Some issues in home ownership

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Spatial and Distributional Analysis
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The views presented here are those of the authors and cannot be taken to represent the official view of the Department of Family and Community Services or of the Minister for Family and Community Services.

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Authors’ note

The analysis in this research paper was largely undertaken in 1999 and is based primarily on the Australian Bureau of Statistics (ABS) 1 per cent Census sample files from the 1981, 1986, 1991 and 1996 Censuses. While a Census was also conducted in 2001, equivalent unit record level data will only be available in 2003. Hence it has not been possible to comprehensively update the analysis.

There are, however, some more recent data that should be taken into account by readers and researchers.

• As noted in Figure 2, information on rates of home ownership is available from a number of ABS surveys. While levels, and some trends, are inconsistent between these surveys, the data nevertheless suggest that while the rate of home ownership had declined from the mid 1980s to the mid 1990s, it has since remained stable. Indeed, some series suggest more recent increases in the rate.

• Interest rates have declined in both nominal and real terms and are now at rates close to those recorded in the 1960s.

• Home purchase affordability as measured by organisations such as the Housing Industry Association of Australia and the Commonwealth Bank of Australia has improved markedly, with the impact on first-home buyers being particularly marked due to the introduction of the First Home Owners Grant, which currently provides non-means-tested assistance of $14,000 to buyers of newly constructed dwellings and $7,000 for other purchasers.

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Executive summary

The purpose of this paper is to examine whether there have been changes in the rate of home ownership in Australia, and if so, the nature of these changes and associated factors. The study focuses on changes in the period between 1981 and 1996.

Data from 1981 to 1996 show that home ownership rates declined during this period. More recent data indicate that the declining aggregate trend has not continued.

The analysis presented in this paper shows that the downward trend in aggregate levels of home ownership is in part attributable to changes in the structure of the population. Movements in the overall home ownership rate in part reflect:

- changes in both the age and household composition of the population; and
- changes in the home ownership rate for each age and household type within the population.

There is some evidence that as people progress through their life cycle the home purchase decision is being delayed. This may reflect population diversity and changes in life cycle behavioural patterns.

The data indicate that the housing 'ladder' or 'cycle'—where a person would typically leave the parental home and move to a form of rental, alone or with others, then to purchase and finally to outright ownership later in life as the mortgage was paid off—remains the dominant pattern (see Figure 1).

Home ownership: data, trends and components

A variety of data series are available for analysis. Initial analysis of these series, however, indicates that trends in the home ownership rate from different sources are difficult to compare. The variability in different series is demonstrated in the paper (Figure 2). To overcome these problems a single data series is used to which adjustments are made to enhance comparability over time. The data source chosen for this was the 1 per cent sample Census data set from 1981, 1986, 1991 and 1996.

Overall, these adjusted Census tenure rates show home ownership falling over the period from 73.4 per cent in 1981 to 71.1 per cent in 1996 (Table 1).

The data also show that since the 1970s, the percentage of people who own their home outright has become greater than the percentage who are purchasing and paying off a mortgage (Figure 3). This is a reversal of the mix of outright owners and purchasers since 1976 is consistent with the mix of tenures in the 1950s.

The key demographic feature of the population over the time of this study has been the ageing of the ‘baby boom’ cohort; this is marked by a strong increase in the number of households with reference persons in the 35 to 54 year age range. In addition, the 70 years and over age group has grown dramatically (Figure 5).
A number of changes have also occurred in the family structure of households. While these are somewhat obscured by problems of changing definitions, particular changes include strong growth in the proportion of households headed by a lone parent. These increased from 5.3 per cent of total households in 1981 to 9.9 per cent of households in 1996, or from 250,000 to 630,000 households.

Overlaid on these changes in family composition and the age distribution, are changes in ownership rates for each combination of household type and age group. For couples with children where the reference person was aged 35–54 years, rates of home ownership have remained stable at quite high levels. For example, amongst those aged 45–49 years the rate was 87.6 per cent in both 1981 and 1996 (Figure 7). The rates were also high and stable for couples without children although, as with couples with children, there were slight declines in the younger age groups.

For lone-parents, however, there were marked falls in the home ownership rate for the younger age groups. This can be seen, for example, in the decline in the rate of ownership from 45.9 per cent to 29.9 per cent for the 30–34 year old age group over the period from 1986 to 1991.

Overall, the home ownership rates for younger age groups are lower. The home ownership rate for the 30–34 age group in 1996 was 59.8 per cent compared to 70.9 per cent in 1981. The rate for the 40–44 age group was 74.9 per cent in 1996 and 78.6 per cent in 1981.

Analysis of home ownership rates for particular age groups in successive Censuses indicates that the extent of the decline diminishes as these age groups get older. Age cohort analysis of home ownership transitions over the life cycle show that lower initial rates of home ownership, identified for some age groups, are not as evident as these different age cohorts progress through the life-cycle stages (Figure 8).

These changes in the ownership trajectories of age cohorts tend to indicate that the aggregate trends of declining rates of ownership reflect a deferral of home ownership, rather than a reduction in the lifetime achievement of home ownership.

**Analysis of home ownership trends: 1986 to 1996**

Estimates from decomposition analysis indicate that the declining overall home ownership rate reflects two population composition effects and a residual effect (page 15). These effects were:

- ageing of the population, which made a positive contribution by increasing the home ownership rate by an estimated 1.20 percentage points over the 1981–96 period;

- household composition change, where changes in household/family structure over the period have acted to reduce home ownership rate by 1.74 percentage points. The influence of this factor was not consistent over the whole period, with there being a small positive effect identified in the period between 1981 and 1986; and
an underlying rate effect (that component that cannot be explained by compositional changes). This was negative. In total it was estimated that this reduced the home ownership rate by 1.76 percentage points between 1981 and 1996. Examined by successive intercensal periods, this 'rate effect' was strongest in the 1981–86 period.

This result needs to be qualified. The residual balancing item (or underlying trend) may possibly be further explained by omitted variables, such as the number of income earners in a household and the nature of other investments by households, including non owner-occupied housing. In addition, there is a question of causality. The analysis assumes that home ownership rates may change as a result of differing tenure preferences between household types. However, it is possible, for example, that the type of housing tenure a household is in may not be independent of household structure—for example, it might be argued that achieving home ownership may tend to influence a couple's decision to have children, rather than the other way around.

Alternative statistical analysis using regression techniques indicates that once age and household composition are taken into account, variations in the aggregate home ownership rate between years were not statistically significant in the final model (page 17).

**Locational and affordability factors behind the changes**

It is possible to identify a large number of factors that may affect the pursuit and achievement of home ownership, many of which are linked to broader social and economic trends. It is important that an assumption of continuing demand for climbing the next rung of the housing ladder is not taken as the de facto basis for analysis. Changing rates in home ownership are often perceived as a simple interaction of demand—the number of households and factors underlying their purchase decisions; and supply—the processes by which both established and new dwellings reach the market and the cost of finance.

There are both locational variations and variations in affordability over time (page 20), arising from changes in interest rates, incomes and house prices, which will have an impact on the outcomes observed. The results reported are at an aggregate level. While affordability was poor over much of the period, immediate links between total ownership rates and short-term affordability estimates may be tenuous due to the considerable inertia of the group that has already entered home ownership.

Increasing periods of time spent in education may serve to delay the purchase of a dwelling, while payments under the Higher Education Contribution Scheme (HECS) may constrain the initial capacity to save for home purchase on a graduate's entry to the workforce (page 25). Changes in the nature of employment conditions may have an impact on the decision to purchase, with concern about the stability of employment acting as a deterrent or impediment to obtaining loans with a long-term stream of repayments.
Also, while the increasing incidence of two-income families may increase the possibility of such families entering home ownership, it may increase the difficulty (through the effect on housing prices and ability to borrow) that single-income households have in purchasing a home (page 23). Changes in family and household formation and family break-up have also had an impact on home ownership patterns.

Finally, the way in which people manage their assets is also important. Changing patterns of asset management resulting from factors such as the growth in superannuation, the changing investment environment and the possible emergence of groups known as 'rational renters' may not just affect preferences for home ownership and the age at which people may achieve this, but may also challenge the concept of an 'owner-occupier' as being synonymous with a household investing in housing (pages 23–24).
1 Introduction

High rates of home ownership have taken on an iconic role in Australian society.

This role is both symbolic, reflecting the concept of opportunity for Australians to acquire wealth and provide a place for themselves and their families, as well as practical. Housing wealth accounts for 55 per cent of net private sector wealth (Commonwealth Treasury 1999, pp. 71–82). Home owners have lower housing costs and report greater satisfaction with their housing outcomes. High levels of home ownership amongst the aged provide security and low recurrent housing costs, resulting in better retirement outcomes.

However, this scenario has been questioned. Issues of over-investment in housing assets, over-consumption of space—both within dwellings and through the impact of urban sprawl—and concerns as to who may miss out on the ‘Great Australian Dream’ have been present in housing debates for a long time. More recently, questions have also been raised about the relevance of home ownership in a society characterised by greater opportunities for investment, requirements for labour mobility and changing household structures and urban forms.

In these debates, when changes in the level of home ownership are discussed, two contrasting perspectives are often taken. The first, and more alarmist, perspective is that society can no longer provide opportunities for home ownership by younger generations. The second perspective is that society is restructuring and people’s home ownership aspirations and strategies are changing.

This paper focuses primarily on the measurement of trends in home ownership and on some of the factors underlying the two main perspectives taken in the home ownership debate.

1.1 Home ownership and the ‘housing cycle’

Traditionally, the linkage between the life cycle and tenure has resulted in a life cycle approach to tenure analysis based on the concept of a progression from one form of tenure to another. This has been coined the ‘housing cycle’ or ‘ladder’. This was seen to start with the leaving of the (usually owned) parental home, and moving into the to private rental sector, before purchasing a house and finally achieving outright ownership later in life as the mortgage is paid off. This pattern can be seen in Figure 1 from the 1996 Census of Population and Housing, which shows the pattern of tenure by age of household reference person.

