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Supply shortages and affordability outcomes in the private rental sector: short and longer term trends

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CONTENTS

LIST OF TABLES

LIST OF FIGURES

ACRONYMS

ABS	Australian Bureau of Statistics
AHURI	Australian Housing and Urban Research Institute Limited
ATO	Australian Taxation Office
CPI	Consumer Price Index
NHSC	National Housing Supply Council
NRAS	National Rental Affordability Scheme
NSW	New South Wales
NT	Northern Territory
QLD	Queensland
RA	Rent Assistance
SA	South Australia
SMSF	Self-Managed Superannuation Fund
TAS	Tasmania
VIC	Victoria
WA	Western Australia

EXECUTIVE SUMMARY

This report

This is the second publication from a research project that investigated changes in the supply of, and demand for, private rental housing affordable to lower income households in Australia between 2006 and 2011.

- The first report (Hulse et al. 2014) focused on *supply*, provided spatially detailed estimates of shortages of affordable housing for lower income households in 2011 compared to 2006 and commented on the drivers of change in that five-year period.
- This second report shifts the focus to *demand* by investigating the characteristics of lower income households in the private rental sector with poor affordability outcomes as a result of supply shortages. By drawing on the findings of this project and three prior projects in this series, it also provides an *overview of the longer term changes* in the private rental sector that have contributed to these outcomes.

Policy context

Although the Australian private rental sector accommodates households on a wide range of incomes, there were 725 000 lower income households who lived in this sector in 2011. The primary form of direct assistance to improve the affordability outcomes for these lower income households is the Australian Government's Rent Assistance scheme, with an annual cost of just under $4 billion in 2013–14. This is supplemented by state and territory government schemes that provide diverse types of assistance such as loans to pay bonds and various rent support schemes.

If they are to be successful, these initiatives require an adequate supply of affordable rental dwellings for lower income households. This project provides evidence on which to assess the extent to which this has been the case in both the short term (2006–11) and longer term (1996–2011) and on which to develop more comprehensive policies.

Research design and method

There are three key concepts in the research design:

1. Whether there is an adequate supply of private rental dwellings which is *affordable* to lower income private renters.
2. The extent to which affordable supply is *available* to lower income households, that is not occupied by those on higher incomes.
3. The *affordability outcomes* for lower income private renter households.

The research focuses on households in the bottom two quintiles (lowest 40%) of all Australian gross household income, and applies a commonly-used affordability benchmark of spending no more than 30 per cent of household income on rent. The research method involved original empirical analysis using customised data from the 2011 Census of Population and Housing conducted by the Australian Bureau of Statistics (ABS); analysis was conducted at a national level and for a series of sub-national geographies, as well as additional analysis of data from three previous projects in this series.

This report is in two parts:

- Part A (Chapters 2–4): examines housing affordability outcomes for lower income households in 2011 as a result of the shortages of private rental housing described in the first report from this project.
- Part B (Chapters 5–6): uses results from all four projects in this series to: distil key findings about the changing role and structure of the private rental market in Australia, particularly

as they affect lower income households; discusses some of the key drivers of longer term change, and outlines implications for public policy.

Key findings on affordability outcomes 2011 (Part A)

This report distinguishes between very low (Q1) income households (in the first income quintile of the Australian household distribution) and low (Q2) income households (in the second income quintile). The rents that they can afford are designated R1 and R2 rents. It finds that Q1 and Q2 households faced different problems in the private rental sector in 2011.

Q1 households

Four in five Q1 households did not live in affordable rented housing in 2011 and a quarter of all Q1 households lived in severely unaffordable housing (paying more than 50 per cent of household income on rent).

- The main Q1 households missing out on affordable rental were one-parent families and those living alone and aged under 65 years. Younger households aged under 45 comprised the majority of those with severely unaffordable outcomes. Recent migrants were over-represented among those living in unaffordable rental.

Q2 households

A third of Q2 households nationally lived in unaffordable housing in 2011, with the numbers in severely unaffordable housing quite small compared to Q1 households.

- The majority of Q2 households living in unaffordable housing were families with children, followed by younger people aged under 45 living alone.

Spatial dimensions of affordability outcomes in 2011

While the majority of Q1 households lived in metropolitan regions, the majority of dwellings with affordable rents for this group were in non-metropolitan regions.

- Affordability problems were widely experienced across capital cities.
- Affordability outcomes were generally most severe in inner and some middle zones of larger capital cities.
- Although their affordability problems were somewhat less than in metropolitan regions, two-thirds of Q1 households in non-metropolitan regions paid unaffordable rents.
- In some larger regional centres, in Queensland for example, affordability outcomes for Q1 households are as widespread, and severe, as in major capital cities.

Longer term changes in the private rental sector (Part B)

Over the longer period, 1996–2011, the growth in the private rental sector was higher than for all occupied dwellings. This growth, however, did not benefit lower income households, particularly Q1 households, whose situation deteriorated over this period.

Trends in household incomes and rents 1996–2011

While the distribution of real weekly private rents was relatively unchanged until 2001, by 2011 real rents had increased and had become concentrated between $300 and $500 per week ($2011). The percentage of rents which were affordable to lower income households fell markedly during 1996–2011. In contrast, the household incomes of private renters became increasingly dispersed during this period, with an increase in households earning $1000 a week and above ($2011).

Headline findings on changes in shortage and affordability outcomes 1996–2011

On the various shortage and affordability measures used in this series of projects, viz. shortage of affordable stock, shortage of affordable and available stock, and households in unaffordable housing, there were differences in outcomes for Q1 and Q2 households 1996–2011.

- For Q1 households, there was continuing deterioration across all measures. In 1996 the biggest contributor to problems faced by Q1 households was occupation of affordable R1 stock by higher income (Q2–Q5) households but, by 2011, the major problem was lack of supply of affordable R1 dwellings.
- For Q2 households, across all measures there was an improvement until 2006 but a significant deterioration thereafter. For these households, the problem was not shortage of affordable housing but one of availability (as a result of affordable dwellings being occupied by other than Q2 households).
- For Q1 and Q2 households combined, an improvement on all measures between 1996 and 2006 was reversed after 2006 when there was a considerable deterioration.

Spatial dimensions of changes in supply of, and demand for, affordable private rental housing for lower income households 1996–2011

- While many lower income households continued to live in metropolitan regions, an increasing percentage of the dwindling number of rental dwellings affordable to Q1 households (R1) was located in non-metropolitan regions in 2011 compared to 1996.
- Not surprisingly, poor affordability outcomes for lower income households in major capital cities were widespread by 2011 (particularly in inner and middle zones of major cities) and, for Q1 households became more severe during this period.
- There was also deterioration in the situation facing Q1 households in some non-metropolitan regions, most notably in regional Queensland and New South Wales.

Discussion and implications for policy

Discussion

There are many, often inter-related, drivers of the disproportionate increase in privately rented dwellings between 1996 and 2011. Key drivers from the mid-1980s, such as deregulation of the financial system and taxation policy changes, have provided an environment in which investment in private rented dwellings became increasingly accessible (and attractive), with loans for investment purposes now accounting for a half of all new housing loans. Other drivers of increased rental investment include real increases in, and increased disparity of, household incomes and demand pressures associated with population increase, as well as the performance of the other two main housing sectors, home ownership and social housing.

The evidence suggests that increased reliance on demand-side assistance (mainly Rent Assistance) did not result in a commensurate increase in the supply of affordable rentals for Q1 households. Indeed, shortages of affordable dwellings for Q1 private renters increased markedly between 1996 and 2011. It also appears that conventional theories that housing 'filters' down into low rent accommodation over time have not been upheld, particularly in major cities. One explanation is that, in areas of high land value such as in the inner and middle suburbs of the larger cities, older properties are being extensively renovated or are the subject of 'knock down and rebuild' and occupied by owner occupiers or moderate-higher income renter households rather than filtering into lower rental supply.

Lower income households had to compete with an increasing number of higher income households for access to rental properties clustered in the $300–$500 week range in 2011, with competition being most intense in the inner and middle suburbs of major cities and some larger regional centres. Use of private rental housing by higher income households reflects a

response to a combination of choice and constraint factors, with explanations ranging from the social (e.g. more fluidity in work, deferral of partnering and parenting) to the financial (e.g. renting being cheaper in the short term and lack of capacity to purchase). In contrast, lower income households face considerable constraints because of the lack of other housing options. They cannot afford to buy and opportunities to enter social housing are limited. While there is policy-maker awareness of issues facing private renters in receipt of the age pension, this research has highlighted the extent of poor affordability outcomes for working age households, in particular households with children on Q1 incomes and Q2 incomes.

Implications for policy

The findings of this project suggest some priorities for policy development and action, within a comprehensive framework for reform:

- Better targeting of RA to lower income private renter households with severely unaffordable outcomes, taking into account higher rent levels in some high demand markets. To be effective, however, this would need to be accompanied by strategies to increase the supply of low rent dwellings.
- A reliable stream of government investment in affordable supply for Q1 households to be managed by not-for-profit providers, with further work required on the level of investment that would enable providers to maintain rents at affordable levels for Q1 households while being financially sustainable.
- Taxation incentives for rental investment could be re-calibrated to encourage the current profile of small-scale investors to invest in lower rent segments of the market and to achieve demonstrated outcomes in terms of increases in affordable supply, drawing on proposals made to recent federal reviews.
- A new institutional environment to attract larger institutional and other new investors at the lower end of the private rental market, potentially including both a replacement for NRAS and proposals for a new financial intermediary which could issue bond products to raise additional investment for affordable rental housing as developed in other AHURI-funded work.
- Some moderation of rent increases for current tenants through modern regulation of residential tenancies.
- The development of improved architecture for public policy that would enable broader consideration of the private rental sector within the context of changes in the housing system more generally.

1 INTRODUCTION

1.1 Public policy context

The private rental sector is playing an increasingly important role in the Australian housing system. It is important to individuals and households in terms of their access to affordable housing and their investment strategies as well as being of broader social and economic importance.

Just under one in four Australian households lived in private rental housing in 2011 (Hulse et al. 2014), significantly higher than the one in six households who rent privately in many comparable advanced economies (Crook & Kemp 2014, p.10). Once seen as a transitional sector for young people, part of a 'rite of passage' after leaving the parental home and before buying a home, the sector is now very different. It houses students and other young people, migrants and refugees arriving in Australia, workers and their families and older Australians (Wulff et al. 2011). Four in ten private renter households have children and a third of private renters have rented continuously in the sector for 10 or more years (Stone et al. 2013, pp.29, 11). There has been an increase in higher income households in the sector but it also plays an increasingly important role in accommodating lower income households largely due to a long-term decline in investment in social housing (Hulse 2014).

The private rental sector is shaped not only by changing household preferences and the availability, or lack of availability, of other housing options (home ownership or social rental) but also by the extent and type of investment in the sector. Rental investment has increased since the early 1990s (Hulse et al. 2012) such that one in every seven individual tax payers[1] declares rental income from residential property (ATO 2013) and it appears that these are primarily 'mum and dad' investors who own one or two rental properties (Seelig et al. 2009). Four in five rental investors are debt-financed and 50 per cent of all new housing loans in September 2014 were for investment purposes rather than owner occupation (RBA 2014, p.49). The majority also benefit from 'negative gearing' taxation provisions (Wood & Ong 2013) which are generous by international standards (Oxley et al. 2010). These trends are likely to affect the outcomes for those who live in the sector.

Policies that affect the private rental sector as a place to live and as an investment are spread across different levels of government in Australia's federal system and across different policy portfolios. The Australian Government has national responsibilities for taxation, income support, and migration/refugee policies which all affect the private rental sector; and shared responsibilities with the states/territories for housing/homelessness policies and programs. The state/territory governments also have responsibilities for consumer protection/fair trading, including residential tenancies legislation, as well as working with local government on planning and land use.

This project aims to provide a sound empirical basis for the development of more comprehensive policies on the private rental sector through a detailed investigation of changes in the supply of, and demand for, affordable rental housing for lower income households in both the short term (2006–11) and the longer term (1996–2011).

1.2 Research into the private rental sector: key approaches

There is an increasing body of research into the private rental sector internationally which, notwithstanding methodological and other practical difficulties, has been stimulated by national governments and private organisations who wish to learn from overseas experience (Crook & Kemp 2014, p.2). Recent comparative studies have highlighted developments in key elements of private rental such as tax incentives and investment in the supply of private rental (Oxley et

[1] Note that taxpayers are individuals not households.

al. 2010), financial assistance for private renters (Kemp 2007), regulation in relation to the private rental sector (Whitehead et al. 2012) and tenancy law (University of Bremen 2014). Other research has investigated the interrelationships between these elements and the impact of rental systems on the performance of the sector generally and more particularly outcomes for residents (e.g. Crook & Kemp 2014; Hulse & Milligan 2014).

A number of different approaches have underpinned research into private rental in Australia and internationally. These can be broadly categorised as housing market dynamics, historical-political, and socio-cultural.

1. Explanations of *housing market dynamics* focus on the factors that shape supply and demand for private rental and the interplay between them. The factors that shape demand are both exogenous to the housing system, such as rates of and types of in-migration and household formation,[2] and endogenous, such as changes in the capacity of households to access other housing options, in particular, home purchase and social rental housing (NHSC 2009, p.26). The factors that shape supply include those that are exogenous to the housing system and include taxation policies and foreign investment rules, as well as housing market factors such as price. Investment in private rental housing has traditionally been seen primarily as a domestic market with Australian research finding a prevalence of small-scale household investors with one or two properties who want a 'safe' investment (Yates 1996; Beer 1999; Berry 2000; Seelig et al. 2009; Wood & Ong 2013). It appears, however, that the growth in small-scale rental investment has been the major change on the supply side even in countries which, unlike Australia, have had a history of institutional investment in rental housing and a designated private rental stock (Hulse & Milligan 2014).
2. Research has emphasised the ways in which *historical-political* factors have exerted an ongoing influence in shaping the institutional settings for the rented housing sector and hence outcomes for residents. One highly influential account (Kemeny 1995, 2006) posited a distinction between the 'dual rental' systems of a small group of Anglophone countries including Australia and the 'unitary/integrated' systems of some European countries such as Germany and the Netherlands. In the former, a history of adversarial power relations has resulted in a relatively large and lightly regulated private rental sector which is quite distinct from a small and tightly regulated social rental sector (Kemeny 1995). In the latter, a history of corporatism characterised by negotiation and compromise has resulted in less differentiation between rental sectors (Kemeny 2006). Importantly, this work suggests that once institutional settings for renting, based on historic power relations, are established they are difficult to change. While much of this work is theoretical (Hoekstra 2009), there have been a number of comparative studies which have investigated empirically the differentiation between private and social rental sectors (e.g. Haffner et al. 2009a, 2009b).
3. There have also been a range of explanations about the performance of the private rental sector internationally which could be loosely termed '*socio-cultural*'. Some of these draw on ideas about late modernity (Giddens 1991; Beck 1992) which posit both greater diversity and fluidity in living arrangements on one hand and a shifting of more risks to individuals and households on the other. Ideas about late modernity have stimulated thinking about the importance of diverse 'housing pathways' (Clapham 2002, 2005) in which households negotiate their way through the life course adapting their housing and other circumstances in ways that are important to them rather than following more linear patterns of the post-war decades. This strand of research has been subject to a critique by those who argue that greater diversity in living patterns, including housing circumstances, is the result of the dominance of neo-liberal ideology on governance which has seen the shifting of risks associated with housing from governments to households, particularly lower income households who lack the financial and other resources to cover these risks (Dodson 2006; Beer et al. 2007; Jacobs & Manzi 2014).

[2] Although it could be argued that household formation is increasingly endogenous in that housing shortages, for example, can affect the rate of household formation.

This report presents the findings of empirical research which deploys a perspective based on the first of these approaches, *housing market dynamics*. It contributes in particular to a growing international literature which examines the capacity of the private rental sector to deliver good outcomes for lower income households (e.g. Gray & Macanulty 2008; Stamso 2010; Kemp 2011) amid concern that increasing reliance on the private rental sector for accommodating lower income households has increased the risk of homelessness for some (e.g. O'Sullivan & De Decker 2007; Clark & Monk 2013).

An ongoing area of debate in Australia and elsewhere has been the extent to which poor affordability outcomes for private renters reflect household choice or constrained adaptation to a lack of affordable supply. A critical issue is whether an increase in the overall supply of private rental dwellings has improved the supply of dwellings which are affordable to lower income households and to what extent have they been able to access such dwellings. This question is particularly important in view of evidence that, for many lower income households, living in private rental is their only viable housing option. They cannot enter home ownership due to low household incomes relative to increasing housing prices (Yates 2000, 2011a; Flood & Baker 2010; Hulse et al. 2010) and are unable to enter social housing unless they have particularly complex needs due to tight rationing in the sector (Groenhart 2014). This raises a second issue. Who is missing out if the supply of affordable private rented dwellings is inadequate to meet demand from lower income households? In addition, there are questions of geography and time scale. Where is the shortage of private rented dwellings particularly acute for lower income households? Has the situation got worse over time, both over the last intercensal period (2006–11) and over the longer term (1996–2011)?

1.3 The research project

This project on the supply of, and demand for, affordable private rental housing in Australia is the fourth in a series that began with an examination of data from the 1986 and 1996 Censuses (Wulff et al. 2001); was updated in 2004 with 2001 Census data (Yates et al. 2004a, 2004b); in 2011 with the 2006 Census data (Wulff et al. 2011, 2009) and; currently, with the 2011 Census data (Hulse et al. 2014). Some of the preliminary data generated by the third project were also used by the (former) National Housing Supply Council (NHSC 2009, Chapter 5). The studies entail detailed analysis of customised data from the five yearly Australian Bureau of Statistics (ABS) Census of Population and Housing, enabling a snapshot of supply, and demand for, private rental housing at a point in time, and an investigation of changes in the short term, the five years between Census collections.

The broad aims of this research project were:

- To update empirical investigation of the supply of, and demand for, private rental dwellings affordable to lower income households to 2011; and to assess the extent of change compared to 2006 and previous Census years.
- To provide an increased understanding of the changing geography of the private rental sector with a more nuanced spatial analysis of the supply/demand for affordable private dwellings than previously.

Within this context, there were six specific research questions:

1. What is the structure of the private rental market in 2011 in terms of the distribution of rents and household incomes and how has this changed since 2006?
2. To what extent are there shortages of affordable and available housing for lower income private renters in 2011 and how has this changed since 2006?
3. What is the profile of lower income private renter households in 2011, including comparison with 2006?

4. What are the characteristics of dwellings which are affordable and available to lower income households in 2011, including comparison with 2006?
5. For each research question (1 to 4), how are these changes spatially distributed?
6. What are the key implications of the findings of this project, in conjunction with the three prior projects, in understanding the dynamics, structure and geography of the private rental market in Australia 1996–2011?

There are two reports that present the findings of this project.

The first report (Hulse et al. 2014) updated the series using 2011 Census data and reported on short-term changes in the last intercensal period (2006–11). It examined trends in rents and households' incomes across the private rental sector 2006–11 (research question 1) and provided detailed estimates of the shortage of private rental housing in 2011 which was a) affordable and b) affordable and available to lower income households (research question 2), nationally and for selected geographies (research question 5), making comparison with 2006.

This (second) report continues the series in examining the affordability outcomes of these changes for lower income private renters in 2011. It profiles those households who are in unaffordable housing using an established affordability benchmark, with a particular focus on three groups: recent migrants, families with children and older Australians (research question 3). It also examines the types of housing occupied by lower income households (research question 4) as well as how households in unaffordable housing are distributed across different geographies (research question 5).

We also present findings in this (second) report on longer term change in the private rental sector. In particular, we examine what the four projects in the series tell us cumulatively about the changing dynamics, structure and geography of the private rental market in Australia (research question 6). This analysis enables changes in the last intercensal period (2006–11) to be put into a longer term context and underpins an assessment of the implications for public policy.

The two reports are intended to be self-contained. Where relevant, however, we provide a brief summary of some of the key results from the first report to provide context for the more detailed analysis of housing affordability outcomes in 2011 and longer term changes in the private rental sector.

1.4 The research approach and method

As Crook and Kemp (2014, p.5) point out in the most recent comparative study of private renting in advanced economies, it is important to identity what is meant by the private rental sector because ‘meanings and definitions are not straightforward’. In this report, and consistent with ABS definitions,[3] the private rental sector refers to occupied private dwellings enumerated in the five yearly ABS Census of Population and Housing in which the occupant pays rent to either a real estate agent or a person not living in the same household. This is a tighter, more conservative definition than the ones employed in some other countries which can include accommodation rented from a relative or employer as well as living in non-standard dwelling types such as mobile homes in residential parks (Wulff et al. 2011, p.32).[4]

The focus of the research is on lower income households, those in the lowest two quintiles (lowest 40%) in the distribution of all Australian gross household incomes in the Census of Population and Housing 2011, as calculated by the ABS. We distinguish between *very low*

[3] The standard definition of the private rental sector excludes dwellings occupied by visitors and not usual residents (for example holiday houses); those with non-classifiable households; and dwellings with households living rent free (paying $0 rent).

[4] It is also a stricter definition of the private rental sector than that deployed by the (former) National Housing Supply Council in its work (see Hulse et al. 2014, p.81).

income households (those in the lowest 20% of this distribution) and *low-income households* (those in next lowest 20%) of this income distribution. For the sake of brevity, we refer to these households as Q1 and Q2 households respectively.

This project is based on a research approach first employed in the 1990s by the US Department of Housing and Urban Development (Nelson 1994) and subsequently further developed in the 2000s (Vandenbroucke 2007). This approach was adapted for use in Australia by Wulff et al. (2001) and was subsequently adopted by the (former) National Housing Supply Council in its reports (e.g. NHSC 2012).

The research approach involves calculation of the shortages of private rental housing affordable to lower income households, quantification of the ways in which occupation by higher income households may exacerbate these shortages (market allocation processes), and an assessment of the consequent housing affordability outcomes for lower income households. It involved original empirical analysis using customised data from the ABS Census of Population and Housing conducted in August 2011. As a key part of this project was to update analysis in three previous studies, care was taken to ensure validity and reliability through consistent definitions, measures and spatial units compatible with the 1996, 2001 and 2006 Census data.[5]

The primary research method entailed calculating *affordable* rent categories aligned with household income quintiles at 30 per cent of the upper value of the income category (i.e., the value of the quintile), an approach developed in the initial study using 1996 data and which was the primary basis of reporting on the 2006 Census (Wulff et al. 2009, 2011) and 2011 Census (Hulse et al. 2014). The use of household income quintiles takes into account changes in the distribution of household income over time (i.e. constant household income shares) and also has the advantage of being readily understood by policy-makers and others. In examining change over time, analysis by household income quintiles is available for 1996, 2006 and 2011, enabling an assessment of change over a 15-year period.[6] Further detail on the research method is available in Hulse et al. 2014 (Appendix 1).

The method involved calculation of three conceptually different measures in 2011:

1. The *shortage of affordable supply* was calculated by subtracting the number of lower income households (Q1 and Q2 respectively) from the number of private rental dwellings that were affordable to them at the 30 per cent of household income benchmark.
2. The *shortage of affordable and available private rental housing* for Q1 and Q2 households was calculated by removing from the affordable supply (calculated as above) dwellings which were occupied by higher income households (and are therefore unavailable to those on lower incomes).
3. *The numbers of lower income households in unaffordable private rental* were established by calculating the number of Q1 and Q2 households who were in housing which was unaffordable (paying above 30% of household income) and severely unaffordable (paying more than 50% of household income) as well as the socio-demographic characteristics of such households.

This was done nationally and for a variety of spatial scales: metropolitan and non-metropolitan, state capitals, major sub-regions of some state capitals, 22 larger regional centres and also 'balance of state' areas. This enabled a more nuanced understanding of the geography of the

[5] A detailed description of the imputation methodology used to create the ABS customised data sets is provided in Hulse et al. 2014 (Appendix 1).

[6] A limitation was that the second study in the series used 1996 quintiles updated by the CPI rather than calculation of household income quintiles from 2001 Census data. For this reason, we exclude 2001 from the analysis of longer term changes over the four Census collections. 1986 data from the first study were similarly excluded because quintiles were not defined in that data set, rather the income categories were defined as closely as possible in real values to the 1996 categories.

private rental sector than in previous projects. It should be emphasised, however, that this project was not, nor was ever intended to be, a series of local housing market studies.

A secondary research method was to continue a series developed in the second and third projects of this series (Yates et al. 2004a; Wulff et al. 2009) based on the concepts as described above but using 12 private renter household income segments and then calculating 12 affordable rent segments using the same 30 per cent of household income affordability benchmark. These categories were increased by the Consumer Price Index (CPI) at each Census year, starting in 1996. While these 12 categories arguably provide a more nuanced account of real changes in household income and rents over time, their limitation is that they do not take into account changes in the *distribution* of private renter household incomes nor are they easily understood by policy-makers used to dealing with household income quintiles. For this reason, a decision was made in the third project (Wulff et al. 2011) to move to the five household quintiles for analysis of 2006 data, which was continued in the current project (Hulse et al. 2014). However, in these two latter projects, the initial series based on 12 income segments was updated, enabling a complete series over the four projects, that is data are available on a consistent, real dollar basis, for 1996, 2001, 2006 and 2011.

In adapting this approach, which emphasises housing market dynamics, it is important to note that there are some distinctive institutional settings for the Australian private rental sector which have persisted throughout the period under study. Australia does not have an identifiable 'primary' rental sector of rental buildings like in the United States or Canada. Most dwellings are built for the home purchase market and there is a high degree of substitutability between rental and owner occupied stock (Yates 1996, p.39). This is particularly the case for the detached dwellings that constituted 78 per cent of the nation's dwelling stock in 2011. While there has been an increase in apartment building in inner-city areas aimed in part at the investment market, particularly 2006–11, these dwellings are not in defined rental buildings. Widespread use of strata titling means that individual units can move easily between owner occupation and rental occupation. This means that the private rental dwellings identified in one Census are likely to differ substantially to those in the previous Census. It is also important to note that no information on housing quality is collected in the ABS Census. Finally, in the Australian context, there is very light regulation of private tenancies by international standards with limited security of tenure (Hulse et al. 2011). Rents are generally paid separately from utility fees, the latter being paid directly by the tenant, which is not usually the case in rental buildings in the US and Canada (Wulff et al. 2011, Appendix 1). Further, the Australian Government makes cash transfers to private renters in receipt of income support and family payments to assist with rent payments as one component of the income support system (Rent Assistance), unlike the UK where Housing Benefit is a separate and clearly identifiable payment.

It is not possible using this data source to investigate socio-cultural changes which may impact the private rental sector other than charting changes in the profile of lower income and other private renters and their affordability outcomes. Such changes form the focus of complementary AHURI-funded research into the experience of low-income private renting and related policy adaptations.[7]

1.5 Structure of this report

This report has two parts.

- → Part A (Chapters 2–4): examines housing affordability outcomes for lower income households in 2011 as a result of the shortages of private rental housing described in the first report from this project.

[7] See, for example, current AHURI research around: sustaining private rental tenancies; brokerage schemes in the private rental sector; and individualised housing assistance response options.

