

## **Australia's private rental market: changes (2001-2006) in the supply of, and demand for, low rent dwellings**

authored by

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## **ACRONYMS**

ABS	Australian Bureau of Statistics
AHURI	Australian Housing and Urban Research Institute Ltd.
NHSP	National Housing Supply Council
RBA	Reserve Bank Australia
SD	Statistical Division
SSD	Statistical Subdivision

## EXECUTIVE SUMMARY

Between 2001 and 2006, Australia's private rental sector grew by 11 per cent bringing the total number of private renter dwellings to 1.47 million. This happened in the context of: a continued rapid increase in real house prices; an unprecedented increase in households borrowing against their housing equity; record increases in immigrants, both permanent and temporary, coming into Australia; continuing high economic growth; rapid population growth in some large regional centres; and household growth continuing to outstrip population growth. Against this background, this Positioning Paper addresses the following questions:

- Within the private rental sector, what has happened to household incomes and rents during this period?
- To what extent do shortages exist for low-income private renters?
- How are shortages spatially distributed across Australia's cities and regions?

This Positioning Paper contains extensive original empirical analysis and, as such, goes beyond the content of a conventional AHURI Positioning Paper. It presents results on patterns and trends in private rents, household incomes, and shortage, with a view to providing an evidence-base on shortages in the private rental market to the policy community as quickly as possible.

The research updates the information provided in the Positioning Paper for the 1996 to 2001 intercensal period (Yates, Wulff and Reynolds 2004). In addition, this paper incorporates three new features: (1) inclusion of household income quintiles into the income distribution; (2) the identification of large regional centres outside the capital cities, and (3) a simultaneous analysis of household income and weekly rent at the household level, thereby allowing us to derive a more refined measure of affordability.

All tables and figures presented in this Positioning Paper are sourced from a customised summary 2006 census data matrix, specified by the researchers and produced by the Australian Bureau of Statistics. All 2006 data specifications and definitions on the 12 household income and weekly rent categories are directly comparable with those employed in the 2001 analysis. To that end, all 2001 income and rent values have been CPI adjusted to their 2006 equivalent to establish the comparable boundaries for 2006. The value of this data file has been enhanced by imputing missing values for all variables.

The main findings are:

- The private rental stock expanded most at the 70 to 90 per cent of the rent distribution. At the same time, the stock in the four lowest rent categories declined from 50 to 37 per cent between 2001 and 2006.
- Private renter households increased mainly in the top third of the income distribution with some increase in the lowest income category (comprising 8 per cent of all private renter households).
- The decline in low rent stock was greater in non-metropolitan than in metropolitan areas. Non-metropolitan regions lost a total of 67,000 rental dwellings in the low rent segments compared with a loss of 59,000 in same segments in metropolitan regions.

The results reveal a shortage of 71,000 dwellings for renters in the three lowest income categories (constituting 24 per cent of all private renter households). This figure stands in sharp contrast to the previous census period in which a surplus of 4,000 dwellings was recorded.

In terms of very low-income households (bottom quintile), the shortage of available stock Australia-wide was 138,000 dwellings. This translates into one affordable stock for every *two* households in the bottom quintile.

When the utilisation of low rent stock by higher income households is taken into account, the *affordable* and *available* private dwellings for those in the bottom quintile increased to a shortage of 211,000. In other words, utilisation of low rent stock by higher income households leaves only *one affordable* and *available* dwelling for every *five* low-income households.

Sydney leads the rest of the capital cities in stock shortage - *one affordable* and *available* dwelling for every *15* very low-income households. Comparable figures for Melbourne and Brisbane are *one* dwelling for every *eight* very low-income households.

Outside the capital cities, the shortage is also severely felt in the Gold Coast (*one* dwelling for every *14* very low-income households), which almost equals the shortage in Sydney. After the Gold Coast, the Sunshine Coast has the second most severe shortage with a figure (*one* dwelling per *nine* households) similar to Melbourne and Brisbane

To conclude, this research has established the worsening affordability situation for low-income private renter households. This is made even more severe by the fact that many low-income households are unable to access the stock. This comes about largely as a result of the limited supply of dwellings at high rent segments, which consequently encourages some higher income renters to utilise low rent stock.

The results of this analysis have implications for policy-makers in the extent to which interventions in the private rental market might be required to address shortages of affordable private rental properties for low-income households, and the spatial distribution of the demand for such properties. The outcomes of the research will have implications for the National Rental Affordability Scheme, among other government policies.

The Final Report will investigate many of these issues in much greater detail: the socio-demographic characteristics of low-income households and characteristics of the dwellings. It will also examine how affordability and availability are experienced among different social groups, geographic areas and segments of the stock.



# 1 INTRODUCTION

## 1.1 Purpose and policy context

This Positioning Paper provides the empirical update from 2001 to 2006 on the need for, and supply of, low rent stock in the private rental market. It does so by using customised ABS data files to replicate the analysis carried out on the 2001 census (Yates, Wulff & Reynolds 2004) and, in some instances, the 1996 census (Wulff & Yates 2001). The primary focus, however, concerns the most recent census period, 2001 to 2006.

It also contains extensive original empirical analysis and, as such, does not reflect a conventional AHURI Positioning Paper. This follows the practice established in the previous report whereby the Positioning Paper aims to provide results on shortages as quickly as possible to the policy community.

To the extent that interventions will be required in the private rental market to address shortages of affordable private rental properties for low-income households, the results presented here will help inform policy makers of the level and spatial distribution of the demand for such properties. The outcomes of the research will have implications for the National Rental Affordability Scheme, among other government policies.

## 1.2 Research questions

The major questions in this report are as follows:

1. To what extent do shortages exist for low income private renters in 2006 and has this changed since 2001?
2. On the supply side, how is the existing low rent stock spatially distributed among metropolitan and non-metropolitan areas?
3. On the demand side, what is the level of need for low rent dwellings in 2006, based on household income, and how may the situation have changed since 2001.

## 1.3 Trends since previous results

To recap the results from the previous report (Yates, Wulff & Reynolds 2004), during the 1996 to 2001 intercensal period: private renter household incomes improved; dwelling rents increased mainly at the high end of the market; for households in the bottom income quartile, the 26,000 dwelling surplus recorded nationally in 1996 had dwindled to 4,000 by 2001 and for metropolitan residents the absolute shortage had nearly tripled from 15,000 in 1996 to 43,000 in 2001.

The social and economic changes during the years 1996 to 2001 continued throughout 2001 to 2006 along with other factors that impact on the ability of the private rental market to meet the needs of low-income households. These include:

- *An unprecedented increase in household debt* - There is an unprecedented increase in household debt related to borrowing against housing equity (ABS 2009a; Schwartz et al 2006). Housing equity withdrawal escalated during the first half of this decade because 'the relative stability of interest rates and the economy have given households greater confidence that they can service larger debt burdens' (Schwartz et al 2006, p. 2). In a 2005 telephone survey of 4,500 households sponsored by the Reserve Bank (RBA), the researchers estimated that about 12 per cent of households made a net withdrawal of equity in 2004. Most of these withdrawers were aged over 50 years. The results showed that

close to three-fifths of households used the refinancing funds for housing related activities, particularly renovations. Another one-fifth used the funds for non-housing consumption, and a smaller group reduced other debts. As the Reserve Bank points out, equity withdrawal was 'driven by middle-aged, and higher-income households' (Battellino 2007, p. 18) or 'driven by older, higher-income households that are trading up to higher quality or better located houses, buying investment properties and taking out margin loans to buy shares' (Battellino, 2007, p. 18). In the decade 1995-96 to 2005-06, high-income households recorded the largest increase in debt levels, associated with the surge in loans for rental investment during the same period (Commonwealth of Australia 2007).

- *Continued escalation in housing costs* - median house prices, which had increased at an average annual rate of 12 per cent between 1996 and 2001 (Yates, Wulff & Reynolds 2004), continued moving upward. House price growth (in real terms) during the intercensal period not only increased the amount of equity accessible to property owners, but prompted a surge in refinancing home loans. For first home buyers, in particular, the gap between median house prices and affordability widened<sup>1</sup> (Australian Government 2009: p. 84). With interest rates declining and mortgage finance increasingly available, real house prices experienced record increases (Yates & Milligan 2007, p. 11). The effects of house price increases flow on to the rental sector. Yates and Milligan (2007, p. 13) suggest, for example, that 'the difficulties faced by low-income renters are likely to be compounded by discouraged purchasers who remain in the private rental market'. Not only does this group expand the demand for private rental, they also compete with lower-income households for the affordable end of the stock. Thus, rising house prices led to a concomitant rise in median rent levels. Alongside increasing rents since 2002, vacancy rates in capital cities have decreased (Australian Government 2009, p. 91).
- *Annual increases in immigration intake* - another factor likely to increase the demand for rental housing relates to the growing numbers of international migrants, both permanent and temporary, coming into Australia. The total number of settler arrivals jumped from an average of 80,000 to 90,000 during the late 1990s, to 107,000 in 2001, and up to 132,000 by 2006 (ABS 2009b). Under the Commonwealth Regional Migration Scheme, the number of skilled workers grew by 703,000 between 2001 and 2006, nearly 125,000 more than in the earlier census period (Hugo 2008, p. 137). Overall, state specific and regional migration schemes jumped from 4 to 19 per cent of total non-humanitarian migrant intake between 2001 and 2006. The magnitude of these schemes suggests that many regional communities across Australia are likely to have experienced heightened demand for rental housing over the period. With respect to temporary migrants, the three main visa categories (Working Holiday Makers, Students, and Business migrants) all increased dramatically during the first half of this decade. The number of working holiday visas doubled since 2001-2002. These visas allow students to stay in Australia for the duration of their course. From 2002-03 to 2007-08, the total number of Student visas granted increased by 71 per cent (ABS 2009b). Given that Business visas are valid for up to four years, and the number of such visas more than tripled between 2001-02 and 2007-08, the effects on the private rental market are likely to be significant.

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<sup>1</sup> As reported in the National Housing Supply Council Report 2009, p. 84, 'The affordability index is based on the ratio of average weekly ordinary time earnings to the income required to service the mortgage required to buy a median-priced dwelling with a 10 per cent deposit and a maximum debt service of 30 per cent (assuming a 25-year at standard variable bank housing interest rates.)

- *Continuation of high economic growth rate* - Australia continued on the path of high economic growth that began in the late 1990s. Between 2001 and 2006, the number of unemployed fell steadily from 618,000 to 527,000. Female labour force participation increased from 36 to 46 per cent and the male participation rate from 61 to 67 per cent (ABS 2009a).
- *Continuing population growth in regional centres* - also between 2001 and 2006, large coastal centres such as Gold Coast-Tweed and the Sunshine Coast (ABS 2008) registered the largest growth rates outside of capital city Statistical Divisions (SDs). In particular, in New South Wales, the regional cities of Newcastle and Wollongong grew at a similar or faster rate than Sydney. Moreover, Brisbane, the fastest growing of any capital city (2.2 per cent), still grew more slowly than some of Queensland's regional centres such as the Sunshine Coast (3.8 per cent), Gold Coast-Tweed (3.6 per cent), Cairns (3.1 per cent) and Townsville (2.7 per cent). In Tasmania, Launceston grew (1 per cent) more than Hobart (0.8 per cent) (ABS 2008). The private rental sector in many of these regional centres have experienced increasing shortages in the face of growing demand and, as a result, often have rents more consistent with capital city levels (Wulff et al. 2007).
- *Family and household trends* - in the 1996 to 2001 period (Yates, Wulff & Reynolds 2004), the numbers of small (one- or two-person) households continued to grow faster than the population. Lone person-households, for example, expanded from 24 to 26 per cent of all households between 2001 and 2006. To the extent that these households may be formed through divorce or separation, or may possess lower incomes than family households, the private rental market could be expected to feel some of the impacts.

Overall, by 2006, the academic and policy community had reached a consensus that the supply of low cost rental housing was inadequate and that low-income renters experienced serious affordability problems and related housing stress (Yates and Milligan, 2007; Beer, 2008). The proportion of renters in housing stress rose from 22 to 27 per cent in the intercensal period 2001-2006 (Beer 2008, p. 12).

The personal and societal problems associated with rising levels of housing stress are documented elsewhere (see Yates and Milligan 2007, p. 30 and Belsky and Drew 2008). Affordability problems in the private rental sector can lead to broader social inequities in health, labour market outcomes, family, and economic well-being. This Positioning Paper sets out to identify the situation for low-income private renters in 2006 and document any changes since the 2001 census.

## **1.4 Research approach**

The research approach adopted in this Positioning Paper replicates the approach used in the previous 1996 to 2001 analysis and presented in Yates, Wulff and Reynolds (2004). In addition, the research approach includes three new features: (1) the inclusion of household income quintiles into the income distribution; (2) the identification of large regional centres outside the capital cities, and; (3) the ability to analyse simultaneously household income and weekly rent at the household level; thereby allowing us to derive a more refined measure of affordability (the affordability and availability index shown in Chapter 4).

As with the previous study (Yates, Wulff & Reynolds 2004), this study employs the standard Australian Bureau of Statistics (ABS) definition of private rental, that is, occupied private dwellings in which the household pays rent to either a real estate agent or a person not living in the same household. The analysis excludes, therefore, the following private dwellings:

- (a) Those occupied by visitors and not residents.

- (b) Those with non-classifiable households.
- (c) Those with households living rent free (pay \$0 rent).

#### 1.4.1 Data source: ABS customised 2006 data file

An essential component of this research project was the requirement to replicate and update the 1996 to 2001 census analysis. In order to achieve this, it was essential that the 2006 data specifications and definitions were directly comparable with those employed previously. For instance, the definitions of household income and dwelling rent specified for 2006 had to be equivalent to those specified for the earlier study. To that end, all 2001 income and rent values have been CPI adjusted to their 2006 equivalent<sup>2</sup> to establish the comparable boundaries of the 2006 categories. All tables and figures presented in this Positioning Paper are sourced from a customised summary 2006 census data matrix, specified by the researchers and produced by the ABS Statistical Analysis team in Sydney. The research team consulted in-depth with the ABS concerning data consistency and comparability.