It is clear from this figure that the process underlying the ‘housing ladder’ is still the predominant pattern. From a housing analysis perspective two issues are of particular interest. One issue is the extent to which the ‘ladder’ analogy is applicable, or whether these aggregate movements conceal much more complex patterns of moves into and out of home ownership. The other issue is whether there are changes in the overall pattern, in particular whether fewer people can, or choose to, climb the housing ladder.
Some issues in home ownership

Figure 1: Distribution of tenure by age of reference person, Census, 1996

Source: Adjusted data from ABS 1996 Census, 1 per cent sample file (ABS, 1988b and see Appendix 1)
2 Home ownership: data, trends and components

2.1 Comparison of data sources

Data from which estimates of the rate of home ownership in Australia can be derived are available from a number of different household surveys and the Censuses conducted by the Australian Bureau of Statistics (ABS). However, there is often substantial variability in the estimates and the counts they generate and the trends they identify. This is illustrated in Figure 2 that plots estimates of combined home purchase and ownership rates from five major ABS series. These are: the Census; the Household Expenditure Survey; the Australian Housing Survey; the Survey of Income and Housing Costs; and the Population Survey Monitor—a small sample survey conducted since the early 1990s. As discussed below three different series are provided for the Census, representing the actions taken to obtain a more consistent series from this source.

The differences in the results can be attributed to a range of factors. These include differences in data definitions, data collection methods and populations, both between collections and over time, and sampling variability (unlike the total Census, counts on the 1 per cent sample file are also subject to sampling variability).

Figure 2: Comparative home ownership rates from various data series, 1971–2000

Source: ABS, various sources
Given these factors, to undertake any accurate analysis of trends it is necessary to adjust the series for consistency. This adjustment can be undertaken from different series, as well as from the same data source, such as the Census, at different points in time. The latter usually involves fewer methodological issues, and has been adopted in this paper.

2.2 Intercensal trends 1981–1996

The series used for this analysis are data drawn from the one per cent Census samples (see ABS 1988c, 1991a, 1998b). While this data set is not as rich as other series, and relies on self-enumeration rather than interviewer-assisted survey questions, it offers a reasonable time series, a largely consistent population and sampling framework, and relatively consistent definitions. These data are available for 1981, 1986, 1991 and 1996. Substantial efforts were made to derive a consistent series of data.

**Deriving a consistent time series**

Unlike sample surveys, the Census relies (as noted) on self-enumeration and responses to some questions are incomplete. A consequence is that a proportion of households (varying from 1.9 per cent in 1986 to 2.8 per cent in 1981) had no stated tenure. In addition, some responses did not fall into an existing tenure classification definition and thus were allocated to the ‘other’ classification. These responses accounted for 4.2 per cent of households in 1981 and 2.3 per cent in 1996. The lower proportion in 1996 reflects the inclusion of three additional tenure response categories that helped to identify the tenure of those formerly allocated to the ‘other’ category.

Due to the variability in the non-response categories in different Censuses and the fact that the undefined and non-response categories can not be separated for 1991, a tenure was imputed for these two categories. Analysis of the distribution of households with ‘not stated’ and ‘other’ tenures indicated that, when family composition and age of household reference person were taken into account, the population distributions for these categories did not differ significantly from those with an identified tenure. On this basis, these categories were distributed between tenure types on a pro rata basis within each household family type and age group.

Further detail on the construction of these series is reported in Appendix 1 (see also ABS 1986, 1991a, 1991b and 1996a). The outcomes of this adjustment process are reported in Table 1.

In aggregate terms, this series estimates that 73.4 per cent of households either were purchasing or owned their dwellings in 1981; this proportion declined in each successive Census. In 1986, the estimate was 72.6 per cent; in 1991, 71.6 per cent; and in 1996, 71.1 per cent.

Table 1 also illustrates the results of an alternative approach of applying imputation to the total Census population counts and the Census counts excluding the ‘not stated’ records. As illustrated, the rates are much lower than the rates achieved by apportioning the ‘other’ and ‘not stated’ categories at the household level rather than excluding the ‘not stated’ category. For comparison purposes, it is important that proportions are derived using the same methodology.
Also evident in the data is the material shift over time in the mix of purchasers and outright owners. The total Census count data in Table 1 show that in 1976, 34.5 per cent of households were outright owners compared to 38.0 per cent who were purchasing their home. This pattern was reversed in 1981 and, by 1996, 43.6 per cent of households were outright owners, while only 27.5 per cent were purchasers.

**Table 1: Comparison of reported and adjusted home ownership rates by ownership type, Census, 1976–1996**

<table>
<thead>
<tr>
<th>Census year/Ownership type</th>
<th>Reported rates</th>
<th>Adjusted rates based on:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Full</td>
<td>Sample</td>
</tr>
<tr>
<td></td>
<td>Full</td>
<td>Sample</td>
</tr>
<tr>
<td>1976</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outright owners</td>
<td>31.8</td>
<td>-</td>
</tr>
<tr>
<td>Purchasers</td>
<td>34.9</td>
<td>-</td>
</tr>
<tr>
<td>Owners—total</td>
<td>66.7</td>
<td>-</td>
</tr>
<tr>
<td>Total households</td>
<td>4 140 521</td>
<td>-</td>
</tr>
<tr>
<td>1981</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outright owners</td>
<td>34.1</td>
<td>34.3</td>
</tr>
<tr>
<td>Purchasers</td>
<td>34.0</td>
<td>33.9</td>
</tr>
<tr>
<td>Owners—total</td>
<td>68.1</td>
<td>68.2</td>
</tr>
<tr>
<td>Total households</td>
<td>4 668 909</td>
<td>4 668 700</td>
</tr>
<tr>
<td>1986</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outright owners</td>
<td>38.2</td>
<td>38.1</td>
</tr>
<tr>
<td>Purchasers</td>
<td>30.9</td>
<td>30.7</td>
</tr>
<tr>
<td>Owners—total</td>
<td>69.1</td>
<td>68.8</td>
</tr>
<tr>
<td>Total households</td>
<td>5 187 423</td>
<td>5 246 688</td>
</tr>
<tr>
<td>1991</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outright owners</td>
<td>41.1</td>
<td>41.1</td>
</tr>
<tr>
<td>Purchasers</td>
<td>27.7</td>
<td>27.5</td>
</tr>
<tr>
<td>Owners—total</td>
<td>68.8</td>
<td>68.6</td>
</tr>
<tr>
<td>Total households</td>
<td>5 586 824</td>
<td>5 681 700</td>
</tr>
<tr>
<td>1996</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outright owners</td>
<td>41.6</td>
<td>41.7</td>
</tr>
<tr>
<td>Purchasers</td>
<td>26.2</td>
<td>26.1</td>
</tr>
<tr>
<td>Owners—total</td>
<td>67.8</td>
<td>67.8</td>
</tr>
<tr>
<td>Total households</td>
<td>6 281 817</td>
<td>6 340 900</td>
</tr>
</tbody>
</table>

**Note:** For 1991 it has also been necessary to estimate the split between ‘other’ and ‘not stated’ responses from partial preliminary data as final data were not produced on this basis.

**Source:** ABS, various sources (one per cent Census sample file Social Science Data Archive 1984, ABS 1988c, 1991a, 1988b; other ABS 1983a, 1983b, 1988b, 1995a, 1996a, 1997, 1998a, see also Appendix 1)
Figure 3 sets this shift in the context of longer-term trends. From this figure, it can be seen that up to and including the 1961 Census, the balance between these groups was overwhelmingly in favour of outright ownership. This suggests the 1996 pattern might be more consistent with the longer-term experience than the 1976 experience. The change may well reflect the progression of the baby boomer cohorts through purchase into home ownership in the late 1960s and 1970s. Unfortunately, the ABS did not record home ownership and purchase separately in the 1966 or 1971 Censuses, so this phenomenon cannot be fully tracked.

Changes in the components of home ownership

Figure 3: Outright ownership and purchase rates, Census, 1947–1996

The effect of the more recent change to a falling number of purchasers relative to owners can be seen clearly in returning to the ‘ladder’ of ownership and comparing the shape of the distribution in 1981 to 1996. This is done in Figure 4. A marked downward shift in the line for purchasers and an upward shift in the proportion of outright owners can be seen.

While this broad movement can be seen for all age groups, these changes are not uniform across the age distribution. Of particular note is the peak in the curve for purchasers, which has moved from the 30–34 age group to the 35–39 age group. Further, the top of the curve is flatter and broader. These changes would suggest that the role of tenure in the housing consumption decision has changed across the age distribution.

These aggregate trends, though, reveal little of the underlying movements. The shares or relative size of different age groups and family types (or household structures) in the population vary over time, as does the level of home ownership for each combination of family type and age group. Changes in the relative size of these groups, independent of changes in the home ownership rate, will impact on the overall home ownership rates.
Changes in the age structure of the population

To develop an appreciation of the changes in the relative size of these sub-groups in the total population, these sub-group sizes are illustrated in the figures below. Figure 5 shows the composition of households by the age group of their reference person and Figure 6 shows the composition by family type.

Two features are prominent:

• the increasing number of households over time with a reference person in the age groups between 35–39 and 50–54 years and those 70 years or older; and

• the absolute and relative increase in single-person and lone-parent households.

Figure 5 shows an increase in the number of households in each five-year age group for younger households. Over the time period shown in Figure 5, the numbers of reference persons who reached the same age groups in successive censuses increased strongly for the age groups 35–39, 40–44, 45–49 and 70 and over. The figure shows the shift that has taken place in the age distribution of household reference persons. The concentration in the younger-adult age ranges with a peak in the 30–34 age group in 1981 changed to a broader concentration across the ‘mid-life’ ranges aged between 30–34 and 45–49 years age groups in 1996.

