgage activity, encouraged overall consumer spending and have thereby supported Australian economic performance. The impact of the GFC on financial markets first became apparent in 2007. However,

it was not until September 2008 that the Reserve Bank of Australia (RBA) responded with the first in a series of decreases in the official interest rate (the cash rate). From September 2008 to April 2009, the RBA reduced the cash rate five times.

Subsequently, with an improvement in economic conditions, the RBA started increasing the cash rate. In fact, a high level of concern about the emergence of the GFC did not exist in Australia until early 2009. This was short lived owing to the effective and efficient fiscal and monetary policy measures undertaken by the Australian Government, and by the end of 2009, economic momentum began to shift upwards. Speaking at an Australian School of Business 2009 alumni event, Australia's Treasury Secretary at the time, Dr Ken Henry, assessed the Australian Government's response to the GFC as follows: "the Rudd government's immediate announcement of the A$10.1 billion fiscal stimulation package, was timely, targeted and temporary".

The aim of the initial stage of the fiscal strategy was to quickly increase household spending. This was achieved by making two sets of payments directly to households. The next stages of the fiscal strategy were characterised by investment in infrastructure and skill development, aiming to ensure ongoing fiscal stimulus once the initial boost from the payments directly to households abated.

The monetary policy response was also deemed a big success. In October 2009, the Australian Government announced that it would guarantee deposits and wholesale funding of Australian banks, building societies and credit unions. This was complemented with the monetary policy settings of the RBA, who, from a peak of 7.25 per cent in March 2008, eased the cash rate to a low of 3.00 per cent in April 2009. According to the ABS (2011), the Australian economy grew by 1.8 per cent in the final three months of 2009, after the government's stimulus helped it shrug off the worst of the GFC. Growth of a similar nature (1.9 per cent on average, between the December quarter 2009 and the March quarter 2011) continued in the following quarters. Overall, the Australian Government directed significant resources to housing to stimulate jobs and protect the housing market from a price collapse that occurred in most other Organisation for Economic Co-operation and Development (OECD) countries. The government's response can be depicted as "a series of quick-fire, short-term stimulatory measures aimed explicitly at supporting the economy" (Milligan and Pinnegar, 2010). Though the GFC had international reach in terms of reducing liquidity and the availability of finance, due to the intervention of the Australian Government Australian banks remained relatively unaffected. Table 2.10 reviews the

Table 2.10 National Housing Policy Initiatives Australia, 2007/08–2008/09 (monetary values in A$)

Initiative	Scope, aims and duration	Magnitude / targets	Policy implications	Possible limitations
First Home Owners Boost (FHOB)	As part of an initial stimulus package, increase in existing First Home Owners Grant (FHOG) ($7,000 cash assistance introduced, in 2000) from October 2008.	Provided eligible buyers additional $7,000 for existing properties and $14,000 for new build homes. Several states provided additional benefits. $2.1bn (i) had been committed by December 2009 when FHOB ceased (after staged reduction in value from October 2009).	Helped protect house prices across Australia and buoy construction and real estate market activities in the short term. Helped offset negative equity risks for recent homebuyers. By May 2009, the proportion of first time buyers was at its highest level (28.5%) (ii) since records began in 1991. Successful contribution to broader economic stimulus aims.	Rather than propping up a market at risk of collapse, the FHOB fuelled price growth particularly at the lower end of the market. Encouraged first time buyers into market at the top of price/bottom of the interest rate cycle – storing up future vulnerability. Acted to bring forward first time buyer purchase; risk of activity drop-off following withdrawal.
National Building and Jobs Plan NBJP) Social Housing Initiative	Commitment to increase the supply of social housing. Aims to stimulate building and construction industry and help retain jobs in the sector.	$6.4bn for construction of 20,000 new social housing dwellings plus refurbishment of 2,500, from 2008/09 to 2011/12. Allocation subsequently reduced by $750m (revised new build target 19,300) (iii).	Largest single investment in social housing growth for decades. Helping to provide impetus to social housing reform by making funding contingent on progress on desired reforms, including allocating three quarters of additional housing to well-performing not-for-profit housing providers.	Capacity of housing authorities and development industry to meet funding deadlines. Risk of backlash against social housing as projects may be seen to bypass planning process and community engagement.

Support for Australia's banking sector and mortgage market	3-year guarante arrangements for bank deposits, from October 2008. Residential Mortgage Backed Securities (RMBS) purchase plan to address liquidity constraints and maintain competition in lending market. Mortgage Relief Plan to help struggling borrowers, launched in April 2009.	Entire deposit base of $600-$700bn guaranteed. Initial $8bn, with a further $8bn, announced October 2009. To December 2009, helped finance mortgages on over 60,000 properties (iv). Initially negotiated with the 'Big 4' banks, subsequently extended to most lenders.	Provided stability and confidence to the market. Helped smaller lenders remain more competitive than would have otherwise been possible.	Partial coverage initially (e.g. not investment banks) caused severe 'market dislocation' with funds moved to where guarantee was in place. Despite plan, significant increase in share of lending market held by the 'Big 4' banks. Potential risk of 'delaying pain' for households struggling to keep up mortgage repayments.

Sources: Extracted from (i) Parliament of Australia (2009); (ii) Australian Bureau of Statistics (2009); (iii) http://www.coag.gov (iv) Australian Office of Financial Management (2009).

key preventative measures initiated by the Australian Government at the time.

Overall, most commentators agree that the issue of housing affordability gained in importance with the change of government. As illustrated in Table 2.11, the following are most relevant measures that the new ALP-led government introduced to address the issue of housing affordability (Milligan and Pinnegar, 2010):

- The National Affordable Housing Agreement (NAHA),
- The National Rental Affordability Scheme (NRAS),
- The Housing Affordability Fund (HAF) and
- The First Home Saver Account (FHSA).

2.4.1 National Affordability Housing Agreement (NAHA)

The NAHA was introduced by the Australian Government in 2009 as a successor to the Commonwealth State Housing Agreement (CSHA). The reform had as its focus the following five payments made to the states/territories: healthcare, schools, skills and workforce development, disability services and affordable housing. The agreement specified in detail objectives, outcomes and performance indicators, as well as the roles of each level of government for each of the payments. Consequently, as never before, Australian housing was considered holistically as a single policy concern (Milligan and Pinnegar, 2010). The main strength of NAHA is that it determined the roles and responsibilities in the provision of affordable housing for each level of government, thus, formally recognising, for the first time ever, the following two logical elements: (1) that different jurisdictions play a role in providing affordable housing and (2) for affordable housing provision to be optimised at the national level, the collaboration of all levels of government is required.

2.4.2 National Rental Affordability Scheme (NRAS)

The Treasurer at the time, Wayne Swan, launched the NRAS scheme in July 2008. The aim of the NRAS is to increase the supply of affordable rental housing in the private rental market. More precisely, the NRAS aims to "provide assistance and funding to increase the supply of affordable rental dwellings, reduce rental costs to low- to mid-income earners and to encourage investment on a large scale to provide more affordable housing" (NRAS, 2012).

The Australian Government announced that it will provide 50,000 "affordable" rental properties across the whole country by 2014. The scheme provides a 20 per cent subsidy i.e. selected properties

Table 2.11 Selected National Housing Policy Initiatives Australia, 2007/08–2008/09 (monetary values in A$)

Initiative	Scope, aims and duration	Magnitude/targets	Discernible policy shifts	Possible limitations
National Affordable Housing Agreement (NAHA)	Set up under a new Intergovernmental Agreement on Federal Finance Relations. Overarching objective for all Australians to have access to affordable, safe and sustainable housing.	$1.16bn recurrent payment, indexed.	Recognition of housing as a core national service delivery area. All programs and parties have a role to play in overcoming Indigenous disadvantage.	Maintains status quo for operating level of housing and homelessness services, subject to state effort. No additional capacity for new services except through efficiency savings.
National Rental Affordability Scheme (NRAS)	New tax incentive for new rental housing supply let to eligible households at no more than 80% of local market rent. Incentive equals to $6.000 tax credit indexed annually for 10 years matched by an annual $2.000 state government contribution for 10 years.	$622.6m over 4 years, continuing for 10 years from 2008/09. Target 50,000 dwellings over 4 years. Additional 50,000 incentives if scheme is "successful".	Incentive targeted to increasing supply of affordable rental. Potential to promote growth of not-for-profit sector.	Relies on either private or no-for-profit investment partners. Tax incentive is offered for 10 years after which no regulations apply and dwellings may be sold.

(*Continued*)

Table 2.11 Continued

Initiative	Scope, aims and duration	Magnitude/targets	Discernible policy shifts	Possible limitations
First Home Saver Accounts	Establishing savings accounts for first home purchase. Government contribution of 17% for the first $5,000 (indexed, tax free) deposited annually for four years. Maximum savings limit $75,000 (indexed).	$1,06bn over 5 years from 2007/08, continuing.	Encouraging savings by prospective first home buyers.	No income or asset eligibility limits. Contributions must be made in four financial years, limiting opportunity for purchasers to respond to market conditions.
Housing Affordability Fund (HAF)	Submission based funding targeted to state and local governments to reduce up-front costs of providing housing that are related either to holding costs incurred by developers as a resu1t of long planning approval times or infrastructure costs.	$512m over four years from 2007/08. Price saving to house buyers expected to exceed subsidy provided.	New Commonwealth incentive for state and local governments to improve efficiency of residential development process and overcome land supply bottlenecks.	Pass through mechanism to achieve improved affordability.

Source: Extracted from Milligan and Pinnegar (2010).

are rented out at 20 per cent below their market value. In particular, according to NRAS (2012), "if the investor reduces the rent by 20% (may vary according to incentive provider) of the market rent, the government will provide an incentive of A$9,981 per annum (A$7,486 from Federal and A$2,495 from the state governments). This payment increases in line with CPI and in 2012 it is A$9,981". The major issue with this scheme is that because of high market rental prices, even at the discounted price people on any of the income assistance programs are still not able to afford the rent that these dwellings demand.

2.4.3 Housing Affordability Fund (HAF)

The HAF's purpose is to tackle the following two major obstacles to increase the supply of affordable housing (HAF, 2012):

i. The "holding" costs incurred by developers as a result of long planning and approval times; and
ii. Infrastructure costs, such as the laying of water pipes, sewerage, transport and the creation of parks.

Overall, the fund aims to help reduce the cost of new homes for home buyers (targeting FHBs), by providing more than A$400 million in investment by the Australian Government over a five-year period (from 2008/09 to 2012/13). The fund works by providing grants to state, territory and local governments to work together with the private sector to reduce housing-related infrastructure and planning costs. As of 2012, the program's funding is now fully committed. The major purpose of the scheme is to help new home buyers buy a home by benefitting from the cost savings that result from reduced infrastructure costs and faster approval processes.

2.4.4 First Home Owners Boost (FHOB)

The FHOB came about as a consequence of the GFC, aiming to rejuvenate the economy. A major portion of this package was directed towards helping FHBs to enter into homeownership i.e. to assist FHBs to purchase or build their first home. The FHOB ceased to apply for contracts entered into on or after 1 January 2010. The scheme was governed by state/territory revenue offices and designed as an additional payment to the A$7,000 FHOG. In particular, home purchase contracts signed between 14 October 2008 and 30 September 2009 were eligible for the twofold FHOB, namely:

- A$7,000 if buying an established home and
- A$14,000 if buying or building a new home.

Therefore, home purchase contracts signed between 1 October 2009 and 31 December 2009 were also eligible for the twofold FHOB, however, the amount of the FHOB was halved, namely:

- A$3,500 if buying an established home and
- A$7,000 if buying or building a new home.

This means that for the period October 2008 to September 2009, the total assistance for FHBs buying an existing dwelling was A$14,000 (A$7,000 FHOG plus A$7,000 FHOB) and those who instead of buying an existing home opted to construct a new house were, in total, eligible for A$21,000 (A$7,000 FHOG plus A$14,000 FHOB). Before of the cessation of the scheme at the end of 2009, 190,000 buyers benefited from this Federal Government subsidy. The scheme received a number of positive comments. On a critical note, some argued that it created a housing bubble for lower-priced houses and that it would expose many households on a lower income to a precarious situation if interest rates increased.

2.4.5 First Home Savers Accounts (FHSA)

The FHSA was introduced in October 2008. The program targets young couples trying to save for their first home. The program proposes the creation of low-tax savings accounts for young people where for every dollar that is saved the government contributes an additional 17 cents. Obviously, the FHSA is a special purpose account as the money saved can only be used for a deposit or other costs incurred when buying a first home. The scheme is limited to total savings of A$5,000 annually with the government's contribution being up to A$850. The interest received on these accounts is taxed, but at the reduced rate of 15 per cent. If any of the eligibility conditions lapse during the saving period, or the account holder does not buy a house and wishes to close the account, the money is contributed to the account holder's superannuation.[18] The stringent conditions assigned to the scheme seem to be discouraging those who are eligible (among other things the accounts must be maintained for at least four years with the interest rates offered being very modest), hence, the take up rate of this scheme has been very limited.

2.4.6 Are these new programs sufficient to make a change?

The logical question arises: Are these new programs sufficient to make a change? Even though it is very obvious that the implemented changes to housing policy represent a significant improvement, many would argue

that these changes are insufficient to effectively reform the housing system. It appears that some fundamental structural challenges have not been resolved and continue to dog the Australian housing system. For example, though the NAHA represents a withdrawal from neoliberal orthodoxy and is a significant improvement in the administration and management of housing policy, there is almost full consensus that it is still not what it should be. The reason for this is predominantly seen in the fact that under the new initiatives, the magnitude of the housing affordability problem has not yet been adequately appreciated nor fully recognised. Although the NAHA through the state and Commonwealth governments sets a range of outcomes to improve housing affordability, it does not deliver the necessary funding to meet them. Core funding for social housing has been declining to such an extent that the state housing authorities are running an ongoing deficit and are forced to sell some properties to maintain others. Furthermore, the composition of available housing has not become any more relevant as it has too many three and four bedroom houses, which do not fit the profile of modern demographics. Even so, the introduction of the NAHA has achieved the following two important milestones: (i) it has established a foundation for coordinated policy between all levels of government and (ii) it has restored the government's commitment to comprehensive housing policy and housing affordability issues. According to Milligan and Pinnegar (2010), to consolidate progress made thus far the next stage of policy development must set out a coherent vision and strategic plan for achieving a more equitable and sustainable housing system over the medium-term, underpinned by adequate levels of long-term public investment.

2.5 Why is housing affordability important?

In the broadest terms, it can be said that housing affordability problems arise when households are forced into making decisions that adversely affect them and that they would not otherwise make had they not been in housing stress. The underlying logic for why housing affordability is important and should be a matter for concern relates to the risks associated with the outcomes of poor housing affordability.

The Productivity Commission (2004, p. 3) established that: "Access to affordable and quality housing is central to community well-being. Apart from meeting the basic need for shelter, it provides a foundation for family and social stability, and contributes to improved health and educational outcomes and a productive workforce. Thus it enhances

both economic performance and 'social capital'". Potential examples of the consequences of housing stress are various forms of deprivation such as going without meals, children missing out on school activities and enforced household mobility. On the other hand, "when housing is affordable, low and moderate-income families are able to put nutritious food on the table, receive necessary medical care, and provide reliable day-care for their children" (Wardrip et al., 2011). Similarly, other research has also shown that the affordable housing costs (e.g. an affordable mortgage or rent) may have notable positive effects on childhood development and school performance (Lubell and Brennan, 2007) and may result in better health outcomes for families and individuals (Lubell et al., 2007). Table 2.12 presents some of the potential household, societal and organisational risk outcomes for individual households (for both trapped renters and aspirant purchasers) in housing stress.

According to AHURI (2007), housing affordability is a problem because:

- Not all of the risks associated with housing affordability problems are borne by individual households. Many are borne by society.
- Some of the coping strategies employed (such as frequent moves) can contribute to a lack of social cohesion.
- Intergenerational equity is compromised by the increasing disparities between those who gain access to homeownership and those who do not.
- Processes of gentrification that have pushed much affordable housing to the fringe in urban areas have contributed to spatial polarisation. Resultant difficulties in recruiting labour have the capacity to constrain economic growth.
- Housing affordability problems have the capacity to make it more difficult to manage the economy as a result of the increased sensitivity of at-risk households to policy changes.

It is obvious from the above list that the problem of housing affordability is important, not just because individual households experience unacceptably high housing costs, but also because a lack of affordability inflicts sizeable indirect costs on the wider economy and society. Overall, it can be said that "Lack of affordable housing imposes significant constraints on the economy as well as a threat to the cohesion of the broader community" (Berry, 2002).

Housing affordability impacts can be divided into impacts on: (i) the macro economy, (ii) the efficiency with which labour markets operate

Table 2.12 Risk assessment matrix

Core group	Possible trend	Potential household risks	Societal and organisational risk
Trapped renters	Increase in rents ahead of increases in income.	• Households move to remote locations to find cheaper housing, leading to an increase in time spent of commuting – this generates extra pressures on household budgets and family well-being. • Increases in homelessness and overcrowding. • Arrears, eviction and high mobility rate resulting in inability to integrate into community, high transaction costs for those who can least afford it, non-shelter outcomes especially affect children's schooling; financial pressures strain family relations.	• Increasing greenhouse gas emissions. • Increasing social polarisation. • High mobility rates in specific locations can affect the sustainability of areas, and create the potential for polarisation between urban areas, reducing social cohesion.
Aspirant purchasers	Increase in rents ahead of increases in income and increase in house prices ahead of increases in incomes.	• Inability to save and bridge deposit gap, which creates blocked aspirations and household stress.	• Frustrated potential owners creates political problem. Loss of faith in government and governance. • Weakens value of homeownership. Tension between purchasers and non-purchasers grows. • Puts pressure on retirement policy as housing costs absorb a large proportion of retirement savings/income. Leads to increases in costs of supporting the aged. • Weakens the value of homeownership and encourages consumption of other goods. • Cities with high barriers to homeownership become unpopular places for low- to middle-income groups. Labour market pressures and skill shortages increase.

Source: Extracted from AHURI (2007).

and (iii) the wealth distribution in society. The overall impact of housing affordability on the macro economy is sizeable. Indeed, housing supply is a major consideration when it comes to housing affordability and the related housing construction activity is an important component of the national economy. Moreover, "a policy of expanding the supply of new housing targeted at the affordable end of the market is one way to stabilise the housing sector and general economy over time, moderating the boom-bust rhythm that might otherwise prevail" (Berry, 2002).

The construction of affordable housing (or any kind of housing) will produce direct, indirect and induced benefits to the local economy. The direct benefits refer to the funds spent on construction (materials, labour and the like). The indirect benefits relate to local consumption and employment generated by the additional demand due to the construction project. For example, the builder purchases roof tiles from the local store and the store owner, to deliver the materials, will need to hire additional labour. Finally, the induced benefits relate to local consumption and employment related to additional demand that is not directly related to the construction projects. For example, workers directly engaged with the project are likely to spend a portion of their wages at the local grocery store or shopping mall. In areas with little industry, retail or services, job creation still occurs but it is more dispersed because the indirect and induced benefits "leak" to areas capable of satisfying additional demand. According to Econsult (2009), for every dollar spent on a proposed Pennsylvania (USA) state housing trust fund for remodelling or rehabilitating an existing home, an additional benefit of US$1.28 of induced and indirect spending will occur. The multiplier effects for construction of either multifamily (US$0.69) or single-family (US$0.62) public homes are lower, though still sizeable. With respect to employment effects, between 14 and 20 jobs would be generated for every US$1 million spent.

Among other things, the interest rate sensitivity of the population is of utmost importance for the management of monetary policy. The excessive contribution of housing costs to total household costs (caused by, for example, the excessive debt burdens of home purchasers due to high house prices) can make households extra-sensitive to interest rate increases. Consequently, assuming an increase in interest rates, in order to meet their increased mortgage payments households may reduce other consumption, thus rendering the monetary policy measure less effective. Furthermore, while house price inflation makes homeownership marginally more unaffordable for FHBs, it also increases housing wealth for existing home owners. This can potentially result in increased

aggregate demand (e.g. via equity withdrawal and increased debt level) which, in turn, may cause an increase in interest rates.

A lack of affordable housing can also affect the efficiency with which labour markets operate, particularly in large metropolitan areas. Wide differences in affordability between different areas may, among other things, produce labour market misalignment by constraining movement to high-employment, high-cost locations and, conversely, boosting migration to low-employment, low-cost areas. These issues are a result of limitations in spatial housing markets and they can materially affect the development of an efficient spatial economy.[19] It is commonly accepted that the social environment, especially the perceived safety and health of a city, is an important magnet for investment and the location of managerial staff and knowledge workers.

The previously mentioned trends towards gentrification have concentrated most affordable housing to the fringe of urban areas and contributed to a tendency towards spatial polarisation. The process of gentrification can be explained as the process where upper or middle-income families buy and renovate in deteriorated urban neighbourhoods, improving property values but often shifting low-income families and small businesses to other, cheaper areas. Gentrification can have negative consequences as it is increasingly recognised that economic development is critically dependent on attracting and keeping "creative workers": those skilled workers in the design, knowledge-intensive, information-rich industries of the "new economy" (Florida, 2002). Florida (2002) also claims that investment, growth and new jobs follow the locational decisions of the creative worker class – not the other way around.

House price inflation also causes increasing disparities in wealth, which then adds to the risks of a loss of social cohesion. A negative connotation of this is that increasingly polarised cities typically adopt defensive behaviours, both in areas of deprivation and in more affluent areas. The resulting social exclusion in particular areas of the city may undermine a sense of wider social cohesion. On the other hand, high housing costs will most likely contribute to upwards pressure on wages and salaries, which tends to undercut the competitive position of local producers, especially in trade-exposed industries.

All the discussion thus far pertains to both house purchase and rental housing. In particular, the relevance of rental housing lies in the fact that one-third of Australian households across the income spectrum live in rental housing. Although some opt for rental housing because it provides an affordable and convenient lifestyle close to neighbourhood amenities, for most people on a lower income homeownership is out of

reach, hence, affordable rental housing allows them to live in communities close to work, education and affordable transportation.

2.6 Conclusion

For most people worldwide, homeownership is of utmost importance and Australians are definitely no exception to this rule. This is nicely illustrated by the fact that those households with higher incomes do not articulate any stronger preference for homeownership than do low-income households (Dockery and Milsom, 2005; Senate Inquiry, 2008). Out of 8.4 million households living in Australia in 2009/10, 68.8 per cent of households lived in owner-occupied dwellings (32.6 per cent owned their own dwelling outright with no mortgage, while the other 36.2 per cent had mortgages). On the other hand, 28.7 per cent of the population were renters (the largest group belonged to private renters (82.5 per cent) followed by state/territory housing authority renters (13.6 per cent) and other renters (3.8 per cent)) and 2.5 per cent of the households belonged to other household tenures (such as cooperative ownership, squatting occupation and land trust).

It is well established that the housing sector plays a vital role in economic growth and in enhancing the welfare. Because of the importance of housing to the economy and the whole society, all levels of governments are heavily involved in the housing sector.

The housing sector is one of the most regulated and taxed sectors in the Australian economy. With regard to regulation, among other things, governments at various levels are involved in: land releases, zoning, local government planning and community services, public housing and housing assistance. The residential construction and dwelling sector's value added income accounts for around 8.2 per cent of the Australian nation's total value added; hence, it is not surprising that governments see housing as an important source of revenue. From the housing affordability point of view, it is important to note that new housing, in particular, is inequitably taxed. In 2011, it accounted for around 1.2 per cent of value added in the economy yet contributed more than two times its share (2.8 per cent) to the government's taxation revenues. With respect to the GST, the residential building sector accounted for 13 per cent of all GST revenue raised by the Australian Government.

This chapter demonstrates that a clear understanding of how different causal factors interact to affect the housing market is crucial to effectively understanding the housing affordability problem. The literature provides sufficient evidence to show that by seriously tackling the

issue of housing stress, governments can significantly alleviate a range of economic and social problems while reducing the overall cost to taxpayers (Berry et al., 2002). Since 2007, this has been acknowledged by the new ALP government, which fully rejected the neoliberal orthodoxy of non-interference in the housing market and began supporting a position on housing that is more expansive and multifaceted than in the past. Subsequently, the Australian Federal Government's response to the GFC has strongly reiterated the centrality of housing policy to Australian economic and social stability (Milligan and Pinnegar, 2010).

Furthermore, the discussion in this chapter shows that housing affordability strategy must contain an integrated set of policy responses capable of addressing a range of factors that contribute to high housing costs and the consequent poor housing affordability.[20] Housing costs for renters are represented by rent payments while, for house purchasers, the most often quoted housing costs are mortgage (home loan) payments. Therefore, to be able to fully appreciate housing affordability and housing affordability measures (discussed in Chapter 5) and because a number of housing affordability measures are based on home loan affordability, it is necessary to understand the different home loan products. Logically, each of the home loan products have somewhat different functionalities, which, among other things, results in different home loan products being priced from different cost of funds (COFs) bases, with different costs (origination, maintenance and closing) and generating diverse risk exposures.[21] Consequently, different home loans will have different interest rates; hence, even after assuming the same exposure (outstanding loan amounts), different home loan products will cause different housing cost burdens.

According to Karamujic (2009), the contemporary Australian home loan market is very competitive, with around 350 institutions offering some 3,000 home loan products. The Australian home loan market was not always as competitive as it is now. Before providing a detailed account of the various types of contemporary home loan products and packages in Chapter 4, an attempt will be made in Chapter 3 to enhance our understanding of the contemporary Australian home loan market via exploring the major the reasons for recent explosion in the number of institutions offering home loan products and in the number of home loan products offered in Australia.

3

Major Reasons for an Increase in the Number of Institutions Offering Home Loan Products and in the Number of Home Loan Products Offered in the Australian Home Loan Market

3.1 Introduction

Having completed our exposition on the importance of housing, the primary motivation of this chapter is to briefly explore the major reasons for the recent explosion in the number of institutions offering home loan products and in the number of home loan products offered in Australia. In doing so, the following factors will be considered: the size, composition and changes in both total and home lending in Australia; the consequences of the two most recent rounds of financial system deregulation; trends in interest rate and property prices and; recent changes in the typical borrower's behaviour.

The simple logic behind this chapter is that it will serve as an introduction to the next chapter i.e. it will contribute toward a better understanding of the contemporary Australian home loan market via exploring the major reasons for the recent explosion in the number of institutions offering home loan products and in the number of home loan products offered in Australia. This is relevant to this project for three main reasons: (i) it will be a good introduction to discussing various contemporary home loan products and packages in Chapter 4; (ii) it will enable a more comprehensive understanding of contemporary housing affordability measures (the focus of Chapter 5), especially those based on home loan repayments (Section 5.2: Home loan affordability

measures); and (iii) it will, to a certain degree, inform the interpretation of the empirical portion of this book (the focus of Chapter 6).

3.2 The size, composition and changes in both total and home lending in Australia

According to the RBA (2011), as of July 2011, the total lending in Australia amounted to A$2,018 billion. As shown in Figure 3.1, 88.6 per cent of the total lending came from Australian Financial Institutions (AFIs), namely banks and non-banking financial institutions (NBFIs), 5.2 per cent of the amount was securitised lending and 6.2 per cent was issued bills. Figure 3.2 shows that most of the A$2,018 billion was absorbed by home loans (59.5 per cent), followed by business lending (33.5 per cent) and other personal lending (7 per cent). In addition to being the largest

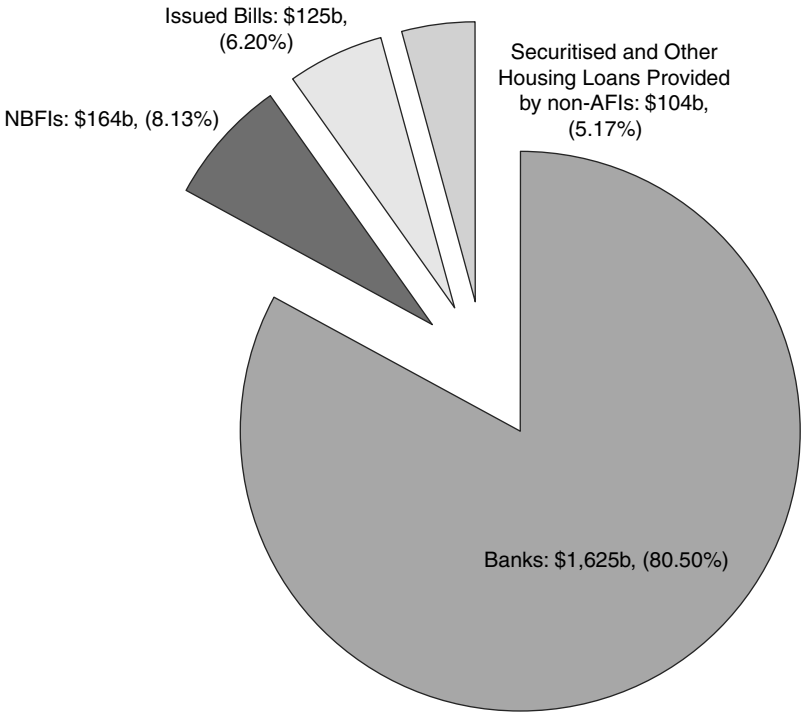


Figure 3.1 Total lending in Australia, July 2011
Source: Extracted from RBA (2011).

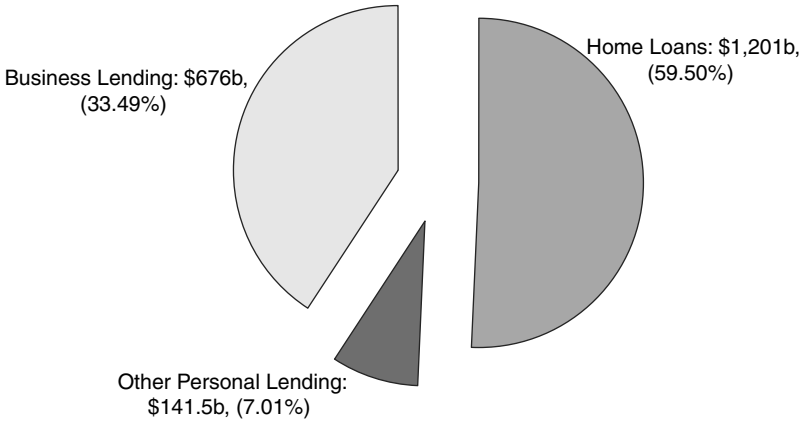


Figure 3.2 Composition of total lending in Australia, July 2011
Source: Extracted from RBA (2011).

proportion, the home loan contribution to total lending has been experiencing the fastest growth. As seen in Figure 3.3, between July 1990 and July 2011, total lending has increased six times, from A$340.4 billion in July 1990 to A$2,018.4 billion in July 2011 (RBA, 2011). During the same period, the total home lending (including securitised and other housing loans provided by non-AFIs) increased by fifteen times.[1] Accordingly, the total home lending contribution to total lending almost doubled.

Total home lending contributed only 23.3 per cent to total lending in July 1990, and has increased to 59.5 per cent by July 2011. Much of this increase is due to a sharp rise in the number of owner occupiers who have also acquired investment properties. As can be seen in Figure 3.4, since April 2001, total home lending overtook total business lending for the first time ever and continued rising. In November 2008, total business lending peaked at A$781 billion but has been falling ever since due to the GFC. Similarly, other personal lending peaked in May 2008, fell between May 2008 and September 2009, and started improving again after September 2009.

3.3 Consequences of the two most recent rounds of financial system deregulation

The astonishing increase in both total lending and home lending was primarily due to the two financial system deregulations. The initial wave of deregulation, conducted in the early 1980s, changed the state

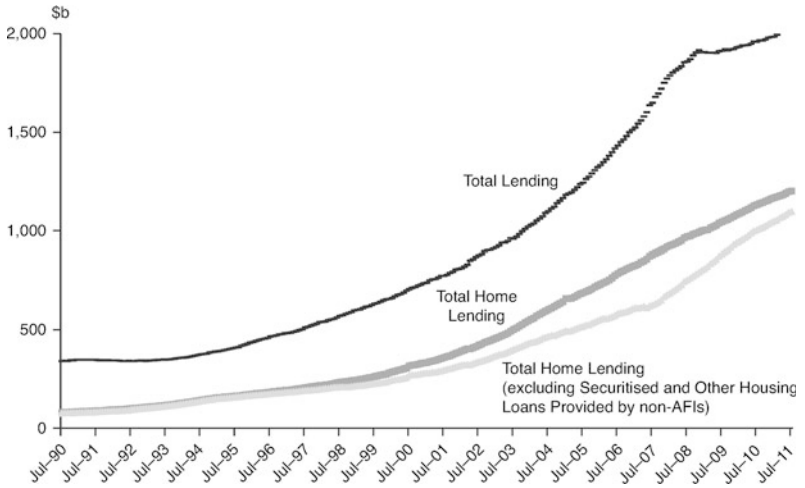


Figure 3.3 Total lending versus total home loan lending

Source: Extracted from RBA (2011).

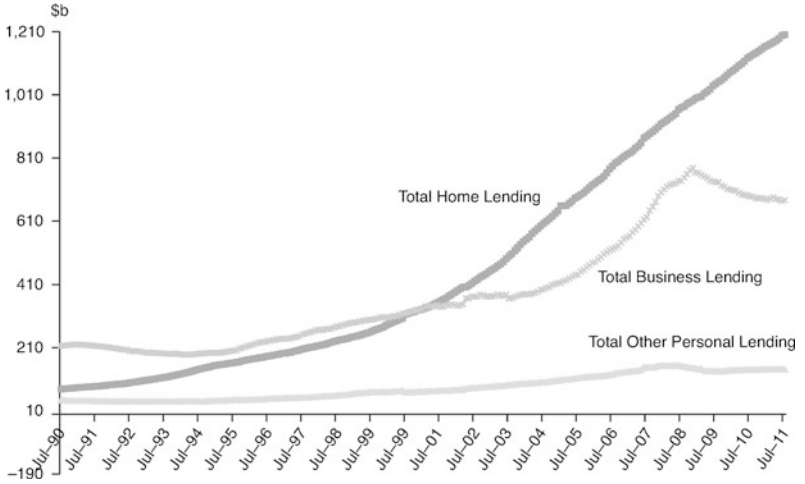


Figure 3.4 Total home loan lending versus total business and other personal lending

Source: Extracted from RBA (2011).

of Australia's financial system. The call for deregulation was an attempt to allow banks greater freedom in response to competitive market signals and borrower demands and to ensure institutions met minimum prudential standards designed to protect depositors and maintain the stability of the financial system. As a result, within a relatively short period, the deregulation freed banks and capital markets from most of the previous regulatory constraints. This initial wave of deregulation resulted in changes such as removing the ceiling on

bank lending and deposit rates, introducing tender systems to sell government securities and the floating of the Australian dollar. It is worth noting that with the floating of the exchange rate in December 1983, impacts on the domestic money market from overseas markets were almost completely removed.

In addition to the deregulation conducted in the early 1980s, another round was conducted as a result of the 1997 Wallis Report. This report stemmed from the government-initiated Financial System Inquiry. The Wallis reforms aimed to facilitate greater choice and competition in financial services, encourage more rapid innovation and better service and enable AFIs to be more globally competitive.

In July 1998, the new round of changes was introduced. Under this reform, financial institutions became regulated and supervised on the basis of the functions they performed. An important effect of this latest round of deregulation was that, as well as the traditional banks, it allowed a number of other institutions (generically called NBFIs) to offer traditional banking services. Consequently, the traditional banks increasingly faced higher competition, at least in regard to some of the services offered.