- Part B (Chapters 5–6): uses results from all four projects in this series to distil key findings about the changing role and structure of the private rental market in Australia, particularly as they affect lower income households; discusses some of the key drivers of longer term change, and; outlines implications for public policy

PART A: HOUSING AFFORDABILTY OUTCOMES FOR LOWER INCOME PRIVATE RENTERS IN 2011

2 HOUSING AFFORDABILITY OUTCOMES FOR LOWER INCOME HOUSEHOLDS 2011

This chapter examines the socio-demographic characteristics of lower income private renters and, in particular, of the lower income households who had poor affordability outcomes in the private rental sector in 2011. To put these findings in their context, the chapter first recaps findings on changes in the private rental market 2006–11 from the first report, focusing on national shortages of affordable housing, and affordable and available housing, for lower income private renter households.

2.1 Changes in the private rental market 2006–11

The private rental sector grew by 18 per cent between 2006 and 2011 (or 264 000 dwellings), twice the rate of growth than in occupied private dwellings generally. By 2011, there were 1.735 million privately rented dwellings, using the most conservative definition of private rental (as discussed in Chapter 1).

2.1.1 Affordable rent ranges for household income quintiles

The household income quintile categories, along with the corresponding affordable rent ranges for 2011, are shown in Table 1 below. Based on imputed unit record data from the 2011 Census, the left-hand side column presents gross household income quintile ranges in 2011 dollars, while the right-hand side column shows the corresponding affordable rent segment dollar ranges for the same year, using the 30 per cent of household income benchmark.

- Q1 households had incomes of $30 000 a year or less which would include all single people and single parents with one child solely reliant on pensions and benefits.[8]
- Q2 households had incomes between $30 000 and $56 000 which included couples on pensions/benefits, both with and without children, one-parent families with more than one child and households in receipt of a mixture of income support and part-time wage/salary income.[9]

[8] At the time of the 2011 Census (held in August), a single older person on the Age Pension received $21 996 per annum (including the Pension Supplement and Rent Assistance) and a single parent with one child $26 469 per annum (including Family Tax Benefit A and B and Rent Assistance). Melbourne Institute of Applied Economic and Social Research, Poverty Lines Australia, June Quarter 2011, Table 4, https://melbourneinstitute.com/downloads/publications/Poverty%20Lines/Poverty%20lines%20Australia%20June%202011.pdf.

[9] At the time of the 2011 Census, an older couple on the Age Pension received $31 439 per annum (including the Pension Supplement and Rent Assistance); a single parent with two children was eligible for a payment of $30 637 per annum, and a couple with two children had a statutory income of $35 373 per annum (for households with children, payments include Family Tax Benefit A and B and Rent Assistance). Melbourne Institute of Applied Economic and Social Research, Poverty Lines Australia, June Quarter 2011, Table 4, https://melbourneinstitute.com/downloads/publications/Poverty%20Lines/Poverty%20lines%20Australia%20June%202011.pdf.

Table 1: Gross unequivalised household income quintiles and corresponding affordable rent categories, Australia, 2011

Gross household income segment ($2011)			Affordable private rent segment ($2011)	
	Weekly	Annual		Weekly
Quintile 1 (Q1)	$0–$584	$30,500 or less	Rent 1 (R1)	$1–$175
Quintile 2 (Q2)	$585–$1,074	$30,501–$56,000	Rent 2 (R2)	$176–$322
Quintile 3 (Q3)	$1,075–$1,748	$56,001–$91,000	Rent 3 (R3)	$323–$524
Quintile 4 (Q4)	$1,749–$2,727	$91,001–$142,000	Rent 4 (R4)	$525–$818
Quintile 5 (Q5)	$2,728+	$142,001 or more	Rent 5 (R5)	$819+

Note 1: Household income refers to gross unequivalised income ranges (weekly) that represent the sum of the individual incomes reported by all household members aged 15 years and over.

Note 2: The affordable rent segments were defined by calculating 30 per cent of the upper value of the income quintile range. For example, $584*0.3=$175.

Source: Categories calculated by the ABS, using method defined by authors, using imputed unit record Census data (held by the Bureau).

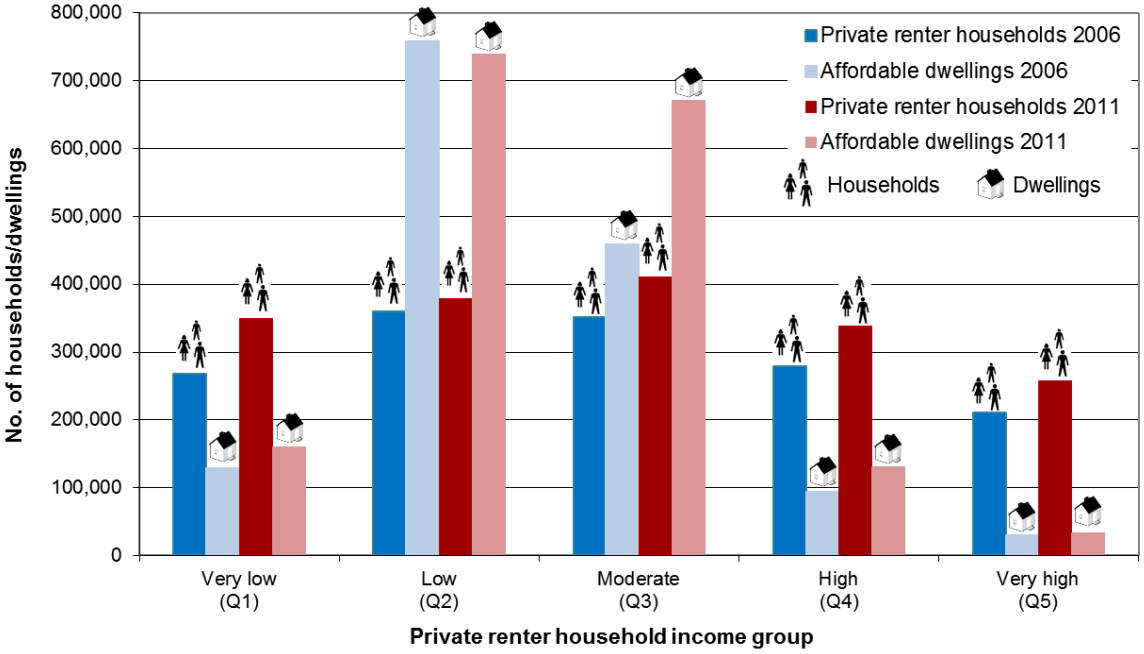
It is important to note that the rent segments (R1 to R5) in the above table are derived from the upper value of each household income quintile and are not, therefore, based on the *distribution of rents* paid. The rent segments do not represent, for example, rent quintiles. The categories are an outcome of the distribution of household incomes as they represent the level of rent that is affordable for each income group. Q1 households, for example, can afford R1 rents (up to $175 per week); Q2 households can afford both R2 and R1 rent segments (up to $322 per week) and so on, to Q5 households that can afford dwellings in all of the rent segments (R1 to R5).

2.1.2 The distribution of household incomes and rents

Figure 1 below shows the number of private renter households in each income quintile against the number of rental dwellings affordable to that income group (using the 30% of income affordability benchmark). The graph shows that private renter household incomes were relatively evenly dispersed across the five quintiles of all Australian household incomes in 2011 and the most striking change from 2006–2011 was the increase in the number of households with higher incomes (Q3–Q5). In this project, which analyses Census data, Rent Assistance is counted as an income supplement and is added to income rather than deducted from rent payable in the calculation of housing affordability outcomes.

Weekly rents, on the other hand, were tightly clustered between $300 and $500 a week in 2011, and the largest increase in the number of rented dwellings were those affordable to Q3 households (R3) as highlighted in Figure 1. Rents were higher in real terms than in 2006 (Hulse et al. 2014, p.19, Figure 6) and these rents were unaffordable to many lower income households using the 30 per cent of income affordability benchmark.

Figure 1: Number of private renter households by income group compared with the number of dwellings affordable at 30 per cent benchmark, Australia 2006 and 2011



Note: Presented as Figure 13 in Hulse et al. 2014.

Source: Customised ABS expanded matrices based on 2006 and 2011 Australian Census of Population and Housing data.

2.1.3 Very low income (Q1) households: supply and availability

Q1 and Q2 households faced different problems in the private rental market. Q1 private renter households faced an acute shortage of affordable rental housing nationally, that is, there were insufficient affordable dwellings to meet demand from Q1 households even if all dwellings were available to them (i.e. not occupied by higher income households).

→ Q1 households faced a shortage of 187 000 affordable dwellings nationally in 2011, up from 138 000 in 2006.

This shortage for Q1 households was made worse by the occupation of affordable dwellings by higher income (Q2–Q5) households and which were therefore not available for Q1 households.

→ The shortage of affordable and available private rental dwellings for Q1 households increased to 271 000 in 2011 when occupation by higher income (Q2–Q5) households was taken into account, up from 211 000 dwellings in 2006.

2.1.4 Low-income (Q2) households: supply and availability

Q2 households faced a different problem. Private sector rents in 2011 were tightly clustered at levels affordable to Q2 and Q3 households so, in theory, there was a surplus of affordable rental dwellings, not a shortage, with just over a half of all private rental properties affordable to Q2 households (R1 plus R2 stock).

→ Q2 households had a theoretical surplus of affordable dwellings of 521 000 nationally in 2011 (a slight decrease compared to 2006).

Since household incomes were more dispersed than rents, however (as illustrated in Figure 1), many of these dwellings were occupied by those with higher incomes (Q3–Q5), and also by some Q1 households who could only rent R2 dwellings due to the outright shortage of R1 dwellings discussed above. The result was a shortage of *affordable and available* rental housing for Q2 households.

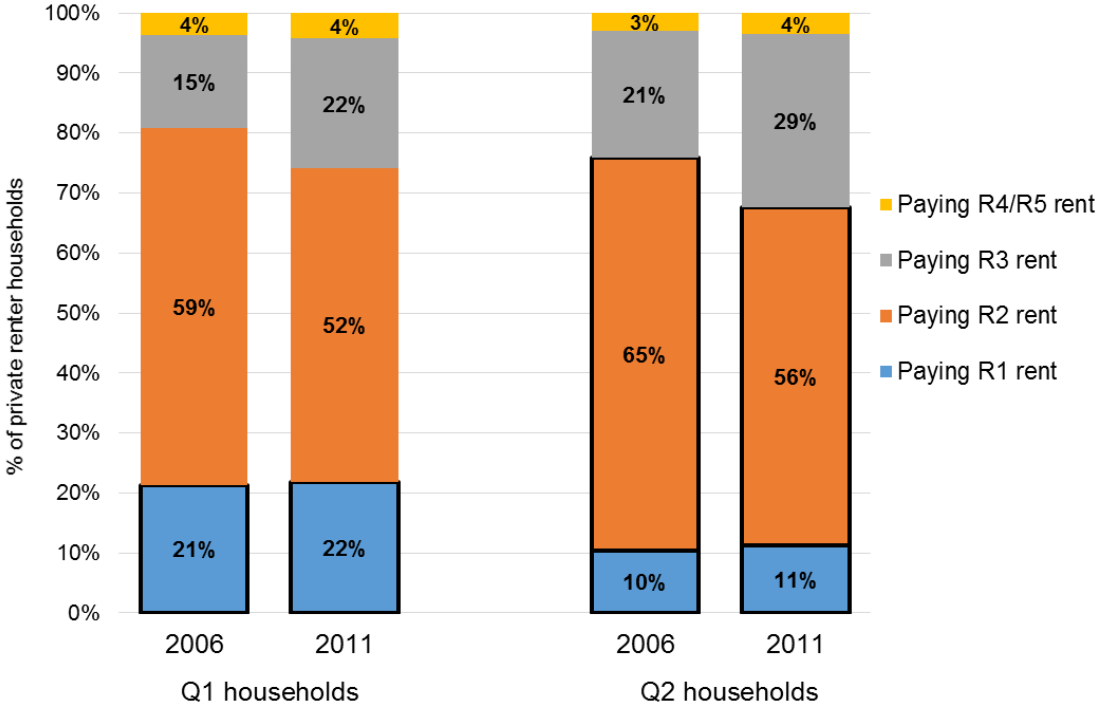
→ There was a shortage of 122 000 affordable and available dwellings nationwide for Q2 households in 2011 (up from 87 000 in 2006), indicating that such shortages had moved further up the household income distribution by 2011.

2.2 Housing affordability outcomes for lower income households

The chapter thus far has provided a recap of the issues presented in the first report for this study concerning the supply and availability of affordable private rental dwellings. We now focus specifically on the consequences of supply shortages and market allocation processes for Q1 and Q2 households, as evidenced by the affordability outcomes for lower income private renter households (i.e. the third concept outlined in Chapter 1).

Table 2 below illustrates the national picture in relation to housing affordability outcomes for lower income private renter households.

Figure 2: Proportion (%) of Q1 and Q2 households by rent segment paid, Australia, 2006 and 2011



Source: Customised ABS expanded matrices based on 2006 and 2011 Australian Census of Population and Housing data.[10]

Note: Black border denotes rent segment(s) affordable to households in that income quintile.

→ Almost four in five Q1 households did not live in affordable rental (R1) in both 2006 and 2011, with negligible intercensal change, but there was a higher proportion of Q1 households paying severely unaffordable (R3–R5) rents in 2011 than in 2006, indicating that the severity of housing affordability outcomes had worsened for Q1 households.

→ The situation for Q2 households had deteriorated 2006–11 with just under a third paying unaffordable rents (i.e. R3–R5) in 2011, up from just under a quarter in 2006.

Overall, it is clear that, although there was a substantial increase in the Australian private rental sector nationally 2006–11, shortages of affordable and available housing for both Q1 and Q2 households increased and their housing affordability outcomes deteriorated. In the remainder

[10] It should be noted that ABS Census data indicate that a small percentage of Q1 and Q2 households pay rents that are apparently higher than their incomes. There could be several reasons for this including inaccurate response to Census questions (on household income and/or rent) and assistance from an ex-partner of family members with rent payment.

of this chapter, we examine in more detail the characteristics of lower income private renters, in particular, those who were paying unaffordable rents in 2011, before considering the spatial dimensions of these problems in Chapter 3.

2.3 Who were lower income private renter households in 2011?

To contextualise the analysis of lower income households who *miss out* on affordable housing, we first present a socio-demographic profile of very low income (Q1) and low-income (Q2) private renters in 2011.

2.3.1 Socio-demographic characteristics of lower income and other private renter households

Table 2 below presents selected demographic characteristics of lower income private renters, showing: age of household reference person; household type; employment status of those adults in the household of working age;[11] and period (year) of arrival/born in Australia data. The table also presents the same select characteristics for higher income private renters (Q3–Q5), all private renter households (including lower income and higher income renters), and all Australian households (including private rental and other housing tenures). The equivalent 2006 information is provided in Appendix 2.

In the first Final Report for this project we noted an increase in higher income private renter households. Table 2 shows that higher income renters (Q3–Q5 households) are notably younger than lower income renters (Q1 and Q2) with almost half being under 34 years. Only 15 per cent of higher income renters live alone, irrespective of age. Six in ten higher income renters have two people in paid work.

[11] Age related to employment is restricted to primary working ages to most clearly highlight main trends related to employment status in the private rental sector.

Table 2: Socio-demographic characteristics of private renter households (and all households), Australia, 2011

Characteristics	Private renter households				All households
	Q1 %	Q2 %	Q3–Q5 %	Total %	%
Age					
15–24 years	15	12	11	12	4
25–34 years	22	27	36	31	16
35–44 years	20	24	26	24	20
45–54 years	15	17	17	17	20
55–64 years	12	10	8	9	17
65+ years	16	9	3	7	22
Total %	*100*	*100*	*100*	*100*	*100*
Total N	*347,000*	*378,000*	*1,010,000*	*1,735,000*	*7,760,000*
Household type*					
Younger couple, no children	4	7	21	14	7
Mid-life couple, no children	2	4	5	4	10
Older couple, no children	1	5	1	2	9
Couple families with children	10	20	31	24	32
One-parent families	24	22	11	16	11
Group household/other	9	12	17	14	7
Younger person living alone	19	17	10	13	7
Mid-life person living alone	18	11	5	9	8
Older person living alone	14	2	0	3	9
Total %	*100*	*100*	*100*	*100*	*100*
Total N	*347,000*	*378,000*	*1,010,000*	*1,735,000*	*7,760,000*
Employed persons in household**					
Nil employed	57	18	3	15	14
One employed	40	68	39	45	37
Two employed	3	13	58	39	50
Total %	*100*	*100*	*100*	*100*	*100*
Total N	*240,000*	*297,000*	*875,000*	*1,412,000*	*5,694,000*
Period of arrival					
2006 or after	13	11	16	14	5
Before 2006	21	22	21	21	25
Born in Australia (or NS)	66	68	64	65	69
Total %	*100*	*100*	*100*	*100*	*100*
Total N	*347,000*	*378,000*	*1,010,000*	*1,735,000*	*7,760,000*

Source: Customised ABS expanded matrix based on 2011 Australian Census of Population and Housing data.

* 'Younger' is <=44years; 'mid-life' is aged 45 to 64 years, and; 'older' is aged 65yrs+; numbers may not sum exactly due to rounding.

** Households with a reference person aged 25–64 years.

Q1 private renter households were more likely than other private renters to be over 45, living alone and having no one in paid employment.

- A third of all Q1 private renters in 2011 were people aged 45 years and above living alone, with little change between 2006 and 2011.
- A third of Q1 private renters in 2011 were households with children, a percentage which was higher than in 2006.[12] There were approximately two one-parent families for each couple family with children.
- More than half (55%) of Q1 private renter households in 2011 did not have anyone in paid employment, a decrease from 65 per cent in 2006. This percentage remained considerably higher than for Q2 or higher income (Q3–Q5) renters.
- Thirteen per cent of Q1 households were recent arrivals to Australia (within five years of the 2011 Census), although this figure was less than for higher income private renters.

Q2 private renter households had a lower percentage of those aged 45 and above living alone and a higher percentage of households with children than Q1 households. They were more likely to have one person in paid employment and had a lower rate of recent arrivals than Q1 or Q3–Q5 private renters. Specifically:

- Four in ten Q2 private renter households had children, similar to higher income (Q3–Q5) private renter households, with little overall change 2006–11.
- Q2 private renter households with children differ from higher income (Q3–Q5) private renters in that there are lower percentages of couples with children and higher percentages of one-parent families.
- Seven in ten Q2 private renter households had one person in employment, little changed from 2006, and the percentage of Q2 households with two people employed was much lower than for higher income renters (Q3–Q5) in both years.
- Q2 private renter households had a lower percentage of recent arrivals than either Q1 or Q3–Q5 households.

These characteristics of Q1 and Q2 households reflect some broader economic, social and public policy changes. The increase in the percentage of households with children reflects broader changes in the private rental sector (Stone et al. 2013) and increased problems facing lower income households with children seeking to purchase housing (Hulse et al. 2010). Welfare reform measures in the 2000s have aimed at increasing employment participation rates among the working age population, with the result that more households are now in receipt of a combination of income support and wage/salary income, although participation rates vary considerably by type of payment (DSS 2014, p.27). The slightly lower percentage of Q1 and Q2 recent arrivals compared to higher income private renters reflects policies to increase the intake of 'skilled migrants', who have substantial assets and may intend to set up a business in Australia 2006–11 (NHSC 2011, pp.36–40).

2.4 Which lower income households were in unaffordable private rental housing in 2011?

This section examines the extent and severity of rental affordability problems for particular groups of lower income private renters. It aims to provide policy-makers and others with more detailed information on the characteristics of the lower income private renter households in unaffordable housing as well as the severity of the problem that they face. It reports not only on the percentages of households paying unaffordable rents at the 30 per cent benchmark, as previously in this report, but also severely unaffordable rents (defined as paying more than

[12] See Appendix 2 for 2006 figures.

50% of gross household income in rent) to enable a more nuanced assessment of which groups experience particularly severe affordability outcomes.

2.4.1 Overview of extent and severity of housing affordability problems facing Q1 and Q2 households

In 2011 (as in 2006), four in five Q1 private renter households did not live in affordable private rental housing, using the 30 per cent of household income benchmark, as shown in Table 3. For Q2 renters, there was a creep of affordability problems up the income spectrum that was first noted in the 2001–06 period (Wulff et al. 2011) such that a third of Q2 households were not living in affordable housing in 2011. This indicates that affordability difficulties were being experienced increasingly by those on couple rates of pensions and benefits including, where applicable, family tax benefits, those with a mixture of statutory and wage income, and; some low waged segments of the renting population.

Severe affordability problems affected Q1 and Q2 households to varying degrees (Table 3). A quarter of Q1 households were paying severely unaffordable rents in 2011, an intensification of a trend noted in the previous project (Wulff et al. 2011). Only a very small proportion of Q2 households (4%) paid severely unaffordable rent amounts in 2011, as in 2006.

Table 3: Rental affordability for Q1 and Q2 private renter households, Australia, 2006 and 2011

	Q1 private renter households				Q2 private renter households			
	2006		2011		2006		2011	
	No.	%	No.	%	No.	%	No.	%
Paying affordable rent	57,000	21	76,000	22	273,000	76	256,000	68
Paying unaffordable rent	159,000	59	181,000	52	76,000	21	109,000	29
Paying severely unaffordable rent	51,000	19	90,000	26	10,000	3	13,000	4
Total	*268,000*	*100*	*347,000*	*100*	*360,000*	*100*	*378,000*	*100*

Source: Customised ABS expanded matrices based on 2006 and 2011 Australian Census of Population and Housing data.

2.4.2 Lower income households in unaffordable private rental housing in 2011

The relationship between affordability outcomes and selected demographic characteristics is shown in Table 4 below, focusing on factors that affect income levels—and subsequent affordability outcomes: age; life stage; and attachment to the labour force as well as period of arrival in Australia/Australian born. For Q1 households, it distinguishes between those paying unaffordable and severely unaffordable rents. For Q2 households, a single category of unaffordable (paying 30% or more or household income in rent) is used in view of the very low percentages in severely unaffordable housing illustrated in Table 3 above.

Table 4: Rental affordability by selected characteristics of lower income private renter households, Australia, 2011

Characteristics	Q1 private renter households				Q2 private renter households		
	Paying afford. rent %	Paying unafford. rent %	Paying severely unafford. rent %	Total %	Paying afford. rent %	Paying unafford. rent %	Total %
Age^							
15–24 years	10	13	22	15	12	13	12
25–34 years	13	23	26	22	26	29	27
35–44 years	14	21	24	20	23	27	24
45–54 years	17	15	14	15	17	17	17
55–64 years	17	12	8	12	11	9	10
65+ years	28	15	6	16	11	5	9
Total %	*100*	*100*	*100*	*100*	*100*	*100*	*100*
Total N	*75,900*	*181,400*	*89,500*	*346,900*	*255,600*	*122,500*	*378,000*
Household type*							
Younger couple, no children	1	3	7	4	7	8	7
Mid-life couple, no children	1	1	2	2	4	4	4
Older couple, no children	1	1	1	1	6	3	5
Couple families with children	3	8	18	10	17	26	20
One-parent families	12	30	24	24	22	22	22
Group household/other	4	6	19	9	9	16	12
Younger person living alone	22	19	16	19	19	13	17
Mid-life person living alone	29	19	8	18	13	6	11
Older person living alone	27	13	4	14	2	1	2
Total %	*100*	*100*	*100*	*100*	*100*	*100*	*100*
Total N	*75,900*	*181,400*	*89,500*	*346,900*	*255,600*	*122,500*	*378,000*
Employed persons in household**							
Nil employed	66	56	50	57	19	17	18
One employed	33	41	43	40	70	66	68
Two employed	1	3	7	3	11	17	13
Total %	*100*	*100*	*100*	*100*	*100*	*100*	*100*
Total N	*46,600*	*129,900*	*64,000*	*240,400*	*197,400*	*99,600*	*297,000*
Period of arrival							
2006 or after	4	10	26	13	9	15	11
Before 2006	17	21	24	21	19	27	22
Born in Australia (or NS)	78	70	50	66	72	58	68
Total %	*100*	*100*	*100*	*100*	*100*	*100*	*100*
Total N	*75,900*	*181,400*	*89,500*	*346,900*	*255,600*	*122,500*	*378,000*

Source: Customised ABS expanded matrix based on 2011 Australian Census of Population and Housing data.

^ Age refers to age of household reference person.

* 'Younger' is <=44 years; 'mid-life' is aged 45 to 64 years, and; 'older' is aged 65 years+; numbers may not sum exactly due to rounding.

** Households with a reference person aged 25–64 years.

Age of household head

While problems of rental affordability for Q1 households were widespread in 2011, affordability problems, as well as the severity of affordability problems, were most evident among younger renters aged under 45 years, as highlighted in Table 4.

- Households aged 15–44 years made up 57 per cent of all Q1 private renter households but comprise 72 per cent of Q1 households paying severely unaffordable rents.
- 'Younger' households of primary working age (25–44 years) account for 42 per cent of all Q1 households but 44 per cent of all Q1 households paying unaffordable rent, and 50 per cent of Q1 households paying severely unaffordable rent levels.

Although a lower proportion of Q2 renters overall paid unaffordable rents, a similar situation can be observed, with younger groups somewhat over represented in those paying unaffordable and severely unaffordable housing relative to their share of Q2 households.

While the majority of Q1 older private renters aged 65 years and above lived in unaffordable rental, they were somewhat underrepresented among Q1 households severely unaffordable rents. A similar situation can be observed for older Q2 renters paying unaffordable rents. Given the policy focus on older private renters, we investigate this group in more detail in Chapter 4 (Section 4.2).

Life stage

A measure of age and household type (combined) provides additional insights into affordability problems faced by Q1 and Q2 households.

Q1 income renters who lived alone accounted for just over half of all Q1 households and just over a quarter of those paying severely unaffordable rents, although there was variation related to life stage (Table 4). Of Q1 households paying severely unaffordable rents, most acute difficulties were apparent among younger households aged 45 years or under, a group that accounts for 16 per cent of all Q1 households paying severely unaffordable rent.

Relatively few families that include children were in the lowest gross household income quintile, with lower income families more prevalent in total proportions among Q2 households. However, lower income families with children are increasingly likely to spend significant periods of time living in the private rental sector (Stone et al. 2013).

One-parent families with children comprise a total of 24 per cent of Q1 renter households overall, with a further 10 per cent of Q1 renters accounted for by couple headed families with children. [13] There was substantial overrepresentation of single-headed families paying unaffordable rent levels in 2011, as highlighted in Table 4, with one-parent families making up almost a third of all Q1 households paying unaffordable rents and a quarter of those who pay severely unaffordable rent. Couple-headed families account for about a fifth of all households in Q1 paying severely unaffordable rent. Close to half of the Q2 renters who paid unaffordable rent for their dwellings in 2011 were also families with children.

Given the extent and severity of affordability difficulties found among lower income families with children, as well as policy priorities associated with these households, we explore rental outcomes for these households in more detail below (Chapter 4, Section 4.1).

Employment status

Labour market attachment is directly related to household income and affordability outcomes in the private rental sector.

[13] Note: Households with 'children' in this report include not only households with dependent children (under or over 15 years), but also households with dependent students (15–24 years) and non-dependent students, and non-dependent children. The dataset includes, therefore, households with only non-dependent children of any age.

Fifty-seven per cent of all Q1 private renter households of working age had no employed adults in the household in 2011, although this was a lower percentage than in 2006 when it was 65 per cent (see Appendix 2). Q1 households with no one employed were, perhaps surprisingly, somewhat over-represented among those paying affordable rents and under represented among those paying severely unaffordable rents.

Just over two-thirds of Q2 renters had one person in employment in 2011. These households were neither under or over represented among those paying unaffordable rents.