In addition, Figure 5 may be viewed on a ‘cohort’ basis to see changes over time in numbers of household reference persons born within a particular five-year period. The 35–39 age cohort in 1981, which numbered 500 000 in 1981, increased to 550 000 when aged 50–54 in 1996. The 30–34 year-old age cohort in 1981 increased more rapidly over census years from 590 000 households in 1981 to 685 000 in 1996 when they reached the 45–49 age group.
Changes in household/family type

In analysing changes in household/family type, the propensity of the population in a particular age group to 'head' a household plays a role. A person 'heads' a household when they become the reference or representative person for that household for analytical purposes, providing a means of identifying the number of households in an age group. For some age groups, the propensity to leave the family home will have a strong influence on the propensity to head a household. For example, a larger number of people leaving the family home in an age group will increase the number of households formed and therefore the number of household heads in that age group in the population. Related to the propensity to form a household, and having a direct impact on household formation, are migration and family breakdown (where separation or divorce can generate two households that are often in the same age range, where previously only one existed).

Changes in the family composition of households are shown in Figure 6. Of particular note, lone-parent households have risen from 5.3 per cent of total households in 1981 to 9.9 per cent in 1996. The other changes are more difficult to interpret as they appear to have been significantly affected by changes in definition and classification, and it has not been possible to make adjustments to bring them to a consistent series.

- As a proportion of total households, couples with children rose from 35.7 per cent in 1981 to 40.0 per cent in 1991, and fell to 35.8 per cent in 1996.
There was an apparent decline in the number of single-person households between 1981 and 1986 that resulted from definitional change in 1986, which separately classified households recorded as 'head only' households in the 1981 Census into single-person households and group households. Hence single and group households are combined in the figure.

The drop in couple-without-children households between 1986 and 1991 was due to a decline in one of its components, 'couple with relatives' (couple living with relatives). This dropped from about 400 000 households in 1986 to about 40 000 households in 1991. The magnitude of this drop arose from definitional and/or classification change. Otherwise, the number of 'couple only' households has been growing over the 1981–96 period.

In the analysis in this paper, to minimise the effects on the analysis of family and household classification changes introduced in 1986, single person and group households are combined into one category in 1986 to make it consistent with the 'head-only' classification in 1981.

**Tenure by household type**

Before analysing the relative roles of these factors, it is useful to consider the change in tenure rates in a more descriptive manner for the individual groups indicated above, without taking full account of the changes in these groups and the impact on the overall rate. The experiences of four major family groups are considered by detailed age groups below, and are illustrated in Figure 7.

**Figure 6: Households composition by main family type, 1981–1996**

Source: Derived from ABS Census data from 1 per cent sample files (see notes to Table 1 and Appendix 1)
**Figure 7:** Home ownership rates by selected household types by age of reference person, 1981–1996

**Source:** Derived from ABS Census data in the 1 per cent sample files
**Couples with children**

Home ownership rates for couple families with children are high. The overall home ownership rate for this household type rose slightly from 80.4 per cent in 1981 to 80.8 per cent in 1996. Over this period the pattern of ownership within this group by age showed a distinct shift. Rates of ownership fell markedly for those with a household reference person aged under 35 years (by 15.6 percentage points for those between 20–24 years and 8.3 percentage points for those aged 25–29 years). Much of this fall occurred in the early 1980s. It is particularly noteworthy, however, that the ownership rate remained virtually stable for groups where the age of the reference person was between 35 and 54 years and increased for families where the reference person was over 54 years. The marked variability for the youngest and oldest age groups may be associated with the smaller number of households in these groups.

Given the falls in the rates for younger age groups, the slight upward movement in overall rates across the period for this group resulted from the marked decline in the proportions of younger couples with children in the population of this household type. There are compensating increases for the older age groups that have consistently higher ownership rates across all groups.

**Couples without children**

As with couples with children, couples without children households achieve high levels of home ownership, having a home ownership rate in 1996 of 80.9 per cent and achieving rates of over 90 per cent for the age groups over 60 years of age. Again, as with couples with children, there were falls in the home ownership rates for those aged under 40 years, between 1981 and 1986 in particular. There was also some upward movement in the rates for those in the in older age ranges. The tight cluster of curves in Figure 7 demonstrates that home ownership rates for this group generally remained stable over the period. This group’s share of the household population has declined in aggregate. On the other hand, couples without children have accounted for increasing shares of total households among the age groups that are 30–39 and 70 years and over.

**Lone parents**

In 1996, lone parents had much lower rates of home ownership (51.8 per cent) than other families with children. In aggregate, although there were fluctuations in 1986 and 1991, the 1996 level was similar to that estimated for 1981. However, this disguises very marked changes by age group composition and definitions in this classification. Identifying residents as temporarily absent from the household for the first time in 1986 improved the definition of lone parents but added complexity to achieving comparability.

Lone parents showed the largest decline in home ownership among those aged under 55 years. Over the 15-year period from 1981 to 1996, the home ownership rate fell from 30.4 per cent to 12.1 per cent for the 25–29 years age group; from 45.9 per cent to 29.9 per cent for the 30–34 years age group; and from 58.8 per cent to 42.2 per cent for the 35–39 years age group.
However, in the older age groups, the home ownership rates increased. This older group also increased its share or relative size in the population of lone parents. This combination of changes accounts for the apparent aggregate stability in the home ownership rate for lone parents.

The increased share of this family type in the overall population, with their lower home ownership outcomes, brought some downward pressure on the overall home ownership rate for all households. This effect can be seen clearly in the 35–39 to 40–44 year-old age groups. Here the very substantial increases in the proportion of lone-parent families, combined with marked decreases in the home ownership rate of lone parents in these age groups, substantially added to decreases in the ownership rates for these age groups in the overall population.

**Single-person households**

Unlike each of the above household types, single-person households showed an increasing level of ownership in aggregate over the period 1981 to 1996. The increase in the total home ownership rate for single person households, from 55.0 per cent to 61.2 per cent, resulted largely from a change in composition of this group with a higher proportion in older age groups. Across the age ranges, however, the home ownership rate for single persons in almost all age groups remained relatively stable.

**Home ownership trajectories for age cohorts**

Another way of considering changes in the pattern of home ownership is to look at the relative experience of age cohorts over time. This is illustrated in Figure 8. Again, while this is a partial view, in that it considers only the age of the household reference person and not the composition of the household they are living in, some different aspects of changing tenure patterns can be seen. Two trends are apparent.

The first trend can be seen when comparing home ownership rates for successive age cohorts in the population at the same point in time in their life cycle. In almost all cases, the rate of home ownership achieved by a certain age is lower for each successively younger age cohort. This is evident, for example, when considering the home ownership rate of cohorts that were 30–34 years of age at each Census. Figure 8 shows that the cohort aged 30–34 years in 1981 had an ownership rate higher than for the same age cohort in the succeeding Censuses. For those aged 45–49 years in 1996, when aged 30–34 years in 1981, their rate of ownership was 70.9 per cent. In contrast the group aged 40–44 years in 1996 had had a rate of 66.2 per cent in 1986 when they were aged 30–34; and those aged 35–39 years in 1996 had an even lower rate of 62.9 per cent. The current cohort of this age has a rate of only 59.8 per cent. This latter rate is 11.1 percentage points lower than the rate those now aged 45–49 years had achieved in 1981.
The second trend is less consistent but would appear to indicate that home ownership rates are converging for each cohort as it ages over time. That is, the gaps in the rate of home ownership grow smaller as the cohorts age and younger cohorts begin to catch up with older cohorts. This may suggest that there is a delaying in entry into home ownership rather than 'missing out' over their lifetime.

This pattern can be seen in the experience of the three cohorts for which data are available at both age 35–39 years and 40–44 years. The gap between the cohorts narrowed from 4.8 percentage points when they were aged 30–34 years, to 2.9 percentage points at the age of 35–39 years. However, this pattern is not uniform as can be seen in the pattern of the 1996 30–34 age cohort. After tracking closely with the next oldest age cohort in 1986 and 1991, it fell behind in 1996.

To further examine the nature of the trends revealed in these partial one-dimensional analyses, a number of methods were applied to allow all these differing trends to be taken into account simultaneously. These methods are explored in Chapter 3.

Figure 8: Home ownership rates, trajectories for selected five-year age groups cohorts, 1981–1996

Source: Derived from ABS Census data from 1 per cent sample files (see notes to Table 1 and Appendix 1)

To assess the relative importance of age and household composition on home ownership over time, a number of analytical methods have been used.

The main approach is the use of decomposition techniques, which seek to differentiate the effect of compositional changes from underlying trends (see, for example, Hohm [1987] for a review of these techniques). This type of approach entails:

- establishing a standardised rate at the level of the components for which the compositional changes are being assessed;

- determining deviations from these standardised levels. These deviations are then used to assess the impact of changes across the age and household/family structure components in the population structure on the overall rate, in this case the rate of home ownership. The decomposition method splits the rate difference (the total effect) into linearly additive components (or effects) of:

  - age structure;
  
  - household/family composition;
  
  - ‘Cell-specific rates’. The effect of ‘cell-specific rates’ is a residual component that indicates that part of the overall change not attributable to the components being analysed—in this case, age and household/family type.

This allows all the shifts in the categories of age and household composition—where each group is associated with differing home ownerships rates—to be taken into account. In addition, in this analysis, to incorporate the ability to undertake statistical testing of the significance of outcomes, the proportions of home owners from the cross-classified data were then analysed using a logistic regression.

The two decomposition techniques used are:

- **Kitagawa’s single and two-factor decomposition analysis** over the period 1981–96. This method of analysis allows for interactive effects between the compositional changes (for example, that increases in numbers of households with aged reference persons may increase the number of single person households).

3.1 Kitagawa's single and two-factor decomposition analysis: 1981–1996

Applying Kitagawa’s (1955) single factor decomposition method to the total fall in the home ownership rate of 2.28 percentage points between 1981 and 1996, the combined age and household composition effects accounted for a net 0.54 percentage point decline. Further, the cell-specific rate effect, or effect not attributable to change in either component, was −1.74 percentage points. Thus the decomposition of the total effect showed that a net 24 per cent of the decline was due to the combined age and household compositional changes and that 76 per cent was due to the decline in cell-specific rates.