Most Australian financial institutions agree that NBFIs generally do not gain any advantage in offering products such as credit cards, overdrafts and transaction products. These are the products that are generally characterised by a high number of transactions that require greater accessibility i.e. the existence of larger retail networks (both branch and electronic banking networks). However, banks do generally concur that NBFIs may, under certain conditions, have some advantages in offering home loans. Consequently, market forces and the new regulation regime in 1998 directed NBFIs to adjust their business focus to concentrate almost completely on home lending.[2]

The comparative advantages of NBFIs in offering home loans are typically referenced to the fact that many NBFIs specialise in home lending. For this reason, they are perceived to be timelier, able to provide more personalised service and often capable of undercutting the bigger banks. With respect to funding costs, it is relevant to note that NBFIs

that specialise in providing home loans have less of an overall competitive advantage as market interest rates move up. Unlike NBFIs, banks typically have access to a larger base of retail deposits whose interest rates are relatively insensitive to changes in the cash rate. When market interest rates are low, the benefit of the retail deposit base is small as the bulk of funding for both banks and NBFIs is sourced from financial markets.[3] However, as financial markets' interest rates rise, the benefit gained from the retail deposits increases. This allows banks to acquire relatively cheaper funds and, in doing so, to somewhat mitigate the competitive pressure coming from the NBFIs. Nevertheless, the potential comparative advantages of NBFIs with regard to superior customer service and lower operating costs, if fully realised, may result in a further increase in competition and consequent downward pressure on home loan interest rates.

As discussed by Ellis (2006), one of the major results of increased competition was that NBFIs's initial aggressive pricing forced the banking sector to reduce their home lending margins. Consequently, lower home loan interest rates improved borrowers' capacity to pay, at any stage of the interest rate cycle (shifting the whole housing demand curve to the right), making home lending within reach of a wider range of borrowers.

3.4 High level trends in interest rate and property prices

The period since the introduction of the latest round of financial system reforms in 1998 has been largely characterised by a low interest rate environment. The most commonly used proxy for illustrating the level and changes in the entire term structure of interest rates is the cash rate.[4] The major reason for this is that changes in the cash rate, to varying degrees, affect the entire term structure of interest rates in the economy. Lowe (1995), using monthly Australian data for the period January 1986 to October 1994, showed that the coefficient of changes between the cash rate and the shorter-term interest rates was quite close to one, in both an economic and statistical sense, but that the longer-term maturities were much less impacted by changes in the cash rate.[5] In other words, Lowe showed that the pass-through of cash rate changes to short-term money market interest rates is quick and almost complete while the pass-through of cash rate changes to longer-term maturities is much less responsive and much more complex.

In addition to a low interest rate environment, the period since the introduction of the latest round of financial system reforms has also, for

the most part, been characterised by rising property prices. Australian house prices, between 1997 and 2004, experienced sustained growth. According to the RBA (2004), house prices increased at an astonishing rate of over 9 per cent per annum between 1997 and 2001 and by 17 per cent in 2002.

While Australian house prices tend to differ markedly between cities, the changes in city house prices have been relatively similar. According to Abelson and Chung (2005), between 1990 and 2003 real house prices rose between 47 per cent and 77 per cent in all cities compared with an estimated weighted average figure of about 64 per cent. The large cities exhibited similar price movements over an even longer period. From 1970 to 2003, there were the following correlations between real house price indices: Sydney–Melbourne (0.93); Sydney–Brisbane (0.92); Melbourne–Adelaide (0.92); Melbourne–Perth (0.81).

Even if the above time horizon is extended, it is clear that the Australian property market has shown steady increases, rising by around 3 per cent per annum, since the 1970s. More precisely, since the 1970s, there were six significant housing price booms: from 1971 to 1974, from 1979 to 1981, from 1987 to 1989, from 1996 to 2003, from 2005 to 2008 and from late 2009 to the end of 2010. As one would expect, subsequent to each of the booms, prices (real or nominal or both) tended to fall. Nevertheless, these falls were, on average smaller compared to the house price rises; hence, in the long run, real house price rises outstripped falls.

In the late 2000s, housing prices in Australia, relative to average incomes, were among the highest in the world, prompting speculation that the country was experiencing a house price bubble. Rising property prices over an extended period of time are believed to have encouraged an additional demand for home loans that otherwise would not have eventuated. This was further driven by a sluggish stock market during the same period which diverted investors from the stock market to what was at the time a highly lucrative housing market. The following are some factors that are most often quoted as having contributed to the sustained increase in house prices:

- increased competition, among other things, resulted in the loosening of credit standards (e.g. loan to value ratios (LVR) of 95 per cent and above are still available with some lenders),
- relatively low interest rates from the onset of the GFC increased the borrowing capacity of certain categories of the population,

- limited government release of new land caused a significant reduction in housing supply,
- a tax system which may be seen to favour investors (e.g. negative gearing) and existing homeowners (e.g. the sale of owner-occupied property exempted from the capital gains tax),
- the existence of restrictions on the use of land preventing higher density land use,
- high population growth and
- the presence of a strong speculative demand for housing due to the public perception of investing in housing as being a safe bet.

3.5 Recent changes in the typical borrower's behaviour

Yet another interesting development which contributes to the increasing complexity of the home loan market is that borrowers are becoming increasingly sophisticated in their knowledge of products, particularly with improved access to the Internet and the ease of gaining information. This knowledge, combined with increased media coverage of interest rate variations, enables borrowers to shop around for the most competitively priced product that meets their needs.

Deregulation in the financial services industry has eroded barriers that once separated different types of financial services, such as retail banking, insurance and investment banking. Despite banks' efforts to consolidate their services and establish "one-stop" financial shops, borrowers are increasingly disaggregating their financial holdings based on various institutions' interest rates, fees and investment performance.

3.6 Conclusion

Overall, the implementation of both rounds of financial system reforms was largely successful. The lasting impact of the reforms is a much more efficient and effective financial system characterised by increased competition, convenience, diversity of choice and enhanced stability and integrity. In particular, a significant increase in the number of competitors, increasing borrower sophistication, a low interest rate environment and comparable funding cost structure for both NBFIs and banks (one of the results of the second round of deregulation – Wallis reforms) makes it unsound for lenders to compete on price alone. Within this type of environment, any attempt to differentiate on price alone cannot be sustained and will only result in driving the whole market down

i.e. falling margins. Not surprisingly, lenders (in particular the bigger banks) have redirected their attention to developing new, typically more functional, home loan products as a more efficient and effective approach to differentiating themselves in the market place. Consequently, the contemporary home loan market in Australia has approximately 350 institutions offering some 3,000 home loan products.

To enable a better understanding of contemporary housing affordability measures (the focus of Chapter 5), especially those based on home loan repayments (Section 5.2: Home loan affordability measures), it is necessary to comprehensively understand the various contemporary home loan product groups and packages. These will be examined in detail in the next chapter.

4

Introduction to Contemporary Residential Mortgage (Home Loans) Lending Products

4.1 Introduction

The core purpose of this chapter is to provide a detailed account of various contemporary home loan products. This is relevant for this project for the following two reasons: (i) it will serve as a background to discussing contemporary housing affordability measures (the focus of Chapter 5) and (ii) it will aid the interpretation of the modelling results (Chapter 6).

As previously stipulated, the Australian home loan market is very competitive, with around 350 institutions offering some 3,000 home loan products. Of these 350 home lenders, the top 122 capture a huge majority of market share i.e. the other 228 lenders have minuscule impact on the market. Out of the top 122, the four major Australian banks capture a lion's share of the home loan market.[1] Nevertheless, because of increasing competition, the four major banks have been gradually losing market share to smaller competitors. An important indicator that all four major banks are feeling the heat of renewed competition is average reduction in their interest margins.[2]

Each of the home loan products on offer have somewhat different functionalities, which results, among other things, in different home loan products being priced from different COFs bases, having different costs (origination,[3] maintenance[4] and closing[5] and generating diverse risk exposures. For example, the more complex home loans, such as the revolving line of credit (LOC) home loan, require more checks and are generally more costly to establish and maintain. Consequently, assuming the same profit margin and comparable fee charges, different home loans will have different interest rates.

The significant variations in home loan products and regulations (home loan products are known to significantly differ from country to country, region to region and even within the same region) make it very difficult to exhaustively categorise home loan products. Furthermore, dynamic changes in the home loan market and the number of different ways in which home loan products can be classified and viewed add to the complexities. The following home loan classification, devised by the author, is an attempt to overcome these difficulties. Although the classification overlaps somewhat, each group covers an important viewpoint:

1. Home Loans by Type of Offering (whether they are offered on their own or together with some other products and services): Stand-alone and Packaged Home Loans;
2. Home Loans by Major Functionality (primarily from the lender's point of view, the determining function of a home loan): Standard Variable Rate Home Loans (SVRHL), Basic Home Loans (BHL), Introductory (Honeymoon) Home Loans, Fixed Rate Home Loans (FRHL), Line of Credit (LOC) Home Loans, All- in-one (Offset) Home Loans, Reverse Home Loans and Islamic Home Loans;
3. Home Loans by Major Purpose Type (what they are used for): Owner-Occupier Home Loans, Investment Home Loans, Construction Home Loans, Refinancing Home Loans and Upgrading Home Loans;
4. Home Loans by Distribution Segment (how they are distributed): Direct Channel (Branches, Telephone and Internet) Home Loans, and Third Party Channel (Introducers and Brokers) Home Loans;
5. Home Loans by Interest Structure (what kind of interest payments they have): Interest Only (IO) Home Loans and Principal and Interest (P&I) Home Loans; and
6. Home Loans by Conformation Status (whether they conform to typical home loan lending standards or not): Conforming (prime) Home Loans and Non-conforming (sub-prime) Home Loans.

4.2 Home loan products by type of offering

From the point of view of the type of offering, home loans can be provided as either stand-alone products or through various financial packages i.e. home loan borrowers can satisfy their home loan needs either by acquiring a financial package and a home loan as a part of that financial package or by purchasing a stand-alone home loan.

4.2.1 Financial packages

A peculiarity of financial packages is that they attempt to satisfy borrowers' broader financial needs including a home financing need. These packages offer a wider range of products and services and purport to be a full financial service solution. In an increasingly competitive environment, such as the home loan market in Australia, it is not surprising that financial institutions are going out of their way to offer borrowers special deals on a range of products and services, from discounted interest rates to reduced insurance premiums, discounted share trading or fee-free accounts. In Australia, the major banks were the first to come to the market with this kind of offering, and the response so far seems to be very positive with the major banks, in particular, experiencing a large take-up by an increasing number of borrowers.

At first glance, financial packages seem extremely appealing to a wide range of potential users. But there is a catch: to be eligible, an applicant has to be the sort of borrower who is valued by the financial institution. That means being financially better off and being willing to consolidate the bulk of his/her's banking activities with the one institution. The recent explosion in package offerings has intensified the battle between banks for the financially more astute borrowers with most of the major banks enhancing their product offerings and increasing their distribution network across the country.

Professional banking packages come under a variety of labels, however the fundamentals are essentially the same i.e. borrowers who satisfy certain financial criteria can, for an annual fee, enjoy a range of discounted financial products and have access to other financial services not available to other home loan borrowers. As expected, not all financial packages offer the same facilities. From the lender's point of view, all financial packages offered by financial institutions can be segmented by purpose into personal, business and agri-business packages. This is illustrated in Table 4.1. Because business and agri-business packages are significantly less sophisticated than the personal packages, in the rest of the section the focus will be on personal packages. Moreover, all financial personal packages can be further classified into property investors' packages and general packages. Property investors' packages, as their name indicates, focus on the financial needs of property investors while general packages target all others borrowers who have enough business with the financial institution and satisfy other eligibility conditions.

From the complexity of offerings point of view, all packages can be viewed as branded or tailored packages. In this study, we will focus on

Table 4.1 Financial packages offered in Australia by selected financial institutions

Institution	Personal package	Business package	Agri-business package
Adelaide Bank	Home loan package		Rural power
ANZ	Premier select	Franchising package	Tailored agri-business products (supported by business products)
	Business links package		
	Professional mortgage		
BankWest	Gold club package		Agrione
	Bankwise Package		
	Reward package		
Bendigo Bank	Home loan package	Business solutions	Selection of Agri-focused products
	Bendigo plus 2		
CBA	Gold privilege 1		Tailored agri-business products (supported by business products)
	Gold privilege 2		
	Wealth package		
Elders Rural			Specialist agri-business products
Heritage Building Society	Variable options package		
HSBC	Power vantage		
NAB	Tailored home loan package	New business package	Farmers choice
NAB	National homeowners package		
NAB	National choice package		
NAB	Shareholders package		
St George Bank	Workplace banking package		
Suncorp Metway	Professional package		Small selection of agri-focused products
Westpac	Wealth advantage		Tailored agri-business products (supported by business products)

Source: Extracted from http://www.canstar.com.au/home-loans/.

branded packages i.e. packages that potential borrowers can select "off-the-shelf" from most Australian lenders. Tailored packages, on the other hand, are very hard to group as they cover a wide range of packages and are very often completely individualised to satisfy the most varied of borrower needs.[6]

Branded or "off-the-shelf" packages can be further grouped into full packages and partial packages. Full packages are those that offer a financial solution that addresses at least four functions. In other words, the borrower, by accepting a full package, satisfies a complete set of financial services needs through the one branded package. Full packages generally provide the borrower with a home loan and credit card, in addition to other financial products such as insurance and margin lending. Table 4.2 shows some of the more well-known full packages currently available in Australia. For example, the HSBC's Power Vantage package is targeting the professional or higher net worth individuals through more sophisticated products combined with increased convenience and financial coordination. On the other hand, partial packages are financial packages designed to encourage borrowers to purchase, typically, two products. Table 4.3 shows some of the more well-known partial package offers in Australia. As can be seen in Tables 4.2 and 4.3, all of the major banks offer at least one personal banking package, with NAB, CBA and ANZ each providing three packages.

Table 4.2 Full financial packages

Institution	**Package**
Adelaide Bank	Home loan package
ANZ	Premier select
	Business links package
BankWest	Reward package
	Bankwise package
	Reward package
CBA	Wealth package
Heritage Building Society	Variable options package
HSBC	Power vantage
National	National choice package
	National shareholders package
	National employees package
St George Bank	Workplace banking package
Westpac	Wealth advantage

Source: Extracted from http://www.canstar.com.au/home-loans/.

Table 4.3 Partial financial packages

Institution	Package
ANZ	Professional mortgage
BankWest	Gold club package
	Bankwise package
	Reward package
Bendigo Bank	Home loan package
	Bendigo plus 2
CBA	Gold privilege 1
	Gold privilege 2
Heritage Building Society	Variable options package
National	Tailored home loan
	National homeowners package
Suncorp Metway	Professional package

Source: Extracted from http://www.canstar.com.au/home-loans/.

As already stated, all financial packages are also subject to minimum relationship criteria and aim to reward borrowers through means of discounted fees, favourable rates or superior service delivery. For example, the ANZ's Business Links package and St George's Workplace Banking package both have an interesting twist, targeting personal packages to the employees of their major business clients. The business relationship then constitutes an additional criterion for accessing this package. It is generally acknowledged that the cornerstone of partial packages is a home loan product. The underlying logic of financial institutions is to use these packages as a means of harnessing the borrower's entire banking relationship.

In the past, lenders' package offerings were primarily focused on the traditional professionals such as accountants, lawyers and doctors; however, we now see a broader occupational focus. Such distinct borrower segregation is increasingly seen as unnecessary and counter-productive; thus, the practice is gradually diminishing, although most of the banks still have some kind of occupation-based rules in their policies. In addition to the various criteria we have outlined, there are annual fees payable to be eligible for the more functional packages.[7]

So, having cleared the eligibility hurdles and agreeing to pay the applicable fee, the logical question is, what are the major benefits for the prospective borrower? Probably the biggest drawcard for a prospective home buyer or refinancer is a discount on home loan interest rates, typically ranging from 0.5 per cent to 0.7 per cent. As a general rule

of thumb, the larger the relationship with the lender, the higher the discount the lender will be happy to provide.

Beyond lending, discounted rates are usually offered on a range of other financial products. In many cases, transaction and credit card fees are dropped or heavily discounted, insurance premiums are reduced and higher interest rates offered on savings accounts. More than 20 different transaction account/package combinations are available, of which the majority waive the account-keeping fee as a benefit of the package. Only a few packages offer unlimited transactions to borrowers; most lenders offer discounts on transaction fees.[8] For example, the NAB's Professional Choice Package targets higher-end premium borrowers, guaranteeing one annual fee, which covers all fees and charges.[9] On the other hand, the CBA's Wealth Package offers an even wider range of benefits, such as discounts on rates, financial planning services, reward programs fees, transaction fees, insurance fees, credit card rates and charges.

Probably one of the biggest drawcards of financial packages is improved services. Bigger banks, in particular, offer the services of financial planners and personal bankers. For example, NAB has more than 400 personal bankers countrywide and claims to have the best personal banker service in the country. Financial planners are also often made available for free when a borrower first takes a package and thereafter usually for a discounted fee. Typically, borrowers are introduced to professional packages when they apply for a home loan. Banks have devised sophisticated ways to explaining to a prospective borrower how these value added arrangements can benefit and fulfil most, if not all, of their financial needs. Banks, for their part, receive a greater share of borrower's business, improved retention and increased profitability. In summary, it can be said that professional packages provide a happy arrangement between the lender and its higher value borrowers.[10]

4.2.2 Stand-alone Home Loans

Stand-alone home loan products are home loans offered outside financial packages i.e. offered without ancilliary products. The rest of the chapter focuses on stand-alone home loan products.

4.3 Home Loan products by major functionality

This home loan classification is based on the characteristics determining the product's utility and functionality. Of the relevant stand-alone home loan products that will be considered in this chapter, Figure 4.1 clearly illustrates that fixed rate home loans (FRHLs) have

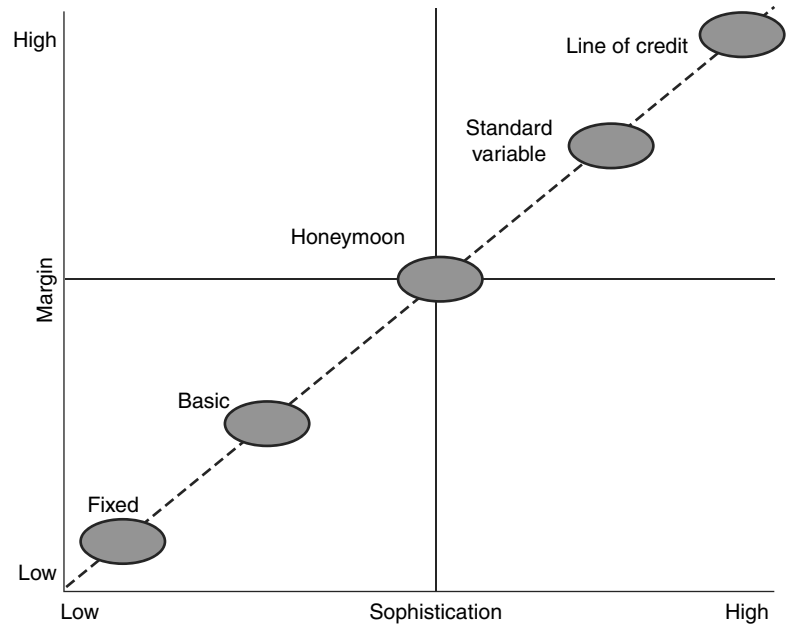
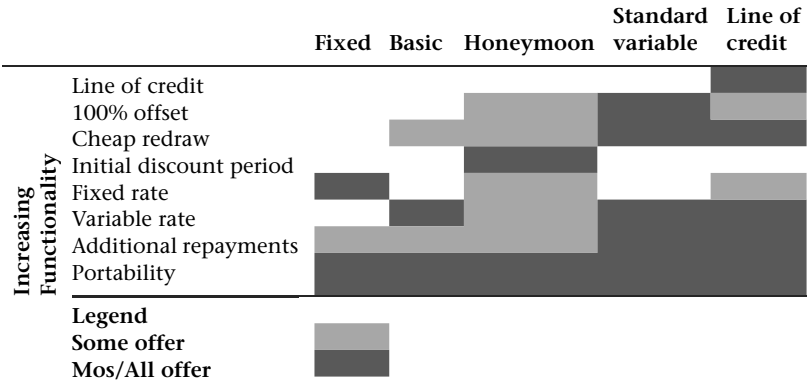


Figure 4.1 Home loan margins versus sophistication

the lowest sophistication and number of features associated with them while revolving line of credit (LOC) home loans have the highest level of sophistication and number of features. The figure also indicates that, on average, the higher the sophistication, the higher the gross margin the lender realises. Also important to note is that, normally, with the increase in gross margin and the level of sophistication, comes an increase in costs associated with the product. Nevertheless, the increase in costs is generally of a lesser magnitude than the increase in the lender's margin. This obviously stimulates lenders to sell more of their more sophisticated products and increases the fight for market share of the higher value borrowers.

Table 4.4 presents most of functionalities that are associated with each product group analysed and, moreover, suggests the rationale for the naming of each particular product, e.g. FRHLs offer fixed rate term lending, the basic home loan (BHL), among all of the home loan products, has the lowest i.e. the most basic functionality assigned to it, honeymoon or introductory home loans normally provide a 6 to 12 months' honeymoon period during which rates payable are significantly discounted, etc.

Table 4.4 Functionality of major home loans products in Australia



Source: Extracted from http://www.canstar.com.au/home-loans/.

4.3.1 Standard Variable Rate Home Loan (SVRHL)

SVRHL is one of the oldest and best-known home lending products. It is a flexible, variable interest rate-based home loan that can suit the individual needs of a wide spectrum of borrowers, such as FHBs,[11] upgraders,[12] refinancers,[13] investors[14] and home buyers purchasing a block of land to build on.

A SVRHL contains a full set of features available to variable rate home loans. The most common features of a SVRHL in Australia are:

- $2,000–$5,000 minimum redraw, with no fee applicable[15]
- Partial offset via loan trimmer[16]
- Loan term of one to 30 years
- Minimum loan amount of $20,000
- Available as either a low-documentation or full-documentation option[17]
- Lending limit of 80 per cent of loan to value ratio (LVR) without loan mortgage insurance (LMI) and up to 100 per cent LVR with LMI
- Unlimited additional repayments without penalty
- Repayment holiday available for borrowers in advance of contracted scheduled repayments
- Application fee of generally between $300 and $600 that includes up to two home loan applications, provided they are applied for at the same time and are over the same security
- Monthly service fee of between $5 to $10

- Insurance premiums can be incorporated into loan repayments
- Portability[18]
- Can be taken as a construction loan

Furthermore, a SVRHL comes as both principal and interest (P&I) and interest only (IO) facility (for more details on interest rate structure, refer to Section 4.6). The features outlined above are fully applicable to the P&I facility while IO repayment monthly in arrears is available for terms of one, two, three, four and five years only. At the end of the IO period, the loan automatically converts to P&I for the remainder of the loan term.

4.3.2 Basic Home Loan (BHL)

The name of this product strongly implies that the product has only basic functionalities assigned to it. In summary, a BHL product generally comes with the following functionalities:[19]

- Lower interest rate than SVRHL[20]
- No frills or extras attached to it as compared to SVRHL
- Flexible repayment options[21]
- Standard application fee and generally no monthly service fee
- Redraw functionality with a fee applicable
- Ability to switch to and from SVRHL
- Monthly serviceability calculated at prevailing home loan interest rate[22]

The two repayment modes applicable to the facility, namely P&I and IO, make the home loan attractive to both investors and owner-occupiers. Investors are attracted to IO for the obvious reason that repayment amounts are lower as they cover interest payments only. At the expiration of the term of the loan, the whole amount borrowed is repayable. This provides investors with an increased cash flow during the term of the loan and the option to sell the investment before they are expected to repay the whole amount borrowed.

4.3.3 Introductory (Honeymoon) Home Loan

Introductory home loans are being used as a key promotional product within the home loan market, where the discounted introductory interest rate is a key driver for these facilities. A standard honeymoon home loan product typically comes with the following functionalities:

- Allows borrowers to defer the first three months of repayment (payments due during the deferment period are distributed over the remaining term of the home loan)
- Ideal for borrowers who have sufficient funds for deposit and/or property related costs but need help with their monthly cash flow
- During the introductory period, these loans are structured either as a discount off the SVRHL or as a discounted fixed rate loan
- Some lenders charge a deferred establishment fee[23]

Currently, CBA, St George, BankWest, NAB and Suncorp Metway offer both fixed and variable rate introductory loans while HomeSide, Westpac and Rams only offer fixed rate introductory loans. ANZ is the only institution offering variable rate introductory rate home loans.

The NAB's National Tailored Home Loan Package (NTHLP) offers borrowers a choice of either a six months or a one year fixed discounted initial period. The NAB's Introductory home loan product does not charge deferred establishment fees; however, borrowers are prevented from taking more than one introductory loan, unless it is for new lending. The NAB's NTHLP, in addition to offering a choice of either a six months or a one year fixed discounted initial period, also offers longer fixed term rates which are set at NAB's standard fixed interest rate.[24] However, unlike the standard fixed rate products, no economic cost or prepayment fees are charged for partial prepayments.[25] The package also offers a free standard credit card and a free Flexi Account.[26]

4.3.4 Offset Home Loans

In Australia, the first offset home loan product was developed by NAB and now most home loan providers in Australia offer offset home loans. The product is comprised of a transaction account, which is linked to a home loan account in such a way that the home loan balance is offset by the deposit account balance on an ongoing basis. For example, NAB's offset home loan is called "100% Offset" and is an optional feature of the NAB's SVRHL.[27]

The arrangement is structured in such a way that the actual home loan is comprised of two accounts, namely a normal home loan account and some kind of transaction account, such as a cheque account or a savings account. The rationale is that the borrower arranges for all income, such as salary, to be deposited in the transaction account and that home loan payments are paid from the same account. The account is linked with the home loan account in such a way that the credit balance in the deposit account is deducted daily from the debit

balance in the home loan account. This, in fact, reduces the home loan balance by the credit amount in the deposit account, reducing the home loan interest payable. This feature, therefore, very effectively reduces home loan interest payments and also allows borrowers to avoid tax normally levied on deposit interest, as this type of deposit account pays no interest or pays minimal interest. This is the case because owner-occupier home loan payments are not tax deductible in Australia. Residential investment home loan interest payments, however, are tax deductible. Consequently, borrowers with such home loans, which are usually IO loans, have no incentive to use home loan offset accounts in the same way as owner-occupier P&I borrowers.

Furthermore, an important characteristic of the offset home loan is that it significantly increases flexibility for borrowers capable of repaying extra by allowing easier access to extra paid amounts compared to most other home loans that mostly offer only plain redraw facilities. For example, a borrower with $200,000 in home loan debt and $40,000 in an offset account would only pay interest on $160,000 of debt. Interest on the home loan offset account is therefore not subject to taxation. By reducing interest due on loans, the home loan term also reduces. This is very often used by various banks as a dominant point of the advertising campaign with a message such as "Save $80,000 and 8 Years". The wide spectrum of assumptions available allows virtually any claim to be substantiated.

As can be seen from Table 4.5, most banks in Australia allow borrowers to link offset accounts to a variable rate home loan, but only some allow borrowers to offset fixed rate home loans. The practice recognises two kinds of principal offset accounts, namely full offset and partial offset. A full offset, or 100 per cent offset, eliminates interest on the home loan debt equivalent to the deposit balance, while a partial offset only offsets a portion of interest due on the equivalent home loan debt.

Table 4.5 Home loans eligible for offset, the top five banks in Australia

NAB	SVRHL, with full offset
Westpec	BHL and SVRHL, with full offset
St George	All variable rate home loans, with full offset
ANZ	Any home loan account including fixed rate home loan, with partial offset
	BHL, with full offset
CBA	All variable rate home loans, with full offset

Source: Extracted from http://www.canstar.com.au/home-loans/.

Offset accounts offered in Australia differ in liquidity as well. Depending upon the institution, borrowers may be required to meet deposit account balance requirements, follow deposit and withdrawal restrictions or pay transaction fees. This time, the general rule that the more flexibility, the better the borrower, does not necessarily apply. In general, the more accessible the deposits, the fewer benefits are offered. In other words, borrowers pay for increased liquidity with decreased offsets, and in most cases, an increase in liquidity results in a decrease in the offset amount.

The offset is a relatively new feature on the market and has come to the market as a direct consequence of the increasing competitiveness and commoditisation of home loan products. In other words, lenders have been forced to embark on this journey. The major reason is that the bank's profitability decreases with any offsets. For this reason, home loan offset accounts are, for the most part, restricted to variable interest rate home loans, which, compared to fixed rate home loans, generally maintain larger profit margins.[28] An exception is ANZ, which provides offset accounts for its fixed rate home loan as well, but only offers a partial offset. A good example of a comprehensive offset home loan can be found in Westpac's offset home loan products, which offer the following functionalities: 100 per cent offset,[29] portability, redraw,[30] progress draws,[31] repayment holidays,[32] parental leave[33] and smart pay.[34]

Home loan offset accounts do not exist in the US or Canada. In the USA, home loan payments are tax deductible so there is no need to use offset accounts to avoid tax. However, in Canada, where home loan payments are not tax deductible and borrowers would benefit from home loan offset accounts, such loans are not offered because the Canadian Government does not allow lenders to shelter borrowers from taxation.

4.3.5 Line of Credit (LOC) Home Loan

LOC home loans are even more flexible than offset home loans as they allow the borrower unrestricted access to the equity built upon in the property, up to the approved limit. These products routinely come with features such as cheque books, telephone and Internet banking. For this reason, traditionally these products were offered only by banks, which were equipped to provide the combination of home loan and associated facilities at a reasonable price.

The original LOC home loan in Australia was established as a wealth creation product targeted at the professional and investment home loan market. Due to the changes in the market toward all-in-one banking, the

product is increasingly being taken up by other less financially secure borrowers as an all-in-one home loan product.[35]

Due to the functionality of the product, borrowers also increasingly began using home equity LOC as a source of liquid income to finance car purchases and consolidate other forms of debt. Favourable interest rates (as a result of increased competition and being secured by a property) relative to other forms of credit (such as unsecured personal loans and credit cards) also increase borrower appeal. Likewise, home equity borrowers became very attractive to lending institutions because they were seen as a safe risk as lenders perceived that very few borrowers were likely to default on a loan that could result in repossession of the mortgaged property.

In summary, a LOC home loan product typically comes with the following functionalities:

- A flexible overdraft facility where any amount of the approved credit is readily accessible.[36]
- A LOC can be secured by a home or residential investment property.
- If acquired as a stand-alone product, generally an application fee is charged.
- It allows for personal and investment finance consolidation.
- It allows for split facility i.e. splitting personal and investment facilities for no additional fee.
- It has flexible repayment i.e. no principal reduction is required and payments can be made at any time.
- Borrowers are allowed to draw on the entire credit limit approved and are charged interest only on the portion used.
- Easy access to accounts – over the counter, cheque, telephone, Automatic Teller Machine (ATM) and Electronic Funds Transfer at Point of Sale (EFTPOS).
- Borrowers have the benefit of unlimited free transactions and are generally exempt from ATM fees.

A recent development is the introduction of amortising or P&I LOC. The reducing limit facility is very similar to offset home loans. This facility provides borrowers with the flexibility of the LOC but with the added assurance that they will pay their loan off eventually. The reducing limit option can also be viewed as an additional feature of the LOC home loan.[37] Not surprisingly, the product is usually available under the same guidelines as the standard LOC home loan. It is offered as a stand-alone

product or as part of a financial package. The key features to the reducing limit functionality are as follows:

- A limit reduction schedule,[38]
- To maintain flexibility, the product allows borrowers to turn the limit reduction schedule on and off as their needs change and
- One contract typically covers the terms and conditions of both the fixed limit and reducing limit options.[39]

4.3.6 Standard Fixed Rate Home Loans (FRHLs)

In Australia, a FRHL generally offers fixed interest periods of one, two, three, four, five and ten years. Although some exceptions with longer interest periods are also known, the above specified terms are the most prevalent. The fixed interest period, being a period for which the loan's interest rate and other conditions are fixed, should be distinguished from the loan term, which is the term of the facility (generally up to 30 years).

A major appeal of FRHLs comes from the fact that they offer stability i.e. they are especially appealing to borrowers who want to lock in their interest rate and avoid any ambiguity about future loan payments for the duration of the agreed interest rate term. With most providers of home loans in Australia, at the end of the fixed rate period the FRHL converts to a variable rate home loan unless another fixed rate term is negotiated. From the borrower's point of view, the FRHL is generally perceived to be suitable for first and subsequent owner-occupier home buyers or residential investors, who want to lock in an interest rate on their borrowings.

In summary, a standard FRHL product typically comes with the following functionalities:

- Partial offset via loan trimmer[40]
- Loan term of one to 30 years
- Allows for a rate lock[41]
- Available as a either low-documentation or full-documentation option
- Lending limit of 80 per cent of LVR without LMI and up to 100 per cent LVR with LMI
- Up to $20,000 partial prepayment per fixed rate period without penalty i.e. prepayment fee generally applies when this amount is exceeded

- Repayment holiday available for borrowers in advance of contracted scheduled repayments
- Generally, application and maintenance fees are applicable[42]
- Insurance premiums can be incorporated into loan repayments[43]
- Portability

From the repayment point of view, a FRHL is offered as either IO or P&I. IO FRHLs (FRIOHLs) are offered as one, two, three, four and five years fixed rate IO repayments, payable monthly in arrears. They also come as one, two, three, four and five year fixed rate IO repayments, payable in advance; however, these are generally only available for investment purposes. It is important to note that the fixed rate term must be less than, or equal to, the IO period. At the end of the IO period, typically the loan automatically converts to a P&I SVRHL for the remainder of the loan term.

4.3.7 Reverse Home Loans

Although at an early stage of market penetration in Australia, reverse home loans are becoming increasingly popular in other developed economies, in particular in the US. A reverse home loan (also known as a conversion loan) can be defined as a loan that enables senior homeowners to convert a part of the equity in their homes into tax-free income without having to sell the home itself, give up the title or take on new monthly home loan payments. Interest charged on the reverse home loan is accrued. Therefore, instead of being paid by the borrower each month, the interest accumulates and must only be repaid at the time when the homeowner no longer occupies the home as the principal residence.

Reverse home loans allow homeowners, usually from the age of 62, to receive cash in exchange for a stake in the equity of their homes. Borrowers can receive the reverse home loan funds as a lump sum, monthly income for life, LOC or any combination of these. The Council on Financial Competition (2002), in their research on the topic, found that reverse home loan products have quickly grown in popularity, in particular in the US and the UK.

As with any other home loan, the maximum amount a borrower can borrow for a reverse home loan is based on the borrower's age, the property's value and the interest rate at the time of borrowing. Generally, the interest rate charged by the lender is variable i.e. rises or falls with the general trend in interest rates. Borrowers may spend the funds from a

reverse home loan in any way that they wish. The repayment amount, as expected, can never exceed the value of the home.

An increasing number of authors have been considering this new phenomenon, trying to determine the reasons for its increasing popularity. According to Kulkosky (2002), the most commonly cited reasons for reverse home loans' growing popularity are: culture change, demographics, current economic climate and legislation. Seniors are seen to be changing long-held cultural beliefs, by starting to look at the value of their home in terms of a usable asset and no longer just in terms of an inheritance for their families. The fact that reverse home loans have matured as a product and are increasingly gaining acceptance can also be attributed to significant educational and advertising efforts conducted by lenders. Demographics are also quickly changing and the population is getting older. The number of people between 65 and 74 years old in the US in 2002 stood at approximately 18 million. This figure is expected to climb to 26.3 million by 2015 and to 35.6 million by 2025. At the same time, many of these seniors, who currently hold more than $2 trillion worth of home equity collectively, do not want to leave the home they made for themselves.[44] Legislation in the US is also favourable to this kind of lending. Aside from the existing tax advantage embedded in a reverse home loan, the existing US federal laws offer seniors savings on upfront home loan insurance fees and place a cap on reverse home loan origination fees. These measures have provided seniors with an extra incentive to opt for a reverse home loan.

