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# Housing implications of economic, social, and spatial change


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# EXECUTIVE SUMMARY

> The growth of widespread unencumbered home ownership and subsequent intergenerational transfers of wealth is one of the most important dimensions of social differentiation within Australian society. What is the future for those members of the *recession* cohort of the early 1990s who are having to start to climb the housing career ladder without any inherited wealth or prospects of secure employment? (Paris 1993, p.51)

This study is an examination of demographic and economic changes in Australian households between 1996 and 2006 and their impact on home ownership. It is substantially an update of one carried out by Dr Judith Yates (2002), in which she examined the decade 1986 to 1996.

This earlier decade was the era of deregulation, a tough one on middle Australia and on the financial system, when many of the long-term protections on the labour market and on housing finance were wound down. Unemployment and interest rates were high, and income inequality rapidly increased. In 1990, a series of financial failures occurred, accompanied by a credit crunch. As a result, borrowing on housing sunk to its lowest post-war level relative to asset values and outright ownership reached an all-time high. The national home ownership rate, which changes very slowly, fell by about 1.5 percentage points over the decade.

By contrast, the present study period of 1996–2006 was the most benign period for all forms of borrowing in Australia's history. Gross household incomes rose by 23 per cent in real terms over the decade, about half of which was due to a fall in unemployment and the rest to improvements in rates of pay. Interest rates were held low in response to several global economic crises in 1997, 1998 and 2001. The financial system was extremely liquid, both from a fourfold expansion of the local money supply and from exotic derivatives and lending instruments spawned by global deregulation. Household debt in Australia rose very rapidly to 10 times its real 1990 level in 2008, and from 33 per cent to over 160 per cent of household disposable income.

Benign lending conditions and better incomes have usually been considered the key to improving home ownership, but in fact home ownership levels did not improve significantly or even recover to 1986 levels by 2006. It has been the task of this report to establish why this might have been the case.

## Demographic change

Different age and marital status groups have very different levels of home ownership, and changes in demographics can directly impact on ownership, or can mask underlying changes in ownership levels due to housing market factors. Part of the change in home ownership rates over the decade was due to changes in the composition of households, and establishing what changes occurred and how large the effects of these changes were on ownership was a major part of the study.

A number of important demographic trends continued from the previous decade, being:

- The progression of the baby boomer bulge through the age cohorts.
- The decline in the proportion of nuclear families.
- A fall in marriage rates and fertility.
- A redistribution of population toward coastal Queensland and Western Australia.

- Inner cities which are increasingly being left to childless couples.

New trends that emerged in the decade were:

- *Accelerated ageing of the population*: expressed as a gain of 880 000 households with reference person aged 45 or over during the decade, while there has been no gain in households under 45.
- A substantial *decline in household formation rates and a steadying in average household size* everywhere except Melbourne and Western Australia, unprecedented in the post-war period. In many places the rate of household formation was only a third of the previous decade. This was due to a slowing of population growth, and to delayed household formation, with the largest loss of households occurring in New South Wales. There was an actual fall of 60 000 households with reference person aged 25 to 34 nationally during the decade, as the baby boomer cohort aged, and a further fall of 20 000 households aged under 25. Household headship rates fell slightly among people under 30.
- *A growth in defacto relationships.* Marriage became less common in all age groups up to age 60, and there was a fall of 4.5 percentage points in married household heads. This decline was considerably higher in younger age groups. The proportion of *defacto* couples increased from about 6 per cent to 9 per cent of households over the decade.
- *Change and stabilisation in household type*. Numbers of couple families with children barely rose during the decade, actually falling in non-metropolitan areas. Other household types grew uniformly, showing that the proportions of single-person and sole parent households, which had risen rapidly for more than 20 years, had stabilised to a fair extent.
- *The ageing of single categories*. The proportions of separated or divorced household heads aged under 45 fell by about 3 percentage points, reflecting later and longer marriages, while the proportion rose by about 3.7 percentage points in households over 45. The proportion of sole person households that were aged over 45 increased very substantially, from 44 per cent to 70 per cent, so that sole persons are now mostly middle-aged or retired.
- *Geographical diffusion* of a number of earlier trends, as non-metropolitan areas adopted changed social norms such as greater toleration of *defacto* relationships. In general, socioeconomic differences between central and peripheral areas reduced across the board.
- *Infill development in Sydney.* The two major cities adopted very different development patterns. Melbourne continued a traditional expansion at the periphery, with a *hollowing out* of younger households in the middle ring as the existing occupants aged. Sydney's *infill* strategy has been successful in limiting edge growth in favour of increasing densities in the middle ring, and shows a more even spatial distribution of different household types and age groups, but population growth has been comparatively limited.

## Home ownership outcomes

Surprisingly, despite the benign economic climate, the aggregate outcomes for home ownership were not positive. The incidence of home ownership rose by 0.8 percentage points over the decade, but this was entirely due to changing demographics—a rise of 1.5 per cent due to ageing of the population, and a fall of 0.7 per cent due to changes in marital status. All age groups except the youngest (under 25) showed a small fall in ownership rates.

Marginal ownership groups showed considerably greater declines in ownership rates, especially in urban areas, and especially for families with children. The most significant changes in age-income groups were:

- *Continued decline among upper middle-income 25–45-year-olds.* The troubling trends observed by Yates for 1986–1996—a fall in ownership rates in the upper-middle household income groups of 25–44-year-olds—continued unrelieved, to give a fall of about 15 percentage points in the incidence of ownership over the full 20 year period. It appears that marginal entrants with children were being out-competed by childless couples, investors, and (in 1996–2006) by baby boomers recovering from the poor conditions of the 1980s. This kept prices just out of their reach.

  In the present decade this fall was relieved considerably by the movement of households into higher income brackets as unemployment abated.

- *Accelerated decline among low income 45–64-year-olds.* The poorest 45–64-year-old households also showed a substantial loss in ownership rates in the study decade. The baby boomer generation lived through a period of very high interest rates, restricted finance and labour force casualisation. Those with higher incomes have managed to recover from this situation but the low income group has not, with ownership rates 10 per cent lower than their equivalents 20 years earlier.

- *Loss of outright ownership among young people.* During the decade, a very major shift occurred from outright ownership to purchasing with a mortgage. Much of this was simply a recovery from the poor borrowing conditions of the previous decade. However, in the past, much home ownership among low income younger people was outright ownership, probably due to inheritance and other bequests. This outright intergenerational assistance seems to have fallen right away, leaving outright ownership as largely a tenure for older people.

- *Changes in marital status*. The report has specifically investigated what part of the observed declines in ownership are due to demographic change rather than housing market effects. It is estimated that about half of the decline in ownership among the age-income groups where ownership has fallen substantially is due to changes in marital status and household type—mostly to the proportionate loss of married couples who have much higher typical ownership rates than *defacto* couples or singles.

The bright spots for home ownership are in the areas which have been specifically targeted by governments since the early 1980s, and in non-standard family types. There has been more of a *level playing field* for households which previously had poor access to finance, so that differences in ownership levels between different groups have decreased across the board.

- Singles, single parents and *defacto* couples have increased their ownership levels.

- There has been a noticeable increase in home purchase for households under 25, although this is concentrated in the high income group. This appears to be due to the First Home Owners Scheme (FHOS) which has clearly reached its target demographic, although it has not reached needy households.

## Home ownership in particular locations

Although Australian housing markets are fairly uniform in space, and most trends seem to occur simultaneously nationwide, there are some pervasive differences in home-ownership rates between different cities. Some of these may relate to housing and land market pressures, especially in Sydney and Brisbane. However, active

markets' high housing prices do not universally mean lower rates of home ownership, as shown by the example of Perth where ownership has been increasing quite rapidly.

- The two major cities, Sydney and Melbourne, have the same marginal ownership curves (increases of ownership with income) in 1986, 1996 and 2006 as each other, but Sydney's home ownership rates remain consistently lower—more than 6 per cent lower than Melbourne and almost 3 points lower than the metropolitan average. This is linked to general land shortages in the city which result in higher prices.
- The falls in home ownership rates in the marginal purchase groups have been about 5 percentage points greater over 20 years in Sydney than in Melbourne, supporting the idea that markets are more fiercely contested in Sydney.
- Brisbane has the lowest ownership rates after Sydney, being 2.3 percentage points lower than the metropolitan average. It is the only city (or study region) in which ownership rates fell during the study period—and Brisbane is also the study region in which home ownership fell the most in the previous decade.
- Perth's population and house prices have also been growing rapidly, but its home ownership levels, especially among young people, are quite high and at present trends it will soon have the highest home ownership level of the capital cities. This may relate to its low urban density or to more liberal land use policies.
- Non-metropolitan Australia now has essentially the same ownership profile in aggregate as metropolitan Australia. Ownership in remote areas, which has been very low, has increased—by about 11.5 percentage points in the Northern Territory over 20 years—probably due to an extension of the banking system, Aboriginal and Torres Straight Islander Commission (ATSIC) lending, and the decline of residential mining towns which were rental.

Overall, the tenure behaviour of Australians in different cities and most rural areas is more even than it was in the past, with marginal propensities to become home owners becoming increasingly similar, although small absolute differences in home ownership persist. This suggests that the market reforms of the 1980s have resulted in spatially more even behaviour, just as the tenure behaviour of different household types is slowly converging.

## Determinants of ownership

One of the research questions to be tackled was whether the determinants of home ownership had changed over the decade. For this, a model was constructed which enabled us to examine the importance of different determinants included in our Census data set, as well as the extent to which the changes in ownership we had observed were simply the outcome of demographic change. Rather than use a logistic form of the Generalised Linear Model, which others such as Yates (2000) have commonly used to estimate probabilities of ownership, we used the linear form of the model. This both delivered a better fit and permitted more comprehensive statistics to be calculated.

The main results of the model were first, to confirm that the behaviour of households at different stages of the life cycle is very different. In particular, in the critical wealth-forming years 25–44, marriage and employment are extremely strong determinants of ownership. Legal marriage is associated with an average lift of 25 percentage points in ownership levels in 25–44-year-olds, but only 10 percentage points in 45–64-year-olds. These differentials have increased with time. Having no-one employed lowers ownership by 22 percentage points for households in this key entry age group 25–44, but has a much lower effect in other age groups.

Marital status is more important than household type in determining purchasing behaviour. The fall in ownership among 25–44-year-olds is at least half explained by lower marriage rates. The fall of ownership in low income 45–64-year-olds is also due in part to a big rise in sole persons of this age. The improvement in ownership in young households under 25 is also somewhat illusory—after adjustment for demographics, a rise of underlying ownership of 1.5 percentage points in the top income group of these households during the decade has been balanced by losses of 2–3 percentage points in other income groups.

The analysis also confirms that (with the exception of the remote areas) gross regional differences in most of the variables we have studied in the report are quite small and becoming less significant. There are long-term pervasive differences in ownership rates between the states, but these seem to be due to historical factors rather than to household characteristics. However, when results are disaggregated by age, regional differences become important.

Elasticities of home purchase with income are surprisingly small—a 5 per cent rise in income is required for a 1 per cent increase in home ownership. The steepness of these curves reflects the extent of competition for mortgage funds in different markets—with Brisbane showing the tightest and most active market. Melbourne has the most equitable housing market, as well as the highest rates of home ownership, probably reflecting the better availability of land.

## Housing markets in stress

A major concern of this report is that home ownership rates did not rise during such a benign period for lending and employment, and actually continued to decline for households in marginal purchasing categories. This leads to a poor prognosis for ownership over succeeding decades, with very high house prices creating serious affordability problems for new entrants. The lack of improvement in ownership is only one of a number of early warning signs of a stressed housing market, and the situation will only worsen unless corrective measures are taken.

In 1992, the UN and World Bank developed a number of indicators which were intended to show well-functioning housing markets or to diagnose housing markets with problems. During the study period, a number of these indicators moved into the stress zone in Australia. These include:

- *Median house price-to-income*, which moved well above the safety level of 3, to multiples of 6 and above in most markets, showing very high prices relative to income.
- *Household formation rate*, which fell by two-thirds in many cities. This was not just due to fewer young people, but also to a slight increase in average household size – unexpected in a time of prosperity.
- *New house construction* has not responded to the improved financial conditions of the decade. This is a sign of a poorly functioning market with rigid land supply.
- Gross *rates of return* on rental property, which fell from typical levels of 7 to 9 per cent, to unprofitable levels of less than 3 per cent, showing a market driven by capital gains rather than rental income—the definition of a bubble.
- Very tight rental markets—with *vacancy rates* falling as low as 1.5 per cent in some cities.