This analysis presented in this Positioning Paper relies on three variables only<sup>3</sup>. This was done in order to maximise the number of categories for each of these variables and thereby allows a fine-grained disaggregation of rent, income and location. The total size of the data file, determined by the number of variables and associated categories, falls within the ABS recommended maximum size that ensures statistically reliable results. Household income contains 12 categories; weekly dwelling rent, 12 categories; and geographic location, 74 categories. This Paper precedes the broader rent and income categories, which are defined in the Customised Expanded Matrix and will be discussed in the Final Report.

The variables employed in this Positioning Paper have been defined using standard ABS definitions (ABS 2006).

**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<sup>4</sup>. Unequivalised household income is used for two reasons: (1) the variable corresponds to the measure used in the previous study and therefore must be used in order to replicate and update the earlier work and (2) unequivalised household income provides the most realistic measure of how a household (of whatever size) meets its rental costs. More precisely, unlike groceries in which a single-person household has the option of purchasing less food and consumables than a family of four, a single person in the rental market is limited to the dwelling stock available in a particular area. It is not possible to pick and choose, as with grocery items, 'less' housing to consume, if the only available housing consists of two or three-bedroom dwellings. In the private market, weekly rents are not set on household size.

**Dwelling rent** gives the individual dollar value paid by private renters (and, as stated, excludes households who report \$0 rent).

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<sup>2</sup> CPI adjustment (all groups): June 2006/June 2001 (154.3/133.8 = 1.153)

<sup>3</sup> The Final Report (forthcoming 2009) will complement this present analysis by examining a greater number of variables, but each with fewer categories.

<sup>4</sup> According to the income question on the Census form, Commonwealth Rent Assistance is calculated as part of household income. The census question reads: 'What is the *total* of all wages/salaries, government benefits, pensions, allowances and other income the person *usually* receives?' Rent assistance is specifically identified in the Census form under the list of Pensions/allowances.

The geographic **spatial units** are based on place of usual residence. Seventy four spatial units are included in this data matrix, covering the statistical subdivisions (SSDs) of all state capital cities, eight identified large regional centres, Darwin, Canberra, and the remaining parts outside the capitals of each state and territory.

The imputation of **all missing values** for dwelling rents and household incomes represents a crucial aspect of our methodology. This imputation procedure has been undertaken to ensure the reliability and quality of the results. For example, the census variable 'household income' contains a large number of missing values (including partial and not stated incomes). In 1996, 8 per cent of households recorded missing values and this had risen to 11 per cent in both 2001 and 2006. Following the imputation, all household incomes were reclassified to the new household income categories to provide the equivalent in real terms used in the last study. The 'weekly dwelling rent' variable underwent the same process.

#### *1.4.2 Measuring affordability across the distribution of income*

With information on household income and weekly rent we have derived two additional data items - 'affordability' (based on the number of households in each income category paying no more than 30 per cent of income on rent), and 'shortage/surplus' or the absolute difference between the number of households in an income category and the number of dwellings available at the 30 per cent affordability benchmark.

Unlike the previous study (in which the variables 'dwelling rent' and 'household income' were in two *separate* files), the 2006 customised summary matrix included data relating to both variables in the *same* data file enabling cross-tabulation of these two variables. As a consequence, we were able to undertake a more sophisticated analysis of affordable stock that is actually available to households (see Chapter 4). This is a significant improvement over the previous study in which cross-tabulation was not possible.

The 12 household income and rent categories, shown in Tables 1 and 2 below, match those used in the 1996 to 2001 census analysis (Yates, Wulff & Reynolds, 2004)<sup>5</sup>. These categories were originally selected for two reasons: (1) to provide a sufficient number of categories to identify rent segments undergoing significant changes, and (2) to provide a broad sensitivity analysis that could highlight dollar ranges where particular 'jumps' in the number of renter households might occur (for example, from \$100 to \$101 dollars per week). They do not represent a normal distribution or any standard statistical breaks such as quartiles or quintiles. In a sense, these categories are simply a historic artefact, albeit one that has proved to be useful in monitoring changes in the private rental market between the 1996 census and the most recent 2006 census.

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<sup>5</sup> CPI adjustment (all groups): June 2006/June 2001 (154.3/133.8 = 1.153)

**Table 1: Nominal household income categories: 2001 and 2006**

<i>(\$pw in \$2001)</i>	<i>(\$pw in \$2006)</i>	<i>Weekly household income group</i>	<i>Segment description 2006</i>
\$0-\$222	\$0-\$256	Y1	Low
\$223-\$334	\$257-\$385	Y2	Low
\$335-\$446	\$386-\$514	Y3	Low
\$447-\$557	\$515-\$642	Y4	
\$558-\$669	\$643-\$771	Y5	
\$670-\$781	\$772-\$900	Y6	
\$782-\$892	\$901-\$1,028	Y7	
\$893-\$1,116	\$1,029-\$1,287	Y8	
\$1,117-\$1,339	\$1,288-\$1,544	Y9	
\$1,340-\$1,674	\$1,545-\$1,930	Y10	High
\$1,675-\$2,233	\$1,931-\$2,575	Y11	High
\$2,234+	\$2,576+	Y12	High

Source: ABS summary private rent and household income tabulations: 2001 and 2006 Australian Census of Population and Housing

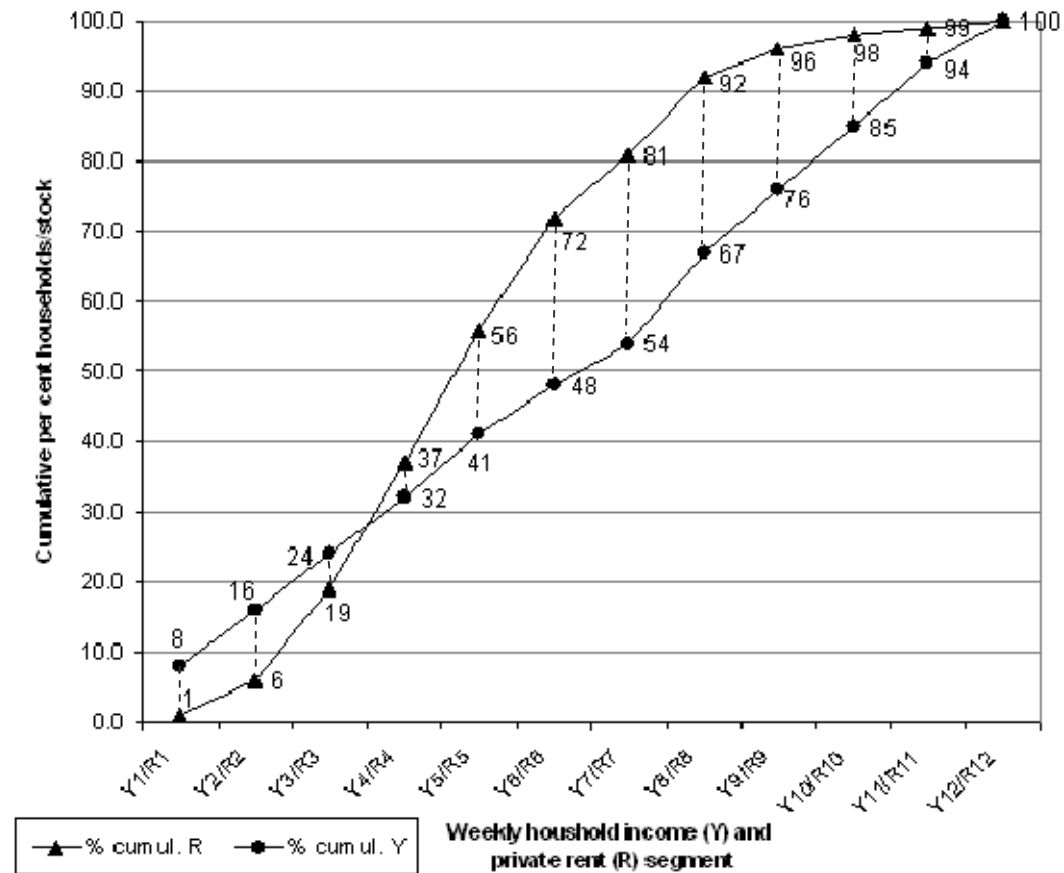
**Table 2: Nominal dwelling weekly private rent categories: 2001 and 2006**

<i>(\$pw in \$2001)</i>	<i>(\$pw in \$2006)</i>	<i>Weekly private rent segment</i>	<i>Segment description 2006</i>
\$1-\$67	\$1-\$77	R1	Low
\$68-\$100	\$78-\$115	R2	Low
\$101-\$134	\$116-\$155	R3	Low
\$135-\$167	\$156-\$192	R4	
\$168-\$201	\$193-\$232	R5	
\$202-\$234	\$233-\$270	R6	
\$235-\$268	\$271-\$309	R7	
\$269-\$335	\$310-\$386	R8	
\$336-\$402	\$387-\$464	R9	
\$403-\$502	\$465-\$579	R10	High
\$503-\$670	\$580-\$773	R11	High
\$671+	\$774+	R12	High

Source: ABS summary private rent and household income tabulations: 2001 and 2006 Australian Census of Population and Housing

Figure 1 below sheds light on the quite different distribution of rent and income. This is important information to be aware of when interpreting the tables and figures in this report. Even more importantly, the reader needs to keep in mind that each 'R' category corresponds to 30 per cent of the upper boundary of the 'Y' category. For example, the upper boundary of R6 is \$270 per week which is 30 per cent of the upper boundary of Y6 (\$900 per week). The cumulative distributions reveal, however, that a rent of R6 is toward the upper quartile of the rent distribution, whereas a household income of Y6 falls close to the median income distribution.

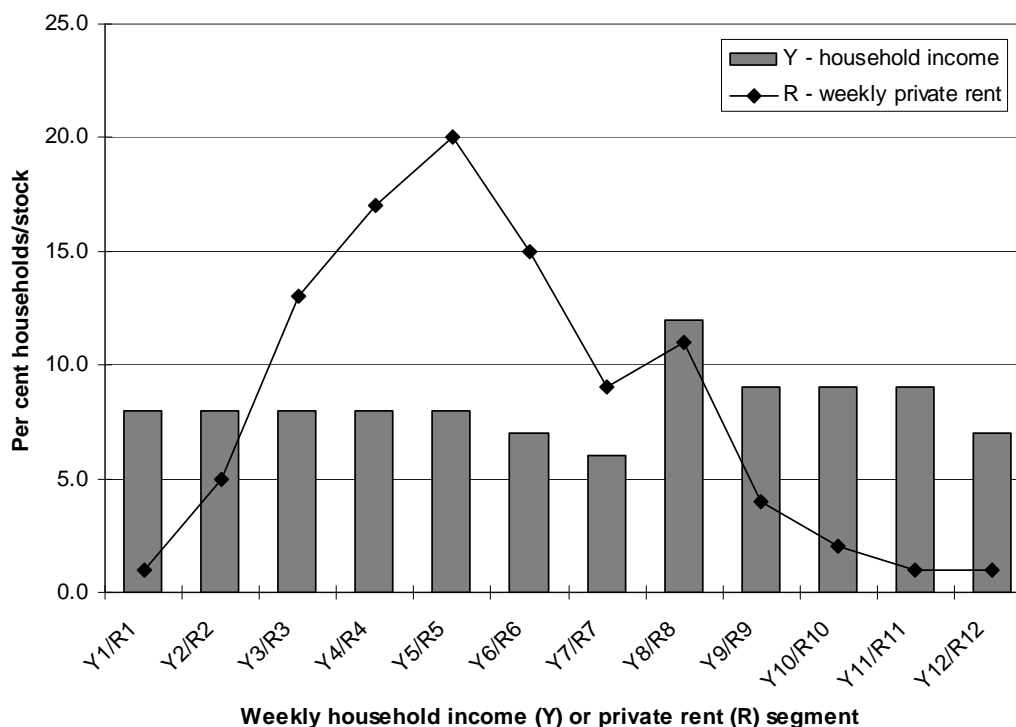
**Figure 1: Cumulative distributions of private rental dwellings and private renter household incomes by weekly rent/income segment, Australia 2006**



Source: ABS summary private rent and household income tabulation: 2006 Australian Census of Population and Housing

The next figure (Figure 2) also demonstrates the different distributions for rent and income, but in straightforward (rather than cumulative) percentages. Weekly private rents peak at the R5 segment and, apart from a short spike at the R8 segment, continue on a steady decline. Household income, on the other hand, shows a fairly even distribution with the exception of the jump in Segment Y8. The juxtaposition of the household income distribution (Y) in columns with the weekly private rent segments (R) shows the mismatch between household incomes and the corresponding dwelling supply available at the 30 per cent benchmark.

**Figure 2: Comparing distributions of private renter weekly household incomes and weekly private rents paid, Australia 2006**



Source: ABS summary private rent and household income tabulations: 2001 and 2006 Australian Census of Population and Housing

A review of relevant literature showed that the ‘traditional methodology’ to study affordable rental homes remained more or less unchanged since it was developed over two decades ago (Nelson 1994). Affordability has consistently been defined in terms of a certain proportion of gross income of households -usually about 25-30 per cent of income. In the US, affordability is measured in terms of 30 per cent of a given geographic area’s median income. Some have used a more refined measure by standardising this measure for a number of household and housing characteristics (e.g. tenure, household composition, location etc).