A strongly contested issue in the contemporary literature on the topic, is the discussion regarding the advantages and disadvantages of this kind of lending. The most commonly used argument for the benefit of this kind of lending is that the reverse home loan allows seniors to remain financially independent, who otherwise might not have been able to, by enabling them to free up previously illiquid home equity as cash. The most commonly quoted disadvantage is that if, and when, seniors move to assisted accommodation, they may encounter cash flow difficulties as they would have already spent most of the value they had in their home.

4.3.8 Islamic Home Loans

The Islamic economic system is based on religious goals and values such as abolition of interest (riba), economic prosperity within the framework of the moral norms of Islam, universal brotherhood and justice and the desirability of economic enterprise. According to the Institution

of Islamic Banking and Insurance, the concept of Islamic banking is based on the following principles:[45]

- Morally and socially harmful means of wealth creation are forbidden.
- Individuals must spend their wealth in worthwhile and legitimate ways and not accumulate wealth for personal gain.
- The wider community, particularly the destitute and deprived sections of society, should benefit from excess wealth.
- Wealth should not remain in the control of a small number of people to the detriment of society.
- The Islamic economic system should balance individual entrepreneurship and social justice.

A basic principle of Islamic banking is the outlawing of *riba*, a term that can be conservatively interpreted to encompass both usury and the charging or payment of any interest on borrowing or lending.[46] Under this interpretation, followers of Islam who take out a conventional home loan are not acting in accordance with Shariah (Islamic) Law.[47] A more liberal interpretation of riba is that it entails only usury.

Islamic home loans are still very modestly represented in Australia; nevertheless, the product is increasing in relevance in other parts of the world.[48] Of the developed countries, Islamic home loans are most common in the UK. The rest of this section will present experiences with, and constraints and characteristics of, the Islamic home loans presently available in the UK.

Ahli United Bank is a well-known underwriter of Shariah compliant property finance in the UK. The bank offers two home loan products, Murabaha and Ijara, under the brand Manzil. These home loan products differ from a conventional home loan in that they do not formally include payment of interest rates by borrowers. Ahli United uses a council of advisers on Islamic law to ensure that their products are Shariah compliant.

Murabaha is also referred to as a cost-plus-finance type of Islamic home loan product and has been offered since 1997. With this product a borrower chooses the property and the bank commissions an independent valuation of the property. Once the banks is satisfied as to the value of the property, it requires a 20 per cent down payment on the value of the property i.e. it allows the maximum LVR of 80 per cent. This, of course, does not mean that the bank will automatically borrow so much. Instead, the bank will investigate the potential borrower's

financial position and will lend up to 2.5 times the income for sole applicants, subject to approval from the bank's credit committee. If the bank is happy to borrow the required amount, the bank purchases the property, exchanging contracts with the property owner, and then immediately resells the property to the borrower at a higher purchase price. The bank sells the property to the borrower for a higher price than it paid for it, thereby covering the necessary interest payment and its profit margin. A part of the contract is that the borrower will have to pay fixed monthly payments over a period of up to 15 years, to pay for the property. Therefore, the final result is that, at face value, these payments attract no interest, and are merely fixed, equal payments of a proportion of the price for which the bank sells the property to the borrower.

In contrast to Murabaha, Ijara is a lease-purchase finance facility. This product has been offered since 1999. As with Murabaha, the product comes with a maximum LVR of 80 per cent. It is termed to be suitable for a broader range of borrowers, such as first home buyers, refinancers and investors. Being a lease-purchase finance arrangement, it consists of a lease with promise to buy. The concept is that throughout the term of the loan, the bank owns the borrower's property, which it sells to the borrower at the end of the term for the same price at which it originally purchased it. Hence, the borrower gains from any increase in the value of their property over the term of the loan. The borrower, on the other hand, is required to make monthly repayments, which contain three elements: lease payment or rent,[49] payment toward the cost of purchasing the home and insurance rent.[50] The bank then collects fixed monthly repayments, which are reviewed each April to reflect the amount repaid and the return that the bank receives. The standard term is 25 years. Unlike Murabaha, Ijara allows borrowers to make lump sum payments in order to reduce the monthly outlay.

Being a relatively new practice it is not surprising that Islamic home lending is facing significant barriers. For example, stamp duty of between one and 3.5 per cent was levied twice in the process of purchasing a home using Shariah law-compliant Islamic home finance products in the UK before 2003. The situation transpired because such products technically require the property to be purchased twice, once by the bank and then again by the borrower. Furthermore, the costs of these home loan products are further increased by the associated tax obligations relating to the two sales. In April 2003, the UK government, through its budget, announced reforms to free purchasers of Islamic home finance products from the payment of double stamp duty. The changes took effect in December 2003.

Moreover, government agencies are working to remove the remaining barriers in response to lobbying by the home loan industry. For example, lenders that provide this kind of lending are currently required to hold higher capital for Islamic home loans compared to conventional home loans.

4.4 Home loan products by major purpose type

The purposes of acquiring a home loan can be:

- the purchase of home to live in
- the purchase of a house as a rental investment
- the construction of a home
- refinancing upgrading

This classification pertains to the home loans already discussed in the previous section, but this time viewed from a different viewpoint (the main purposes of acquiring a home loan). Bearing in mind that home loans have been almost completely commoditised and that the home loan market can be termed a buyer's market, the intended purpose of the home loan is an exceptionally important consideration of lenders.

Different home loans are generally viewed as being more suitable for particular purposes. This does not mean that other home loans cannot be used for the same purpose, but that some home loans may be more suitable compared to others. This is primarily reflected in the home loan interest rate applicable and eligibility criteria that lenders impose. For example, a FHB seeking to take out a fully flexible home loan such as a LOC home loan, might not be eligible or would be paying significantly more for the funds borrowed than if he/she had opted instead for a low flexibility home loan such as BHL.

4.4.1 Owner-Occupied Home Loans

Owner-occupier home lending targets borrowers who intend to occupy the premises. It can be further subdivided into first-time home buyers and subsequent home buyers. First-time home buyer products, in addition to funding purchase of a property, specifically focus on the cash flow and affordability needs of borrowers. First home buyers are borrowers who are in the market for the first time, probably at the beginning of their careers and probably with average or below average family income. Therefore, first home loan buyers are typically characterised as being primarily driven by competitive rates and fees, looking for simple "no

frills" products, very happy to receive any additional advice and definitely with a need to trust the organisation that is providing the service. It is commonly accepted that BHLs and introductory home loans are the best fit for this category of borrowers.

Subsequent owner-occupier home buyers are much more difficult to categorise and their needs will depend on their stage in the customer life cycle. For example, young professionals who have recently purchased their first home and then sold it to move to another area will be extremely similar to first home buyers. However, more experienced professionals who have paid off their first home and now intend to rent it and are looking for new home to live in, will most probably be more inclined to consider a more flexible home loan such as an offset or LOC home loan.

4.4.2 Investment Home Loans

Investment home lending borrowers are home buyers who are purchasing housing property for investment purposes. These are generally better off borrowers who already have owner-occupied property. That, of course, may not always be the case as they may be people who rent and decide to buy a property for investment purposes.

Generally, in Australia, all home loan products are allowed to be used for both owner-occupation and investment purposes. The major difference between investment and owner-occupier borrowers is that very often investors are solely focused on expected capital gains and are happy not to repay the home loan in full until the time they sell the property. Therefore, it is generally accepted that the most suitable product for these borrowers are fixed rate IO products, with interest payable annually in advance.

4.4.3 Construction Home Loans

A Building in Course of Erection (BICOE) loan is available to borrowers who require funds to build a property on vacant land. BICOE loans are progressively drawn down at each stage of building construction after receipt of the relevant construction invoices by the lender. These loans are normally available for all types of home loans, with the exception of low-documentation loans.

4.4.4 Refinance Home Loans

Refinancers generally represent much more experienced borrowers, looking for competitive functional offerings. They require excellent service and very functional products that can satisfy a wide spectrum

of financial needs. Price generally is not the deciding point for these borrowers; however, it plays an important role. Therefore, a combination of competitive prices, value added product offerings and timely communication of the pricing strategy is the mix that will be successful with these borrowers. In Australia, this borrower segment is almost completely controlled by major banks and its needs primarily fulfilled through various financial packages.

4.4.5 Upgrader Home Loans

Upgraders are defined as value adding existing borrowers who are looking for further opportunities and have increasing needs for financial services. Depending on their stage of the life cycle, borrowers' needs will change and thus different home loans might become more suitable. For example, first home buyers after several years of maintaining a BHL or introductory home loan and with an increase in their accessible income will most probably look for more functional products such as offset and LOC home loans via stand-alone offerings or through various financial packages.

These borrowers typically require full flexibility, such as being able to increase the loan amount, make extra repayments and have the funds accessible whenever they want without being excessively charged for it. Being in that mind set, it is not surprising that they generally also require full portability. Recent literature indicates that there are several triggers which set borrowers on this path, the more relevant ones being the birth of children, promotion, marriage and divorce.

4.5 Home loan products by distribution segment

The importance of this classification lies in the fact that choice of the particular home loan distribution channel (i.e. means used to deliver the product to the borrower) significantly influences the costs of providing home loans and thus home loan pricing. As borrowers continue to demand increasing accessibility and better service quality, home loan providers must continue developing, among other things, more convenient and efficient channels of service delivery. The widening distribution network that now serves the home loans market with such a broad base of opportunity is reflected in an encroaching commodity based philosophy of the product. This is expected to continue at an even more rapid pace in the future as electronic means continue to diminish the need for borrower-lender interactions.

Home loan distribution can be done either via a direct channel or indirectly via a third party channel. The direct channel, as its name states,

involves direct distribution to borrowers by the providers of credit while the third party distribution channel implies distribution via intermediaries, such as brokers and introducers.

Previously, different distribution channels were serviced by exclusive home loan offers. Nevertheless, in the last several years, due to technological advances and increased competition, all channels become capable of handling all home loans on offer. Therefore, instead of focusing on providing different home loan products via different channels, lenders have instituted differential pricing strategies for different channels. The limited research available regarding the effectiveness of this approach indicates that younger borrowers tend to be more receptive to alternative distribution means while mature borrowers tend to be less receptive.[51] Furthermore, there are strong indications that the shift toward an emphasis on alternative delivery means may prove beneficial to both lenders and borrowers. While the increasingly competitive environment is viewed as the dominant driver behind lenders' development of alternative delivery means, at the same time they may provide significant cost benefits to lenders.[52]

4.5.1 The direct channel

The direct channel represents a combination of traditional and contemporary distribution means (such as branch network, mobile sales force and, recently, telephone and Internet) where the lenders are directly in charge of the distribution. Lenders have traditionally placed the branch at the centre of their home loan businesses. Historically, other means and channels were developed with the primary aim to support, rather than replace, branches. Even the organisational structure previously adopted by banks, and to some extent in place even today, reflects the underlying assertion that branches were a central driver of product distribution. Whereas in the past the bank branch was the dominant, if not the only, distribution network for selling home loans, currently a number of different networks are increasingly used and continue to erode the branch's dominance. The cost of a branch staffed network is substantial and the subject of ongoing debate and attempted rationalisation. The response of most banks has been either to cut branch costs by reducing the number of branches or to explore more direct processing costs for home loans. For example, Westpac has invested in a home loan processing centre in Adelaide and NAB attempted the same unsuccessfully with the purchase of HomeSide in 1997.[53]

Compared to branch distribution, even with the addition of transportation and other mobile lending costs (such as laptop facilities, mobile

phones, etc.), the bank's mobile lender distribution represents a significantly cheaper distribution option, being around three times more productive. Therefore, it is not at all surprising that many lenders have been keen to embrace this distribution option.

As banks move away from a conventional branch-based retail banking framework toward the utilisation of alternative delivery options, the importance of telephone banking becomes increasingly evident. Whereas former telephone banking services offered little more than borrower inquiry services, current tele-banking centres provide round-the-clock account and product access. Not surprisingly, the most recent research on the topic suggests that many institutions are establishing call centres. Banks that provide telephone banking services typically offer a full range of home loan products through their tele-banking centres. Lending over the phone is a way to counter problems such as excessive bureaucracy, extended borrower wait times, long loan approval procedures and inconsistencies in borrower interactions. These days, borrowers can apply for a loan via the telephone and receive a preliminary decision in minutes. Nevertheless, it is important to note that lenders still rely on the mail or a branch visit to complete the loan fulfilment. Importantly, from the lenders' point of view, call centres are able to handle greater loan application volumes than branches.

4.5.2 The third party channel

The concept of third party selling has evolved from the more traditional "brokers" to include "introducers" such as accountants and real estate agents. As already mentioned, at the early stage of development of this distribution segment, providers of home loans attempted to develop and use special home loan offers for this channel. These early offers, compared to the direct distribution channel, were generally characterised by lower functionality. This was primarily done by lenders trying to limit their risk exposure, as the segment as whole was viewed as having significantly higher risk associated with it. The perception of higher risk exposure primarily arose because providers of the credit were without full control of the whole lending process. However, attempts to limit the product's availability were unsuccessful, mainly due to ever-increasing competition in the home loan market and the enormous increase of the importance of the third party home loan market.

Within the UK, home loan brokers are categorised as "intermediaries" and are grouped alongside estate agents, life assurance companies and financial advisers. In Australia estate agents, life assurance companies

and financial advisers belong to a group called "introducers", who only perform referral services and for that charge a referral fee.[54]

Compared to introducers, brokers additionally offer benefits to borrowers in the form of advice. The major reason for this view is that most market participants agree that there is still an upside to the broker market, primarily because there is an increasing need for advice (due to the increasing complexity and multitude of home loan products offered) and because brokers are more readily available to prospective borrowers (typically a broker is contactable 24 hours a day, seven days a week, whereas a branch lender is available only during regular bank hours).

The importance of the channel is further confirmed by research conducted by the Council on Financial Competition (2005), which indicates that loans originated through the broker channel tend to be slightly larger than home loans originated through the traditional direct channel, with no material differences in terms of credit quality or borrower demographics. The same research also talks about payments to brokers for their services to lenders and specify that most banks in Australia pay between 0.65 and 0.70 per cent in upfront commission (typically payable at the time of the home loan settlement as a percentage of the total loan amount) and between 0.20 and 0.25 per cent for trail commission (typically payable monthly as a percentage of the total loan amount owed) for broker-originated loans. Being such an important segment it is not surprising that almost all lenders have clawback clauses in their home loan broker agreements, which allow them to call back a portion of upfront commissions paid to brokers for loans, applicable to loans that churn (move somewhere else, normally to another lender) within 12 to 18 months of the origination date.

Yet another important fact relevant to recent development of the broker home loan market is that it is becoming increasingly regulated. Not surprisingly, most providers of home lending welcome regulation as a means of improving the quality of the broker service. Most banks have been actively involved through industry associations in pushing for accreditation and licensing of brokers.

4.6 Home loan products by interest rate repayment structure

With respect to the interest rate repayment structure, all home loans discussed in Section 4.3 can be viewed as having either IO or P&I repayment structures. This particular class of home loans is presented separately as it is heavily used for the lender's determination of most suitable

pricing strategy. For this reason, the summary characteristics of both IO and P&I payment methods, as well as the availability of both methods for current home loan offers in Australia, are briefly discussed in this section.

Currently, a large number of Australian home lenders, including the four major banks, offer both IO and P&I products, primarily as a part of their FRHL, BHL and/or SVRHL products. Generally, IO periods do not exceed five years, excluding LOC home loans.

4.6.1 Interest Only (IO) Home Loans

Typically, IO payment options are most in demand by borrowers in areas where home prices exceed national averages and are rising rapidly, as they allow borrowers to make IO payments for several years. In general, IO functionality attracts a niche segment as IO borrowers are typically more astute investors. The principal target market for the typical IO product is represented by property investors who wish to maximise their negative gearing with a competitive "no frills" IO loan, either variable or fixed rate. Not surprisingly, some owner-occupiers also demand the product, as it provides them with a competitive loan option and the ability to preserve principal repayments as extra cash for other purposes. As of the last few years, and primarily due to increased competition, home loan providers typically do not charge a premium for the IO feature.

4.6.2 Principal and Interest (P&I) Home Loans

The major characteristic of P&I home loans is that their repayment structure is comprised of two elements, namely interest payment and repayment of a portion of the principal debt. Therefore, compared to IO loans, P&I loans are amortised over time and are, eventually, depending on the loan term, expected to be repaid in full.

4.7 Home loan products by conformation status

From the point of view of conformation status, all home lending can be divided into conforming (prime) lending, and non-conforming (sub-prime) lending. This classification is primarily based on loan processing and the risk exposure faced by the providers of credit.

4.7.1 Conforming (prime) Home Loans

Conforming (prime) lending borrowers are those who exhibit a risk of default that is characteristic for traditional lending borrowers and who

can satisfy all standard home lending conditions. These conditions are explicitly discussed in previous sections of this chapter.

4.7.2 Non-conforming (sub-prime) Home Loans

The non-conforming (sub-prime) market is a relatively recent development and as such the market still does not have a standardised definition. A comprehensive definition is provided by the USA Federal Deposit Insurance Corporation (FDIC), which asserts that there are the following four categories by which a borrower is categorised as a sub-prime loans candidate:

- Borrower's credit history i.e. borrower's previous payment experiences, indicate substantial default risk,
- Monthly housing expenses of the borrower typically do not exceed 28 per cent of pre-tax monthly income and housing expenses plus other loan payments do not exceed 36 per cent of pre-tax income for prime borrowers,
- One portion of the sub-prime home loan market, known as "low doc" or "no doc" market, involves the extension of credit to those who cannot or do not provide evidence documenting the borrower's ability with pay stubs, tax records and other financial documents and
- Terms of the loan for rated borrowers are not met. For example, lenders typically lend no more than 80 per cent of the home's value unless the homeowner also purchases private home loan insurance. Home loans with loan to value ratios higher than 80 per cent that do not have home loan insurance or other type of credit enhancement are often rated sub-prime.

Non-conforming lending can be subdivided according to the level of non-conformance into the categories of "impaired credit" and "mild non-conforming". The first category, impaired credit, refers to the term used to describe people with a history of credit problems such as court judgements, arrears and bankruptcy. The other category is the so-called mild non-conforming category, where the term is used to describe borrowers who may not have an adverse credit history but whose financial circumstances make it difficult for them to get credit. The mild non-conforming category will primarily apply to borrowers who are self-employed, experience uneven cash flows, have difficulty in separating their personal and business cash flows or who do not have up-to-date financial statements. It is important to note that the literature regarding

this topic is still underdeveloped and both terms are frequently used to straddle both categories.

Impaired credit borrowers would generally be offered only a limited number of less functional products at higher interest rates. The interest rate premium charged depends on the level of credit impairment. This is the case because the financial institutions providing the credit would look to compensate themselves for an increased level of risk. However, mild non-conforming lending generally refers to a credit application procedure targeted at self-employed people or business operators who have income and assets but do not have available the normal financial documentation required at the time of application.[55] This product is thus designed to target creditworthy applicants i.e. although not fully conforming, it is in no way designed to accommodate impaired credit borrowers.

This functionality is available on certain products rather than being a product in itself. For example, NAB offers a low-documentation product as an added functionality to the following home loan products: SVRHL, 100% Offset, FRHLs and FlexiPlus home loan. Eligible applicants must meet all the qualifying criteria, except the normal requirement to provide a full set of documents. For these loans, the total of all aggregate lending facilities typically cannot exceed a LVR of 80 per cent with mandatory LMI for loans with a personal or personal investment purpose. For example, HomeSide's version of a BHL low-documentation product is their Plain and Simple Home Loan, which comes with an optional low-documentation feature and is only offered through the broker channel. The major characteristics of the product are illustrated in Table 4.6.

It is also important to note that first home buyers are not typically eligible for the low-documentation option. The possibility that borrowers may take an advantage of this product to obtain a loan while avoiding declaring their true tax/financial position is a significant concern for lenders. To avoid this, almost all lenders insist that at least one of the applicants for the low-documentation loan must be self-employed and must hold a current Australian Business Number (ABN).

The following factors are most commonly quoted as factors that have contributed to the growth of sub-prime lending in the last decade: increased competition; relaxation of regulations; better risk analysis tools, such as credit scoring; and improved technology, such as online services and telecommunications.[56]

Table 4.6 HomeSide's plain & simple product features

Feature	**Characteristic**
Loan type	Plain & Simple: P&I and IO
Purpose	Residential & Investment
Application fee	$600
Interest rate	90bps above Plain & Simple variable rate Loan reviewed after 2 years – if applicant has met loan terms and criteria, the loan will revert to Standard Variable rate of the day.
LVR	Less than 80% in metropolitan areas Less than 70% in regional areas
Mortgage insurance	LMI not required
Valuations	Full valuation required for LVR higher than 65% Kerbside (visiting the property by the accredited valuer) for LVR less than 65%
Documentation requirements	The following documentation requirements are mandatory: – Signed Customer Certification Form confirming prospective borrowers' income and ability to service the loan, – Confirmation from accountant of borrowers' ability to service loan. Confirmation will be via letter from accountant (on company letterhead) or preformatted form provided by HomeSide. – Loan statements from current or recent (last 12 months) home loans are required and must demonstrate customers' ability to satisfactorily service an existing or recent home loan.
Type of security	Loan security must be one or more single residential dwellings, either owner-occupied or investment and must be located in a capital city metro or major regional centre as per current policy. Inner city policy is to apply.
Borrower eligibility	Borrower must be self-employed or employed in job for at least 2 years. Borrower & Mortgagor must be identical – no guarantees or third party loans allowed except where the guarantor is a spouse/partner or de facto of the applicant. Borrower Certification must be completed. Borrower not to be first home buyer. Borrower must have a clear Credit Enquiry Check.

Source: Extracted from www.national.com.au.

4.8 Conclusion

An interesting development, over recent years, is that an increasing trend toward home loan securitisation has contributed to increased home loan specialisation, which together with associated product commoditisation and ever-increasing competition, has created a home loan market that is increasingly a buyer's market.[57] As a result, home loan lenders are working hard to satisfy borrower demand by adapting products to meet the needs of a variety of borrowers. These products may include features such as shorter approval and closing times, adjustable-rate schedules and price incentives, as well as more convenient forms of delivery.

An additional consequence of ongoing product commoditisation is that home loans are becoming increasingly sophisticated. This is attributed to the fact that borrowers are becoming increasingly demanding, in particular with regard to so-called "hassle factors". Yet another interesting observation regarding home loan borrowers is that borrowers' lifestyles are changing. Job security is diminishing and divorce rates are high, all of which explains an increased demand for more flexible home loan products. It is not surprising that loyalty to a single financial institution is declining, as borrowers are increasingly willing to look beyond their primary provider for a better deal, i.e. lower interest rates, better service or both. Consequently, to attract new borrowers, many institutions are advertising easy transfers, price discounts and reduced paperwork.

Research conducted by the Council on Financial Competition (2004) showed that instead of the situation of the past, when the banking industry invested heavily in borrower risk management technology to strengthen cross-sales success, these days banks are concentrating on their distribution channels and product packages to optimise the borrower experience. Contemporary home loan providers are expected to develop flexible, relationship-based product bundles, which combine current accounts, savings, other loans and home loan products that grow with their borrowers. Currently, among financial professionals, there is a consensus view that the most innovative financial institutions will be those which meet and exceed borrowers' high expectations in terms of accessibility, personalisation and innovation in product and service bundling and distribution. In addition, lenders which are able to demonstrate competence in advice delivery, clarity in product presentation and product package development which meets the full spectrum of borrowers' financial requirements will be seen as truly innovative and continuously successful businesses.

Table 4.7 Major characteristics of home loan markets in selected countries in Asia Pacific

Australia	– Interest on home loans is not tax deductible. – Lines of credit and flexible mortgages are available.
China & Hong Kong	– Interest on home loans is tax deductible. – In 2001, down payments could be as high as 30%. – In 2003, People's Bank of China recommended minimum down payment thresholds of 20% for first home purchase and that the reserve bank increases the down payment requirements for luxury housing from 20% to 50%, in order to reduce property speculation on the mainland.
Japan	– Home loan interest is not tax deductible; new homebuyers receive a tax credit for six years. – Customary down payment is 10% per cent. – Fixed rate home loans of 3, 5, 7, and 10 years are available; borrowers then have the option to select another fixed rate at current market interest rates or select a floating rate.
Malaysia	– Interest payments are not tax deductible. – A May 2003 promotion, the Meda 48 Incentive Plan, allows buyers to pay a 10% down payment and the remaining 90% in 48 instalments over four years with no interest charges.
Pakistan	– In June 2003, Shaukat Aziz, Federal Minister for Finance, proposed that all profit or interest on home loans be an allowable income tax deduction. – Interest payments up to a set level (Rs. 100,000) are tax deductible. – Down payments for builders are approximately 40%.
Singapore	– Down payments are generally 20%; in 2002, the government began allowing down payments of 10%.
Thailand	– Standard tax credit (Bt 50,000) for home loan owners. – Bank of Asia is offering three home loan options for potential homebuyers: first two years at a fixed 2%, the first three years at a fixed 3% or the first five years at a fixed 4.25%. – Siam City Bank is allowing homebuyers to pay the down payment in instalments for three years. If clients can pay it back, it will offer them a home loan at a special interest rate. – Government Housing Bank offered a down payment period for up to 18 months without charging interest; typically 10% of the total price.

Source: Extracted from Council on Financial Competition (2003).

Table 4.8 Major characteristics of home loan markets in selected countries in Europe

Denmark	– Offers 10–30 year fixed rate home loans. – Only country in the world (other than US) where consumers can fix their home loans at loan origination for the life of the loan and refinance or cancel without any penalties. – All home loan lending is financed through the issuance of home loan backed bonds (MBBs) that are listed on the Copenhagen stock exchange.
France	– Home loan interest is tax deductible. – 30–40% typical down payment. – 15-year, fixed rate loan is most common home loan. – Investors rely more on credit reputation and capacity to pay rather than collateral value of the property. – Prepayment penalties are waived only if a property is sold as the result of the borrower losing a spouse. – Unemployment or employment related relocation.
Germany	– Home loan interest is not tax deductible. – Down payment is typically 35 to 40%. – Fixed rate terms available for periods from 1–10 years; prepayment prohibited for fixed term home loans. – Common practice for lenders to charge a yield maintenance fee in association with early redemption on fixed rate home loans. – Low overall homeownership rate (40%).
Italy	– Home loan interest is tax deductible for first-time home buyers. – Average down payment of 50%. – Typical duration of loan is 10–15 years. Main types are reference and fixed rate home loans.
Netherlands	– Home loan interest is tax deductible. – Home loans usually have a maturity of 30 years with the interest rate fixed for a period of between 5 and 20 years. At the end of each fixed rate period, the home loan rate is reset to the market rate. – Closing costs are approximately 25% of the price. These are composed of a value added tax of 17.5% legal transfer costs of 6%, real estate agent fees of 1.5–2.5% and notary fees of 1.5%. – Prepayment penalties exist, but are not significant.
Ukraine	– Down payments of up to 30%. – Most banks offer 5–10 year home loans. Some banks offer promotional 30 year, inflation adjusted fixed rate home loans.
United Kingdom	– Average down payment for a first-time house buyer is 13%. – Reviewable rate home loans are dominant (whenever market rates change, the home loan company reviews the borrower's interest rate and decides whether to impose a new one). – Different types of loans include buy-to-let loans, flexible home loans and current account home loans price.

Source: Extracted from Council on Financial Competition (2003).

The purpose of this chapter has been to provide a detailed account of various contemporary home loan products. After reviewing the more relevant home loan products from a number of different perspectives, it was clearly observed that different home loan products have a number of varying characteristics (such as tenure, purpose, functionalities, interest rate repayment structure and distribution). What is important to this project is that most of these characteristics materially impact on the determination of the home loan interest rate; hence, different home loan products will most likely have materially different interest rates. Consequently, it is important to note that housing affordability (especially if the housing affordability measure is based on home loan repayments, see Section 5.2: Home loan affordability measures), among other things, depends on the selection of home loan product. As such, even simple thing like more learned selection of home loan product may notably improve housing affordability.

In closing, it should be noted that home loan markets and products also differ markedly from region to region and country to country. While one country offers home loan products with a long-term fixed rate, few other countries offer fixed rate home loans for periods of greater than 25 years. Furthermore, down payments are often significantly different and interest rate payments are not always tax deductible. To illustrate the spectrum of differences currently present in home lending environments in different countries, Tables 4.7 and 4.8 summarise the major peculiarities of home lending environments in selected Asian and European countries.

5
Contemporary Housing Affordability Measures

5.1 Introduction

As previously outlined, this book has two main purposes: (i) to review a range of available approaches for the measurement of housing affordability and (ii) to examine the evidence for housing affordability in Melbourne, Australia. This chapter focuses on the first purpose i.e. reviewing a range of available approaches for the measurement of housing affordability. It should be noted that the focus of this book is on housing affordability in metropolitan areas and not in rural and regional areas where the issues concerned may, to a certain degree, be dissimilar in nature and scale. This exemplifies the fact that the housing market as a whole is comprised of a string of different housing markets segments.

Access to reasonable housing is uniformly viewed as a basic need and necessity for maintaining an acceptable standard of living.[1] Among other things, reasonable housing should provide warmth, security and facilities for cooking, sleeping, entertainment and privacy to all members of the household. In developed countries, it is commonly accepted that housing should be affordable to people from all socio-economic strata. It is therefore understandable that the provision of decent and affordable housing has been seen as an important tool in tackling social exclusion or to maintain social cohesion (Berry, 2003; Frazer, 2005). To do so, it is of utmost importance to be able to identify groups experiencing housing affordability problems. The spatial, economic, environmental and social inferences of housing affordability are complex. The cheaper and more affordable housing tends to: be located in areas with lower facility standards; be further away from the metropolitan area's employment centres, education facilities and hospitals; and have limited access to public transport.

A widely used approach to identify households in housing stress is to employ financial indicators. This book adopts this approach i.e. it sees the measurement of housing stress as the financial aspect of the housing problem.

Homeownership is the most common and most desired form of housing in Australia; yet for many, it has been increasingly unaffordable. To a certain degree, housing affordability may well be an issue for all families regardless of their financial position; nevertheless, accessing accommodation that is reasonably adequate in standard and location is of the most concern to lower and middle-income families. Lower and middle-income families are typically defined as families that belong to the bottom 60 per cent of all families' income distribution.

According to the ACTU (2007), with respect to family income distribution, all families can be divided into:

- very-low-income families
- low-income families
- middle-income families
- high-middle-income families
- high-income families

Very-low-income families are described as families in the bottom 20 per cent of the families' income distribution. Owning a home is, by and large, a distant dream for these families. Consequently, these families are typically renters in the private or public rental markets. Low-income families can be defined as those situated between the 20 per cent and 40 per cent marks in the distribution of family incomes, while middle-income families are those in the 40 per cent to 60 per cent range. In developed countries, families belong to both low-income and middle-income family groups are seen to be within the buying range. For example, in Australia especially, these families have been significantly affected by continuously increasing house prices. Consequently, many of these families are now forced to remain in rental accommodation for longer periods of time, attempting to save a deposit for the purchase of a house. On the other hand, high-middle-income families (those situated between the 60 per cent and 80 per cent marks in the distribution of family incomes) and high-income families (those situated between the 80 per cent and 100 per cent marks in the distribution of family incomes) do not normally face a problem in accessing a reasonable standard of accommodation in an acceptable location. Obviously, a higher proportion of income spent on housing costs is less likely to leave a

high-income household with inadequate resources to meet its non-housing needs than is the case for a lower-income household. The determination of whether or not a household will have sufficient resources to meet non-housing needs after paying for their housing costs will depend on specific household circumstances, such as household type, income, location and size.

In the most generic terms, housing affordability is defined by the interplay between costs to obtain a residential property (e.g. house prices, interest rates and rents) and available household incomes. It thus follows that any increase in house prices, interest rates and rents, without an adequate increase in available household incomes, will inevitably result in deterioration in housing affordability. Therefore, housing affordability problems arise when housing costs increase more quickly than household incomes. A good example of this is what happened in Australia between 1960 and 2006, when real house prices increased at an average of 2.7 per cent per annum while household real incomes increased at an average of 1.9 per cent per annum.

According to Yates (2008) the key determinants of housing affordability on both the demand and supply side are:

- the demand side:
  - real incomes,
  - real wealth,
  - household growth (in turn, affected by variables such as natural population increase, immigration and household formation),
  - tax concessions to both owner-occupied and rental housing,
  - concessions to FHBs,
  - returns on alternative investments,
  - cost and availability of finance for housing and
  - the institutional structure affecting housing finance provision.
- the supply side:
  - the availability of land,
  - land development processes and policies,
  - infrastructure costs (including development charges),
  - the cost of construction and
  - property related taxes.

Figure 5.1 clearly illustrates these two the key determinants of housing affordability i.e. the supply of and the demand for housing. The supply of housing is shown as exogenous while a host of other issues is indicated to influence housing demand. According to the

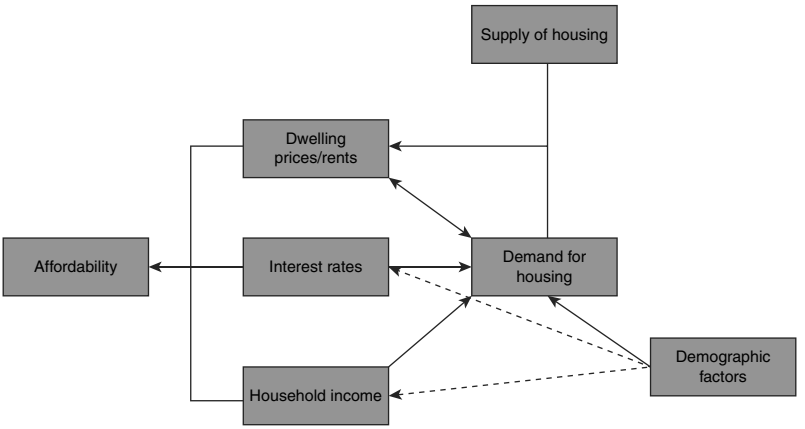


Figure 5.1 The key determinants of housing affordability
Source: Extracted from Productivity Commission (2004), Figure 1.1.

Senate Committee (2008), a number of issues have been identified as responsible for the increase in demand for homeownership, including: higher incomes and the increasing number of double-income households; decreasing average household size (e.g. due to later marriage, fewer children and the increased incidence of separation and divorce); population growth (both natural population growth and higher immigration rates); a decline in home loan interest rates; a low inflation environment; greater credit availability (both from banking and non-bank lenders); taxation system incentives (such as negative gearing[2] and capital gains tax,[3] which encourage investment in second and third properties); and speculative demand, which leads to the purchase of an investment property. In particular, the 2008 Senate Inquiry into housing affordability found that housing affordability in Australia has been a function of both strong demand and limited supply. A number of factors were identified as responsible for this, including: complex planning processes,[4] government taxes[5] and developer infrastructure charges.[6]

Similarly, DTZ Research (2004) has identified the following several factors that contribute to housing affordability:

- Income (both current and lifetime expected) – directly impacts on a household's ability to purchase a residential dwelling and make housing payments.

- Residential dwelling prices and rents – represents the level of payment that is required to secure housing.
- Interest rates (nominal and real) – determine the cost of borrowing for homeowners.
- Labour market conditions – affect a household's ability to participate in the labour market and earn an income.
- Mortgage and rent payments – directly impact on a household's ability to save and thereby increase their housing consumption in the future. This is especially relevant for households in the rental market who are looking to purchase a house.
- Supply constraints – may limit the ability of the market to respond to excess demand for housing.

As can be seen even from the short explanations provided, these factors are clearly interrelated. Labour market conditions directly affect people's current incomes and the certainty of their future income streams. On the other hand, mortgage and rent payments are determined by interest rates, house prices, rents and wealth.