After 1996, first debt, and then house prices began to rise very rapidly. In real terms, median house prices increased by about 88 per cent on average over the decade, to about 6.8 times median household income. Housing debt more than quadrupled

relative to incomes, and despite low interest rates, interest payments almost doubled as a proportion of income. Most of this increase was for borrowing on existing housing, particularly within cities, where house price gradients away from the centre continued to steepen.

House prices have risen because finance was deregulated in the late 1980s but planning was not. Prior to 1986 both housing finance and land were rationed through government controls, maintaining a balance, but after 1990, finance steadily expanded while land use controls continued to remain tight and taxes on new housing increased, making new housing both less profitable and less available. The lack of any real taxation on owner occupation also has led to over-consumption and to speculative activity taking the form of ever-rising prices.

Thus, piecemeal deregulation has created a dangerous and unstable situation which has received limited adverse attention. On the one hand Australia is vulnerable to a collapse like the USA or other collapsed bubble countries, where prices fell by a half during the subprime collapse in those areas where they had boomed—or to a long, slow decline as in Japan since 1988, which is probably worse as it will mean very large real rent rises in the current tight market.

House construction rates have appeared high in Australia by international standards, but in fact they have not been sufficient to meet demand, partly because of a loss of prospective dwellings for new entrants to other uses. In a situation of tight supply, several groups have been *removing* affordable entry housing from the market or have continued to occupy housing which once would have been available to younger purchasers.

The first group is *older households* which because of increased longevity and better care are staying in their dwellings much longer. The number of households aged over 65 rose by about 260 000 during the decade. This would not matter if sufficient housing for new entrants had been built—but it has not.

Another *housing sink* is *second homes*—which includes holiday homes and urban apartments for rural dwellers. The number of these has grown substantially due to increased prosperity and income inequality—probably also encouraged by an investment motive. There is no accurate count of these second homes in Australia, but the big increase of 230 000 in *non-classified* households in the Census (apparently occupied but vacant) over the decade is indicative of the magnitudes involved.

Another contribution to high prices for existing homes has been the diversion of *investor finance* away from new construction into established housing. Before 1988 the majority of investor finance went into new construction—but this has been another casualty of deregulation, in that investors are now treated the same as any other purchaser. As a result, investors now spend only about 5 per cent of their funds on new construction, preferring the much higher profits that can be obtained from capital gains—and assisted by taxation laws.

This has been of benefit to renters who consequently pay a low percentage of house price on rents, but it does mean that investors have been outbidding younger home buyers for well-located entry properties with good prospects for further capital gains. As well, these investors have not been deterred by negative net rental returns which have resulted from rising housing costs and they continue to pour into the market—in many cases encouraged by the alleged tax benefits of negative gearing.

## Tenure problems and policy options

It has always been presumed that the home ownership rate is largely dependent on the availability of finance—with a lag—and that in times of easy finance home ownership will slowly rise. What this report shows is that this is not necessarily the case – that in a situation of tight supply, house prices may move ahead of finance, and that changes in underlying demographics may be even more important than economics in determining the gross home ownership level.

Australia is very well housed by international standards with large dwellings and a high rate of home ownership. While housing affordability problems are not very obvious at the moment, we expect that over the next decade these will become much more evident, unless specific efforts are directed toward increasing the supply of affordable housing for ownership and rental. We have identified two age-income groups toward which specific measures should be addressed.

*Redressing home ownership among the low income middle aged.* The most urgent problem is falling home ownership rates among low income 45–64-year-olds. Those unable to make it into home ownership will eventually pass into retirement as renters (especially those reliant on pensions or benefits) and may have to bear high levels of housing stress, while also costing the public purse a good deal through requiring the Commonwealth Rent Allowance, and causing increased demand on public housing.

Redressing this situation is a matter of some urgency. We are reaching a situation where for the first time, two generations may well be on the aged pension, which could be a very considerable load on the community. Owner-occupied housing has been a major form of support for the aged, and the fall in ownership among lower income elderly will considerably lower their welfare—as well as making it necessary for the government to provide rent allowances for an extra 10–15 per cent of the population for up to 40 years.

Some impact might be made by relaxing the conditions on First Home Ownership Scheme (FHOS) to appeal to this age group, but unless closely targeted to those in need, this is 'fuel to the flames' which will only add to the affordability problem, because it further increases pressure on demand without addressing the supply of affordable housing. It may be cheaper to increase the stock of public housing—possibly funded by a tax on the capital gains, which as this report concludes, have been artificially inflated by uneven deregulation. Other sources of funding for social housing might be housing equity bonds aimed at superannuation funds, of the kind recently introduced in several European countries.

*Redressing lower home ownership among the middle-income adults*. Upper-middle-income 25–44-year-olds today have considerably lower access to home ownership than their parents, due to high and rising prices. This group has been hit by a *triple whammy* of rising relative prices, the loss of the preferential treatment they enjoyed prior to deregulation, and falling inheritance. The decline will soon extend further and deeper as younger cohorts seek to enter home ownership.

Restoring the situation for these marginal purchasers, particularly those with children, is more difficult. The traditional solution of means-tested home purchase assistance would simply drive prices higher, as would virtually any expenditure program. To restore the position of middle-income home purchasers in the market, prices would need to be driven down. What we seek is a restoration of affordable price multiples and proper rates of rental return—similar to those of the post-war period or to those currently prevailing in those US cities such as Dallas or Houston which did not participate in the housing bubble and crash of 2004–2008. This may happen of its

own accord with an eventual market correction similar to that of the USA, but there is no sign of this happening at present.

Developed economies have generally ignored the warnings provided by overheating housing markets—in most cases to their considerable cost—or have attempted to control them by raising general interest rates. One country, China, has applied specific measures directed at the housing market. China has a residential property bubble of a similar magnitude to Australia, and during 2010 they have sought to drive down demand by increasing house deposit requirements and mortgage interest rates, while increasing the supply of urban land by 35 per cent in six months. This engineered a small correction in housing markets of about 9 per cent, while keeping purchase rates of new dwellings fairly high. China is more accustomed to interventionist measures in economic planning than democracies are, and it will be interesting to see if they can manage their bubble without a systemic collapse.

If the problem lies within poorly functioning housing markets, then control measures should be aimed specifically at the causes. Policies that could re-establish a balance are all of the 'tough love' variety involving the removal of funds from the established housing market. For example, the rationing of funds in the pre-deregulation manner as in China—increasing deposit ratios, decreasing loan-to-income ratios, or requiring higher Tier One holdings from lenders—would drive down housing prices. However, these would all fall on purchasers, causing home ownership to fall in the short term.

It might instead be better to tax away the artificial gains that have been created, as a form of value capture similar to that already applied to new lots at the periphery. These capital gains taxes could be used to improve affordable housing supply in a variety of ways. Other taxes on existing housing such as elevated property taxes or increased stamp duties would also keep property markets from overheating. An extra tax on *vacant second homes* would also be a step in the right direction.

The present situation where investors continue to pour into a rental market that is losing money is very undesirable, but while rental markets remain tight, it is not so easy to act. Landlords need to be encouraged back into new construction, and *quarantining of investment income* by category, with an exemption for new dwellings, seems virtually a necessity.

On the supply side, deregulating planning in the same way as the financial system would clash with other social objectives and would have few supporters. There are a few less extreme measures that would assist—*restricting compulsory developer contributions* to no more than the cost of providing infrastructure, or paying for infrastructure from taxes on existing housing. *Infill clearance and redevelopment* to provide smaller dwellings is an inevitable market response to high prices, and facilitating this should also be an aim of government. *Extending the city on the periphery* is also essential if populations are to increase, unless *establishing regional centres* of employment which would take the pressure off the big cities can be made to work.

## Conclusion

The *market reforms* of the 1980s have had a profound and continuing effect on housing and financial markets in Australia. In line with classical economic theory, more of a *level playing field* has been established for entry to home purchase, which now depends increasingly on income and decreasingly on household characteristics or location.

While ownership levels have stayed quite steady during the decade 1996–2006, this is not a good outcome during a period of prosperity. In fact, ownership among the key

income-age entry group continues to fall quite rapidly as it did in the previous decade, and this will have long-term implications for equity and welfare.

*Middle class welfare* in the form of the support apparatus established in the post-war years to assist young families into home ownership has largely been dismantled since the 1980s. The result is that the *hump* in ownership among young middle-income households, in which they had higher ownership rates than one might expect from their incomes alone, had disappeared by 2006. This has flowed through from the previous decade into the lowest income group of 45–64-year-olds, among whom home ownership rates have fallen by 15 percentage points since 1986. It is expected that this decline will accelerate and extend higher into the income range and to the retired group in forthcoming years.

In this context, the very high housing prices that are currently extant are a major concern. It appears that the benefit of higher household incomes in the benign decade 1998–2007 went into pushing up house prices and debt rather than improving home ownership or increasing the stock of housing. The country that promised limitless land, cheap housing and near-universal home ownership to all comers now has some of the most expensive housing in the world. High house prices act as a drag upon growth and competitiveness, have exaggerated inequities in wealth and intergenerational inequity, and they will eventually increase the welfare burden on the community.

If rises in national income continue to be capitalised into higher house prices rather than being used for beneficial investment, then Australia will eventually have to get used to being a country of lower home ownership than we have been used to. If house prices are to stay high and increase, as seems likely – this would be a considerable drag on the Australian economy, a barrier to competitiveness and livability, and above all, a deterioration of intergenerational equity, amid very tight urban housing and land markets – and little prospect of restoring the balance unless a very comprehensive programme of reform is undertaken.

It is our contention that this situation has been caused by government action—a deregulation of finance in the 1980s with no corresponding deregulation of planning. As such, the problem can be cured by government action. In the short term, symptoms like lower home ownership or tight rental markets can be improved by well-targeted programs, but in fact these are only patches rather than solutions to the underlying imbalance which will continue as prices increase.

According to economic theory, there are only three ways to fix a long-term problem of market imbalance: to deregulate planning (thereby increasing the supply of land), to re-regulate finance (thereby restricting demand) or to tax away the artificial gains in land value and reallocate those gains toward those in most need (thereby creating a better match of supply to demand). These are tough measures which may have to wait for tough times before gaining a constituency. However, the alternative is to tolerate the situation and accept lower ownership levels, increasing housing stress, and an ongoing drain on the public purse, while waiting for a US-style market collapse that may emerge during times of economic difficulty.

# 1 INTRODUCTION

## 1.1 Background

This report is an update of a study carried out by Dr Judith Yates for AHURI in 2002, which investigated changes in home ownership, demographic change and income and regional polarisation over the years 1986 to 1996. The present study examines many of the same questions over the subsequent decade 1996–2006. The research questions to be addressed are:

- What was the change in home ownership rates between 1996 and 2006 for different regions, age cohorts, income groups, household types and marital status groups?
- How does the change in income distribution compare with the previous decade and what effect has this had on rates of home ownership?
- What effect do housing prices have on home ownership, for different groups?
- Have the determinants of home ownership changed since 1996?

We have added several further questions because of their significance for the current housing debate:

- What are the changes in the principal demographic variables affecting home ownership, and to what extent are changes in home ownership a result of socioeconomic change rather than housing market conditions?
- How are changes in home ownership levels related to the current high levels of house prices and housing debt which are current, and what direction does this provide to policy makers in addressing the situation?

The Global Financial Crisis of 2007–9 has made it abundantly clear that housing markets are intimately connected with the whole economic system. While economic conditions have always affected housing markets, it has seldom been so obvious that the reverse is also true. *Bubble* conditions in housing markets followed by sudden collapses may trigger credit crises that cause economy-wide slowdowns.

While the impacts of economic conditions on housing markets are obvious, what is perhaps not so widely appreciated is that demographic changes can also have significant implications for housing markets and tenure. Different socioeconomic groups have different average demands for housing and home ownership, and if these groups alter in size or importance, there will be an impact on housing markets and on tenure. It has been frequently observed that the converse may be true—that adverse housing market conditions will cause people to share accommodation and delay the formation of new households.[1]

The purpose of this report, then, is to inform stakeholders as to what is happening in housing tenure in Australia, what are the causes of these changes, and what policy changes may lead to better outcomes. When different parts of the socioeconomic system are moving in tandem, the directions of causality are vitally important in determining what types of policy intervention may be successful, and the report devotes a good deal of attention to these questions.