A recent study on rental affordability in the US has three core concepts in its analytical approach: *affordability*, *availability* and *adequacy* (Vandenbroucke 2007). Affordability measures the extent to which there exists sufficient numbers of houses at different costs. It measures, for different levels of income, the number of dwellings in the rental market that can be afforded at that level of income. All affordable stock may not be available, particularly at the low rent of the market, as higher-income households may occupy dwellings that are affordable to low-income households.

A housing unit is available for rent if it is affordable at a given level of income and is occupied by a household at that level of income or less. Most studies of rental housing combine affordability and availability. Some studies, particularly those undertaken in the US or Canada, include a measure of ‘adequacy’ in their affordability definition in order to capture the quality of housing. Adequacy can be studied only if we have the appropriate data collected in the data source. The Australian censuses do not include data on the quality of houses and thus are not usually used in housing analysis. It must be noted that adequacy and affordability are not independent as good quality housing is likely to cost more and thus influences affordability (Vandenbroucke 2007).



Throughout this paper, 'affordable housing' is defined as that which costs no more than 30 per cent of gross household income and households are assumed to have an affordability problem if their housing costs exceed this ratio. While this simple ratio definition of affordability is inherently subjective, and there are likely to be weaknesses with any measure employed, this 30 per cent benchmark is employed because of its simplicity and its widespread use. The key points raised in this paper, which focus on changes over time and space, are unlikely to be affected by the specific definition employed. For lower-income households, rent payments that exceed 30 per cent of income are likely to leave insufficient funds for essential non-housing expenditures.

Shortages and/or surpluses are measured in the Positioning Paper by directly comparing the number of households within each income category against the number of rental dwellings in the aligned rent category (which represented 30 per cent of household income).

Documenting trends in Australia's private rental market (in terms of dwelling rents, household incomes and shortages) requires a large amount of census data presented in a range of tables and figures. In brief, Chapters 2 and 3 (which rely on the 12 real household and income categories), make use of the following measures, all of which contain a basic and cumulative figure:

**Frequencies:**

- (a) Rounded numbers to provide the size of the private rental stock paying different levels of weekly rent or the numbers of households (household income) in different household income segments.
- (b) Cumulative numbers of dwelling rents or household incomes which are obtained by adding together prior values in a total range.

**Percentage distributions:**

- (a) Per cent of each segment out of the total number of dwellings or households.
- (b) Cumulative percentages which add together prior percentage values in a total range to 100 per cent.

**Percentage change** (also known as growth rates):

- (a) Calculated by the numerical change in each category between time 2 and time 1 divided by the original number (t1) in that category times 100; e.g., number of dwellings in R1 rent segment in 2006 minus the number of dwellings in R1 rent segment in 2001/ number of dwellings in R1 rent segment in 2001 times 100.
- (b) Cumulative change which sums the percentage change in the household income or rent category over progressive ranges to obtain cumulative change.

Each of these measures provides slightly different but complementary insights into the private rental market situation in 2006, the absolute and relative size of different income or rent segments, and the changes between 2001 and 2006. The cumulative percentages help identify the point in a distribution below which shortages appear. This information is valuable when determining policy interventions or targets.

## **1.5 Chapter structure**

Chapters 2 and 3 each conclude with a table showing the 'cumulative shortage of affordable stock' (nationally in Chapter 2 and metropolitan and non-metropolitan regions in Chapter 3). The cumulative shortage of affordable stock is defined as the numeric difference between the accumulated number of stock in each segment and the accumulated number of households in the segment ('affordable' refers to the fact

that the upper value of each rent category corresponds to 30 per cent of the equivalent household income category. The cumulative percentage shortages are also presented.

Chapter 4 provides a new direction in the analysis presented in the Positioning Paper. Unlike Yates, Wulff & Reynolds' analysis of the 2001 census (2004), this report includes the analysis of household income quintiles with the corresponding affordable rent categories. In other words, Chapter 4 measures the utilisation of stock by different income groups, thus providing not only the *affordable* stock for different household income groups, but also the *available* stock. Household income quintiles represent a new direction in this analytical work. Instead of 12 real household income categories, which can be affected by declining numbers at the lower end over time and by the vagaries of dollar cut off points for different categories, household income quintiles may prove to provide a more consistent and robust analysis over the longer term. Moreover, another new direction in this chapter is the inclusion of large regional cities in recognition of their population growth over time and increasing demands on the housing market. Two indicators are presented to capture the extent of affordability problems in different capital cities and large regional centres. These are:

- Index of *affordable* private rental dwellings - calculated by dividing the number of households by the number of potentially affordable dwellings and multiplied by 100.
- Index of *affordable* and *available* private rental dwellings - calculated by dividing the number of households by the (number of affordable dwellings minus the number of these dwellings utilised by higher income households) times 100.

The Positioning Paper concludes with a short discussion of the main results and a description of the next stages in the analysis that will be presented in the Final Report.

## 2 NATIONAL OVERVIEW

In order to understand changes in the private rental sector, it is important to view these changes in the broader context of the total housing sector. Australia's tenure distribution underwent substantial change in the period 2001 to 2006. Compared with the stable tenure pattern observed for the 1996 to 2001 period, the two underlying components of the home ownership sector (outright owners and purchasers) altered considerably.

Between 2001 and 2006, Australia's private rental sector gained an additional 142,000 households, bringing the total number of private renter households to 1.47 million. The private rental sector now constitutes 21 per cent of the nation's occupied private dwellings. Private rental grew by 11 per cent in the most recent intercensal period compared to a growth rate of 8 per cent recorded between 1996 and 2001 (Yates, Wulff & Reynolds 2004).

Table 3 presents the tenure distribution for the 1996, 2001 and 2006 census years and the intercensal changes for each sector.

**Table 3: Occupied private dwellings in Australia by tenure type: 1996, 2001 and 2006**

	<i>Tenure</i>					<i>Total</i>
	<i>Outright owner</i>	<i>Purchaser</i>	<i>Private renter</i>	<i>Social renter</i>	<i>Tenure not stated</i>	
<b>1996</b>						
No. of households	2,612,000	1,617,000	1,234,000	359,000	459,000	6,280,000
% of households	42	26	20	6	7	100%
<b>2001</b>						
No. of households	2,757,000	1,861,000	1,328,000	358,000	441,000	6,745,000
% of households	41	28	20	5	7	100%
<b>2006</b>						
No. of households	2,431,000	2,437,000	1,470,000	352,000	455,000	7,145,000
% of households	34	34	21	5	6	100%
<b>Intercensal change 1996 to 2001</b>						
Absolute no. of households	145,000	244,000	94,000	-1,000	-18,000	465,000
% chg within tenure	6	15	8	0	-4	7%
<b>Intercensal change 2001 to 2006</b>						
Absolute no. of households	-326,000	576,000	142,000	-6,000	14,000	400,000
% chg within tenure	-12	31	11	-2	3	6%

Source: Customised ABS Expanded Matrices: 1996, 2001 & 2006 Australian Census of Population and Housing

Between 2001 and 2006, the national housing stock increased by 400,000 households (6 per cent) and this growth occurred unevenly across the different tenure sectors. The greatest expansion occurred in the home purchaser market - this sector increased by close to one-third or well over a half million households. An increase of this magnitude likely reflects the greater flexibility in mortgage lending alongside the decline in interest rates over this period. Moreover, it may not only represent new households entering the sector for the first time - it may also include outright owners who have decided to borrow against their home in order to renovate, make alternative investments or for lifestyle or other reasons. Comparing the most recent figures with

those for the 1996 to 2001 intercensal period demonstrates that a fairly substantial shift occurred in the tenure distribution in the first half of the decade.

Of particular interest to this study, the private rental sector expanded by 11 per cent (142,000 households) between 2001 and 2006. This figure is almost twice the national growth rate in all households (6 per cent). This increase occurred in the face of absolute declines in social housing (decline of 14,000) and outright owner households. The social housing declines may have played a role in boosting private rental.

The analysis now turns to the private rental sector and, in particular, change that may have occurred between 2001 and 2006. The distributions of weekly dwelling rents are presented, followed by the household income distributions among private renters. This chapter concludes with estimates of shortage or surplus in different segments of the sector.

## **2.1 Private rental dwelling stock**

Table 4 compares the weekly rent distribution in 2006 with that observed in 2001. The cumulative percentage distributions for each year (columns 4 and 8) reveal the general upward trend in rents in the five-year period. For example, between 2001 and 2006, the share of stock accounted for in the four lowest rent categories declined from 50 to 37 per cent. This 13 percentage point decline surpassed the 9 percentage point decline observed for the 1996 to 2001 period (Yates, Wulff & Reynolds 2004, refer to Tables 4 and 5). In 2006, just 19 per cent of the 1.47 million private rental dwellings could be classified as having a low rent (segments R1 to R3 renting for less than \$156 per week).

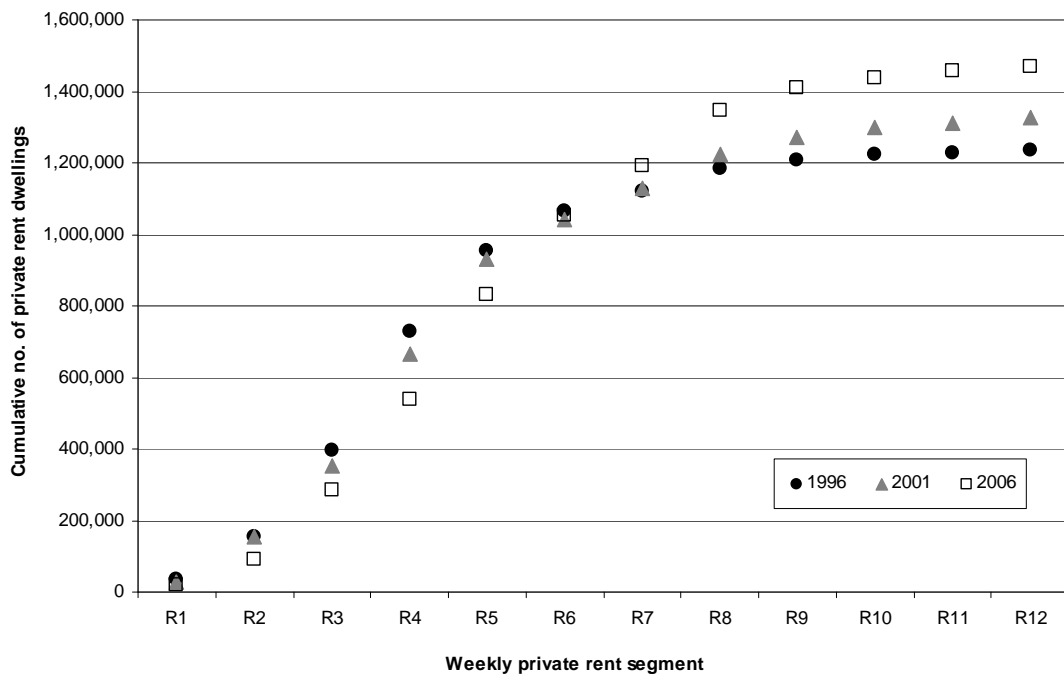
By 2006, the greatest expansion in the private rental stock had taken place at the R6 to R8 categories (which cover the top 70 to 90 per cent of rents). In contrast, the very top rent category (R12) experienced an absolute decline of 2,000 dwellings. Between 1996 and 2001, however, this particular category had actually increased by 11,000 dwellings and then decreased between 2001 and 2006 (see also Table 5).

**Table 4: Private rental dwellings (stock) in Australia: 2001 and 2006**

Rent segment		2001				2006			
		Stock	% of total	Cumul. stock	% cumul.	Stock	% of total	Cumul. stock	% cumul.
		1	2	3	4	5	6	7	8
R1	Low	26,000	2	26,000	2	19,000	1	19,000	1
R2	Low	128,000	10	154,000	12	72,000	5	91,000	6
R3	Low	199,000	15	353,000	27	194,000	13	285,000	19
R4		313,000	24	666,000	50	255,000	17	540,000	37
R5		265,000	20	931,000	70	289,000	20	830,000	56
R6		110,000	8	1,041,000	78	225,000	15	1,055,000	72
R7		86,000	6	1,127,000	85	138,000	9	1,192,000	81
R8		96,000	7	1,224,000	92	154,000	11	1,347,000	92
R9		49,000	4	1,273,000	96	61,000	4	1,408,000	96
R10	High	26,000	2	1,299,000	98	31,000	2	1,439,000	98
R11	High	13,000	1	1,312,000	99	17,000	1	1,456,000	99
R12	High	16,000	1	1,328,000	100	14,000	1	1,470,000	100
<b>Total</b>		<b>1,328,000</b>	<b>100</b>	<b>1,328,000</b>	<b>100</b>	<b>1,470,000</b>	<b>100</b>	<b>1,470,000</b>	<b>100</b>

Source: ABS summary private rent and household income tabulations: 2001 and 2006 Australian Census of Population and Housing

**Figure 3: Cumulative distributions of private rent stock, Australia: 1996, 2001 & 2006**



Source: ABS summary private rent and household income tabulations: 2001 and 2006 Australian Census of Population and Housing

The overall growth in private rental stock, as presented in Figure 3, shows that the trend documented for the 1996-2001 intercensal period intensified between 2001 and 2006. In 2001, there were fewer dwellings up to R4 compared with the 1996 pattern, but in 2006, there were fewer dwellings up to R5 compared with the previous two census years. Another feature shown in the above figure is the growing number of dwellings with rents at the top end of the distribution relative to that shown between 1996 and 2001.

Table 5 also sheds light on the changing distribution of rents in the two census periods, but this time by providing information on the absolute size of the change and the affect this has on the cumulative distribution.