Whereas affordability difficulties for house purchasers tend to receive the most media attention, typically the largest group of households experiencing affordability problems are not purchasers but renters in the private or public rental market. As we said earlier, in most low-income households, homeownership is not something even contemplated. The problems that renters face are amplified by competition with two groups of renters who can afford to buy a home but decide not to, namely: discouraged purchasers who remain in the private rental market and lifestyle renters.[7] These so-called "voluntary renters" have the potential to place increased pressures on the private rental market, particularly when vacancy rates are low.[8]

The continued strengthening of house prices and rents in Australia provides a clear indication of why housing affordability has persisted as headline news. According to Yates (2008), evidence from the last 50 years suggest that current housing affordability problems are not just an outcome of the post-2000 increases in house prices, rather they have arisen from pressures that have built up over a much longer period of time. It is commonly accepted that the housing affordability problem is cyclical i.e. recurrent from time to time, and each time an affordability problem surfaces, a reaction follows. For example, in Australia the housing affordability problem that emerged in the mid-1970s led to the establishment of the National Indicative Planning Council for Housing. The issue re-emerged in 1988/89 and provoked a national

study of housing costs. The housing unaffordability cycle peaked again in 2002/03 and that instigated a major government-induced report on housing affordability by the Productivity Commission (2004). Finally, the cycle peaked again in 2007/08 and led to a raft of federal government policy proposals for the homeownership and rental sectors.

The term "housing affordability" should not be confused with the other often used term "affordable housing". Affordable housing is typically interpreted as public, government-subsidised or low-cost housing. On the other hand, housing affordability is commonly related to a person's ability to pay for their housing (AHURI, 2007). It aims to help determine an ease the satisfaction of housing need is fulfilled. Another helpful statement about what housing affordability entails is provided by MacLennan and Williams (1990): "Housing Affordability is concerned with securing some given standard of housing (or different standards) at a price or rent which does not impose, in the eyes of some third party (usually government), an unreasonable burden on household incomes". The Urban Research Centre (2008) has provided the following description of affordable housing: "Affordable housing is housing that is appropriate for the needs of a range of low- to moderate-income households and priced so that low and moderate incomes are able to meet their other essential basic living costs".

An often used housing affordability measure is the one based on the ratio of house prices to household or individual income. Yates (2008) estimates a fourfold growth in this ratio between 1960 and 2006 in Australia.[9] As acknowledged by the Productivity Commission (2004), the major weakness of the house price to income ratio is that it totally ignores the cost of housing finance. For example, the approximately 40 per cent fall in real interest rates in Australia between the mid-1990s and 2004 was a significant driver of an increase in house prices (Abelson and Chung, 2005). As such, it largely counterbalanced the cost effect of the higher house prices and relieved housing affordability pressures.

Measuring housing affordability by the ratio of housing costs (defined in various ways) to household income can allow both house prices and the cost of housing finance to be considered. A number of authors have accepted the notion that a household is defined as being in housing stress if its housing costs exceed 30 per cent of its income. Within this framework, housing costs for renters are rental payments while for homeowners, housing costs are widely taken to be home loan repayments plus interest payments.

Despite the number of comments in the media and the regular publication of housing affordability indices by a number of institutes/

associations, overall it can be said that housing affordability is poorly understood. Regardless of the fact that it is widely accepted that there are affordability problems across Australia, there is no universally accepted definition of affordability or of a threshold beyond which housing is not affordable. In other words, currently there is no general consensus about the method of measuring this important public policy concept. Instead, there are a number of measures that attempt to measure housing affordability. Notionally, they can be divided into:

- Homeownership affordability measures:
  i. home loan affordability measures and
  ii. housing price-based affordability measures.
- Rental affordability measures.

The chapter is structured as follows: the next section discusses home loan affordability measures. Section 5.3 describes housing price-based affordability measures, followed by Section 5.4, which presents rental affordability measures. The chapter ends with Section 5.5, which provides a conclusion.

5.2 Home loan affordability measures

There are a number of home loan affordability measures which differ in their conceptual framework and estimation. As with other housing affordability measures, these measures enable comparison of home affordability over time and, among other things, may facilitate in determining when a certain market becomes overheated.[10]

Determining the level of how much household income can be absorbed by housing costs before such costs impose an unacceptable and unsustainable burden on the household budget is contestable as it is affected by a complex array of factors (Quigley and Raphael, 2004; and Gabriel et al., 2005). Indeed, the dominant viewpoint of home loan affordability measures is that they define "affordable housing" as housing which would not put the buyer into mortgage stress.[11] A typical method of measuring housing stress defines a household or a family to be in housing stress if it spends more than 30 per cent of its income on housing costs. According to Hulchanski (1995), there has been a shift in defining the housing cost-to-income threshold, from 20 per cent in the 1950s to 25 per cent until the 1980s and to 30 per cent now. In addition of being used to define housing affordability stress, the 30 per cent rule is also used by home loan lenders as indicative of how much a

household can borrow, and it is also used by real estate agents as a guide in determining whether a lessee can afford to rent a property. The simple rationale behind it is that if a household is paying more than 30 per cent of its income on housing costs, there is not as much income for other essential goods and services such as food, energy, transport, education and health (Nepal et al., 2010). Nevertheless, as observed by Nepal et al. (2010), there are a number of important variations to this rule that need to be considered: "Is the most appropriate measure disposable (after-tax) income or gross income? What are the implications of limiting the definition of housing stress to households in the bottom 40 per cent of the income distribution? How are the results affected if we exclude the 10 per cent of the population with the lowest household incomes?"

According to the Australian Reserve Bank Governor, Glenn Stevens (*The Australian*, 16 April 2008), the simple "30 per cent rule", without taking account of the income distribution, is misleading. The governor was of the opinion that the measure should be limited to those in the bottom 40 per cent of income earners. This view is also held by a number of other stakeholders advocating a "30/40 per cent rule", such as the Australian Department of Families, Housing, Community Services and Indigenous Affairs; the Australian Council of Social Services and a number of prominent academics engaged in housing research.

The most well-known measures of home loan affordability (the following are Australian-centric measures; other countries with established property markets have very similar or exactly the same equivalents) are:[12]

1. The New South Wales Government's Centre for Affordable Housing, Affordability Index (NSWCAHAI),
2. The Real Estate Institute of Australia, Home Loan Affordability Indicator (REIAHLAI),
3. The Commonwealth Bank of Australia – Housing Industry Association, Housing Affordability Index (CBA–HIA HAI),
4. The BIS Shrapnel's Home Loan Affordability Index (HLAI),
5. The National Affordable Housing Agreement, Housing Affordability Index (NAHAHAI) and
6. The Australian Bureau of Statistics' Measure of Affordability (ABSMHA).

Among other things, the discussion in this chapter is expected to contribute to the international debate on the question of choosing the most appropriate housing affordability measure. An examination of

each of the measures listed above for assessing housing affordability will show that each method produces a somewhat different result. Most of the measures attempt to assess ease of access to homeownership for an average FHB.

5.2.1 The New South Wales Government's Centre for Affordable Housing, Affordability Index (NSWCAHAI)

A mainstream ratio measure is based on the ratio of housing costs to household income, with the 30 per cent level being a benchmark (Rea et al., 2008). According to the New South Wales Government's Centre for Affordable Housing (2012), "Housing is affordable when households that are renting or purchasing are able to pay their housing costs (H_c) and still have sufficient income to meet other basic needs such as food, clothing, transport, medical care and education … housing is affordable if it costs no more than 30% of a household's gross income." The H_c are represented by the median home loan repayment. Household income (H_i) is typically measured as either average or median H_i. NSWCAHAI can be captured as follows:

$$\text{NSWCAHAI} = \frac{H_c}{H_i} \tag{5.1}$$

This index defines a household to be in housing stress if it spends more than 30 per cent of its income on housing. It is important to note that the relative income of the household (relative to income distribution) is not taken into account in this definition i.e. only the absolute income is considered when assessing the 30 per cent rule. This method is also known as the "30 per cent – only rule". An increase in the indicator indicates a relative increase in the proportion of H_c versus H_i, i.e. reduced affordability.

Typically, the "30 per cent – only rule" is known to show a very high proportion of purchasers in housing stress (Nepal et al., 2010). Yates (2008) sees this as a result of some very-high-income purchasers paying more than 30 per cent of their income on the loan voluntarily. Very-high-income households are in a financial position to do so without affecting the satisfaction of their other basic needs; hence, they opt to either select a more expensive house (knowing they can afford higher repayments) or pay higher loan instalments to pay off the loan earlier. These households can commit to a higher ratio (e.g. 40 or even 50 per cent) of their disposable income to housing costs because the residual income

component (e.g. 60 or 50 per cent) is still much larger than the remaining 70 per cent of a low-income household (Paris, 2007).

5.2.2 The Real Estate Institute of Australia, Home Loan Affordability Indicator (REIAHLAI)[13]

As shown in Equation (5.2), the REIAHLAI is a ratio between median family income (MF_i) and average new home loan repayments ($ANHL_r$).[14] In Australia, MF_i data is sourced from the Australian Census of Population and Housing. The most recent Census of Population and Housing was conducted on 9 August 2011. This was Australia's 16th national census, and marked 100 years of national census taking in Australia.[15] However, loan repayment figures are predominantly calculated from data provided by the ABS. The indicator's house price series are sourced from REIA's own house price series. The REIA has the longest running house price series in Australia.

$$\text{REIA HLAI} = \frac{MF_i}{ANHL_r} \tag{5.2}$$

The REIA indicator divided by ten shows the number of times that median family income exceeds average home loan repayments in a period. Obviously, an increase in MF_i (ceteris paribus) will result in increase in the REIAHLAI. The increase in the indicator represents improved affordability i.e. a relative increase in proportion of MF_i versus $ANHL_r$.

5.2.3 The Commonwealth Bank of Australia – Housing Industry Association, Housing Affordability Index (HIA-CBA HAI)[16]

As with all other indexes, in order to correctly interpret the HIA-CBA HAI it is important to understand what it aims to measure and how this is achieved. As with the REIAHLAI, with respect to this index, affordability is also defined in relation to the well-established "30 per cent rule" i.e. the premise that housing costs should not consume more than 30 per cent of a household's income. In other words, any higher proportion of housing costs' consumption of a household's income than this is considered to be unaffordable.[17] Subject to this constraint, the CBA-HIA HAI captures the relationship between household income and the home loan (mortgage) costs associated with homeownership. All other costs related to homeownership, such as land tax,[18] council rates,[19] repairs and maintenance, insurance and acquisition costs (such as stamp duty,[20] real estate agents' fees, etc.) are not included.

The CBA-HIA HAI is computed as the ratio between average full-time earnings (AFT_e) and qualifying income (Q_i). Q_i stands for the minimum income needed to service a loan based on the current median housing price and the market home loan interest rate. The ratio can be interpreted as the consideration as to whether a buyer with an average income could afford to purchase a median-priced typical first residential property. To calculate the index, the following two assumptions are needed: (i) that the buyer is providing a deposit (e.g. 10 per cent) and financing the remaining (e.g. 90 per cent) of the purchase price and (ii) that the buyer is obtaining a 25-year standard variable rate home loan (SVRLHL) with principal and interest (P&I) repayments paid on a monthly basis throughout the term of the loan.

$$\text{CBA}-\text{HIA HAI} = \frac{\text{AFT}_e}{\text{Q}_i} \tag{5.3}$$

The CBA-HIA HAI is primarily an income-driven measure looking at how many times AFT_e exceeds Q_i. It is important to note that the index focuses on FHBs and that an increase in the CBA-HIA HAI represents improved affordability. When the index equals 100 (the index is based to 100) an individual on an average income could just service a mortgage on a median-priced property and mortgage costs take up 30 per cent of their income. The CBA–HIA HAI divided by 100 shows the number of times that average household disposable income exceeds the minimum income needed to meet repayments on an average established dwelling. As with the REIA indicator, an increase in the CBA–HIA index represents improved affordability while a decline represents deterioration in affordability.

As implied above, the following three variables are necessary for the calculation of the index: the median price of established dwellings, home loan interest rates and individual incomes. The median price of established dwellings is sourced from quarterly CBA-issued home loans. The major issue with this data set is that it is a simple median which does not account for changes in the mix of size, location and quality of dwellings financed.[21] A further problem with the data is that although the data are collected from a major national lender, the data may not be representative of the whole market.[22]

A main advantage of this data set is that the time series are registered at the point where the CBA commits to providing the funds (the date of contract exchange).[23] Home loan interest rates are sourced from the Indicator Lending Rates published by the RBA in its regular bulletins.

Data are compiled from loans to owner-occupiers on the last working day of the month. Individual income data are sourced from the ABS's Average Weekly Earnings Report (ABS, 6302.0), which provides an estimate of the average full-Time (ordinary time i.e. excluding overtime) weekly earnings (AFTWE) for an adult (aged 21 and over).

5.2.4 The BIS Shrapnel, Home Loan Affordability Index (HLAI)

The BIS Shrapnel HLAI calculates typical housing loan repayments on a median-priced home (HLR_{mph}) as a proportion of monthly disposable household income (MD_{hi}). A typical housing loan is assumed to be a 30-year loan for 75 per cent of the median house price. Monthly disposable income is based on ABS data. An increase in the BIS Shrapnel indicator represents reduced affordability. The index is calculated as follows:

$$\text{BIS Shrapnel HLAI} = \frac{\text{HLR}_{mph}}{\text{MD}_{hi}} \tag{5.4}$$

An increase in the indicator represents reduced affordability, i.e. a relative increase in proportion of HLR_{mph} to MD_{hi}.

5.2.5 The National Affordable Housing Agreement, Housing Affordability Index (NAHAHAI)

According to KPMG (2011), the NAHAHAI calculates the proportion of homes sold/built that are affordable by moderate-income households. The index is calculated as follows:

$$\text{NAHAHAI} = \frac{\text{NAH}_{s/b}}{\text{TNH}_{s/b}} \tag{5.5}$$

where $NAH_{s/b}$ represents the number of affordable houses sold/built, while $THN_{s/b}$ represents the total number of houses sold/built.

An increase in the index indicates improvement in housing affordability due to an increased proportion of affordable homes in the market. As stated above, affordability is identified by reference to moderate-income households. A moderate-income household is one with equivalised disposable incomes around the 60th percentile of equivalised disposable household income. As with most other measures, housing costs are deemed affordable when mortgage payments account for no more than 30 per cent of household gross income. Furthermore, the indicator assumes that a 10 per cent deposit is made on the full

purchase price of the dwelling. Although the indicator allows for calculation of either homes sold or built, due to the limited availability of data regarding contracts completed for "owner built" properties, it is predominantly calculated on the basis of "sold" properties.

Home loan interest rates are sourced from the RBA's SVRLHL, averaged out over the year.[24] Furthermore, the indicator utilises actual sales data, as measured by the Valuers-General.[25] It is important to note that the value for the capital city in each state is calculated separately from the rest of the state/territory.[26] To obtain the national figure, all of these values are added together.

5.2.6 The ABS Measure of Housing Affordability (ABSMHA)

ABSMHA, as the name implies, is produced by the ABS and relates to homeowners with existing home loans. The data is compiled from the ABS Survey of Income and Housing Costs (SIH), which is conducted every second year. The ABS calculates housing affordability by relating housing costs (H_c), comprised of home loan payments and council rates payments, to gross household income (GH_i).

$$\text{ABS MHA} = \frac{H_c}{GH_i} \tag{5.6}$$

There are two variations of the ABS MHA, namely:

- the "30–40 per cent" rule measure and
- the "30/10–40 per cent" rule measure.

The "30–40 per cent" rule measure is a derived form of the "30 per cent–only" rule. Instead of referring to all households that spend more than 30 per cent of their disposable or gross income on H_c, according to the 30–40 per cent' rule, a household is said to be in housing stress if it spends more than 30 per cent of its disposable or gross income on housing costs, assuming the household also belongs to the bottom 40 per cent of the equivalised disposable income distribution.

More precisely, according to 30 per cent–only rule, the measure of affordability includes all households, regardless of their income level. Thus any household spending over 30 per cent of their gross income on housing costs was considered to be in housing stress. This measure was deemed inherently flawed because high-income earners can spend over 30 per cent of their gross income on housing and still have sufficient funds left over to pay for non-housing expenses.

On the other hand, according to the 30–40 per cent rule measures, the scope of analysis regarding how many and which households are in housing stress and at risk of experiencing housing affordability problems is purposely restricted to the bottom 40 per cent of the income distribution. This is done with the aim to eliminate households who voluntarily opt to have high H_c, when adequate and appropriate housing for lower H_c is available. Equivalised income is used to take into account the greater demands on after-housing income made by larger households. The major shortfall of the 30–40 per cent rule is that it takes no account of households whose housing cost constitute below 30 per cent of total household costs but who live in housing that may be substandard. Such households are also likely to experience hardship as a result of poor housing affordability even though they are not included in the indicator. The inadequate nature of housing may be because it is overcrowded, of a construction standard below community norms, or located far from work, transport and other social network facilities.

The 30/10–40 per cent rule is a less common variant which has been used by the ABS in the past. Compared to the 30–40 per cent rule, this approach goes one step further. In particular, this method limits the definition of housing stress to those households that are paying more than 30 per cent of household income on housing and belong to the bottom 10–40 per cent of the equivalised disposable income distribution. To calculate equivalised disposable income, the income of a household is first equivalised using the modified-OECD equivalence scale which assigns a weight of 1 point to the first adult, 0.5 to each of the remaining adults aged 15 years or over, and 0.3 points to each of the dependent children under 15 years in the household. Using this factor, the household's income is standardised, so all households have an income expressed relative to that of a single person household. The reason for dropping the bottom 10 per cent of the income distribution is due to the concern that the reported incomes of the households in the bottom 10 per cent of the income distribution are often not reliable in reflecting the living standards of those households i.e. their inclusion in the definition may lead to an overestimate of housing stress (ABS, 2005).

It should be noted that the 30/10–40 per cent rule definition excludes many public housing tenants from the group defined to be in housing stress. According to Nepal et al. (2010), the national housing stress rate for public housing tenants in Australia dropped from nearly 10 per cent using the 30–40 per cent rule to 1 per cent using the 30/10–40 per cent rule. The decline is explained by the fact that the 30/10–40 per cent rule excludes a large proportion of public renters who experience very low

incomes in the bottom 10 per cent of the income distribution. The prime reason these public renters qualify for public housing in Australia is that they are low-income families. Nevertheless, the amount they pay for rent is typically calculated as 25 per cent of their assessable income, which is more like gross income but excludes specific purpose payments (McNelis and Burke, 2006); hence, there should be no public housing tenants in housing stress (i.e. all of them have their housing need satisfied to a certain level – most often the lowest standard of housing).

Home loan repayments data are based on the ABS's quarterly index of established house prices in each capital city. The data is based on Valuer's-General data and data sourced from home loan lenders. From the March quarter 2002, the time point of the data was changed from the date of settlement to the date of contract exchange. This housing affordability measure is somewhat less quoted and used as it is neither timely, nor is it consistent with the other measures of affordability discussed thus far.[27] As implied before, a small number of households have reported nil or negative incomes in the ABS surveys. According to the ABS (2005) research, the expenditure of many of these households is similar to that of households earning much more; hence, these incomes are considered unreliable and are often excluded from any analysis related to income distribution and financial well-being.

5.2.7 Summary overview

The discussion thus far clearly shows that there is no common practice in measuring home loan affordability stress with regards to choice of housing cost composition, income type and income thresholds. Some studies have used gross income while others have preferred to use disposable income. Furthermore, there are differing approaches regarding the setting of income thresholds i.e. some studies look at all households without any additional condition (e.g. irrespective of their income level), others consider only these households that are in the bottom 40 per cent of the income distribution, and others argue for the exclusion of the households in the bottom 10 per cent of the income distribution.

Although providing a very useful indication of the underlying trend in home loan affordability, the housing affordability measures have a number of shortfalls. It is important to observe that the interest payments in these affordability indexes are based on nominal rather than real interest rates. The real cost of housing includes only the real component of interest rates i.e. it does not include that part of interest rates that represents inflation. This component is fully offset by an increase in the nominal market value of the home and in the homeowner's net equity

in the home. Moreover, the calculation of the indexes presented does not make an allowance for capital gains in house prices.

The Productivity Commission (2004) has identified a number of very important limitations of these affordability indicators. The commission states that the indicators do not accommodate changes in affordability that are the outcome of price changes instigated by enhancements in the composition of sales (size, quality and geographic location of houses traded) between periods. Yet another important limitation observed by the commission is their failure to account for changes in typical lending practices (e.g. a reduction in deposit constraints). Examples include the introduction of LMI for higher LVR ratio loans. This allows borrowers to borrow a larger proportion of the purchase price i.e. to cover all or nearly all of the value of a property. Furthermore, the introduction of home equity loans allows households to borrow against the existing already payed-off-home, and the introduction of more functional home loan products (such as 100% Offset and Revolving Line of Credit home loans) effectively reduce interest payments and/or enable interest-only payments. In short, borrowers previously unable to obtain finance to buy a residential property are now able to do so.

All of this has led the Productivity Commission (2004) to conclude that "the available indexes all suffer from methodological and data problems that preclude precise conclusions, particularly concerning first home buyers". Consequently, all the housing affordability measures outlined thus far should be used only as indicators of general trends. It should be noted that the different measures of housing affordability will provide significantly different estimates of the proportion of people in housing stress. This is a crucial point for users of this kind of research, e.g. government policy makers. As stated by Nepal et al. (2010): "A policy for affordable housing based on a 30-only rule might inadvertently provide affordable housing to richer households which may have capacity to service a larger mortgage repayment. In contrast, a policy based on a '30/10–40 per cent rule' may miss poorer households (the bottom 10 per cent of the income distribution) that have the greatest need for affordable housing." It is equally important to note that different definitions of housing affordability and housing stress can be used to drive a certain policy agenda. Hence, using objective theoretical and practical arguments to determine which housing affordability index to use is crucially important (e.g. for government policy makers to distance themselves from claims of political bias).

The most commonly quoted and reported home loan affordability measures in Australia are the REIA HLAI, the CBA–HIA HAI and the BIS Shrapnel HLAI. Table 5.1 provides a rundown of housing affordability

for the selected Australian states and capital cities for the three measures as of 2006. Each of the measures indicates that the least affordable home loans were in Sydney while the most affordable are either in Adelaide (REIAHLAI and BIS Shrapnel HLAI) or Hobart (CBA–HIA HAI). All the indexes show that over the past 20 years, the biggest decline in housing affordability has occurred in Perth, and the smallest decline in housing affordability occurred in Adelaide, with the latter, according to BIS Shrapnel, even experiencing a slight improvement in affordability during the observed period. Over the observed 20 years and according to all three measures, there has been a significant difference in housing affordability between states and capital cities, from 27 per cent for NSW in 2006 to 44.1 per cent for Tasmania in 1986, and, according to BIS Shrapnel's HLAI, from 86.3 per cent for Sydney in 2006 to 209.8 per cent for Hobart in 1996.

As shown in Table 5.1, the housing affordability trend since 1998 has been predominantly downward. By 2006, the indicator had fallen to

Table 5.1 Home loan affordability indicators – selected Australian states and capital cities, 2006

REIA indicator (a higher level indicates improved affordability)

June	NSW	VIC	QLD	SA	WA	TAS
1986	34.4	37.8	39.6	33.3	48.7	44.1
1996	31	40.9	33.5	38.1	39.7	39.7
2006	27	31.9	29.7	33.2	32.6	31.7

CBA-HIA index (a higher level indicates improved affordability)

June	Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart
1986	136.9	132.2	160.8	142.1	182.4	197.1
1996	111.2	157.8	150.5	182.2	168.9	209.8
2006	86.3	106	109.2	133	104.7	145.8

BIS Shrapnel index (a lower level indicates improved affordability)

June	Sydney	Melbourne	Brisbane	Adelaide	Perth	Hobart
1986	49	44.4	32.1	41	28.6	34.9
1996	44.8	34	30.1	25.6	26.9	26.4
2006	58.1	44.9	40.8	35.9	45.1	36.1

Sources: Extracted from Real Estate Institute of Australia, Home Loan Affordability Report; Housing Industry Association – Commonwealth Bank, Affordability Report; BIS Shrapnel.

30, a level worse than during much of the 1980s, when interest rates were considerably higher than they were in 2006. The fall in the indicators since 1998, despite lower interest rates, coincides with a time of rapid growth in house prices. Bearing in mind the problems relating to home loan housing affordability measures discussed before, as shown in Table 5.2, established REIA house prices have increased by more than three times.

Table 5.2 also indicates that the increase in house prices (325 per cent) has far outpaced both the cost of materials used in house building (increased by 91 per cent) and the general rate of inflation (increased by 104 per cent). The logical conclusion is that the major component of the increase in established houses prices is an increase in land prices. Another possible contributor is an improvement in the quality of housing (e.g. more spacious and better equipped).

As shown in Table 5.3, according to REIAHLAI, home loan affordability has improved considerably during 2009 and 2010 (increasing from 28.8 in the March quarter 2009 to 35.3 in the December quarter 2010).

Table 5.2 Housing index series increases, Australia 1986–2006

Index series	**June 1986**	**June 2006**	**Increase %**
Established house prices – REIA	25.5	108.4	325
Materials used in house building	55.9	106.9	91
Consumer prices	75.6	154.3	104

Source: Extracted from Tony Kruger (2006, p. 4).

Table 5.3 REIA HLAI, Australia quarterly 2007–2012

Quarter	**2007–08**	**2008–09**	**2009–10**	**2010–11**	**2011–12**
September	36.6	37.8	29	34.8	33.6
December	37.2	32.4	30.7	35.3	32.9
March	38	28.8	32.6	34.2	
June	39.5	28.9	34.6	34.6	
Annual average	37.9	31.9	31.7	34.7	

Source: Extracted from ABS (2012a) Housing Finance, Cat. No. 5609.0.

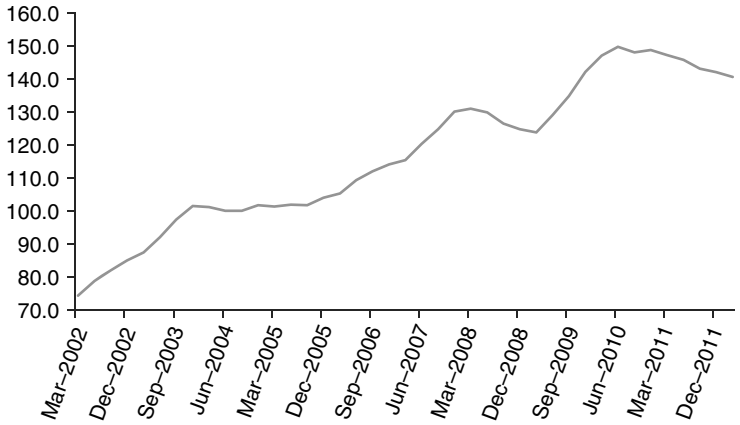


Figure 5.2 Price Index of Australian established houses, weighted average of eight capital cities, quarterly March 2002–12

Sources: Extracted from ABS (2012b) House Price Indexes, Cat. No. 6416.0.

This was due almost entirely to a reduction in home loan interest rates following the RBA's cash rate reduction to 3.00 per cent as at June 2009 and relatively stable house prices during the period (see Figure 5.2). The cash rate reduction and subdued house prices were caused by the effects of the GFC.[28]

Using the CBA–HIA HAI, Table 5.4 shows an overall mortgage stress rate of 26.9 per cent for Australia in 2006. It should be observed that this number would be somewhat higher had zero and negative incomes been included. As previously stated, it is common practice to exclude households with these sorts of incomes due to false reporting of incomes. As expected, stress rates are highest among low-income groups while the stress rate falls most heavily for middle-income groups. The major shortfall of this analysis is that the census numbers are based on August 2006 data, which by now may be considered out of date. Consequently, many analysts prefer to use the ABS Survey of Income and Housing for analysis at the national and state level.

In Table 5.5, the HIA has updated the ABS survey to August 2008 to incorporate income, price and interest rate changes since the survey was taken in 2005/06. Because the survey has proportionately fewer households with missing values, the stress number shown in Table 5.5 is much higher.

Table 5.4 HIA's distribution of mortgage stress (CBA–HIA HAI) across the population of Australian home purchasers, based on the 2006 census

Gross income range ($)	Stress rate (%)	No. of households	Cumulative (%)
1–149	97.4	10,011	1.9
150–249	83.4	17,567	5.1
250–349	75.3	26,314	10.0
350–499	61.5	18,938	13.5
500–649	64.7	74,860	27.4
650–799	53.6	66,009	39.7
800–999	43.4	67,901	52.3
1,000–1,199	33.6	94,282	69.8
1,200–1,399	23.7	39,197	77.0
1,400–1,699	18.7	47,594	85.9
1,700–1,999	13.1	28,159	91.1
2,000–2,499	8.9	20,404	94.9
2,500–2,999	9.1	17,652	98.2
3,000–3,499	6.3	4,920	99.1
3,500–3,999	5.3	2,737	99.6
4,000 or more	5.0	2,210	100.0
Total households in mortgage stress	**26.9**	**538,755**	
Total households with mortgages	*100.0*	*2,003,478*	

Source: Extracted from Housing Industry Association – Commonwealth Bank, Affordability Report.

Table 5.5 HIA estimates of mortgage stress by (CBA–HIA HAI) Australian capital cities and rest of state, August 2008

Gross income range ($)	No. of households	% of mortgagees
Sydney	225,832	40.0
Rest of NSW	93,374	31.5
Melbourne	159,423	31.9
Rest of Victoria	53,755	28.0
Brisbane	75,960	30.2
Rest of Qld	92,299	32.6
Adelaide	39,221	24.3
Rest of SA (a)	14,238	23.2
Perth	79,355	31.0
Rest of WA (a)	15,895	24.6
Tasmania	14,991	22.3
NT (a)	3,510	17.6
ACT (a)	13,036	23.6
Australia	**880,889**	**31.8**

(a) Subject to small sample sizes.

Source: HIA calculations based on updating the Australian Bureau of Statistics, *Survey of Income and Housing: CURF on CD-ROM/RADL, 2005–06 (Second Edition)*, cat. no. 6541.0.30.001, ABS, Canberra, 2008 to August 2008 values.

According to Breunig and Cobb-Clark (2006), Headey (2007), Headey et al. (2005) and Marks (2007), households with at least one of the following characteristics have a tendency to be in mortgage stress:

- households buying their first homes,
- lower-income households,
- high initial LVR ratio households,
- low-income single people,
- older Australians,
- sole parents and families with young children on low incomes,
- recent purchasers of home,
- low assets/wealth households,
- lower labour market participation (especially due to unemployment),
- jobs of lower occupational status,
- job loss,
- relationship breakdown and
- loan supplied in low documentation form.

Overall, the impacts of mortgage stress can be described as "complex". Among other issues, they include issues relating to the ongoing financial viability of the affected households, wider neighbourhood effects and a range of other psychological and social impacts.

5.3 Housing price-based affordability measures

Due to its simplicity, a housing price-based affordability measure not only enables a simple comparison of housing affordability within nations, but it is also often used for comparisons between international markets. More complex measures of housing affordability are commonly viewed to disguise the structural elements of house pricing and, hence, are not always well understood (especially by people who are not well versed in complex financial calculations and their interpretations).

The Demographia (2009) International Housing Affordability Survey uses the "Median Multiple" (the ratio of median house price and median household income) to assess housing affordability. The Median Multiple is probably the most frequently used measure out of all other housing price-based affordability measures. In particular, it is widely used for evaluating urban markets (among others, it is used by the World Bank and the United Nations).

The most commonly used housing price-based affordability measures are:

1. Sales by Price Segment, Housing Affordability Indicator (SPSHAI),
2. Affordability and Available Stock, Housing Affordability Indicator (AASHAI),
3. House Price to Household Income Ratios,
4. House Price-to-Rent Ratios,
5. Accessibility/Deposit Gap Method (ADGM), and
6. Homeownership Rates (HOR).

5.3.1 Sales by Price Segment, Housing Affordability Indicator (SPSHAI)

The SPSHAI assesses the extent to which ranges of housing prices (segmented into price-based segments) are obtainable within a particular geographical area. In particular, each geographical area is defined into a pre-specified price segment, and the number of sales for each pre-specified price segment is calculated over time and compared across different geographical areas. The analysis considers the following five (quintiles) price segments: low cost, low-medium cost, medium cost, high cost and the top end.

For example, Melbourne's SPSHAI can be calculated as follows:

1. Record price data: the Office of Valuer-General Victoria is entrusted to record price data for the Melbourne Statistical Division (MSD),[29]
2. Rank and divide data: the data, after being collected are ranked and divided into five equal segments and
3. Compute the indicator: having obtained the data the number of sales within each price segment (for each geographical area i.e. LGA and suburbs) is computed.

5.3.2 Affordability and Available Stock, Housing Affordability Indicator (AASHAI)

The AASHAI measures the number of dwellings accessible to different income groups. This is achieved by firstly dividing all household incomes within the analysed geographical area into deciles (ten equal segments). Secondly, at each decile point, the affordable house prices are calculated. Having calculated the affordable house prices for each decile point, it is possible to compare these affordable house prices with the prices of housing stock sold to determine the proportion of affordable sales i.e. available and affordable dwellings for each decile.

For example, Melbourne's AASHAI can be calculated in the following five steps:

1. Collect household income data: collect household income data from the 2011 Census (collected by the ABS) for a benchmark geographical area (e.g. Metropolitan Melbourne),
2. Divide and rank the collected data: divide the collected data into deciles and rank according to household income sizes,
3. Index the data: each decile is indexed by the CPI,
4. Calculate affordable house prices for each household income decile point on the basis of:
   a. the representative home loan interest rates for the specific time period analysed[30] and
   b. representative assumptions regarding home loans.[31]
5. Calculate the indicator: calculate the number of affordable dwellings available at the local market for each household income decile.[32]

5.3.3 House price to household income ratios

A house price to household income ratio is the ratio of median or average house prices to median or average gross or disposable income in a given geographical area. This is probably the simplest way to define housing affordability. Simply, this measure illustrates the multiple of household incomes needed to buy a dwelling. For example, according to the Productivity Commission (2004), the ratio of the median house price to average per capita income, for Australia as a whole, rose from about six in the mid-1990s to about nine in 2004. Similarly, Yates (2008) related house prices to individual rather than to household income and found a fourfold growth in the ratio between 1960 and 2006. A major shortfall of both of these reports is that neither of them define the affordability threshold i.e. house price to income ratio above which housing is affordable. A version of the same approach is utilised by the UK Office of the Deputy Prime Minister (2005) which defined affordability as the ratio of lower quartile house prices to household incomes.

Obviously, there are several different versions of this approach. All versions vary with respect to the way they define housing costs and household incomes. The most commonly used ratios are:

1. The ratio of median house prices (MH_p) to average annual household income (AH_i) and
2. Median Multiple – the ratio of median house prices (MH_p) to median annual household income (MH_i).

5.3.3.1 The ratio of median house prices (MH_p) to average (mean) annual household income (AH_i) – MHAH

To measure housing affordability in Australia Donnison (1976) conducted empirical analysis utilising the ratio of median house prices (MH_p) to average (mean) annual household income (AH_i). He reported the ratio to be less than three. Consequently, by assuming an acceptable threshold of three, Hayward (1992) in his analysis of Donnison's results stated that most households at the time could afford to purchase their own homes.

$$\text{MHAH} = \frac{\text{MH}_p}{\text{AH}_i} \tag{5.7}$$

In Australia, the HIA uses this approach to measure housing affordability. To collect AH_i, the HIA uses the ABS's Average Weekly Earnings (AWE) publication (ABS, 6302.0), which provides an estimate of the AWE for an adult (defined as being aged 21 and over) employed on a full-time basis. The ABS collects this data from the Australian Taxation Office (ATO), and the data are based on PAYG tax receipts.[33] It should be noted that the ABS's AWE data do not disaggregate further than the state and territory level. To disaggregate further and enable more detailed analysis of affordability across the country (in particular, to enable a comparison between capital city and regional area affordability, and at a capital city and rest of state level), extrapolation was conducted using proportions obtained from the Household Income and Income Distribution Survey (ABS, 2011c). Furthermore, the HIA assumes that the average household in Australia has more than one income stream. This assumption is based on the ABS's assertion that nearly 60 per cent of FHB households have more than one income earner.