[1] It has been speculated, for example, that housing shortages will cause people to delay marriage or the rearing of families (for example, Hughes 2003); and that single persons will stay with their parents longer when faced with high housing costs.

For example, it is accepted that in a democracy, government cannot regulate people's lifestyle, relationship or family choices, so if housing outcomes are a result of these it becomes the task of government to appreciate and facilitate the changes. If labour markets and income distribution are instead regarded as the main drivers of housing market change, as in the Yates study, then housing policy makers need to be responsive to policy decisions in these other sectors. However, if it is the operation of housing and planning markets themselves that are causing undesirable social outcomes, then housing and planning policy makers need to take the lead.

The two decades 1986–1996 and 1996–2006 were very different in economic terms. As described in the Positioning Paper for this study (Flood & Baker 2008), the period 1986–1996 was one of considerable financial turbulence, slow economic growth and increasing income inequality. By contrast, the period of this study was on the face of it an excellent one for the Australian economy, with a return to conditions of income growth and low unemployment not seen since the 1960s.

The two periods were also different in terms of socioeconomic trends, with a number of long-standing social changes apparently nearing maturity. Accordingly, a comparison of the two periods provides an excellent laboratory for investigating to what extent housing market changes are independent of both the economy and of social trends, and whether housing and planning policy is in need of a significant overhaul.

## 1.2 Report outline

As is expected for a repeat study, the report has a similar structure to Yates (2002) and duplicates a number of the same tables for the succeeding time period. However, it pays considerably more attention to changes in the socio-political and economic environment, without which the changes of the present decade cannot be understood.

Chapter 2 looks at major national and regional demographic changes, most particularly the ageing of the population and a large fall in household formation rates which has stalled the long-term trend to smaller households. It also pays particular attention to marital status, which recent studies have shown to be a major determinant of housing tenure for both young and older people (Beer et al. 2006; Burke et al 2007).

Chapter 3 examines changes in employment, income and housing costs. The choice as to whether to become a home owner is strongly influenced by whether household members have stable employment sufficient to meet mortgage repayments over an extended period. Rising real incomes and falling unemployment should have caused a substantial increase in home ownership; however, a good part of the improvement in household incomes has been taken up in rising house prices and in supporting higher housing costs, especially housing debt.

Chapter 4 is the main empirical part of the report, and deals with the incidence of tenure with respect to age, marital status, household type and income, and changes in home ownership and other tenures during the study period 1996–2006. The variations in metropolitan and non-metropolitan areas and within rings of the largest cities are examined.

Chapter 5 returns to the broad terrain of the Positioning Paper, re-examining the turbulent twenty-year history of housing between 1986 and 2006 and the institutional background to the very rapid rises in housing prices that occurred at the end of the period. It discusses the various arguments surrounding high housing prices and the contribution that the tenure changes we have identified might bring to the debate. It

finally tabulates all the complex changes in socioeconomic and housing market variables that have been examined in the report, along with directions of causality.

Chapter 6 brings together all the previous analysis to consider exactly why the empirical trends in home ownership established in both the Yates (2002) study and Chapter 4 occurred: socio-demographic and economic change, the failure of the market to deliver affordable housing, and the contributions and inadequacies of housing policy. It outlines the undesirable changes that lie hidden within the broader statistics and their long-run implications. The very substantial re-orientations of policy that will be necessary to restore balance to markets, or simply to counter some of the worst implications of this imbalance, are canvassed.

# 2 CHANGES IN SOCIODEMOGRAPHIC STRUCTURE

This chapter analyses changes over the past decade in some of the most important demographic variables that impact home ownership. These are:

- population trends, household formation and household size
- age structure of the population
- marital status
- household type.

Sections 2.1 to 2.4 examine these four types of data at the national and broad regional level and their importance to the tenure question. Section 2.5 separately considers demographic changes within the largest cities, which have a different dynamic to the regional changes.

## Data specifications

Like Yates (2002), our main but not exclusive source of data both for examining changes in demographic variables, and changes in tenure, are two large Census cross-tabulations of counts of households classified by various characteristics across twenty-three regions for 1996 and 2006. The classifications are designed to be comparable with Yates' results. However, our data are a little more detailed in that we have included 5-year age groups between 25 and 45, and we have included marital status of the household reference person.

The data throughout the report are presented for 13 regions, which are capital city/rest of state in the five larger states, with a single category for Tasmania and the two territories.[2] As Yates has done we also have data for three rings within the two largest cities, Sydney and Melbourne, to show the demographic restructuring of cities that is occurring.

Appendix A of the Positioning Paper (Flood & Baker 2008) gives the exact specification of the Census variables included in the special Census tables, and Appendix A of this report describes some of the peculiarities of the data.

## 2.1 Population, household growth and household size

*Population trends*

Australia has one of the most rapidly growing populations in the OECD,[3] due to immigration and a higher than average (but falling) fertility rate. This population growth has been spatially rather uneven over a long period.

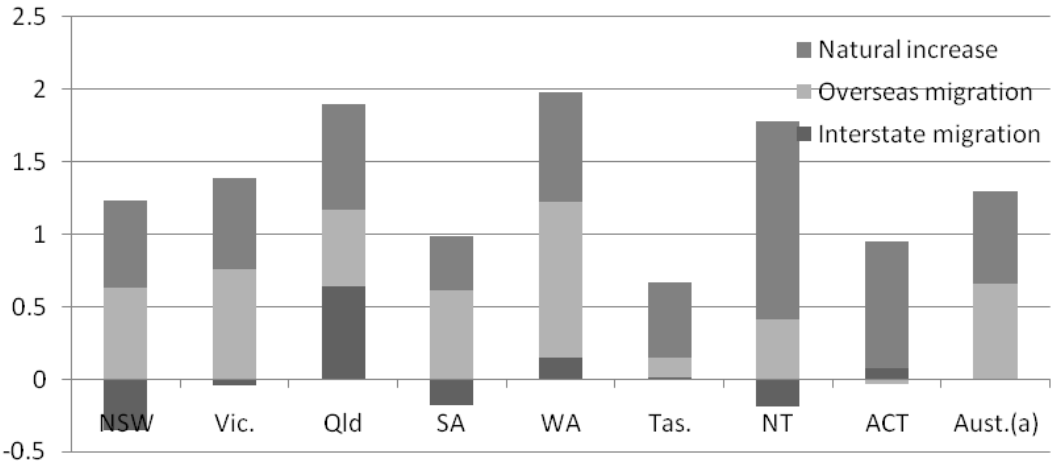
Figure 1 shows that the varied population growth rates in different states of Australia are the sum of three effects: natural increase and domestic and international immigration. In fact the large cities receive most of the international immigrants, while the Northern Territory and the Australian Capital Territory have faster rates of natural growth due to younger populations. Queensland and to a much lesser extent Western

[2] Where metropolitan/non-metropolitan classifications are used, these three smaller regions have been divided accordingly.

[3] Only Turkey and Mexico had a larger population growth rate over the whole period 1986–2006, according to the OECD Factbook 2009. (http://www.oecd.org/document/62/0,3343,en_21571361_34374092_34420734_1_1_1_1,00.html)

Australia have gained population from the other states – mostly from Victoria prior to about 1995, and mostly from New South Wales after that time.

**Figure 1: Components of rates of population growth 2005–6 by state, per cent**




Source: Australian Demographic Statistics. ABS Cat No. 3101.0, Table 2.

Population growth declined from about 15 per cent during 1986–96 to 11 per cent during 1996–2006.

## Household formation

The *household formation* rate or rate of growth of households is the principal measure of the demand for new dwellings and of demand pressure on the housing market, since every new household needs a dwelling. When there are supply constraints, the household formation rate may fall while household size rises, because there are not enough houses for everybody and crowding begins to occur. Household formation therefore, acts as both a safety valve for the market and an indicator that supply may be inadequate.

As household sizes have continued to fall over a long period, the rate of growth of households has been considerably greater than the rate of growth of population. As well, it has been more volatile, because it is a safety valve that rapidly adjusts when things go wrong – when affordability becomes an issue or there are shortages of dwellings (Hendershott 1987; Haurin et al. 1993; Ermisch 1999).

Over the decade 1986–1996, the number of households in Australia increased by about 1.3 million or 25.2 per cent, whereas in 1996–2006, it increased by 1.1 million or only 16.9 per cent. This much slower rate of household growth has not been evenly geographically distributed (nor has it been evenly distributed across age groups).

Table 1 shows that household growth rates have been considerably below the Australian average since 1966 in Tasmania and South Australia and considerably above average in Queensland, Western Australia and the Northern Territory – in line with population growth.

**Table 1: Per cent annual growth rates of households by state, 1966–2006**

| | *1996–06* | *1986–96* | *1976–86* | *1966–76* |
|---|---|---|---|---|
| New South Wales | 0.9 | 1.2 | 1.1 | 1.6 |
| Victoria | 1.2 | 0.9 | 0.9 | 1.7 |
| Queensland | 2.1 | 2.4 | 2.3 | 2.3 |
| South Australia | 0.6 | 0.6 | 0.8 | 1.5 |
| Western Australia | 1.6 | 1.9 | 2.2 | 3.3 |
| Tasmania | 0.3 | 0.6 | 0.8 | 1.1 |
| Northern Territory | 1.5 | 1.6 | 4.6 | 5.7 |
| Australian Capital Territory | 0.8 | 1.8 | 2.2 | 8.0 |
| Australia | 1.2 | 1.3 | 1.3 | 1.9 |

Source: Census 1966 to 2006.

Table 2 shows proportions of households in 13 regions in 1986, 1996 and 2006, and ten-year rates of growth. During the second decade there was a startling decline in household formation rates everywhere except Melbourne and Western Australia. Queensland still easily retained the highest growth rates in 2006, but they have almost halved over the preceding period. In South Australia, Tasmania and the ACT, household formation rates fell by about two-thirds from the previous decade. Nationally, non-metropolitan households grew slightly faster than metropolitan households, largely due to growth in coastal Queensland.

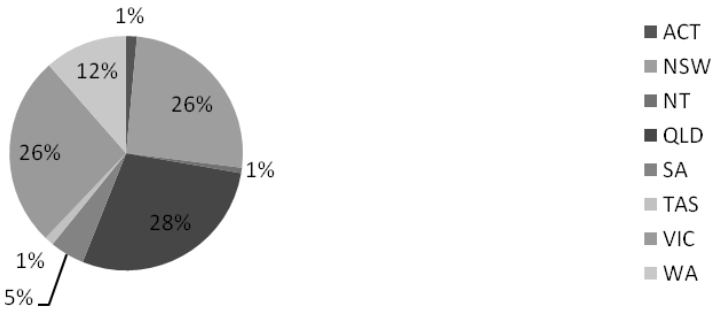
**Table 2: Regional share of households[a] and growth in households, capital city/rest of state, 1986–2006**

| | *Regional share* | | | *Growth* | *Growth* |
|---|---|---|---|---|---|
| | *1986* | *1996* | *2006* | *1986–1996* | *1996–2006* |
| | *%* | *%* | *%* | *%* | *%* |
| Sydney | 21.8 | 20.5 | 19.9 | 16.2 | 10.4 |
| Rest NSW | 13.0 | 13.1 | 12.7 | 23.4 | 10.5 |
| Melbourne | 18.4 | 17.7 | 18.0 | 17.9 | 15.6 |
| Rest Victoria | 7.3 | 7.1 | 7.0 | 19.5 | 12.2 |
| Brisbane | 7.6 | 8.3 | 8.8 | 35.8 | 19.9 |
| Rest QLD | 8.8 | 9.9 | 10.7 | 40.1 | 22.5 |
| Perth | 6.7 | 7.2 | 7.4 | 18.0 | 16.7 |
| Rest WA | 2.4 | 2.4 | 2.4 | 15.6 | 15.5 |
| Adelaide | 6.5 | 6.4 | 6.0 | 35.8 | 7.0 |
| Rest SA | 2.4 | 2.2 | 2.1 | 28.0 | 9.4 |
| Tasmania | 2.9 | 2.7 | 2.5 | 18.2 | 6.4 |
| NT | 0.8 | 0.8 | 0.8 | 24.2 | 12.9 |
| ACT | 1.5 | 1.6 | 1.6 | 34.4 | 12.3 |
| Metro | 64 | 63.4 | 63.3 | 21.7 | 13.6 |
| Non-metro | 36 | 36.6 | 36.7 | 26.3 | 13.9 |
| Australia | 100 | 100 | 100.0 | 23.4 | 13.7 |

Source: Yates (2002) and Census special cross-tabulations.
Note: [a] does not include non-classifiable (vacant) households.