The two-factor component decomposition by Kitagawa (1955) was applied to obtain the separate net effects of the components. The result shows that the total effect—−2.28 percentage points—could be decomposed into −1.78 percentage points due to changes in household composition; 1.27 percentage points due to changing population age composition; −0.03 percentage points due to both these factors; and −1.74 percentage points which were not accounted for by either of these effects. The effects of household composition, household and age composition interaction and cell-specific rate changes were to reduce the overall home ownership rate. By contrast, the age composition change had a positive effect on home ownership. The dominant components were household composition and cell-specific rate changes, which both had comparable effects. The effect of age structure shift was also substantial, with counteracting effects on the other factors. Though the effect of the associated changes in age structure and household composition is negative, it is negligible. As the joint effect is negligible and as the decomposition results by Kitagawa and Das Gupta are similar, further decomposition analyses are done using the Das Gupta method, which does not require the joint effect to be separately calculated.

3.2 Das Gupta’s decomposition analysis

Das Gupta’s (1994) decomposition method was applied to the home ownership rates for 1981–1996, and again considered the age and household type components (see Table 3) for the period as a whole and for the three intercensal periods.

Taking the aggregate 1981–1996 period, the overall change for the period was −2.28 percentage points. The effect of the household composition change on its own, with no other changes, would have been to change the home ownership rate by −1.74 percentage points. By contrast, the effect of age structure change was to increase the home ownership rate by 1.2 percentage points. If both household and age composition of the population in 1996 had been the same as in 1981, then the home ownership rate would have declined by −1.76 percentage points. These results can be considered as consistent with those produced by the Kitagawa analysis above.

Detailed in Table 2 is the decomposition for each of the intercensal periods. This shows that the overall rate of home ownership declined from 1981 to 1986 by 0.71 of a percentage point. This decline continued in the successive intercensal periods, 1986–91 and 1991–96, by 0.96 and 0.62 percentage points respectively.
Key features of the change in each period are illustrated in Figure 9 and comprise:

1981–1986
Over this period, both the age and household changes had a positive impact on the rate of home ownership. The age effect, in isolation, would have increased the rate by 0.24 a percentage point and the household effect moderately increased it by 0.1 percentage point. Cell-specific rate changes, the dominant effect, would have decreased the rate by 1.04 percentage points.

1986–1991
This period had the most marked aggregate fall in the rate of home ownership with the rate falling by 0.96 percentage points. Within this the household effect became very strongly negative and would have changed the rate by −1.19 percentage points in isolation. The age effect was marginally stronger than in the previous period and increased the rate by 0.26 of a percentage point, while cell-specific factors or other effects were very small, acting to reduce the overall rate by a marginal 0.04 of a percentage point.

1991–1996
Again there also was an aggregate decrease in the level of home ownership between these two years—0.62 of a percentage point. This comprised a very strong positive age effect which increased the rate by 0.58 percentage point, a household type effect that decreased the rate by 0.6 percentage point and a residual ‘other’ effects which decreased the rate by 0.61 of a percentage point, weaker than that recorded between 1981 and 1986, but stronger than that in 1986–91.

Source: Derived from ABS Census data from 1 per cent sample files (see notes to Table 1 and Appendix 1)
In summary, while, in 1981–86 the fall in the home ownership rate was driven by a strong rate effect with small offsetting age and household effects, both the 1986–91 and 1991–96 periods show negative household and residual effects, and a lesser positive age effect.

### Table 2: Changes in home ownership rates, application of Das Gupta’s standardisation-decomposition method, 1981–1996

<table>
<thead>
<tr>
<th></th>
<th>Standardisation</th>
<th>Decomposition</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1981</td>
<td>1996</td>
</tr>
<tr>
<td></td>
<td>(%)</td>
<td>(%)</td>
</tr>
<tr>
<td>Age effect = (H,R)—standardised rates</td>
<td>70.66</td>
<td>71.86</td>
</tr>
<tr>
<td>Household effect = (A,R)—standardised rates</td>
<td>72.13</td>
<td>70.39</td>
</tr>
<tr>
<td>Rate effect = (A,H)—standardised rates</td>
<td>72.89</td>
<td>71.13</td>
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<tr>
<td>Overall rates</td>
<td>73.35</td>
<td>71.07</td>
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<tr>
<th></th>
<th>1981</th>
<th>1986</th>
<th>Difference</th>
<th>Contribution</th>
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<tr>
<td></td>
<td>(%)</td>
<td>(%)</td>
<td>(%)</td>
<td>(%)</td>
</tr>
<tr>
<td>Age effect = (H,R)—standardised rates</td>
<td>72.75</td>
<td>72.99</td>
<td>0.24</td>
<td>-33.8</td>
</tr>
<tr>
<td>Household effect = (A,R)—standardised rates</td>
<td>72.82</td>
<td>72.92</td>
<td>0.10</td>
<td>-13.9</td>
</tr>
<tr>
<td>Rate effect = (A,H)—standardised rates</td>
<td>73.47</td>
<td>72.43</td>
<td>-1.04</td>
<td>147.7</td>
</tr>
<tr>
<td>Overall rates</td>
<td>73.35</td>
<td>72.65</td>
<td>-0.71</td>
<td>100.0</td>
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</table>

<table>
<thead>
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<th>1986</th>
<th>1991</th>
<th>Difference</th>
<th>Contribution</th>
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<td></td>
<td>(%)</td>
<td>(%)</td>
<td>(%)</td>
<td>(%)</td>
</tr>
<tr>
<td>Age effect = (H,R)—standardised rates</td>
<td>71.20</td>
<td>71.46</td>
<td>0.26</td>
<td>-27.2</td>
</tr>
<tr>
<td>Household effect = (A,R)—standardised rates</td>
<td>71.93</td>
<td>70.74</td>
<td>-1.19</td>
<td>123.4</td>
</tr>
<tr>
<td>Rate effect = (A,H)—standardised rates</td>
<td>72.08</td>
<td>72.03</td>
<td>-0.04</td>
<td>3.8</td>
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<tr>
<td>Overall rates</td>
<td>72.65</td>
<td>71.69</td>
<td>-0.96</td>
<td>100.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>1991</th>
<th>1996</th>
<th>Difference</th>
<th>Contribution</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(%)</td>
<td>(%)</td>
<td>(%)</td>
<td>(%)</td>
</tr>
<tr>
<td>Age effect = (H,R)—standardised rates</td>
<td>71.03</td>
<td>71.61</td>
<td>0.58</td>
<td>-93.7</td>
</tr>
<tr>
<td>Household effect = (A,R)—standardised rates</td>
<td>71.62</td>
<td>71.02</td>
<td>-0.60</td>
<td>95.8</td>
</tr>
<tr>
<td>Rate effect = (A,H)—standardised rates</td>
<td>71.65</td>
<td>71.04</td>
<td>-0.61</td>
<td>97.9</td>
</tr>
<tr>
<td>Overall rates</td>
<td>71.69</td>
<td>71.07</td>
<td>-0.62</td>
<td>100.0</td>
</tr>
</tbody>
</table>

### 3.3 Logistic regression

To incorporate the ability to undertake statistical testing of the outcomes, the proportions from the cross-classified data were analysed using a logistic regression. The logistic regression fits the logit of the dependent variable to a linearly additive set of effects of factors or influences in the form of designated variables as well as their second or higher-order interactions. The dependent variable of interest here is the proportion of households that are home owners.
The independent variables are age and family/household type. To assess the effect of changes in each intercensal period on home ownership, an indicator of the Census year (1981, 1986, 1991 and 1996) is also taken as a factor or influence.

The regression was fitted on the proportion of home owners, the dependent variable, using the GENMOD procedure in SAS, which fits a 'generalised linear model'. The GENMOD procedure performs a logistic regression by specifying a logit-link function and a binomial distribution in the model options. The following results were obtained.

Table 3: Changes in home ownership rates, results of fitted logistic regression effects on the log-odds of the proportion of households owning a home: 1981–1996

<table>
<thead>
<tr>
<th>Parameters</th>
<th>d.f</th>
<th>Log-odds B</th>
<th>s.e.</th>
<th>$\chi^2$</th>
<th>Odds-ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>1</td>
<td>-2.759</td>
<td>0.289</td>
<td>91.8*</td>
<td></td>
</tr>
<tr>
<td><strong>YEAR</strong></td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1981</td>
<td>1</td>
<td>0.130</td>
<td>0.069</td>
<td>3.5***</td>
<td>1.14</td>
</tr>
<tr>
<td>1986</td>
<td>1</td>
<td>0.073</td>
<td>0.067</td>
<td>1.2**</td>
<td>1.08</td>
</tr>
<tr>
<td>1991</td>
<td>1</td>
<td>0.030</td>
<td>0.065</td>
<td>0.2**</td>
<td>1.03</td>
</tr>
<tr>
<td>1996 (Reference)</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Household type</strong></td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Couple with children (A)</td>
<td>1</td>
<td>1.759</td>
<td>0.346</td>
<td>25.9*</td>
<td>5.81</td>
</tr>
<tr>
<td>Couple without children (B)</td>
<td>1</td>
<td>1.625</td>
<td>0.321</td>
<td>25.6*</td>
<td>5.08</td>
</tr>
<tr>
<td>Related Family (C)</td>
<td>1</td>
<td>1.246</td>
<td>0.467</td>
<td>7.1*</td>
<td>3.48</td>
</tr>
<tr>
<td>Secondary-family hhld (D)</td>
<td>1</td>
<td>2.658</td>
<td>0.525</td>
<td>25.6*</td>
<td>14.27</td>
</tr>
<tr>
<td>Non-family household (E)</td>
<td>1</td>
<td>0.652</td>
<td>0.309</td>
<td>4.5**</td>
<td>1.92</td>
</tr>
<tr>
<td>Lone parent (F) (Reference)</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>AGE</strong></td>
<td>1</td>
<td>0.067</td>
<td>0.007</td>
<td>98.4*</td>
<td></td>
</tr>
<tr>
<td><strong>AGE*Household type</strong></td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age*Household type A</td>
<td>1</td>
<td>-0.007</td>
<td>0.008</td>
<td>0.7**</td>
<td>0.99</td>
</tr>
<tr>
<td>Age*Household type B</td>
<td>1</td>
<td>-0.015</td>
<td>0.007</td>
<td>4.1**</td>
<td>0.99</td>
</tr>
<tr>
<td>Age*Household type C</td>
<td>1</td>
<td>-0.022</td>
<td>0.010</td>
<td>4.9**</td>
<td>0.98</td>
</tr>
<tr>
<td>Age*Household type D</td>
<td>1</td>
<td>-0.041</td>
<td>0.012</td>
<td>11.8**</td>
<td>0.96</td>
</tr>
<tr>
<td>Age*Household type E</td>
<td>1</td>
<td>-0.021</td>
<td>0.007</td>
<td>9.1**</td>
<td>0.98</td>
</tr>
<tr>
<td>Age*Household type F (Reference variable)</td>
<td>0</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:** Household type in Age*Household type interactions are indicated by A to F in brackets in the Household type variable.