On the other hand, MH_p data are sourced from the RP Data-Rismark Home Value series.[34] The data are based on Australia's largest residential sales database which is supplied by RP Data and captures 100 per cent of all homes sales transacted across the country. The data provide a capital city and rest of state breakdown.

5.3.3.2 Median multiple – the ratio of median house prices (MH_p) to median annual household income (MH_i) – MHMH

The Median Multiple is defined as MH_p divided by median household income (MH_i). Due to its simplicity, among others, this indicator is used by the World Bank and the United Nations. The Demographia

International Housing Affordability Survey also uses the Median Multiple to assess housing affordability.

$$\text{MHMH} = \frac{\text{MH}_p}{\text{MH}_i} \tag{5.8}$$

According to Demographia (2009), other indicators put less focus on the structural elements of house pricing and are frequently misunderstood outside the financial sector. They further claim that the main advantage of the Median Multiple is that: (i) it is an easily understood indicator of the structural health of residential markets and (ii) it allows for meaningful housing affordability comparisons. Demographia (2009) in its ranking of housing affordability in English-speaking countries in 2009 (Australia, Canada, Ireland, New Zealand, UK and US), found that Australia was the least affordable, with a dwelling price to income ratio of six, almost twice that of the US (3.2). With respect to cities with population of over one million, of the top ten least affordable cities, Australia had four. All of this suggests that the average Australian household is under significant stress to meet the cost of housing. In the US, the real estate company Realtor measures housing affordability using this measure. According to the latest Realtor (2012), the Median Multiplier (MHMH) for the US was 3.20.

5.3.4 House price-to-rent ratios

The most commonly used house price-to-rent ratio is the median house price to the average yearly rent ratio (MHAR). The MHAR is calculated by dividing the median house price (MH_p) by the average yearly rent price (AR_p), for the specified area. Other permutations are possible, such as relating MH_p to median yearly rent price (MR_p) and average house prices to AR_p. The MHAR and MH_p to MRp (MHMR) are the two ratios that are most often used. The MHAR is calculated as follows:

$$\text{MHAR} = \frac{\text{MH}_p}{\text{AR}_P} \tag{5.9}$$

The MHAR is regularly used to help decide between owning and renting properties in analysed areas (e.g. cities). The MHAR is also used for measuring undervaluation/overvaluation of property prices, calculated by dividing the gross rental yield by 100 so that the higher the yield, the lower the price/rent ratio. Property market prices, as with any other market prices, are known to sizeably fluctuate over time.

Prices are known to move in such a way that the MHAR will tend to revert to its average. Thus, if the ratio is higher than the historical average for the locality, there is a higher probability that the property price will decline or not rise as much as for a property where the MHAR was near the historical average. Vice versa applies, i.e. if the MHAR is low, then there is a greater probability that property's purchase would be a good investment.

Trulia established thresholds for MHAR as follows:[35]

- MHAR of 1 to 15 = much better to buy than rent,
- MHAR of 16 to 20 = typically better to rent than buy and
- MHAR of 21 or more = much better to rent than buy.

The ratio is seen as a tool to help an astute investor in determining the "value" of a property he/she is looking to purchase. For example, if a property owner is asking $200,000 and the monthly rent is $2,100, the rent ratio would be 7.9, hence according to the Trulia threshold the recommendation would be to buy.

According to AREI, the average rent ratio in 2009 in the US was about 20 while in 2012 the ratio reduced to about 13. Atlanta, Kansas City and Indianapolis are presently very attractive with foreclosure price ratios of between 6.5 and 7.8. Even lower ratios are known of and AREI classifies them as so-called "turn-key priced" properties. These properties have MHARs from as low as 3.8. Due to the profound impacts of the GFC, in 2012 Trulia found that in 98 of America's 100 largest metros it is cheaper to buy a home than rent.[36]

$$\text{MHMR} = \frac{\text{MH}_p}{\text{MR}_p} \tag{5.10}$$

Another very often used and similar way to calculate the price-to-rent ratio is to divide the median house price (MHp) by the median yearly rent price (MRp) for the specified area. An argument for using median figures instead of average is that the median is typically seen as being more representative than the average.

5.3.5 Accessibility/Deposit Gap Method (ADGM)

Although the ADGM measures accessibility via the deposit gap and the purchaser's ability to secure the necessary mortgage to purchase the selected property, it has been allocated within other housing price-based affordability measures since the major variable needed to calculate ADGM is house prices. According to Smith (2009), the main variables

used in calculating the ADGM are: house prices (H_p), pre-purchase costs (PP_c), purchaser savings/deposit levels (PD_l) and the households' maximum borrowing capacity (HMB_c).

$$PD_l = H_p + PP_c - HMB_c \tag{5.11}$$

The method can be visualised as the difference between H_p, adjusted by PP_c and the HMB_c. In other words, the ADGM only applies to homeownership and endeavours to measure the PD_l required to purchase a home, which will enable the purchaser to secure the necessary mortgage for the purchase. PD_l can be interpreted as the amount by which the average/median H_p exceeds the borrowing capacity of a household on an average income.

A practical conceptualisation of this measure is specified by Yates (2008), among others, who defined the deposit gap as an amount that a typical household (defined as a household on the annual equivalent of AWE) needs in order to purchase a typical dwelling (a dwelling with a price equal to the Australia-wide median). The calculation of this measure also entails assumptions regarding the debt service ratio (assumed to be at 30 per cent of income) and a loan term (a 25-year loan).

According to the Senate Inquiry (2008), the deposit gap in Australia in 2008 was at a record high. This implies an increased difficulty for people wishing to purchase a property to obtain it. The measure implicitly contains yet another important constraint, in particular: the longer a household defers the purchase of a home, the fewer working years they will have to repay their mortgage.

5.3.6 Homeownership Rates (HOR)

An alternative approach to assessing housing affordability is, instead of looking for the causes of changes in housing prices, rents and household income, to look at the consequences, i.e. to look at the actual outcomes of home buyers' decisions. One such outcome often discussed and of great political significance is the homeownership rate. Although, like the ADGM the HOR is not directly based on house prices, it has been allocated within other housing price-based affordability measures since house price is the major dependant variable for HOR.

The HOR is defined as the percentage ratio of owner-occupied dwelling (OO_d) units to total occupied dwelling (TO_d) units, in an area.

$$HOR = \frac{OO_d}{TO_d} \times 100 \tag{5.12}$$

and

$$TO_d = OO_d + NOO_d \tag{5.13}$$

where NOO_d represents non-owner-occupied dwellings.

Typically, the HOR within the population varies greatly by age and type of household, with a higher incidence of ownership for married and older persons than for young singles. Australia has long had high homeownership rates, in common with other "New World" democracies but well ahead of the older European developed countries. In 1911, half of Australians owned their home, a figure reached by Britain only in the 1970s. According to O'Flynn (2011), the Australian homeownership rate, between the 2001 and 2006 censuses, marginally decreased from 66 per cent to 65 per cent. Moreover, primarily due to ongoing house price inflation, the more recent years have seen the proportion of households who own their home without having a mortgage drop from 40 per cent to 33 per cent. This has been accompanied by the increasing age of FHBs, with homeownership rates for those aged under 35 in decline.

5.3.7 Summary overview

The main advantage of home loan affordability measures is the major disadvantage of housing price-based affordability measures. In particular, housing price-based affordability measures are deficient in measuring housing affordability as they do not take into account the cost of housing finance, such as debt servicing costs (Productivity Commission, 2004). Typically, very few households are able to purchase a home without using some form of mortgage finance.

This is especially relevant for certain population categories, such as FHBs (over 90 per cent of FHBs need mortgage finance to buy a home) and upgraders (approximately 65 to 70 per cent of upgrade buyers need mortgage finance to buy a home).[37] Given varying environments (e.g. varying interest rates, tax regimes, population concentrations, quality of housing stock, etc.), inter-temporal and cross-border comparisons of housing price-based affordability should be treated with caution.

It is commonly accepted that the main factor for the increase in the house price to household income ratio over recent decades is the structural reduction in mortgage interest rates. In the 1980s, Australian mortgage interest rates averaged around 14 per cent, but since 2000 the average has been closer to 7 per cent. According to the HIA (2010), at September 2010 Australia's MHAH was 4.1. At the same time, among the capital cities, the ratio was 4.2, whereas in regional Australia the

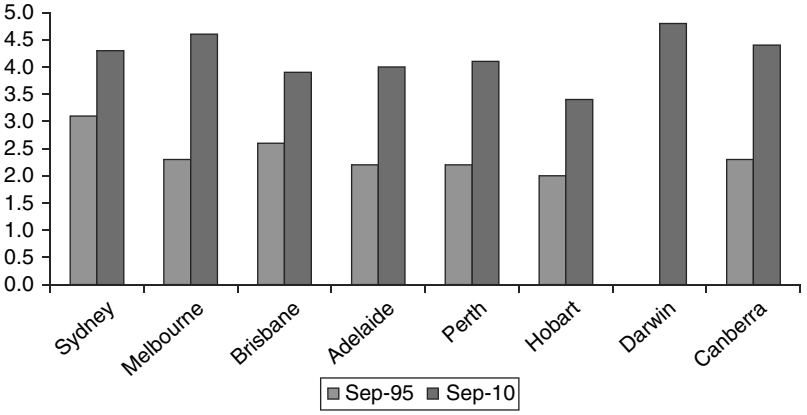


Figure 5.3 House price to household income ratio, Australian capital cities
Source: Extracted from HIA (2010), p. 4.

ratio was 4.1. The report established that there has been a significant increase in the ratio over the observed period (the last 15 years). This is nicely illustrated in Figure 5.3 which shows the movement, over a 15-year period, in the MHAH across Australia's capital cities. As FHBs are often the most at-risk group, if anything, this trend has meant that FHBs have found it increasingly more difficult to transition from the rental market into homeownership.

As shown in Table 5.6, the Realtor quarterly MHMH for the US was 3.20 in March 2012. The FHFA and Case-Shiller indexes MHNH are comparable series that date back to 2000 (Department of Numbers, 2012).[38,39] In June 2012, the Realtor MHAR for the US was 19.64, increasing from the previous quarter by almost 2.5 (see Table 5.6). The FHFA MHAR series are calculated using adjusted median contract rent data from the American Community Survey (ACS) Census.[40]

Using FHFA home price statistics along with census income and annual rent data, Table 5.8 shows comparative data for MHMH and MHAR for the US states. The number reflects FHFA home prices through June 2010.

5.4 Rental affordability measures

While most Australians hope to eventually own their homes (the "great Australian dream"), many will be forced to rent at various stages of their life cycle. This section examines a range of approaches that attempt to measure housing rental affordability.

Table 5.6 MHMH–FHFA, Realtor, Case-Shiller

Date	Realtor (Dollar Ratio)	FHFA (Index Ratio)	Case-Shiller (Index Ratio)
May 2012	–	116.3	118.1
April 2012	–	115.4	117.1
March 2012	3.20	114.6	116.3
February 2012	–	112.8	115.3
January 2012	–	112.4	115.2
December 2011	3.29	113.1	115.3
November 2011	–	112.9	115.9
October 2011	–	112.1	116.7
September 2011	3.50	113.1	117.5
August 2011	–	112.7	118.2
July 2011	–	113.0	119.2
June 2011	3.42	112.9	118.9
May 2011	–	112.2	118.9

Note: Index ratios set to 100 in January of 2000.

Source: Extracted from Department of Numbers (2012).

Table 5.7 MHAR–FHFA, Realtor, Case-Shiller

Date	Realtor (Dollar Ratio)	FHFA (Index Ratio)	Case-Shiller (Index Ratio)
August 2012	–	102.6	104.8
July 2012	–	102.2	104.5
June 2012	19.64	102.2	104.4
May 2012	–	101.6	103.5
April 2012	–	101.1	102.5
March 2012	17.16	100.6	101.9
February 2012	–	99.3	101.5
January 2012	–	99.1	101.4
December 2011	17.99	99.7	101.7
November 2011	–	99.7	102.3
October 2011	–	99.1	103.2
September 2011	17.99	100.2	104.1
August 2011	–	99.9	104.8

Note: Index ratios set to 100 in January of 2000.

Source: Extracted from Department of Numbers (2012).

Although affordability problems for home buyers tend to receive the most media attention, in fact, the largest group of households experiencing affordability problems are households in the private rental market. High levels of rental stress mean that affordability is low and

Table 5.8 The US, MHMH and MHAR by State, June 2012

State	FHFA MHMH (Dollar Ratio)	FHFA MHAR (Dollar Ratio)
Alabama	3.15	21.94
Alaska	4.15	19.83
Arizona	3.12	17.49
Arkansas	3.13	20.97
California	6.06	24.94
Colorado	3.60	22.04
Connecticut	4.02	22.61
Delaware	3.92	21.72
District of Columbia	7.28	28.73
Florida	3.27	15.24
Georgia	2.93	16.61
Hawaii	8.54	30.89
Idaho	2.99	18.54
Illinois	3.00	15.66
Indiana	2.45	15.57
Iowa	2.40	16.55
Kansas	2.57	16.56
Kentucky	3.16	21.35
Louisiana	3.86	21.07
Maine	3.64	19.99
Maryland	4.00	19.89
Massachusetts	5.00	23.30
Michigan	2.08	12.02
Minnesota	3.12	16.61
Mississippi	3.33	21.66
Missouri	2.68	17.61
Montana	4.30	24.39
Nebraska	2.28	15.74
Nevada	2.98	15.70
New Hampshire	3.31	18.77
New Jersey	4.45	21.43
New Mexico	3.57	21.12
New York	4.93	20.06
North Carolina	3.53	21.68
North Dakota	2.60	17.04
Ohio	2.47	15.88
Oklahoma	2.74	18.76
Oregon	4.10	22.47
Pennsylvania	3.17	17.41
Rhode Island	4.44	21.60
South Carolina	3.26	20.42
South Dakota	3.42	21.63
Tennessee	3.20	18.22

(*Continued*)

Table 5.8 Continued

State	FHFA MHMH (Dollar Ratio)	FHFA MHAR (Dollar Ratio)
Texas	2.84	15.59
Utah	3.42	20.59
Vermont	3.65	19.29
Virginia	3.80	21.04
Washington	4.42	23.30
West Virginia	3.02	22.26
Wisconsin	3.05	17.84
Wyoming	3.50	25.40
US	3.64	19.50

Source: Extracted from Department of Numbers (2012).

people are less able to rent appropriate housing to meets their needs. For example, the 2006 Australian Census data showed that "rental stress" was an increasing concern for Australian households. The census established that there were more than 525,000 households in rental stress. In 2010, HIA/NATSEM completed analysis and produced forecasts of the current number of households in rental stress. They found that since the 2006 Census, the number of private renting households in rental stress has increased by approximately 100,000 households.

According to Shelter NSW, 2006 data indicate that there was a shortage of 44,000 affordable and available private rental stocks for very-low-income households in Sydney, 5,900 in Newcastle and 3,200 in Wollongong.[41] This shortage resulted in NSW in 2007/08 recording the highest percentage of low-income households in the Australian private rental market in rental stress (57 per cent). At that time, nationally the figure equated to 47.5 per cent. In September 2010, Shelter NSW reported that only 13 per cent of rental stock was affordable for very-low-income households, 31 per cent for low-income households and 68 per cent for moderate-income households. Not surprisingly, the most affordable rental stock was found in the outer suburbs. It is important to note that these suburbs also tend to have lower levels of employment opportunity and notably poorer public transport and other infrastructure facilities.

Because maintenance costs and taxes are customarily paid by the landlord, housing rents provide a ready measure of renters' housing costs. On the other hand, imputed rents for homeowners should equate to their housing user costs. If imputed rents were higher (lower) than housing

user costs, homeowners would increase (reduce) their consumption of housing. Imputed rents may be inferred from market rents for similar housing after subtracting expenses that would be incurred by a landlord in obtaining that income and after making various assumptions about gearing and taxation rates.[42]

There are a number of available measures that aim to measure rental affordability. In particular, this section elaborates on both traditional consumption-based measures of housing affordability and on a measure of housing affordability based on core housing needs (as captured by the Canadian core housing needs model) which, in addition to cost considerations, assesses the suitability of a dwelling for a household's needs.

As previously implied, the outgoings-to-income ratio for renters is measured as a rent-to-income ratio. In particular, the rent is divided by income for the specified time period (such as weekly, fortnightly and monthly). The logic here is to define the proportion of households with a ratio above some pre-determined level. Principally, there are no hard and fast rules on what percentage of income should be spent on rent as individual circumstances are unique. Income, debt, expenses, savings levels, family ties and community features all feed into the equation. As with home loan affordability measures, the "30 per cent rule" on its own, or in addition to some additional constraint/s has, internationally, been used the most frequently for these measures as well.

According to this rule, affordable renting is defined as that which consumes less than 30 per cent of a household's income i.e. no more than 30 per cent of gross income should be spent on housing, including related expenses such as insurance, power, phone and maintenance. The more households above this level, the less affordable is renting in the specified area.

The most commonly used measures to assess rental affordability are:

1. Traditional Consumption-based Measure (TCM),
2. The National Housing Strategy Measure (NHSM),
3. Net Affordability Measure (NAM),
4. Net Equivalent Affordability Measure (NEAM),
5. Private Rental Affordability for All Households,
6. Private Rental Affordability for Low-Income Households,
7. Rent-to-Mortgage Payment Ratio (RMP),
8. Residual Income Measure (RIM), and
9. The Canadian Model of "core housing needs".

5.4.1 Traditional Consumption-based Measure (TCM)

In its simplest form, rental affordability is expressed as the proportion of median (e.g. weekly) household income (MH_i) required to meet rental payment (R_p). The time frequency for both MH_i and R_p must be identical (e.g. weekly, fortnightly, monthly, yearly, etc.). Size and quality of dwellings must also be comparable (e.g. brand new 3-bedroom house). The index is calculated as follows:

$$TCM = \frac{MH_i}{R_P} \tag{5.14}$$

After calculating the above ratio, the 30 per cent rule is used to define an affordable rental threshold or, to be precise, the 30 per cent only rule applies here as it is used unadjusted. As previously stated, according to the 30 per cent rule affordable renting is defined as renting which consumes less than 30 per cent of a household's income i.e. no more than 30 per cent of gross income should be spent on housing including related expenses such as insurance, power, phone and maintenance. The more households above this level, the less affordable the renting is in the area under consideration.

5.4.2 The National Housing Strategy Measure (NHSM)

The Australian National Housing Strategy developed this measure while analysing housing affordability in Australia during the 1980s. The calculation of NHSM is performed in two main steps (Landt and Bray, 1997):

i. define the scope and
ii. determine the maximum (threshold) level of housing costs.

First, it is necessary to define the scope i.e. to identify these households expected to be unfavourably affected by housing costs. This measure assumes that only those households in the bottom 40 per cent of the income distribution ranked by their total before-tax income, are impacted. Aiming to improve the applicability of the measure, the calculation of the NHSM excluded those income units: (a) with nil or negative income, (b) living rent free and (c) single-income earners living with parents or relatives.

The second step aims to determine the maximum level of housing costs above which households and individuals will experience housing stress. Housing stress is defined as difficulties in obtaining reasonable rental housing, where the reasonable level is defined by the well-being of the

overall community (the higher the level of well-being of the community, the higher will be the required rental housing level). Housing is considered affordable when households can meet their basic needs for such items as food, clothing, transport, medical care and a reasonable education, after paying their housing costs (measured as paying less than 30 per cent of their before-tax income).

The main difference between TCM and NSHM relates to the scope of the analysis. In particular, while TCM includes all households, NHSM considers only the bottom 40 per cent of households ranked by their total before-tax income. This rule is known as the "40/30 per cent rule" as it refers to the point at which a household in the lowest 40 per cent of the income distribution spends 30 per cent of its gross household income on housing costs. Anything beyond this and housing is considered to be unaffordable. It is important to note that an additional benefit of this measure is that it can measure both homeownership affordability and rental market affordability. Furthermore, due to the use of before-tax income the measure is often also related to as a gross affordability measure. It is important to note that while the 40/30 per cent rule is used extensively in most developed countries, differences in the definition of housing costs, taxation and other dependant variables need to be taken into account.

The index is calculated as follows:

$$\text{NHSM} = \frac{\text{R}}{\text{I}} \tag{5.15}$$

where rent (R) is divided by income (I), assuming I includes rent assistance (RA), i.e. I is comprised of all other income (I_o) and RA.

$$\text{I} = \text{I}_o + \text{RA} \tag{5.16}$$

According to the 40/30 per cent rule, the income required for an affordable rent payment can be expressed as:

$$0.3 = \frac{\text{R}}{\text{I}_0 + \text{RA}} \tag{5.17}$$

$$\text{I}_o = 3.3\text{R} - \text{RA} \tag{5.18}$$

This approach simply relates the housing costs to the income of each person or family belonging to the bottom 40 per cent of income units

in simple percentage terms. For example, a household belonging to the bottom 40 per cent of income the distribution that earns a gross income of $800 a week and pays a rent of $200 a week, would have a 25 per cent affordability ratio. According to the NHSM, this household would not be in housing stress as its rental affordability ratio is below the 30 per cent threshold.

On the negative side, there are two dimensions of the measure that are most often questioned. The first is the method by which the low-income population is selected i.e. the use of total before-tax income to identify the low-income population. In particular, using before-tax income to determine the income deciles excludes the impact of taxation and the relative needs of households on the basis of their family composition. The simple solution to this is to use an equivalent income measure instead (discussed as a separate measure, see 6.3.4). The second aspect that is often questioned relates to the use of a gross rather than net affordability measure. The gross measure relates the total rent payment to the total amount of income, which, among other things, includes any rent assistance, if payable. This may be seen as providing somewhat misleading information on housing affordability when comparing private and public renters. Private renters in Australia, if they qualify for rent assistance, receive the assistance via a supplement to their gross income (before-housing income) while public renters receive the assistance in the form of reduced cost of housing i.e. reduced rental payments. Therefore, as private renters receive the assistance as an income supplement, the gross affordability approach treats only a third of the assistance as an offset to housing costs. A solution to this issue may be to use a net affordability measure that treats rent assistance as an offset to housing costs rather than as a component of income.

5.4.3 Net Affordability Measure (NAM)

The 40/30 per cent rule also applies to NAM, although instead of being ranked by their gross income, NAM ranks households by their net (disposable) income. In particular, NAM establishes which households have housing costs greater than 30 per cent of their after-tax incomes, where any rent assistance received is treated as an offset against their housing costs, and not as part of their income (Landt and Bray, 1997).

NAM is constructed as rent (R) less rent assistance (RA) divided by other income (I_o), i.e. income excluding rent assistance.

$$\text{NAM} = \frac{\text{R} - \text{RA}}{\text{I}_o} \tag{5.19}$$

According to the 30 per cent rule, the affordable income required for the rent paid can be expressed as:

$$0.3 = \frac{R - RA}{I_o} \tag{5.20}$$

$$I_o = 3.3R - 3.3RA \tag{5.21}$$

If we compare NAM and NHSM, NHSM's rent assistance has only one-third of the offsetting value it has under the NAM. As previously implied, this significantly disadvantages non-public renters as they receive rent assistance in the form of income support.

5.4.4 Net Equivalent Affordability Measure (NEAM)

The 40/30 per cent rule also applies to NEAM as well, though for NEAM, instead of ranking income by gross or net income, it is ranked by equivalent disposable income (EI). More precisely, the analysis is limited to low-income rental households that are at or below the 40th percentile of disposable household income, adjusted for household composition. The selected group of households is considered to be in rental stress if its rental costs exceed 30 per cent of its gross income (e.g. family tax benefits and other similar payments are included in the gross income estimates). The indicator reduces rental expenses (R) by the amount of rent assistance (RA), if any.

$$NEA = \frac{R - RA}{EI} \tag{5.22}$$

Thus far discussed, the so-called "proportional measures of housing stress" can sometimes be hard to logically digest. They may deem a household as being in housing stress despite a particular household having a higher after-housing income than a comparable household formally being classified as not being in housing stress and having a lower after-housing income. For example, a household with an income of $600 a week and paying rent of $200 a week would have a TCM of 32 per cent. The household would be considered as being in housing stress and would have an after-housing costs income of $400 a week. Another household with an income of $500 a week and paying $140 rent a week would not be considered in housing stress because its TCM is 28 per cent even though it has an after-housing income of only $360 a week. This issue highlights the need for alternative approaches to

measuring housing affordability, in particular an approach that identifies a level of affordable housing expenditure for a particular type of family and then examines the level of their remaining income to see whether it is sufficient to meet the total family's total needs. This approach is known as a residual measure of housing affordability.

5.4.5 Private rental affordability for all households

Private rental affordability, for all households, is measured as the capital value or total construction cost of rental dwellings that is affordable for each household income decile. These capital values (often expressed as construction costs) can be benchmarked against the median housing price for the specified geographical area.

The index is calculated as follows:

- Households' incomes are ranked and divided into deciles. For example, household income for a specific geographical area, such as the Melbourne Metropolitan area, is ranked and divided into deciles using the latest census data.
- Households' incomes are then indexed to the latest specified year using the Consumer Price Index (CPI).
- The affordable household rent for each decile is then calculated using a generally accepted affordable rent assumption (the 30 per cent rule).
- The capital value of affordable rental dwellings at each household income decile point is then calculated. To do so, an assumption regarding the annual rental yield (e.g. 5 per cent) of the capital value or total construction cost of dwellings is needed.
- Finally, the capital value (construction costs) at which rents are affordable for each household income decile is compared with the median dwelling price for the considered geographical area.

Lower income is associated with higher rates of renting and, as income rises, the likelihood of renting falls (ABS, 2009). As a principle, this one has notable exceptions as well. It is important to note that although renting is typically associated with lower income, there are a considerable number of high-income households which by choice or other specific circumstance are renting. These high-income renters customarily tend to be younger and childless households.

5.4.6 Private rental affordability for low-income households

Similarly, according to Centrelink Australia, the private rental affordability for low-income households' indicator measures the number

and percentage of rental dwellings which are affordable to households dependent on Centrelink incomes in each quarter.[43] As could have been expected, the 30 per cent rule applies here as well. Consequently, a dwelling is defined as affordable when it is suitable for a particular sized household and when the rent-to-income ratio is less than 30 per cent. In this way, it measures the extent to which the supply of rental housing is affordable. In Australia, the index is available for each Local Government Area (LGA).[44]

The index is calculated as follows:

- The data are collected for the September quarter of each year from Office of Housing quarterly rental reports.[45] In turn, the data for each LGA are based upon data provided by the Residential Tenancies Bond Authority.[46] As expected, the measure assumes a match between the dwelling and a household's size and a Centrelink income for that particular household size.
- The dwelling size is matched to particular household types receiving Centrelink incomes as follows:
  - 1-bedroom: Singles
  - 2-bedrooms: Single parent with 1 child
  - 3-bedrooms: Couple with 2 children
  - 4-bedrooms: Couple with 4 children.
- For each bedroom size/household type, rent assistance is subtracted from the rent, and the resulting rent is divided by the Centrelink income for that household type. Where the rent-to-income ratio is less than 30 per cent, the dwelling is regarded as affordable.

5.4.7 Rent-to-Mortgage Payment Ratio (RMP)

The RMP relates the adjusted rent (R – RA) divided by a 100 per cent loan-to-value mortgage payment (MP) i.e. a mortgage with no down payment. The ratio can be expressed as:

$$\text{RMP} = \frac{\text{R} - \text{RA}}{\text{MP}} \tag{5.23}$$

For example, a house with a mortgage payment of 100 per cent of its value of $1,000 a month receiving an adjusted rent payment of $200 a week, would have RPM of 0.87. The ratio value below 1 implies that the rent is less than the monthly mortgage payment on the full price of the property. The calculation of MP requires certain assumptions to be made. In the US, typically the mortgage payment calculation is based

on a fixed rate home loan of 30 years. According to Realtor (2012), as of June 2012, the RPM for the US was 0.92.

5.4.8 Residual Income Measure (RIM)

This measure can simply be expressed as a household's income less its rental payments,

$$\text{RIM} = \text{H}_i - \text{R}_p \tag{5.24}$$

where H_i is household income and R_p is rental payment. As with all other measures it is of utmost importance to specify the particular period of time that is being analysed. Depending on the specific circumstances of the area under consideration, an acceptable level should be defined i.e. the threshold level where a higher number indicates relative unaffordability. This indicator can also be averaged across comparable areas and periods, where a lower value would imply relative unaffordability.[47]

The most frequently used measure to define an acceptable level above which a higher number indicates relative unaffordability, in Australia, is based on the adjusted Henderson poverty line. The Henderson poverty line identifies families with after-tax incomes less than the set poverty line. Therefore, it identifies a low-income population with possible housing-related stress by using equivalent after-tax income rather than unadjusted gross income. This poverty line differs with respect to family type, such as a single person, a couple with no children and a couple with two children.

According to this measure, some people on very low incomes are identified as being in housing stress even if their housing costs are relatively small. They are identified as such simply because they have very low incomes. This is important to note, as these people may not be identified as being in housing stress by other measures. Probably the most important element of this measure is to assess the value of the Henderson after-housing poverty line as a measure of housing affordability by considering how realistic the housing costs component is.

Smith (2009) has written that: "Whilst it is impossible to develop benchmarks that are applicable for all households, the indicative benchmarks at the very least provide means for individual households to compare their individual circumstances." Yates and Gabriel (2006) see the main advantage of the RIM as its ability to consider the impact of household structure on household needs by taking into account differences in non-housing needs for different household types. Nevertheless, they see that these same points are also a weakness of the measure

because a judgement is required to be made as to what these non-housing needs are.

Even though the different approaches to measuring housing stress examined thus far provide important insights into the issue, they only look at the financial aspect, and thus provide only a partial view of the impact of housing on people's lives. In particular, none of the measures considered so far is able to determine whether the housing occupied by low-income groups is appropriate to their needs.

5.4.9 The Canadian model (CM) of "core housing need"

In addition to the financial aspect of the rental affordability issue, it is also very important to consider the appropriateness and quality of the rental housing available. In other words, the analysis needs to recognise that housing affordability is also essentially concerned with the quality and appropriateness of housing, not just its cost (King, 1994). For example, according to the other, consumption-based measures considered so far, a family of four occupying a cheap one-bedroom flat (because a larger dwelling is too expensive) is an affordable outcome. On the other hand, a family paying a high rent in their preferred location and aiming to save on other costs (such as travel costs), according to other measures may appear to be occupying housing that is not affordable.

Obviously, compared with the proportional and residual measures discussed so far, determining the appropriateness of housing occupied by households is much harder to do. Among other things, it involves identifying the appropriateness of housing for the different needs of different families at different stages of their lives. This approach is based on the Canadian model of "core housing need" (King, 1994; Karmel, 1995). According to this model, the core housing need status of a household is decided by the application of a two-stage test (CMHC, 1991). The focus of the first stage is on identifying households living in housing below any one of the following three housing standards:

1. Dwelling unit adequacy,
2. Suitability and
3. Affordability.

Having identified households that fail any of the specified housing standards, the focus of the second stage is on comparing the incomes of the identified households (whose housing conditions fall below one or more standards) with the incomes that these households would require to afford rental accommodation meeting all standards.

With respect to dwelling unit adequacy, the aim is to allocate an appropriate dwelling to each household. For example, a household of two adults and no children should be allocated a one-bedroom dwelling, but households comprised of two adults and three children should have a three-bedroom dwelling. Housing suitability refers to considering whether households are inhabiting dwellings larger/smaller in size than needed and dwellings with higher/lower standards than needed (e.g. luxury homes or totally substandard). Finally, with respect to affordability the focus is on establishing whether the households have the means to obtain such housing i.e. to use an affordability benchmark to examine whether households have sufficient income to rent the appropriate housing in their preferred locations.

CM uses NAM to do this. This involves using a 40/30 per cent rule to test whether households would need to spend more than this benchmark level of their after-tax income to rent a suitable dwelling, after any rent assistance for which they were eligible was deducted from the rent. The result of this is the identification of a population that is potentially "at risk" i.e. not in a position to afford appropriate housing.

The model is seen as very effective in:

- unscrambling the effects of personal trade-offs between housing and other expenditure and
- testing the adequacy of income to obtain appropriate housing.[48]

Even so, the model still has a number of problems. In particular, it may fail to identify some groups with inadequate outcomes, because:

- the homeless and people living in institutions are not included (these categories are not included in the scope of ABS household surveys),
- persons with special needs who cannot obtain housing at the median market rent,
- some persons face discrimination that may result in them paying a premium to acquire suitable housing and
- the model inappropriately assumes that a suitable stock of dwellings always exists to match the need.[49]

5.4.10 Summary overview

The primary aim of this section was to examine the spectrum of available housing rental affordability measures. In addition to possessing a wide spectrum of functional characteristics outlined so far in the discussion, the tools considered for measuring affordability have some notable

shortcomings. For example, the NHSM does not adjust for family characteristics and consequently inadequately identifies the group/s likely to face housing stress. It also does not take appropriate account of the impact of taxation and government assistance. Furthermore, it is not sensitive to the appropriateness of the dwelling occupied.

RIM also suffers from this lack of sensitivity to the suitability of housing. A weak point of this measure also is in the determination of adequate housing expenditure amounts for different family types and sizes. For example, it appears to seriously undervalue the private rental costs of families with children. The CM represents an improvement on other approaches in its treatment of housing appropriateness and recognition of regional rent variations.

Since the early 1990s, Australia has been experiencing steady growth in the number of renter households (Quoc, 2012). As shown in Figure 5.4, data from the four selected population censuses show that the total number of renter households increased from 1.5 million in 1991 to 1.7 million in 1996, to 1.8 million in 2001 and to 2.0 million in 2006. The number of private renter households followed a steadily increasing pattern from 1.1 million in 1991 to 1.4 million in 1996, 1.5 million in 2001 and 1.6 million in 2006. According to Landt and Bray (1997), sole parents, young single people and elderly couples are the groups with

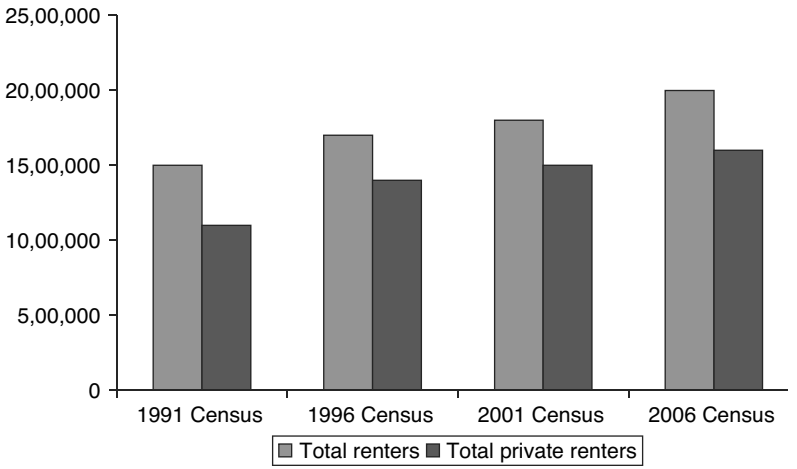


Figure 5.4 Total and private rental households, Australia 1991–2006
Source: Extracted from the ABS Population Census 2001 and 2006.