Figure 2 shows the breakdown of the increase in household numbers by state, with 28.4 per cent of the growth occurring in Queensland, over 25 per cent each in Victoria and New South Wales, and 11 per cent in Western Australia. More than 80 per cent of net household formation was in three states, Queensland, Victoria and New South Wales.

**Figure 2: Growth in numbers of households 1996–2006, states and territories**

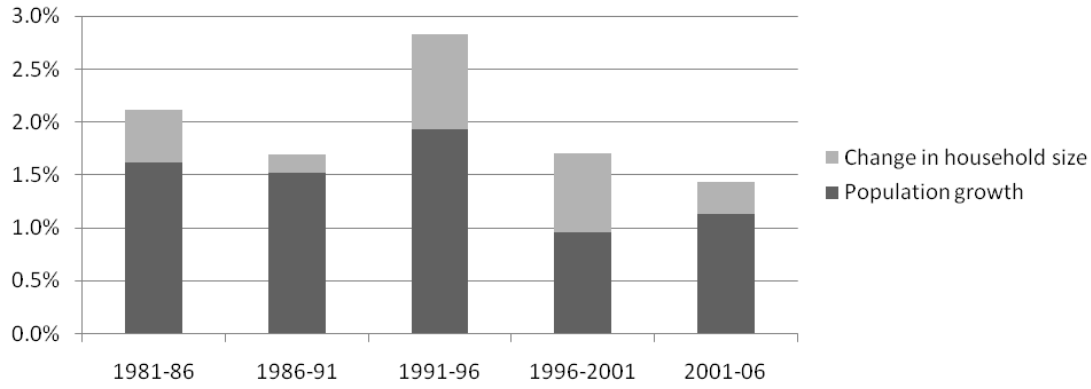



Source: Census special tabulations.

## Household size

The household formation rate is approximately the sum of two components, the population growth rate and the rate of fall of household size, as Figure 3 shows.

**Figure 3: Components of household growth rate, Australia 1981–2006**

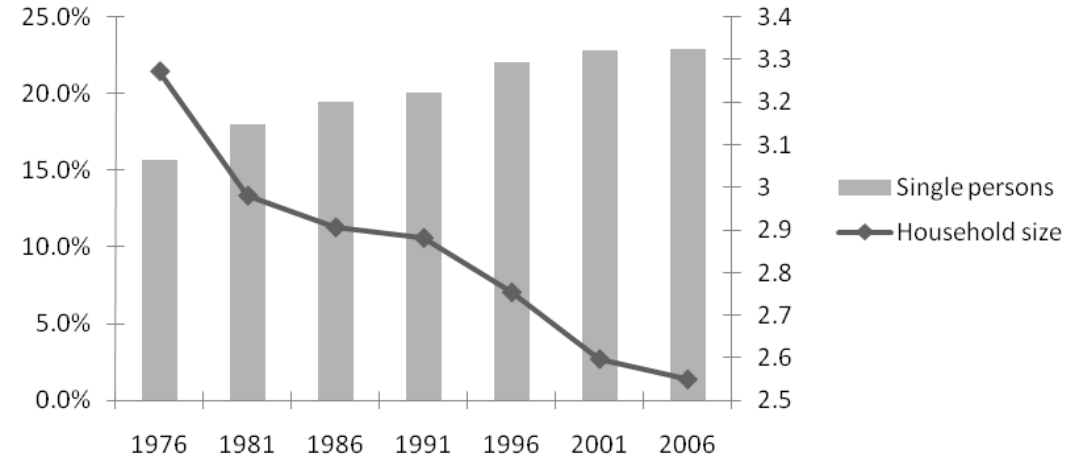



Source: Computed from Census population and household figures.

The average size of households has been falling steadily over a very long period, for two reasons: among households with children, family size has fallen, and also the proportion of single-person households has increased. It has fallen from 3.27 to 2.55 since 1976. As a general rule, household size diminishes more rapidly when housing is affordable, and the fall in household size was particularly pronounced between 1976–81 and 1991–2001, as Figure 4 shows. It appears to have stalled during the last inter-Census period 2001–2006, just as it did during the period of rising housing costs, 1981–1991.

The proportion of *single-person households* has leveled off at about 23 per cent of all households during 2001–2006 after increasing steadily for thirty years—although it is projected to keep rising. As with household size, this is a very significant development which may be related to housing market conditions.

**Figure 4: Household size and proportion of sole person households, 1976–2006**




Source: Australian Census 1976–2006.

The fertility rate appears to have bottomed out in 2001, according to data in Australian Bureau of Statistics (ABS 2008); however, the average number of children born to

women who have completed their families continues to fall—from 2.8 in 1981 to 2.0 in 2006—while the median age of women at first birth has slowly increased. The proportion of childless women aged 30–34 has increased from 20 per cent in 1986 to 29 per cent in 1996 and 37 per cent in 2006.

## 2.2 The ageing of the population

Age is the major variable in any analysis of housing tenure, because once households achieve home ownership, they do not often step back to renting. The proportions of home owners rise rapidly with age – especially the proportion of outright ownership as householders pay off their mortgages. Once the owners of a dwelling die, it is passed on to their heirs, and this is an important source of housing for younger people.

*Age of household reference person* turns out to be particularly important in analysing many of the trends in the remainder of the report, and there are genuine qualitative differences in attitudes to housing and housing market behaviour by households at different stages of their life cycle. Many of the results contain what Yates calls *cohort effects*—the effects of history—when people who lived through past circumstances carry forward the outcomes of a decade ago into their current circumstances. This is particularly true of tenure, where there are lags reflecting the very different housing market circumstances in the past.

Since about 1971, Australia has had a consistently ageing population[4] as the post-war baby boom cohort has moved through the population, as Table 3 shows. Children under ten have fallen as a percentage of the population from about 21 per cent in 1954 to 12.8 per cent in 1996, teenagers were at a maximum in 1971, and young adults in 1981. People over 30 have increased steadily as a proportion of the population since 1971.

**Table 3: Percentage of population in census age cohorts, 1947–2006**

| | ***Proportion of total population (per cent)*** | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| ***Age group (years)*** | ***1947*** | ***1954*** | ***1961*** | ***1971*** | ***1981*** | ***1991*** | ***2001*** | ***2006*** |
| Children (0–9) | 18.1 | 20.9 | 20.5 | 19.1 | 16.1 | 14.7 | 13.6 | 12.8 |
| Teenagers (10–19) | 14.8 | 14.3 | 17.3 | 18.2 | 17.5 | 15.1 | 13.9 | 13.6 |
| Young adults (20–29) | 16.0 | 14.5 | 12.8 | 16.1 | 16.9 | 16.2 | 14.0 | 13.9 |
| Middle age (30–59) | 38.8 | 37.8 | 36.7 | 34.2 | 35.5 | 38.5 | 41.8 | 41.9 |
| Older (over 60) | 12.8 | 13.1 | 12.2 | 11.4 | 12.8 | 14.2 | 15.1 | 16.1 |

Source. Derived from Australian Historical Population Statistics, 2008 (Cat. No. 3105.0.65.001).

For most of this report we will work with the generational age groups of household reference persons which in 2006 we call Gen-Y (under 25), Gen-X (25–44), Baby boomer (45–64) and Retired (over 65), following common usage. Although the Gen-X age group has shrunk compared with the same age group a decade earlier, it is still about the same size as the baby boomer group at around 2.64 million households

[4] The median age of the population declined from 1946 to 1970, and then subsequently increased.

nationally. In metropolitan areas, the Gen-X group is larger than the boomers group by about 100 000 households. The Retired group has about 1.52 million households and the Gen-Y group is much smaller with only 344 000 households.

Table 4 shows the change in households by generational group during the two decades.[5] In line with ageing of the population, the numbers of young households have fallen very substantially, and there is also a considerable decline in the rate of growth of 25–44-year-old households though they remain numerically large. Because of the *boomer bulge*, more than 70 per cent of the total increase in numbers of households is in households aged 45–64.[6] This age effect is less pronounced in metropolitan areas, which continued to have a net increase in younger households. Non-metropolitan areas gained in national share, but all the gain was in middle-aged and older households. More detail is shown in Table B1 in Appendix B which shows that actual losses of households under 35 occur.

**Table 4: Change in households[a] by age, 1986–1996 and 1996–2006**

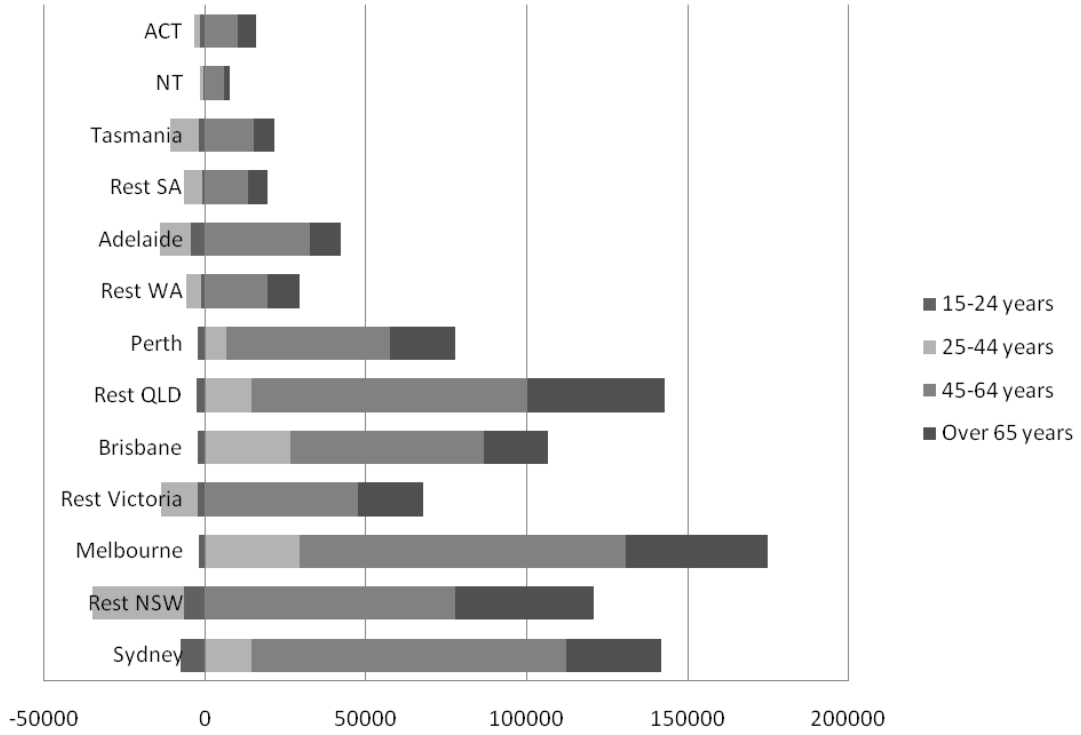
| *Age of reference person* | *Growth 1986–1996* | *Growth 1996–2006* | *Gain in households 1996–2006* |
|---|---|---|---|
| ***Metropolitan households*** | | | |
| 15–24 | 9.2 | -8.6 | -20 161 |
| 25–44 | 16 | 3.9 | 65 159[b] |
| 45–64 | 25.3 | 28.4 | 364 789 |
| 65+ | 34.3 | 17.3 | 133 397 |
| All metro | 21.7 | 13.6 | 543 166 |
| ***Non-metropolitan*** | | | |
| 15–24 | 10.8 | -10.4 | -15 157 |
| 25–44 | 19.6 | -4.8 | -44 327[b] |
| 45–64 | 30.1 | 34.5 | 253 669 |
| 65+ | 41.2 | 25.5 | 125 285 |
| All non-metro | 26.3 | 13.9 | 319 455 |
| ***All*** | | | |
| 15–24 | 9.8 | -9.3 | -20 161 |
| 25–44 | 17.3 | 0.8 | 20 832 |
| 45–64 | 27 | 30.6 | 618 458 |
| 65+ | 36.9 | 20.5 | 258 682 |
| All | 23.4 | 13.7 | 862 621 |

Source: Yates (2002), Census special tabulations.
Note:
[a] Excludes non-classifiable households.
[b] There was a loss of households aged 25 to 34 of 60 600, being 14 400 in metro areas and 46 200 in non-metro areas. Any gains were in the 35–44 age group.