* = the $\chi^2$ values associated with the parameter effects are highly significant at $\alpha \leq 0.01$

** = Significant at $\alpha = 0.05$,

*** = Significant at $\alpha = 0.10$

d.f = Degrees of freedom
s.e. = Standard Error
Reference = Value used as base case in analysis
A number of models were tested in the analysis. These used different combinations of a range of variables. Of particular importance, the time variable or indicator of the Census year had no significant effect in explaining variations in the home ownership rate, either by itself or as interactions between the year and the age and household type. As a result, these interactions were dropped from the final model.

The fitted model, as detailed in Table 3, showed household type and age to be significant influences on the home ownership rate as was the age and household type interaction. Age had the greatest effect followed by household type. Age had a significant positive effect. Couple households, related-family households and multiple-family households had significantly higher ownership than lone-parent households. However, single and group households were not significantly different from lone parents in their home ownership rates. The odds-ratios are relative to the reference category of the group. For example, the odds of couple families with children owning a home are 5.8 times higher than that of lone-parent families (far right column Table 3, lone-parent households are the reference group).

As noted above, the variable ‘YEAR’, which was included in the analysis to represent the time dimension of the data, had no significant effect in the model. That is, although the observed home ownership rate declined by Census year, using this model and taking into account the effects of age structure and household composition changes and the joint interaction between age and household composition, changes in the home ownership rate between Census years were too small to be statistically significant. While overall the YEAR variable was not statistically significant, the 1981 year had a significant effect on home ownership compared to the reference year, 1996, though at a weak level of significance.

It should be noted that in this and associated models, which treated home ownership and purchase together as a combined variable, year had no significant effect on overall home ownership rates. However, in separate modelling, where analyses of outright ownership and home purchase rates were considered individually, the ‘YEAR’ variable had a significant effect. As expected, period changes had a significant positive effect on outright home ownership and a negative effect on the home purchase rate.

### 3.4 Conclusions from these analyses

Data analysis in the paper has emphasised the need for an analysis of home ownership rates to be based upon consistent and comparable data. However, the data problems outlined at the beginning of the paper, which still apply to the adjusted data, will affect the validity of the outcomes from the preceding analysis to different extents.

The analysis techniques employed in this paper provided a comprehensive picture of home ownership trends, outcomes and their components.

In summary, the analysis indicated that, over the full period, the effects of residual changes, unexplained by the age and household composition changes, were to reduce the home ownership rate. At the same time, the age composition change had a positive effect on the home ownership rate in each of the three periods.
In the two later periods, household composition changes had a negative impact on the overall rate of home ownership.

However, once the changes in household and family structure and the age distribution of the population are taken into account using statistical models, variations in the overall home ownership rates, and their trends, were not statistically affected by the point in time at which the data are derived.

The limitations of the analysis do, however, need to be noted:

• It is based on a sample, not the full census counts.

• The variables cannot all be considered to be fully independent. In particular, there is the question as to what extent tenure (or perhaps ability, or perception as to ability, to achieve a specific tenure) drives household formation.

• Notwithstanding efforts undertaken, data are not fully comparable. For example, the change in the scope of households included in Census of occupied private dwelling counts, for which correction could not be made, resulted in the 1996 estimate being 0.18 percentage points lower than if households were defined as they were in 1981 (See Appendix A1.4 and Table A4).
4 Locational and affordability factors behind the changes

4.1 Location

In addition to the compositional factors considered above, there are also substantial variations in home ownership outcomes by location. Table 4 below gives an indication of these and the trends in the different locations between 1991 and 1996. As these data are from the Census 1 per cent sample file, the level of aggregation is quite high.

Table 4: Home ownership rates by section of State, 1991 and 1996

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sydney</td>
<td>69.6</td>
<td>68.6</td>
<td>-1.0</td>
<td>-1.4</td>
</tr>
<tr>
<td>NSW-ROS</td>
<td>72.8</td>
<td>71.9</td>
<td>-0.9</td>
<td>-1.3</td>
</tr>
<tr>
<td>Melbourne</td>
<td>75.2</td>
<td>74.6</td>
<td>-0.6</td>
<td>-0.8</td>
</tr>
<tr>
<td>VIC-ROS</td>
<td>78.5</td>
<td>76.9</td>
<td>-1.6</td>
<td>-2.0</td>
</tr>
<tr>
<td>Brisbane</td>
<td>71.7</td>
<td>69.1</td>
<td>-2.6</td>
<td>-3.6</td>
</tr>
<tr>
<td>QLD-ROS</td>
<td>67.6</td>
<td>67.5</td>
<td>-0.1</td>
<td>-0.2</td>
</tr>
<tr>
<td>Adelaide</td>
<td>71.6</td>
<td>71.2</td>
<td>-0.4</td>
<td>-0.6</td>
</tr>
<tr>
<td>Perth</td>
<td>72.9</td>
<td>73.1</td>
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<td>0.2</td>
</tr>
<tr>
<td>Australia</td>
<td>71.7</td>
<td>71.1</td>
<td>-0.6</td>
<td>-0.8</td>
</tr>
</tbody>
</table>

Note: ROS is Rest of State, geographic data is limited on the 1 per cent Census sample file with all available section of State areas shown.

Source: Derived from ABS 1 per cent sample Census files (See notes to Table 1 and Appendix 1)

While showing a diversity of experience this level of locational disaggregation still masks potentially greater variations for smaller geographic aggregations within these areas. For example, the decline in the home ownership rate of 1.0 percentage point for New South Wales Rest of State (ROS) was not a uniform movement. Use of unadjusted data which exclude the ‘other’ and ‘not stated’ categories for the Statistical Districts in this area, reveals a diverse range of outcomes. This includes growth in the rate of 1.5 percentage points in Far West; 1.4 per cent in South Eastern; and 0.6 per cent in North Western. In contrast three of the Statistical Districts recorded falls: -1.5 per cent in Mid-North Coast; -2.4 per cent in Richmond-Tweed; and -2.7 per cent in Hunter.

It is possible that while some of these changes may be linked to regional differences in population age and household structure, others reflect quite different region-specific trends in underlying ownership between the two years.
### 4.2 Affordability

One important factor, which impacts on the rate of home ownership, is affordability. Affordability of home purchase reflects the cost of dwellings, income and the cost of money/interest rates. It comprises both the capacities of households to service a mortgage and to save a deposit and the proportion of the dwelling value, which they can borrow.

A range of measures can be considered which seek to take account of these factors, one example being the Housing Industry Association–Commonwealth Bank Housing Affordability Index. This measure indicates that affordability in 1996–97, the year of the 1996 Census, was at its most favourable level since the establishment of the index in 1984. However, for much of the period under study, affordability was relatively poor.

The key factor behind these estimated changes in affordability was the pattern of home loan interest rates. These, after rising from around 10 per cent at the beginning of the 1980s and peaking at 17 per cent in 1989–90, had declined to around 6.5 per cent, the lowest nominal level in 25 years.

Figure 10 illustrates the movements in interest rates after inflationary movements have been accounted for (or real interest rates). As can be seen, real interest rates were very low in the 1970s and then rose substantially for most of the mid 1980s and 1990s before a marked decline at the end of the decade, with real rates in 2001 at rates consistent with the 1950s and 1960s.

Interest rates are, however, only one aspect of housing finance and the period encompassed a major change in the structure of the provision of housing finance. This involved a move from a tightly regulated sector where banks raised low-cost funds for home purchase financing through low-interest bank accounts. As the interest rate that could be charged by banks on these loans was capped and demand outstripped supply, banks used prior savings and other factors to determine the allocation of limited credit.

In the 1980s, deregulatory changes saw this structure swept away. This led to more competitive capital and credit markets, and the distribution of housing and other finance depending on the borrowers’ capacity and willingness to pay. Larger loan sizes and new loan products and structures also facilitated access to home ownership.

In addition, home purchase assistance under the First Home Owners Scheme, which had become more limited in the mid to late-1980s, was abolished in 1990. While a new form of assistance, the First Home Owners Grant, was introduced in July 2000, the impact of this is beyond the time scope of this paper. This assistance was initially introduced as a non-means-tested $7,000 grant as compensation for the impact of the Goods and Services Tax, before being augmented, for a limited period, with an additional $7,000 for first homebuyers purchasing a newly constructed dwelling.
The second main component of affordability is the price of dwellings. These too have varied over the period. In particular they surged in the late 1980s in many locations. After declining in real terms (and in some cases in nominal terms) for most of the 1990s, prices have recently shown strong upward movements. However, these price movements were not consistent between cities or areas within cities.