**Table 5: Change in private rent stock by rent segment, Australia: 1996-2001 and 2001-2006**

<i>Private rent segment</i>		<i>Change 1996-2001</i>				<i>Change 2001-2006</i>			
		<i>Chg. in stock</i>	<i>% change</i>	<i>Chg. in cumul. stock</i>	<i>% cumul. change</i>	<i>Chg. in stock</i>	<i>% change*</i>	<i>Chg. in cumul. stock</i>	<i>% cumul. change**</i>
		<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>
R1	Low	-11,000	-30	-11,000	-30	-6,000	-25	-6,000	-25
R2	Low	12,000	11	1,000	1	-56,000	-44	-63,000	-41
R3	Low	-43,000	-18	-42,000	-11	-5,000	-2	-68,000	-19
R4		-19,000	-6	-61,000	-8	-58,000	-19	-126,000	-19
R5		37,000	16	-24,000	-2	24,000	9	-102,000	-11
R6		1,000	1	-23,000	-2	115,000	105	14,000	1
R7		29,000	50	6,000	1	51,000	59	65,000	6
R8		32,000	49	38,000	3	58,000	60	123,000	10
R9		26,000	118	65,000	5	13,000	26	136,000	11
R10	High	12,000	87	77,000	6	5,000	17	140,000	11
R11	High	6,000	85	83,000	7	4,000	32	144,000	11
R12	High	11,000	222	94,000	8	-2,000	-13	142,000	11
<b>Total</b>		<b>94,000</b>	<b>8</b>	<b>94,000</b>	<b>8</b>	<b>142,000</b>	<b>11</b>	<b>142,000</b>	<b>11</b>

\* Column 6 = column 5/column 1 in Table 4 \*100

\*\* Column 8 = column 7/column 3 in Table 4\*100

NB: Stock numbers and cumulative stock numbers for 1996 are found in Yates, Wulff and Reynolds (2004), p.10.

Source: ABS summary private rent and household income tabulations: 1996, 2001 and 2006 Australian Census of Population and Housing.

Between 2001 and 2006, the total stock in the bottom five rent categories decreased in absolute numbers by 102,000 dwellings. The lowest two rent categories decreased by 63,000 dwellings. The significance of this decline becomes obvious when compared with the documented increase of 1,000 rental dwellings in the previous five-year period. The largest expansion occurred between 2001 and 2006 in the (R6) followed by the next two categories (R7, R8).

## 2.2 Household income of private renters in 2006

Having discussed the changes in the supply of private rental dwellings, this section turns to a key demand characteristic - that is, the household income distribution of private renters. In order to assess any changes in the affordability situation of private

renters over the most recent census period, it is necessary to view changes in the supply of dwellings at different rent levels against changes in the household income distribution of private renters.

**Table 6: Distribution of income of households in the private rental market, Australia: 2001 and 2006**

<i>Household income segment</i>		<i>2001</i>				<i>2006</i>			
		<i>H'holds</i>	<i>% of total</i>	<i>Cumul. h'holds.</i>	<i>% cumul.</i>	<i>H'holds</i>	<i>% of total</i>	<i>Cumul. h'holds.</i>	<i>% cumul.</i>
		<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>
1	Low	92,000	7	92,000	7	114,000	8	114,000	8
Y2	Low	121,000	9	213,000	16	123,000	8	237,000	16
Y3	Low	136,000	10	349,000	26	119,000	8	356,000	24
Y4		133,000	10	482,000	36	121,000	8	477,000	32
Y5		110,000	8	592,000	45	122,000	8	600,000	41
Y6		109,000	8	701,000	53	105,000	7	704,000	48
Y7		94,000	7	795,000	60	94,000	6	798,000	54
Y8		150,000	11	945,000	71	181,000	12	979,000	67
Y9		118,000	9	1,063,000	80	136,000	9	1,115,000	76
Y10	High	107,000	8	1,170,000	88	131,000	9	1,247,000	85
Y11	High	123,000	9	1,293,000	97	127,000	9	1,374,000	94
Y12	High	35,000	3	1,328,000	100	96,000	7	1,470,000	100
<b>Total</b>		<b>1,328,000</b>	<b>100</b>	<b>1,328,000</b>	<b>100</b>	<b>1,470,000</b>	<b>100</b>	<b>1,470,000</b>	<b>100</b>

Source: ABS summary private rent and household income tabulations: 2001 and 2006 Australian Census of Population and Housing.

Overall, although household incomes of private renters moved upwards in the income distribution between 2001 and 2006, this shift was not dramatic. It is worth noting that 7 per cent of private renter households were in the top income category (Y12) compared with 3 per cent in 2001. Another indication of the upward shift can be seen in the category that contains the median. In 2006, the cumulative percentage distribution (column 8) shows that the median weekly income is found in the range (Y7, \$901 to \$1028). In contrast, in 2001, the median weekly income came into Y6.

Table 7 quantifies these changes somewhat differently by providing the absolute change in the number of households in each income category, the percentage decline or growth in each category over the census period, and the impacts on the cumulative distribution of households.

**Table 7: Change in the number of private renter households by household income segment, Australia: 1996-2001 and 2001-2006**

<i>Household income segment</i>		<i>Change 1996-2001</i>				<i>Change 2001-2006</i>			
		<i>Chg. in no. of h'holds</i>	<i>% change</i>	<i>Chg. in cumul. no. holds.</i>	<i>% cumul. change</i>	<i>Chg. in no. of h'holds</i>	<i>% change</i>	<i>Chg. in cumul. no. holds.</i>	<i>% cumul. change</i>
		<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>
Y1	Low	-18,000	-17	-18,000	-17	23,000	25	23,000	25
Y2	Low	2,000	2	-16,000	-7	2,000	2	25,000	12
Y3	Low	-4,000	-3	-20,000	-5	-17,000	-13	7,000	2
Y4		-6,000	-4	-26,000	-5	-12,000	-9	-5,000	-1
Y5		-14,000	-11	-39,000	-6	12,000	11	8,000	1
Y6		-5,000	-4	-44,000	-6	-4,000	-4	4,000	1
Y7		7,000	8	-38,000	-5	0	0	4,000	0
Y8		12,000	9	-26,000	-3	31,000	21	35,000	4
Y9		22,000	23	-4,000	0	18,000	15	53,000	5
Y10	High	36,000	52	33,000	3	24,000	22	77,000	7
Y11	High	72,000	143	105,000	9	5,000	4	81,000	6
Y12	High	-11,000	-24	94,000	8	61,000	174	142,000	11
<b>Total</b>		<b>94,000</b>	<b>8</b>	<b>94,000</b>	<b>8</b>	<b>142,000</b>	<b>11</b>	<b>142,000</b>	<b>11</b>

NB: Figures may not sum precisely due to rounding

\* Column 6 = column 5/column 1 in Table 6 \*100

\*\* Column 8 =column 7/column 3 in Table 6\*100

NB: Number of households and cumulative number of households for 1996 are found in Yates, Wulff and Reynolds (2004), p.13.

Source: ABS summary private rent and household income tabulations: 1996, 2001 and 2006 Australian Census of Population and Housing.

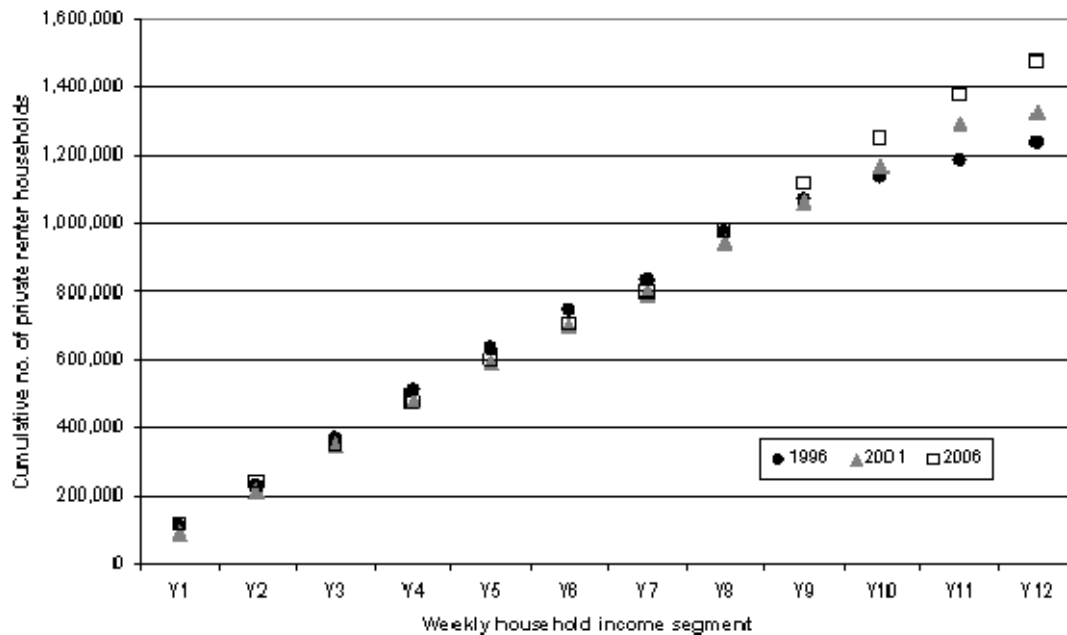
While, as discussed above, there has been an overall improvement in households' incomes, the improvement was not evenly distributed across income categories. As occurred in the 1996-2001 period, some income groups experienced a loss of households, while others gained (Yates, Wulff & Reynolds 2004). Some major differences between 2001 and 2006, however, can be seen.

- Between 1996 and 2001, the number of households in the bottom income range (Y1) decreased by 18,000 or 17 per cent. In the most recent census period, however, this low-income category actually increased by 23,000 (or 25 per cent).
- At the topmost income range (Y12), the decrease of 11,000 (24 per cent) between 1996 and 2001 is matched against a huge increase between 2001 and 2006 of 61,000 households (or 174 per cent).
- Between 2001 and 2006, the lowest three income groups experienced a net increase of 2 per cent in the number of households compared with the decrease of 5 per cent between 1996 and 2001.

The cumulative impact of changes in the income distribution is shown in Figure 4. This figure includes information for 1996, 2001 and 2006.



**Figure 4: Cumulative income distributions of private renter households, Australia: 1996, 2001 and 2006**



Source: ABS summary private rent and household income tabulations: 1996, 2001 and 2006 Australian Census of Population and Housing.

Overall, the number of private renter households in the lowest seven income categories (Y1-Y7) stayed relatively stable over the three census years. The growth in private renter households occurred in the top five income segments. To compare, in 2001, the entire growth happened in the top two income ranges (top 12 per cent of incomes), while in 2006 it happened in the top five high income ranges (representing the upper third of household incomes). This implies that income growth in private renter households was more evenly distributed across the higher income ranges (Y9-Y12) between 2001 and 2006 than was the case between 1996 and 2001 (Y11-Y12).

## 2.3 Shortage 2001-2006

Table 8 provides the 2006 estimate of the shortage of affordable rental stock in Australia (based on 30 per cent of household income benchmark) for the 12 household income segments. The table also shows how the situation differs from 2001.

**Table 8: Shortage of affordable private rent stock, Australia: 2001 and 2006**

<i>Segments</i>			<i>Cumulative 2001</i>			<i>Cumulative 2006</i>		
<i>Income (h'holds)</i>	<i>Private rent (stock)</i>		<i>H'holds Y</i>	<i>Stock R</i>	<i>Surplus /Shortage =R-Y</i>	<i>H'holds Y</i>	<i>Stock R</i>	<i>Surplus/ Shortage =R-Y</i>
Y1	R1	Low	92,000	26,000	-66,000	114,000	19,000	-95,000
Y2	R2	Low	212,000	154,000	-59,000	237,000	91,000	-146,000
Y3	R3	Low	349,000	353,000	4,000	356,000	285,000	-71,000
Y4	R4		482,000	666,000	184,000	477,000	540,000	63,000
Y5	R5		592,000	931,000	339,000	600,000	830,000	230,000
Y6	R6		701,000	1,041,000	340,000	704,000	1,055,000	351,000
Y7	R7		795,000	1,127,000	333,000	798,000	1,192,000	394,000
Y8	R8		945,000	1,224,000	279,000	979,000	1,347,000	367,000
Y9	R9		1,063,000	1,273,000	210,000	1,115,000	1,408,000	293,000
Y10	R10	High	1,170,000	1,299,000	129,000	1,247,000	1,439,000	192,000
Y11	R11	High	1,293,000	1,312,000	19,000	1,374,000	1,456,000	82,000
Y12	R12	High	1,328,000	1,328,000	0	1,470,000	1,470,000	0
<b>Total</b>			<b>1,328,000</b>	<b>1,328,000</b>	<b>0</b>	<b>1,470,000</b>	<b>1,470,000</b>	<b>0</b>

Source: ABS summary private rent and household income tabulations: 2001 and 2006 Australian Census of Population and Housing.

The extent of the decline in the stock of affordable rental dwellings in 2006 surpassed that recorded in 2001. In 2006, the lowest income category faced a shortage of 95,000 dwelling units compared with 66,000 dwellings in 2001. Table 8 also records a net shortage of 71,000 dwellings in the lowest three income groups (Y1-Y3) that, as noted in Table 6, together form the bottom income quartile for private renter households.

The increase in shortage of affordable stock for the lowest three income groups between the 2001 and 2006 censuses is due in part to the growing demand for this stock from low-income households (an increase of 7,000 households) but also a decline in the available stock (-68,000 dwellings).

### 3 METROPOLITAN AND NON-METROPOLITAN OVERVIEW

Having presented the trends at the national level, this chapter considers the differences between metropolitan and non-metropolitan regions in private rental supply, demand and shortage. Table 9 begins this discussion by providing information on the overall changes in the tenure structure that appeared between the 2001 and 2006 censuses.