Period of arrival

Table 4 also provides information about affordability outcomes for recently arrived migrants (those arriving in 2006 or later), longer term migrants (arrived in Australia pre-2006) and Australian-born headed households.[14]

The situation facing Q1 and Q2 recently arrived households is quite different:

- Recent and longer term migrants were overrepresented among Q1 households paying severely unaffordable rents. In particular, a quarter of all those paying severely unaffordable rents were recent arrivals whereas they comprise only 13 per cent of all Q1 renter households.
- Migrants comprise 33 per cent of all Q2 private renters but 42 per cent of Q2 households paying unaffordable rents. In this case, recent arrivals account for 15 per cent and longer term migrants 27 per cent of Q2 households with affordability problems.

Existing evidence about migration to Australia indicates that the private rental sector plays a substantial role in the settlement of an increasing proportion of newly arrived migrants (NHSC 2011). In some cases, this is for short transitional periods, as in the case of international students, whereas for some other migrants to Australia, the sector represents a longer term home. We investigate affordability outcomes for recently arrived migrants in more detail later in this report (Chapter 4, Section 4.3).

2.5 Summary

Although there was a substantial increase in the Australian private rental sector nationally during 2006–11, shortages of affordable and available housing for both Q1 and Q2 households increased and their housing affordability outcomes deteriorated.

Q1 private renter households were more likely than other private renters to be older, living alone and having no one in paid employment. Q2 private renters had a higher percentage of households with children than Q1 households and a lower percentage of those aged 45 and above living alone; they were much more likely to have one person in paid employment. Higher income renters (Q3–Q5) were notably younger than lower income renters (Q1 and Q2) with almost half being under 35 years and the majority had two income earners.

Four in five Q1 private renter households nationally did not live in affordable private rental housing in 2011 and a quarter of these Q1 households lived in severely unaffordable housing paying more than 50 per cent of household income on rent. A third of Q2 private renter households nationally lived in unaffordable housing in 2011, although the numbers in severely unaffordable housing were quite small.

The main Q1 households living in unaffordable rental were one-parent families (the largest group) and those living alone and aged under 65 years. Younger households aged under 45 (both those living alone and with children) comprised the majority of those with severely unaffordable outcomes. Recently arrived migrants were also overrepresented among Q1 households in unaffordable private rental. Families with children comprised half of the Q2

[14] The year of arrival variable was introduced for the first time in 2011 and no comparison is possible with data from previous projects.

households who were living in unaffordable housing, with the next biggest group being younger people aged under 45 living alone.

3 LOWER INCOME HOUSEHOLDS LIVING IN UNAFFORDABLE PRIVATE RENTAL: WHERE ARE THE PROBLEMS?

To this point, the findings have provided a broad brush picture of lower income households living in unaffordable private rental housing at the national level. This chapter examines the spatial dimension of affordability outcomes. This is important given the pattern of settlement in Australia which involves concentration of most of the population in a small number of state capital cities and a number of larger regional centres (particularly in Queensland and New South Wales), while the rest of the population is dispersed among a large number of small regional and remote locations.

3.1 Metropolitan and non-metropolitan regions

Affordability problems for both Q1 and Q2 households are more extensive, and in the case of Q1 households more severe, in metropolitan than non-metropolitan regions, as indicated in Table 5 below. Almost 9 in 10 Q1 private renter households in metropolitan regions were paying unaffordable rents compared to just over two-thirds in non-metropolitan regions. Of particular note is that more than a third of metropolitan renters were in severely unaffordable housing, paying more than 50 per cent of their incomes in rent, much higher than the 13 per cent in this situation in non-metropolitan regions.

Table 5: Affordability outcomes for Q1 and Q2 households, metropolitan and non-metropolitan regions, 2011

Location	Q1 private renter households				Q2 private renter households		
	Paying afford. rent	Paying unafford. rent	Paying severely unafford. rent	Total	Paying afford. rent	Paying unafford. rent	Total
Australia (%)	22	52	26	*100*	68	32	*100*
Australia (no.)	76,000	183,000	90,000	*349,000*	256,000	123,000	*379,000*
Metro region (%)	12	52	36	*100*	59	41	*100*
Metro region (no.)	24,000	101,000	71,000	*196,000*	134,000	94,000	*228,000*
Non-metro region (%)	34	53	13	*100*	81	19	*100*
Non-metro region (no.)	52,000	81,000	19,000	*153,000*	122,000	28,000	*151,000*

Source: Customised ABS expanded matrix based on 2011 Australian Census of Population and Housing data.

We next examine to what extent supply and availability factors contribute to affordability outcomes for Q1 households at a variety of sub-national scales, as summarised in Table 6, with further spatial detail in Appendix 3 (Table A7). Within this context, the extent to which supply shortages and affordability issues contribute to affordability outcomes for Q1 households is different for metropolitan and non-metropolitan regions.

- Nationally, for the 273 000 Q1 households paying unaffordable rents, supply shortage contributes 69 per cent of the problem with the remaining 31 per cent due to the higher income (Q2–Q5) households living in R1 dwellings (availability).
- The supply shortage is a greater contributor to affordability problems in the metropolitan regions (84% of the problem) and the availability problem is somewhat greater in non-metropolitan regions (56% of the problem) as shown in columns 7 and 8 in Table 6 below.

Table 6: Q1 households paying unaffordable rents due to shortages and availability, Australia, metropolitan and non-metropolitan regions, 2011

	No. of Q1 income h'holds	No. of affordable dwellings	Shortage of affordable stock	Higher income h'holds in the affordable stock	No. of Q1 h'holds paying unafford. rent	% of Q1 h'holds paying unafford. rent	Paying unaffordable rent because of:	
							Outright shortage (%)	Availability (%)
			(=2-1)		(3-4)	(=5 /1)	(=3/5)	(=4/5)
	1	2	3	4	5	6	7	8
Australia	349,000	159,000	-190,000	83,000	273,000	78	69	31
Metro regions	196,000	51,000	-145,000	28,000	172,000	88	84	16
Non-metro regions	153,000	108,000	-45,000	55,000	101,000	66	44	56

Source: Customised ABS expanded matrix based on 2011 Australian Census of Population and Housing data.

For Q2 households (not illustrated) the problem is one of lack of availability in both metropolitan and non-metropolitan regions.

Further details of the relative contributions of supply shortages and availability to poor affordability outcomes for Q1 households are given in Appendix 3 for all capital cities and zones within the five biggest cities. It is clear from this more detailed analysis that supply shortages are by far the biggest contributor to poor affordability outcomes in Australia's largest cities (Sydney, Melbourne, Brisbane and Perth).

3.2 Affordability outcomes in Australia's capital cities, 2011

Not surprisingly, the majority of Q1 households in unaffordable private rental housing in Australia in 2011 lived in the four biggest cities of Sydney, Melbourne, Brisbane and Perth (55% of all such households or 150 700 households).[15] In this section we present findings on the affordability outcomes for lower income households in each of the major cities.

There was considerable variation in the extent and *severity* of affordability problems within the context of individual capital city housing markets in 2011. Affordability problems were widely spread across capital cities. In Sydney and Perth, Canberra, Perth and Darwin, not only were affordability problems widespread but the proportion of Q1 income households paying severely unaffordable rents (more than 50% of household income) was high, peaking at 63 per cent in Canberra,[16] as shown in Table 7 below. Notably, in these more extreme cases, proportions of Q2 income households paying severely unaffordable rents were also high (70% in Canberra and 55% in Sydney).

[15] The numbers of Q1 households living in unaffordable housing in 2011 were: 54 000 in Sydney; 51 800 in Melbourne; 26 300 in Brisbane; and 18 600 in Perth.

[16] Although the numbers involved are much lower in Darwin and Canberra than in the major capital cities.

Table 7: Rental affordability of lower income private renter households by major capital city sub-regions, Australia, 2011

Location	Q1 private renter households					Q2 private renter households			
	Paying afford. rent	Paying unafford. rent	Paying severely unafford. rent	Q1 total		Paying afford. rent	Paying unafford. rent	Q2 total	
	%	%	%	%	No.	%	%	%	No.
Australia	22	52	26	100	349,000	68	32	100	379,000
Metro regions	12	52	36	100	196,000	59	41	100	228,000
Capital city sub-regions									
Sydney									
Inner	6	28	66	100	19,100	30	70	100	20,800
Middle	7	40	54	100	22,200	39	61	100	30,000
Outer	13	64	23	100	17,500	66	34	100	21,300
Sydney total	*8*	*43*	*49*	*100*	*58,800*	*45*	*55*	*100*	*72,000*
Melbourne									
Inner	9	44	47	100	17,900	51	49	100	17,100
Middle	13	58	29	100	24,500	69	31	100	27,900
Outer	13	70	16	100	16,600	79	21	100	19,600
Melb. total	*12*	*57*	*31*	*100*	*58,900*	*68*	*32*	*100*	*64,600*
Brisbane									
Inner	13	42	45	100	9,300	52	48	100	10,500
Middle	11	39	50	100	6,200	42	58	100	8,200
Outer	10	65	25	100	14,200	66	34	100	18,000
Bris. total	*11*	*52*	*37*	*100*	*29,600*	*57*	*43*	*100*	*36,800*
Adelaide									
Northern	20	72	9	100	6,300	91	9	100	7,100
Western	25	61	13	100	4,200	84	16	100	4,700
Eastern	18	55	27	100	4,700	75	25	100	4,500
Southern	19	68	13	100	5,200	84	16	100	5,700
Adel. total	*20*	*65*	*15*	*100*	*20,400*	*84*	*16*	*100*	*22,100*
Perth									
Central	12	42	46	100	2,400	52	48	100	2,300
East	15	50	35	100	3,000	60	40	100	3,700
North	11	46	43	100	6,000	53	47	100	7,200
Southwest	12	53	34	100	4,500	60	40	100	4,800
Southeast	13	49	37	100	5,400	60	40	100	6,300
Perth total	*13*	*48*	*39*	*100*	*21,300*	*57*	*43*	*100*	*24,300*
Hobart total	29	59	11	100	4,200	84	16	100	4,100
Canberra total^	10	27	63	100	900	30	70	100	1,500
Darwin total^	15	33	52	100	1,800	41	59	100	2,900

^ Low counts in these areas: caution should be exercised when interpreting these figures.

Source: Customised ABS expanded matrix based on 2011 Australian Census of Population and Housing data.

In Brisbane and Melbourne affordability problems were also widespread, however the proportions of Q1 households paying severely unaffordable rent levels were somewhat less than Sydney, Canberra and Darwin although still high (around a third of all Q1 income renters paying severely unaffordable rent in each case). Only in Adelaide and Hobart do relatively low proportions of Q1 income renters pay severely unaffordable rent (15% and 11% respectively). Adelaide and Hobart also differ in the overall extent of rental affordability problems compared with other capital cities, with a fifth of Q1 income households in Adelaide and close to a third in Hobart living in affordable rental dwellings. While these figures are less acute than for the larger state capitals, most Q1 households in the two latter cities did not live in affordable housing.

Affordability outcomes for Q1 households also differed within cities, as shown in Table 7 above. Sydney and Brisbane had the highest percentages of Q1 households paying severely unaffordable rents in their inner and middle suburbs, and similar outcomes in Melbourne's inner suburbs. Perth also had high percentages of Q1 households in severely unaffordable housing, particularly in its central and northern regions.

The situation facing Q2 households was also particularly acute in Sydney's inner and middle suburbs, Brisbane's middle suburbs, as well as Canberra and Darwin, as noted above (Table 7).

In interpreting these findings, it is evident that relatively few lower income households had been able to find affordable rentals in inner, and increasingly in middle, suburbs of major cities by 2011. They had somewhat more opportunities in the outer zones of major cities, although those renting at greater distances from capital city centres were further from employment rich areas and high levels of amenity. They also faced higher non-housing expenditures in areas such as transportation and food, as shown in other research (e.g. Burke & Stone 2014; Mattingly & Morrissey 2013). Such expenditures are not factored into the figures presented here yet have the potential to undermine the benefits for lower income renters of affordable rent in outer suburban (or non-metropolitan areas).

3.3 Affordability outcomes in non-metropolitan regions, 2011

In Australia's non-metropolitan regions, as discussed earlier in this chapter (Section 3.1, Table 5), lack of availability of affordable housing was more significant overall than in metropolitan regions, although supply shortages are still an important factor for Q1 households.

Affordability outcomes for lower income households varied between non-metropolitan regions with a higher percentage of Q1 households living in unaffordable housing in Queensland, the Northern Territory, and Western Australia, as shown in Table 8 below. These states/territories also had the highest percentages of Q1 households paying severely unaffordable rents. Affordability outcomes for Q2 households were generally better than for Q1 households and problems were most widespread in Queensland, New South Wales and Western Australia. These states/territories were the ones most affected by the commodities/resources boom in Australia in the period prior to 2011 (Hulse et al. 2014, Chapter 2). Other research has shown an increase in lower rent accommodation in some non-metropolitan areas peripheral to Sydney and Brisbane, and to a lesser extent, Melbourne as lower income households are priced out of metropolitan housing markets (Hulse et al. 2014).

Table 8: Rental affordability of lower income private renter households by location, Australia, 2011

Location	Q1 private renter households					Q2 private renter households			
	Paying afford. rent	Paying unafford. rent	Paying severely unafford. rent	Q1 total		Paying afford. rent	Paying unafford. rent	Q2 total	
	%	%	%	%	No.	%	%	%	No.
Australia	22	52	26	100	349,000	68	32	100	379,000
Metro regions	12	52	36	100	196,000	59	41	100	228,000
Non-metro regions	34	53	13	100	153,000	81	19	100	151,000
Rest of state balances									
NSW balance	37	53	11	100	53,100	83	17	100	51,700
VIC balance	47	49	4	100	28,500	94	6	100	25,800
QLD balance	20	57	23	100	48,600	69	31	100	52,000
SA balance	55	42	3	100	8,200	96	4	100	7,000
WA balance	25	61	14	100	8,200	84	16	100	8,000
TAS balance	46	51	3	100	6,400	97	3	100	5,500
NT balance^	22	47	31	100	200	63	37	100	500

Notes: ^ very low counts in these areas, caution should be exercised when interpreting these figures; figures may not sum exactly due to rounding; data in this and the following table were sourced from two separate ABS matrices and therefore, due to standard ABS confidentialisation processes, some counts might differ slightly to those in-text. When this occurs, figures sourced from the expanded file take precedence.

Source: Customised ABS matrices based on 2011 Australian Census of Population and Housing data.

Further detail on housing affordability outcomes for lower income private renters is provided in Appendix 4, which shows that the extent and severity of these problems in some regional centres such as Gold Coast, Sunshine Coast, Mackay and Townsville (all in Queensland) were as bad as in Sydney.

3.4 Summary

Nationally, Q1 households had the most widespread problems of lack of affordability with supply shortages contributing 84 per cent of the problem. There were simply not enough properties at rents that they could afford.

Lower income households in unaffordable private rental in 2011 lived predominantly in metropolitan regions and, in terms of numbers, the majority of households lived in the four largest cities (Sydney, Melbourne, Brisbane and Perth). Many Q1 households renting privately in metropolitan regions had severely unaffordable housing outcomes in 2011 paying more than 50 per cent of their household income in rent.

There was considerable variation in the extent and *severity*, of affordability problems for Q1 across capital cities. Affordability problems were widely experienced across capital cities but severe affordability problems, paying more than 50 per cent of household income in rent, were most prevalent in Sydney and Perth among the state capitals. While numbers in unaffordable housing were much lower, the percentage of lower income households living in unaffordable rental was particularly high in Canberra and Darwin, indicating particular problems in the rental sector of those two cities.

There was also some variation in affordability outcomes for lower income households *within* the larger state capitals. Generally speaking, these outcomes were most severe in inner and some middle zones and somewhat less severe in outer zones. These findings suggest that Q1 households have the option of paying severely unaffordable rents in inner and some middle zones or finding cheaper rentals further from capital city centres and job rich locations, and in which they may incur additional expenditures such as transport costs.

The extent of affordability problems for Q1 households in non-metropolitan regions is somewhat less than in metropolitan regions, however, two-thirds of Q1 households renting in non-metropolitan regions pay unaffordable rents. Affordability outcomes are particularly poor for Q1 households in some larger regional centres in Queensland.

4 FOCUS CHAPTER: FAMILIES WITH CHILDREN, OLDER PEOPLE AND RECENTLY ARRIVED MIGRANTS

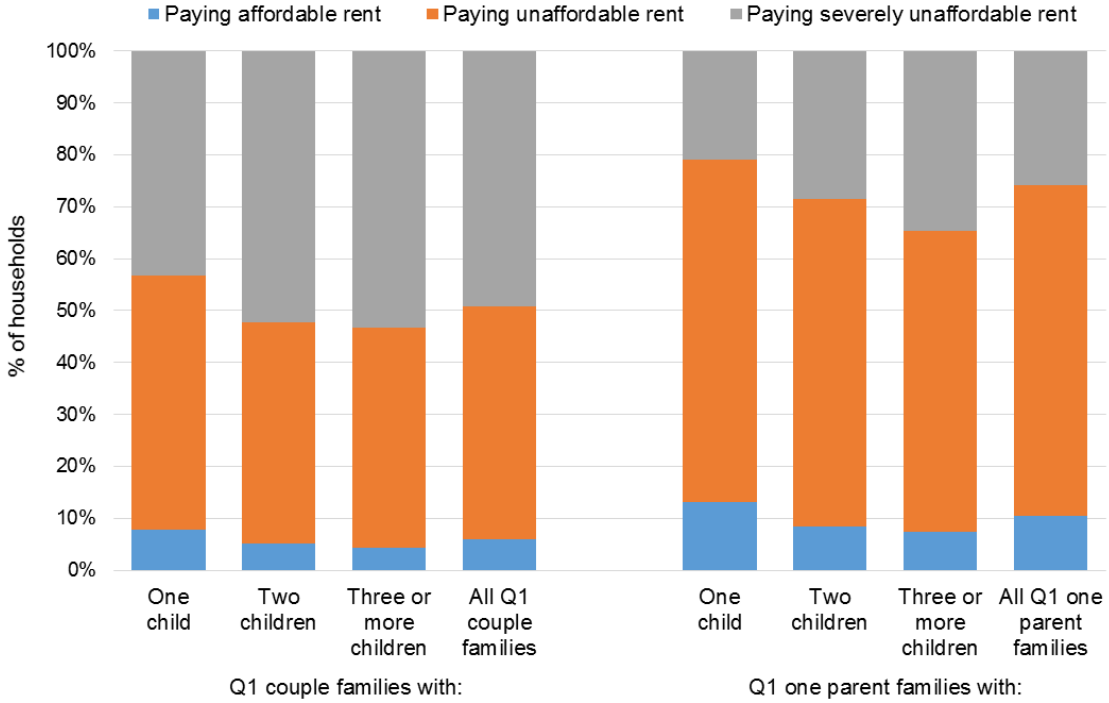
This chapter examines in more detail the affordability outcomes for three groups of lower income private renter households who are of interest to policy-makers—families with children, older people and recently arrived migrants. In each case, the chapter also considers the spatial dimensions of these affordability problems.

4.1 Lower income families with children

In 2011, of the 276 400 very low and low-income households with children living in the private rental sector, 60 per cent were paying unaffordable or severely unaffordable rents. Sixty-two per cent of those in unaffordable rental were one-parent families and 38 per cent were two-parent family households.

As anticipated in view of a large body of research which has identified high levels of poverty among one-parent families.[17] Q1 one-parent private renter households experienced extensive and severe rental affordability problems nationally in 2011. Only 10 per cent of Q1 one-parent families paid affordable rents, most paid unaffordable rents (more than 30% of household income), and a quarter paid severely unaffordable rents (more than 50% of household income), as shown in Figure 3 below. The situation of Q2 one-parent families was less dire but a third of these households still paid unaffordable rents (Figure 4).

Figure 3: Rental affordability among Q1 private renter families with children, Australia, 2011

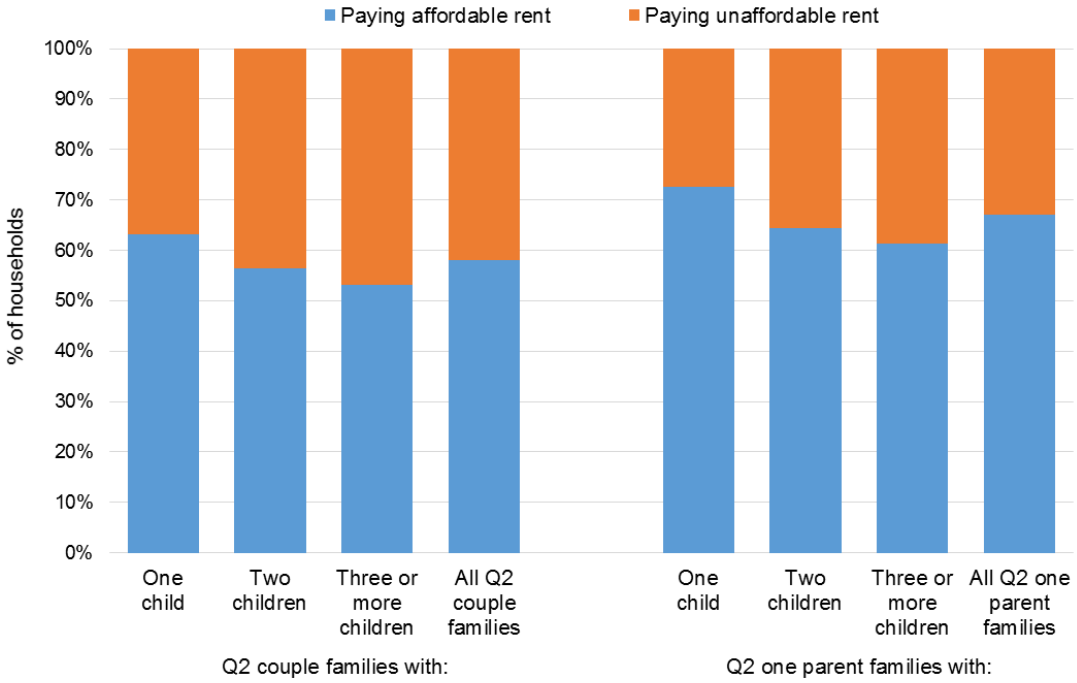


Source: Customised ABS expanded matrix based on 2011 Australian Census of Population and Housing data.

A half of all Q1 couple families with children paid severely unaffordable rents and 4 in 10 Q2 couple families paid unaffordable rents, higher than for Q2 one-parent families. In interpreting these findings, it may be that couple families require larger and thus more expensive rental housing. Figures 3 and 4 also indicate that the more children there are in a family, the higher the percentages of households in unaffordable or severely unaffordable housing.

[17] For current estimates of Australian family poverty see, for example, Melbourne Institute (2014) and ACCER (2014).

Figure 4: Rental affordability among Q2 private renter families with children, Australia, 2011



Source: Customised ABS expanded matrix based on 2011 Australian Census of Population and Housing data.

Examining the spatial dimension of these problems (Table 9 below), it is apparent that Q1 private renter households with children faced widespread affordability problems in 2011 whether living in metropolitan regions or non-metropolitan areas. Only 4 per cent of these households in metropolitan regions and 16 per cent in non-metropolitan regions paid affordable rents. The main spatial difference was the higher percentage of Q1 households with children who paid severely unaffordable rents in metropolitan regions. The situation for Q2 private renter households with children in non-metropolitan regions was somewhat better than for their metropolitan counterparts with three-quarters paying affordable rents compared to just over half in metropolitan regions.

Table 9: Rental affordability of lower income private renter households with children by location, Australia, 2011

	Q1 private renter households with children				Q2 private renter households with children		
	Paying afford. rent	Paying unafford. rent	Paying severely unafford. rent	Total	Paying afford. rent	Paying unafford. rent	Total
Australia (%)	9	58	32	100	63	37	100
Australia (N)	10,700	68,500	38,200	117,400	99,800	59,100	159,00
Metro region (%)	4	53	43	100	53	47	100
Metro region (N)	2,400	34,900	28,100	65,400	48,800	43,400	92,200
Non-metro region (%)	16	65	19	100	76	24	100
Non-metro region (N)	8,400	33,600	10,000	52,000	51,000	15,700	66,700

Source: Customised ABS expanded matrix based on 2011 Australian Census of Population and Housing data.

More detailed analysis of the spatial dimension of these issues (provided in Appendix 5) showed that the percentage of Q1 households with children paying affordable rents in all

capital cities is tiny; almost all are in unaffordable housing. In Canberra, Darwin, Sydney and Perth, more than half are in severely unaffordable housing, with Brisbane just under half. Within the two biggest cities (Sydney and Melbourne) the extent of severely unaffordable outcomes was greatest in inner zones and improved the further the zone was from the urban centre. While the severity of affordability outcomes was generally not as great in non-metropolitan regions, the percentage of Q1 households with children paying severely unaffordable rents was as high in non-metropolitan Queensland as it was in Melbourne.

For Q2 families with children, increased income provided some buffer to affordability problems in the private rental sector (relative to Q1 households) in outer and middle areas in Sydney and Melbourne as well as in most capital cities. However, Q2 families with children also faced difficulties of affordability in 'tight' metropolitan markets outside of the largest capital cities.

Based on the analysis of census data for this project, a conservative estimate is that at least 304 000 Australian children were living in lower income households in unaffordable rental housing in 2011.[18] Of these:

- A majority (188 000) lived in Q1 families, with 116 000 children living in Q2 families.
- Six in 10 (183 000) children lived in one-parent families, with the remaining 40 per cent (121 000) living in couple-parent families.

While the housing circumstances of Australia's children remains significantly under-researched, existing literature indicates detrimental effects of family pressures associated with poor affordability outcomes as well as high rates of forced/unwanted mobility are detrimental to children's wellbeing and development including educational outcomes (Dockery et al. 2013; Taylor & Edwards 2012).

4.2 Lower income older persons

A key policy concern has been the problems facing older renters living in the private rental sector, since many depend on the age pension and face increasing rents over time. Older renters (aged 65 years and above) are not a large group: in 2011, they comprised 16 per cent of all Q1 renters and 9 per cent of Q2 private renters.

Overall, the affordability outcomes for lower income older people are better than for lower income households generally, and these are reflected in the larger proportions of older people living in affordable housing in metropolitan and non-metropolitan areas, in a range of capital cities, and, most significantly, for those on Q1 as well as Q2 income groups as shown in Table 10.

[18] This figure is conservative as households recorded by the ABS as having '3 or more' children are calculated to have three children only for the purpose of this estimate.

Table 10: Rental affordability of older* lower income private renter households by location, Australia, 2011

	Older Q1 private renter households				Older Q2 private renter households		
	Paying afford. rent	Paying unafford. rent	Paying severely unafford. rent	Total	Paying afford. rent	Paying unafford. rent	Total
Australia (%)	40	50	10	100	80	20	100
Australia (N)	21,600	27,300	5,500	54,400	27,600	6,700	34,400
Metro region (%)	27	58	15	100	73	27	100
Metro region (N)	7,100	15,200	4,100	26,400	13,300	4,900	18,200
Non-metro region (%)	52	43	5	100	89	11	100
Non-metro region (N)	14,400	12,100	1,500	28,000	14,400	1,800	16,200

* 'Older' = household reference person aged 65 years or more.

Source: Customised ABS expanded matrix based on 2011 Australian Census of Population and Housing data.