Overall, increases in house prices reflect both pure price shifts and trends in dwelling size and quality. (The average size of new dwellings is estimated to have increased from 167 m$^2$ to 212 m$^2$ between 1983 and 1997, while features such as ensuites and family rooms are now seen as standard.)

The third dimension is income. While there have been income shifts at the individual level, especially with regard to earned income, changes in income distribution at the household level are more marked. Important components of the growth have been in the numbers of households with either no members or two or more members earning an income, and a decline in the number of single-income households.

**Figure 10: Real interest rates, 1950–2001**

![Graph of real interest rates](image)


1998 on AusStats, June Home loans banks, small business, other loans, rbabf04 all June; 10-year treasury bonds rbabf02 all June; and CPI 6401.0; adjusted for tax effects, 2001$^4$. 


Putting these changes into the context of tenure changes from the decomposition analysis, it can be noted that the decrease in the underlying rate between 1981 and 1986 was associated with rising interest rates and falling affordability. While interest rates again rose in the next period, 1986–91, and affordability was at very low levels, there was a marginal increase in the residual component. One possible explanation of this could be the effect of the boom in house prices over the period that may have induced people to enter the market ‘before prices get too high’, or in the hope of a large capital gain. Over the final period, while affordability improved and interest rates fell, there was a fall in the underlying rate of ownership.

However, these links may be tenuous. While immediate affordability may be a constraint on accessing home ownership at a point in time, the overall tenure composition is largely a product of historical outcomes and future expectations, rather than short-term prevailing market conditions.

### 4.3 Other issues affecting home ownership

In addition to affordability and location, a number of broader and interlinked societal, labour market, educational, regulatory and institutional changes may be relevant to historical and future outcomes. Of particular importance may be changes in educational participation, in the structure and nature of employment and families, and in the way people hold and manage assets over their life cycle.

**Education**

In response to increasing opportunities and aspirations as well as the need for a more highly skilled workforce, recent decades have seen strong increases in educational participation. The longer periods which young people are spending in post-secondary education or training, may have raised the age young adults enter the workforce and achieve the income flows that enable them to accumulate equity to enter into home ownership, delaying their achievement of home ownership. In addition, the introduction of the Higher Education Contribution Scheme (HECS), with the requirement for tertiary graduates to repay part of the costs of their education, results in them entering the workforce with a debt. This could retard their initial capacity to save the equity required to buy a first home.

**Employment**

Not only may the entry of young people into the labour market be delayed, but changes to the nature of the labour market—in particular requirements for greater flexibility—are also likely to have an impact on their experience, once they do enter.

Expectations of geographic labour mobility to respond to labour demand are likely to have increased the relative preference for renting. In other cases it may lead to a dislocation of property ownership and the tenure of the currently occupied dwelling. Many people who already own a home and are required to change the location of their employment may retain...
their existing home and rent in the new location. Others will decide to purchase a dwelling in a location different to that in which they currently work. In neither of these cases would ABS data identify the person as a homeowner.

Indeed, it is possible to postulate that trends in cities like Sydney may reflect the experience of other ‘global cities’. These have lower home ownership rates than other cities. This may result from a number of factors including price pressures; the nature of employment, including the requirement for mobility; and the degree to which the ‘amenity’ of the city relates to its business role, and is less valued in retirement, or at other life-cycle stages.

The incidence of unemployment, as well as employment uncertainty and reduced confidence of remaining in stable employment as a result of perceived unemployment risks and changing employment arrangements, including casualisation of some jobs, may also produce a lower willingness and/or ability to enter into home ownership. As home purchase usually involves an undertaking to repay a debt over an extended period, concern about an ability to maintain a steady income stream may act as a considerable deterrent or an impediment to obtaining loans.

Rising levels of female participation in the workforce and the increasing number of two-income households may have facilitated access to home ownership for these households. However, this may have had a detrimental impact on access to home purchase for single income households—particularly if borrowing arrangements and housing prices have come to reflect the higher household incomes of large numbers of two-income households.

Families

Other aspects of family change also affect the home purchase decision. Delayed family formation and childbirth, and the incidence of family break-ups, for example, may also play an important role.

There have been strong shifts in the age at which people are marrying and the age at which women have children. Today, both of these occur at markedly older ages than several decades ago. For example, the median age of a mother at the birth of the first child of a marriage has increased from 24.9 years to 29.1 years in the 20 years from 1978 to 1998. These shifts, which are the results of many different societal changes—such as increased opportunities for women to establish careers and remain in employment—may have impacted on home ownership patterns. This is particularly so as the birth of the first child had traditionally been viewed as one of the triggers for moving into home ownership. Notwithstanding this, the average age of recent first homebuyers, and the proportion of these who are couples with children, fell marginally between 1990 and 1994.

Increased break-ups of relationships, which often result in the formation of two households that then lack the resources to own two homes or possibly any home, are a further element. One important dimension of this, which has already been discussed in this paper, is the effect of the increasing proportion of households headed by lone parents and their comparatively low rate of home ownership. Over time, family break-ups may also contribute to an increase in the incidence of older single-person households.
Asset management

Home ownership not only provides a household with shelter, but also a means of accumulating a valuable asset. Traditionally, the family home was by far the largest asset most people held over their lifetime. This may also be changing.

The expansion of superannuation is one of the elements that may contribute to this. In many ways, superannuation and home purchase are both strategies to permit households to redistribute income and income requirements over their life cycle. This may have led some households to decide to rely upon their higher income stream from superannuation in their future retirement, rather than the more traditional approach of a lower income stream accompanied by the lower housing costs associated with home ownership. In other cases, some households may hold back on entering into home ownership until they are in a position to use lump sum superannuation for home purchase upon retirement. The housing industry has claimed that the effect of compulsory superannuation on potential real growth in take-home pay has limited the capacity of some households to save a deposit or service a loan.

Changes in the investment environment may also have an impact. Privatisation and demutualisation, as well as willingness by lenders to provide funds for gearing, have stimulated interest in investment in shares. This again may affect other investment choices such as home ownership. In addition, falling inflation rates and reasonably high real interest rates have seen the real value of repayments on credit foncier home loans maintained at much higher levels for longer periods. This, and a resultant slower growth in the owner’s equity in their dwelling in some locations, may also have influenced home purchase decisions.

A further possibility is the emergence of a group of ‘rational renters’, with households considering that it is more financially beneficial to invest in assets other than owner-occupied housing. For example, this may apply to people capable of achieving high rates of return in increasingly broad avenues of investment, or whose opportunities for home ownership would be in areas with low prospects for appreciation. It has also been suggested that some households may seek to accumulate their capital for outright home purchase through a deliberate strategy of renting their own housing but purchasing other dwellings and negatively gearing them.

Some insight into the extent of this can be seen in the results of the 1999 Australian Housing Survey, which suggests that 10.2 per cent of non-home owners have some financial interest in residential property. Taking account of this group would produce an estimate of residential ownership of 73.1 per cent, compared to the rate of home ownership of 70.1 per cent recorded in the survey. There is some evidence that such ‘dwelling ownership’, as opposed to ‘home ownership’ is increasing. King and Baekgaard (1996) estimated that 8 per cent of households that were private renters in 1993–94 had an interest in investment property; this contrasted with just 3 per cent in 1981–82.
5 Conclusions

The analysis presented in this paper shows that while a downward trend can be observed in aggregate levels of home ownership, this is in part attributable to changes in the structure of the population.

To the extent that changes have occurred, the decomposition analysis shows that, from 1981 to 1996, changes in the age structure of the population, as reflected in the age of household reference persons, have had the consistent effect of increasing the overall home ownership rate.

Household composition changes have had a negative overall impact on the aggregate level of home ownership. However, this was composed of a positive impact from 1981 to 1986 (possibly in part attributable to changes in the classification of households), and a relatively strong negative effect between 1986 and 1991.

The balancing, unexplained component, which can be conceived of as the underlying trend, is negative over the period. Using the Das Gupta Standardisation-Decomposition method, this was composed of a fall of 1.04 percentage points between 1981 and 1986, a very small fall of 0.04 percentage points in 1986–1991 and a moderate fall of 0.61 percentage points between 1991 and 1996. That is, the overall rate change comprised a fall of 1.76 percentage points, compared to the 'headline' fall of 2.28 percentage points.

This result needs to be qualified. The residual balancing item (or underlying trend) may possibly be further explained by omitted variables, such as the number of income earners in a household and the nature of other investments, including non owner-occupied housing. In addition, there is a question of causality. The analysis assumes that home ownership rates may change as a result of the different demands imposed by different household types. It is possible to postulate that indeed the inverse may also be the case. That is, the type of housing tenure a person lives in may affect their household structure—for example, it might be argued that achieving home ownership may influence a person's decision to have children, rather than the other way around.

Alternative statistical analysis using regression techniques indicated that once age and household composition were taken into account, variations in the aggregate home ownership rate between years were not statistically significant in the final model.

Analysis of the home ownership trajectories of age cohorts, and changes in the shape of tenure distribution over time, indicate the possibility that part of the trend identified may be a result of delays in the move to home ownership, rather than a reduction in the lifetime achievement of home ownership. That is, some cohorts show significant decreases in initial entry at earlier ages but have lesser falls at later ages, suggesting that over time they tend to catch up.
The considerations in this paper have emphasised a need for analysis of home ownership to be based upon consistent and comparable data. While significant effort has been made to overcome deficiencies in the data contained in the one per cent Census sample files to permit a time series comparison, some problems remain.

Consideration needs to be given to data issues and the concept of home ownership. As noted, between 1991 and 1996 changes in the scope of the Census may have reduced the rate of home ownership by 0.18 percentage point; other data suggest that 10.2 per cent of non-home owners are residential property owners. The variety of these factors and the way these interact to form the overall outcomes are becoming more complex and reflect greater diversity in our society.5

It is possible to identify a large number of factors that may impact upon the pursuit and achievement of home ownership, many of which are linked to broader social and economic trends. These trends include those changes in the labour market, and more widely in society, that are associated with globalisation and technological change.