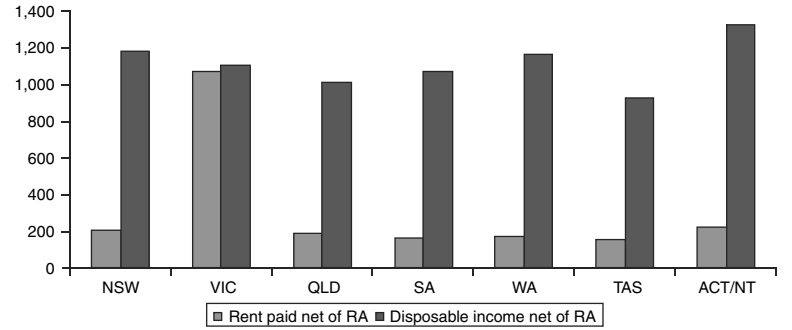


Figure 5.5 Average household rent per week and disposable income, Australian states and territories, 2007–08

Source: Extracted from Quoc (2012, p. 15).

the lowest rental affordability i.e. with the highest occurrence of poor affordability and who were most likely to be in unsuitable housing.

The difference in housing stress rates between different locations in Australia can be attributed to the differences in disposable income and rent levels between these locations. As illustrated in Figure 5.5, in 2007/08, the average disposable income, net of rent assistance, was highest in the ACT and the Northern Territory, followed by Western Australia, Victoria and NSW while Tasmania, Queensland and South Australia ranked lowest. The average net market rent (net of rent assistance (RA)) that households face in their local markets also appreciably differs between these states/territories.

According to Anglicare's research published in 2011, the highest rises in the median rent price in Sydney have been as follows:[50]

- 11 per cent in the last 12 months for a 1-bedroom unit (Outer Ring).
- 10 per cent in the last 12 months for a 2-bedroom unit (Inner Ring).
- 7.6 per cent in the last 12 months for a 2-bedroom house (Middle Ring).
- 10.6 per cent in the last 12 months for a 3-bedroom house (Inner Ring).

Due to significantly lower demand outside the greater Sydney metropolitan region, median rents increased but at a much more moderate rate, namely: for new tenancies for two-bedroom flats/units median rents increased by 2.6 per cent in the December quarter 2010 and by

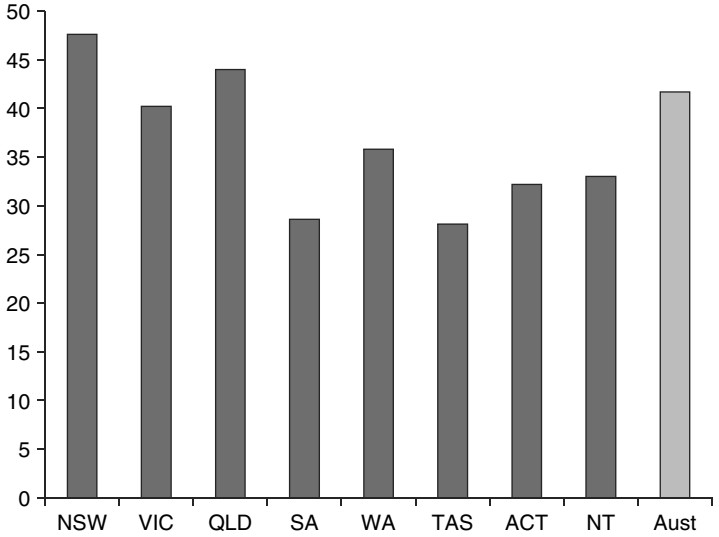


Figure 5.6 Proportion of low-income rental households in rental stress, by state and territory, 2009–10

Source: Extracted from COAG Reform Council (2011, p. 8).

8.1 per cent over a 12-month period. Median rents for three-bedroom separate dwellings remained unchanged in the December quarter 2010 but increased by 8 per cent over a 12-month period.

As measured by NAM and shown in Figure 5.6, in 2009–10, at 47.6 per cent the rate of rental stress in NSW was the highest, significantly above the national average of 41.7 per cent. At the same time, the rates in Western Australia (35.8 per cent), South Australia (28.6 per cent), Tasmania (28.1 per cent), the Northern Territory (33 per cent) and the ACT (32.2 per cent) were significantly below the national average. This leaves Victoria and Queensland whose rates of rental stress were hovering around the national average.

If the scope of the analysis is reduced to include only households in the lowest income decile, in 2009/10 the rate of rental stress was the highest in NSW (Figure 5.7). NSW, again, had a higher proportion of rental stress (67.5 per cent) than the national average (60.8 per cent). At the same time, South Australia (42.5 per cent), Tasmania (42.4 per cent) and the ACT (38.2 per cent) had notably lower proportions. With respect to individual capital cities, according to COAG Reform Council (2011), in 2009/10 Sydney had a higher rate of rental stress (50.4 per cent)

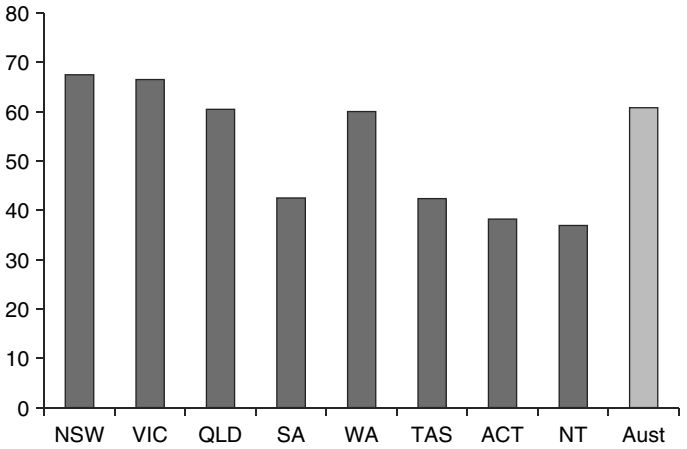


Figure 5.7 Proportion of rental households in the lowest income decile experiencing rental affordability stress, by state and territory, 2009–10

Source: Extracted from COAG Reform Council (2011, p. 9).

compared to the rate for all other capital cities (45.2 per cent) while the rates of rental stress in Adelaide (32.8 per cent) and Canberra (32.2 per cent) were significantly below the rate for all capital cities. Outside of the capital cities, in 2009–10, the proportion of low-income households in rental stress was significantly higher in NSW and Queensland compared to the rest of Australia.

Currently, in Australia, there is a range of government-supported programs aimed at helping people to obtain affordable and acceptable rental accommodation. In particular, there is a private rental housing assistance programme for low-income households (through the CRA) as well as other programmes provided by state and territory governments and also the provision of public and community housing, including both medium-to-long-term housing and emergency or crisis accommodation. The CRA is a non-taxable income supplement paid by the Australian Government, through Centrelink. The payment is intended as a supplement to the pension, allowance or benefit of eligible income support recipients who rent in the private rental market. The CRA is paid at the rate of 75 cents for every dollar of rent paid above the specified minimum rent threshold, up to a maximum amount. The assistance and allowed rates depend on the family situation of the recipient and the number of dependent children.

5.5 Conclusion

The purpose of this chapter has been to provide a detailed account of the various available approaches used for the measurement of housing affordability. After reviewing the more relevant housing affordability approaches from a number of different perspectives, we have seen in this chapter that though the discussion on housing affordability is rife, there is still no universally accepted measure of it (McCord et al., 2011).

A part of the problem with measuring housing affordability is that different population categories will be affected in very different ways by events such as increases in house prices, rents and inflation. For example, owner-occupiers benefit from real house prices rises, so much so that in some cases the user cost of housing could even fall to zero (see Quigley and Raphael, 2004) and below zero (i.e. housing does not cost anything plus there is an additional amount of capital gain made by owning the property). On the other hand, there is no doubt that renters lose from rising house prices.

The observed decline in housing affordability in almost all countries before the GFC was primarily considered to be part of a cyclical trend. Although, as a consequence of the GFC housing affordability in many developed countries (such as the US, the UK, Canada and the EU) improved, in Australia it appears to have become a full-blown epidemic that is here to stay. The logical question is: Who are the main victims of the housing affordability crisis? According to Lamont's (2008) analysis of Australian census data, the victims of the housing affordability crisis can be broken into the following groups: couples with dependents, lone persons, couples with nondependent children and single parent families.

Notionally, housing affordability measures can be divided into home-ownership affordability measures (home loan affordability measures and housing price-based affordability measures) and rental affordability measures. As illustrated in our discussion of home loan affordability measures, home loan (mortgage) affordability stress can be measured in a number of different ways, ranging from relating household costs (e.g. represented by the median home loan repayment) and household income (typically measured as either average or median), calculating the proportion of homes sold/built that are affordable by moderate-income households, and calculating typical housing loan repayments on a median-priced home as a proportion of monthly disposable household income, to calculating housing affordability by relating housing costs, comprised of home loan payments and council rates payments, and

gross household income, via utilisation of both the 30–40 per cent rule and the 30/10–40 per cent rule. While the range of criteria considered provides a valuable diversity in mortgage stress assessment, at the same time it represents an impediment to comparative and time series analysis. According to the Urban Research Centre (2010), a major problem is inconsistency in the use of categories. For example, many measures fail to disaggregate between wealthy and poorer households falling into stress categories. Data collection is often significantly impeded due to the types of loans often not being disaggregated by the purpose for which the funds have been utilised (e.g. revolving line of credit home loans are often utilised for personal purposes). In Australia, financial institutions are required to classify their loans according to purpose, but due to the extensive range of loan products available, it is not always clear for what specific liabilities the debt is being used for. Consequently, often it is quite difficult to unscramble home loan debt from other household debt (e.g. available funds with 100% Offset and LOC home loan products can easily be utilised for other personal purposes).

Out of all the three considered categories of housing affordability measures, housing price-based affordability measures are the least homogenous covering a range of perspectives, from house price segments, available stock, house price to household income ratios, to homeownership rates. Principally, all of them have an important deficiency in measuring housing affordability as they are based on house prices and as such do not take into account the cost of housing finance.

As with housing price-based affordability measures and home loan affordability measures, there are a number of available measures that aim to measure rental affordability. In addition to discussing traditional consumption-based measures of housing affordability, the discussion included a measure of housing affordability based on core housing need as captured by the Canadian core housing need model (which in addition to cost considerations, assesses the suitability of the dwelling for the household's needs).

Many authors have indicated a number of shortcomings in these indicators as measures of hardship for assessing a household's capacity to pay rent (e.g. Baer, 1976; Hancock, 1993 and Hulchanski, 1995). These shortcomings range from not adjusting for family characteristics and consequently inadequately identifying the group/s likely to face housing stress (such as NHSM) to not determining adequate housing expenditure amounts for different family types and sizes (such as RIM). Irrespective of the number of shortcomings identified in this chapter, there is a range of indicators that shows that housing affordability is a growing problem.

These indicators identify the range of stress being experienced, many of the attributes associated with stress, and its spatial and demographic distribution.

The following chapter provides an empirical analysis which seeks to unpack the geography of Melbourne's affordability problem at the local level through understanding structural changes in housing affordability during the last decade. The focus of this study is on housing affordability as measured by the Median Multiple indicator. The study also examines whether housing affordability in different Melbourne suburbs converges or diverges i.e. the study will look into whether the selected suburbs and the four suburb groups considered become more (converge) or less (diverge) affordable over the whole period and year to year, for people living in those suburbs. Finally, the study sets out to explore which Melbourne housing market segment represents a better investment opportunity during housing boom periods. The study examines both high and low interest rate environments.

6

The Geography of Housing Affordability and Housing Investment Opportunity: A Case Study of Melbourne

6.1 Introduction

Due to its importance, the housing sector has always been the topic of much discussion. In recent times, it is even more so due to the GFC of 2007/09/10 and a possibility of a double-dip recession in 2015/16.[1] With respect to the housing sector, if anything, the GFC has highlighted the need for additional research on understanding how housing markets work. While a pre-GFC increase in house prices was shared with many other countries (Kim and Renaud, 2009), there has been no material GFC instigated correction in house prices in Australia. In fact, quite the opposite happened in that post-GFC house prices continued rising This is especially evident in Melbourne where, according to the ABS (2010), in the year to September 2010 quarter (from the corresponding quarter of the previous year), established house prices increased the most among all the capital cities (18.8 per cent).[2] Though impressive, the house price increase in Melbourne for the year to September 2010 quarter was lower than the increases recorded in the previous three-quarters: 24.3 per cent in the year to June 2010 quarter, 27 per cent in the year to March 2010 quarter and 19.5 per cent in the year to December 2009 quarter.

Ongoing house price inflation and the consequent decline in housing affordability have been headline issues in Australia for some time now (e.g. Berry, 2003; Burke and Hayward, 2001). This is bad news for people living in Australia for at least two reasons: (i) a deterioration in housing

affordability has a substantial impact on living standards (housing costs take up an increasing share of the typical household budget) and (ii) reduced access to affordable housing yields a range of non-shelter social issues (see Bridge et al., 2003).

Once regarded as part of a cyclical trend which would self-correct over time, housing affordability looks to have become an issue that is here to stay (Lamont, 2008; Wood and Stoakes, 2006). As previously implied, contrary to other developed economies, Australia has experienced a long-run deterioration in housing affordability even between housing price boom cycles. After the last housing price boom cycle (ending with the emergence of the GFC in 2007), housing affordability stress levels remained high because house prices did not fall back as in other countries (such as the US and the UK) to levels prevailing before the boom. According to Burke and Hulse (2010), the Australian housing market was barely affected by the GFC: "there was a slight hiccup and then borrowing, construction and house price inflation continued on its pre-crisis course". The house price boom that came after the GFC (started in late 2009) has ratcheted housing affordability stress to yet higher levels. Demographia (2009) in its measurement and ranking of housing affordability in English-speaking countries (Australia, Canada, Ireland, New Zealand, UK and US) observed that over the 2008/09 period, house prices declined in all analysed markets except Australia, causing housing affordability to generally improve. Not surprisingly, media headlines frequently publicise the hardship being experienced by lower and even middle-income households with their inability to achieve "the great Aussie dream" of homeownership and tenants experiencing hardships with increasing rents and record low vacancy rates.

After providing a review of contemporary housing affordability measures in the previous chapter, the focus of this chapter is on examining the geography of housing affordability and housing investment opportunity in Melbourne, Australia. The focus of this study is on housing affordability as measured by the Median Multiple indicator.[3] The Median Multiple is commonly recognised as an easily understood indicator of the structural health of residential markets, which allows for meaningful housing affordability comparisons.

A review of the literature on housing affordability shows that most examinations of housing affordability focus on the national, state, regional and city levels. Analysis on the national level constitutes a wide generalisation masking significant differences within national boundaries. For example, Demographia (2009) recognises the limitations of examining housing affordability by solely focusing on national data

and instead assesses international housing affordability at the regional market level. They argue that this approach allows more meaningful comparison between markets by scaling the markets so as to be more comparable.

This study also contests the levels at which housing is typically analysed (the national, regional or sub-regional level) as these levels potentially distort the conclusions reached and hide the most important elements relevant to the analysis. Contrary to what is immanently assumed by broad (national, regional and city) averages, housing changes are neither pervasive nor universal. Even the city-level trend masks important spatial differences. The Melbourne housing market is actually comprised of a number of small sub-markets, which differ significantly. Faced with relentless house price inflation in many parts of the city, there is little doubt that different parts of the city appreciate price inflation differently i.e. while some may welcome the increase in their housing equity and see it as an investment opportunity, others may face major housing affordability stress. The impact of house price rises and house price falls is always uneven, reflecting the dramatically different socio-economic characteristics of people living in different areas. Consequently, the analysis provided in this study is conducted at the sub-city level. This is done by disaggregating Melbourne's housing market into suburbs and several market segments (defined as groups of related suburbs).

More precisely, the study first seeks to unpack the geography of Melbourne's affordability problem at the local level through understanding structural changes in housing affordability during the last decade. The study partially follows Burke and Hayward (2001) and Productivity Commission (2004) research. According to Burke and Hayward (2001), between 1990 and 1999 price increases in Melbourne predominantly occurred in the inner city while price falls transpired in the outer suburbs. Consequently, an improvement in housing affordability occurred mainly in the outer urban areas while inner urban affordability was found to be "worse than at any time in Melbourne's post-war history" (Burke and Hayward, 2001). On the other hand, the Productivity Commission (2004) pointed to an overall deterioration in housing affordability in Melbourne. The study also examines whether housing affordability in different Melbourne suburbs converges or diverges, i.e. the study will look into whether the selected suburbs and the four suburb groups considered become more (converge) or less (diverge) affordable over the whole considered period, and year-to-year for people living in those suburbs. In other words, the question

here is whether there is a lever of adjustment of housing affordability to equilibrium or not. Alexander and Barrow (1994) see the fact that compared to most other goods, a house cannot be readily moved around (it is only exposed to the local market conditions) as the major reason why house prices, and hence, housing affordability should diverge over time. Cook (2003) argues that housing affordability should converge as a result of migration of people due to employment opportunities and cheaper housing. Finally, the study sets out to explore which Melbourne housing market segment represents a better investment opportunity, during housing boom periods. The analysis examines both high and low interest rate environments.

The chapter is structured as follows: the next section provides a brief review of the literature, and Section 6.3 describes the data and methodology used. Section 6.4 presents the results followed by Section 6.5, which provides a concluding discussion.

6.2 Brief review of the literature

For some time now the research on housing affordability has been a hot issue globally (e.g. Lerman and Reeder, 1987; Whitehead, 1991; Alexander and Barrow, 1994; Hancock, 1993; Aboutorabi and Abdelhalim, 2000; Rosen and Ross, 2000; Kosareva and Tumanov, 2008; Gan and Hill, 2009; and Jones et al., 2011). Similarly, in Australia, there is a consensus view that housing unaffordability in general, and in particular housing unaffordability in Australian capital cities is a major concern and as such is a topic of much interest and discussion. Accordingly, there is a considerable body of research on housing affordability in Australia, covering a range of perspectives, from household finance (such as Hall, 1998; Cardew et al., 2000; Berry and Hall, 2001; Landt and Bray, 1997; Burke and Hayward, 2001; Randolph and Holloway, 2002; Burke and Ralston, 2003; Berry, 2003; Harding et al., 2004; Productivity Commission, 2004; Yates and Wulff, 2000, 2005; Yates and Gabriel, 2006; Wood and Stoakes, 2006; Yates 2008; Demographia, 2009; and Kupke and Rossini, 2011), commuting distances (such as Burnley et al., 1997; Dodson and Gleeson, 2004; and Dodson and Sipe, 2007), planning (such as Williams, 2000; Beer et al., 2007; Gurran, 2008; and Costello, 2009), and employment (Yates et al., 2006), to housing policy (such as Bridge et al., 2003; MacLennan, 2005; Yates et al., 2007; Lamont, 2008; and Ong et al., 2009). As the focus of this study is on housing affordability viewed primarily from the household finance perspective, the rest of this section will focus on the literature pertinent to this.

In the late 1970s, the ratio of median house prices to average (mean) annual household incomes in Australia was less than 3:1, which enabled many households, even those with low income, to achieve homeownership (Hayward, 1992). A lot has changed since then. It is commonly recognised that, for at least a decade, Australia has had a major housing affordability problem, irrespective of how one measures affordability (Burke and Hulse, 2010). In 2008, the Median Multiple in Australia was 6, which is double its long-term average of 3, and almost double the same year's Median Multiple for the US of 3.2 (Demographia, 2009).

Burke and Hayward (2001) scrutinised movements in house prices and affordability in Melbourne during the 1990s. They showed that, during the observed period, approximately one-third of Melbourne's suburbs experienced real price increases while another third experienced real price falls. The suburbs where the residents observed the fastest growth in after-tax incomes also experienced the fastest growth in house prices. Furthermore, the authors established that the price increases predominantly occurred in the inner city while price falls transpired in the outer suburbs. Consequently, an improvement in housing affordability occurred mainly in the outer urban areas, and inner urban suburbs experienced significant deterioration in housing affordability.

Randolph and Holloway (2002) analysed the geography of Sydney's housing affordability by analysing low-income households experiencing housing stress at the sub-regional and local scale. The authors ascertained that the majority of households in housing stress do not live in the high-value inner suburbs, and though some level of housing stress is present across Sydney, it is concentrated in suburban Western Sydney. On the other hand, the inner and eastern suburbs had relatively few lower income households in housing stress. A few other papers have also analysed housing affordability in Sydney and have also pointed out to the existence of the housing affordability problem (Hall, 1998; Cardew et al., 2000; and Berry and Hall, 2001).

A rapid price growth and enhanced awareness that homeownership may be moving out of reach for many has prompted the Australian Government to initiate an enquiry by the Productivity Commission into the state of housing affordability, the major causes of changes in affordability and potential policy initiatives warranted to improve housing affordability (Productivity Commission, 2004). The commission found that increasing house prices were primarily instigated by an excess demand (the demand outstripping supply), which was caused by: (i) cheaper (lower interest rates), more accessible finance; (ii) strong economic growth through the 1990s; (iii) inherent limitations on the

responsiveness of housing supply to surges in demand; (iv) strong population growth; (v) a decrease in household size with a corresponding increase in the number of households; and (vi) property investment tax incentives, induced by interactions between allowed tax claims (such as negative gearing, "capital works" deductions, post-1999 capital gains provisions) and marginal income tax rates. With respect to housing affordability in Melbourne, the commission pointed out that the "upswing" in housing prices began in the more expensive suburbs in Melbourne and then spread to other parts of the city. Overall, the commission viewed the worsening of housing affordability in the early 2000s as a short-run phenomenon. In particular, it forecasted a stabilisation of house prices in coming years and a consequent gradual improvement in housing affordability.

Although the focus of this research is on home purchasers' housing affordability, declining housing affordability in private rental housing is an issue put forward by a number of authors. A state-based analysis of average rents as a proportion of real income done by Burke and Ralston (2003) showed a universal long-term worsening of housing affordability. Yates and Wulff (2000, 2005) used census data to demonstrate a decline in low-rent housing stock. Landt and Bray (1997) and Harding et al. (2004) found improving housing affordability for private renters during the periods analysed, namely the first half of the 1990s and from 1998 to 2004, respectively.

Yates and Gabriel (2006) analysed data from the 2002–03 Survey of Income and Housing (SIH) and showed that 11.3 per cent of all Australian households and 28.2 per cent of all lower income households were in housing stress. As indicated in the previous chapter, currently, housing stress is typically defined as households paying 30 per cent or more of household income in meeting housing costs.

Kryger (2006) looked at home loan affordability between 1986 and 2006. The research revealed that the sensitivity of home loan affordability to interest rate changes has increased gradually over time. Furthermore, the paper shows that even though home loan affordability historically exhibits a cyclical pattern, it has been trending downwards since 1998.

Wood and Stoakes (2006) compared housing affordability and tenure share trends between 1981 and 2001 in Victoria. The research specifically analysed households' housing affordability by income quintiles and age groups. In line with other similar research, the authors argue that housing affordability has deteriorated in general, and that households within the lowest two income quintiles have been the most affected. The paper also shows that, with regards to tenure share, the percentage

of home purchasers and outright owners among younger households is in long-run decline.[4]

Yates (2008) aimed to examine the nature and causes of Australia's housing affordability problem. In particular, the paper explored whether the house price inflation of 2006/07 and the accompanying deterioration in housing affordability is a short-term problem or a continuation of long-term trends. The author argues that the housing affordability crisis is not something that has emerged recently but instead can be traced back a long time. It was shown that Melbourne's housing affordability crisis has emerged from a series of multiple contributing factors leading to demand outstripping supply and housing costs rising faster than household incomes. The research also argues that there are significantly more private renters than purchasers experiencing housing stress.

Kupke and Rossini (2011) aimed to explore access to homeownership for "key workers" between 2001 and 2009, in Australia: Adelaide, Melbourne, Sydney and Brisbane.[5] The paper argues that single-income households, even those on moderate salaries, face increasing financial difficulty in purchasing a house. They found this to be especially evident in Sydney and Melbourne.

In general, research focusing on Australian home purchasers' housing affordability predominantly points out to the presence of an underlying structural affordability problem in Australia over the past half century. Studies focusing on Melbourne home purchasers' housing affordability present somewhat conflicting stories. While Burke and Hayward (2001) found an improvement in housing affordability in the outer urban areas, with a deterioration in the inner urban areas, the Productivity Commission (2004) argues of overall deterioration in housing affordability with an upswing in housing prices beginning in the more expensive suburbs of Melbourne and then spreading to other parts of the city. Among other things, this empirical study will examine which of these trends has continued in more recent years.

6.3 Data and methodology

The main intention of this chapter is to assess the housing affordability problem in Melbourne, at the suburban level. According to the Real Estate Institute of Victoria (REIV), the Melbourne Metropolitan area is divided into 31 Local Government Areas (LGAs), comprised of a total of 574 suburbs. Conducting an analysis on all 574 suburbs would be very time consuming and cumbersome; hence, the scope of the analysis was reduced to 61 representative suburbs.

The selection was based on the size of the Median Multiple indicator, as of 2006, and data availability. In particular, within each LGA the suburb with the highest and the lowest Median Multiple indicator was selected. The only exception was the LGA of Nillumbik, for which adequate data was available for only one suburb (Diamond Creek). The observed period was from 2001 to 2010. Table 6.1 alphabetically lists Melbourne's LGAs and the selected suburbs.

As stated earlier, the study utilises the Median Multiple indicator to assess housing affordability in the Melbourne Metropolitan area.

Table 6.1 The Melbourne's selected suburbs and their LGAs

LGA	***Suburb***	**LGA**	***Suburb***
Banyule	*Eltham North*	Maribyrnong	*Seddon*
Banyule	*Ivanhoe*	Maribyrnong	*Maribyrnong*
Bayside	*Beaumaris*	Maroondah	*Croydon Hills*
Bayside	*Brighton*	Maroondah	*Ringwood*
Booroondara	*Ashburton*	Melbourne	*Southbank*
Booroondara	*Hawthorn*	Melbourne	*Carlton North*
Brimbank	*Delahey*	Melton	*Caroline Springs*
Brimbank	*Sunshine*	Melton	*Melton*
Cardinia	*Pakenham*	Monash	*Mulgrave*
Cardinia	*Beaconsfield*	Monash	*Chadstone*
Casey	*Cranbourne North*	Monee Valley	*Keilor East*
Casey	*Berwick*	Monee Valley	*Essendon*
Darebin	*Macleod*	Moreland	*Oak Park*
Darebin	*Thornbury*	Moreland	*Brunswick West*
Frankston	*Skye*	Mornington Peninsula	*Mount Eliza*
Frankston	*Seaford*	Mornington Peninsula	*Sorrento*
Glen Eira	*Bentleigh East*	Nillumbik	*Diamond Creek*
Glen Eira	*Caulfield North*	Port Phillip	*Elwood*
Greater Dandenong	*Keysborough*	Port Phillip	*St Kilda West*
Greater Dandenong	*Dandenong*	Stonnington	*Glen Iris*
Hobsons Bay	*Seabrook*	Stonnington	*Toorak*
Hobsons Bay	*Williamstown*	Whitehorse	*Vermont South*
Hume	*Sunbury*	Whitehorse	*Box Hill North*
Hume	*Fawkner*	Whittlesea	*Mill Park*
Kingston	*Aspendale Gardens*	Whittlesea	*Thomastown*
Kingston	*Mentone*	Wyndham	*Hoppers Crossing*
Knox	*Rowville*	Wyndham	*Werribee*
Knox	*Wantirna South*	Yarra	*Richmond*
Manningham	*Ringwood North*	Yarra	*Fitzroy*
Manningham	*Bulleen*	Yarra Ranges	*Montrose*
		Port Phillip	*Yarra Ranges*

As shown in equation (5.8), the Median Multiple (MM) is defined as median house price (MH_p) divided by median household income (MH_i). This indicator is regarded as the best measure of pressure on the housing market (Flood, 2001). Due to its simplicity, this indicator is one of the most widely used (Karmel, 1995; Chaplin and Freeman, 1999). As indicated in the previous chapter, among others, it is used by the World Bank and the United Nations. Some of the benefits of using the Median Multiple include: it is an easily understood indicator of the structural health of residential markets; it allows assessment of market forces and housing policies on the living conditions of people; and it allows for meaningful housing affordability comparisons. On the other hand, the Median Multiple indicator has a number of limitations, such as: given the variations in land availability and type of human settlement and activities, results may vary considerably if collected at the city, national, urban/rural levels; depending on rental market regulation and the availability of rental housing, although rents generally reflect house prices, rents may be much more or less affordable than this indicator would suggest; the direct influence of the financial markets is not reflected; it is a measure of what the market will pay rather than a measure of the cost to build housing; and, as indicated by the Productivity Commission (2004), the indicator totally ignores the cost of housing finance.

Several reputable data sources have been used for this analysis. The data collected for median household income has been sourced from the ABS. More precisely, the data is sourced from the National Census Surveys (NCSs) and Surveys of Income and Housing (SIH).[6] It is important to note that NCSs only provide weekly median household income data. To get yearly figures, the weekly figures were multiplied by 52.18.[7]

During the observed period only two NCSs were conducted and these were in 2001 (ABS, 2001) and 2006 (ABS, 2006). Consequently, an adjustment had to be made for the years that fell in between the census years.[8]

Table 6.2 Equivalised disposable household income, Victoria, 2000/01–2007/08

	2000/01	**2002/03**	**2003/04**	**2005/06**	**2007/08**
All persons, Mean income per week	589.61	596.66	637.57	688.64	798.03
Percentage changes	3.48%	1.20%	6.86%	8.01%	15.89%
Average annualised change	1.74%	0.60%	6.86%	4.01%	7.94%

Source: Extracted from ABS (2009).

The National Census data were adjusted with corresponding equivalised disposable average household income changes for Victoria.[9] The equivalised disposable average household income data for Victoria are published by the SIH. Furthermore, as the published equivalised disposable average household income changes for Victoria are not available after 2007/08, adjustments for 2009 and 2010 were made by the latest available equivalised disposable average household income changes i.e. 2007/08.

Melbourne housing prices data are obtained from the following two sources: the REIA and RP Data. REIA was used to source city-level housing price data, while RP Data was used to obtain suburban house price data.

An attempt to understand structural changes in Melbourne's housing affordability problem at the local level involves an analysis of all 61 selected suburbs. The first year (2001) of the considered period was taken as the reference year. The suburbs are divided into four groups as shown in Table 6.3. The first group is comprised of suburbs with

Table 6.3 Sample distribution according to the selected housing affordability rating groups

Year/Rating Categories		"Severely Unaffordable" (10 plus)	"Seriously Unaffordable" (6.00 to 9.99)	"Moderately Unaffordable" (3.51 to 5.99)	"Affordable" (3.50 or less)
2001	#	5	20	29	7
	%	8	33	48	11
2002	#	9	22	26	4
	%	15	36	43	7
2003	#	12	23	25	1
	%	20	38	41	2
2004	#	11	27	22	1
	%	18	44	36	2
2005	#	10	27	22	2
	%	16	44	36	3
2006	#	8	27	26	0
	%	13	45	43	0
2007	#	21	20	20	0
	%	34	33	33	0
2008	#	21	19	21	0
	%	34	31	34	0
2009	#	23	19	19	0
	%	38	31	31	0
2010	#	27	22	12	0
	%	44	36	20	0

the highest affordability ("Affordable"), defined as suburbs with a Median Multiple of less than 3.5. The second group is comprised of the suburbs with a Median Multiple of between 3.50 and 5.99, defined as "Moderately Unaffordable". The third group is comprised of the suburbs with a Median Multiple of between 6.00 and 9.99, defined as "Seriously Unaffordable". Finally, the fourth group is comprised of the suburbs with the lowest affordability ("Severely Unaffordable"), defined as suburbs with a Median Multiple of 10 plus. Changes of housing affordability for all four groups are then dynamically assessed.

An alternative to the selected grouping was to adopt the grouping utilised by Demographia (2009). As shown in Table 6.4, according to Demographia's rating categories, only 7 per cent of suburbs would be deemed "Affordable" in 2001. Nevertheless, that would quickly dissipate, and as of 2003, no suburbs would be deemed "Affordable". Similarly, in 2010, 95 per cent of suburbs would be deemed "Severely Unaffordable".

Table 6.4 Sample distribution of housing affordability rating groups accepted by Demographia (2009)

Year/ Rating Categories		"Severely Unaffordable" (5.01 plus)	"Seriously Unaffordable" (4.01 to 5.0)	"Moderately Unaffordable" (3.01 to 4.0)	"Affordable" (3.0 or less)
2001	#	32	14	11	4
	%	52	23	18	7
2002	#	42	13	5	1
	%	69	21	8	2
2003	#	47	10	4	0
	%	77	16	7	0
2004	#	49	9	3	0
	%	80	15	5	0
2005	#	49	8	4	0
	%	80	13	7	0
2006	#	43	16	1	0
	%	72	27	2	0
2007	#	49	11	1	0
	%	80	18	2	0
2008	#	51	10	0	0
	%	84	16	0	0
2009	#	54	7	0	0
	%	89	11	0	0
2010	#	58	3	0	0
	%	95	5	0	0

Source: Extracted from Demographia (2009).

Because the sample distribution, according to this classification, would be heavily skewed towards "Seriously Unaffordable" and "Severely Unaffordable" groups, an alternative, somewhat more realistic housing affordability rating categorisation, as shown in Table 6.3, was adopted.

The study also sets out to explore which Melbourne housing market segment represents a better investment opportunity. This is done by assessing how the selected rating groups have performed during housing booms i.e. periods when median house prices in Melbourne increased by more than 7 per cent.[10] The analysis considers both high and low interest rate environments. A high interest rate environment is defined as a period when the cash rate is above 5 per cent, and a low interest rate environment is defined as a period when the cash rate is below 5 per cent.

It should also be noted that no attempt has been made in this analysis to address issues of housing affordability as measured by any housing affordability measure other than the Median Multiple indicator. The method outlined here, in the author's opinion, represents a practical approach to the use of the available data.

6.4 Results and discussion

6.4.1 The geography of Melbourne's affordability problem

As previously mentioned, the Melbourne Metropolitan region has a complex urban system comprised of 574 suburbs and 31 LGAs.[11] The analysis begins by examining structural changes in Melbourne's housing affordability by analysing 61 selected suburbs.

As shown in Table 6.5, the Median Multiple indicator among the selected suburbs in 2001 ranged from just 2.36, in Melton, to 17.67 in Toorak. By 2010, the range increased to 4.48 in Skye to 31.02 in Toorak. The broad range suggests the presence of a significant spatial price arbitrage between suburbs. Out of the selected suburbs in 2001, only seven suburbs were deemed as "Affordable" and these were: Melton, Hoppers Crossing, Werribee, Cranbourne North, Berwick, Mill Park and Sunbury.[12] This finding concurs with Kupke and Rossini (2011), who found that in 2001 only houses in Melbourne's outer zone were deemed affordable. Table 6.5 shows that the housing affordability deterioration continued in 2002, when only four suburbs (Melton, Hoppers Crossing, Werribee and Cranbourne North) remained "Affordable". For the three following years, only Melton maintained the ratio of below 3.5. After 2005, no suburb had a ratio of below 3.5. Between 2001 and 2010, the

Table 6.5 Median Multiple Indicators (2001/10) for the selected suburbs defined as "Affordable": suburbs with Median Multiple of less than 3.5 as at 2001

City	Suburb	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Melton	Melton	2.36	2.82	3.29	3.34	3.29	4.50	4.48	4.87	4.90	6.09
Wyndham	Hopp. Crossing	2.75	3.14	3.52	3.60	3.50	3.79	3.82	4.08	4.27	4.71
Wyndham	Werribee	2.90	3.49	3.77	4.05	3.94	4.13	4.04	4.25	4.50	4.89
Casey	Cranb. North	2.91	3.45	3.88	4.16	4.23	4.04	4.32	4.53	5.06	5.37
Casey	Berwick	3.40	3.98	4.38	4.49	4.53	4.86	5.01	5.18	5.37	5.53
Whittlesea	Mill Park	3.48	4.02	4.38	4.40	4.38	4.76	4.98	5.06	5.46	5.05
Hume	Sunbury	3.49	3.93	4.45	4.70	4.63	4.08	4.05	4.07	4.39	5.50
Average		**3.04**	**3.55**	**3.95**	**4.11**	**4.07**	**4.31**	**4.39**	**4.58**	**4.85**	**5.31**

average ratio of all seven suburbs increased by 74 per cent, from 3.04 in 2001 to 5.31 in 2010. Interestingly, the highest increase in the Median Multiple was realised by the initially most affordable suburb, Melton, which increased by 157 per cent i.e. it went from being the most affordable to becoming the only suburb out of the seven suburbs in the group to become "Seriously Unaffordable" in 2010. Even so, as of 2010, Melton is still the cheapest of all the considered suburbs.[13] Figure 6.3 shows that, as with all other of the considered suburbs and rating groups, changes in median household income in Melton between 2001 and 2010 did not keep pace with house price increases. The "Affordable" group's median household income and median house price increased by 27 per cent and 120 per cent, respectively. Consequently, the coverage ratio for the group was only 23 per cent (see Figure 6.4).[14]

As shown in Table 6.3, in 2001, 29 suburbs or 48 per cent of all the selected suburbs were deemed to be "Moderately Unaffordable".[15] By 2010, that number reduced to only 12 suburbs or 20 per cent of all of the selected suburbs. Table 6.6 shows that, between 2001 and 2010, the Median Multiple average for all 29 suburbs increased by 81 per cent, from 4.41 to 7.97. The highest increase was achieved by the initially least affordable suburb, Fawkner. During the observed period, Fawkner's Median Multiple increased by 131 per cent (from 5.60 in 2001 to 12.94 in 2010) i.e. from being "Moderately Unaffordable" in 2001 it became "Severely Unaffordable" in 2010. Again, the major reason for this is that increase in household income could not keep pace with house inflation. The coverage ratio for the whole group, as shown in Figure 6.4, was only 27 per cent.