Some of the key findings derived from Table 10 (and more detailed spatial analysis at Appendix 5) are:

- Four in ten Q1 older private renter households paid affordable rent nationally compared with 22 per cent of all Q1 households[19].
- Twenty-seven per cent of Q1 older households rented affordable dwellings in metropolitan centres compared with 12 per cent among all Q1 income renters in metropolitan regions.
- Fifty-two per cent of older Q1 renters living in non-metropolitan areas paid affordable rent (compared with 34% for all Q1 renters).
- Older Q1 households were less likely to be paying severely unaffordable rents than Q1 renters generally—10 per cent of older private renter households paid severely unaffordable rents nationally, compared to 26 per cent of all Q1 households nationally.

In interpreting these findings it is important not to understate the difficulties faced by lower income older private renters. While affordability outcomes may not be as severe as for some other groups, 6 in 10 Q1 older renter households were not in affordable housing nationally in 2011, and almost three-quarters in metropolitan regions. Since census data do not include any information on housing quality, it may be that older people rented poorer quality and cheaper housing in less convenient locations in order to reduce housing expenditures. Alternatively, they may have been more attractive as tenants to landlords and agents with low rent properties.

The problems faced by older private renters go beyond affordability and have been well documented. They include lack of security, exposure to frequent and unpredictable rent rises and inflexibility in dwelling adaptability for ageing (Morris 2006, 2007). Difficulties associated with living in the private rental sector in older age can be compounded for women (Sharam 2011) and those who are recently widowed or separated (Wood et al. 2008). Housing expenditures for this age group are also related to necessary trade-offs and expenses tenants make in relation to proximity to essential services and suitability of dwelling structure and modification for physical needs.

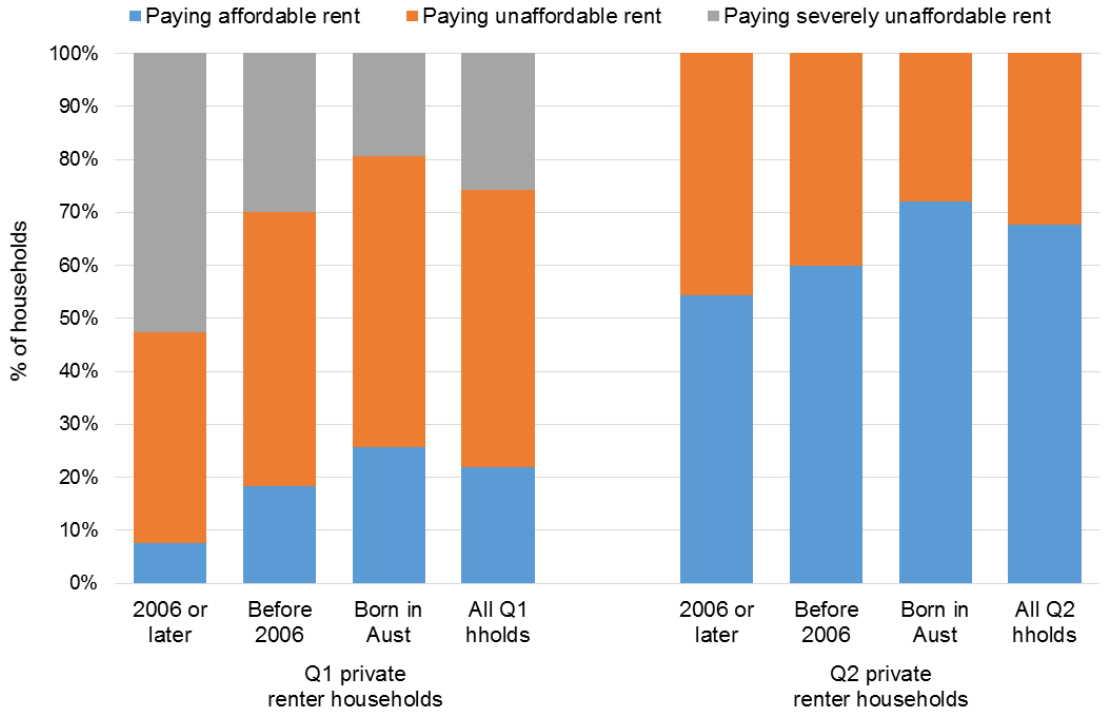
[19] The affordability outcomes for all Q1 and Q2 private renters is taken from Chapter 3, Table 5.

4.3 Lower income recently arrived migrants

The period 2006–11 saw an increase in the number of migrants to Australia, which the first report in this project called a 'demographic shock' (Hulse et al. 2014, Chapter 2). Appropriate and affordable housing is an important backdrop to the achievement of economic participation and social integration for newly arrived migrants (Beer & Foley 2003; Shepley 2007).

Since migration adds to housing demand, the level and type of temporary and permanent migration to Australia is critical. Between 2006 and 2011, there was a particular focus on skilled migrants, including those with substantial assets and the intention to set up a business in Australia as well as humanitarian resettlement and people joining their families in Australia. Increased migration affects the private rental sector in particular, since this is the major entry point for recently arrived migrants to Australian housing markets (NHSC 2010). High levels of migration have continued after 2011 and continue to affect the private rental sector.[20] Given the scale of migration to Australia, it is crucial we have a richer understanding of the settlement process and of the role of housing within it, including affordability outcomes for recently arrived and other migrants.

Figure 5: Rental affordability of lower income private renter households by period of arrival, Australia, 2011



Source: Customised ABS expanded matrix based on 2011 Australian Census of Population and Housing data.

In 2011 recently arrived migrants[21] (arriving in Australia within the previous five years) faced extensive affordability problems in the private rental sector with 92 per cent of Q1 recent arrivals in unaffordable rental in 2011, much higher than for Q1 households generally (78%) (Figure 5). The problems faced by Q2 households were less but still substantially more than for

[20] For the 2014–15 year, a total of 190 000 migration places have been allocated to individuals settling in Australia. The bulk of these comprise skilled entrants (68%) and the remainder available to family migration (32%) (DIBP 2015a). Additionally, in the 2012–13 year a further 20 019 individuals arrived within refugee or humanitarian categories (DIBP 2015b).

[21] Data refer to the place of birth and year of arrival of the household reference person; the migration status of other household members may be different.

Q2 private renters generally. Outcomes for longer term migrants were also slightly worse than for the Australian-born population.

The successful settlement of recently arrived migrants into Australian society is a key policy priority (Khoo et al. 2012) but supply shortages of affordable rentals, particularly in the largest cities which are the main reception areas for migrants, resulted in large numbers of newly arrived and (some longer term) lower income migrant households having poor affordability outcomes. In 2011, 91 900 recently arrived migrant households (Q1 and Q2 combined) paid unaffordable or severely unaffordable rents, with a further 58 800 longer term migrant households living in unaffordable or severely unaffordable rental dwellings.[22]

Recently arrived lower income private renter households have some distinctive characteristics when compared with households that have been living in Australia longer or that are Australian-born (Table 11). Recently arrived households are younger (under 45 years) and have a larger percentage of group households and also couple families with children. Such characteristics can present additional difficulties in accessing lower rent housing.

[22] Long-term migrants are a very diverse group ranging from people who arrived in Australia many years ago as children to those who arrived six to 6–10 years ago.

Table 11: Characteristics of lower income private renter households by period of arrival/Australian born, Australia, 2011

Characteristics	Q1 private renter households				Q2 private renter households			
	Recent arrivals %	Longer term %	Australian born %	All Q1 PR h'holds %	Recent arrivals %	Longer term %	Australian born %	All Q2 PR h'holds %
Age								
15–24 years	35	6	14	15	15	4	15	12
25–44 years	52	33	42	42	69	43	51	51
45–64 years	10	36	28	28	14	37	26	27
65+ years	3	25	15	16	2	16	8	9
Total %	*100*	*100*	*100*	*100*	*100*	*100*	*100*	*100*
Total N	*43,800*	*72,500*	*230,600*	*346,900*	*40,000*	*81,800*	*256,200*	*378,000*
Household type*								
Couple, no children	15	7	4	6	23	21	14	17
Couple families with children	20	12	7	10	35	23	17	20
One-parent families	11	20	28	24	8	20	25	22
Group household/other	26	6	6	9	17	9	12	12
Younger person living alone	23	12	20	19	15	12	19	17
Other person living alone	4	43	34	32	2	15	13	12
Total %	*100*	*100*	*100*	*100*	*100*	*100*	*100*	*100*
Total N	*43,800*	*72,500*	*230,600*	*346,900*	*40,000*	*81,800*	*256,200*	*378,000*
Employed persons in household**								
Nil employed	53	55	58	57	17	18	19	18
One employed	39	41	40	40	60	68	70	68
Two employed	8	4	3	3	23	14	12	13
Total %	*100*	*100*	*100*	*100*	*100*	*100*	*100*	*100*
Total N	*27,300*	*50,200*	*162,900*	*240,400*	*33,100*	*65,500*	*198,400*	*297,000*

Source: ABS customised expanded matrix, 2011 Australian Census of Population and Housing.

Note: 'Recent' = arrived 2006 or after; 'Longer term' = arrived before 2006.

* 'Younger' is <=44 years; 'other' is aged 45 years+; numbers may not sum exactly due to rounding.

** Households with a reference person aged 25–64 years.

The percentages of lower income recently arrived migrant households living in unaffordable rental, illustrated in Table 12 below, are higher than for all lower income households (presented earlier in Chapter 3, Section 3.1, Table 5).

- Only 6 per cent of Q1 recently arrived migrant households paid affordable rents in metropolitan regions in 2011 compared to 12 per cent of all Q1 households in metropolitan regions in 2011.
- Under a fifth of recently arrived migrant households paid affordable rents in non-metropolitan regions in 2011, compared to 34 per cent of all households in non-metropolitan regions.

→ More than a half of recently arrived Q1 households in metropolitan regions paid severely unaffordable rents in 2011, compared to 36 per cent of all Q1 private renter households in metropolitan regions.

Table 12: Rental affordability of recently arrived lower income private renter households by location, Australia, 2011

	Q1 recently arrived private renter households				Q2 recently arrived private renter households		
	Paying afford. rent	Paying unafford. rent	Paying severely unafford. rent	Total	Paying afford. rent	Paying unafford. rent	Total
Australia (%)	8	40	53	100	54	46	100
Australia (N)	3,300	17,400	23,000	43,800	21,700	18,300	40,000
Metro region (%)	6	39	56	100	51	49	100
Metro region (N)	2,200	14,500	20,900	37,600	17,000	16,300	33,300
Non-metro region (%)	18	48	34	100	70	30	100
Non-metro region (N)	1,200	3,000	2,100	6,200	4,700	2,000	6,800

Source: Customised ABS expanded matrix based on 2011 Australian Census of Population and Housing data.

Further details of affordability outcomes for capital cities, the zones of the largest cities and non-metropolitan regions are available at Appendix 5 (Table A11). They indicate that affordability outcomes for Q1 recently arrived migrants are evident across all state capitals and are particularly poor in non-metropolitan Western Australia and Queensland, two states which were particularly affected by the resources boom 2006–11.

4.4 Summary

The chapter examined in more detail the housing affordability outcomes in the private rental sector of three groups of lower income households that are of interest to policy-makers: families with children, older people and recently arrived migrants.

Lower income families with children had particularly poor affordability outcomes in the private rental sector in 2011. While this was anticipated for one-parent families, given the continuing evidence of high levels of poverty among this group, couple families with children also had unexpectedly poor affordability outcomes. These findings applied across metropolitan and non-metropolitan regions, with only somewhat better outcomes observed for Q2 households with children in non-metropolitan regions. The findings of this project suggest that lower income families with children are being priced out of inner and middle zones of major capital cities unless they pay rents which are severely unaffordable. As the analysis used gross unequivalised household income, the situation facing these households is under stated relative to other groups since they also face additional expenditures related to children.

Overall, the affordability outcomes for lower income older people are somewhat better than for lower income households generally. However, most Q1 older private renter households do not live in affordable housing in metropolitan regions and only half do in non-metropolitan regions. The outcomes for Q2 older private renters are considerably better than for Q1 households, reflecting the better affordability outcomes more generally for this group. Bearing in mind that household incomes include Rent Assistance, the findings suggest that further consideration is merited into the means of supporting older people who rent privately to remain independent in post-retirement years, and into old age, while living in places with good amenity and access to services.

The private rental sector plays an important role in the arrival and early settlement transitions of many recent migrants. In 2011 recently arrived Q1 migrant households faced more extensive and severe affordability problems in the private rental sector than Q1 households generally. While the problems faced by Q2 households were less extensive, they were still substantially more than for Q2 private renters generally. Recently arrived Q1 households had particularly poor affordability outcomes in Sydney, Brisbane, and Perth as well as non-metropolitan Western Australia and Queensland.

PART B: LONGER TERM CHANGES IN THE PRIVATE RENTAL SECTOR 1996–2011

5 LONGER TERM CHANGES IN THE AUSTRALIAN PRIVATE RENTAL SECTOR, 1996–2011

This chapter examines the key implications of the findings of this project, in conjunction with the three prior projects, in understanding the dynamics, structure and geography of the private rental market in Australia in the longer term (1996–2011) (research question 6).

5.1 Size and structure of the private rental sector 1996–2011

5.1.1 Size of the sector

As reported in Hulse (2014), the private rental sector grew at a greater rate (41%) than all occupied private dwellings (24%) between 1996 and 2011, with a half million more rental dwellings at the end of this period than at the beginning, as shown in Table 13 below. Since 2001, the number of private rental dwellings has increased at about twice the rate of all dwellings in each intercensal period.

Table 13: Private rental dwellings and all occupied private rental dwellings, Australia, 1996, 2001, 2006 and 2011

	Private rental dwellings		All dwellings	
	No.	Intercensal growth (%)	No.	Intercensal growth (%)
1996	1,234,000		6,280,000	
2001	1,328,000	8	6,745,000	7
2006	1,470,000	11	7,145,000	6
2011	1,735,000	18	7,760,000	9

Source: Customised ABS matrices based on 1996, 2001, 2006 and 2011 Australian Census of Population and Housing data.

5.1.2 Structure of the private rental sector

Rents

A key characteristic of the growth in the private rental market since 1996 has been a disproportionate increase in higher rent stock and a corresponding decrease in lower rent stock. This changing distribution of real weekly private rents, while clearly observable before 2006, was relatively insignificant until then, with most rental dwellings available at a weekly rent of around $200 (in $2011). By 2011, however, there had been a significant shift in the distribution of rents with a substantial increase in rents and with modal rents clustering around $300 to $500 per week. Over the same period there was a steady decrease in the number of lower rent properties, despite the 41 per cent growth in private rental during this period (see Hulse et al. 2014, Figures 6 and 7).

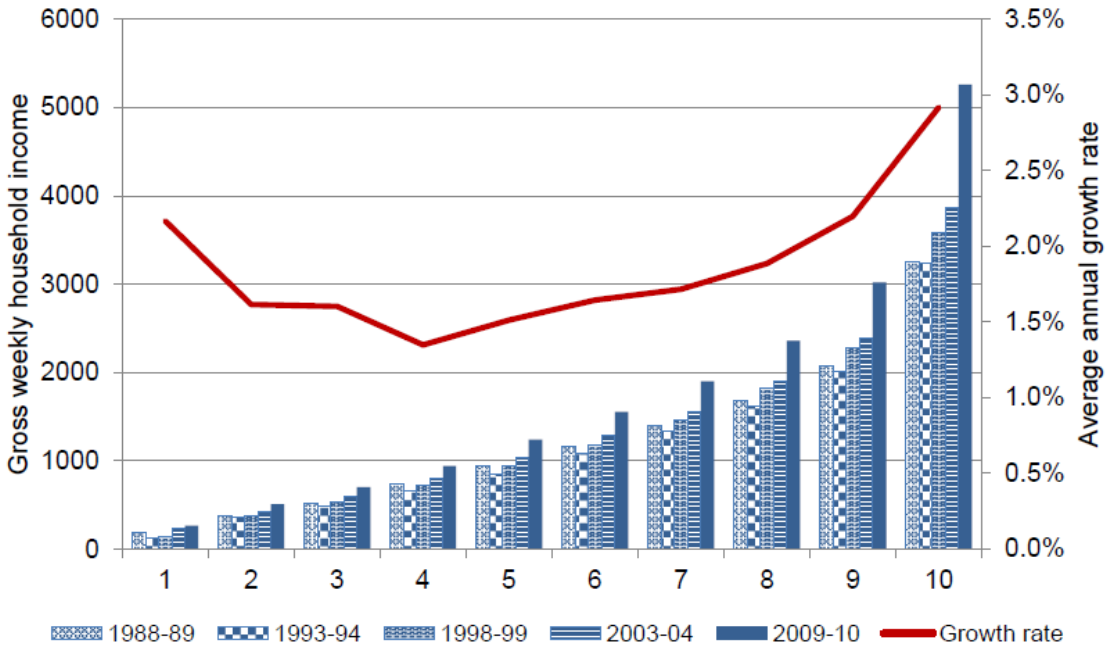
One possible explanation of changes in the level and distribution of rents in the private rental market 1996–2011 is that they were a response to an increase in higher income households in the sector. There is some support for this view in the increase in private renter households with incomes of $2000 a week (in $2011) and above across the period studied, a trend which accelerated between 2006 and 2011 as shown in Hulse et al. (2014), Figures 8 and 9.

Household incomes (private renters)

The number of lower income households in the private rental sector increased from 500 000 in 1996 to 725 000 in 2011, a 45 per cent increase which was slightly more than the percentage increase in private renter households generally (as seen in Section 5.1.2). This study has also

shown increased demand from higher income households for rental housing, particularly in metropolitan regions, for reasons that are discussed further in the next chapter (Chapter 6). The effect of these changes was that the percentage of lower income households in the private rental market has decreased, and the percentage of higher income households increased between 1996 and 2011.

Figure 6: Real incomes by gross income deciles, 1988–89 to 2009–10 ($2011–12)



Source: Greenville et al. (2013, p.62), based on ABS (Household Expenditure Survey, cat. no. 6503.0, confidentialised unit record files).

Note: Left axis gross weekly household income, right axis average annual growth rate of gross weekly household income

To a significant extent these changes are simply a reflection of the changes in the overall distribution of household income that has taken place since 1996. A clear manifestation of changes in the distribution of gross household income can be seen in Figure 6 below, which covers a slightly longer period than covered by this study. This shows both rising inequality, with incomes in the top four deciles (or top two quintiles) rising at almost twice the rate of those in the middle and faster than all but the lowest income decile, but it also shows that there has been a strong growth in real incomes across all income groups.[23]

Use of household income/quintiles provides a solution to the problem of changes in the distribution of household income over time and, in particular for this project, from one Census to the next. Changes in the distribution of household income obviously had an impact on the

[23] Fletcher and Guttman (2013, p.43), however, show that income growth was lowest for the two lowest income deciles when the starting point is taken as 1994–95, after the 1990–91 downturn, and when an equivalised disposable income base is employed. Although there was a period in the early 1990s when there were some signs of improvement, income inequality in Australia has generally increased since the mid-1980s. Whiteford suggests that a significant contributor to worsening inequality over this period has been a reduction in the effectiveness of government redistribution policies, partly because of tax cuts that favoured higher income groups and partly because of the indexation of unemployment benefits to price changes rather than to real wages (Whiteford 2013, p.68). He also suggests that policy changes with regard to Parenting Payments once the youngest child reaches a specific age will reduce the future effectiveness of family payments in reducing inequality. Despite determining that much of the growth in real incomes in the bottom two quintiles has been due to increases in the real value of the Age Pension, Greenville et al. (2013, p.80) also reach the conclusion that the impact of direct government benefits in reducing inequality has lessened over time and that the equalising impact of direct taxes on the distribution of gross household incomes has decreased (Greenville et al. 2013, p.85).

incomes of those in the private rental market. Table 14 below shows the relative changes in the distribution of incomes and rents in the private rental market based on the Census data used in this study. It summarises the income distributions of households in private rental according to gross household income quintiles (defined over all households) and the distribution of rents that are categorised as being affordable for each income quintile.[24] Table A5 and Figure A1 in Appendix 1 show the changing distribution of gross household income by income quintile (in $2011) for the Census data used here.

Table 14: Income and rent distributions for households and stock in the private rental market: 1996–2011

		1996				2011				Growth 1996–2011	
Income range* ($2011)	Income or rent cat.	Households		Stock		Households		Stock		Hhlds	Stock
		No.	Cumul. %	No.	Cumul. %	No.	Cumul. %	No.	Cumul. %	%	%
$0–$584	Q1/R1	221,000	18	173,000	14	347,000	20	159,000	9	57	-8
$585–$1,074	Q2/R2	278,000	40	467,000	52	378,000	42	740,000	52	36	58
$1,075–$1,748	Q3/R3	333,000	67	368,000	82	413,000	66	671,000	90	24	82
$1,749–$2,727	Q4/R4	236,000	87	226,000	100	339,000	85	131,000	98	44	
$2,728+	Q5/R5	166,000	100		100	258,000	100	34,000	100	55	
Total		*1,234,000*	*100*	*1,234,000*	*100*	*1,735,000*	*100*	*1,735,000*	*100*	*41*	*41*

Source: Customised ABS matrices based on 1996 and 2011 Australian Census of Population and Housing data

Figure 6 below and Table 14 above show that, in large part, the growth in the numbers of both high and very low income (Q1) households in private rental is due to changes in the distribution of income. High income (Q5) households in private rental have increased by 55 per cent since 1996; low-income (Q1) households have increased by 57 per cent. Overall, this has had the effect of increasing the share of both very low and very high income households in the private rental sector.

Table 14 also shows that high income private renters have been well served by the changing structure of the private rental sector. Since 1996, there has been a disproportionate growth in dwellings affordable for those in the middle of the income distribution (and, therefore, more than affordable for those at the top of the income distribution). By the same token, low-income households have been poorly served with an absolute loss of low rent stock.

5.2 Combining rents and household incomes

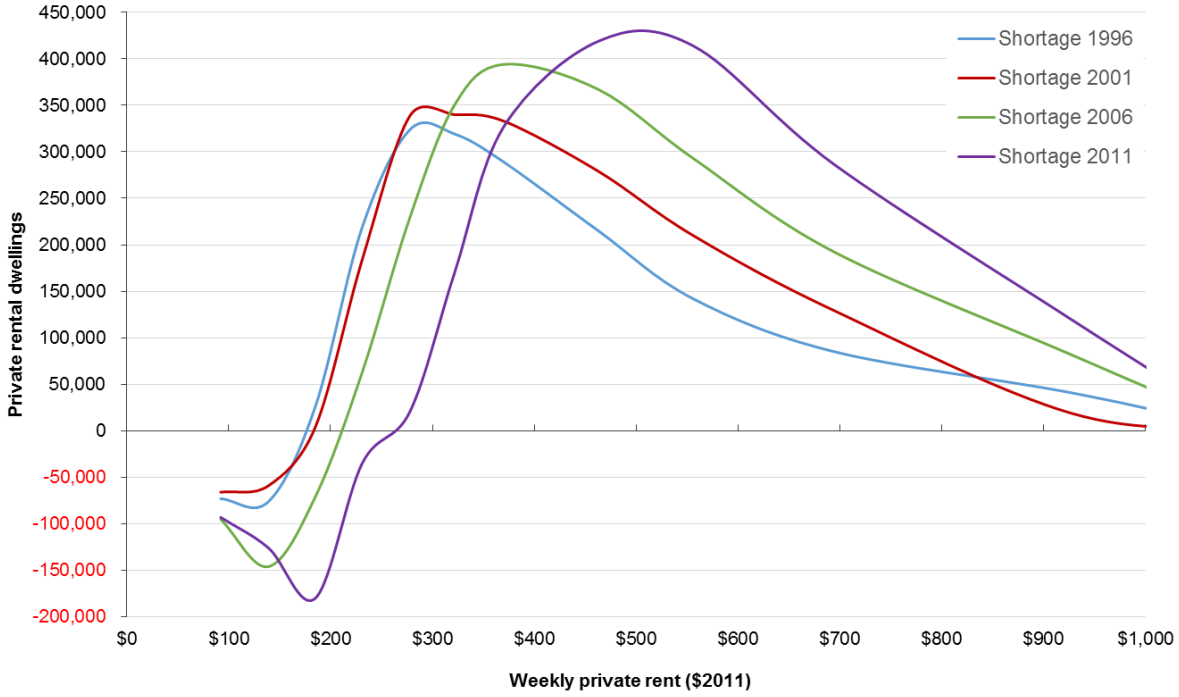
This section examines the combined impact of changes in the distributions of weekly rents and household incomes 1996–2011.

It begins by revisiting results initially indicated only for 2011 in Hulse et al. (2014, Figure 10) and extending these back to 1996. This is done in Figure 7 below which highlights the absolute shortages and surpluses of rental dwellings in different rent categories when the number of private renter households is compared with the rental stock they potentially can afford. It shows that, for 2011, there were absolute shortages for rents up to about $250 per week (in other words, there were more households with income below around $800 per week than there were dwellings that rent for 30% of this income). It also shows that the greatest shortage occurred at

[24] A more detailed breakdown of these data, along with data for 2006, is provided in Table A2 in Appendix 1.

rents of around $200 per week, the amount that can be afforded by a household on an income of $600 which is close to the income cut off for Q1 households.

Figure 7: Shortages and/or surpluses of affordable private rental dwellings: Australia, 1996–2011



Source: Customised ABS Summary Matrices based on 1996, 2006 and 2011 Australian Census of Population and Housing data.

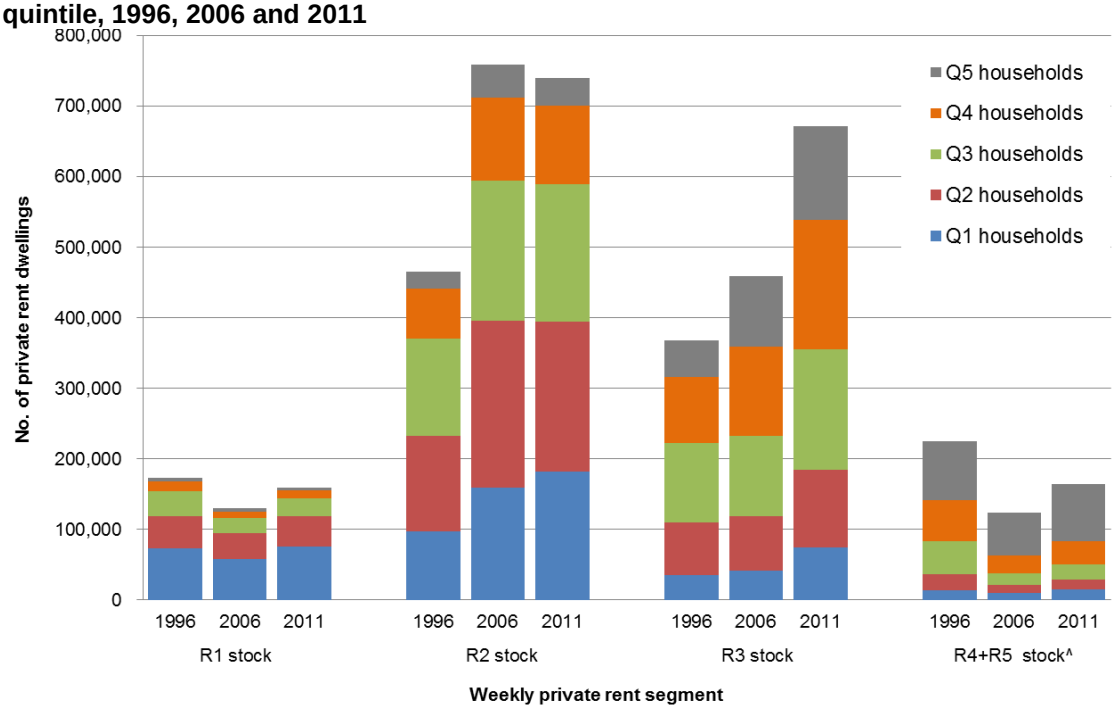
Over time, the extent of the greatest shortage has increased from around 75 000 or 6 per cent of total stock in 1996 to close to 200 000 or more than 10 per cent of total stock in 2011 and the real rental value at which there is no shortage has increased from around $150 per week in 1996 to close to $250 per week in 2011 (all measured in $2011). Estimates of absolute shortages for each quintile are provided in Table A1 in Appendix 1 for 1996, 2006 and 2011.