These factors also provide an essential context for considering trends in home ownership. It is important that an assumption of continuing demand for climbing the next rung of the housing ladder is not taken as the de facto basis for analysis. Under this approach, changing rates in home ownership are often perceived as a simple interaction of demand, the number of households and their means of purchase, and supply—the processes by which both established and new dwellings reach the market and the cost of finance.

The increasing diversity of our society requires stepping away from this. Home ownership is a life-cycle phenomenon, and as these cycles change, past histories and trends are of less value in guiding an understanding of current and future patterns.
Appendix 1: Development of a consistent 1981–1996 Census data series

This appendix details some major definitional and data issues that arose in developing a consistent 1981–1996 data series from the one per cent Census sample files.

A1.1 Changes to family/household type classifications

Since the 1986 Census, the family and household classifications have undergone substantial changes. As a result of the changes in the Census sample files the complexity of making valid comparisons of family and household types between Censuses is increased. An overview of these changes is provided below, with a comparison of the family/household types in each five-yearly Census presented in Table A1.

These changes reflect the need for Australian Bureau of Statistics (ABS) to balance responding to user needs with changing priorities, recognising changing social structures and maintaining relatively simple data collection instruments.

Household head/reference person, household member relationships and visitors

Since the 1981 Census, the most significant changes to the household structure in the classifications have been the dropping of the head of the household concept in favour of the household reference person and the expansion of the type of relationship classifications that occur within the household.

The concept of ‘household reference person’ was introduced in the 1986 Census along with the categories of ‘single-person households’ and ‘group households’ as separate household type categories (that is, single-person households and households containing head and unrelated adults) (ABS 1988a, pp. 1–2). This was accompanied by an expansion of the pre-coded relationship categories on the Census form to include new forms of relationship, such as the introduction of ‘de facto partner’ in 1986 and ‘unrelated flatmate’ or ‘co-tenant’ in 1991. Thus, unless a de facto couple without children indicated they were the wife or husband of ‘Person 1’ in Censuses prior to 1986, they would have been classified as a ‘head-only family’ (ABS 1988a, p. 1).

In the 1991 Census, a further change affecting data comparability was made. All visitors to a household were separately identified in family and household classifications. A household containing only a visiting family (for example, a family at a holiday home) could then be coded to a household type of ‘visitors only’ (ABS 1991b, p. 48).
Changes in the derivation of families

For each of the 1981, 1986, 1991 and 1996 Censuses, the ABS made a number of changes in the way they derived different family classifications. These are listed below.

**Inclusion of temporarily absent spouses and dependent children in family classifications**

A new question was introduced in the 1986 Census to collect information on household members usually resident but temporarily absent on Census night. Although information on all residents temporarily absent on Census night was collected, only that information relating to absent spouses and dependent family children was recoded into family and household classification (ABS 1988a, pp. 1–2). In Censuses prior to 1986, the effects of omitting a temporarily absent spouse and dependent children would be to increase the numbers in the classifications of lone-parent families, related adult households, and head-only households. By contrast, the number of couple families would be underestimated.

**Age cut-off of dependent family children**

There were also significant changes to the age cut-off for dependent family children. In Censuses prior to 1986, dependent children were defined as children aged 0–15 years and full-time students aged 16–20 years. In the 1986 Census, this was changed to dependent family children aged under 15 years or aged 15–20 years and full-time students (ABS 1988a, p. 1). Non-dependent children in 1986 were classified as related adults (ABS 1991b, p. 49). In the 1991 and 1996 Censuses the definition of dependent children was expanded to cover the 15–24 age range where the person was a child of the household studying full-time, without a partner or own children living in the household (ABS 1991b, p. 35).

**Household type changes**

The second type of change relates to the way in which people are classified into households. In each of the four Censuses, the ABS changed the classification.

Household type was a new classification introduced in 1986 that incorporated the 1981 classification of ‘families in households’ (ABS 1991b, p. 66). The household classification provides a classification framework wider than the family classification with categories that incorporate households of related adults and unrelated persons. There has also been an expansion of the basic family classification to fully identify the nature of the family (ABS 1991b, p. 49). However, although the 1996 Census sample file identified couple and lone-parent families with children, family types may possibly still include relatives and a non-trivial combination of other specific family types, as detailed in the footnote to Table A1.
<table>
<thead>
<tr>
<th>Family/Household Type</th>
<th>1981*</th>
<th>1986*</th>
<th>1991</th>
<th>1996</th>
</tr>
</thead>
<tbody>
<tr>
<td>Couple family with</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>dependent children under 15 years¹</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>✓</td>
</tr>
<tr>
<td>dependent students 15-24²</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>✓</td>
</tr>
<tr>
<td>dependent children³</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>non-dependent children</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>✓</td>
</tr>
<tr>
<td>dependent children &amp; relatives</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>other offspring (inc. relatives, dependents)</td>
<td>X</td>
<td>X</td>
<td>✓</td>
<td>X</td>
</tr>
<tr>
<td>Couple-only family</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>X</td>
</tr>
<tr>
<td>Couple family without children (inc. relatives)⁴</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Lone-parent family with</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>children under 15⁵</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>✓</td>
</tr>
<tr>
<td>dependent children⁶</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>dependent children &amp; related individuals</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>other offspring (inc. relatives, dependents)</td>
<td>X</td>
<td>X</td>
<td>✓</td>
<td>X</td>
</tr>
<tr>
<td>dependent students⁷</td>
<td>X</td>
<td>X</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>non-dependent children</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>✓</td>
</tr>
<tr>
<td>Multiple family households</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Head with adults</td>
<td>✓</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Other family/Related adults/individuals</td>
<td>X</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Head-only household</td>
<td>✓</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Non-family households</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single-person household</td>
<td>X</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Group household</td>
<td>X</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Visitors only</td>
<td>X</td>
<td>X</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Not classifiable</td>
<td>X</td>
<td>X</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

**Notes:**

* = Adults in 1981 could be relatives, as cousins, nephews, nieces, aunts and uncles were not treated as related to Person 1 but have been considered so since 1986.

The specific couple and lone-parent families derived from the 1996 Household Sample File are not exclusive. All family types include relatives. According to the published Census report (ABS 1998a Cat. No. 2017.0, pp. 70-3), the following family categories were included within the specific family types given above:

1 = includes 5.9 per cent couple families’ with children aged under 15 years and non-dependent children.

2 = includes 41.2 per cent couple families’ with dependent students aged 15-24 years and non-dependent children.

3 = includes 15.8 per cent couple families’ with children aged under 15 years, dependent students and non-dependent children.

4 = includes 3 per cent couple families with relatives.

5 = includes 7.3 per cent lone-parent families’ with children aged under 15 years and non-dependent children.

6 = includes 13.4 per cent lone parents with children aged under 15 years, dependent students and non-dependent children.

7 = includes 28.5 per cent lone parents with dependent students aged 15-24 years and non-dependent children.

Based on the classification of specific family types and households, as detailed in Table A1, comparable household types over successive Censuses were derived for the purpose of this paper’s analysis. The numbers of households in each household type by Census year are presented in Table A2.

**Table A2:** Number of households by household type, 1981–1996.

<table>
<thead>
<tr>
<th></th>
<th>Number of households</th>
<th>Proportion of households</th>
</tr>
</thead>
<tbody>
<tr>
<td>Couple with children</td>
<td>1 666 100</td>
<td>1 792 900</td>
</tr>
<tr>
<td>Couple without children</td>
<td>1 338 300</td>
<td>1 632 300</td>
</tr>
<tr>
<td>Lone parent with children</td>
<td>249 000</td>
<td>286 100</td>
</tr>
<tr>
<td>Secondary family</td>
<td>136 000</td>
<td>98 600</td>
</tr>
<tr>
<td>Single &amp; group household</td>
<td>1 279 300</td>
<td>1 436 900</td>
</tr>
<tr>
<td>Total</td>
<td>4 668 700</td>
<td>5 246 900</td>
</tr>
</tbody>
</table>

*Note:* Single and Group households includes ‘Related family’ households.
**Changes to tenure classification**

The classifications of landlord type and nature of occupancy used in the Censuses are as follows:

**Table A3: Comparison of Census nature of occupancy, tenure and landlord classifications, 1981–1996**

<table>
<thead>
<tr>
<th>Tenure Type/Landlord Type</th>
<th>1981</th>
<th>1986</th>
<th>1991</th>
<th>1996</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owners</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Owner/Owned/Fully owned</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Being purchased under rent/buy scheme</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>✓</td>
</tr>
<tr>
<td>Owner/purchaser undefined</td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rented</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public renter</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>State/Territory Housing Commission</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Non Public renter</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Government agencies</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>X</td>
</tr>
<tr>
<td>Employer-Government</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>✓</td>
</tr>
<tr>
<td>Employer-Other</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>✓</td>
</tr>
<tr>
<td>Community/Cooperative housing group</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>✓</td>
</tr>
<tr>
<td>Private landlord not in same household</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>✓</td>
</tr>
<tr>
<td>Real estate agent</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>✓</td>
</tr>
<tr>
<td>Other landlord</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Landlord not stated</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Being occupied rent free</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>✓</td>
</tr>
<tr>
<td>Being occupied under a life tenure scheme</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>✓</td>
</tr>
<tr>
<td>Other</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>✓</td>
</tr>
<tr>
<td>Other NEI</td>
<td>✓</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Other/inadequately described</td>
<td>X</td>
<td>✓</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Other/inadequately described/not stated</td>
<td>X</td>
<td>X</td>
<td>✓</td>
<td>X</td>
</tr>
<tr>
<td>Not stated</td>
<td>✓</td>
<td>✓</td>
<td>X</td>
<td>✓</td>
</tr>
</tbody>
</table>


By using both the landlord type and nature of occupancy information, the following tenure type classification was derived for this analysis:

- Owner
- Purchaser (including being purchased under rent/buy scheme)
Some issues in home ownership

• Renter:
  — Public renter (State/Territory Housing Commission/authority).
  — Private renter (private landlord, real estate agent, other government agencies,
    government employer, other employer, community or cooperative housing group, other
    landlord, landlord not stated)
• Other tenure (including occupied rent-free and under life-tenure scheme)/Not stated tenure

The focus of this analysis was on home ownership and thus the renter groupings are not
relevant to the central analysis presented in the paper.