[5] As in other enumerations using the census cross-tabulations, these numbers exclude *non-classifiable* households which may exaggerate the fall in household formation. See Appendix A.

[6] We use the shorthand "25–44-year-old household" etc. throughout the report to mean households where the reference person is in that age group.

**Figure 5: Regional change in households by age, 1996–2006**




Source: Census special tabulations.
Note: In this type of bar chart where negative changes are shown to the left of the origin, the total increase in a region is obtained by subtracting the negative movements from the positive movements.

Figure 5 shows the change in household numbers between 1996 and 2006 for the generational age groups at the capital city/rest of state level. The figure provides a little more detail than Figure 2 in showing where the main increases in household numbers are occurring—in Queensland, especially non-metropolitan Queensland, Victoria, New South Wales and Perth. Nearly 36 per cent of the total gain in households was in Melbourne and Sydney—but non-metropolitan Queensland gained more households than Sydney.

Every region lost the youngest group of households, with the biggest losses in New South Wales and Adelaide. Numbers of households aged 25–44 have also been lost in many regions. By far the biggest loss between 1996 and 2006 was in non-metro New South Wales, with a fall of 28 000 households. Non-metro Victoria lost 11 000 households, South Australia lost 15 000 households, and Tasmania 8600 households. Despite this, there was an overall gain of households in this age group, mostly within the older group aged 35–44, and largely confined to Sydney, Melbourne, Queensland and Perth, as Table B1 shows.

The much lower growth rates for young households in some regions were also observed by Yates (2002) during the previous decade. She also observed much slower, and occasionally negative, growth rates for some types of households (particularly younger ones) at the national level, although not to the extent of this study. In the USA, Haurin and Rosenthal (2004) found exactly the same decline across the board in younger households from 1990 to 2000, and this appears to be a broad phenomenon in the OECD.

This loss in households might purely be due to population loss in this age group, but it might also be due to a fall in household headship in the younger age group. In the

USA from 1970 to 2000, Haurin and Rosenthal (2004) report that headship patterns in the USA changed markedly from 1970 to 2000, falling by up to 4 percentage points for individuals in their mid-20s, and rising by up to 4 percentage points among individuals in their late 30s to late 40s. Age-specific home ownership rates fell by 5 percentage points for individuals from their mid-20s to mid-30s. Lower headship rates depressed home ownership rates by 3 to 5 percentage points, accounting for much of the change in home ownership over the period

This has almost certainly also been the case in Australia.

Table B2 shows the percentage of each age group that are household reference persons, rising from about 13 per cent of 15–24-year-olds to over 60 per cent of over 65s. Headship rates[7] rose nationally by about 1 per cent, indicating the fall in household size. Because headship rates have not changed much at all after the age of 30, it is fairly clear that much of any fall in household size is actually due to ageing of the population, since older people have smaller households on average.

The change in headship rates is not at all uniform—headship rates fell by 1.8 percentage points for 15–24-year-olds and by about 0.5 percentage points for 25–29-year-olds, while rising marginally for other age groups. This reflects the frequent observation that young people are staying at home longer[8]—which has been variously attributed to longer education, more temporary relationships and jobs, changes in values and preferences, and especially the desire to save for a home (Turcotte 2007).

It is instructive to note that the headship rate for young people in 2006 is lowest in New South Wales, the most expensive state, which is likely to reflect higher housing and living costs.[9]

## 2.3 Marital status

*Marital status of household reference person* has been found to be particularly important in analysing tenure. Young married couples were traditionally the backbone of the dwelling construction industry in the post-war years.[10] Marriage shows a strong commitment to an extended future, often involving children, and home ownership has been the natural long-term housing response to this. Also, separated or divorced marital status indicates that household dissolution has taken place, in which one household splits into two, frequently involving a change in tenure. If the couple were home owners, usually only one partner continues in the family home and the other becomes a renter – or else the property is sold and both may become renters.

[7] The Australian Census collects data on "household reference person" (HRP) rather than household head. However, to maintain consistency with the literature, we will use "headship rates" for the percentage of a particular group that are HRPs.

[8] See http://www.news.com.au/adelaidenow/story/0,22606,24075764–2682.00,htm or Goldscheider and Goldscheider (1993). 2006 Census table B22 shows that about three-quarters of men and two-thirds of women aged 15 to 24 are living with their parents or other relatives.

[9] Compare the same phenomenon in Toronto Canada http://www.thestar.com/printArticle/257571 London http://www.essentiallyhomeloans.co.uk/blog/young-londoners-stay-home-longer-says-research.html and Tokyo http://www.euromonitor.com/Mum_hotel_Adults_who_wont_fly_the_nest.

[10] During the years of finance rationing prior to deregulation in the early 1980s, married couples were given preference for housing loans.

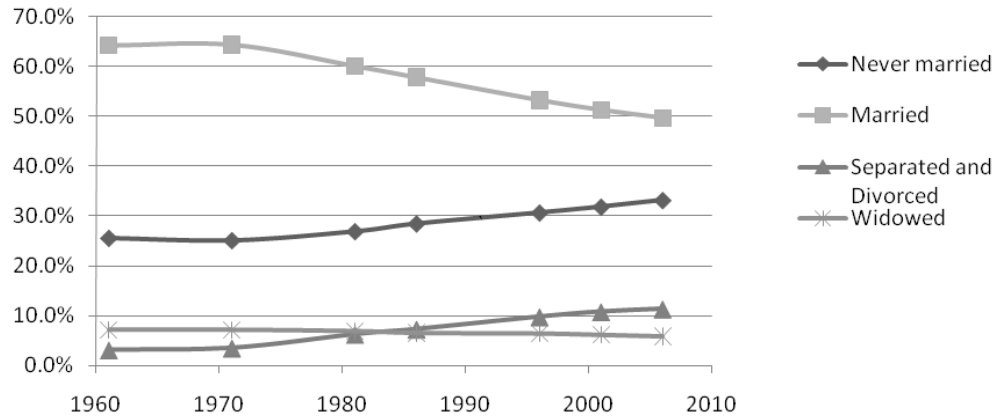
A large amount of research has documented major changes in relationship status in Australia which may impact on tenure choice. These are:[11]

- fall in marriage rates and later age at marriage
- growth in *defacto* relationships
- steady divorce rates and longer-lasting marriages.

*Marriage rates.* Crude marriage rates have fallen steadily since 1970, from about 9.5 per 1000 population to 5.5 per 1000 in 2005, although they have not changed much since 1996. Median age at first marriage has also risen quite rapidly over the same period, from 24 and 20 in 1975 for males and females respectively, to 32 and 30 in 2005. Even during the study period 1996 to 2006, average age at marriage rose by three years for both men and women.

Figure 6 shows the long-term trend in legal marital status for the population over 15, with those never married rising steadily since 1961, and those married falling more steeply, due to the rise in the proportion separated or divorced to over 10 per cent.

**Figure 6: Marital status of persons over 15, Australia 1961–2006**

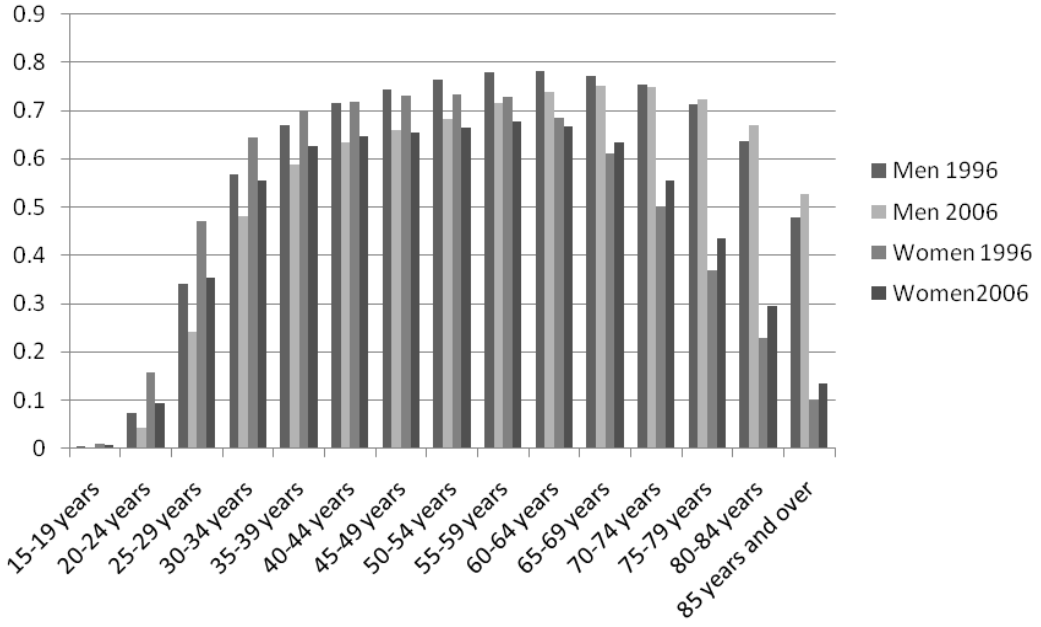



Source: Census historical series.

Some of the recent trends relating to marriage can be seen in Figure 7, which shows proportions of the population married by 5-year age groups. Numbers of married couples barely grew during the decade. Up to age 60, there is a consistent, pronounced fall during the decade 1996 to 2006 in proportions married, for both sexes. From age 60, the marriage rate of women declines as they become widows. However, with men living longer due to improved medical care and health awareness, after age 65 there is a noticeable rise in the proportions of women married (and a corresponding 10 percentage point fall in the proportion of widows).

[11] Summary is from *Australian Year Book 2008*, from *Marriages and Divorces*, Cat. No 3310.0.

**Figure 7:Proportion of men and women married by age, 1996 and 2006**




Source: Census 1996 and 2006.

*Cohabiting*. In 1975 only 16 per cent of Australian couples cohabited prior to marriage, while in 2005, 76 per cent cohabited. There are two groups: first, the never-married, where the proportions in relationships peaks at age 27; and second the separated and divorced, where it peaks at age 46.

*Divorce*. The divorce rate in Australia has been fairly steady since 1977 at a level of about 13 divorces per 1000 men or women. However, the average duration of marriages has increased from a low in 1988. In 2005, the median duration of marriage to separation was 8.8 years compared with 7.6 years in 1995, while the median duration of marriage to divorce was 12.6 years compared with 11.0 years in 1995.

The Census cross-tabulations provide guidance as to how these changes have regionally manifested themselves. Around half of all household reference persons are married. In Figure 7, the proportions of married household reference persons have decreased by 4 percentage points in metropolitan areas and 5.6 percentage points in non-metropolitan areas. There has also been a loss of 1 percentage point in widowed household heads. These losses in share have been redistributed in metro areas as increases of 1 per cent never married, 1.5 per cent divorced, and 2.5 per cent *defacto*. In non-metro areas there has been a catch-up in divorces, with an increase of 2.5 percentage points in incidence. Probably because of older populations, the proportions of never married are less in non-metro areas, and the proportions of widows and *defacto* couples correspondingly higher.

Examining a breakdown of these changes by age in Table 5, the following results apply equally in metro and non-metro areas over the decade 1996 to 2006.

- The proportion of widows has fallen in every age group, indicating lower mortality among men.
- For under 45s, there has been a fall-off in the proportion separated or divorced, due to later and longer marriages. Over the age of 45, there has been about a 30 per cent increase in numbers of people in these categories, resulting in a 3.6 percentage point increase in share.

→ The proportion in a legal marriage has fallen by about 7 percentage points for people aged 30 to 65, and risen slightly for those over 65. For those aged 25–29, the fall is over 10 percentage points.