5.3 Shortages of affordable and available housing for lower income households

5.3.1 Occupation of rental dwellings by households on different income levels

As initially highlighted in Hulse et al. (2014, Chapter 4), the absolute shortages of affordable rental dwellings illustrated in Figure 7 are exacerbated by the fact that the private rental market does not ensure that the limited supply of affordable stock that does exist is allocated to those most in need of it. Figure 8 below shows the extent to which dwellings in each rent segment were occupied by households from across the income spectrum in 1996, 2006 and 2011. The following sections examine the implications for affordable housing that is available for Q1 and Q2 households.

Figure 8: Occupation of private rental stock in different rent segments by household income quintile, 1996, 2006 and 2011



Source: Customised ABS matrices based on 1996, 2006 and 2011 Australian Census of Population and Housing data

Note: ^ In the first project of this series (Wulff et al. 2001, examining 1986–96 data), R4 and R5 rent categories were combined due to technical data constraints at the time. This has no influence on measuring affordability levels in lower income private renter households. The 2006 and 2011 R4 and R5 categories are combined here to be comparable with the earlier dataset.

5.3.2 Very low income (Q1) households

There has been deterioration across all three measures used in this series of projects for very low income (Q1) households 1996–2011: that is shortage of affordable housing, shortage of affordable and available housing, and number of households with housing affordability problems, as shown in Table 15 below.

Table 15: Three measures of shortage of affordable and available dwellings for Q1 private renters 1996–2011

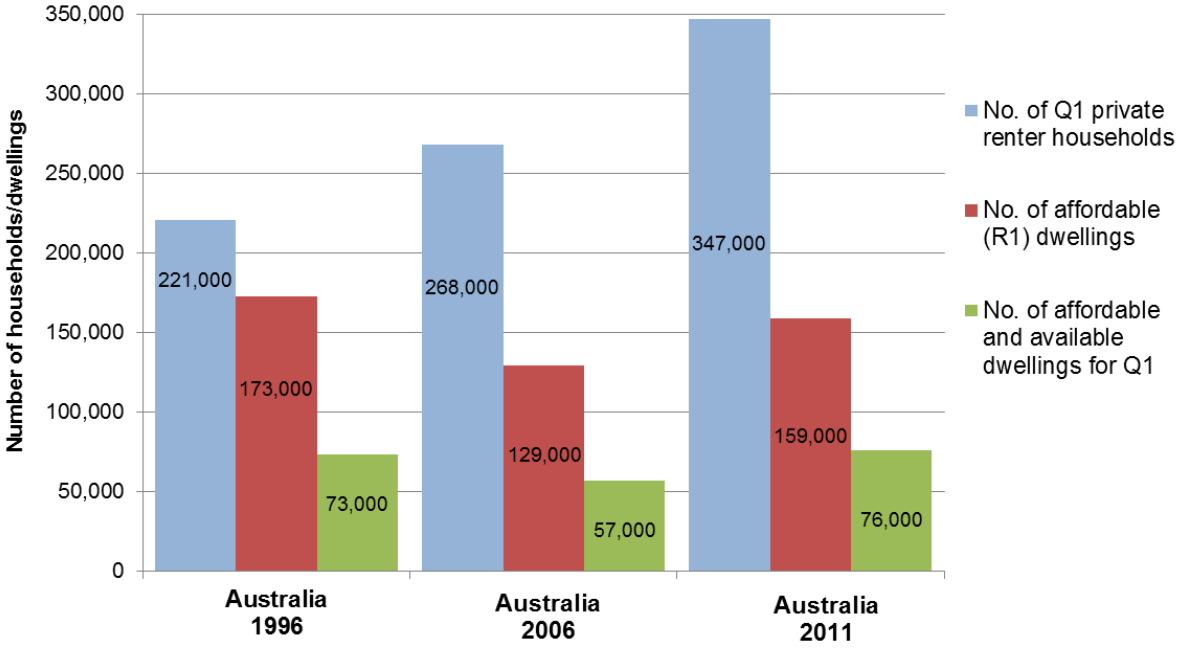
	1996	2006	2011
1. Shortage of affordable dwellings (R1 stock minus Q1 households)	-48,000	-138,000	-187,000
2. Shortage of affordable and available dwellings	-147,000	-211,000	-271,000
Of which:			
Supply shortage—lack of affordable R1 dwellings	32%	66%	69%
Availability—occupation of R1 dwellings by Q2–Q5 households	68%	34%	31%
3. Affordability outcomes—% of Q1 households paying unaffordable rents	67%	79%	78%

Source: Based on authors' detailed calculations in Appendix 6

An important finding of this series of projects is that whereas in 1996, the biggest contributor to problems faced by Q1 households was occupation of R1 stock by higher income (Q2–Q5)

households, by 2006 and continuing in 2011, the major problem was lack of supply of affordable (R1) dwellings. This is further illustrated in Figure 9 below which also highlights that the number of Q1 private renter households increased by 126 000 between 1996 and 2011, adding further demand pressures to this segment of the market. The stock of dwellings affordable for Q1 households actually fell between 1996 and 2006 but increased between 2006–11 largely because the dollar range of the income quintile (and hence the rent range) increased due to increases in household income discussed above (Section 5.1: see Appendix 1, Table A5, for further detail). The increase in the absolute shortage of R1 dwellings in the 15 years since 1996 has clear implications for policy, as will be discussed in Chapter 6.

Figure 9: Contributors to the supply shortages for Q1 households, 1996, 2006, 2011



Source: Customised ABS matrices based on 1996, 2006 and 2011 Australian Census of Population and Housing data.

5.3.3 Q2 households

The situation facing Q2 households has differed to that of Q1 households throughout the period 1996–2011. Across the three measures used in this project, there was improvement between 1996 and 2006 then a significant deterioration during 2006–11, as shown in Table 16 below.

Table 16: Three measures of shortages of affordable and available dwellings for Q2 private renter households

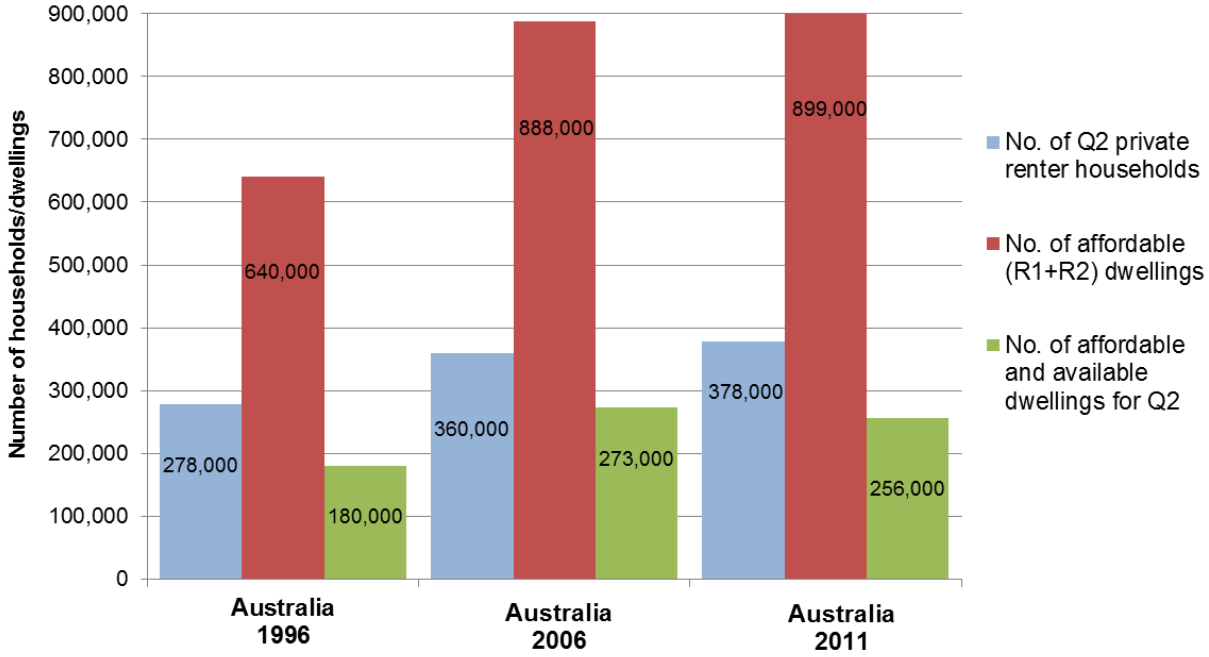
	1996	2006	2011
1. Surplus of affordable stock ((R1+R2)-Q2)	362,000	528,000	521,000
2. Shortage of affordable and available dwellings	-98,000	-87,000	-122,000
3. Percentage of Q2 households paying unaffordable rents	35%	24%	32%

Source: Based on authors' detailed calculations in Appendix 6

Over the 15-year period from 1996, there was a surplus of dwellings affordable to Q2 households, with the R2 range in particular covering some very common rent levels. The problem faced by Q2 households has been the impact of market allocation processes which

have resulted in a shortage of affordable and available supply. Calculating shortages of available and affordable dwellings for Q2 households is more complex than for Q1 households because availability is affected not only by the occupation of the stock by higher income (Q3–Q5 households) as for Q1 households but also by occupation by very low income (Q1) households who rent R2 dwellings because there simply is not enough R1 stock as discussed above (further details are given in Appendix 6, Table A13). Factors affecting Q2 private renter households are illustrated in Figure 10 below.

Figure 10: Contributors to supply shortages for Q2 households 1996–2011



Source: Customised ABS matrices based on 1996, 2006 and 2011 Australian Census of Population and Housing data.

5.3.4 Aggregate shortages for lower income households (Q1+Q2)

It is clear from responses to the first report from this project that there is an interest in estimating shortages faced by lower income households (i.e. the bottom 40% of households) in addition to estimates for Q1 and Q2 separately. From the results presented in the first report, however, it is clear that the estimate for all lower income households (i.e., Q1+Q2 combined) is not the same as that derived from the sum of the separate estimates for Q1 and Q2. The reasons for this, and different approaches to obtaining a combined estimate, are covered in more detail in Appendix 1. In this section, we provide a brief overview of the three different approaches described in Appendix 1:

- The first, and most conservative, approach is to combine households in the bottom 40 per cent of the household income distribution into a single category of 'lower income households', assess shortage/surplus relative to combined rent categories (R1+R2) and to subtract from the consequent surplus or shortage for this group all dwellings occupied by households with higher incomes (Q3–Q5).[25]
- A second approach is to add to the estimate above, those R1 dwellings that are occupied by Q2 households since these further exclude Q1 households from the only rental stock affordable to them. This was the approach adopted by the (former) National Housing Supply Council (2009, 2010, 2012).

[25] The first report for this project used this most conservative approach (approach 1) in calculating a figure for the shortage of affordable and available housing for lower income (Q1+Q2) households.

→ A third approach is to calculate the number of Q1 and Q2 households who are living in unaffordable rental housing. This approach essentially measures affordability outcomes rather than shortages.

There is a conceptual difference between the first and second of these approaches and the third. The first and second are stock-based approaches which highlight the extent to which some lower income households face an affordability problem because of an inadequate supply of affordable housing and/or because the limited supply of affordable housing is not available to them due to market allocation processes which do not necessarily allocate affordable stock to those most in need of it. The third approach is an affordability measure which highlights the number of lower income households paying unaffordable rents. For the distribution of income and rents observed from 1996 to 2011, it produces a higher estimate of the shortage of affordable and available rental housing for lower income households than that obtained from either of the first two approaches. It highlights the possibility that lower income households may face an affordability problem even when there is no shortage of stock because they may 'choose' to rent accommodation above the affordability benchmark.[26] This distinction has potentially powerful implications for policy.

Table 17 below presents the results of analysis using these three methods with shortages indicated in red. Further details on the three approaches and the calculations involved are given in Appendix 1. From Table 17 it is clear that the results for Q1 are identical on each measure (and to those reported above). The only difference in the results is in the estimates of shortage of affordable and available rental housing for Q1 and Q2 combined. All three approaches indicated that this shortage improved between 1996 and 2006 but increased substantially between 2006–11. The extent of change, however, varies according to which measure is employed.

Table 17: Summary of shortage estimates by measure employed: Australia, 1996, 2006 and 2011

Household income quintiles	Approach 1		Approach 2		Approach 3	
	Affordable	Affordable and available	Affordable	Affordable and available	Affordable	Affordable and available
1996						
Q1	-48,000	-147,000	-48,000	-147,000	-48,000	-147,000
Q1+Q2	141,000	-147,000	141,000	-193,000	141,000	-524,000
2006						
Q1	-138,000	-211,000	-138,000	-211,000	-138,000	-211,000
Q1+Q2	260,000	-138,000	260,000	-176,000	260,000	-298,000
2011						
Q1	-187,000	-271,000	-187,000	-271,000	-187,000	-271,000
Q1+Q2	174,000	-212,000	174,000	-255,000	174,000	-393,000

Source: Customised ABS expanded matrices based on 1996, 2006 and 2011 Australian Census of Population and Housing data. Based on authors' detailed calculations in Appendix 1

While there is obviously an interest, and value, in providing an estimate of the shortage of affordable and available private rental housing for the lowest 40 per cent of households as a broad brush measure of supply shortages, we caution that aggregation can have the effect of disguising the rather different problems faced by Q1 and Q2 households. A key 'take-home

[26] The extent of 'choice' can only be determined through more qualitative research. It may be that such households have no other viable options but to take accommodation which is inappropriate in terms of quality, size or location.

message' from the results presented is the importance of ensuring that comparisons over time are made on a consistent basis.

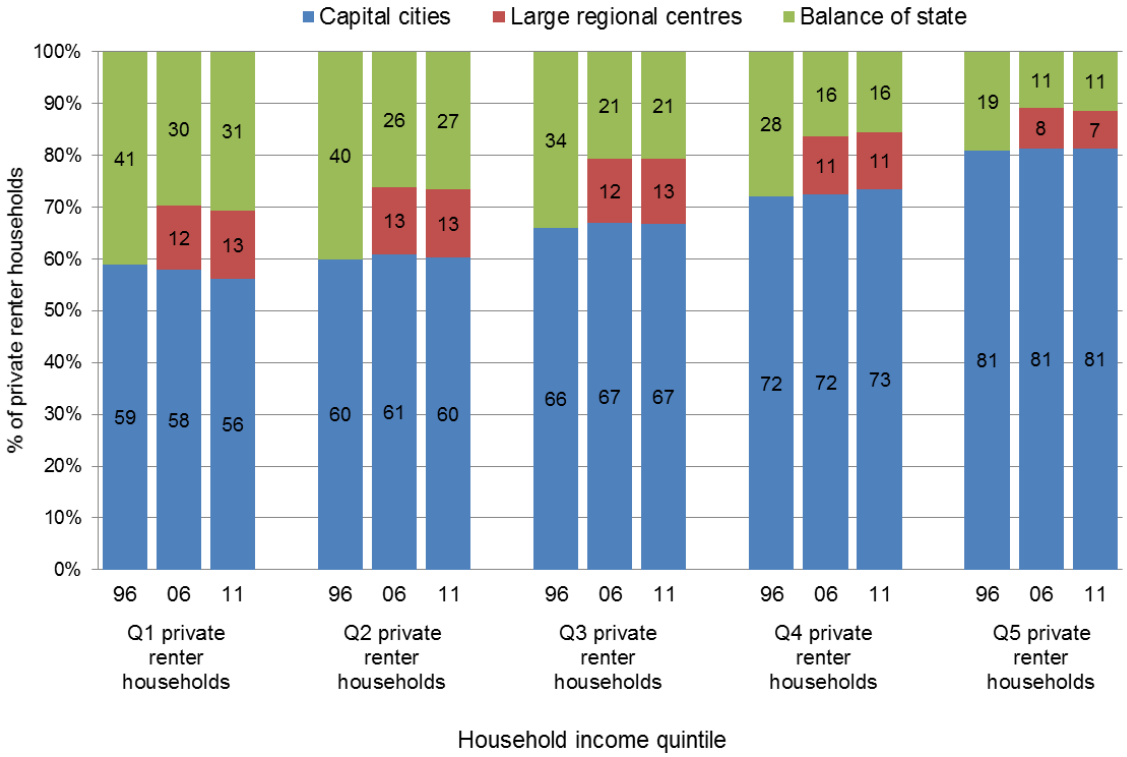
5.4 Spatial implications

One of the advantages of using census data is that this enables a more nuanced spatial understanding of the supply of, and demand for, private rental dwellings than other widely used data sets for housing research. The first report of this project provided detailed figures for shortages of affordable and affordable/available private rental housing for 2006 and 2011 at a number of different scales: metropolitan-non metropolitan; capital city and sub-capital city regions; 22 larger regional centres; and 'rest of state' to cover remaining regional areas (Hulse et al. 2014). In this section, we present a number of key findings about longer term changes, that is 1996–2011, for a smaller number of spatial units, namely, metropolitan and non-metropolitan regions, capital cities and non-metropolitan 'balance of state' to provide more of an overview.[27]

5.4.1 Spatial distribution by household income quintile and corresponding affordable rent segment

Two-thirds of all private renters lived in metropolitan areas, a percentage that has changed little 1996–2011, but as shown in Figure 11, somewhat higher percentages of Q1 and Q2 households lived in non-metropolitan regions reflecting the generally lower household incomes outside of major capital cities. The corollary is that higher percentages of Q4 and Q5 renters lived in metropolitan than non-metropolitan areas.

Figure 11: Private renter household income quintiles by type of location, 1996*, 2006 and 2011



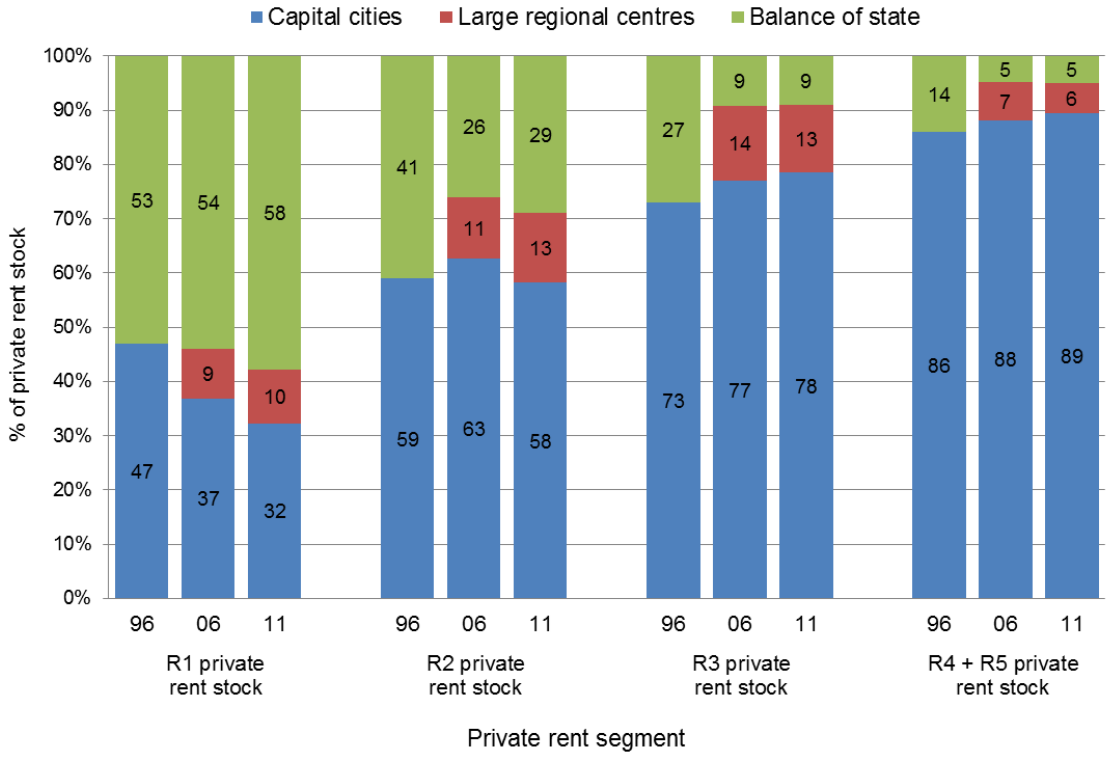
Source: Customised ABS expanded matrices based on 1996, 2006 and 2011 Australian Census of Population and Housing data.

Note: * Large regional centre information not available for 1996: location split by capital city and balance of state only.

[27] There are no data available on the sub-city regions of major capitals or on regional centres for 1996.

A clear trend over the period has been a decreasing percentage of R1, and to a lesser extent, R2 rentals in metropolitan regions, as illustrated in Figure 12 below. In contrast, R3–R5 rents have remained concentrated in metropolitan areas. By 2011, while 56 per cent of Q1 private renter households lived in capital cities, only 32 per cent of all R1 private rental properties were located there.

Figure 12: Private rent segments by type of location 1996*, 2006 and 2011



Source: Customised ABS matrices based on 1996, 2006 and 2011 Australian Census of Population and Housing data.

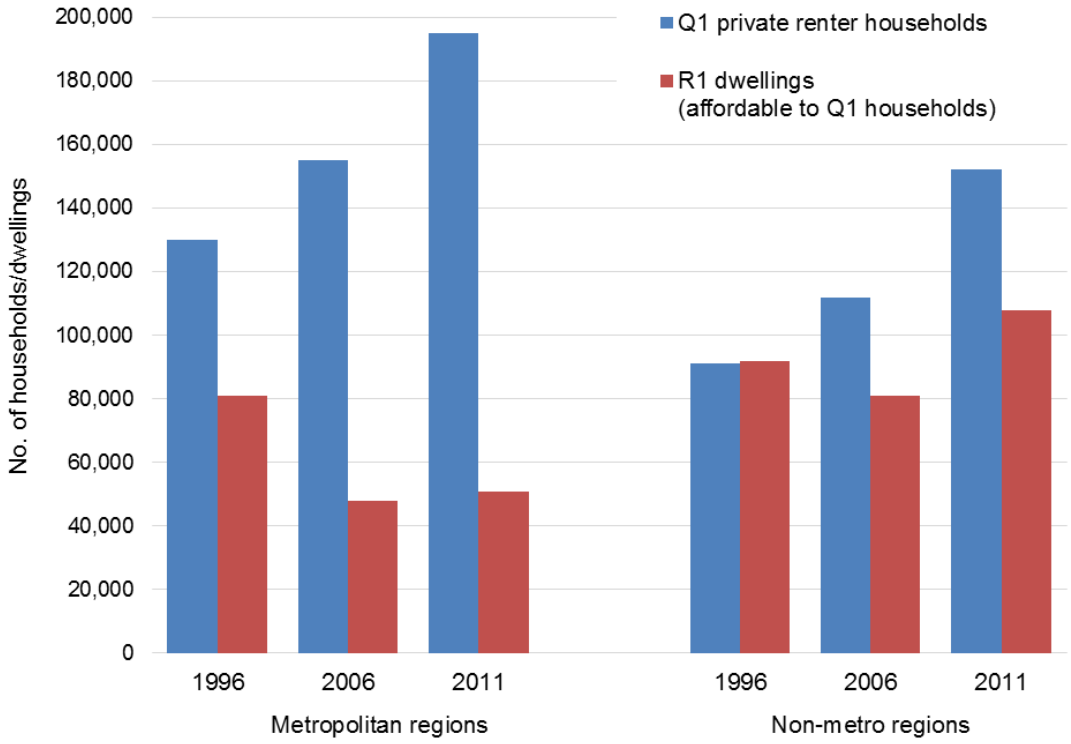
Note: * Large regional centre information not available for 1996: location split by capital city and balance of state only.

In short, there was little change in the distribution of Q1 and Q2 households between metropolitan and non-metropolitan regions 1996–2011 in contrast to the increasing percentage of R1 (and R2) properties in non-metropolitan regions. The mismatch between the location of lower income households and lower rent property in the private rental sector has increased over time, contributing to a substantial worsening of the shortage of affordable housing in metropolitan areas and consequently affordability outcomes for lower income households. In interpreting these results, it may be that lower income households are being 'pushed out' to non-metropolitan lower rent areas where there are fewer opportunities, such that there is circularity between low income and low housing costs.

5.4.2 Q1 households

The spatial mismatch between the location of Q1 households and the stock which is affordable to them has increased between 1996–2011 (Figure 13). Notwithstanding lower incomes generally in non-metropolitan regions, over the period 1996–2011, the share of R1 stock in metropolitan regions has declined from 47 per cent in 1996 to 32 per cent in 2011. By 2011, there were only 51 000 dwellings in capital cities with rents affordable to 195 000 Q1 households despite some extension of the boundaries of major metropolitan regions over this period.

Figure 13: Number of Q1 private renter households and R1 properties by metropolitan and non-metropolitan regions, 1996, 2006, 2011



Source: Customised ABS matrices based on 1996, 2006 and 2011 Australian Census of Population and Housing data.

As can be seen from Table 18 below, which provides a state-based disaggregation of the metropolitan and non-metropolitan data illustrated in Figure 13, shortages of rental housing have been greatest for Q1 households in Sydney, Melbourne and Brisbane over the period 1996–2011, regardless of which measure of shortage is employed. A number of trends can be observed:

- In 1996, shortages of affordable private rental housing for Q1 households were almost entirely a metropolitan phenomenon concentrated in Sydney, Melbourne and Brisbane but by 2011 there were also shortages in non-metropolitan Queensland and New South Wales.
- Shortages of affordable and available rentals for Q1 households were largest in the bigger state capitals in 1996 but there were also significant shortages in the rest of Queensland and New South Wales. By 2011, shortages of affordable and available rentals for Q1 households were extensive across metropolitan and non-metropolitan regions.
- The percentages of Q1 households paying unaffordable rents were higher in most capital cities in 1996 than for non-metropolitan regions, although outcomes in both were poor. By 2011, the situation had worsened for Q1 households across the board.