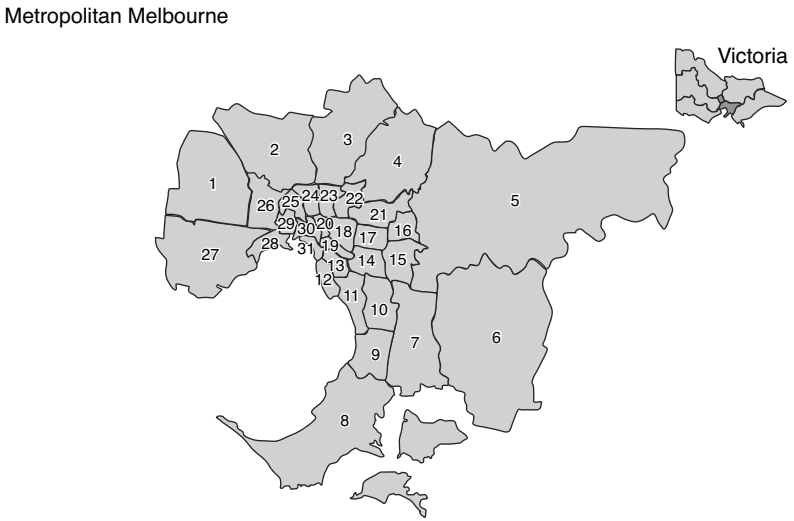


Figure 6.1 Distribution of the Melbourne Metropolitan region's LGAs

Source: http://www.liveinvictoria.vic.gov.au/living-in-victoria/melbourne-and-regional-victoria/melbourne.

In 2001, 20 suburbs or 33 per cent of all selected suburbs were deemed to be "Seriously Unaffordable".[16] By 2010, this number increased to 22 suburbs i.e. 36 per cent of all suburbs. Though the average Median Multiple indicator increase was the second largest (increasing by 81 per cent during the observed period) analysed by number of suburbs this category changed the least. This group included the absolute record holder for the highest increase in the Median Multiple indicator among all the considered suburbs, Hawthorn. During the observed period, Hawthorn recorded an increase in the Median Multiple indicator of 213 per cent (from 9.58 in 2001 to 30.01 in 2010) and become the second least affordable suburb in 2010 (Toorak remained the least affordable during the whole period considered). Again, this was caused by a

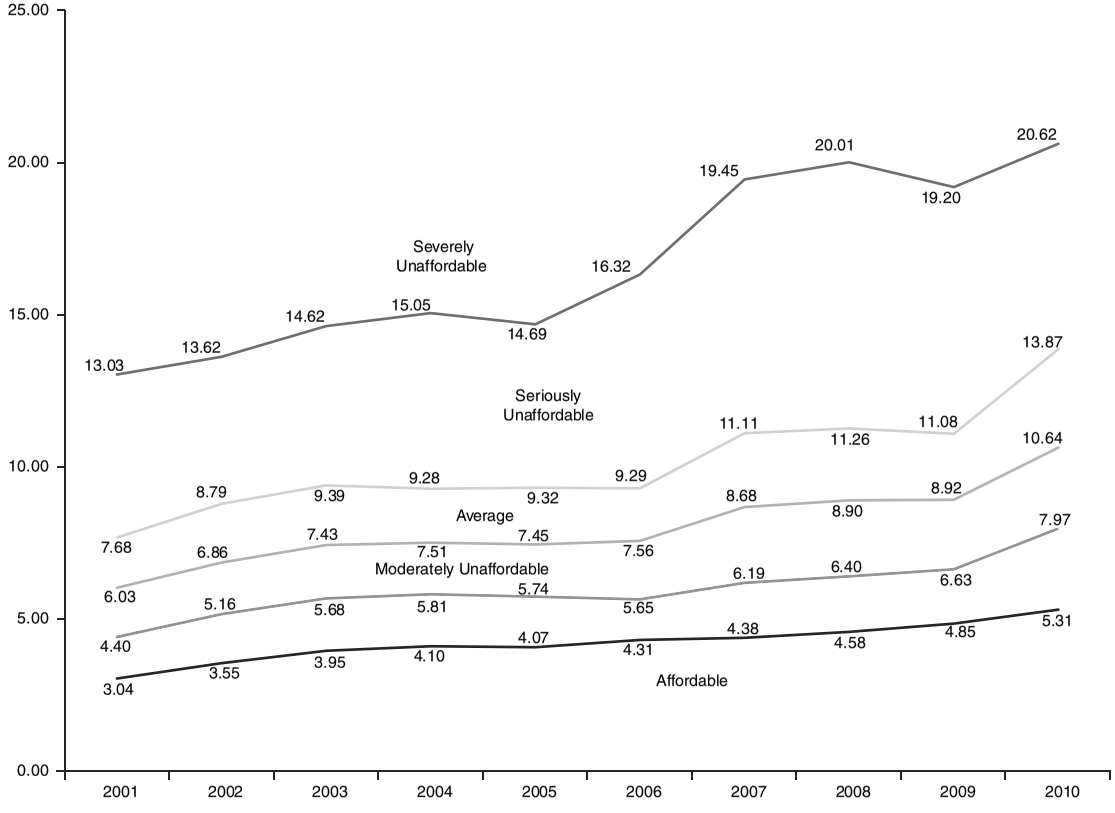


Figure 6.2 Average affordability for the selected rating groups, 2001–10

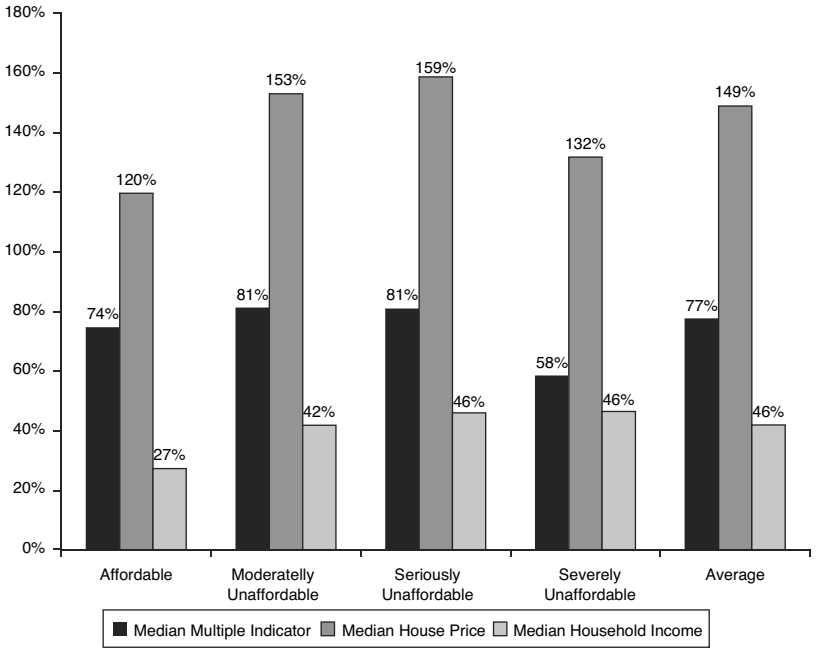


Figure 6.3 Percentage change in Median Multiple Indicator, Median Household Income and Median House Prices for the selected rating groups between 2001 and 2010

staggering median house price increase of 315 per cent accompanied by a very modest medium household income increase of only 32 per cent.

As can be seen in Table 6.8, only five suburbs were deemed to be "Severely Unaffordable" in 2001, namely Caulfield North, Brighton, Elwood, St. Kilda West and Toorak. By 2010, 27 suburbs or 44 per cent of all suburbs belonged to this group. Even though this category observed the largest increase by far in number of suburbs, the average Median Multiple increase in this group was the smallest (increasing by 58 per cent, from 13.04 in 2001 to 20.62 in 2010). This group recorded the highest coverage ratio of 35 per cent.

According to the South Australian Government Gazette (2007), an affordable house purchase price for FHBs and subsequent home buyers with modest savings is determined as 3.86 times household median income. This multiplier is recognised as a more conservative ratio than others which can range up to five times median income (Bank

Table 6.6 Median Multiple Indicators (2001/10) for the selected suburbs defined as "Moderately Unaffordable": suburbs with Median Multiple of between 3.50 and 5.99 as at 2001

City	Suburb	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Greater Dandenong	Keysborough	3.55	4.03	4.63	4.87	4.92	5.15	5.46	6.28	6.28	7.34
Maroondah	Croydon Hills	3.55	4.11	4.24	4.43	4.35	4.63	5.11	5.15	5.40	6.11
Frankston	Skye	3.56	4.28	4.79	5.37	5.07	4.37	4.24	4.40	4.36	4.48
Melton	Caroline Springs	3.61	4.24	4.41	4.56	4.38	4.37	4.38	4.45	4.80	5.18
Hobsons Bay	Seabrook	3.62	4.02	4.24	3.90	4.00	4.17	4.62	4.72	4.94	5.67
Cardinia	Pakenham	3.72	4.16	4.80	5.29	5.23	4.73	4.74	4.91	5.23	4.55
Brimbank	Delahey	3.73	4.46	4.65	4.73	4.60	4.37	4.64	4.72	5.02	5.79
Knox	Rowville	3.92	4.53	5.13	5.22	5.25	4.84	5.28	5.49	5.65	9.38
Knox	Wantirna South	4.01	4.79	5.32	5.45	5.41	5.80	6.72	6.68	6.99	8.49
Melbourne	Southbank	4.04	5.02	5.25	5.34	5.38	5.77	6.09	5.04	6.43	8.19
Yarra Ranges	Montrose	4.07	4.85	5.19	5.51	5.26	4.88	5.41	5.43	5.80	8.74
Nillumbik	Diamond Creek	4.18	4.96	5.29	5.31	5.15	4.62	5.16	5.23	5.24	7.83
Yarra Ranges	Healesville	4.19	5.21	5.87	6.36	6.50	6.33	6.80	7.03	7.20	8.86
Whitehorse	Vermont South	4.23	4.90	5.35	5.16	5.06	5.88	6.87	7.09	7.13	9.14
Banyule	Eltham North	4.25	4.88	5.05	5.27	5.09	4.36	4.98	5.05	4.78	6.25
Manningham	Ringwood North	4.43	5.13	5.62	5.80	5.75	5.73	6.15	5.74	6.06	7.42
Cardinia	Beaconsfield	4.49	5.09	5.76	6.27	6.03	5.58	5.37	5.19	5.45	5.64
Kingston	Aspen Gardens	4.53	5.47	6.12	5.81	5.83	5.17	5.58	5.86	5.87	6.27
Whittlesea	Thomastown	4.60	5.27	5.94	6.09	5.79	6.52	6.70	7.55	7.78	10.61
Monash	Mulgrave	4.64	5.22	6.59	6.25	6.31	6.26	7.21	7.50	7.45	6.75
Frankston	Seaford	4.81	5.79	6.57	6.76	6.55	6.53	7.31	7.46	7.67	8.19
Darebin	Macleod	4.97	5.54	5.86	6.25	6.24	5.79	6.48	6.89	7.27	8.59
Greater Dandenong	Dandenong	5.04	6.02	7.11	7.26	7.33	7.81	8.54	9.57	9.55	11.27
Maroondah	Ringwood	5.05	6.24	6.91	7.03	6.99	6.85	7.56	7.92	8.18	6.78
Monee Valley	Keilor East	5.07	5.85	6.26	6.29	6.24	5.95	6.51	7.00	7.29	9.96
Brimbank	Sunshine	5.29	6.16	6.79	6.49	6.24	6.36	7.19	8.16	8.81	9.59
Mornington Peninsula	Mount Eliza	5.49	6.36	7.27	7.92	7.53	6.94	7.54	7.57	7.71	11.53
Maribyrnong	Seddon	5.52	6.47	6.61	6.40	7.12	6.19	7.91	7.81	7.61	9.65
Hume	Fawkner	5.60	6.51	7.01	7.10	6.76	7.80	8.88	9.66	10.41	12.94
Average		**4.41**	**5.16**	**5.68**	**5.81**	**5.74**	**5.65**	**6.19**	**6.40**	**6.63**	**7.97**

Table 6.7 Median Multiple Indicators (2001/10) for the selected suburbs defined as "Seriously Unaffordable": suburbs with Median Multiple of between 6.00 and 9.99 as at 2001

City	Suburb	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Maribyrnong	Maribyrnong	6.39	7.06	7.17	7.38	7.05	7.78	8.96	8.62	8.94	9.96
Glen Eira	Bentleigh East	6.43	7.42	7.88	7.62	7.61	7.79	9.49	9.68	10.01	11.63
Moreland	Oak Park	6.54	7.65	8.05	7.97	7.49	6.68	7.79	8.00	8.35	8.82
Booroondara	Ashburton	6.62	7.61	8.84	8.47	8.07	8.97	11.85	10.97	10.38	12.58
Monash	Chadstone	6.68	7.75	8.12	7.89	8.07	7.99	9.33	9.99	10.03	15.61
Manningham	Bulleen	6.71	7.31	8.34	7.97	7.78	8.62	10.45	10.72	10.30	11.84
Kingston	Mentone	6.81	7.94	8.93	9.26	8.73	9.66	11.05	11.56	10.19	13.04
Melbourne	Carlton North	7.32	8.21	8.98	8.89	8.17	9.10	10.50	10.17	11.08	10.74
Hobsons Bay	Williamstown	7.45	8.30	9.27	8.61	9.54	8.88	10.40	10.13	10.25	11.41
Darebin	Thornbury	7.49	8.40	9.05	8.79	9.02	9.01	10.80	10.91	11.08	12.42
Moreland	Brunswick West	7.79	9.40	9.70	9.09	9.02	8.69	11.06	10.43	11.22	14.81
Yarra	Richmond	8.01	8.76	9.09	9.20	9.58	8.98	10.52	10.30	10.35	10.56
Monee Valley	Essendon	8.09	9.73	10.59	10.45	9.55	9.27	11.70	11.43	11.63	13.00
Bayside	Beaumaris	8.62	9.92	10.25	10.15	10.40	9.56	10.95	10.98	10.35	11.49
Stonnington	Glen Iris	8.71	10.17	10.75	10.39	10.91	9.66	11.36	11.19	11.46	12.11
Yarra	Fitzroy	8.73	9.77	9.45	9.87	9.71	10.32	11.83	12.13	12.13	14.20
Booroondara	Hawthorn	9.58	10.56	10.95	11.19	11.45	13.02	16.37	18.51	17.12	30.01
Banyule	Ivanhoe	9.58	10.20	10.82	10.28	11.33	9.64	11.86	12.37	11.64	13.70
Mornington Peninsula	Sorrento	9.88	12.73	13.85	14.47	15.34	14.25	15.71	16.98	15.23	28.34
Average		**7.76**	**8.89**	**9.48**	**9.37**	**9.41**	**9.36**	**11.16**	**11.32**	**11.14**	**14.01**

Table 6.8 Median Multiple Indicators (2001/10) for the selected suburbs defined as "Severely Unaffordable": suburbs with Median Multiple of 10 plus as at 2001

City	Suburb	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Glen Eira	Caulfield North	10.24	10.80	11.85	11.12	11.87	14.41	17.18	17.47	16.44	17.80
Bayside	Brighton	10.65	11.42	12.26	14.00	13.84	13.19	17.19	15.20	15.80	14.51
Port Phillip	Elwood	12.46	13.78	12.88	14.16	14.13	12.58	15.46	15.62	15.65	18.14
Port Phillip	St Kilda West	14.16	12.57	15.83	13.91	11.37	17.15	18.59	24.18	19.95	21.63
Stonnington	Toorak	17.67	19.50	20.31	22.07	22.22	24.30	28.82	27.58	28.15	31.02
Average		**13.04**	**13.61**	**14.63**	**15.05**	**14.69**	**16.33**	**19.45**	**20.01**	**19.20**	**20.62**

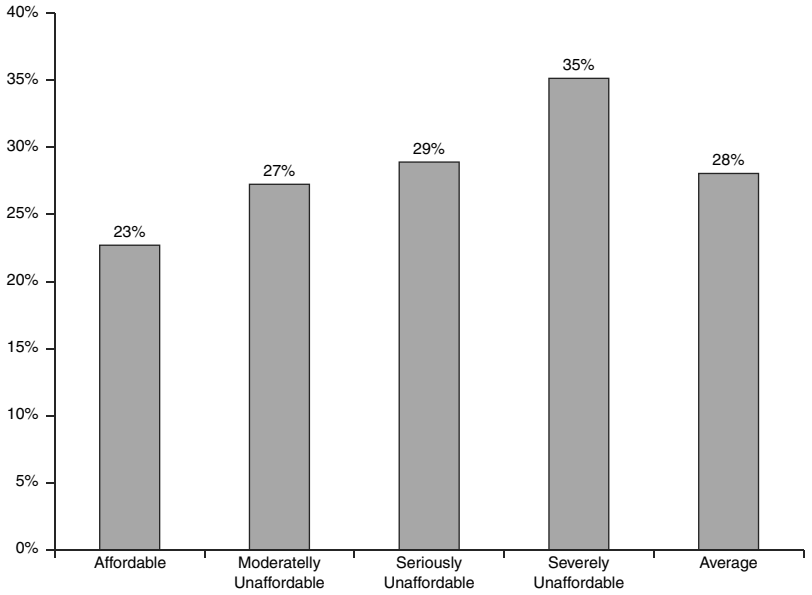


Figure 6.4 Coverage ratios for the selected rating groups between 2001 and 2010

West, 2008, 2009). Obviously, those homeowners living in "Seriously Unaffordable" and "Severely Unaffordable" suburbs on a median household income could not afford to purchase their house, i.e. they must have obtained the property by means other than regular income.[17] Table 6.5 also reveals that by 2010 of the analysed suburbs only four suburbs had a Median Multiple below 5. Consequently, the choice of

Table 6.9 Median Multiple Indicators, Median Household Income and Median House Prices, 2001/10

Years	Median Multiple Indicator	Median Household Income	Median House Prices
2001	6.03	$50,253	$306,772
2002	6.86	$51,208	$353,878
2003	7.43	$52,964	$396,302
2004	7.51	$54,781	$414,696
2005	7.45	$56,977	$427,839
2006	7.56	$60,876	$469,656
2007	8.68	$63,317	$562,810
2008	8.90	$65,856	$595,775
2009	8.92	$68,497	$620,844
2010	10.74	$71,243	$763,028

affordable stock, especially for lower income FHB families, was limited to a small number of outer suburbs. The only alternative for families not content to live in those suburbs is to remain in low cost rental in their preferred suburbs.

The analysis presented here clearly indicates an overall sizeable deterioration in housing affordability in Melbourne whereby the average Median Multiplier increased from 6.03 in 2001 to 10.64 in 2010 (see Table 6.9). The increase in the Median Multiplier ranged from just 22 per cent in Pakenham to 213 per cent in Hawthorn. Furthermore, no suburb recorded an improvement in housing affordability between 2001 and 2010. This partially contradicts with what was observed by Burke and Hayward (2001), who showed an improvement in housing affordability in the outer urban areas with deterioration in inner urban areas. In fact, over the observed period, suburbs deemed to be "Affordable" (all located in Melbourne's outer zone), realised a relatively larger increase in the average Median Multiple (74 per cent) compared to suburbs deemed to be "Severely Unaffordable" (all located in Melbourne's inner zone), whose average Median Multiple increased by 58 per cent.

The results reinforce the findings of the Productivity Commission (2004), which also pointed to an overall deterioration in housing affordability in Melbourne. This research reaffirms a continuation of the trend observed in the early 2000s. It is important to note that the commission viewed the worsening of housing affordability in the early 2000s as a short-run phenomenon. The assessment was that house prices would stabilise, as they did for a while during 2004–05, and that growing incomes supported by strong economic performance would gradually

ease housing affordability as capacity to pay caught up with already high house prices. With the benefit of hindsight, we know that the housing market decided otherwise in that house prices continued growing and housing affordability continued its downward trend.

Even though housing affordability continued deteriorating, the pattern has been uneven, reflecting the remarkably different geographies of household income and house price changes during the last decade. As shown in Figure 6.3, between 2001 and 2010, the outer zone suburbs ("Affordable" suburbs) compared to the inner zone suburbs ("Severely Unaffordable" suburbs) have experienced somewhat smaller house price growth (120 per cent to 132 per cent, respectively) and significantly smaller median household income growth (27 per cent to 46 per cent, respectively). This has resulted in housing affordability deteriorating more in the outer zone suburbs. Nevertheless, suburbs grouped as "Moderately Unaffordable" and "Seriously Unaffordable" (located in Melbourne's central zone) have experienced the largest house price inflation and consequently the largest deterioration in housing affordability (on average 156 per cent and 81 per cent, respectively).

With respect to the question as to whether or not the selected suburbs and the four suburb groups considered become more (converge) or less (diverge) affordable over time for people living in those suburbs, the study revealed that housing affordability continued deteriorating for most of the decade. Table 6.10 shows that housing affordability on average diverged by 76 per cent over the decade observed. Overall, the

Table 6.10 Index of average changes in Median Multiple Indicators for the selected rating groups, 2001/10, 2001 = 100

Years	Outer zone ("Affordable")	Outer-central zone ("Mod. Unafford.")	Inner-central zone ("Ser. Unafford.")	Inner zone ("Sev. Unafford.")	Average
2001	100.00	100.00	100.00	100.00	100.00
2002	116.57	117.11	114.46	104.46	113.73
2003	129.92	128.91	122.33	112.20	123.26
2004	134.92	131.92	120.88	115.48	124.57
2005	133.84	130.23	121.37	112.68	123.63
2006	141.63	128.20	121.06	125.22	125.47
2007	144.10	140.48	144.70	149.21	144.00
2008	150.48	145.26	146.72	153.52	147.64
2009	159.39	150.62	144.40	147.28	147.94
2010	174.40	181.01	180.69	158.20	176.45

Table 6.11 Year-to-year change in Median Multiple Indicator for the selected rating groups, 2001/10, 2001 = 1

Years	Outer zone ("Affordable")	Outer-central zone ("Mod. Unafford.")	Inner-central zone ("Ser. Unafford.")	Inner zone ("Sev. Unafford.")	Average
2001		1	1	1	1
2002	16.57%	17.11%	14.46%	4.46%	13.73%
2003	11.45%	10.08%	6.88%	7.41%	8.38%
2004	3.85%	2.34%	–1.19%	2.92%	1.06%
2005	–0.80%	–1.28%	0.40%	–2.42%	–0.76%
2006	5.82%	–1.56%	–0.26%	11.13%	1.49%
2007	1.74%	9.58%	19.53%	19.15%	14.77%
2008	4.43%	3.40%	1.39%	2.89%	2.52%
2009	5.92%	3.69%	–1.58%	–4.06%	0.21%
2010	9.42%	20.18%	25.13%	7.41%	19.27%

Table 6.12 Index of average changes in house prices for the selected rating groups, 2001/10, 2001 = 100

years	outer zone ("Affordable")	outer-central zone ("Mod. Unaffordable")	inner-central zone ("Ser. Unaffordable")	inner zone ("Sev. Unaffordable")	Average
2001	100	100	100	100	100
2002	119	119	116	107	115
2003	137	135	129	119	129
2004	147	143	131	127	135
2005	151	147	137	129	139
2006	153	153	150	158	153
2007	162	175	187	197	183
2008	176	186	197	208	194
2009	194	200	202	209	202
2010	220	253	259	232	249

results reinforce the findings of Alexander and Barrow (1994) that house prices, and hence house affordability, diverge over time. This trend hides important spatial differences that were particularly evident between 2004 and 2006, and during 2009 (see Table 6.11).

Between 2004 and 2006, each group recorded at least one year in which housing affordability converged. In 2005, all but one group ("Seriously Unaffordable") experienced housing affordability convergence. The pattern observed in 2009 is solely caused by the GFC. Globally, two significant corollaries of the GFC have been house price reductions and housing construction paralysis (Kuenzel and Bjørnbak, 2008). In its response to

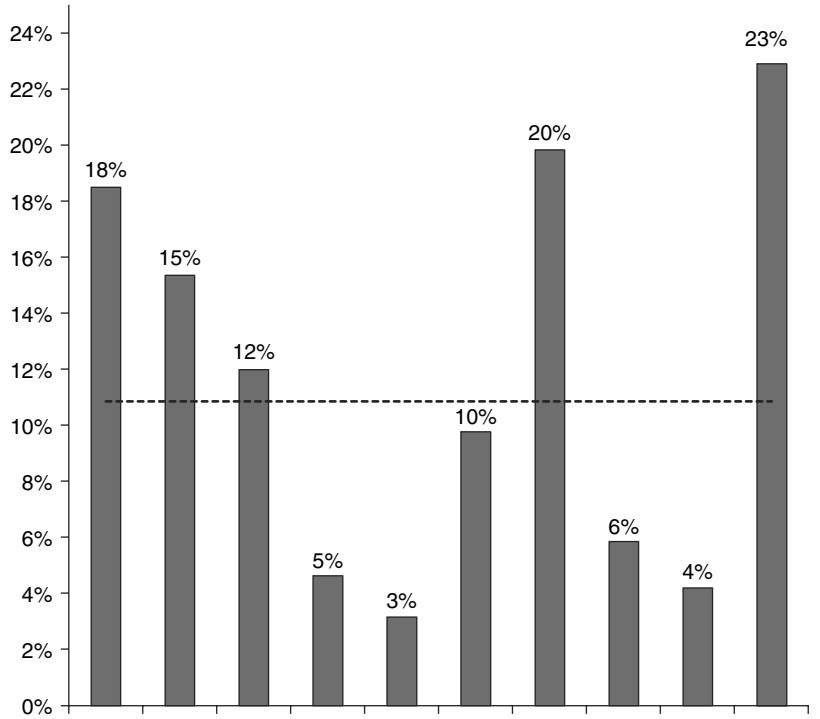


Figure 6.5 Change in Median House Prices for Melbourne's selected suburbs, 2001–10

Source: Extracted from RP Data – www.realestate.com.au – Suburb Profile Yearly Median House Price http://www.rs.realestate.com.au/cgi-bin/rsearch?a=sp.

the GFC, the Australian Federal Government primarily targeted FHBs, which in turn sustained housing demand and house price growth for the lower end of the market where FHBs could afford to buy. The unhindered impact of the GFC on the higher end of the market caused its housing affordability to somewhat improve. Figure 6.5 shows annual changes in median house prices for the selected suburbs over the observed period and reveals that the two periods characterised with housing affordability convergence coincide with housing market downturns.

6.4.2 Which market segment represents a better investment opportunity?

Due to the importance of housing as an investment opportunity, this study also explores which Melbourne housing market segment

Table 6.13 Year-to-year change in house prices for the selected rating groups, 2001/10, 2001 = 1

years	Outer zone ("Affordable")	Outer-central zone ("Mod. Unaffordable")	Inner-central zone ("Ser. Unaffordable")	Inner zone ("Sev. Unaffordable")	Average
2001	1	1	1	1	1
2002	**18.70%**	**19.24%**	**16.24%**	**6.68%**	**15.36%**
2003	**15.16%**	**13.34%**	**10.63%**	**11.38%**	**11.99%**
2004	7.20%	5.73%	2.08%	7.00%	4.64%
2005	3.20%	2.68%	4.41%	1.67%	3.17%
2006	**1.35%**	**4.42%**	**9.74%**	**22.13%**	**9.77%**
2007	**5.96%**	**13.91%**	**24.46%**	**24.47%**	**19.83%**
2008	8.35%	6.46%	5.20%	5.61%	5.86%
2009	10.35%	7.81%	2.52%	0.64%	4.21%
2010	**13.08%**	**26.31%**	**28.12%**	**10.95%**	**22.90%**

represented a better investment opportunity during the observed period and why. Even superficial observation indicates that the purchase of a house in Melbourne during the last decade was a very good investment. As shown in Figure 6.3, the average house price for the selected suburbs increased by a staggering 149 per cent. While house prices for all four groups considered more than doubled, the largest increase was observed for the two centrally located suburb groups: "Moderately Unaffordable" and "Seriously Unaffordable".[18] Inner zone suburbs (grouped as "Severely Unaffordable") realised somewhat higher price increases than the outer zone suburbs (grouped as "Affordable" suburbs). Therefore, assuming an investment period of ten years and that the last decade is representative of the next decade, investment advice is obvious: buy in one of the centrally located suburbs.

Table 6.13 clearly shows that year-to-year changes in house prices markedly differ. To try to understand these changes, the analysis continues by assessing how have the four selected suburb groups performed during housing boom periods, defined as periods during which median house prices increased by more than the average house price increase in Melbourne over the last 20 years (7 per cent). Table 6.13 presents (bolded percentages) the three housing boom periods since 2001 namely 2002/03, 2006/07 and 2010. There is a distinct spatial dimension to this data: (i) during the first period (2002/03), the outer and central-outer zone suburbs outperformed the inner and central-inner zone suburbs; (ii) during the second period (2006/07), the pattern reverses i.e. the inner and central-inner zone suburbs outperformed the outer and central-outer

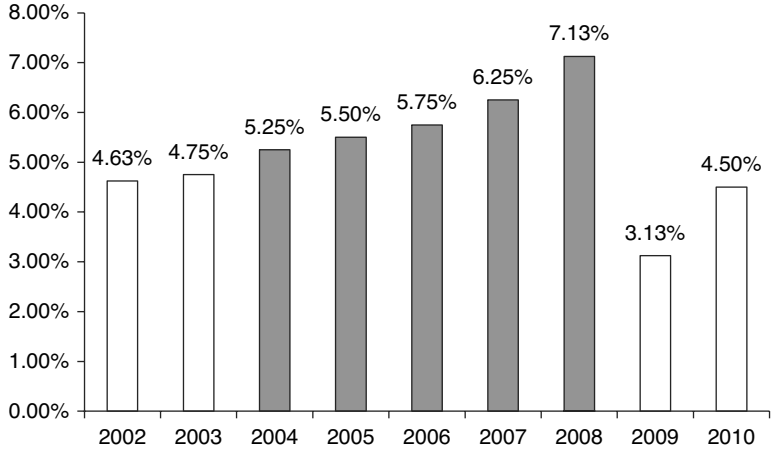


Figure 6.6 Median cash rates, 2001–10

Source: Extracted from Reserve Bank of Australia – http://www.rba.gov.au/statistics/cash-rate.html.

zone suburbs; and (iii) during the third period (2010), the central zone suburbs outperformed both the inner and outer suburbs, although the outer zone suburbs marginally outperformed the inner zone suburbs.

To help understand the observed pattern, the analysis continues by considering changes in the cash rate during the observed period. The analysis examines both high and low interest rate environments (see Figure 6.6). A high interest rate environment is defined as a period during which the cash rate is above 5 per cent (black bars) while a low interest rate environment is defined as a period during which the cash rate is below 5 per cent (white bars).

It is now clear that housing booms in Melbourne occur during both high and low interest rate environments. For example, even though during 2006/07 the RBA increased the cash rate five times (from 5.50 per cent to 6. 75 per cent), house prices boomed. In fact, increases in interest rates seem to have only constrained new building activity and worsened housing shortages. The alternative of having strong house price increases during low interest rate environments, as occurred during the other two housing boom periods (2002/03 and 2010), accords with economic theory and is expected. After relating interest rate environments to housing boom periods, a clearer spatial pattern appears: if a housing boom period coincides with a low interest rate environment

(2002/2003 and 2010), outer zones outperform inner zones, and vice versa, if a housing boom period coincides with a high interest rate environment (2006/07) inner zones on average outperform outer zones. Clearly, inner zones are less sensitive to high interest rates.

6.5 Conclusion

In the first instance, the study sets out to unpack the geography of Melbourne's affordability problem at the local level through analysing structural changes in housing affordability. The study also aims to assess which Melbourne housing market segment represents a better investment opportunity.

The study has illustrated an appreciable deterioration in average housing affordability in Melbourne for the selected suburbs and rating groups between 2001 and 2010. The average Median Multiplier increased from 6.03 in 2001 to 10.64 in 2010. Furthermore, no suburb recorded an improvement in housing affordability between 2001 and 2010. The increase in the Median Multiplier ranged from just 22 per cent in Pakenham (from 3.72 in 2001 to 4.55 in 2010) to 213 per cent in Hawthorn (from 9.58 in 2001 to 30.01 in 2010). With respect to suburb groups, between 2001 and 2010, the "Affordable" suburbs (outer zone suburbs) compared to the "Severely Unaffordable" suburbs (inner zone suburbs) have experienced somewhat smaller house price growth (120 per cent to 132 per cent, respectively) and significantly smaller median household income growth (27 per cent to 46 per cent, respectively). Consequently, housing affordability reduced by 74 per cent for "Affordable" suburbs (outer zone suburbs) and 58 per cent for "Severely Unaffordable" suburbs (inner zone suburbs). Suburbs grouped as "Moderately Unaffordable" and "Seriously Unaffordable" (central zone suburbs) have experienced the largest house price inflation and the largest deterioration in housing affordability (on average 156 per cent and 81 per cent, respectively). The major reason for such a considerable deterioration in housing affordability is that the increase in house prices has far outpaced the growth in household income. The observed sizeable deterioration in average housing affordability for all selected suburbs and rating groups partially contradicts what was observed by Burke and Hayward (2001) who found an improvement in housing affordability in Melbourne's outer urban areas and deterioration in the inner urban areas. The research results reinforce the findings by the Productivity Commission (2004) of an overall deterioration in housing affordability in Melbourne. At the same time, the research results very

much contradict the Productivity Commission's forecast for a gradual improvement in housing affordability.

With respect to the question as to whether or not the four suburb groups considered become more (converge) or less (diverge) affordable over time to people living in those suburbs, the research results overall reinforce the findings of Alexander and Barrow (1994) that house prices, and hence, house affordability diverge over time. Housing affordability diverged on average by 76 per cent over the decade observed. Nevertheless, this trend hides important spatial differences that were particularly evident between 2004 and 2006 and during 2009. Caused by a housing prices cycle downturn between 2004 and 2006, each group recorded at least one year in which housing affordability converged. However, during 2009, only the higher end of the market (i.e. the inner and inner-central zone suburbs represented by "Severely Unaffordable" and "Seriously Unaffordable" suburb groups) experienced convergence. Not surprisingly, the two periods during which housing affordability converged were found to coincide with housing market downturns.