**Table 5: Change in incidence of marital status shares of household reference persons by age, 1996 to 2006**

| | *0–24* | *25–29* | *30–34* | *35–39* | *40–44* | *45–64* | *Over 65* | *All* |
|---|---|---|---|---|---|---|---|---|
| Never married | -1.0% | 4.8% | 5.4% | 5.5% | 5.3% | 2.7% | -0.6% | 1.2% |
| Married | -4.7% | -10.3% | -7.6% | -7.0% | -7.4% | -7.1% | 0.8% | -4.5% |
| *Defacto* | 6.7% | 8.4% | 5.9% | 4.3% | 3.5% | 2.4% | 0.6% | 2.7% |
| Separated or divorced | -0.9% | -2.9% | -3.6% | -2.5% | -0.9% | 3.7% | 3.6% | 1.6% |
| Widowed | -0.1% | -0.1% | -0.2% | -0.3% | -0.4% | -1.8% | -4.4% | -1.0% |

Source: Census special tabulations.

The incidence of household reference persons in a relationship (married or *defacto*) has fallen by about 4 percentage points for those aged 40 to 64 in metro areas and 6 percentage points in non-metro areas, and is now about two-thirds of the total. For those aged 25 to 39, it has fallen by 2 percentage points in metro areas and 4 percentage points in non-metro areas. The proportions in a relationship used to be flat after age 35, but now they fall off slightly.

The proportion of household reference persons in a relationship have *increased* for those under 25 during the decade (suggesting that fewer single people are forming households); and in rural areas almost a third of those under 25 who are household reference persons are in a *defacto* relationship; almost four times as many as those legally married. Legal marriage is slightly more common in metro areas.

Overall, any differences between metro and non-metro areas have reduced by about half.

The idea that trends spread out from *fashion leader* areas and spread throughout the broader community can be illustrated by *defacto* marriages. In 1996 Sydney had more of these, especially in the central area of the city, which had a much higher incidence at 7.3 per cent than the national urban average of 5.8 per cent. By 2006 the urban average had risen to 8.5 per cent, and Melbourne had bypassed Sydney.

## 2.4 Household type

*Household type* is a fairly important measure to be used in conjunction with relationship status, because single persons, single parents, couples with children and without children are the categories used in most social policy work and for setting benefits. Different household types have very different economic behaviours in a whole range of circumstances, so that unlike marital status, household type is more of a structural classification, rather than one related to social attitudes. The different types of households do tend to prefer somewhat different forms of housing and different locations, although not necessarily different tenures.

**Table 6: Incidence and growth of household types, 1996 and 2006**

| | *Incidence %* [b] | | *Growth %* [a] |
|---|---|---|---|
| | *1996* | *2006* | *1996–06* |
| ***Metropolitan households*** | | | |
| Sole person | 22.8 | 24.4 | 19.4 |
| Couple no children | 23.0 | 26.2 | 20.8 |
| Couple and children | 36.6 | 32.3 | 4.6 |
| Sole parent | 10.0 | 10.7 | 19.6 |
| All metro | | | 13.6 |
| ***Non-metropolitan households*** | | | |
| Sole person | 22.8 | 25.1 | 25.1 |
| Couple no children | 27.0 | 29.2 | 23.3 |
| Couple and children | 35.0 | 29.8 | -3.1 |
| Sole parent | 9.7 | 10.7 | 25.0 |
| All non-metro | | | 13.9 |
| ***All households*** | | | |
| Sole person | 22.8 | 24.4 | 21.5 |
| Couple no children | 24.5 | 26.2 | 21.8 |
| Couple and children | 36.0 | 32.3 | 1.8 |
| Sole parent | 10.0 | 10.7 | 21.6 |
| All households | | | 13.7 |

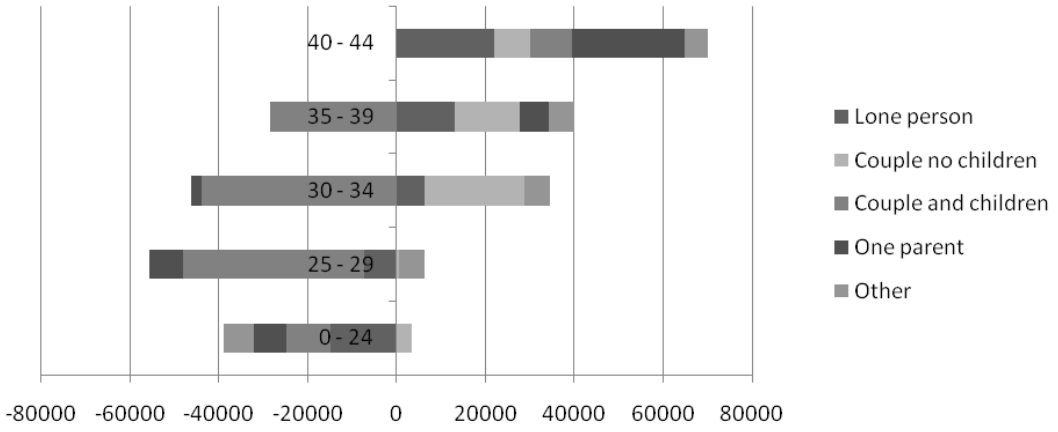
Source: Census special tabulations.
Note:
[a] Growth is in households, not in incidence.
[b] Group households and multiple family households are included in totals.

Table 1 shows the incidence and growth of different household types in Australia between 1996 and 2006. The most notable feature is the extremely low growth rate in nuclear families[12] – in fact, non-metro areas actually lost these households over the decade. This meant a loss of almost 4 percentage points in incidence. This was distributed evenly between the other household type categories, which grew fairly evenly.

By age, changes in household type varied more substantially, as Figure 8 shows.

[12] Defined here for convenience as couples with children.

**Figure 8: Change in numbers of households, household types by age group under 45, 1996 to 2006**




Source: Census special tabulations.

*Couples with children*. Losses in the proportions of couples with children occurred in every age group, but these declines in incidence were extremely large in the principal workforce 25–64 age groups, ranging from 4 to 6 percentage points. This probably reflects the entry of women to the workforce, some of which is due to the high price of housing. There are actual losses in numbers for all categories under age 40 (Figure 8). The losses are not so great in over-35s in inner city locations, being only 1 to 2 percentage points—showing that even when they are carrying the costs of children, two-income families can out-compete single-person categories for inner ring housing.

The only substantial increase in numbers of couples with children was in the 45–64 age group—an increase of 17 per cent. This occurred for the same reasons considered by Yates (2002) —the later leaving of children from the home, later births, *boomerang* children, and especially the flow-through of the large baby-boomer cohort which resulted in an increase in all household types. However, the numbers in this age group increased by over 30 per cent, so the proportion of couples with children still fell in this age group.

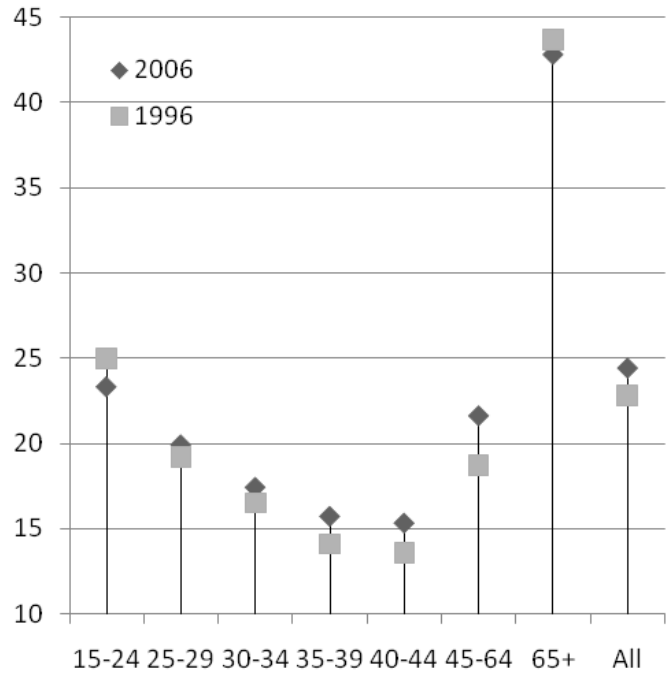
The youngest under-25 group is rather atypical in this respect, as in many others. There was a fairly even loss of all household types except for couples without children (mostly *defacto* couples).

*Sole persons*. The proportion of sole-person households declines with age everywhere except Brisbane, and then rises after age 45. This rise starts earlier and happens more quickly in non-metropolitan areas. The rise in sole-person households since the mid-1970s has been very frequently singled out by observers as a very significant population trend.

As shown in Figure 4, the proportion of sole-person households has continued to expand over the decade 1996 to 2006—but it seems to have stalled at last after 2001, probably stopped by higher housing costs and longer marriages. Single parent[13], couple and sole-person households expanded at about the same rate over the decade, maintaining their relativities.

[13] ABS (2004) predicts the proportion of sole-parent families to stay stable, but sole-person households to rise substantially over the period to 2026.

**Figure 9: Proportion of sole-person households by age, Australia 1996 and 2006**




Source: Census special tabulations.

The proportion of sole persons rose slightly among households of working age (see Figures 8 and 9). This was entirely due to the decline in couples with children, except perhaps among 45–64-year-olds where it also reflected the later age at divorce. In under-30s the number and proportion of sole persons actually fell by a small amount, which was larger in South Australia, the ACT and Queensland. There was actually no numerical increase over the decade in sole persons aged under 40. It appears that sole living may be in the early stages of a decline.

However, after age 65, sole persons remain the largest household type—being almost 10 per cent of all Australian households. About two-thirds of these retired sole persons are widowed and another 22 per cent are separated or divorced. The prolonged lifespan of couples meant that the proportion of singles actually fell by about 1 percentage point in over 65s, and married couples will soon become more numerous than singles in this retired age group.

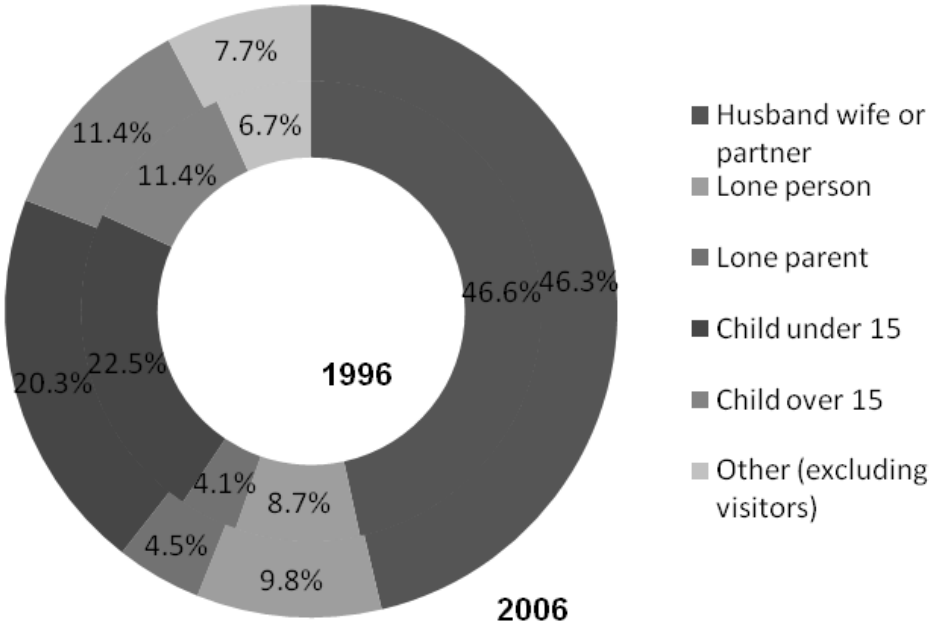
*Single parents*. Single parents fall into two categories—unmarried, and formerly married. The second group are much older and appear to have considerably more assets on average, because they have had more time to accumulate them and have shared in property settlements.[14] This second category increased very substantially in the 40–44 age group, where the peak for divorce lies, while the first category, who are on average the poorest group in the community, decreased. Single parents have actually fallen in numbers under the age of 35, but have risen very substantially in the 45–64-year-old age group.