**Table 9: Occupied private dwellings by tenure type in Australian metropolitan and non-metropolitan regions, 2001 and 2006**

<i>Tenure</i>	<i>Metropolitan</i>				<i>Non-metropolitan</i>			
	<i>2001</i>	<i>2006</i>	<i>Change 01-06</i>		<i>2001</i>	<i>2006</i>	<i>Change 01-06</i>	
			<i>No. h'holds</i>	<i>%</i>			<i>No. h'holds</i>	<i>%</i>
Outright owner	1,703,000	1,463,000	-240,000	-14	1,055,000	968,000	-87,000	-8
Purchaser	1,239,000	1,613,000	374,000	30	622,000	823,000	201,000	32
Private renter	873,000	985,000	111,000	13	455,000	485,000	31,000	7
Social renter	224,000	218,000	-7,000	-3	133,000	134,000	1,000	1
Tenure not stated	239,000	245,000	5,000	2	202,000	210,000	9,000	4
All households in scope	4,279,000	4,524,000	245,000	6	2,466,000	2,621,000	155,000	6

Source: Customised ABS Expanded Matrices: 2001 & 2006 Australian Census of Population and Housing

The national tenure changes between 2001 and 2006 described previously (see Table 3) played out somewhat differently in metropolitan and non-metropolitan regions. While both regions experienced decreases in outright ownership, the decline was greater in metropolitan areas (14 per cent) than in non-metropolitan areas (8 per cent). At the same time, the private rental stock increased, but the magnitude of increase was again greater in metropolitan regions (13 per cent). In fact, private rental stock grew almost twice as much in metropolitan regions as in non-metropolitan areas (7 per cent). The decline in the social rental housing stock observed at the national level was an entirely metropolitan phenomenon. In fact, the social rental housing stock increased by around 1 per cent in non-metropolitan areas, although this only represents an increase of 1,000 dwellings.

### 3.1 Metropolitan and non-metropolitan private rental dwelling stock

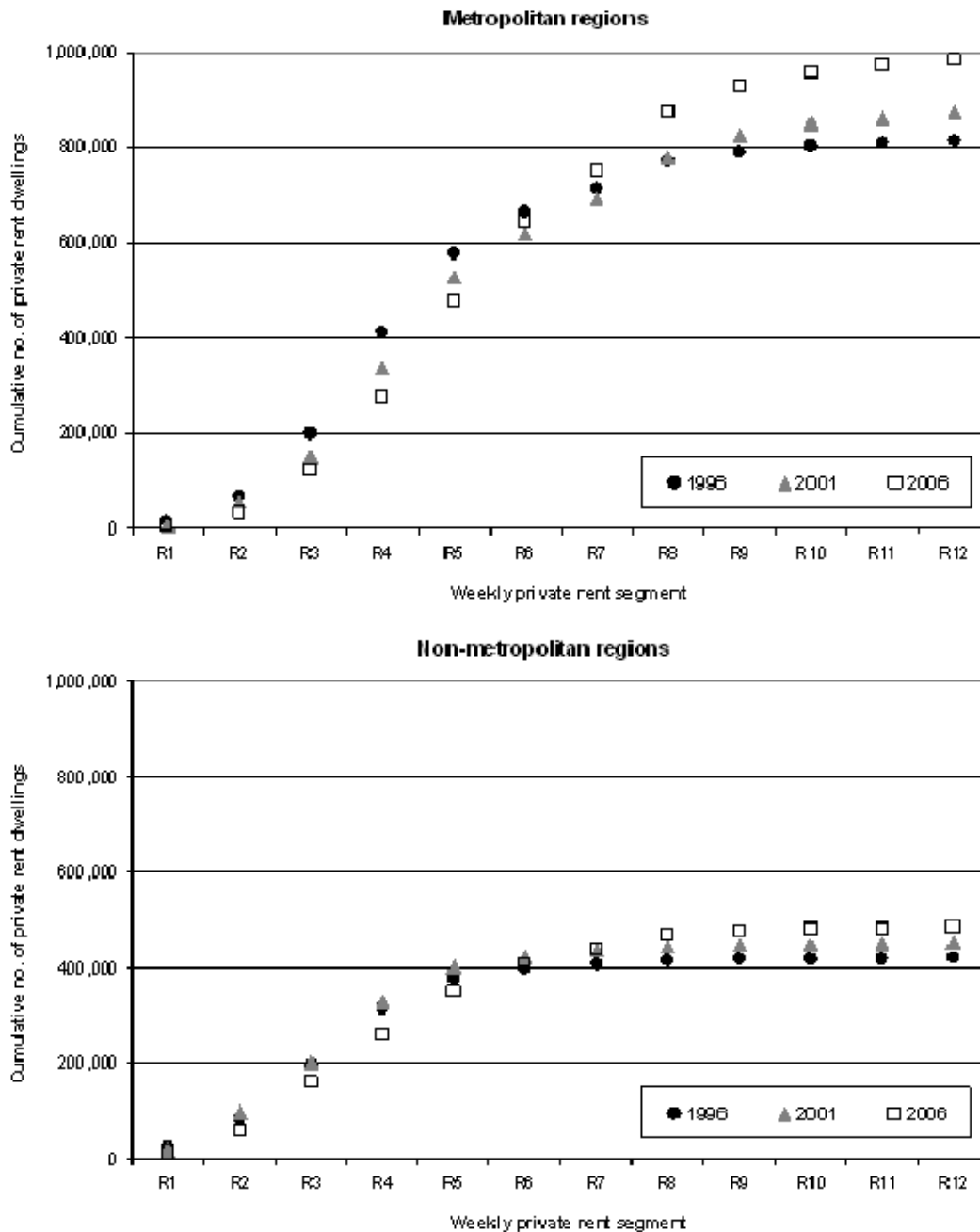
Table 10: Private rent dwellings in Australian metropolitan and non-metropolitan regions: 2001 and 2006

<i>Metropolitan regions</i>		<i>2001</i>				<i>2006</i>			
<i>Rent segment</i>		<i>Stock</i>	<i>% of total</i>	<i>Cumul. stock</i>	<i>% cumul.</i>	<i>Stock</i>	<i>% of total</i>	<i>Cumul. stock</i>	<i>% cumul.</i>
		<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>
R1	Low	8,000	1	8,000	1	7,000	1	7,000	1
R2	Low	49,000	6	57,000	6	25,000	3	32,000	3
R3	Low	94,000	11	151,000	17	91,000	9	123,000	13
R4		187,000	21	338,000	39	155,000	16	279,000	28
R5		191,000	22	529,000	61	202,000	20	480,000	49
R6		89,000	10	618,000	71	166,000	17	646,000	66
R7		73,000	8	691,000	79	105,000	11	751,000	76
R8		88,000	10	778,000	89	125,000	13	876,000	89
R9		46,000	5	824,000	94	54,000	5	930,000	94
R10	High	25,000	3	849,000	97	28,000	3	958,000	97
R11	High	12,000	1	862,000	99	15,000	2	973,000	99
R12	High	13,000	1	874,000	100	12,000	1	985,000	100
<b>Total</b>		<b>874,000</b>	<b>100</b>	<b>874,000</b>	<b>100</b>	<b>985,000</b>	<b>100</b>	<b>985,000</b>	<b>100</b>
<i>Non-metropolitan regions</i>		<i>2001</i>				<i>2006</i>			
R1	Low	18,000	4	18,000	4	13,000	3	13,000	3
R2	Low	79,000	17	97,000	21	46,000	10	59,000	12
R3	Low	105,000	23	202,000	44	103,000	21	162,000	33
R4		126,000	28	328,000	72	100,000	21	261,000	54
R5		74,000	16	402,000	89	88,000	18	349,000	72
R6		21,000	5	423,000	93	59,000	12	409,000	84
R7		14,000	3	437,000	96	33,000	7	441,000	91
R8		9,000	2	445,000	98	29,000	6	471,000	97
R9		3,000	1	448,000	99	8,000	2	478,000	99
R10	High	1,000	0	449,000	99	3,000	1	481,000	99
R11	High	1,000	0	450,000	99	1,000	0	483,000	99
R12	High	4,000	1	454,000	100	3,000	1	485,000	100
<b>Total</b>		<b>454,000</b>	<b>100</b>	<b>454,000</b>	<b>100</b>	<b>485,000</b>	<b>100</b>	<b>485,000</b>	<b>100</b>

Source: ABS summary private rent and household income tabulations: 2001 and 2006 Australian Census of Population and Housing.

Table 10 focuses on the distribution of private rental stock by rent segment in both metropolitan and non-metropolitan regions. As would be expected, the metropolitan private rental stock commands considerably higher rents than the non-metropolitan stock. For example, in 2006, while 28 per cent of metropolitan stock can be found in the low to low-moderate rent segments (R1-R4), the corresponding percentage for non-metropolitan regions was 54 per cent. The comparable figures for 2001 were 39 per cent and 72 per cent (for metropolitan and non-metropolitan respectively). This indicates that in both metropolitan and non-metropolitan regions, more and more stock moved towards the upper rental ranges. As Figure 5 shows, this pattern is a continuation of the same trend observed between the 1996 and 2001 census.

**Figure 5: Cumulative distributions of private rent stock in Australian metropolitan and non-metropolitan regions: 1996, 2001 and 2006**



Source: ABS summary private rent and household income tabulations: 1996, 2001 and 2006 Australian Census of Population and Housing.

It is also interesting to observe that between 2001 and 2006, the metropolitan/non-metropolitan gap in the distribution of low to low-moderate rental stock has narrowed (from 33 to 26 percentage points). This narrowing of the gap resulted from a greater decrease in the low to low moderate stock in the non-metropolitan area (a decrease of 18 percentage points) compared to the metropolitan decrease (11 percentage points). Figures presented in Table 11 further corroborate this point. For instance, in metropolitan areas, the net loss of stock occurred up to R5. In contrast, in non-metropolitan areas, net stock losses can be observed up to R6. Over this period, the relative availability of low and low to moderate rental stock worsened more in non-metropolitan regions than in metropolitan regions.

Concerning the low rent stock (R1-R4), it can be seen that 18 per cent of the low rent stock declined in metropolitan areas compared with 20 per cent loss in non-metropolitan regions. Overall, non-metropolitan regions experienced a relatively greater loss of low rent stock in the five-year period than did the capital cities. The loss of stock in non-metropolitan regions reached to R6 compared with R5 in the capital cities. While in 2001, the size of the low rent stock was more positive in non-metropolitan regions, these same regions experienced relatively greater stock losses leading up to the 2006 census.

**Table 11: Change in private rent stock by rent segment, Australian metropolitan and non-metropolitan regions: 1996-2001 and 2001-2006**

<i>Metropolitan regions</i>		<i>Change 1996-2001</i>				<i>Change 2001-2006</i>			
<i>Private rent segment</i>		<i>Chg. in stock</i>	<i>% change</i>	<i>Chg. In cumul. stock</i>	<i>% cumul. change</i>	<i>Chg. in stock</i>	<i>% change*</i>	<i>Chg. In cumul. stock</i>	<i>% cumul. change**</i>
		<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>
R1	Low	-5,000	-37	-5,000	-37	-1,000	-14	-1,000	-14
R2	Low	-7,000	-12	-12,000	-17	-23,000	-48	-24,000	-43
R3	Low	-36,000	-28	-47,000	-24	-3,000	-3	-28,000	-18
R4		-26,000	-12	-73,000	-18	-32,000	-17	-59,000	-18
R5		25,000	15	-48,000	-8	11,000	6	-49,000	-9
R6		2,000	2	-46,000	-7	77,000	86	28,000	5
R7		24,000	50	-22,000	-3	32,000	44	60,000	9
R8		31,000	53	9,000	1	37,000	43	98,000	13
R9		25,000	121	34,000	4	8,000	17	105,000	13
R10	High	12,000	91	46,000	6	3,000	11	108,000	13
R11	High	6,000	89	51,000	6	3,000	28	111,000	13
R12	High	9,000	217	60,000	7	-1,000	-9	110,000	13
<b>Total</b>		<b>60,000</b>	<b>7</b>	<b>60,000</b>	<b>7</b>	<b>110,000</b>	<b>13</b>	<b>110,000</b>	<b>13</b>
<i>Non-metropolitan regions</i>									
R1	Low	-7,000	-27	-7,000	-27	-5,000	-30	-5,000	-30
R2	Low	19,000	32	13,000	15	-33,000	-42	-38,000	-40
R3	Low	-7,000	-6	5,000	3	-2,000	-2	-40,000	-20
R4		7,000	5	12,000	4	-27,000	-21	-67,000	-20
R5		12,000	20	24,000	6	13,000	18	-53,000	-13
R6		-1,000	-4	23,000	6	39,000	189	-14,000	-3
R7		5,000	55	28,000	7	19,000	141	5,000	1
R8		1,000	18	30,000	7	21,000	236	25,000	6
R9		1,000	73	31,000	7	5,000	176	30,000	7
R10	High	0	34	31,000	7	2,000	141	32,000	7
R11	High	0	36	31,000	7	1,000	94	33,000	7
R12	High	3,000	241	34,000	8	-1,000	-29	32,000	7
<b>Total</b>		<b>34,000</b>	<b>8</b>	<b>34,000</b>	<b>8</b>	<b>32,000</b>	<b>7</b>	<b>32,000</b>	<b>7</b>

NB: Figures may not sum precisely due to rounding

\* Column 6 = column 5/column 1 in Table 10 \*100

\*\* Column 8 =column 7/column 3 in Table 10 \*100

NB: Stock numbers and cumulative stock numbers for 1996 are found in Yates, Wulff and Reynolds (2004), p.18.

Source: ABS summary private rent and household income tabulations: 1996, 2001 and 2006 Australian Census of Population and Housing.

### 3.2 Household incomes of metropolitan and non-metropolitan private renters

The changing household income profile of metropolitan and non-metropolitan private renters can be examined in Table 12.