Table 18: Summary of spatial dimensions of shortages for Q1 households on three measures, 1996, 2006 and 2011

	Shortage			Shortage of affordable and available			Per cent paying unaffordable rents		
	1996	**2006**	**2011**	**1996**	**2006**	**2011**	**1996**	**2006**	**2011**
Australia	*-48,000*	*-138,000*	*-187,000*	*-147,000*	*-211,000*	*-271,000*	*67*	*79*	*78*
Metropolitan regions	-48,000	-107,000	-143,000	-94,000	-134,000	-171,000	73	87	88
Non-metropolitan regions	1,000	-31,000	-44,000	-53,000	-76,000	-100,000	58	68	66
Capital cities									
Sydney	-25,600	-40,400	-47,000	-31,200	-44,500	-52,600	87	93	92
Melbourne	-10,300	-31,700	-43,200	-25,900	-39,800	-51,800	70	86	88
Brisbane	-7,300	-15,400	-22,500	-14,000	-19,100	-26,300	70	87	89
Adelaide	-700	-7,800	-12,000	-8,100	-11,900	-16,300	59	79	80
Perth	-2,900	-9,900	-14,700	-11,200	-15,300	-18,600	64	79	87
Hobart	-200	-1,000	-2,000	-1,600	-2,100	-3,000	57	68	71
Darwin	-300	-300	-500	-500	-600	-700	87	81	86
Canberra	-1,200	-800	-1,300	-1,700	-1,200	-1,700	86	89	90
Non-metro balances 2011									
NSW non-metro	-2,400	-15,200	-14,000	-20,000	-29,200	-33,000	58	68	63
VIC non-metro	3,300	-2,300	-1,100	-8,400	-12,200	-15,100	50	59	53
QLD non-metro	-5,400	-15,100	-27,700	-18,700	-25,400	-38,600	68	77	79
SA non-metro	2,500	1,400	1,500	-1,600	-2,800	-3,700	41	52	46
WA non-metro	1,500	0	-2,700	-2,500	-3,600	-6,100	57	66	75
TAS non-metro	1,000	-100	-600	-1,800	-2,700	-3,400	47	55	54
NT non-metro^	100	100	100	-200	-200	-200	73	76	72

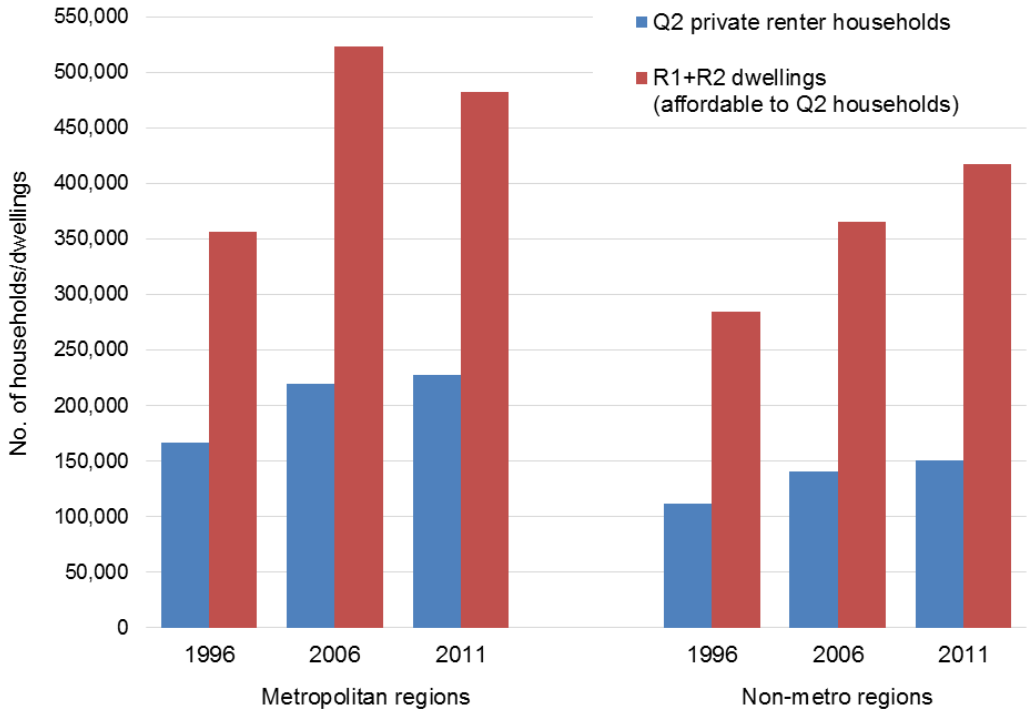
Source: Customised ABS matrices based on 1996, 2006 and 2011 Australian Census of Population and Housing data.

Note: ^ low count in this area: caution should be exercised when interpreting the figures.

5.4.3 Q2 households

In contrast, Q2 households had considerable surpluses of affordable dwellings in both metropolitan and non-metropolitan regions, which increased during 1996–2011. While this surplus increased consistently in non-metropolitan regions, there was some variation in metropolitan regions with a small reduction in the surplus 2006–11, as shown in Figure 14 below.

Figure 14: Number of Q2 private renter households and R1/R2 properties by metropolitan and non-metropolitan regions, 1996, 2006, 2011



Source: Customised ABS matrices based on 1996, 2006 and 2011 Australian Census of Population and Housing data.

Table 19 below provides additional analysis for Q2 households on the spatial dimensions of the three measures used in this project. In metropolitan regions, it highlights increases in the shortage of affordable and available private rental housing for Q2 households in Sydney 1996–2011. In non-metropolitan regions, while in some regions the shortage of affordable and available rental housing for Q2 households decreased, shortages in non-metropolitan Queensland, already high in 1996, increased further by 2011.

Table 19: Summary of spatial dimensions of shortages for Q2 households on three measures, 1996, 2006 and 2011

	Surplus of affordable dwellings (R1 + R2 stock)			Shortage of affordable and available			Per cent paying unaffordable rents		
	1996	2006	2011	1996	2006	2011	1996	2006	2011
Australia	361,000	528,000	521,000	-98,000	-87,000	-122,000	35	24	32
Metropolitan regions	189,000	303,000	255,000	-70,000	-63,000	-94,000	42	29	41
Non-metropolitan regions	172,000	224,000	266,000	-28,000	-24,000	-28,000	25	17	19
Capital cities									
Sydney	9,000	57,800	35,800	-34,900	-30,300	-40,500	68	44	55
Melbourne	71,600	103,600	101,800	-14,800	-13,000	-20,400	33	22	32
Brisbane	29,800	45,000	37,100	-10,700	-11,200	-15,900	40	31	43
Adelaide	28,300	35,100	41,700	-3,200	-2,500	-3,500	20	12	16
Perth	41,600	51,200	28,500	-3,900	-3,700	-10,500	19	14	43
Hobart	5,800	6,200	7,500	-600	-600	-600	20	15	16
Darwin	500	2,400	900	-500	-500	-900	63	31	59
Canberra	2,400	2,000	1,300	-1,800	-1,700	-2,100	60	60	70
Non-metro balances									
NSW non-metro	56,200	79,500	88,900	-11,900	-7,800	-8,800	29	16	17
VIC non-metro	38,600	46,300	57,900	-1,800	-1,400	-1,500	10	6	6
QLD non-metro	45,100	58,700	72,000	-12,600	-13,300	-15,900	34	28	31
SA non-metro	9,600	12,400	16,500	-300	-200	-300	6	3	4
WA non-metro	13,000	16,400	18,200	-600	-600	-1,300	10	9	16
TAS non-metro	8,800	10,000	12,000	-200	-200	-200	6	4	3
NT non-metro^	700	900	900	-200	-100	-200	43	23	37

Source: Customised ABS matrices based on 1996, 2006 and 2011 Australian Census of Population and Housing data.

Note: ^ low count in this area: caution should be exercised when interpreting the figures.

5.5 Changes in the type of dwellings rented by lower income households 1996–2011

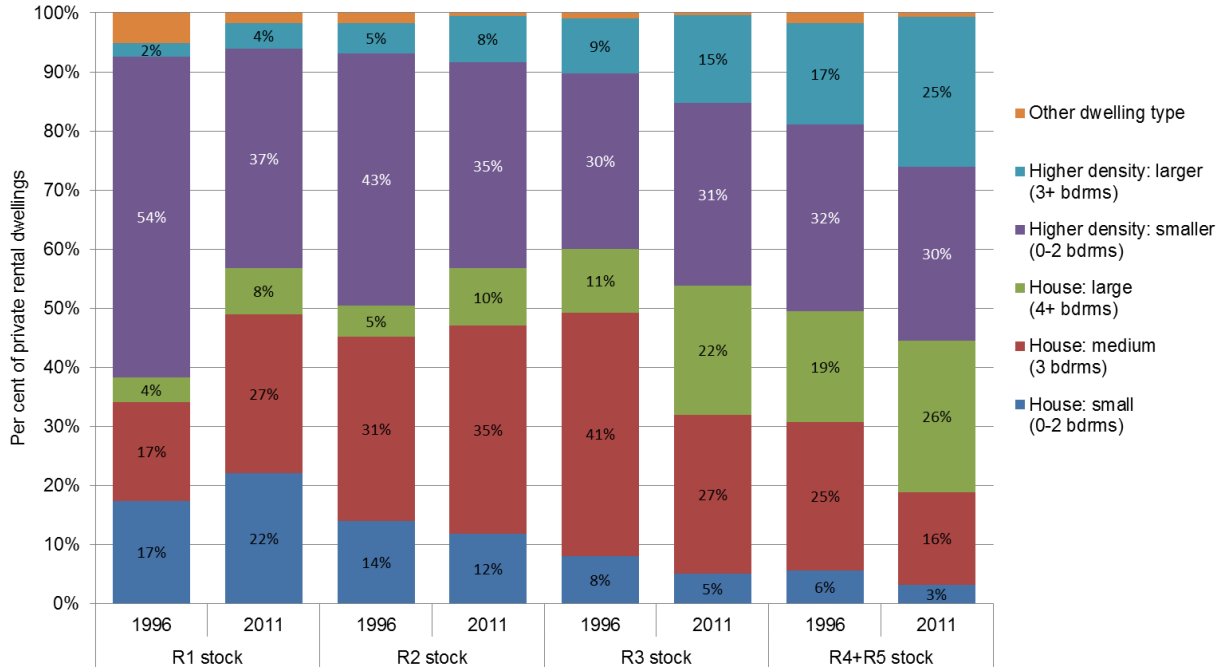
One possible explanation of the changing distribution of weekly rents in metropolitan and non-metropolitan regions is that this reflected increases in the size and quality in the housing stock in line with real increases in household incomes. The Census does not provide any information on dwelling quality, but changes in type and size of dwellings in the private rental sector can be investigated.

Figure 15 below illustrates the changes in the structure and size of dwellings in private rental disaggregated by the rent categories potentially affordable for households in each of the five income quintiles. At an Australia-wide level, somewhat counter-intuitively, it shows that, between 1996 and 2011 there was an increase in the percentage of lower rent (R1) stock which was detached houses.

- In 1996, 38 per cent of the R1 stock (i.e. affordable to Q1 households), was single detached dwellings while more than half was smaller 0–2 bedroom 'other' higher density dwellings (i.e. other than detached houses).
- By 2011, 57 per cent of affordable dwellings were single detached dwellings with only 37 per cent in 0–2 bedroom 'other' dwellings.

A similar, but less marked trend can be seen in terms of R2 dwellings. This is in contrast to higher rent (R3–R5) properties where there has been both an increase in the percentage of larger higher density stock (i.e. other than detached dwellings) as well as a higher percentage of larger (4+ bedroom) houses, as shown in Figure 15 below.

Figure 15: Structure and size of Australian private rental dwelling stock by rent segment, 1996 and 2011*



Source: Customised ABS matrices based on 1996 and 2011 Australian Census of Population and Housing data.

Note: * Higher density includes dwellings classified by the ABS as flats, units and apartments and also semi-detached dwellings, row houses, terraces and townhouses.

One explanation of these figures is that the increased proportion of detached houses in the R1 (and R2) segments is a result of a spatial shift in the location of lower rent dwellings with affordable rents only being available in the outer suburbs and non-metropolitan areas where

this dwelling type predominates. The increase in higher density dwellings in the higher rent segments (R3–R5) is likely to reflect the increased demand from higher income households for well-located higher density properties in inner and middle suburbs in capital cities.

5.6 Summary

The period 1996–2011 saw growth in the private rental sector that was disproportionately much higher than for all occupied dwellings. While the distribution of real weekly private rents was relatively unchanged in the early part of the period, beginning in the early 2000s there were real increases in rents which by 2011 had become highly concentrated between $300 and $500 per week ($2011). In many respects, the private rental sector responded to overall increases in real incomes and changes in the distribution of household incomes 1996–2011. The effect is that while the number of Q1 and Q2 private renters increased, the percentage of such households in the sector decreased.

On the three measures of shortage and affordability used in this project:

- For Q1 households, there was deterioration across all three measures used in this series of projects 1996–2011. Whereas in 1996 the biggest contributor to problems faced by Q1 households was occupation of R1 stock by higher income (Q2–Q5) households, by 2011, the major problem was lack of supply of affordable R1 dwellings.
- For Q2 households, across the three measures used in this series of projects, there was improvement between 1996 and 2006 then a significant deterioration during 2006–11. The problem was not shortage of affordable housing; indeed there was a surplus throughout the period, but one of availability (occupation by other income households).

There are three conceptually different ways of measuring the situation for Q1 and Q2 households combined 1996–2011. All three approaches indicated that an improving situation between 1996 and 2006 was reversed after 2006 when there was considerable deterioration to 2011, although the numbers vary according to the approach chosen.

While many lower income households continue to live in metropolitan regions, an increasing percentage of the dwindling number of lowest rent (R1) stock was located in non-metropolitan regions in 2011 compared to 1996, indicating a spatial mismatch. Not surprisingly poor affordability outcomes for lower income households in major capital cities were widespread by 2011 and for Q1 households became more severe during this period. However, there was also deterioration in non-metropolitan regions particularly in Queensland.

6 DISCUSSION AND IMPLICATIONS FOR POLICY

This chapter reflects on the major, longer term factors that underpinned the changes in the private rental sector from 1996 to 2011. As discussed in Chapter 1, the approach in this (and previous projects) has been to focus on the supply and demand factors affecting the dynamics of the private rental sector. These occur in the context of institutional settings which, in turn, are affected by public policy changes and by a range of social and cultural factors which shape general housing market behaviour. These interdependencies have been acknowledged since the first project in this series, which explicitly recognised the impact of the economy, society and public policy on both supply and demand trends in the private rental sector (Wulff et al. 2001, p.1). The chapter concludes with a discussion of the implications of these longer term changes for public policy as they relate to the private rental sector in Australia.

6.1 What has driven increases in the supply of private rental dwellings, 1996–2011?

A key long run trend between 1996 and 2011 has been the increasing importance of the private rental sector in Australia as the number of dwellings in the private rental sector has increased faster than all occupied dwellings (Chapter 5, Section 5.1).

A number of policy changes have been identified as contributing to this disproportionate increase in the private rental sector (Hulse et al. 2012; Stone et al. 2013). Those discussed briefly below include financial deregulation of the 1980s, changes to tax policy and provisions and the combined effects of these on finance and housing markets.

6.1.1 Deregulation of the financial system

The first set of factors arises from the deregulation of the financial system in the mid-1980s and the financial market changes that followed. Before deregulation, it was difficult to get loans for rental investment and, when these were obtained, a penalty interest rate of 2–3 percentage points applied. After deregulation, loans for rental investment were more readily available, there was no interest rate penalty, and innovation in lending products made investment loans easier to obtain (Hulse et al. 2012, pp.15–19). The reduction in inflation that resulted from a shift to independent monetary policy and the consequent fall in nominal interest rates contributed to an increase in demand for housing finance and an increase in the amount of lending for both rental investment and owner occupation. At the same time, the 17 per cent peak in interest rates in 1989 contributed to an increase in demand for private rental from would-be first home buyer households unable to afford mortgage finance. The subsequent fall in interest rates (to just under 6% in 2014), along with the increased availability of mortgage finance, contributed to the rapid house price inflation which continued to provide a constraint on access to home purchase for many households and added to demand in the private rental sector (Ellis 2006).

6.1.2 Fiscal policy changes

A second set of factors that contributed to the disproportionate growth of the private rental sector was a series of fiscal policy changes and, in particular, the introduction of a 50 per cent discount on nominal capital gains on investments in 1999 [28] (Hulse et al. 2012, p.18). This coincided with what turned out to be the beginning of a house price boom and which continued relatively unabated until the Global Financial Crisis, and, at least in the major capital cities, resumed in 2011. It is widely considered that this tax provision, in the context of dwelling price inflation, contributed to an increase in investment in properties in areas which experienced

[28] From 1985 (when the capital gains tax was introduced) to 1999, while owner occupiers were exempt, rental investors had to pay 100 per cent of this tax on real capital gains.

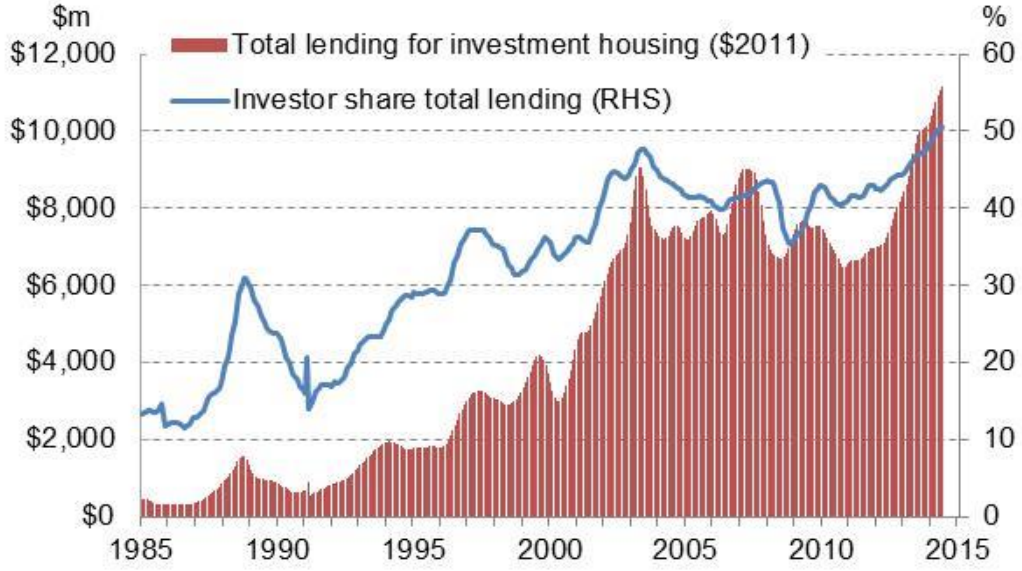
higher nominal capital gain, predominantly the inner and some middle suburbs of major metropolitan areas.

The capital gains tax concession in 1999 in combination with the dwelling price inflation that followed from financial liberalisation appears to have been the most significant factor in affecting investment (Seelig et al. 2009), but the reintroduction of negative gearing in 1987 (after being quarantined for 18 months) at a time when there was an increased availability of finance for investment housing, reinforced the opportunities for speculative investment. Negative gearing on rental investments was taken up increasingly over the next 25 years by an increasing number of debt-financed rental investors. In 1996, just over half of investors declared a loss on their investment in rental property. By 2011, 1.2m of the 1.8m taxpayers who declared income from rental properties made a loss (ATO 2013). More recent changes in legislation/regulation of Self-Managed Superannuation Funds (SMSFs)[29] also provided an incentive for debt-financed SMSF rental investment. Property can be purchased with pre-tax dollars; there is access to generous depreciation benefits; and there is no capital gains tax liability as long as the property is sold in the pension phase.

6.1.3 Combined effects of deregulation and fiscal policy changes on the private rental sector

The combined effect of these changes has been a dramatic increase in the investor share of housing finance approvals since the early 1990s, as shown in Figure 16 below. By 2014, half of all new finance commitments (excluding refinancing) went to investors rather than to owner-occupiers. Owners of investment housing are typically higher income, higher wealth owner-occupier households (Hulse et al. 2012) who have greater capacity to pay (and hence greater borrowing capacity).

Figure 16: Trends in lending for rental investment, 1985–2014, Australia



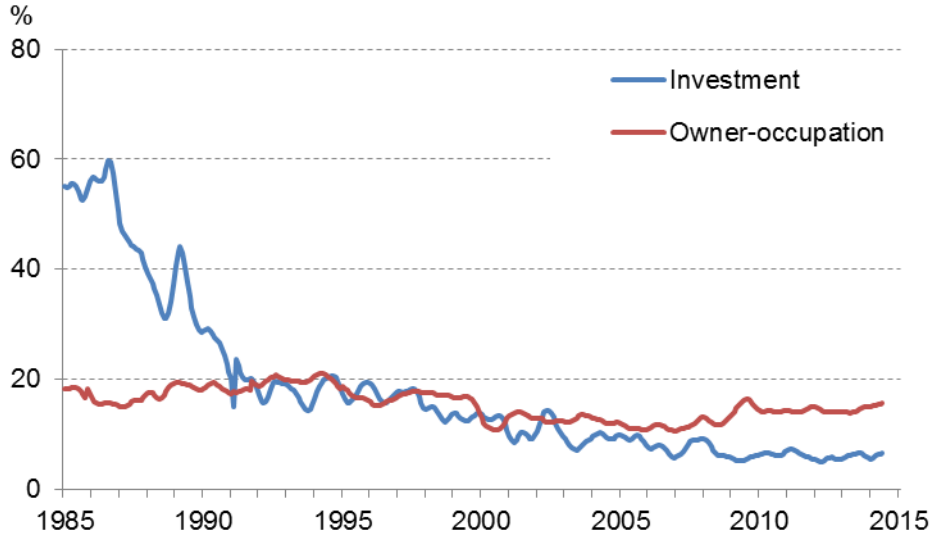
Source: ABS cat no. 5609.0—*Housing Finance, Australia, Nov. 2014*, Housing finance commitments (Owner Occupation and Investment housing), Table 11.

The strength of investor activity in the housing market and its concentration in Sydney and Melbourne has led the Reserve Bank to express its concern that the composition of housing and mortgage markets is becoming unbalanced (RBA 2014, p.39). One outcome of this increased investor activity is that the share of lending going for new rather than established

[29] These are vehicles regulated by the Australian Tax Office through which small numbers of people invest for their retirement instead of using industry or private superannuation funds.

housing decreased from the mid-1980s and more gradually since the early 1990s, as shown in Figure 17 below.

Figure 17: Lending for new construction as a share of total finance commitments for owner occupation and investment 1985–2014



Source: ABS cat. no.. 5609.0—Housing Finance, Australia, Nov 2014, Housing finance commitments (Owner Occupation and Investment housing), Table 11.

In brief, deregulation of financial markets, and fiscal policy changes have been critical in facilitating the growth in private rental supply since the early 1990s. These policy settings made it easier to purchase dwellings for investment through greater availability of housing finance for investors, access to a greater range of financial products, and lower interest rates. Such investment became more attractive in a period of escalating housing prices due in part to changes in fiscal policy settings, such as the capital gains tax concession.

6.1.4 Other factors

This surge in rental investment could not have occurred unless there was a corresponding increase in demand for private rental. The policy factors which have enabled growth in the private rental sector must be seen in the context of longer term economic and demographic factors including continuous economic growth in Australia since 1991, real increases in household income and a more unequal household income distribution and high levels of population growth, which have helped shape demand for, and the supply of, private rental housing. Economic and demographic drivers were discussed in the first report from this project (Hulse et al. 2014) and income distribution changes covered in Chapter 5 of this report.

Reasons for the long-term growth in private rental have also been suggested in other research. Research on the home ownership rates of different age cohorts has found that purchase among younger age groups has been in long-term decline (Yates 2000, 2011a) with consequent increase in private rental as the main default option. Other research has suggested that younger people are renting because they cannot access home ownership for a variety of reasons, including labour market restructuring and changes in household composition (Burke & Stone 2014). It also appears that churning in and out of home ownership adds to demand for private rental among middle aged households (Wood et al. 2013) as does more uncertainty in employment and changes in relationships (Stone et al. 2013) and/or deferral of parenting and/or the birth of a first child until later than in previous generations (McDonald & Baxter 2005; Beer et al. 2011). Other potential sources of increased pressure on private rental comes from increased migration as discussed above (Chapters 2 and 4), as well as home owners who rent

for a while during major renovations to their homes. These factors are discussed further in Section 6.3 on increased competition for affordable private rental dwellings.

6.2 Why did the supply of affordable rentals for very low income households not increase in line with general increases in supply?

Despite a disproportionate increase in private rental dwellings compared with the total occupied dwelling stock in Australia, this increase has occurred in dwellings that are affordable to Q2–Q5 households. There has not been a corresponding increase in the supply of lower rent dwellings affordable to Q1 households (Chapter 5).

6.2.1 Demand-side assistance has been ineffective in stimulating an increase in lower rent dwellings

A number of factors appear to have come into play here. First, since the mid-1990s, housing policies have focused on enhancing demand for private rental rather than capital outlays for additional supply at the lower rent end of the market. Assistance with private renting (Rent Assistance) became the main form of housing assistance in Australia and was embedded in the nation's income support system. This strategy, while providing additional income to households on income support payments to assist with rental costs, has not stimulated a corresponding increase in supply at the lower end of the rental market.

6.2.2 High urban land values undermine filtering down of housing into low rent stock

Second, lower rent dwellings conventionally are thought to be generated through a 'filtering' down of existing stock as dwellings depreciate over time. In his review of post-war developments in this US based theory, Galster (1996, p.1802) concludes that the models 'demonstrate that a *laissez faire* approach that typically yields a predominance of new private construction in higher-quality sub-markets is unlikely to yield significant benefits for lower income households').[30] Again in the US context, Somerville and Holmes (2001) show that housing is likely to remain affordable over time only in areas where there is a concentration of affordable housing. In areas where the affordable stock is dispersed, affordable housing is likely to filter up rather than down. Yates and Wood (2005) provide a similar result for Australia.

The filtering dynamic appears to be even less likely a source of lower rent stock in major Australian cities as a result of the pressures placed on land prices from increasing urbanisation. A key trend since the mid-1980s has been that land price increases have more than offset any decline in the values of dwelling structures due to depreciation. In fact, increasing urban land values have encouraged:

1. increased investment in existing housing stock through expenditure on alterations and additions (now almost as large as expenditure on new housing) and purchase of existing housing[31]
2. an increase in knock-down and rebuild in major cities like Sydney and Melbourne (Wiesel et al. 2013).

The first report for this project also commented on the importance of foreign investment in residential property in Australian cities 2006–11. While relatively small in total, there is an increasing amount of foreign investment concentrated in higher-density dwellings located in inner-city areas of Sydney and Melbourne (RBA 2014, p.4). The effect of these changes is that

[30] He further finds that: 'decades of US-based research on housing market dynamics in the context of a market-dominant policy regime supports the ironic conclusion that the unfettered market cannot fully be relied on to deliver decent, affordable housing to the poor' (Galster 1996, p.1802).

[31] In 2010, approximately $30 billion was spent on alterations and additions to existing housing while $40 billion was spent on new construction and purchase of established dwellings (Yates 2011b, p.277 derived from ABS 5204.0, Table 2).

'second hand' properties are not filtering down into the private rental market in areas of high land value but rather being improved or demolished and replaced, often at higher density.

A second implication of the increase in land values is that the resultant increases in dwelling prices reduce the rental return on investment and help fuel investment activities based on speculative capital gains. This makes holding a rental investment over the longer term unattractive compared to 'churning the property' and realising the capital gain, particularly because of the tax advantages for doing this with debt financed investment. It also provides an incentive for investment in higher priced properties in areas where capital gain is higher in nominal terms. At the opposite end of the housing market, investors (including 'first time investors') are competing with marginal home buyers which effectively puts a 'floor price' under entry level housing. In the second of its Financial Stability Reviews for 2014, for example, the Reserve Bank warned that 'some potential first home buyers are likely to have been priced out of parts of the market by investors who 'typically have higher incomes and are therefore able to bid up prices' (RBA 2014, p.41).