*Older children and relatives*. For a very long time, there has been popular commentary on the trend toward older children staying at home longer or returning to

[14] If home ownership is any guide – see Chapter 4.

the family home because of high housing costs.[15] This is true only to a limited extent. Figure 10 shows a loss in population share by children under 15 of 2.2 percentage points between 1996 and 2006 (the actual numbers barely changed over the decade). However, there has been no change in the proportion of older children, including students staying at home—it seems that like other trends, including increased divorce and sole parenting, that this trend played itself out in Australia by 1996.

**Figure 10: Position in household, persons, Australia 1996 and 2006**




Sources. Derived from Census Basic Profile Australia, Table B22, 1996 and 2006. Excludes visitors.

The averages conceal some rather surprising trends by age group which may support the notion that housing markets are under some stress. Sharing is on the increase for the first time in many decades; there has been a big rise in older children aged 35–64 staying at home—from 65 000 to 187 000. Both relatives and older unrelated parties living with the family have also increased markedly—with the numbers of relatives more than doubling from 181 000 to 392 000 nationally over the decade. This may both reflect the need for care of the elderly and the difficulty in finding affordable housing.

Table B3 in Appendix B shows the incidence of different household types has not changed very much over the decade, apart from the decline in incidence of nuclear families, which is more than 5 percentage points in rural NSW, Victoria, South Australia, Western Australia and the Northern Territory. By region, the increase in different household types has been reasonably uniform, except that there has been a small numerical increase in nuclear families in Sydney, Melbourne, Perth, Queensland and the territories, and an actual loss over the decade elsewhere.

[15] The *boomerang generation* is a worldwide phenomenon that has attracted a lot of media attention. See for example http://www.thisislondon.co.uk/standard/article-23676354-recession-means-the-boomerang-generation-keep-coming-back-home.do and http://www.cbc.ca/canada/story/2006/03/21/home06031.html.

The spectacular growth rates of the previous decade for sole parents and sole persons have abated everywhere and now the rate of growth in all regions is about the same as couples without children. There has been a catch-up for both these categories in non-metro areas.

Couples with children have had a shift decline[16] of about 17 percentage points in non-metro areas and 9 percentage points in metro areas and there is not very much variation from these averages. Singles and sole parents have had a shift increase of 6 percentage points in metro areas and 11 percentage points in non-metro areas.

## 2.5 Demographic change within the major cities

In her previous report, Yates (2002) conducted a fairly detailed study of inner, middle and outer rings in the two major cities Sydney and Melbourne for 1986 and 1996. Yates chose these city rings so that about one-half of the city population was in the central ring, and equal parts of the remainder in the inner and outer rings.

The large cities deserve special attention because it is here that demographic trends and trends in housing markets often appear first, and in the most pressing manner. The demographic restructuring of the cities has its own dynamic, separate from regional restructuring, and redistributions of subgroups of the population within the cities clearly shows the interaction of local planning decisions with economic conditions and demographic trends.

Yates' major conclusions were that:

- The results were not generally very different from the changes at the broader level of aggregation.
- However, significant spatial restructurings of different age groups were occurring in Sydney and Melbourne.

What Table 7 shows is a very different development pattern for Sydney and Melbourne. In the decade 1986–96, Sydney expanded its boundaries, and most of the growth was at the periphery. However, between 1996 and 2006 Sydney largely engaged in infill development, using vacant land almost equally in all three rings and redeveloping to increase densities. By contrast, Melbourne continued its strong outward expansion and continued to grow more rapidly than Sydney. It was successful in increasing the population of its inner area, but there was something of a *doughnut effect* where the middle ring lost share.

[16] This is also known as *relative decline* and is the difference between the overall rate of household growth in a region and the rate of growth of that particular household type in the region.

**Table 7: Share of households and growth rate within Sydney and Melbourne rings**

| | *Share (per cent)* | | | *Growth rate*[a] | |
|---|---|---|---|---|---|
| | ***1986*** | ***1996*** | ***2006*** | ***1986–96*** | ***1996–06*** |
| Sydney[b] | 21.8 | 20.5 | 19.9 | 16.2 | 10.4 |
| inner | 30.2 | 27.3 | 26.7 | 5.1 | 8.0 |
| middle | 46.5 | 45.7 | 45.7 | 14.4 | 10.4 |
| outer | 23.3 | 26.9 | 27.6 | 34.3 | 12.9 |
| Melbourne[b] | 18.4 | 17.7 | 18 | 17.9 | 15.6 |
| inner | 28.8 | 26.0 | 24.9 | 6.4 | 10.7 |
| middle | 49.3 | 47.1 | 44.4 | 12.7 | 8.8 |
| outer | 21.9 | 26.9 | 30.8 | 44.6 | 32.3 |

Source: Census special tabulations; Yates (2002).
Note:
[a] Per cent growth in number of households, 1996–2006.
[b] Data on regional shares for Sydney and Melbourne relate to Australia as a whole; data within these regions relate to shares of the metropolitan population.

With regard to age structure, the only regions to have gained households aged under 25 over the decade are inner Sydney, Melbourne and Brisbane: Australia's *globalisation* centres.[17] In outer Melbourne, and in Brisbane and Darwin, the number of younger households is unchanged, but everywhere else, young households have been lost, with the largest losses over the decade occurring in outer Sydney and rural NSW, Adelaide and middle Melbourne.

The number of older households over 65 has remained stationary in inner Sydney and Melbourne, giving the lie to the idea that young people or baby boomers have been driving out older families.

The detailed Table B5 in Appendix B shows that population growth within Sydney in particular is very uneven and in the opposite direction to what was once regarded as standard. In earlier times young households were expected to locate in new dwellings on the periphery. Instead, both middle and outer Sydney lost younger households, and outer Sydney gained rather more households with the household reference person over 65. The proportions of young households under 25 fell very steeply, to a third of the levels in 1996. In outer Sydney, there was a loss of households all the way up to age 40. Effectively, some 6000 households aged 30–40 disappeared from the outer ring while about 7000 appeared in the inner ring.

As described in Chapter 2 of the Positioning Paper, the idea of young people buying new first homes on the urban fringe has become a relic from the past. More typically, first home buyers are picking up affordable infill medium density and apartments, then as they have families, are moving outwards to areas where houses are larger.

Melbourne has still continued to expand its boundaries, but not quite as forcefully as in the previous decade. The *doughnut effect* where younger populations are lost from the middle ring, mostly by *in-situ* ageing, is still marked in Melbourne, as it had been between 1986 and 1996 for both Sydney and Melbourne.

Figure 11 shows the increase in numbers of households in the different city rings between 1996 and 2006, structured by household type (Table B6 has the incidences

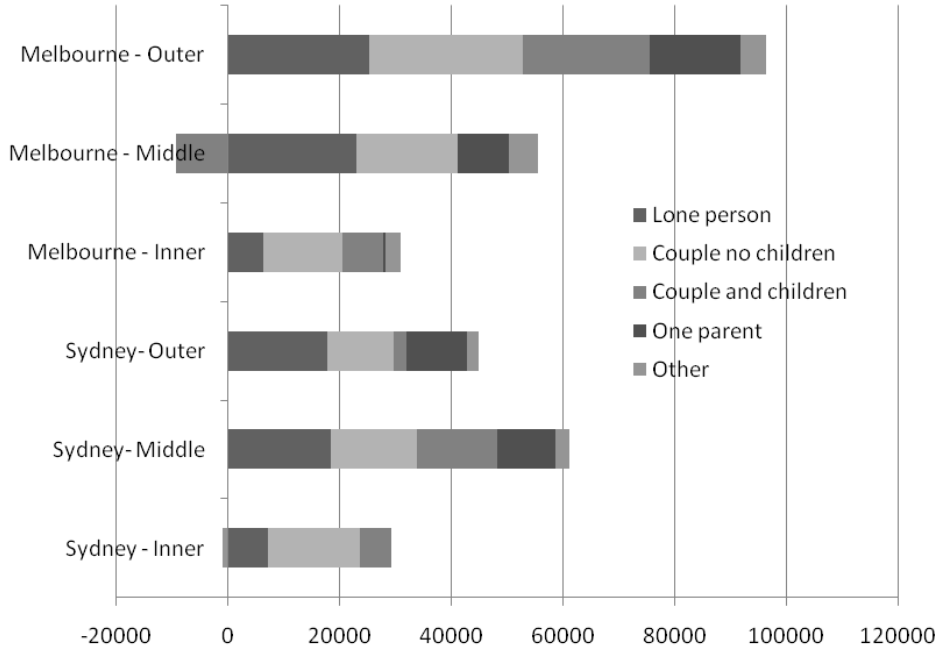
[17] In inner Brisbane, they appear to have replaced older households, which have declined.

and growth rates of these different household types). First, the figure shows the large increase of nearly 100 000 households in outer Melbourne—spread fairly evenly among the main household types. By comparison, middle Melbourne has gained only about 55 000 households and has actually *lost* nuclear households (families with children). However, in Sydney the growth is largest in the middle ring. The growth in nuclear families here is part of Sydney's *infill* strategy—whereas in *doughnut* Melbourne these families have moved to the outer and inner rings.

In both cities, the proportion of childless couples in inner cities is growing around three times as fast as other household types. The inner ring is increasingly becoming the province of childless couples, while single parents are increasingly excluded, pushed to the outer areas.

Singles also are growing very much more strongly in outer and non-metro areas than in core cities, probably forced out by high prices just like the sole parents. Group households, who have traditionally lived in central cities, have also been lost to middle and outer areas in Sydney, although not in Melbourne.

**Figure 11: Growth in households by household type, 1996–2006, Sydney and Melbourne rings**




Source: Census special tabulations.

Table B7 in the Appendix shows changes in marital status within the city rings. Married couples barely grew at all over the decade except in outer Melbourne and middle Sydney, where the growth focus has been. The numbers of *defacto* couples are now showing an extraordinary growth rate over the decade of 50 per cent in Sydney and 75 per cent in Melbourne, although actual proportions are still quite small at about 8 per cent.

The numbers of the various single categories are increasing much more slowly in the inner cities than in the middle or outer rings – which was very different to 1986–1996, when numbers of singles increased rapidly in the inner rings. This may reflect price increases in inner city housing which have made two incomes almost a necessity for house purchase.

## Chapter summary

This chapter has documented in some detail the longer-term trends in key demographic variables known to impact home ownership—age, marital status, household type and the regional distribution of population growth.

The most significant change, apart from the expected progression of baby boomers through the age cohorts, has been a halving of the national rate of household formation. Low household formation relative to population expansion—implying increasing household size—can be a major indicator of housing market problems, indicating a general housing shortage, or prices that are too high.

This low level of household formation is associated with actual losses of households in particular categories. Numbers of households with reference persons up to age 30 have fallen in the decade everywhere except the inner cities. Much of this is due to the lower birth rate in the preceding generation, but some is due to falling household headship rates.

The rapid increase in sole-person and sole-parent households that was so evident in the previous 20 years has abated, and over the decade these two groups have grown at the same rate as couples without children. Numbers of sole persons did not increase at all in households aged under 40, indicating that sole living for young people has stalled—for which high housing prices may be to blame. Some 45 per cent of sole persons are aged over 65, which is about 10 per cent of all households. In fact, a surprising 70 per cent of sole persons are aged over 45, up from 44 per cent 10 years earlier. Numbers of older sole persons will continue to increase as the baby boomer generation rolls into old age.

The decline in families with children has continued from previous decades. The proportion of these households has declined by 4 to 6 percentage points in all age groups 25 to 64. There has been a decline in absolute numbers of about 123 000 households or 13 per cent in 25–44-year-olds with children.

Marriage rates continue to decline, and the fastest growing marital status group is *defacto* couples. Numbers have increased by about 50 per cent, although the proportion remains small at about 8 per cent of households. In over 65s, marriage rates have increased and the incidence of sole persons has decreased somewhat because men are living longer, while elderly widows are also keeping their properties longer (Hamnett et al 1991; Burke et al 2007). This is believed to have an important impact on inheritance. Conversely, there has been a small but significant increase in the incidence of sole persons in the baby boomer group—partly a cohort effect and partly because this is where the divorce peak occurs.

Most differences between metropolitan and non-metropolitan areas in terms of marital status, household type and so on, have reduced by about half. This is partly due to *reversion to the mean*, whereby social trends diffuse away from their urban sources, but also because much of the non-metropolitan growth has been in relatively urbanised coastal Queensland.