**Table 12: Distribution of income of households in the private rental market, Australian metropolitan and non-metropolitan regions: 2001 and 2006**

<i>Metropolitan regions</i>		<i>2001</i>				<i>2006</i>			
<i>Household income segment</i>		<i>H'holds</i>	<i>% of total</i>	<i>Cumul. h'holds</i>	<i>% cumul.</i>	<i>H'holds</i>	<i>% of total</i>	<i>Cumul. h'holds</i>	<i>% cumul.</i>
		<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>
Y1	Low	54,000	6	54,000	6	71,000	7	71,000	7
Y2	Low	65,000	7	118,000	14	67,000	7	138,000	14
Y3	Low	76,000	9	194,000	22	69,000	7	207,000	21
Y4		78,000	9	272,000	31	73,000	7	279,000	28
Y5		69,000	8	341,000	39	78,000	8	358,000	36
Y6		69,000	8	410,000	47	67,000	7	425,000	43
Y7		62,000	7	472,000	54	61,000	6	486,000	49
Y8		103,000	12	574,000	66	124,000	13	610,000	62
Y9		85,000	10	660,000	75	96,000	10	707,000	72
Y10	High	82,000	9	741,000	85	97,000	10	804,000	82
Y11	High	103,000	12	844,000	97	101,000	10	905,000	92
Y12	High	30,000	3	874,000	100	80,000	8	985,000	100
<b>Total</b>		<b>874,000</b>	<b>100</b>	<b>874,000</b>	<b>100</b>	<b>985,000</b>	<b>100</b>	<b>985,000</b>	<b>100</b>
<i>Non-metropolitan regions</i>		<i>2001</i>				<i>2006</i>			
Y1	Low	38,000	8	38,000	8	44,000	9	44,000	9
Y2	Low	56,000	12	94,000	21	56,000	12	99,000	20
Y3	Low	61,000	13	155,000	34	50,000	10	149,000	31
Y4		55,000	12	210,000	46	48,000	10	198,000	41
Y5		41,000	9	251,000	55	44,000	9	242,000	50
Y6		40,000	9	291,000	64	37,000	8	279,000	57
Y7		32,000	7	323,000	71	33,000	7	312,000	64
Y8		48,000	10	371,000	82	57,000	12	369,000	76
Y9		33,000	7	403,000	89	40,000	8	409,000	84
Y10	High	25,000	6	429,000	95	34,000	7	443,000	91
Y11	High	20,000	4	449,000	99	26,000	5	469,000	97
Y12	High	5,000	1	454,000	100	16,000	3	485,000	100
<b>Total</b>		<b>454,000</b>	<b>100</b>	<b>454,000</b>	<b>100</b>	<b>485,000</b>	<b>100</b>	<b>485,000</b>	<b>100</b>

NB: Figures may not sum precisely due to rounding

Source: ABS summary private rent and household income tabulations: 2001 and 2006 Australian Census of Population and Housing.

On the whole, private renter households in metropolitan areas had higher incomes than their non-metropolitan counterparts. For example, in 2006, 28 per cent of metropolitan private renters had incomes in the ranges Y8 and above compared with only 15 per cent of non-metropolitan private renter households. Conversely, relatively fewer low-income private renter households live in metropolitan (21 per cent) than in non-metropolitan (31 per cent) regions. In both metropolitan and non-metropolitan



regions there has been a slight shift upwards in the income distribution of private renters.

This shift can be seen more clearly in the figures provided in Table 13. Between 2001 and 2006, the number of low-income metropolitan households (Y1-Y3) increased by 7 per cent compared with a loss of 4 per cent in non-metropolitan regions. There was a net decline in the number of households up to Y8 in non-metropolitan regions. In metropolitan regions, on the other hand, no such decline can be observed by any given income segment. Both non-metropolitan and metropolitan regions experienced an increase in the number of households at both the lower and higher ends of the income distribution. This suggests an increasing socio-economic diversity among households living in both metropolitan and non-metropolitan regions. It is worth noting that the change observed between 2001 and 2006 differs considerably from that of 1996 to 2001.

Metropolitan regions also experienced increases in the number of households at both ends of the income distribution (but, in contrast to non-metropolitan regions, the middle income groups continued to grow in numbers). Notably, the top household income group (Y12) experienced the greatest increase (163 and 241 per cent respectively in metropolitan and non-metropolitan regions), a category which had shown a decline between 1996 and 2001.

This pattern observed between 2001 and 2006 differs substantially from that observed in the previous five-year period. During the 1996-2001 period, the numbers of lowest income (Y1-Y2) and highest income (Y12) households decreased in size. Even if segments Y11 and Y12 are combined, there still was a greater increase in the number of households with incomes at this level between 2001 and 2006 than between 1996 and 2001.

It appears that polarisation in the distribution of households by income (increases in the number of households at the lower and higher income brackets) that was observed during 2001 to 2006 marked a qualitative shift from the pattern observed in the previous five years.

**Table 13: Change in the number of private renter households by household income segment in Australian metropolitan and non-metropolitan regions: 1996-2001 and 2001-2006**

<i>Metropolitan regions</i>		<i>Change 1996 – 2001</i>				<i>Change 2001 - 2006</i>			
<i>Household income segment</i>		<i>Chg. in no. of h'holds.</i>	<i>% change</i>	<i>Chg. in cumul. no. of h'holds.</i>	<i>% cumul. change</i>	<i>Chg. in no. of h'holds.</i>	<i>% change*</i>	<i>Chg. in cumul. no. of h'holds.</i>	<i>% cumul. change**</i>
		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>
Y1	Low	-11,000	-17	-12,000	-18	17,000	32	17,000	32
Y2	Low	-3,000	-4	-15,000	-11	2,000	3	19,000	16
Y3	Low	-5,000	-6	-20,000	-9	-7,000	-9	13,000	7
Y4		-7,000	-8	-27,000	-9	-5,000	-7	7,000	3
Y5		-10,000	-13	-38,000	-10	9,000	14	17,000	5
Y6		-5,000	-7	-43,000	-9	-2,000	-2	15,000	4
Y7		2,000	3	-41,000	-8	-1,000	-1	15,000	3
Y8		7,000	7	-34,000	-6	21,000	21	36,000	6
Y9		14,000	20	-20,000	-3	11,000	13	47,000	7
Y10	High	28,000	52	7,000	1	15,000	19	62,000	8
Y11	High	62,000	151	69,000	9	-1,000	-1	61,000	7
Y12	High	-9,000	-23	60,000	7	49,000	163	110,000	13
<b>Total</b>		<b>60,000</b>	<b>7</b>	<b>60,000</b>	<b>7</b>	<b>110,000</b>	<b>13</b>	<b>110,000</b>	<b>13</b>
<i>Non-metropolitan regions</i>									
Y1	Low	-6,000	-14	-6,000	-14	5,000	14	5,000	14
Y2	Low	5,000	10	-1,000	-1	0	0	5,000	6
Y3	Low	2,000	3	0	0	-11,000	-18	-5,000	-4
Y4		1,000	2	1,000	1	-7,000	-12	-12,000	-6
Y5		-3,000	-7	-2,000	-1	3,000	7	-9,000	-4
Y6		1,000	3	-1,000	-1	-2,000	-6	-12,000	-4
Y7		4,000	14	3,000	1	1,000	2	-11,000	-3
Y8		6,000	14	9,000	2	10,000	20	-1,000	0
Y9		9,000	38	17,000	4	7,000	22	6,000	1
Y10	High	8,000	47	26,000	6	9,000	34	15,000	3
Y11	High	10,000	100	36,000	9	6,000	30	21,000	5
Y12	High	-2,000	-29	34,000	8	11,000	241	32,000	7
<b>Total</b>		<b>34,000</b>	<b>8</b>	<b>34,000</b>	<b>8</b>	<b>32,000</b>	<b>7</b>	<b>32,000</b>	<b>7</b>

NB: Figures may not sum precisely due to rounding

\* Column 6 = column 5/column 1 in Table 12 \*100

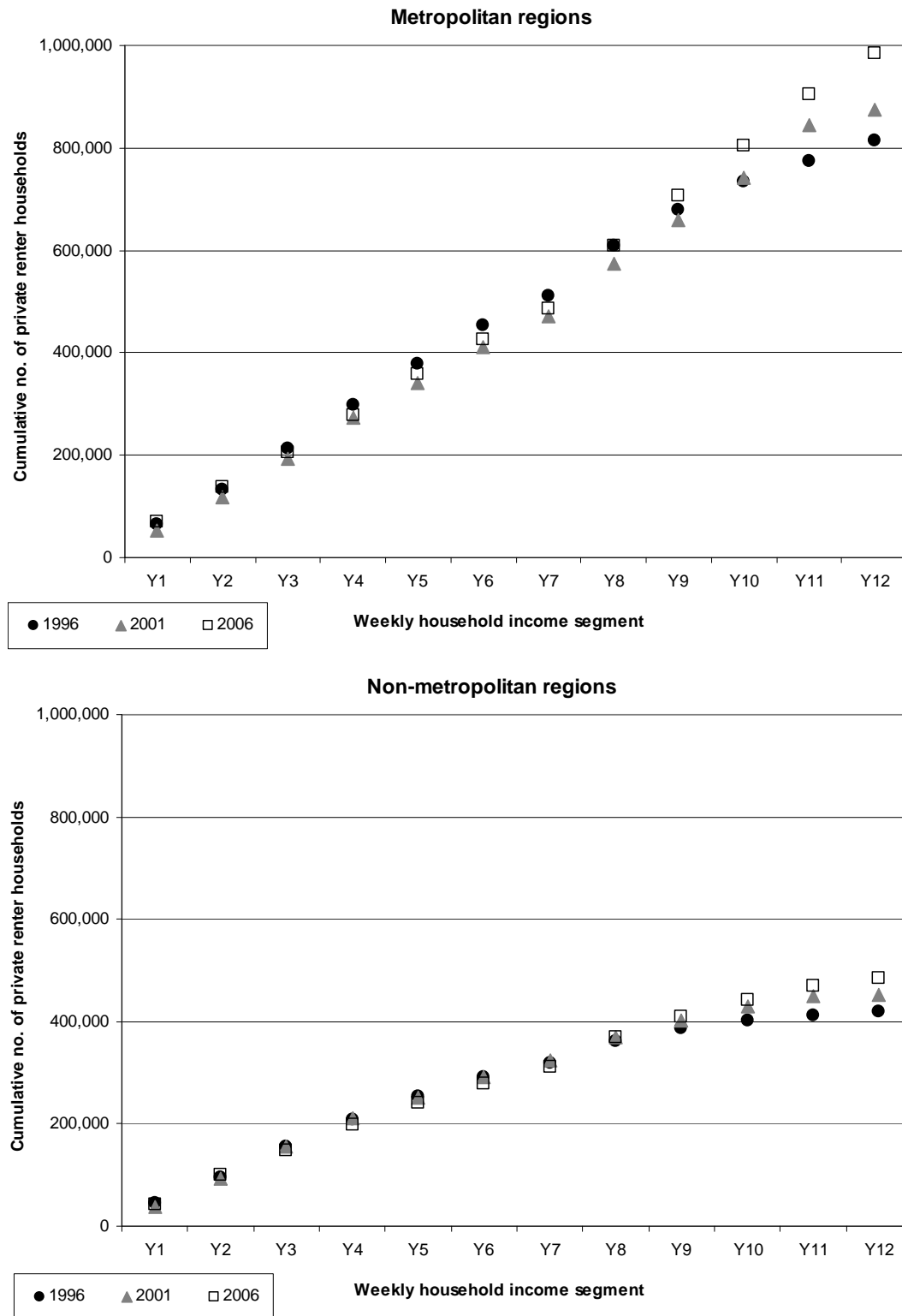
\*\* Column 8 =column 7/column 3 in Table 12 \*100

NB: Number of households and cumulative number of households for 1996 are found in Yates, Wulff and Reynolds (2004), p.21.

Source: ABS summary private rent and household income tabulations: 1996, 2001 and 2006 Australian Census of Population and Housing.

Figure 6 provides a graphic illustration of household income change in metropolitan and non-metropolitan regions, extending back to 1996. While the size and degree of change differs between the capital city and non-metropolitan regions, it can be seen that the trends towards greater numbers of high income households occurred in both areas.

**Figure 6: Cumulative income distributions of private renter households in Australian metropolitan and non-metropolitan regions: 1996, 2001 and 2006**



Source: ABS summary private rent and household income tabulations: 1996, 2001 and 2006 Australian Census of Population and Housing.

### 3.3 Metropolitan and non-metropolitan shortage

Table 14 reveals that, compared with the previous census period, between 2001 and 2006 the metropolitan shortage in low rent stock (R1-R3) had intensified. In 2006, the cumulative shortage in rental stock in the lowest three rent categories reached 83,000 compared against a 43,000 shortage in 2001. In other words, the shortage nearly doubled. The cumulative stock exceeds the corresponding cumulative number households in all rent segments above R5 (top half or more of rents). For example, at R7, the cumulative stock (751,000) exceeds the corresponding cumulative number of households (486,000) by 265,000. The comparable figure in 2001 was 219,000.

A very similar pattern can be observed for the non-metropolitan regions in 2006 - that is, deterioration of rental stock in the bottom part of the rent distribution and growing surplus at the top end. The main difference between metropolitan and non-metropolitan areas is that the shortage affected the bottom three rental brackets in the former, but affected only the bottom two in non-metropolitan regions.

Shortage provides a measure of the mismatch between household incomes and stock that is affordable at the 30 per cent of household income measure. As discussed, shortage measures per se do not reveal whether low-income households actually reside in affordable stock. To examine this issue, the next chapter, based on household income quintiles and the corresponding affordable rents, provides estimates of the 'true shortage' of affordable *and* available stock to low-income renters.