A1.2 Issues arising from ‘not stated’ and ‘other’ responses

As indicated above, in addition to definitional problems with tenure, a number of records in the
Census sample file either have no response to tenure questions, have responses that are outside
the major tenure groupings, or are simply insufficient to permit classification. As outlined in the
paper, tenure for these records has been imputed, on the basis of family type and age, to the
major tenures.

In constructing and refining a consistent time series from this data a number of issues need to
be faced. In particular, the level of detail of the classification of tenure in the 1 per cent Census
sample files is only a summary of the more detailed Census classification; in addition
classifications have changed over time. A particular problem is that the ‘not stated’ and ‘other’
categories were not provided separately on the one per cent Census sample unit record file for
1991. As a workable solution, without the complication of applying apportionment to separate
the ‘not stated’ and ‘other’ categories on the 1 per cent Census sample files, pro rata
apportionment was used. In doing this, it is recognised that some overstatement of the resulting
estimated tenures has occurred, and tenures with small numbers may have been incorrectly
reassigned.

The category ‘other’ explicitly included ‘inadequately described’ in the 1986 and 1991 Censuses
(and implicitly in other years). It could be argued that the ‘inadequately stated’ category is a
variation of the ‘not stated’ category where insufficient information was given on tenure.
However, a compelling reason for treating the two groups together is that, in 1991, the ABS did
not publish the two groupings separately, in either the one per cent Census sample file or in
any major series. These were simply reported as ‘other/inadequately described/not stated’.6
Table A3 shows the population of households in each of these classifications.
Table A4: Other and not stated tenures, 1981–1996

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Other</td>
<td>190 647</td>
<td>174 133</td>
<td>248 654</td>
<td>35 738</td>
</tr>
<tr>
<td>Life-tenure</td>
<td>na</td>
<td>na</td>
<td>na</td>
<td>28 138</td>
</tr>
<tr>
<td>Rent-free</td>
<td>na</td>
<td>na</td>
<td>na</td>
<td>85 796</td>
</tr>
<tr>
<td>Not stated</td>
<td>134 916</td>
<td>92 601</td>
<td>na</td>
<td>146 202</td>
</tr>
<tr>
<td>Total</td>
<td>325 563</td>
<td>266 734</td>
<td>248 654</td>
<td>295 874</td>
</tr>
</tbody>
</table>

Notes:
(a) Life-tenure and rent-free households in 1991 and 1986 are included within ‘other’
(b) ‘Not stated’ households in 1991 are included in ‘other’


The lack of a separate treatment of the ‘other’ and the ‘not stated’ tenure categories in the 1991 Census makes trend comparisons difficult. This is clearly evident in the Census based time-series data on tenure, where the home ownership rate for 1991 was inconsistent with preceding and succeeding series (ABS 1996b, p. 17). The main reason was that while home ownership rates in the series were calculated by excluding the ‘not stated’ category, this cannot be done for 1991, as the ‘not stated’ responses were included in the ‘other’ tenure—itself a separate category. Hence, the lower home ownership rate for 1991 in this ABS publication.

To exclude the ‘not stated’ category only, as described in the time-series data produced by the ABS (1996b, p. 17), the report on Housing Census Data Evaluation (ABS 1995b, Table 10), provides an indication of the approach to apportioning the data. The combined ‘other/not stated’ category in 1991 would be appropriately be split into ‘other’ and ‘not stated’ categories in the ratio of 0.57: 0.43. Accordingly, the proportions ‘other’ and ‘not stated’ in the 1991 published Census reports would be respectively 2.6 per cent and 1.9 per cent (the equivalent totals were 2.5 per cent and 1.9 per cent in the Census sample). The corrected series for 1991 would be 70.1 per cent instead of the 68.8 per cent given in the historical series of Table 2.7 (ABS 1996b, p. 17) and graphed as raw Census data in Figure 2.

A further note needs to be made on the data set used in this paper. In 1996 data were separately collected on community housing and life-tenure classifications for the first time (28 138 and 85 796 households respectively). No consistent approach with earlier Censuses was possible. These categories could have been classified in a number of ways in previous Censuses, for example community housing classified to private rental, other government agency to the State housing authority category and life tenure to home ownership. For simplicity in this paper, these were allocated to the ‘other/other not elsewhere included’ grouping.
A1.3 Under-enumeration of public housing in 1996 Census

The apparent under-enumeration of public housing in the 1996 Census, while not directly impinging on this analysis, is possibly indicative of the overall reliability of some of the data. After adjusting for ‘other’ and ‘not stated’ tenures, and the ‘rent (landlord not stated)’ category, the methodology used in the paper estimated that the proportion of households that were public renters was 5.3 per cent in 1981, 6.2 per cent in 1986, 6.2 per cent in 1991 and 5.6 per cent in 1996. The adjusted sample Census estimates of public housing were 248 000 in 1981, 313 000 in 1986, 353 000 in 1991, and 358 000 in 1996.

The reported Census figures of public dwellings were 232 000 in 1981, 288 000 in 1986, 338 000 in 1991, and 329 000 in 1996 (pro-rating ‘rent (landlord not stated)’ between public and private renters). If the same adjustment method used in this paper were applied to the reported Census figures, the adjusted full Census count of public housing would be 250 000, 303 000, 354 000, and 345 000, respectively.

Thus both the sample and full Census estimates show an apparent decline in the size of public housing in the 1996 Census after increasing to 1991. This pattern is not consistent with alternative information on the size of the public rental housing stock, compiled from the State/Territory Housing Authority’s administrative data. This source reports that the number of dwellings was 288 300 in 1986, 362 000 in 1991, and 393 000 in 1996 (Department of Social Security 1997, Table A1.05).

A1.4 Changes in the scope of households and occupied private dwellings

A major change in the scope of household coverage of the Census occurred in 1986 with the full inclusion of family relationships for families in caravans in caravan parks. This was followed, in 1991, by an extension of the scope of private dwellings to cover caravans in caravan parks. Thus, caravans in caravan parks have been fully included in the classification of housing data since 1991.

A further change in 1996 was the effective inclusion of manufactured homes in manufactured homes estates and self-care units for the retired or aged in the private dwelling classification.

These groups contained a larger proportion of renters than did the overall population and it is estimated that the change had the effect of reducing the level of home ownership slightly by 0.18 percentage points. The overall rate of home ownership would have been 71.3 per cent rather than 71.1 per cent in 1996 if recorded on a basis consistent with 1981 (see Table A4 below).
Table A4 below provides an estimate of the effect on the overall home ownership rates of the inclusion of new dwellings types within the definition of private dwellings:

1. Caravans in caravans parks and marina dwellings (as from the 1991 Census).

2. Manufactured homes in manufactured homes estates and self-care accommodation for the aged and retired (as from the 1996 Census).

Table A5: Impact of changes in classification of occupied private dwellings, 1996

<table>
<thead>
<tr>
<th>Dwelling, total owned, being purchased, rent/buy</th>
<th>Excluding manufactured home estates, aged self-care units and caravans and marinas</th>
<th>Including manufactured home estates, aged self-care units and caravans and marinas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total occupied private dwellings</td>
<td>6 357 682</td>
<td>6 496 077</td>
</tr>
<tr>
<td>less Not Stated</td>
<td>231 494</td>
<td>248 258</td>
</tr>
<tr>
<td>Total occupied private dwellings excluding not stated</td>
<td>6 126 188</td>
<td>6 247 819</td>
</tr>
<tr>
<td>Home ownership rate (%)</td>
<td>69.233</td>
<td>69.049</td>
</tr>
<tr>
<td>Difference in rate</td>
<td>-0.18</td>
<td></td>
</tr>
</tbody>
</table>

Note: Figures in this table include ‘visitors only’ and unclassified households contrary to the treatment in other tables.


That is, if the scope of occupied private dwellings had remained unchanged the rate of home ownership in 1996 would have been 0.18 percentage points higher. It has, however, not been possible to correct for this in this analysis.
Endnotes

1 It should be noted that this approach has not always been applied. For example, Census home ownership ratios have been published by the ABS on a number of conceptual bases. While miscellaneous and unclear classifications are usually shown as ‘other’, practice has varied as to whether ‘not stated’ responses are shown or are excluded, and indeed some publications have shown a single data source where the data from different years have been treated differently, as well as combining data from disparate sources. (See Appendix 1)

2 By Wilcox signed rank tests.

3 The ‘other’ category in the one percent Census sample file includes categories such as those living ‘rent free’. These where not pro rated out of the total of the ‘other’ category. As a consequence the ownership rates are higher than they otherwise (See Appendix 1).

4 The adjustment for the CPI used was 2.75 per cent for the 2001 observations. This adjustment was estimated by the authors after considering a number of sources and represented a point midway between the estimates of the Treasurer and the RBA.

5 Substantial efforts have been put into gathering data to develop a better understanding of these issues, particularly in the development of the Australian Housing Survey (AHS). In particular, these data will enable a number of these hypothetical factors to be considered. The AHS collected information on the ownership of other housing assets—allowing consideration of some of the variations in renters/investors; whether persons hold HECS debts; more detailed information on housing histories, including whether an individual has ever owned a home, information to derive age at first home ownership on an individual level, size and source of deposit and equity at the time of the survey; the use of companies and trusts as methods of home purchase; and whether people have superannuation and other assets. In addition, it collected data on informal dwelling tenure and living arrangements. In providing this information, the survey permits analysis to go beyond simply describing outcomes to more sophisticated hypothesis testing.

6 While the two categories are shown separately in the Census dictionary, they were not used in the final production tape. The only separation of the two categories is given in ABS (1995b). However, these data are only for a sub population.
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