In brief, increasing land values, and tight competition for land in metropolitan areas, help explain why there has not been a substantial filtering of ageing housing stock in inner and middle suburbs of capital cities into private rental housing with low rents. Rather, the increasing price of land in these areas has resulted in major alterations and additions to existing dwellings and redevelopment, with dwellings sometimes held for short periods as rental investments, and 'knock down and rebuild' usually at greater density. This has reduced the availability of affordable rental accommodation in well located inner and middle suburbs.

6.3 What has driven competition for private rental, reducing availability for lower income households?

A previous AHURI-funded report has highlighted some key longer term factors driving demand for private rental. Key factors cited in that report were changes to migration policy on permanent and temporary migration (the latter including international students), social changes in respect of relationships including renting for longer periods prior to longer term partnering and having children, relationship breakups and blended families; and increased female participation in the labour market leading to more women renting independently (Hulse et al. 2012, pp.12–15). With the exception of migration, many of these factors are associated with the risk of having a lower income.

6.3.1 Higher income households: choice and constraint factors

This series of projects has found a long-term increase in higher income households renting privately, many of whom have two incomes. This is predominantly a metropolitan phenomenon focused on rentals in inner and middle suburbs of major capital cities. This project has shown that rents have become tightly clustered at R2 and R3 levels which are very affordable to higher income households. In unpacking this trend, a combination of choice and constraint factors appears to be important for such households renting in the relatively high cost inner and middle suburbs while very low income households, are not only income constrained but face a demonstrated shortage of affordable supply.

A longer term trend, beginning in the mid-1990s, has been a structural decline in affordability of purchasing housing resulting from historically high rates of house price inflation relative to wage and salary levels. This has meant that an increasing number of prime working age households now face similar constraints on access to home ownership as previously experienced by the young as a result of incomes being too low to meet borrowing needs and wealth being too low to meet deposit requirements. As reported earlier, the result has been a decline in the aggregate rate of home ownership brought about primarily by declines among the young, but extending through all age groups other than those who had already reached

retirement age. These declines have been significant for all but households in the highest income quintile.

Choice and constraint factors may not be easy to disentangle in practice as households make life-style trade-offs between the cost and location of housing. Higher income households who have jobs in employment clusters in and around the inner areas of major cities may be unable to buy in locations that they value and decide that it is cheaper and/or more convenient to rent instead. They may be able to rent a better quality and/or better located dwelling than they could afford to buy. A further adaption is seen in evidence that some, mainly higher income, private renter households are themselves renting, but purchasing other residential property that they do not live in and may rent out (Hulse & MacPherson 2014).

A key point is that higher income households are often in direct competition with lower income households for the majority of rental properties that are concentrated in the $300–$500 ($2011) range, particularly in the inner and middle suburbs of major cities and in some larger regional centres. These higher income households may be seen as more attractive tenants to landlords or to real estate agents who increasingly manage rental properties in Australia because they are seen as a lower risk option than a household with a lower and potentially more insecure income.

6.3.2 Life cycle factors

Traditionally, private rental has been seen as the tenure of choice for young people whose place of employment and relationship status tend to be relatively flexible. The extension of this flexibility further up the age scale as people partner and have children later (McDonald & Baxter 2005) may have contributed to older households expressing the same preference for flexibility and to the expansion of the traditional 'by choice' group. It is also likely that factors such as extended periods in higher education, a desire to travel, and greater job mobility are associated with the increased propensity of people in the age cohorts aged 35 to 54 to rent privately rather than to purchase their home (Hulse et al. 2012, Figure 5). However, a further reason why younger households have chosen private rental is because their income and accumulated wealth is insufficient to enable them to gain access to home ownership and it may well be less expensive for them to rent in the shorter term relative to buying.[32]

A longer term trend identified in this and other research (e.g. Hulse et al. 2012) is that lower income private renters face affordability difficulties well into 'middle' age, which is of concern given the increasing propensity of these age groups to rent privately (Hulse et al 2012, p.26, Figure 5). In this context, Yates and Yanotti (2015, Figure 3) show a dramatic decline in home ownership rates for younger households in the past two decades and the disproportionate declines for those with incomes in the first four income quintiles. It appears that younger people have less linear 'housing careers' than previous generations (Beer & Faulkner 2009), which may be because this is a choice (e.g. due to mobility associated with their employment) and/or they are adapting high housing prices relative to incomes which makes it difficult for them to buy a home (Burke et al. 2014).

[32] Renting may well be a rational financial choice for these households since outlays required for rent are often lower in the first few years than the outlays required to access home ownership. Despite historically low mortgage rates, these are currently higher than gross rental yields and purchasers also have to cover non-interest costs and make repayments of principal. However, the institutional settings for the housing system may make renting unattractive in the longer term, since light regulation of residential tenancies means that households have little control over the level and extent of rent increases over time and the tax advantages of investing in owner occupation (particularly since there is no capital gains tax on sale of principal residence) rather than any other investment are significant. Yates (2011b, p.286) suggests that while imputed rent is less than interest costs (which can occur when housing equity is relatively low, younger households are disadvantaged when purchasing a dwelling compared with investors with the same income and housing wealth characteristics because of their inability to deduct mortgage interest costs. In the short run, it is cheaper for low-income, low-wealth households to rent as investors can keep rents below financing costs because of the returns available from geared rental investment (Wood, Stewart & Ong 2009, p.61).

6.3.3 Migration

Additional pressure on the private rental sector has been associated with the level and type of migration to Australia. Existing research indicates that the private rental system plays an important role in the arrival and early settlement transitions of many recent migrants (Khoo et al. 2012). A large majority of Family and Skilled migrants reside in private rental housing at least initially, with numbers of recent migrants living in home ownership related to longer term settlement (Khoo et al. 2012; NHSC 2013). A dedicated study of migration and housing commissioned by the former National Housing Supply Council also indicates that temporary migrants differ in housing consumption patterns from longer term migrants, and that international students are more likely to rent smaller dwellings and are highly concentrated in the private rental markets of Sydney and Melbourne (Khoo et al. 2012). Supported accommodation plays a critical role for Humanitarian Visa holders upon arrival and can facilitate access to the private rental market for some households (Beer & Foley 2003).[33] For longer term migrants who cannot afford to purchase a home, the private rental sector appears to be increasingly likely to be a long-term home (Stone et al. 2013).

6.3.4 Other factors

As indicated in Chapter 1, this project has taken a housing market dynamics approach to the private rental sector. There may be a range of other factors which affect the type of households that are able to access affordable housing above and beyond their income. For example, other research has suggested that barriers to entry into the private rental market for lower income households also included risk assessment procedures by property managers which screen out some types of vulnerable households (Short et al. 2008). The methodology employed in this project, analysis of census data, focuses on supply shortages and does not enable investigation of other reasons why lower income households are unable to access lower rent stock.

6.4 What are the implications for policy?

The findings of this project are that shortages of affordable housing for Q1 households worsened over the period 1996–2011 and, somewhat exacerbated by market allocation processes, resulted in extensive and severe problems of rental unaffordability particularly in larger capital cities and some regional centres in Queensland, New South Wales and Western Australia. Shortages of affordable and available housing for Q2 households have varied over the period but by 2011 had deteriorated substantially, also in larger capital cities and some regional centres. The findings indicate that poor rental affordability outcomes, particularly for Q1 households, are due primarily to a lack of affordable supply rather than household choice.

It is important to note that the shortage figures in this report are like to be conservative. The data enable investigation of only those households who were living in private rental housing at the time of a census. They exclude households who have been unable to enter, or who have exited from, the private rental market and those who have been unable to form an independent household. The options for these households include living with family of origin, sharing accommodation, overcrowding, living in marginal housing such as caravan parks and rooming houses (Goodman et al. 2013) and homelessness experienced by non-traditional groups such as women and children (Sharam & Hulse 2014).

The first report of this project argued that a more comprehensive approach to policy settings for investment in, and management of, private rental housing is necessary to address a worsening situation (2006–11) which, if left unchecked, could lead to greater housing instability and homelessness with consequent economic and social costs for individuals/households and

[33] The Australian Government-funded longitudinal study of humanitarian migration *Building a New Life in Australia* (2013–2018) will provide additional insights into short and medium term housing transitions for different humanitarian migrant population groups, see <aifs.gov.au>

governments. The detailed analysis of affordability outcomes and the analysis of changes over the longer term in this report provide additional evidence of the need for change. There are six areas for policy development: five concern policy settings and the sixth proposes enhancing the architecture of public policy to enable consideration of issues of private rental within the context of the Australian housing system.

1. *Support for Q1 households to compete more effectively in the private rental market could be targeted at households with severely unaffordable affordability outcomes but this will only be effective if accompanied by strategies to increase supply*

This project found that the shortages of affordable rental for Q1 households increased between 1996–2011, notwithstanding substantially increased expenditure on demand-side assistance (Rent Assistance). While this type of income support assistance may assist in alleviating overall financial stress experienced by individual households, the longer term analysis in this report finds that *it has been ineffective in stimulating an adequate supply of affordable rental housing (R1 dwellings) for very low income Q1 households*.

The analysis of rental affordability outcomes in 2011 indicates that households living in unaffordable or severely unaffordable rental housing were primarily working age households, including those with children and recent arrivals to Australia. As the household income data from the ABS Census are gross and unequivalised, the findings underestimate the affordability problems facing these households since the additional expenditures associated with dependent children were not able to be taken into account. Under current policy settings, these households are not a priority for social housing unless there are additional circumstances, such as domestic violence or disability.

The current policy approach to working age households on lower incomes focuses on increasing income through welfare reform and other measures to boost employment participation, for example, among lone parents with dependent children. This is supplemented by Rent Assistance to the extent that these households continue to receive some income from Centrelink payments or family tax payments. The worsening shortage of affordable rental housing demonstrated in this report, however, means that many such households have to pay large percentages of their incomes on rents to secure accommodation in the private market, potentially negating the effects of any increase in income from work.

While it might be feasible to increase RA for these Q1 households to improve affordability outcomes in a redesigned and targeted system, also taking into account rent levels in high demand markets, this is likely to be effective only as part of a more comprehensive policy package which addresses supply shortages. Similarly, state-based schemes to assist lower income households access private rental accommodation are inherently limited in their effectiveness unless the supply shortage of low rent dwellings is addressed.

2. *Government investment in affordable supply for Q1 households to be managed by not-for-profit providers*

The report has provided clear evidence that the market is not providing dwellings at rents affordable to Q1 households in major capitals and some regional centres and that this situation has deteriorated from 1996–2011. One established approach is for governments to invest in affordable supply, that is rents of up to $175 per week ($2011) to be managed by not-for-profit providers in a regulated environment. The Social Housing Initiative provides one model of how this could be done, albeit that this was administered differently in different jurisdictions. Further work is required on the level of government investment needed to enable not-for-profit providers to bring dwellings onto the market at rents affordable for Q1 households and to maintain rents at affordable levels while being financially sustainable. Such an approach would ensure that dwellings are allocated to very low income households and that rents remain affordable.

3. *Re-calibrate taxation incentives to encourage the current profile of investors (individuals and households) to invest in lower rent segments of the market*

Institutional settings, in particular, taxation advantages for investors, have facilitated a general increase in rental investment by small-scale investors, but this project has shown that much of this has been at a mid-market level (affordable to Q2 and increasingly Q3 households). An increase in overall supply during 1996–2011 has occurred at the same time as an increasing shortage of affordable (R1) rentals for very low income (Q1) households, indicating that more targeted measures are required.

Many proposals have been put forward to encourage investment in the lower end of the rental market, particularly for new dwellings that add to supply. Such proposals have been made in the context of Federal Government reviews including the Henry Review (Henry et al. 2009), the Senate Economics References Committee Inquiry into Affordable Housing 2013–14[34] and the current work of the Tax White Paper Task Force and the Federation White Paper Task Force. For example, it would be possible to target negative gearing provisions to encourage investment in new housing for rental at the lower end of the market, perhaps using a sliding scale. A further change could be an increase in the depreciation allowance for investors in new lower rent properties. Tax free capital gains on rental properties held by Self-Managed Superannuation Funds after 65 years of age could also be targeted to those who house Q1 and/or Q2 households at an affordable rent. While most of these proposals relate to Federal Government taxation policies, at a state/territory level, reforms to land tax have also been mooted (Wood et al. 2012) which could assist in eliciting new types of investors with larger portfolios who are currently deterred by the system of land tax.

4. *Create a new institutional environment to attract institutional and other new investors at the lower end of the private rental market*

It has been increasingly recognised that a new institutional environment is required to address the increasing shortages of lower rent housing in Australia. The aim would be to deepen the rental investment market in residential property, rather than broaden it with more small-scale investors, as appears to have been the case.

One approach would be to develop an improved version of the National Rental Affordability Scheme (NRAS) with issues of design and implementation addressed. NRAS did produce additional supply, with three-quarters of dwellings in major cities where, as we saw in Chapter 4, shortages are most acute.[35] These dwellings were affordable by Q2 households for whom shortages of available and affordable housing in metropolitan areas have increased and, importantly, there was a mechanism for ensuring that they are allocated to eligible households and not outbid by higher income (Q3–Q5) households.

A recent, substantial body of work (funded primarily by AHURI), has proposed development of a new institutional environment to attract institutional and other new investment into the lower end of the rental market, after extensive discussions with institutional investors and housing financiers. This work has proposed a specialist financial intermediary, which could link the suppliers of capital with investment opportunities for rental housing, with management by a well regulated not-for-profit housing sector. Such an intermediary could issue an investment product, housing supply bonds, stimulated by a successful model already operating in Austria (see Lawson et al. 2012a, 2012b, 2014; Milligan et al. 2013, for further details). A road map for

[34] The Committee's Final Report is expected to be tabled in May 2015, viewed 4 May 2015, http://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Economics/Affordable_housing_2013.

[35] NRAS commenced in 2008 and was intended to increase the supply of affordable dwellings with rents at least 20 per cent below market value allocated to eligible households. While implementation was slower than anticipated, it did produce significant numbers of new affordable housing by the end of June 2014 (Australian Government (2014) *National Rental Affordability Scheme Quarterly Performance Report*, viewed at 30 June 2014,, https://www.dss.gov.au/sites/default/files/documents/10_2014/june_2014.pdf).

the way forward as a result of this body of work has recently been published (Milligan et al. 2015).

Developing a new asset class takes time to 'bed down' and such a scheme would require political support for the longer term to avoid the problems associated with stop/go policies and provide clear settings and certainty for the investment community.

5. *Moderation of rent increases through modern regulation of residential tenancies*

This report has shown real increases in rents, particularly from 2006–11. This affects those looking to rent housing but also tenants whose rents have increased during their tenancy. Other work for AHURI has shown that Australia has light regulation of residential tenancies compared to other developed countries with rent increases permitted up to twice a year in most jurisdictions with no cap (Hulse et al. 2011). There are a number of ways of moderating rent increases for current residents during their tenancy, which could prevent households moving into an unaffordable situation that they had not anticipated at the start of their tenancies. This can be done through policy settings as in various types of social housing or more generally through regulation, for example, using a relevant index. At the start of a new tenancy, rents would be reset to reflect prevailing market conditions, a situation that is quite common in Europe and in many cities in the US, where such a system has not deterred either small-scale or institutional investors (Hulse et al. 2011). This system could benefit investors who want a long-term investment with reliable tenants. It is likely to become more attractive as a strategy to provide income to household investors in retirement as income from other investments has declined in a period of historically low interest rates.

6. *Develop architecture of public policy to enable a more comprehensive view of the housing system and the role of the private rental sector within it*

The review of longer term trends (Chapter 5) and subsequent discussion in this chapter (Chapter 6) has highlighted that supply and demand in the private rental sector are affected by the structure, conduct and performance of other parts of the housing system. The current architecture of public policy does not facilitate consideration of changes in the private rental sector. For example, federal and state housing/human service agencies focus increasingly on only one part of this system—demand for social housing and prevention and mitigation of homelessness; the Federal Government has primary responsibility for taxation policies; and state Attorneys-General have overall responsibility for regulation of residential tenancies.

To address the deteriorating situation outlined in this report, it is important to have a comprehensive view of the role of the private rental sector within the broader housing system. There are a number of ways of achieving this, including: the Council of Australian Governments, joint Ministerial meetings, coordination mechanisms between relevant Federal Government departments including Treasury, Social Services, Attorney-General, Immigration, etc. At the state/territory level, this would involve coordination between at least treasury, planning, housing, and justice/fair trading portfolios.

Finally, this project has pointed to the importance of monitoring changes in private rental supply and demand in the context of the broader housing system. This would appear to be a critical on-going task rather than a research project and could be the responsibility of an appropriate body to replace the (former) National Housing Supply Council. Such a mechanism would need to be adequately resourced and have its own research capacity.

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APPENDICES

Appendix 1: A note on measures of shortage employed over the four projects in the series

Background

This project on the supply of, and demand for, low rent housing in Australia is the fourth in a series that began with an examination of data from the 1986 and 1996 censuses in 2001 (Wulff et al. 2001), was updated in 2004 with 2001 census data (Yates et al. 2004a, 2004b), in 2011 with the 2006 census data (Wulff et al. 2009, 2011) and, currently, with the 2011 census data (Hulse et al. 2014).

One of the key aims of each of the reports in the series of studies on the supply of low rent housing has been to highlight the role of an inadequate supply of affordable rental housing in contributing to poor rental affordability outcomes for lower income households. A complementary aim has been to determine the characteristics of households who have affordability problems as a result of these shortages. This appendix focuses solely on the first of these aims.

These reports have highlighted the role of an inadequate supply of low rent housing with the use of two measures: the first being the shortage of affordable rental housing and the second being, most recently, the shortage of affordable and available housing.[36] The intention of these two measures was to remove the focus from affordability outcomes for households (seen by some as a household choice) to a focus on the role played by the private rental market in constraining the choices households have in meeting their housing needs.

The purpose of this appendix is to provide consistent estimates of these two shortage measures to observe trends over time.

Measures of shortage

Past reports have primarily focused on outcomes for the census under review and on the change from the immediately preceding census. Within each past report, the shortage measures employed have been internally consistent so that the change from one Census to the next could be observed. Estimates of shortages of affordable housing (i.e., the first of the two shortage measures) have been consistently employed for the four Censuses since 1996 and have been presented in each of the past reports for data based on constant real income and rent categories. Estimates based on household income quintiles were introduced only in the third of the series of studies. This was done to enable use of the standard 30/40 affordability rule as a benchmark for shortages (see Wulff et al. 2011, pp 8–9) and consistent estimates on the first of the shortage measures have been provided on this basis for the 1996, 2006 and 2011 Censuses.[37]

However, estimates of the second measure of shortage (i.e. the shortage of affordable housing available for lower income households in the first two income quintiles) have not been reported in exactly the same way. In the report on the 1996 Census, for example, an aggregate estimate was provided for low-income households and a combined estimate was provided for lower income households. In the report on the 2006 Census, separate estimates

[36] Previous studies have also referred to the former as a 'hypothetical' shortage and the latter as a utilisation measure or as the 'true' shortage arising from a misallocation of affordable stock.

[37] Income categories for the first two studies (of the 1986, 1996 and 2001 censuses) were based on household income quintiles in 1996 and held constant in real terms going back to 1986 and forward to 2001. By 2006 increases in real incomes meant that these categories no longer reflected the underlying distribution of income, and categories were redefined to respond to income quintiles in each census. Summary data based on constant real income and rent categories, however, have been collected and reported since 1996.

were provided for households in the first and second income quintiles but no aggregate shortage estimate was provided for all lower income households. The first report of the 2011 Census provided both an aggregate shortage estimate and separate estimates for households in the first and in the second income quintiles. The addition of these separate estimates, however, does not generate the same result as the aggregate estimate provided.

The approaches employed using the second measure of shortage based on the 30/40 rule (i.e., shortages of affordable housing available for lower income households), their interpretation, a consistent set of estimates for 1996, 2006 and 2011 using each approach and the sources of the differences between them are addressed in this Appendix.

In order to put these estimates into context, the following section presents the estimates for the three Censuses using the first measure of shortage, the shortage of affordable housing, for low and lower income households.

Shortages in the supply of affordable private rental housing

Whether or not there is a shortage of affordable housing for a particular income group depends on the size of the stock affordable for that group. Trends in shortages in the supply of affordable rental housing depend on changes in the distribution of the rental stock and on changes in the income distribution of households renting that stock. Since the 2006 report, the impact of these changes has been presented at a household income quintiles level, where income quintiles are based on the population as a whole. Table A1 below summarises these results. In Table A1, the shortage estimates for households in the first income quintile are derived by subtracting the number of renter households in the first quintile from the number of dwellings defined as affordable (i.e., with rents below 30% of the top of the first income quintile). For households with incomes in the first two income quintiles, the cumulative number of households in the first and second quintiles has been subtracted from the cumulative total number of dwellings defined as affordable (i.e., with rents below 30% of the top of the second quintile range).[38]

The results show, first, there has been an absolute shortage of affordable housing for households in the lowest income quintile at least since 1996 and, second, this shortage has worsened in the 15 years to 2011.

They also show that, using this first measure, there has been a surplus, rather than shortage of housing affordable for households in the first two income quintiles since 1996. The relative abundance of dwellings for rent in the range affordable for households in the second income quintile has been more than adequate to offset the shortage of dwellings with rents affordable for households in the first income quintile. This surplus increased between 1996 and 2006 but fell between 2006 and 2011.

Not all of the dwellings that are affordable, however, are available to those who need them. The measure of shortage covered in the following section examines the availability of those rental dwellings that are affordable.

[38] An alternative approach (not reported in Table A1) is to treat the quintiles separately and to recognise that all rental dwellings affordable for first income quintile households are also (more than) affordable for second income quintile households. Under this approach, estimates for Q1 and Q2 households cannot be combined because low rent dwellings have been included in the estimates both for Q1 and for Q2 households but, obviously, cannot be occupied by both.

Table A1: Shortages of affordable rental housing by income quintiles: Australia, 1996–2011[39]

Household income range* ($2011)	Income or rent cat.	Cumulative 1996			Cumulative 2006			Cumulative 2011		
		H'holds	Stock	Surplus or shortage	H'holds	Stock	Surplus or shortage	H'holds	Stock	Surplus or shortage
		Y	R	=R-Y	Y	R	=R-Y	Y	R	=R-Y
$0–$584	Q1/R1	221,000	173,000	-48,000	268,000	129,000	-138,000	347,000	159,000	-187,000
$585–$1,074	Q2/R2	499,000	640,000	141,000	628,000	888,000	260,000	725,000	899,000	174,000
$1,075–$1,748	Q3/R3	832,000	1,008,000	177,000	979,000	1,347,000	367,000	1,138,000	1,570,000	433,000
$1,749–$2,727	Q4/R4	1,068,000	1,234,000	166,000	1,259,000	1,441,000	181,000	1,477,000	1,701,000	224,000
$2,728+	Q5/R5	1,234,000	1,234,000	0	1,470,000	1,470,000	0	1,735,000	1,735,000	0

Source: Customised ABS matrices based on 1996, 2006 and 2011 Australian Census of Population and Housing data.

The supply of affordable and available private rental housing

Hulse et al. (2014, p.32ff) provides an overview of the approach to estimating the supply of affordable and available dwellings that has been reported in most, but not all, of the series of studies on the supply of private rental housing. This second measure of shortage recognises that not all dwellings affordable for particular households will be available to them because the private rental stock is not allocated according to capacity to pay. As pointed out in Hulse et al. (2014), there are a number of alternative approaches to estimating shortage under this second measure.

Table A2 below indicates the extent to which affordable stock (category R1 for households in the first quintile, Q1 and categories R1 and R2 for households in the second income quintile, Q2) has been occupied by higher income households in the three Censuses for which data are available.[40]

[39] Previous reports have discussed issues of defining affordability in some detail. Much has been written on the appropriateness of various measures at a household level with a key issue being the desirability of employing a measure that is sensitive to household need (e.g. Yates & Gabriel 2006; Wulff et al. 2011 Appendix; Burke et al. 2011). Many, although not all, of the nuances covered by the debates over the relative merits of different measures are rendered irrelevant when the focus is on the stock rather than the household. This arises because a specific low rent dwelling is likely to be affordable (if not always appropriate) for a number of different household types. A dwelling affordable and appropriate for a couple with two children with a specific household income also will be affordable for a couple or a single person with or without children on the same household income. Affordability in the series of reports on this topic have defined affordability in relation to a series of price points defined as 30 per cent of gross household income.

[40] The data used to estimate the shortages reported in Table A1 can be derived, respectively, from the households' totals (the cumulative sum of the totals in the last column) and the stock totals (the cumulative sum of the row totals for each year).

Table A2: Allocation of rental stock by household income quintiles: Australia, 1996, 2006 and 2011

Income quintiles	Affordable rent quintiles					
	R1	R2	R3	R4	R5	Total
1996*						
Q1	73,000	98,000	36,000	14,000		*221,000*
Q2	46,000	135,000	75,000	23,000		*278,000*
Q3	35,000	138,000	113,000	46,000		333,000
Q4	14,000	71,000	93,000	59,000		236,000
Q5	5,000	25,000	52,000	84,000		166,000
Total	*173,000*	*467,000*	369,000	225,000		1,234,000
2006						
Q1	57,000	159,000	41,000	7,000	3,000	*268,000*
Q2	38,000	236,000	77,000	8,000	3,000	*360,000*
Q3	21,000	199,000	115,000	13,000	4,000	351,000
Q4	10,000	118,000	127,000	21,000	4,000	280,000
Q5	4,000	46,000	100,000	45,000	16,000	211,000
Total	*129,000*	*759,000*	459,000	94,000	30,000	1,470,000
2011						
Q1	76,000	181,000	75,000	11,000	4,000	*347,000*
Q2	43,000	213,000	109,000	10,000	3,000	*378,000*
Q3	25,000	195,000	171,000	18,000	4,000	413,000
Q4	11,000	111,000	184,000	28,000	4,000	339,000
Q5	5,000	39,000	133,000	63,000	19,000	258,000
Total	*159,000*	*740,000*	671,000	131,000	33,000	1,735,000

Source: Customised ABS expanded matrices based on 1996, 2006 and 2011 Australian Census of Population and Housing data.

* Rent categories R3 and R4 for 1996 do not match 30 per cent affordability cut-offs for income quintiles Q3 to Q5. However, these are not used in the shortage calculations reported here.

The approach used most often in past reports for estimating the shortage of affordable housing available for lower income households is the most conservative of the options available for this second measure of shortage. This is described as Approach 1 below. It is based on combining households in the bottom 40 per cent of the household income distribution into a single 'lower income' category as done, for example, in estimates of shortages of affordable housing reported in Table A1 and defining as unavailable affordable dwellings occupied by households in the top three quintiles. A second approach, employed by the (former) National Housing Supply Council (NHSC 2012), has the same starting point but differs marginally in the treatment of dwellings defined as unavailable. A third approach, introduced initially in the report on the 2006 Census (Wulff et al. 2011), is based on providing separate estimates for each of the quintile groups. This recognises that dwellings affordable for households in a particular income quintile might not be available to them not just because they are occupied by households who could afford to pay more but also because they are occupied by households in a lower income quintile.

These approaches are described more fully below with an interpretation of their differences provided in Table A3 (based on 2011 Census data). Consistent shortage estimates of affordable housing and affordable and available housing for each of the three approaches for 1996, 2006 and 2011 are provided in Table A4.