**Table 14: Shortage of affordable private rent stock in Australian metropolitan and non-metropolitan regions: 2001 and 2006**

<i>Metropolitan regions</i>								
<i>Segments</i>			<i>Cumulative 2001</i>			<i>Cumulative 2006</i>		
<i>Income (h'holds)</i>	<i>Private rent (stock)</i>		<i>H'holds Y</i>	<i>Stock R</i>	<i>Surplus /Shortage =R-Y</i>	<i>H'holds Y</i>	<i>Stock R</i>	<i>Surplus /Shortage =R-Y</i>
Y1	R1	Low	54,000	8,000	-45,000	71,000	7,000	-64,000
Y2	R2	Low	118,000	57,000	-61,000	138,000	32,000	-105,000
Y3	R3	Low	194,000	151,000	-43,000	207,000	123,000	-83,000
Y4	R4		272,000	338,000	66,000	279,000	279,000	-1,000
Y5	R5		341,000	529,000	188,000	358,000	480,000	123,000
Y6	R6		410,000	618,000	208,000	425,000	646,000	221,000
Y7	R7		472,000	691,000	219,000	486,000	751,000	265,000
Y8	R8		574,000	778,000	204,000	610,000	876,000	266,000
Y9	R9		660,000	824,000	165,000	707,000	930,000	223,000
Y10	R10	High	741,000	849,000	108,000	804,000	958,000	154,000
Y11	R11	High	844,000	862,000	18,000	905,000	973,000	68,000
Y12	R12	High	874,000	874,000	0	985,000	985,000	0
<i>Non-metropolitan regions</i>								
Y1	R1	Low	38,000	18,000	-20,000	44,000	13,000	-31,000
Y2	R2	Low	94,000	97,000	3,000	99,000	59,000	-41,000
Y3	R3	Low	155,000	202,000	47,000	149,000	162,000	12,000
Y4	R4		210,000	328,000	118,000	198,000	261,000	64,000
Y5	R5		251,000	402,000	151,000	242,000	349,000	107,000
Y6	R6		291,000	423,000	132,000	279,000	409,000	130,000
Y7	R7		323,000	437,000	114,000	312,000	441,000	130,000
Y8	R8		371,000	445,000	75,000	369,000	471,000	102,000
Y9	R9		403,000	448,000	45,000	409,000	478,000	70,000
Y10	R10	High	429,000	449,000	21,000	443,000	481,000	38,000
Y11	R11	High	449,000	450,000	1,000	469,000	483,000	13,000
Y12	R12	High	453,000	454,000	0	485,000	485,000	0

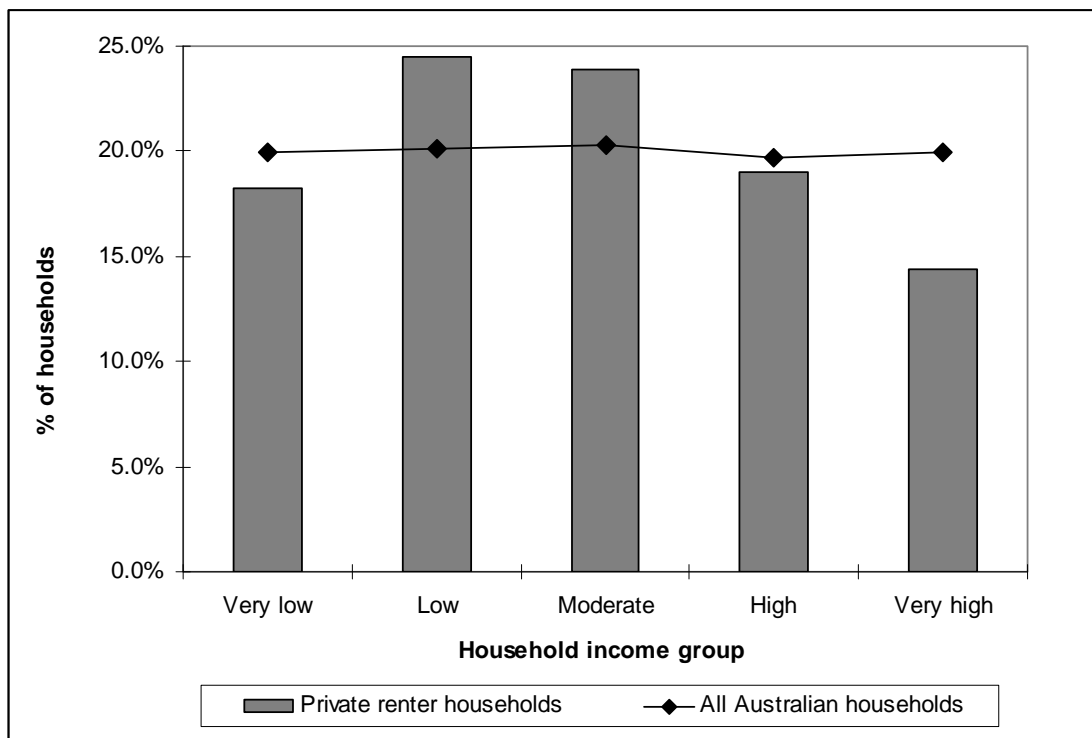
\*Figures may not sum precisely due to rounding

Source: ABS summary private rent and household income tabulations: 2001 and 2006 Australian Census of Population and Housing.

## 4 AFFORDABLE AND AVAILABLE STOCK FOR VERY LOW INCOME PRIVATE RENTERS

The analysis presented in this chapter is based on the national household income distribution in 2006 (derived from the value-added ABS data file). As can be seen in Figure 7, the household income distribution for private renters differs somewhat from the national profile in that there are relatively fewer households in quintile 1 (very low) and quintile 5 (very high). Relatively more private renters have incomes that fall into the second and third quintiles nationally. This partly reflects the presence of many retired outright owners and public renters with very low incomes as recorded in the census.

**Figure 7: Distribution of private renter household incomes compared with Australia-wide household income quintiles, 2006**

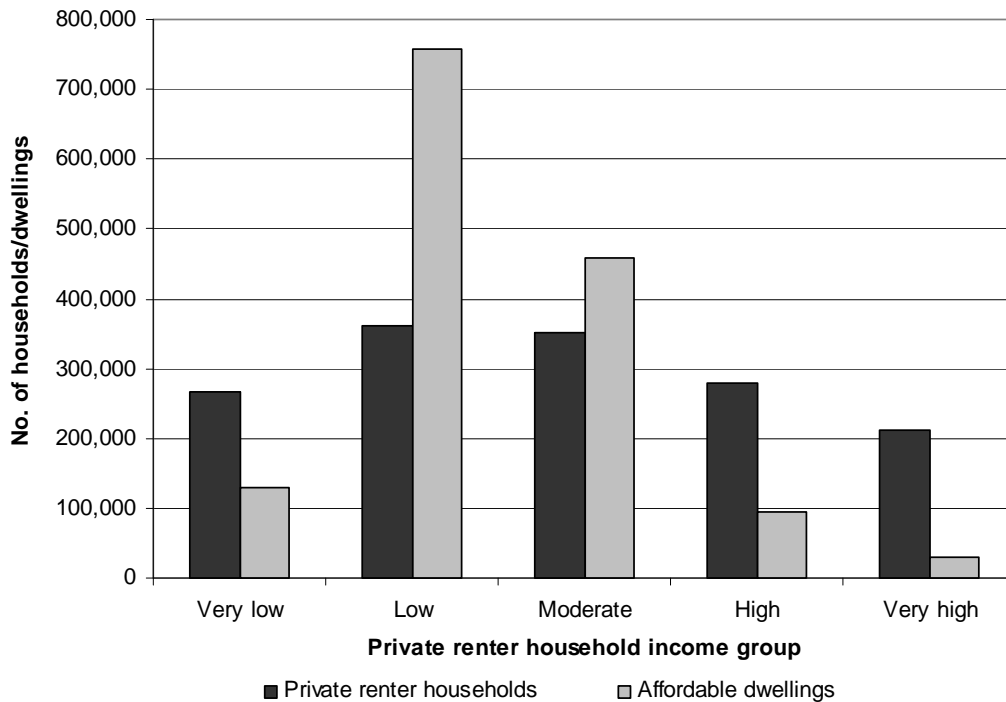


Source: Customised ABS Expanded Matrix (B): 2006 Australian Census of Population and Housing

In Figure 8, the numbers of households in each of the five income groups are shown against the numbers of affordable dwellings at the 30 per cent benchmark. This chapter primarily concerns the situation for very low income households. The problems that this group encounter in their search for affordable rental housing are emphasised again here. In order to pay no more than 30 per cent of their income on housing, they would have to compete for a very small pool of dwellings. Private renters with incomes in the second quintile nationally have a considerably large dwelling stock that is deemed to be affordable.

This figure also demonstrates that high and very high income households have little choice but to rent something at the lower end of the rent distribution, as there is little or no stock available to rent at 30 per cent or more of their income.

**Figure 8: Number of private renter households by income group compared with the number of dwellings affordable at 30 per cent benchmark**



Source: Customised ABS Expanded Matrix (B): 2006 Australian Census of Population and Housing

The final table in this Positioning Paper considers the affordable and available stock situation for very low income households in more detail.

Shortages of private rental stock among low-income households are measured in terms of affordable dwellings and affordable *and* available dwellings. What is affordable is not always available for low-income private renters because that segment of the stock is utilised by higher income private renters. As would be expected, the *affordable* and *available* stock for low-income households is always less than the *affordable* stock.

**Table 15: Affordable and available private rental stock for very low income households**

	<i>No. of very low income h'hlds (Y)</i>	<i>No. of potentially affordable dwellings (R)</i>	<i>Shortage of affordable stock (=R-Y)</i>	<i>No. higher income h'hlds in the potentially affordable stock (utilisation)</i>	<i>No. of affordable dwellings actually available (=2-4)</i>	<i>True shortage (=5-1)</i>	<i>Index of affordable private rental dwellings*</i>	<i>Index of affordable and available private rental dwellings**</i>
	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>
<b>Australia</b>	268,000	129,000	-138,000	72,000	57,000	-211,000	2.1	4.7
<b>Metropolitan regions</b>	155,000	48,000	-107,000	27,000	21,000	-134,000	3.2	7.4
<b>Non-metro regions</b>	113,000	81,000	-31,000	45,000	36,000	-76,000	1.4	3.1
<b>Capital cities</b>								
Sydney	48,000	7,000	-40,000	4,000	3,000	-44,000	6.6	15.1
Melbourne	46,000	14,000	-32,000	9,000	6,000	-40,000	3.2	7.9
Brisbane	22,000	6,000	-15,000	4,000	3,000	-19,000	3.4	7.8
Adelaide	15,000	7,000	-8,000	4,000	3,000	-12,000	2.1	4.8
Perth	19,000	10,000	-10,000	5,000	4,000	-15,000	2.0	4.7
Hobart	3,000	2,000	-1,000	1,000	1,000	-2,000	1.5	3.1
Darwin <sup>^</sup>	700	400	-300	300	100	-600	1.8	5.2
Canberra <sup>^</sup>	1,300	500	-800	400	100	-1,200	2.5	9.5
<b>Large regional centres</b>								
Newcastle	7,600	3,000	-4,500	1,400	1,600	-5,900	2.5	4.6
Wollongong	4,000	1,400	-2,600	600	800	-3,200	2.8	5.2
Geelong	2,700	1,900	-800	900	1,000	-1,800	1.4	2.8
Gold Coast	8,000	1,200	-6,800	600	600	-7,500	6.7	14.4
Sunshine Coast	4,400	1,000	-3,500	500	500	-3,900	4.5	8.6
Townsville	2,000	900	-1,100	500	400	-1,600	2.3	5.1
Cairns	2,000	700	-1,300	400	300	-1,700	2.7	6.4
Launceston	2,100	1,500	-600	700	800	-1,300	1.4	2.7

NB: Figures may not sum precisely due to rounding

<sup>^</sup> NB: very low frequencies for these areas and caution must be exercised in interpreting these figures

\* Index of affordable dwellings = column 1/column 2.

\*\* Index of affordable and available dwellings = column 1/column 5.

Source: Customised ABS Expanded Matrix (B): 2006 Australian Census of Population and Housing

At the national level, there is a shortage of 138,000 affordable dwellings for those in the bottom income quintile and this figure rises to 211, 000 dwellings once availability is taken into account. In other words, as can be seen in columns 7 and 8 in Table 15, while there is one affordable dwelling for every two low-income households, the shortage more than doubles to one *affordable* and *available* dwelling for every five low-income households when utilisation by higher income groups is taken into account. The problem is more acute in metropolitan regions than in non-metropolitan regions. For example, while there is one affordable dwelling for every three



households in non-metropolitan regions, the comparable figure in the metropolitan areas is seven households.

These two index scores are also used to gauge the relative severity of housing shortage for low-income households in capital cities and regional cities.

Among capital cities, Sydney stands out as the least affordable for low-income private renters. Not only does Sydney have a severe shortage of affordable stock (one available stock for every seven low-income households); it also has the worst situation in terms of stock availability (one affordable and available stock for every 15 low-income private renters). The next least affordable cities are Melbourne and Brisbane, where affordability is worse than at the national level, but still better than documented for Sydney.

The large regional centres present a mixed picture. It is noteworthy that affordable and available low rent housing in two Queensland regional centres (Gold Coast and Sunshine Coast) are not only worse than the situation in Brisbane, but also worse than all the capital cities apart from Sydney. In fact, the Gold Coast affordable and available index score (14.4) is almost twice that of Brisbane (7.8).

## 5 CONCLUSIONS

This Positioning Paper has provided a comprehensive empirical update on changes in the demand for, and supply of, low rent dwellings in the private rental market. While the main focus has been on trends in the intercensal period 2001-2006, patterns of change for 1996-2001 are discussed.