The analysis and results presented in this chapter regarding an assessment of which Melbourne housing market segment represents a better investment opportunity during housing boom periods, suggest two key findings. The first is that housing booms in Melbourne occur during both high and low interest rate environments. The second key finding refers to the relationship between housing market segments, housing boom periods and interest rate levels. Specifically, the study has demonstrated that if a housing boom period coincides with a low interest rate environment, the outer zones outperform the inner zones, and vice versa, if a housing boom period coincides with a high interest rate environment, the inner zones, on average, outperform the outer zones.

Although the study may have limitations in terms of the selection of a housing affordability indicator, the selection of representative suburbs, representative rating groups and the period considered (just ten years), these kinds of limitations are common to most affordability studies. To corroborate the results and explanations provided, the scope of the analysis can be extended with respect to any of the above-listed limitations. For example, extending the research to include other affordability measures (such as home loan affordability measures) could be a rewarding area for further research.

7
Conclusion

This book focused on providing an introduction to the logic and concepts of housing affordability, an overview of the measures of housing affordability and an empirical examination of housing affordability. The book is suited to anyone having some acquaintance with the basic elements of economics and financial acumen. No advanced mathematical background is required of the reader, although a superficial knowledge of basic applied techniques may ease the reader's passage through some parts of the book.

The underlying motivation of this study has been to contribute toward enriching the already extensive research on housing affordability presented in the formal literature. In particular, in addition to several supporting objectives, this book has two main objectives, namely: (i) to review a range of available approaches to the measurement of housing affordability and (ii) to examine the evidence on housing affordability in Melbourne, Australia, from 2001 to 2010. The focus of the latter is on housing affordability in metropolitan areas and not in rural and regional areas where the issues are somewhat different in nature and scale.

The book begins with an exposition in Chapter 2 on the importance of housing per se. In addition to discussing housing trends, this chapter examines the relevance of housing to governments at different levels, the emergence of the housing affordability problem, and why housing affordability is important. Ultimately, the core purpose of this chapter is to enhance understanding of the complexity and importance of housing in general and housing affordability in particular, and thereby to inform the discussion, to different degrees, of the other chapters in the book. The importance of housing in Australia primarily revolves around the simple fact that homeownership holds a special place in the Australian psyche as it is perceived to be integral to both the stability of family life

and to personal wealth creation. This is illustrated by – when compared to international standards – a relatively high homeownership rate (out of 8.4 million households living in Australia in 2009/10, 68.8 per cent of households lived in owner-occupied dwellings, 28.7 per cent of the population were renters and 2.5 per cent of households belonged to other types of household tenures). The exposition confirmed the axiomatic fact that the housing sector plays a vital role in economic growth (both at the national and sub-national levels) and in the welfare of a huge majority of the population. Because of the importance of housing to the economy, it is not surprising that the Australian housing sector is one of the most regulated and taxed sectors in the economy. Regarding regulation of the housing sector, among other things, governments at all levels are involved in developing a functional regulatory system, land releases, zoning, local government planning, community services, public housing and housing assistance. The residential construction and dwelling sector's value added income accounts for around 8.2 per cent of the Australian nation's total value added; hence, governments, understandably, see housing as an important source of revenue. Among other things, research shows that spatial disparities in housing affordability may influence the labour market, especially by discouraging people from working in low affordability areas. High housing costs heighten financial hardship for low-income households by leaving too little in the household budget for non-housing expenses and place some households at risk of being unable to pay their housing costs. Consequently, low housing affordability is typically seen as the major reason for the widening of the wealth distribution in Australia between those able to purchase housing and those who cannot. Ultimately, Chapter 2 demonstrates that a clear understanding of how different causal factors interact to affect the housing market is crucial if we are to thoroughly understanding the housing affordability problem.

Even though the examination in Chapter 3 of the major reasons for the recent explosion in the number of institutions in Australia offering home loan products, and in the number of home loan products offered, entailed a number of related topics (the size, the composition and changes in total lending and home lending in Australia; the consequences of the two most recent rounds of financial system deregulation; trends in interest rate and property prices and; recent changes in typical borrower behaviour), the underlying focus of the chapter was on understanding the two most recent rounds of financial system deregulation. Our research confirmed that the implementation of both rounds of financial system reforms was predominantly successful. The lasting

impact of the reforms can be seen in a much more efficient and effective financial system characterised by increased competition, convenience, the establishment of non-discriminatory access to the money market for all market participants, diversity of choice and the enhanced stability and integrity of the financial system. The resulting increase in the number of competitors, increasing borrower sophistication and non-discriminatory access to the money market for both NBFIs and banks made it unsound for lenders to compete on price alone. Any attempt to distinguish by price alone could not be sustained and only resulted in driving the whole market down i.e. falling margins. Consequently, lenders redirected their attention to developing new, typically more functional, home loan products as a more efficient and effective approach for differentiating at the market place. This resulted in the contemporary home loan market having approximately 350 institutions offering some 3,000 home loan products.

Since home loan interest rates worldwide are significantly influenced by home loan characteristics (such as the term, riskiness and flexibility), to enable a better understanding of contemporary housing affordability measures (the focus of Chapter 5, especially those measures based on home loan repayments), the next logical step was to provide a detailed and structured account of the various, contemporary home loan products. A thorough search of the literature failed to find a comprehensive classification of home loans. This was not completely unexpected, primarily due to recent dynamic changes within the home loan industry and the number of different ways in which home loan products can be viewed. Furthermore, it was observed that home loan products significantly differ from country to country, region to region and even within the same region. All this meant that it was very difficult to exhaustively analyse home loan products. Furthermore, dynamic changes in the home loan market and the number of different ways in which home loan products can be classified and viewed add to the complexities. The author proposed a comprehensive home loan classification in an attempt to overcome these difficulties. The classification was devised in an attempt to classify the various home loan products into logical classes and products that are easy to understand and analyse. As revealed in Chapter 4, each of the home loan products looked at have somewhat different functionalities, which results, among other things, in different home loan products being priced from different COFs bases and generating diverse risk exposures. For example, the more complex home loans, such as the LOC home loan, require more checks, are more flexible and risky and are generally more costly to establish. Consequently, assuming

the same profit margin and fee charges, different home loans will have different interest rates. Therefore, it is important to note that housing affordability, especially if the housing affordability measure is based on home loan repayments, among other things, depends on the selection of the home loan product. Even a simple thing like a more careful and informed selection of the home loan product may significantly improve housing affordability.

Thus far, the discussion in the book has allowed for the examination of various available approaches used for the measurement of housing affordability. After listing and reviewing the more relevant contemporary housing affordability approaches from a number of different perspectives, we have seen in Chapter 5 that although the debate on housing affordability is rife, there is still no universally accepted measure of it and that it is very much a country specific phenomenon. For example, a part of the problem in measuring housing affordability is that different population categories will be affected in very different ways by events such as increase in house prices, rents and inflation. Owner-occupiers typically benefit from real house prices rises, so much so that in some cases the user cost of housing could even fall to zero and below zero (i.e. housing does not cost anything plus there is an additional amount of capital gain made by owning the property). To enable structured analysis, housing affordability measures are classified into homeownership affordability measures (home loan affordability measures and housing price-based affordability measures) and rental affordability measures.

Our discussion on home loan affordability measures reveals that home loan affordability stress can be measured in a number of different ways, ranging from relating calculating the proportion of homes sold/built that are affordable by moderate-income households and calculating typical housing loan repayments on a median-priced home as a proportion of monthly disposable household income, to calculating housing affordability by relating housing costs (e.g. comprised of home loan payments and council rates payments) to various income measures, via utilisation of both the "30–40 per cent" rule and the "30/10–40 per cent" rule.

Out of the three categories of housing affordability measures examined, housing price-based affordability measures are the least homogenous covering a range of perspectives, from house price segments, available stock, house price to household income ratios, to homeownership rates. Principally, all of them have an important deficiency for the measurement of housing affordability as they are based on house prices and, as such, do not take into account the cost of housing finance.

As with housing price-based affordability measures and home loan affordability measures, there are a number of available measures that aim to measure rental affordability. In addition to discussing the traditional consumption-based measures of housing affordability, the discussion includes a measure of housing affordability based on core housing need as captured by the Canadian core housing need model (which in addition to cost considerations assesses the suitability of the dwelling for the household's needs).

The most frequently quoted shortcomings of these measures range from not adjusting for family characteristics and consequently inadequately identifying the group/s likely to face housing stress (such as NHSM), to not determining adequate housing expenditure amounts for different family types and sizes (such as RIM). Irrespective of a number of shortcomings, the indicators outlined are very useful in assessing rental housing affordability as they, at a minimum, identify the range of stress being experienced, many of the attributes associated with stress, and its spatial and demographic distribution.

Finally, the empirical portion of the book deals with the empirical testing of the housing affordability problem in Melbourne, at the suburban level. The study utilises the Median Multiple indicator to assess housing affordability in the Melbourne Metropolitan area. The main reasons for selecting the Median Multiple indicator are its simplicity and that it is regarded as the best measure of pressure on the housing market. In the first instance, the study sets out to unpack the geography of Melbourne's affordability problem at the local level through analysing structural changes in the Median Multiple indicator. The analysis illustrates an appreciable deterioration in average housing affordability in Melbourne for the selected suburbs and rating groups between 2001 and 2010. The average Median Multiplier increased from 6.03 in 2001 to 10.64 in 2010. Furthermore, no suburb recorded an improvement in housing affordability between 2001 and 2010. The observed sizeable deterioration in average housing affordability for all selected suburbs and rating groups partially contradicts what was observed by Burke and Hayward (2001), who found an improvement in housing affordability in Melbourne's outer urban areas and deterioration in the inner urban areas. On the other hand, the research results reinforced the findings by the Productivity Commission (2004) of an overall deterioration in housing affordability in Melbourne. At the same time, the research results very much contradicted the Productivity Commission's forecast for a gradual improvement in housing affordability.

The empirical portion of the book also examined whether housing affordability in different Melbourne suburbs converges or diverges. With respect to this question, the research results overall reinforced the findings of Alexander and Barrow (1994) that house prices and, hence, house affordability, diverge over time. Housing affordability diverged, on average, by 76 per cent over the observed period. Nevertheless, this trend hides important spatial differences that were particularly evident between 2004 and 2006 and during 2009. The two identified periods during which housing affordability converged were found to coincide with housing market downturns.

Finally, the study sets out to explore which Melbourne housing market segment represents a better investment opportunity, during housing boom periods. The results suggest two key findings. The first is that housing booms in Melbourne occur during both high and low interest rate environments. The second key finding refers to the relationship between housing market segments, housing boom periods and interest rate levels. Specifically, the study demonstrates that if a housing boom period coincides with a low interest rate environment, the outer zones outperform the inner zones, and vice versa; if a housing boom period coincides with a high interest rate environment, the inner zones, on average, outperform the outer zones.

Suggestions made for future research solely relate to the empirical portion of the project. In particular, they relate to the assumptions our study adopted, such as the selection of a housing affordability indicator, the selection of representative suburbs, representative rating groups and the period considered. Although these kinds of limitations are common to most affordability studies, the scope of the analysis can be extended with respect to any of those assumptions. For example, extending the research to include other complementary affordability measures and/or extending the period under consideration could help corroborate the results of the study and be a rewarding area for further research.

Notes

1 Introduction

1. Berger-Thomson and Ellis (2004), using data for housing markets in Australia, the United Kingdom (UK), the United States of America (USA) and Canada, found extrinsic interest rate cyclicality to be the prevailing cause of cyclicality.
2. All of these listed factors will be thoroughly explained in the rest of the book.
3. According to the Australian Bureau of Statistics (ABS), Australia has exhibited a remarkably stable home-ownership rate of about 70 per cent for over three decades.
4. Housing contributes to around two-thirds of all private sector wealth in Australia (Productivity Commission, 2004).
5. Please keep in mind that this is exclusively done to simplify the exposition without eroding any global relevance of the research.

2 Housing: Why Is It Important?

1. Non-financial assets are comprised of dwellings (a tangible produced asset) and land (a tangible non-produced asset). According to Isabelle (2008), dwellings are defined as "buildings that are used entirely or primarily as residences, including any associated structures, such as a garage" and land is defined as "the ground itself, including the covering soil and any associated surface waters over which ownership rights are enforced".
2. Figures represent averages for 11 years (between 1995 and 2006), except for Germany and Italy whose figures represent averages for ten years (between 1995 and 2005).
3. Flats/units/apartments or multifamily residential is a class of housing where multiple separate housing units are encompassed within one building or several buildings within one complex. A common form is an apartment building.
4. A detached house, a single-family detached home, a single-detached dwelling or separate house is a free-standing residential building. Typically, the building is occupied by just one household. A detached house implies that the building does not share outside walls with any other house or dwelling.
5. Semi-detached/row or terrace houses/townhouses refer to a class of housing where two or more houses are joined together. Semi-detached housing consists of pairs of houses sharing a party wall and usually in such a way that each house's layout is a mirror image of the other. A semi-detached house is somewhat different from a townhouse. A semi-detached house sits on a single property (owned in its entirety by the owner of the semi-detached house) while a townhouse has a strata title. Semi-detached houses come only in pairs, whereas townhouses may number more than two, attached together.

6. The BCA is comprised of volume one and two of the NCC. It entails technical provisions for the design and construction of buildings and other structures, provisions such as fire resistance; access and egress; services and equipment; energy efficiency and certain aspects of health and amenity. For more, refer to http://www.abcb.gov.au/about-the-national-construction-code/the-building-code-of-australia.
7. The PCA is comprised out of volume three of the NCC. The PCA sets out performance-based technical provisions standards for the design, construction, installation, replacement, repair, alteration and maintenance of plumbing and drainage installations. For more, refer to http://www.plumbingregulators.org/home/plumbing-code-australia/.
8. The name "hidden taxes" is applied as these taxes are presented as charges aimed at achieving other specified community objectives.
9. The urban planning and property development industries define infill as development land within a built-up area.
10. Greenfield land is defined as undeveloped land in a city or rural area (e.g. land that is currently used for agriculture, landscape design or left to naturally evolve) being considered for urban development.
11. Only the wholesale and retail trade sector contributes more, and its contribution is only marginally larger.
12. In North America infrastructure charges are known as "Impact Fees".
13. In Australia, the long service leave levy applies to the construction value of dwellings in each state and territory.
14. As with the long service leave levy, the training levy is charged as a percentage of the value of construction or value of labour content of the construction. Nevertheless, instead of (as with the long service leave levy) being applied in every state and territory, the training levy is collected only in Queensland, Western Australian and South Australia.
15. For more on FHOG and FHOB, see 2.4.4.
16. It should be noted that the list includes only the main government programs for housing assistance, i.e. it does not present the full range of available programs.
17. Each state/territory has its own First Home Owner Grant Act 2000 (e.g. the NSW First Home Owner Grant Act 2000 can be found at the following web address: http://www.austlii.edu.au/au/legis/nsw/consol_act/fhoga2000250/).
18. Superannuation is a savings arrangement which people make in Australia over their working lifetime to provide for their retirement. Superannuation arrangements are government-supported and encouraged, and minimum provisions are compulsory for employees.
19. An efficient spatial economy assumes that resources are used in ways that will maximise economic growth.
20. Policies must be synchronised and systematic i.e. policies which focus only on the 'demand side' of the housing market without clearly and significantly increasing supply are almost certain to fail (Rahman, 2009).
21. For more, see Karamujic (2010).

3 Major Reasons for an Increase in the Number of Institutions Offering Home Loan Products and in the Number of Home Loan Products Offered in the Australian Home Loan Market

1. Home loan securitisation is a financing technique that involves the conversion of individual home loans into pools of marketable securities.
2. For more on unexpected outcomes of the reform, see Stanford (2004).
3. This primarily occurs because during a low interest rate environment the difference between the deposit rates and the financial markets rates is relatively small.
4. The cash rate is the overnight money market interest rate. It is important to note that monetary policy decisions are expressed in terms of a target for the cash rate.
5. Lowe's sample period was constrained by the fact that prior to April 1985 most lending rates were subject to stringent regulation.

4 Introduction to Contemporary Residential Mortgage (Home Loans) Lending Products

1. The following four banks are also called the major banks in Australia: Australia and New Zealand Banking Group (ANZ), Commonwealth Bank of Australia (CBA), Westpac Banking Corporation (Westpac) and National Australia Bank (NAB).
2. For more details, please refer to http://www.canstar.com.au/.
3. Costs of opening the home loan account/s.
4. Costs of keeping the account/s on the books.
5. Costs associated with closing the account/s.
6. Such as the purchase of luxury products or investing overseas.
7. As of 2012, ANZ charged $295 a year, Westpac and CBA each asked for $300, and NAB charged $375.
8. One of these is the NAB's Professional Choice Package, which offers unlimited free transactions in the country to borrowers.
9. The premium market segment is typically defined as mid to higher wealth borrowers.
10. It is generally accepted that up to 25 per cent of all borrowers are higher value borrowers.
11. Borrowers who are in the home loan market for the first time.
12. Borrowers who are conducting major renovations/extensions or moving into a new home.
13. Borrowers who are transferring a home loan product from another institution.
14. Borrowers who are investing in residential property.
15. Minimum amount of redraw allowed for payments made above minimum scheduled payments.
16. Loan trimmer enables borrowers with loan and deposit accounts to offset interest normally earned on deposits held in designated deposit accounts against the interest payable on part of a designated loan account.

17. Compared to the full-documentation credit application and assessment process, which requires full-documentation disclosure, low-documentation is a credit application and assessment process which principally applies to self-employed borrowers who cannot provide the financial information normally required at the time of application.
18. Allows a transfer of the loan with the borrower, if moving house.
19. Different providers use different names, for example NAB's equivalent is called National Base Variable Rate home loan, while CBA's equivalent is called Economiser Home Loan.
20. Generally at a discount of 0.50 per cent from the SVRHL.
21. Either weekly, fortnightly or monthly.
22. As of July 2012, between 7 per cent and 10 per cent.
23. Also known as an early repayment fee, i.e. if the borrower repays the loan before the prescribed period, the fee will be charged by the lender.
24. Two, three, four and five years.
25. An economic cost is the lender's loss on a fixed term loan due to movements in the COFs. This may occur if before the end of the fixed rate term of the loan: the loan is fully repaid, a partial prepayment is made to the loan, the loan changes from fixed to variable or to another fixed term, or the fixed rate period ends early due to the loan being terminated when a borrower is in default.
26. A type of plain transaction account.
27. Other institutions are known to link the functionality with other products, such as BHL and FRHLs.
28. Depending on the shape of the yield curve and competitiveness.
29. Borrowers can fully offset the balance of their transaction accounts against their home loan to save interest on their loan. In addition, the bank encourages borrowers to utilise the interest free period on their credit card to maintain extra funds within their offset account.
30. Enables borrowers to gain immediate access to any payments made above their scheduled repayments and receive interest daily while that additional money is within the account.
31. Enables borrowers to draw funds to make payments during construction. The lender generally stipulates that drawing must be completed in 12 months.
32. Provided that substantial additional repayments into the loan account have been made, borrowers may take leave from their regular repayments, for as long as the excess funds cover standard repayments.
33. Provided that a loan has been in operation for over 18 months, borrowers are eligible to reduce their regular loan repayments by up to 50 per cent, for up to six months, to ease financial pressure after an event such as the birth of a baby.
34. Enable borrowers to use their income to save on loan interest, by depositing all of their income into their loan account until there is an alternative need for the funding. Automatic transfers can be set up for bill payments and regular cash deposits.
35. All-in-one banking attempts to concentrate all the borrower's needs into a single facility.
36. As long it is under the approved limit.
37. For example, NAB's FlexiPlus home loan has both functionalities.

38. This schedule reduces the facility limit on the last business day of each month, on a similar schedule to the normal variable rate home loan and in doing so, provides borrowers with the discipline required to reduce their debt.
39. This is intended to improve the borrower's experience by simplifying the contractual procedures.
40. Loan trimmer enables borrowers with loan and deposit accounts to offset interest normally earned on deposits held in designated deposit accounts against the interest payable on part of a designated loan account.
41. A fee for which FRHL borrowers are guaranteed the fixed rate at the time of approval. Borrowers are inclined to pay the fee if they expect the interest rate for the term they have selected to increase between the time of approval and the time they draw the loan.
42. For example, NAB charges a $600 application fee and a $10 per month maintenance fee.
43. This functionality is generally not available for IO loans.
44. American Association of Retired Persons, in its recent research demonstrated that 86 per cent of Americans aged 62 or older wanted to remain in their existing homes.
45. For more see www.islamic-banking.com, viewed November 2012.
46. Usury is defined by the Webster's Dictionary as illegal interest; a premium or compensation paid or stipulated to be paid for the use of money borrowed or retained, beyond the rate of interest established by law.
47. Islamic law is derived from three sources – the Quran, the Hadith and the Sunnah. For more information, see www.islamic-banking.com, viewed November 2012.
48. The "modern era" of Islamic banking began in the 1960s with the foundation of the pioneering "social bank" in Egypt. Since then, over 150 Islamic banks and institutions have been set up in more than 50 countries. Pakistan, Iran and Sudan have actually taken steps to Islamicise their whole banking industry, with an aim to demolish the forbidden riba (interest) entirely. It is estimated that the Islamic banking industry is currently worth more than US$100 billion.
49. Intended to remunerate the bank for living in a property which it owns. This payment provides the bank's profit.
50. Insurance rent is intended to cover the cost of the insurance the bank pays on the property.
51. Alternative distribution means refer to means other than branch distribution, such as telephone, Internet, etc.
52. The cost of processing the average home loan application through a teller is significantly more expensive when compared to processing the same transaction through alternative means.
53. A US-based home loan origination company. The company was purchased in 1997 and disposed of in early the 2000s, with a significant loss to NAB.
54. An example of a successful introducer scheme in Australia is Bank West who externally distributes home loan products through the Count Investment Service, which is an accountant advisory group with 450 firms spanning some 400,000 clients.
55. Also referred to as prescribed verifiable financial statements, such as group certificates and payslips.

56. Credit scoring is a risk assessment that establishes the probability that an account will remain, or return to, a satisfactory condition.
57. Securitisation is the process of converting a pool of illiquid assets, such as residential home loans, into tradable securities.

5 Contemporary Housing Affordability Measures

1. Reasonable housing will be differently defined in different parts of the world, primarily depending on economic wealth and cultural preferences.
2. The term "gearing" applies not only to property but also to stocks and shares. It is commonly thought of in terms of negative and positive. Positive gearing is where the property generates a positive income stream. Negative gearing is where the investment generates a negative income stream or a loss, which can then be claimed as a tax offset. A property investment can also be neutrally geared, with the income and expenses breaking even.
3. According to the Australian Taxation Office (ATO): "Capital gains tax (CGT) is the tax you pay on a capital gain. It is not a separate tax, just part of your income tax. The most common way you make a capital gain (or capital loss) is by selling assets such as real estate, shares or managed fund investments."
4. Local and state government planning processes are seen to be overly complex, costly and sometimes subject to lengthy delays. Such factors have the potential to constrain supply of affordable housing.
5. In particular, stamp duty is seen as the most visible and substantial state government tax imposed on home buyers. This tax is viewed as being inefficient as it discourages people from moving to more appropriate housing types as their circumstances change. It may encourage FHBs to buy a larger home than they need at the time to avoid paying further duty should they relocate. An additional argument is that State Governments have failed to adjust stamp duty thresholds to keep pace with house prices. This has resulted in a substantial increase in the average rate of stamp duty on a median-priced house. Furthermore, the Commonwealth Government's Goods and Services Tax (GST) is applied to the construction of new housing, however, not to the sales of existing housing. Not surprisingly, many see these taxes as the largest single impediment to the supply of new dwellings.
6. Necessary infrastructure is typically installed as land is developed and is in part funded by infrastructure charges on developers. Many developers believe that infrastructure charges are too expensive and have been instrumental in restricting housing supply.
7. Traditionally, renters have been seen in Australia as second class citizens with no financial ability to buy a property. Today this view is changing and changing fast. Lifestyle renters typically have more expendable incomes than other groups, which allows them to demand up-scale homes.
8. The vacancy rate can be defined as a numerical value calculated as the percentage of all available units in the particular rental market (e.g. houses, units, apartments, hotels, etc.) that are vacant or unoccupied at a particular time. It is the inverse of the occupancy rate, which is a calculation based on the percentage of dwellings in the rental property market that are occupied.

9. This measure of affordability relates house prices to individual rather than to household income.
10. The usual response to an overheated market is for house prices to eventually move back to a level that purchasers can manage to pay for.
11. The word "mortgage" alone, in everyday usage and in this study is used to mean mortgage loan i.e. a mortgage loan is a loan secured by real property through the use of a mortgage. Nevertheless, the precise meaning of a mortgage is that it is a legal instrument which proves the existence of the loan and the encumbrance of that realty through the granting of a mortgage which secures the loan. In other words, a mortgage occurs when an owner pledges his or her interest (right to the property) as security or collateral for a loan.
12. It is important to note that each of these indexes measure affordability with respect to new loans only.
13. The Real Estate Institute of Australia (REIA) is the national association for Australia's real estate profession. It has an outstanding reputation as the most credible source of knowledge and considered opinion regarding the commercial and residential property markets in Australia.
14. A family is defined as a married couple with or without dependent children.
15. The 2011 Census was the largest logistical peacetime operation ever undertaken in Australia, employing over 43,000 field staff to ensure approximately 14.2 million forms were delivered to 9.8 million households.
16. The CBA is Australia's leading provider of integrated financial services including retail banking, premium banking, business banking, institutional banking, funds management, superannuation, insurance, investment and share-broking products and services. The bank is one of the biggest listed companies on the Australian Securities Exchange and is included in the Morgan Stanley Capital Global Index. The CBA has more than 800,000 shareholders and 52,000 people are working in the Commonwealth Bank Group, offering a full range of financial services to help their customers build and manage their finances.
17. Typically, the 30 per cent level is the benchmark that home loan providers (mortgage lenders) commonly use when assessing home loan applications and determining a lending limit.
18. In Australia, land tax is a tax levied on the owners of land as at midnight on 31 December of each year. In general, the principal place of residence (your home) or land used for primary production (a farm) is exempt from land tax. One may be liable for land tax if he/she own or part-own: vacant land, including vacant rural land; land where a house, residential unit or flat has been built; a holiday home; investment properties; company title units; residential; commercial or industrial units, including car spaces; commercial properties, including factories, shops and warehouses; and land leased from state or local government.
19. Council (local government) rates are a form of property taxation. Property values play an important part in determining how much each individual rate payer must contribute. As it is a system of taxation, the rates paid may not directly relate to the services used by each rate payer. An "ad valorem" principle applies, which means that the higher the value of the property, the higher the amount to be paid in the form of rates. Local government councils work hard to ensure that rates are kept to a reasonable level, consistent with

meeting local community requirements for maintaining infrastructure and providing services. They also seek to ensure that rates are applied across the community as fairly as possible.

20. Stamp duty is a tax that is levied on documents. Historically, this included the majority of legal documents such as cheques, receipts, military commissions, marriage licences and land transactions. A physical stamp (a revenue stamp) had to be attached to or impressed upon the document to denote that stamp duty had been paid before the document was legally effective. More modern versions of the tax no longer require an actual stamp. The Federal Government of Australia does not levy stamp duty. However, stamp duties are levied by the Australian States on various instruments (written documents) and transactions. The rates of stamp duty vary from State to State, as do the nature of the instruments or transactions subject to duty. Some jurisdictions no longer require a physical document to attract what is now often referred to as "transaction duty". Major forms of duty include the transfer duty on the sale of land, businesses, shares and other forms of dutiable property; mortgage duty; lease duty and duty on the hire of goods.
21. Observed variations may reflect changes in the composition of housing finance as well as changes in the price of a house of given size, location and quality.
22. According to the CBA, the bank has the largest banking customer base in Australia. Furthermore, the CBA Group has the leading domestic market share in home loans, personal loans, retail deposits and discount stock broking, and is one of Australia's largest credit card issuers. For more, see http://www.commbank.com.au/about-us/our-company/overview/default.aspx, viewed June 2014.
23. An alternative may have been to register the prices at the date of settlement, which typically occurs several months afterwards.
24. Interest rates are sourced from table F5, column K in the monthly RBA Bulletin, Housing Loan, Banks, Variable, Standard.
25. The Valuer General is an independent statutory officer appointed by the governor of each state/territory, with the primary goal of overseeing the valuation system. More precisely, the Valuer-General sets the standards for the provision of a world class valuation system and ensures it meets the needs of our community which includes landowners, members of the public, ratepayers, land tax clients and state and local government.
26. The Commonwealth of Australia is a union of six states (Western Australia, South Australia, Victoria, Tasmania, New South Wales and Queensland) and several territories. The Australian mainland is made up of five states (all but Tasmania) and two territories (the Northern Territory and the Australian Capital Territory), with the sixth state of Tasmania being an island on the south of the continent. Furthermore, there are six island territories, known as external territories, and a claim to a territory in Antarctica. All the states and the two internal territories have their own parliaments and administer themselves. All remaining territories are administered by the federal government, except Norfolk Island which has some degree of self-government.
27. For more, see ABS, Housing Occupancy and Costs, Cat. No. 4130.0.55.001, p. 14.

28. The GFC is commonly thought to have begun in July 2007 with the credit crunch when a loss of confidence by US investors in the value of sub-prime mortgages caused a liquidity crisis. In the rest of the world, it started to show its effects by late 2007 and into 2008. Around the world, stock markets have fallen, large financial institutions have collapsed or been bought out, and governments in even the wealthiest nations have had to come up with rescue packages to bail out their financial systems.
29. The MSD or the Melbourne region covers the metropolitan area of Melbourne as well as the surrounding urban fringe and rural areas, including the Dandenong Ranges, the Yarra Valley and the Mornington Peninsula.
30. Home loan interest rates are obtained from the Reserve Bank of Australia (RBA).
31. For example, assuming: the application of the "30 per cent rule" i.e. that loan repayments will consume less than 30 per cent of household income; that LVR is 90 per cent i.e. 90 per cent of the affordable house prices borrowed and that the term of the loan is 30 years.
32. The Office of the Valuer-General is the statutory government officer responsible for establishing and maintaining municipal valuation rolls used for local government rating and tax purposes. The Valuer-General is also responsible for the competitive tendering system which awards contracts for valuation services and for monitoring the quality of valuation services performed by contractors.
33. Pay-as-you-go (PAYG) is a single, integrated system for reporting and withholding amounts of tax on business and investment income.
34. RP Data is the biggest provider of property information, analytics and risk management services in Australia and New Zealand, with a database of 170 million property records. Rismark International ("Rismark") is a global funds management and advisory business that has expertise in the execution of sophisticated real estate research and investment strategies. RP Data and Rismark have a highly accurate and timely suite of world-class property price indices that measure the value of residential real estate over time. The RP Data-Rismark Home Value series are available on a monthly and quarterly basis for every geographic demarcation including suburb, postcode, capital city and state in Australia. They draw on the most comprehensive property database in Australia and are computed using some of the most advanced global index construction techniques.
35. Trulia is an all-in-one real estate site that gives you local information about homes for sale, apartments for rent, neighbourhood insights and real estate markets and trends to help you figure out exactly what, where, and when to buy, sell or rent. For more, see http://www.trulia.com/.
36. For more detailed information, see: http://trends.truliablog.com/vis/rentvsbuy-spr2012/.
37. Upgraders are defined as existing homeowners who are looking to move to better and/or bigger homes. Depending on their stage of the life cycle, peoples' needs will change. The recent literature indicates that there are several typical triggers which set existing homeowners on this path, the most common ones being the birth of children, promotion, marriage and divorce.
38. FHFA is the regulator and conservator of Fannie Mae and Freddie Mac and the regulator of the 12 Federal Home Loan Banks in the US.

39. Standard & Poor's Case–Shiller Home Price Indices are constant-quality house price indices for the US.
40. The American Community Survey (ACS) is an ongoing survey conducted in the US that provides data every year, giving communities the current information they need to plan investments and services.
41. Shelter NSW is the state's peak advocate for housing justice. It aims to unite the voices of low-income tenants and non-profit organisations working on their behalf. In doing so, the organisation conducts research and education on housing issues and advocates that government makes the housing system work better for those on low incomes.
42. Gearing explains how a landlord finances his or her operations. Higher gearing implies a larger proportion of long-term liabilities than equity and, vice versa, lower gearing implies a larger proportion of equity than long-term liabilities.
43. Centrelink is a part of the Australian Government's Department of Human Services, which aims to deliver a range of payments and services for people in need at times of major change.
44. Local government in Australia is the third and lowest tier of government, administered by the states and territories which, in turn, are beneath the Commonwealth or Federal tier. Municipal districts are referred to as LGAs. For example, there are 79 municipal districts or LGAs in the Australian state of Victoria.
45. Public housing in Australia operates within the framework of the Commonwealth-State Housing Agreement. According to this agreement, funding for public housing is provided by both the Federal and state governments. The Office of Housing provides vital public services through its national and state-administered programs.
46. The Residential Tenancies Bond Authority is a statutory authority of the Australian Government administered by the Department of Justice. It holds all residential tenancy bonds including those applying to long-term caravan and rooming house residents.
47. Nandinee (2005) utilised a very similar measure and analysed American Housing Survey data for 1999. He estimated that 3.8 million households were above the official threshold and could not afford the poverty basket of non-housing goods.
48. It excludes households that choose to consume higher amenity housing either as a personal trade-off with other expenditure or, for example, by substituting a higher cost location for lower transport costs.
49. For example, the model may identify some 500,000 households whose needs could be met by a two-bedroom dwelling while market research discloses that only 200,00 of these are available in the rental sector.
50. Anglicare is the urban mission and community care arm of the Sydney Anglican Church. It is one of Australia's largest Christian care organisations, seeking to provide care for people by addressing emotional, social and physical needs.

6 The Geography of Housing Affordability and Housing Investment Opportunity: A Case Study of Melbourne

1. A double-dip recession can be defined as when the economy slips back into a recession while still trying to recover from the last one.

2. During the same period, house prices in Sydney increased 11 per cent, Brisbane 3 per cent, Adelaide 6.3 per cent, Perth 9.4 per cent, Hobart 4.2 per cent, Darwin 9.8 per cent and Canberra 11 per cent.
3. For more, see 5.3.3.2.
4. Younger households are defined as those under 35 years of age.
5. Key workers are defined as FHBs who are on low or even moderate incomes and who deliver essential community services, e.g. health, social services, education, safety and emergency services. For more, see ODPM (2005).
6. The NCS and SIH are conducted every five and two years, respectively.
7. 365 days plus an extra day for the leap year i.e. every four years ¼ of a day (365.25 divided by 52 equals 52.18).
8. 2002, 2003, 2004, 2007, 2008, 2009 and 2010.
9. Equivalised disposable income is defined as disposable income adjusted by an equivalence scale which produces a measure that indicates the economic resources available to a standardised household.
10. The figure of 7 per cent is selected as it represents the average house price increase for Melbourne over the last 20 years.
11. See Figure 6.1.
12. All of these suburbs are located in the far reaches of Melbourne's outer zone (see Figure 6.1). The outer zone is defined as being more than 20 km from the central business district (CBD).
13. With a median house price of $290,650.
14. The coverage ratio is defined as a ratio between a change in median household income and a change in median house price.
15. Primarily located in Melbourne's outer-central zone (see Figure 6.1). The central zone is defined as being between 10 km and 20 km of the CBD.
16. Primarily located in Melbourne's inner-central zone (see Figure 6.1).
17. For example, they may have inherited the money, inherited the property or gradually climbed the property ladder.
18. The suburb groups have experienced house price growth of 153 per cent and 159 per cent, respectively.

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