Approach 1—the most conservative approach

As indicated, this approach provides the most conservative of those that might be employed. It is based on subtracting from the estimated surplus or shortage of dwellings affordable for households in the first and second income quintiles (Q1 and Q2 households) all dwellings that are occupied by households who could afford to pay higher rents (i.e., households with incomes in the top three quintiles). The reason why this is described as a conservative approach can be seen by comparing it with the remaining two approaches.

Approach 2—the NHSC approach

The approach adopted by the (former) National Housing Supply Council, Approach 2, adds to the Approach 1 measure the R1 dwellings that are occupied by Q2 households.[41] These were excluded in the Approach 1 estimate of affordable dwellings not available because the treatment of lower income households as a single aggregate meant they were classified as affordable (if only to Q2 households). However, their occupation by Q2 households further excludes Q1 households from the only rental stock affordable for them. Thus, for 2011, the shortage estimate for 2011 under Approach 2 is 43 000 greater than the conservative estimate under Approach 1.[42]

Approach 3—the household affordability approach

The third approach equates the shortage of affordable and available housing for each income group to the number of Q1 and Q2 households who are in unaffordable housing. It is an affordability measure. Again for Q1 households, this measure gives the same result as for Approaches 1 and 2. The number of households in unaffordable dwellings is the same as the total number of Q1 households less those in affordable dwellings. For the lower income households combined, however, the 2011 estimate of shortage under Approach 3 is 181 000 more than the estimate under Approach 1 because it includes the 181 000 Q1 households who are in R2 dwellings defined as affordable for Q2 households.

Table A3 below illustrates the differences between these three approaches.

[41] Differences between estimates reported here and NHSC estimates arising from data sources and definitions of key variables were covered in Hulse et al. (2014, Appendix 3). While relevant to explaining why the 'NHSC' estimates reported here differ from those in the NHSC reports, differences in data sources and definitions are not germane to the points covered in this appendix.

[42] There are no differences in Approaches 1 and 2 for the shortage estimates for Q1 households simply because there is no lower income category who might be excluded from dwellings occupied by Q1 households.

Table A3: Comparison of alternative approaches, based on 2011 census outcomes

Income quintiles	Affordable rent quintiles					
	R1	R2	R3	R4	R5	Total
			Approach 1			
Q1	76,000	181,000	75,000	11,000	4,000	*347,000*
Q2	43,000	213,000	109,000	10,000	3,000	*378,000*
Q3	25,000	195,000	171,000	18,000	4,000	413,000
Q4	11,000	111,000	184,000	28,000	4,000	339,000
Q5	5,000	39,000	133,000	63,000	19,000	258,000
Total	*159,000*	*740,000*	671,000	131,000	33,000	1,735,000
			Approach 2			
Q1	76,000	181,000	75,000	11,000	4,000	*347,000*
Q2	43,000	213,000	109,000	10,000	3,000	*378,000*
Q3	25,000	195,000	171,000	18,000	4,000	413,000
Q4	11,000	111,000	184,000	28,000	4,000	339,000
Q5	5,000	39,000	133,000	63,000	19,000	258,000
Total	*159,000*	*740,000*	671,000	131,000	33,000	1,735,000
			Approach 3			
Q1	76,000	181,000	75.000	11,000	4,000	347,000
Q2	43,000	213,000	109,000	10,000	3,000	378,000
Q3	25,000	195,000	171,000	18,000	4,000	413,000
Q4	11,000	111,000	184,000	28,000	4,000	339,000
Q5	5,000	39,000	133,000	63,000	19,000	258,000
Total	159,000	740,000	671,000	131,000	33,000	1,735,000

Source: Customised ABS expanded matrices based on 2011 Australian Census of Population and Housing data.

Approach 1 and Approach 2 can be described as stock-based approaches derived from subtracting from the estimate of the shortage (surplus) of affordable housing (given by the difference between the stock and household numbers shown in bold in Table A3) the affordable stock that is occupied by households who could afford more, shown by the shaded areas in the first two sets of rows in Table A3. In both of these approaches, estimates of dwellings affordable and available for lower income households are based on shortages of dwellings affordable for these households less dwellings occupied by higher income households. They vary only in which higher income households are taken into account.

Approach 3 is an affordability-based measure that focuses on the outcomes of the 'misallocation' of affordable rental stock. Compared with Approach 1, it excludes Q2 households in R1 stock because these households do not face an affordability problem, but includes Q1 households in R2 stock because they do face an affordability problem. The Approach 3 estimate of shortage is given by the total of all lower income households in unaffordable housing, as shown by the shaded area in the last set of rows in Table A3.

Table A4 below provides the consistent estimates for 1996, 2006 and 2011 of the two shortage measures under the three approaches illustrated in Table A3.

Table A4: Summary of shortage estimates by measure employed: Australia, 1996, 2006 and 2011

Household income quintiles	Approach 1		Approach 2		Approach 3	
	Affordable	Affordable and available	Affordable	Affordable and available	Affordable	Affordable and available
1996						
Q1	-48,000	-147,000	-48,000	-147,000	-48,000	-147,000
Q1+Q2	141,000	-147,000	141,000	-193,000	141,000	-524,000
2006						
Q1	-138,000	-211,000	-138,000	-211,000	-138,000	-211,000
Q1+Q2	260,000	-138,000	260,000	-176,000	260,000	-298,000
2011						
Q1	-187,000	-271,000	-187,000	-271,000	-187,000	-271,000
Q1+Q2	174,000	-212,000	174,000	-255,000	174,000	-393,000

Source: Customised ABS expanded matrices based on 1996, 2006 and 2011 Australian Census of Population and Housing data.

The results in Table A4 above show that the nuances of the approaches do not affect the estimates of the first measure of shortage: that of the shortage of housing affordable for either Q1 or Q1+Q2 households. The shortage of housing affordable for Q1 households has steadily increased since 1996. That for Q1+Q2 households shows less of a clear trend, with the considerable improvement between 1996 and 2006 being reversed between 2006 and 2011.

For the second measure of shortage: that which takes into account the availability of affordable stock, the estimates of shortage of dwellings in the private rental market that are both affordable and available for Q1 households are identical regardless of which approach is employed. This shortage has steadily worsened over time with a shortage of 271 000 dwellings by 2011.

The outcomes are not as straightforward for the shortage of dwellings affordable and available for lower (Q1+Q2) income households. The three different approaches show a similar trend over time but differ in their actual estimates. All show the marginal improvement between 1996 and 2006 observed for Q1 households followed by a more severe reversal from 2006 to 2011. On the basis of the two stock-based approaches (Approach 1 and Approach 2), the impact of the change from 2006 to 2011 has been severe enough to more than offset any improvement in the earlier time period. For the household-based approach (Approach 3) this is not the case although the estimate of shortage using this approach is significantly more dramatic than for either of the first two measures.

The differences between the approaches reinforce the conceptual difference between (1) the two stock-based approaches (Approach 1 and 2) designed to highlight the fact that some lower income households face a housing affordability problem because there is an inadequate supply of affordable housing and/or because the limited supply of housing that is affordable is not available to them and (2) the household-based approach (Approach 3) designed to highlight the number of lower income households paying rents deemed to be unaffordable. They highlight the fact that it is possible for lower income households to face an affordability problem even when there is no shortage of affordable housing.

Under each of the approaches outlined, interpretation of the first of the measures reported, the shortage of dwellings affordable for low-income (Q1) and lower income (Q1+Q2) households, is clear cut. It indicates the extent to which how many low or lower income households would be unable to live in affordable housing even if they had first call on the affordable stock available.

However, interpretation of the second measure, the affordable and available measure which takes into account the fact that not all dwellings that are affordable for particular households will be available to them because the private rental stock is not allocated according to capacity to pay, varies with the approach employed.

The two stock-based approaches measure the extent to which higher income households displace lower income households from affordable stock. They indicate how many higher income households would need to be 're-allocated' to higher rent dwellings in order to ensure that there was no displacement of lower income households from the existing affordable stock. Such a re-allocation, of course, would mean that all lower income households had access to affordable housing only if the total supply of such housing was adequate (as defined by measure 1). Approach 1 makes no distinction between Q1 and Q2 households; Approach 2 recognises that some Q2 households in stock affordable for Q1 households will need to be 're-allocated'.

The household affordability approach (Approach 3), by way of contrast, focuses on the outcomes of the shortage of affordable stock available to lower income households as a result of this displacement.

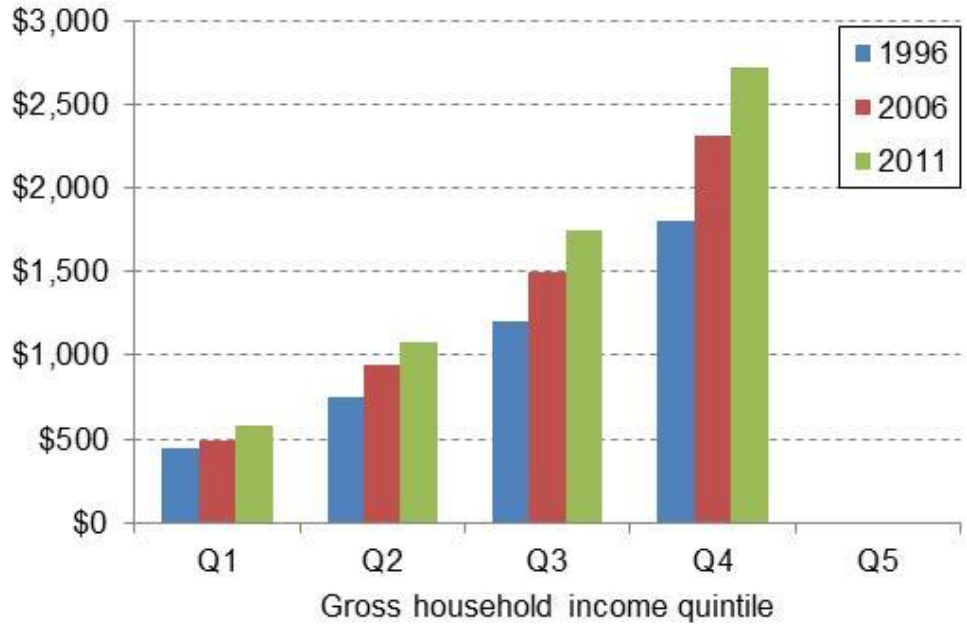
For completeness, Table A5 below shows how the income categories that define Q1 and Q2 households (and others) have changed from 1996 to 2011. These changes mirror those illustrated in in the text. Figure A1 below, which charts the top of each income quintile, shows the growth in real household incomes over time.

Table A5: Gross household income quintiles: Australia 1996–2011 ($2011)

	1996	2006	2011
Q1	$0–$450	$0–$493	$0–$584
Q2	$451–$751	$494–$946	$585–$1,074
Q3	$752–$1,203	$947–$1,504	$1,075–$1,748
Q4	$1,204–$1,805	$1,505–$2,311	$1,749–$2,727
Q5	$1,806+	$2,312+	$2,728+

Source: Customised ABS matrices based on 1996, 2006 and 2011 Australian Census of Population and Housing data, CPI adjusted.

Figure A1: Upper values for income quintiles: Australia 1996–2011 ($2011)



Source: Customised ABS matrices based on 1996, 2006 and 2011 Australian Census of Population and Housing data, CPI adjusted.

Appendix 2: Who were the lower income private renters in 2006?

Table A6: Socio-demographic characteristics of private renter households (and all households), Australia, 2006 (Chapter 2)

Characteristics	Private renter households				All households
	Q1 %	Q2 %	Q3–Q5 %	Total %	%
Age					
15–24 years	16	15	13	14	5
25–34 years	19	28	36	31	16
35–44 years	19	25	25	24	21
45–54 years	15	16	16	16	21
55–64 years	13	9	7	8	16
65+ years	19	7	2	6	21
Total %	*100*	*100*	*100*	*100*	*100*
Total N	*268,000*	*360,000*	*842,000*	*1,470,000*	*7,145,000*
Household type*					
Younger couple, no children	3	6	20	14	7
Mid-life couple, no children	3	4	5	4	10
Older couple, no children	4	3	1	2	9
Couple families with children	7	16	30	22	32
One-parent families	22	27	10	16	11
Group household/other	8	10	18	14	6
Younger person living alone	21	21	11	15	7
Mid-life person living alone	18	11	5	9	8
Older person living alone	14	2	0	3	9
Total %	*100*	*100*	*100*	*100*	*100*
Total N	*268,000*	*360,000*	*842,000*	*1,470,000*	*7,145,000*
Persons employed in household**					
Nil employed	65	23	3	17	15
One employed	31	67	42	47	37
Two employed	4	11	55	36	49
Total %	*100*	*100*	*100*	*100*	*100*
Total N	*175,000*	*281,000*	*710,000*	*1,166,000*	*5,278,000*

Source: Customised ABS expanded matrix based on 2006 Australian Census of Population and Housing data.

* 'Younger' is <=44 years; 'mid-life' is aged 45 to 64 years, and; 'older' is aged 65 years+; numbers may not sum exactly due to rounding.

** Households with a reference person aged 25–64 years.

NB: period of arrival is not available in the 2006 dataset.

Appendix 3: Spatial analysis of contribution to shortages for Q1 households

Table A7: Q1 households paying unaffordable rents due to shortages and availability by location, 2011 (Chapter 3)

	No. of Q1 income h'holds	No. of affordable dwellings	Shortage of affordable stock	Higher income h'holds in the affordable stock	No. of Q1 h'holds paying unafford. rent	% of Q1 h'holds paying unafford. rent	Paying unaffordable rent because of:	
							Outright shortage (%)	Availability (%)
			(=2-1)		*(3-4)*	*(=5 /1)*	*(=3/5)*	*(=4/5)*
	1	2	3	4	5	6	7	8
Australia	349,000	159,000	-190,000	83,000	273,000	78	69	31
Metro regions	196,000	51,000	-145,000	28,000	172,000	88	84	16
Non-metro regions	153,000	108,000	-45,000	55,000	101,000	66	44	56
Capital cities								
Sydney	58,800	10,400	-48,400	5,500	54,000	92	89	11
Melbourne	58,900	15,700	-43,200	8,600	51,800	88	83	17
Brisbane	29,600	7,100	-22,500	3,800	26,300	89	86	14
Adelaide	20,400	8,500	-12,000	4,300	16,300	80	73	27
Perth	21,300	6,600	-14,700	3,900	18,600	87	79	21
Hobart	4,200	2,200	-2,000	1,000	3,000	71	66	34
Darwin^	900	400	-500	300	700	85	65	35
Canberra^	1,800	600	-1,200	400	1,700	90	76	24
Capital city sub-regions								
Sydney								
Inner	19,100	2,600	-16,400	1,500	17,900	94	92	8
Middle	22,200	3,500	-18,700	2,100	20,800	93	91	9
Outer	17,500	4,200	-13,300	2,000	15,300	87	88	12
Melbourne								
Inner	17,900	3,600	-14,300	2,000	16,300	91	86	14
Middle	24,500	7,400	-17,100	4,100	21,200	87	76	24
Outer	16,600	4,700	-11,800	2,500	14,300	87	80	20
Brisbane								
Inner	9,300	2,600	-6,700	1,400	8,100	87	78	22
Middle	6,200	1,600	-4,600	1,000	5,500	89	82	18
Outer	14,200	2,900	-11,300	1,500	12,700	90	83	17
Adelaide								
Northern	6,300	2,500	-3,800	1,300	5,000	80	71	29
Western	4,200	2,200	-2,000	1,100	3,100	75	51	49
Eastern	4,700	1,800	-2,900	1,000	3,900	82	69	31
Southern	5,200	2,000	-3,300	1,000	4,300	81	70	30
Perth								
Central	2,400	700	-1,700	400	2,100	88	60	40
East	3,000	1,100	-1,800	700	2,500	85	55	45
North	6,000	1,600	-4,400	900	5,300	89	68	32
Southwest	4,500	1,300	-3,200	800	4,000	88	67	33
Southeast	5,400	1,800	-3,600	1,100	4,700	87	65	35

Source: Customised ABS expanded matrix based on 2011 Australian Census of Population and Housing data.

^ Low counts in these areas: caution should be exercised when interpreting these figures

Appendix 4: Affordability outcomes in Australia's large regional centres

Table A8: Rental affordability of lower income private renter households by Australian large regional centres, 2011 (Chapter 3)

Location	Q1 private renter households					Q2 private renter households			
	Paying afford. rent	Paying unafford. rent	Paying severely unafford. rent	Q1 total		Paying afford. rent	Paying unafford. rent	Q2 total	
	%	%	%	%	No.	%	%	%	No.
Australia	22	52	26	100	349,000	68	32	100	379,000
Metro regions	12	52	36	100	196,000	59	41	100	228,000
Non-metro regions	34	53	13	100	153,000	81	19	100	151,000
Large regional centres									
Newcastle	24	61	15	100	8,800	78	22	100	9,800
Wollongong	23	56	21	100	5,000	71	29	100	4,800
Albury-Wodonga	52	44	3	100	3,000	95	5	100	2,900
Coffs Harbour	23	64	13	100	2,200	76	24	100	2,200
Shoalhaven	30	65	6	100	2,100	90	10	100	2,000
Tweed Valley	18	59	23	100	2,200	60	40	100	2,200
Wagga Wagga	46	49	5	100	1,800	91	9	100	1,800
Greater Geelong	33	59	8	100	3,500	89	11	100	3,600
Ballarat	41	55	4	100	2,400	95	5	100	2,400
Bendigo	37	58	5	100	2,000	95	5	100	2,000
Gold Coast	6	50	44	100	12,600	45	55	100	14,500
Sunshine Coast	11	54	34	100	6,700	53	47	100	7,400
Townsville	15	60	25	100	2,900	69	31	100	3,500
Cairns	23	64	13	100	3,900	82	18	100	4,200
Bundaberg	27	70	4	100	2,100	94	6	100	2,100
Mackay	16	47	37	100	1,200	58	42	100	1,400
Rockhampton	26	60	14	100	2,000	86	14	100	2,100
Toowoomba	32	61	7	100	3,200	91	9	100	3,400
Mandurah	15	68	17	100	2,000	82	18	100	1,700
Bunbury	18	69	13	100	1,400	85	15	100	1,500
Launceston	41	55	4	100	2,700	95	5	100	2,300
Regional centre total	*23*	*57*	*20*	*100*	*73,600*	*73*	*27*	*100*	*77,900*

Source: Customised ABS summary matrix based on 2011 Australian Census of Population and Housing data.

Appendix 5: Further details on lower income households by rental affordability, type of household and spatial unit

Table A9: Rental affordability of lower income private renter households with children by location, Australia, 2011 (Chapter 4)

	Q1 private renter households with children					Q2 private renter households with children			
	Paying afford. rent	Paying unafford. rent	Paying severely unafford. rent	Total		Paying afford. rent	Paying unafford. rent	Total	
	%	%	%	%	N	%	%	%	N
Capital cities									
Sydney									
Inner	2	18	80	*100*	*3,500*	17	83	*100*	*5,100*
Middle	2	33	65	*100*	*9,600*	33	67	*100*	*15,500*
Outer	4	63	34	*100*	*7,600*	58	42	*100*	*12,000*
Sydney total	*3*	*41*	*56*	*100*	*20,700*	*40*	*60*	*100*	*32,600*
Melbourne									
Inner	3	34	63	*100*	*2,500*	40	60	*100*	*3,300*
Middle	4	62	34	*100*	*7,600*	65	35	*100*	*10,500*
Outer	4	74	22	*100*	*7,600*	75	25	*100*	*10,000*
Melb. total	*4*	*63*	*33*	*100*	*17,600*	*66*	*34*	*100*	*23,800*
Brisbane	2	50	47	*100*	*10,000*	49	51	*100*	*15,100*
Adelaide	6	78	16	*100*	*7,000*	81	19	*100*	*8,700*
Perth	4	44	52	*100*	*7,900*	46	54	*100*	*9,000*
Hobart	7	78	15	*100*	*1,300*	80	20	*100*	*1,600*
Darwin^	7	24	70	*100*	*300*	35	65	*100*	*500*
Canberra^	5	22	73	*100*	*500*	23	77	*100*	*1,000*
Rest of state balances									
NSW balance	17	67	16	*100*	*17,200*	78	22	*100*	*23,900*
VIC balance	25	69	6	*100*	*8,900*	93	7	*100*	*10,800*
QLD balance	8	59	33	*100*	*17,500*	62	38	*100*	*22,900*
SA balance	33	62	4	*100*	*2,800*	95	5	*100*	*3,100*
WA balance	12	66	21	*100*	*3,500*	79	21	*100*	*3,400*
TAS balance	23	75	2	*100*	*2,000*	97	3	*100*	*2,500*
NT balance^	20	49	31	*100*	*100*	55	45	*100*	*100*

Source: Customised ABS expanded matrix based on 2011 Australian Census of Population and Housing data.

^ very low counts in these areas.

Table A10: Rental affordability of older* lower income private renter households by location, Australia, 2011 (Chapter 4)

	Older Q1 private renter households					Older Q2 private renter households			
	Paying afford. rent	Paying unafford. rent	Paying severely unafford. rent	Total		Paying afford. rent	Paying unafford. rent	Total	
	%	%	%	%	N	%	%	%	N
Capital cities									
Sydney									
Inner	14	45	41	*100*	*2,100*	40	60	*100*	*1,400*
Middle	16	53	31	*100*	*2,600*	52	48	*100*	*2,500*
Outer	28	64	8	*100*	*2,600*	79	21	*100*	*2,200*
Sydney total	*20*	*55*	*26*	*100*	*7,300*	*59*	*41*	*100*	*6,100*
Melbourne									
Inner	24	55	21	*100*	*2,100*	65	35	*100*	*1,100*
Middle	29	60	11	*100*	*3,300*	82	18	*100*	*2,100*
Outer	30	64	6	*100*	*2,600*	89	11	*100*	*1,700*
Melb. total	*28*	*60*	*12*	*100*	*7,900*	*81*	*19*	*100*	*4,900*
Brisbane	23	64	13	*100*	*4,700*	76	24	*100*	*3,000*
Adelaide	41	53	6	*100*	*2,400*	88	12	*100*	*1,500*
Perth	32	56	13	*100*	*3,100*	79	21	*100*	*2,100*
Hobart	51	44	5	*100*	*600*	93	7	*100*	*300*
Darwin^	33	56	11	*100*	*100*	65	35	*100*	*100*
Canberra^	23	43	34	*100*	*200*	57	43	*100*	*200*
Rest of state balances									
NSW balance	55	41	4	*100*	*9,500*	90	10	*100*	*5,700*
VIC balance	63	35	2	*100*	*5,600*	96	4	*100*	*2,600*
QLD balance	37	54	9	*100*	*9,000*	82	18	*100*	*5,500*
SA balance	69	28	3	*100*	*1,500*	96	4	*100*	*800*
WA balance	47	48	5	*100*	*1,200*	92	8	*100*	*900*
TAS balance	65	33	2	*100*	*1,200*	97	3	*100*	*600*
NT balance^	54	32	14	*100*	*0*	82	18	*100*	*0*

Source: Customised ABS expanded matrix based on 2011 Australian Census of Population and Housing data.

* household reference person aged 65 years or above.

^ very low counts in these areas.

Table A11: Rental affordability of recently arrived lower income private renter households by location, Australia, 2011 (Chapter 4)

	Q1 recently arrived private renter households					Q2 recently arrived private renter households			
	Paying afford. rent	Paying unafford. rent	Paying severely unafford. rent	Total		Paying afford. rent	Paying unafford. rent	Total	
	%	%	%	%	N	%	%	%	N
Capital cities									
Sydney									
Inner	3	18	79	*100*	*6,000*	23	77	*100*	*4,200*
Middle	4	32	64	*100*	*4,300*	38	62	*100*	*5,200*
Outer	5	64	32	*100*	*1,100*	60	40	*100*	*1,800*
Sydney total	*4*	*28*	*69*	*100*	*11,400*	*36*	*64*	*100*	*11,200*
Melbourne									
Inner	3	36	61	*100*	*6,200*	44	56	*100*	*3,200*
Middle	9	50	41	*100*	*6,000*	68	32	*100*	*5,400*
Outer	4	69	27	*100*	*1,400*	79	21	*100*	*1,900*
Melb. total	*6*	*46*	*48*	*100*	*13,600*	*63*	*37*	*100*	*10,500*
Brisbane	6	33	61	*100*	*4,500*	46	54	*100*	*4,000*
Adelaide	11	58	31	*100*	*3,200*	81	19	*100*	*2,800*
Perth	6	36	57	*100*	*4,100*	48	52	*100*	*3,900*
Hobart^	22	51	27	*100*	*400*	74	26	*100*	*200*
Darwin^	0	28	72	*100*	*100*	39	61	*100*	*200*
Canberra^	3	22	75	*100*	*400*	25	75	*100*	*400*
Rest of state balances									
NSW balance	22	46	31	*100*	*1,700*	75	25	*100*	*1,700*
VIC balance	40	50	9	*100*	*800*	89	11	*100*	*900*
QLD balance	9	46	45	*100*	*2,900*	57	43	*100*	*3,200*
SA balance^	50	48	2	*100*	*200*	95	5	*100*	*200*
WA balance^	7	54	39	*100*	*400*	83	17	*100*	*500*
TAS balance^	29	58	13	*100*	*200*	100	0	*100*	*200*
NT balance^	0	0	0	*100*	*0*	66	34	*100*	*100*

Source: Customised ABS expanded matrix based on 2011 Australian Census of Population and Housing data.

^ very low counts in these areas.

Appendix 6: Detailed calculations of headline shortage figures for Q1 and Q2 households

Q1 households

Table A12: Shortage of affordable and available dwellings for Q1 renters 1996–2011

	1996	2006	2011
Number of potentially affordable dwellings (R1 stock)	173,000	129,000	159,000
Number of Q1 households	221,000	268,000	347,000
Shortage of affordable dwellings (R1 stock minus Q1 households)	*-48,000*	*-138,000*	*-187,000*
Shortage of stock (stock minus households as above)	-48,000	-72,000	-187,000
Minus no of affordable dwellings unavailable due to occupation by Q2–Q5 households	-99,000	-72,000	-84,000
Shortage of affordable and available dwellings	*-147,000*	*-211,000*	*-271,000*
Of which:			
Supply shortage—lack of affordable R1 dwellings	32%	66%	69%
Availability—occupation of R1 dwellings by Q2–Q5 households	68%	34%	31%
Affordability outcomes—% of Q1 households paying unaffordable housing	*67%*	*79%*	*78%*

Source: Authors' calculations based on analysis of customised ABS matrices based on 1996, 2006 and 2011 Australian Census of Population and Housing data.

Q2 households

Table A13: Shortages of affordable and available dwellings for Q2 private renter households

	1996	2006	2011
No of potentially affordable R1+R2 dwellings	640,000	888,000	899,000
No of Q2 households	278,000	360,000	378,000
Surplus of stock (R1+R2)–Q2 as above)	362,000	528,000	521,000
Minus R2 dwellings occupied by Q3–5 households	234,000	364,000	345,000
Minus R2 dwellings occupied by Q1 households	98,000	159,000	181,000
Shortage of affordable and available dwellings	*-98,000*	*-87,000*	*-122, 000*
Of which:			
Supply shortage—lack of affordable R2 dwellings	0%	0%	0%
Availability—occupation of R2 dwellings by households on higher (Q3–5) and lower (Q1 incomes)	100%	100%	100%
% of Q2 households paying unaffordable rents	*35%*	*24%*	*32%*

Source: Authors' calculations based on analysis of customised ABS matrices based on 1996, 2006 and 2011 Australian Census of Population and Housing data.

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