Between the 2001 and 2006 census years, the private rental sector grew by 11 per cent to 1.47 million. Growth in the number of private rental dwellings did not occur evenly across all rent segments during 2001 to 2006.

The greatest expansion in rental stock occurred in the 70 to 90 per cent range of the rent distribution (R6-R8) and the greatest losses in the bottom 40 per cent of rents (R1-R4).

Paralleling rises in the rent distribution, private renter household incomes also improved. The improvement was modest and occurred mainly among the top third of household incomes (Y8-Y12). Some improvement was also observed in the very lowest income category (Y1).

Changes in the private rental stock differed between metropolitan and non-metropolitan regions. The decline in low rent stock was greater in non-metropolitan than in metropolitan areas. To illustrate, non-metropolitan regions lost 67,000 rental dwellings in the bottom two-fifths of the rent distribution (R1-R4) compared to a loss of 59,000 in metropolitan regions. In fact, while metropolitan regions experienced a cumulative 28,000 increase in up to R6 (or up to the 70 per cent point in the rent distribution), non-metropolitan areas recorded a cumulative loss of 14,000 dwellings in these same rent categories.

The results reveal a shortage of 71,000 dwellings for renters in the bottom quartile of household incomes in 2006. This figure stands in sharp contrast to the previous census period (2001) in which a surplus of 4,000 dwellings was recorded. The metropolitan regions experienced greater shortages in the low rent segments than non-metropolitan regions. While the non-metropolitan regions had a cumulative surplus of 12,000 dwellings in the bottom quartile of rents, the metropolitan regions had a shortage of 83,000 in the same category.

Additional analysis of the bottom quintile of household incomes (very low income) revealed that the shortage of available stock Australia-wide was 138,000 dwellings. This shortage figure translated into one affordable stock for every *two* households in the bottom quintile of household incomes. When the utilisation of low rent stock by higher income households is taken into account, the *affordable and available* private dwellings for those in the bottom quintile increased to a shortage of 211,000. In other words, utilisation of low rent stock by higher income households leaves only one *affordable and available* dwelling for every *five* low-income households.

The affordable and available stock varies by capital city and among large regional centres. Sydney leads the rest of the capital cities in stock shortage - *one* affordable and available dwelling for every *15* very low income households. Comparable figures for Melbourne and Brisbane are *one* dwelling for every *eight* very low income households.

Among large regional centres, the shortage is severely felt in the Gold Coast which is almost equal to the shortage felt in Sydney (*one* dwelling for every *14* very low income households). After the Gold Coast, the Sunshine Coast has the second most severe shortage with a figure similar to Melbourne and Brisbane (*one* dwelling per *nine* households).

To conclude, this research has established the worsening affordability situation for low-income private renter households. This is made even more severe by the fact that many low-income households are unable to access the stock. This comes about largely as a result of the mismatch between the rent distribution and household income distribution of private renters (see again Figures 1 and 2). The very limited supply of dwellings in the high rent segments means that high income renters are nearly always going to be found utilising stock in lower rent segments.

The results of this analysis should assist in informing policy-makers about the extent to which interventions in the private rental market might be required to address shortages of affordable private rental properties for low-income households, and the spatial distribution of the demand for such properties. The outcomes of the research will have implications for the National Rental Affordability Scheme, among other government policies.

The Final Report will investigate many of these issues in much greater detail, including the socio-demographic characteristics of low-income households and characteristics of the dwellings. It will also examine how affordability and availability are experienced among different social groups, geographic areas and segments of the stock.

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# APPENDIX 1

## CUSTOMISED DATA MATRICES: ABS DOCUMENTATION

The following is a synopsis of the documentation accompanying the customised summary matrix.

The files were created from a customised census unit record file, which comprised all occupied private dwellings, excluding visitor-only households and excluding not classifiable households. The customising process included assigning values (according to a methodology specified by the client) where they were otherwise missing for household income, dwelling structure, number of bedrooms, household rent (where applicable), and the number of employed usual residents. In addition, point estimates were constructed for all household income values, to facilitate new categorisations of household income. The method for assigning values to missing data, and for assigning point estimates for household income, is described in Section One.

Section Two describes the codes for the variables in the attached files. Most of the codes are consistent with those specified in the attachments of the original quote. The exception is the 'area' variables, where we used ASGC coding as far as possible.

Quality measures were also provided as files for each state. These are mainly counts of imputed households for each of the variables for which imputation was conducted, and counts of the number of perturbed rows in the files. As per ABS policy, wherever a row count was 1 or 2 households, the count was randomly perturbed to zero or to three. In examining the number of perturbed rows in the files, it is important to note that the attached files contain only rows with non-zero household counts.

For household income, the imputation flag 'income\_impute' takes on five values:

- 0 means a valid household income was calculated.
- 1 means the household income was 'partially imputed' using a randomly selected donor record.
- 1b means a second phase 'partial impute' (see paragraph 3.6 of Section One for details).
- 2 means the household income was fully imputed.
- 2b means a second phase 'full impute' (as per para 3.6 of Section One).

For all other imputation flags as tabulated in the quality measure files provided, a 1 means the corresponding variable was imputed, and a 0 means fully reported.

The customised census unit record file which formed the basis of the attached summary files corresponds to B28 of the basic community profiles. This table represents all 'inscope' households for the calculation of household income. After the customised unit records were summarised, the counts of visitor-only and not classifiable households were attached to all files. File A and File B have these counts as a total (only), while file 2 has these counts for each level of the corresponding AREA variable (only). The remaining variables will have a missing value for all visitor-only not classifiable households.

The counts of all rows on files A and B will sum to the number of private dwellings (as per T14 of the Time Series Profiles), with some error due to perturbation. The corresponding count for files 2 will be all private dwellings, privately rented. There is

no corresponding BCP for this count. B34 contains counts of private dwellings being rented, excluding visitor and non classifiable households, but includes rent = 0.

### *Quintiles*

The quintiles were run on all households (excluding visitors and non-classifiable households) for Australia (7,144,095 households) for household income (including imputed household income). The quintiles produced were:

1. Q1 \$423
2. Q2 \$809
3. Q3 \$1,278
4. Q4 \$1,977
5. Q5 \$1,978+

These values were incorporated into the income categories for the summary files. For the expanded files, separate files (File B) were produced incorporating these categories.

# A1 IMPUTATION METHODOLOGY

The specification of all variables (in capital letters) in this section can be seen in the original quote accepted by the client.

## *Overall Imputation Strategy*

Impute for Bedrooms (BEDROOM) and Dwelling Structure (STRD), which are required...

→ to derive DWEL

→ to impute RENT (done in step 0.4)

Impute for Employed (EMPL), which is required...

→ to impute INCOME (done in step 0.3)

Impute for partially and fully not stated household income, which is required...

→ to impute RENT

Impute for RENT, which is required...

→ to derive TENU

## **A1.1 Imputing for bedrooms & dwelling structure**

We assign the mode of the BEDROOM variable (4 levels), conditional on the dwelling structure (4 levels). Conversely, when imputing for dwelling structure, we apply the mode conditional on BEDROOM - the number of bedrooms (4 levels, with 0-1 bedrooms combined). Where both BEDROOM and STRD are missing, the 'grand mode' (at state level) of each variable is applied independently.

## **A1.2 Imputing for number employed in household**

As for household income, if any one (or more) members of the household had not stated employment status, then the household status was unknown. This was solved by imputing for the employment status of each individual.

### *A1.2.1 States*

Within each state the population of individuals who stated their employment status was divided into sub-populations by LGA, by sex and by age.

The probability of status 'employed' was calculated for each of those sub-populations.

### *A1.2.2 Individuals*

Each of the individuals with unstated employment status was then assigned a value of 'employed' or 'not employed', with the probability of being 'employed' for the relevant sub-population. In this way, the proportion of individuals with unstated employment status, who were assigned to a status of 'employed' was the same (on average) as the proportion for the corresponding sub-population of individuals whose employment status was reported.

## **A1.3 Imputing for household income**

### *A1.3.1 Sub-populations*

We first partitioned the population into 180 sub-populations for each of the eight states. The sub-populations consisted of:

Region - 2 levels (StatDiv=05 and StatDiv=other).



Age of household reference person - 5 levels.

H'HOLD variable, a derivation based on the composition of the household - 6 levels.

EMPL, a derivation of the number of (non-visiting) household members who were employed - 3 levels

#### *A1.3.2 Further partition*

Within each sub-population we then further partition into:

- i. A donor population of households where all (relevant) members of the household reported their income and their employment status. The census file has no invalid or not stated values for any region, age of reference person, or H'HOLD (since we have already excluded unclassifiable households).
- ii. An imputed (or recipient) population of households, for which household income was either partially or completely unstated. This recipient population may include households for which an employment status was imputed as per section 2 above.
- iii. All other households not identified in i. or ii. above.

#### *A1.3.3 Individual income*

A point estimate for income was assigned to all individuals who stated an income. The median individual income for each income range was used to construct a distribution for individual income within each range. Half the population (on average) was assigned a point estimate uniformly distributed between the low point of the range and the median, while half the population was assigned a point estimate uniformly distributed between the median and the upper point of the range. This method was applied upon the stipulations of the client.

#### *A1.3.4 Household income*

The point estimates were then summed for each household. Where one or more household members did not state income, the sum was considered partial income. A lower and upper bound for the sum of the point estimates was applied, to ensure that the contribution of each household to the original ABS income range could not be inconsistent with the new range for household income (i.e. a household with income \$0-\$249 could not have a new range of \$386-\$422 for example).

#### *A1.3.5 Donor population*

The donor population therefore consisted only of households where all members stated their income. The imputed or recipient population contained a measure of partial household income (which was zero if all individual incomes were not stated).

#### *A1.3.6 Donor income*

Within each of the 180 sub-populations, each record in the recipient population was then randomly assigned a donor record's household income, so long as it was at least as great as the partial income. Typically there were a small number of households with partially-stated incomes, for which no donor could be found. These were later randomly allocated to an income range which was equal or greater than its partial income, using observed likelihoods at the state level.

## **A1.4 Imputing for rent**

### *A1.4.1 In-scope households*

The in-scope households for the rent imputation are privately rented households (TEND=4 and LLDD in (10,31,32) excluding not classifiable households and excluding visitor-only households.

### *A1.4.2 Imputed rent*

We impute for rent conditional upon region (2 levels per state - the same as for imputing income), dwelling structure (4 levels), bedrooms (4 levels), and income (3 levels). The levels of (weekly) household income are: \$0-<\$386; \$386-<\$1029; \$1029+. The four levels for dwelling structure are separate house, semi-detached etc, flat/unit/apartment and other dwelling. The four levels for bedroom are 0-1, 2, 3, 4+ bedrooms.

### *A1.4.3 Donor population*

As for income, the in-scope households were partitioned (within each sub-population) into the 'donor population' (where both rent and income were fully stated), the imputed (or recipient population (all those where rent was not stated), and the remainder. The rent from one record of the donor population was then randomly assigned to each record in the recipient population (within each sub-population).

## **A2 DESCRIPTIONS OF VARIABLES USED**

All codes for all AREA variables reflect the ASGC (Australian Standard Geographical Classification).

The AREA variables are five digits in length:

- (a) position 1: State
- (b) positions 2-3: Statistical division
- (c) positions 4-5: Statistical sub-division.

Wherever zeros are encountered, the code represents the entire relevant region not elsewhere coded.

EXCEPTION: For the Brisbane Statistical Division, the LGA structure is irregular. Where positions 1-2 of AREA2 are '31', the remaining three positions correspond to the last three digits of the Statistical Region Sector (see the ASGC).

For QLD, 34505 + 34510, has been represented by the code 34505.

AREA2 is found in the summary file (File 2).

AREA is found in the expanded file (File A and File B).

For AREA, the three areas within the Sydney Statistical Division (Categories 1, 2, and 3 in the client specifications) have been represented by the codes 10991, 10992, 10993. The three areas within the Melbourne Sydney Statistical Division (Categories 7, 8, 9) have been represented by the codes 20991, 20991, 20993.

## APPENDIX 2

### RENT AND HOUSEHOLD INCOME CATEGORIES 2006

Table A1: Demonstration of affordability measure using the private rent and household income categories

<i>Weekly household income segment (\$2006)</i>			<i>Weekly private rent segment (\$2006)</i>			<i>Affordability*</i>
Y1	Low	\$0-\$256	R1	Low	\$1-\$77	$\$77/\$256 \times 100 = 30\%$
Y2	Low	\$257-\$385	R2	Low	\$78-\$115	$\$115/\$385 \times 100 = 30\%$
Y3	Low	\$386-\$514	R3	Low	\$116-\$155	$\$155/\$514 \times 100 = 30\%$
Y4		\$515-\$642	R4		\$156-\$192	$\$192/\$642 \times 100 = 30\%$
Y5		\$643-\$771	R5		\$193-\$232	$\$232/\$771 \times 100 = 30\%$
Y6		\$772-\$900	R6		\$233-\$270	$\$270/\$900 \times 100 = 30\%$
Y7		\$901-\$1,028	R7		\$271-\$309	$\$309/\$1,028 \times 100 = 30\%$
Y8		\$1,029-\$1,287	R8		\$310-\$386	$\$386/\$1,287 \times 100 = 30\%$
Y9		\$1,288-\$1,544	R9		\$387-\$464	$\$464/\$1,544 \times 100 = 30\%$
Y10	High	\$1,545-\$1,930	R10	High	\$465-\$579	$\$579/\$1,930 \times 100 = 30\%$
Y11	High	\$1,931-\$2,575	R11	High	\$580-\$773	$\$773/\$2,575 \times 100 = 30\%$
Y12	High	\$2,576+	R12	High	\$774+	$\$774/\$2,576 \times 100 = 30\%$

\* Upper limit of rent category corresponds to 30 per cent of upper limit of household income category

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