Changes in the two major cities, Sydney and Melbourne, have been qualitatively different than the previous decade. First, the movement to the edge of the city of single parents and recently separated persons seeking cheaper housing costs has substantially accelerated. In general, all the *single* categories are leaving the central city, leaving it increasingly to childless couples.

Finally, Sydney and Melbourne have been engaging in different development strategies. Melbourne has continued a traditional expansion at the periphery, with a *hollowing out* and ageing of households in the middle ring. Sydney's *infill* strategy has

been successful in limiting edge growth in favour of increasing densities, but compared with Melbourne, growth has been comparatively limited.

# 3 CHANGES IN EMPLOYMENT, HOUSEHOLD INCOME AND HOUSING COSTS

The Positioning Paper for the project (Flood & Baker 2008) paid considerable attention to the changing economic circumstances in the two very distinct decades 1986–1996 and 1996–2006. The earlier period was regarded as part of an extended era of falling prices and interest rates, lack of global investment opportunities, high unemployment and inequality, and unstable economic circumstances, while the later decade was seen as a transition to a new era of economic expansion, tightening demand for resources and tight capital and labour markets similar to the post-war era.

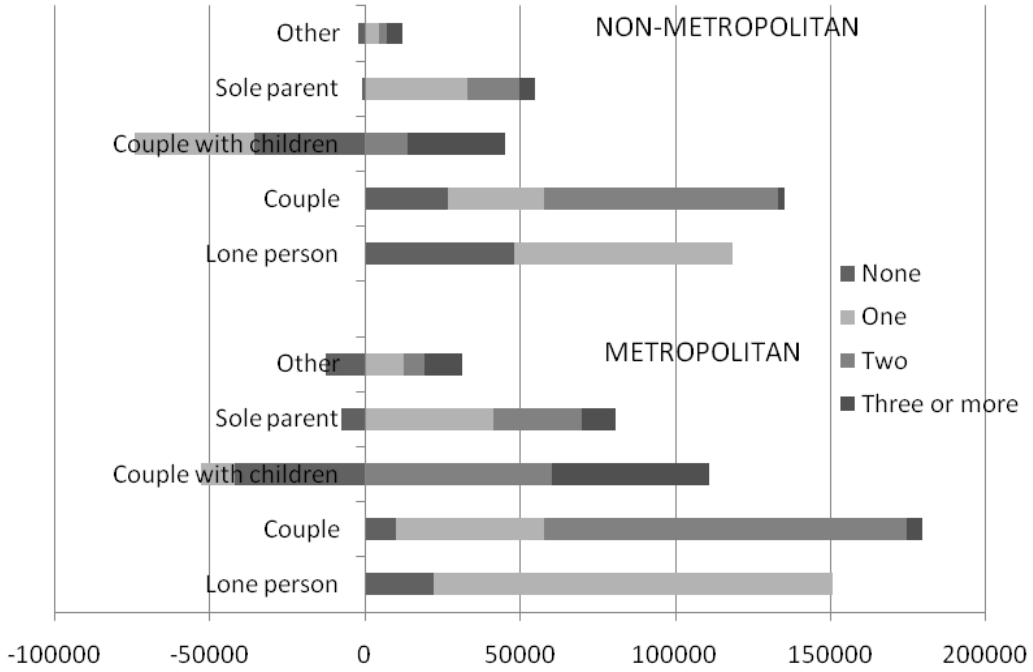
Yates (2002) regarded labour markets and income distribution as the prime drivers of changes in tenure during 1986 to 1996. In the present decade, where incomes have increased substantially, we consider the income distribution issue to be less important than demographic change in determining changes in the incidence of tenure. Nevertheless incomes determine a household's demand for housing, how much they can borrow and save, and hence their *market power*. Rising incomes are almost always associated with a surge in housing construction, although this has been quite muted during the last decade.

This chapter describes changes in labour markets, in the distribution of income, and in housing costs which are relevant to the tenure question. Section 3.1 deals with employment and labour markets, which usually have a particularly large impact on home purchase, because taking out a mortgage almost always requires a stable stream of income and some savings for a deposit, which are very difficult for unemployed or casually employed people to achieve. Section 3.2 describes changes in household income. It identifies groups and regions that have not participated fully in the income gains of the decade. Section 3.3 covers changes in income for different household types and rings within Sydney and Melbourne, and Section 3.4 looks briefly at changes in housing affordability for different tenures that occurred during the decade. We leave the broader economic questions of rising house prices, debt and the Global Financial Crisis until Chapter 6.

## 3.1 Employment

As the Positioning Paper detailed (Flood & Baker 2008, Section 2), the period 1998–2006 has been one of sunshine for the Australian economy, after 25 difficult years, as the Asian economies on which Australia has increasingly come to depend began a major growth spurt. Unemployment fell from over 10 per cent in 1991 to under 4 per cent in early 2008, a level not seen since the 1960s. As a result, the proportion of households getting most of their income from government pensions and benefits fell from 28.7 per cent in 1999–2000 to 26.1 per cent in 2005–6.

**Figure 12: Change in household numbers by persons employed and household type, metro and non-metro, 1996–2006**




Source: Census special tabulations.

Home ownership is affected not just by unemployment but by broader workforce participation. The data set used in this study makes it possible to see the distribution of employed persons in different places and socioeconomic groups.

Figure 12 and Table B8 in Appendix B illustrates a number of major trends in household workforce participation across household types and regions over the period 1996 to 2006.

First, they show that numbers of married couples without children having two wage earners (DINKs) increased by about 192 000 over the decade, the largest numerical increase of the groups in the table. The high disposable incomes of these households make them very strong players in urban housing markets.

Second, a very substantial fall occurred in numbers of households with children that had no wage earners, especially in non-metro areas. Overall, there were about 73 000 fewer households with children and no wage-earner in 2006 than in 1996—a 36 per cent drop in non-metropolitan areas and a 27 per cent drop in metropolitan areas. This is a very substantial accomplishment over the period. Also there was a large fall of 15 per cent in number of non-metro nuclear families with only one wage earner.[18]

Third, single parents also gained a great deal—particularly in non-metro areas where the incidence of those without employment fell from 46 per cent to 37 per cent. The growth in the older divorced age group also helped, because their children were employed, and the incidence of single parent households with two or more persons employed rose by 7 per cent. As we shall see, this did not necessarily translate into much higher household incomes.

[18] The number of nuclear households was only slightly higher (1%) in 2006 than in 1996. The total number of households rose by about 12 per cent from 6 278 000 to 7 048 000.

Overall, the large numbers of households with improved employment translates to about an extra 920 000 jobs in metro areas and 470 000 jobs in non-metro areas.

Despite these substantial gains, 2.1 million households remained with no income earners. These were increasingly sole-person households – by 2006 single persons without employment comfortably exceeded couples without employment.

Young people—and people with young families—appeared to gain the most from prosperity. In 1996 about a third of single households and 70 per cent of single parents aged under 25 were not in the workforce, but there was a fall of over a quarter in numbers of such households by 2006.[19] Nuclear families in this age group fared even better, with a fall of over 40 per cent in numbers of households with no-one working.

Baby boomers also had improvements. The highest incidence of working-age households with no-one employed is in fact among singles aged 45 to 65, with half of these not working in 1996. By 2006 this had fallen to 40 per cent. There was also a large fall in childless couples with no-one working in this age group, with incidence dropping from 29 per cent to 21 per cent.

Table B9 in Appendix B shows that the improvement in employment is fairly uniform in space. Brisbane, Perth and Adelaide had the greatest improvements, with a drop of about 4 percentage points in the incidence of households with no-one employed. There were only marginal gains in the territories and rural Western Australia.

## 3.2 Household income

Household income is measured by ABS in several different ways. First, it is normally adjusted for inflation over time, so real rather than nominal incomes are quoted. Then it can be measured as gross income, as disposable (net of tax) income, and most frequently these days as equivalised disposable income in which household income is adjusted for household size and composition.[20] The latter has come to be regarded as a fairer means of comparing the income distribution over time, since the trend to smaller households would otherwise increase the numbers in lower income groups, which would cause average incomes to fall.

The different methods give results that are usually qualitatively similar but differ in magnitude. They all show that real household income increased very substantially over the decade 1996–2006, which was not the case in the previous decade.

Equivalised household income rose by 40 per cent for the top income quintile over the decade and about 34 per cent for other quintiles.[21] While the top income group continued to take more than their fair share of the gains, there were very considerable benefits across a wide part of the community, which had not been the case in the difficult years 1975 to 1996. Real incomes slowly began to increase for the bottom 80 per cent of the population after 1992 and after 2003.

Real average weekly earnings (AWE) for individuals only rose by 13 per cent during the decade 1996–2006. In fact, real AWE finally reached 1984 levels again almost 20

[19] It is likely that many unemployed singles stayed at home due to high housing costs. There were also far fewer young single parents in 2006.

[20] This is often confusing as the type of income measure is not always explicitly stated. Also, equivalised income figures can often be difficult to understand and care has to be taken in aggregating or averaging them as they are ratios rather than actual numbers. Older statistics always use nominal gross unadjusted incomes, as in this study.

[21] *Household income and income distribution 2005–6*. ABS Cat No 6523.0.

years later in 2003—perhaps coincidentally the point where house prices really took off.[22]

The Census cross-tabulations for this study and for the earlier study by Yates contain a count of households cross-classified by gross household income and other variables, as described in Appendix A, for 1986, 1996 and 2006. There are only five intervals of income for each year, to obtain rough quintiles of gross income[23], and any estimates of average incomes which compare these income groups are necessarily unreliable. Nevertheless, they are indicative of the changes taking place.

**Table 8: Average gross household income by region, 1986, 1996, 2006 ($2006 pw)**

| | ***1986 mean*** | ***1996 mean*** | ***2006 mean*** | ***Growth 1996–2006*** | ***Growth 1986–2006*** |
|---|---|---|---|---|---|
| | $pw | $pw | $pw | % | % |
| Sydney | 1126 | 1126 | 1384 | 23.0 | 23.0 |
| Rest NSW | 904 | 869 | 1060 | 21.9 | 17.2 |
| Melbourne | 1119 | 1058 | 1299 | 22.8 | 16.1 |
| Rest Victoria | 921 | 851 | 1054 | 23.8 | 14.4 |
| Brisbane | 1032 | 1027 | 1318 | 28.4 | 27.8 |
| Rest QLD | 914 | 910 | 1149 | 26.3 | 25.6 |
| Perth | 1050 | 1019 | 1305 | 28.1 | 24.4 |
| Rest WA | 1003 | 992 | 1207 | 21.7 | 20.3 |
| Adelaide | 998 | 918 | 1144 | 24.6 | 14.6 |
| Rest SA | 864 | 824 | 1025 | 24.4 | 18.6 |
| Tasmania | na | 863 | 1038 | 20.2 | na |
| NT | na | 1203 | 1412 | 17.4 | na |
| ACT | 1425 | 1253 | 1597 | 27.5 | 12.1 |
| | | | | | |
| Metro | 1097 | 1061 | 1321 | 24.5 | 20.3 |
| Non-metro | 917 | 883 | 1091 | 23.6 | 18.9 |
| | | | | | |
| Australia | 1033 | 996 | 1236 | 24.1 | 19.7 |

Source: Census special tabulations 1996 and 2006; and Yates (2002).
Note: na, not available.

Table 8 shows a growth of 24 per cent in real gross household incomes over the decade 1996–2006, following a 4.4 per cent fall in incomes in the previous decade. One can therefore say, roughly speaking, that the 35 per cent increase in equivalised net incomes reported by ABS was due 13 per cent to wage rises, 11 per cent to more employment, and 11 per cent to changes in tax and household size.

In the previous decade, falls in real gross household incomes under restructuring occurred everywhere but had been most pronounced in the manufacturing and government centres of Melbourne, Adelaide and Canberra and were lowest in *sun belt* Sydney, Queensland and Western Australia. However, in 1996–2006 growth in

[22] *Average Weekly Earnings Australia*, ABS Cat No 6302.0.

[23] See Table A2 for the mean household incomes in each *quintile* in 1996 and 2006. In 2006 the two top groups actually contain almost 25 per cent of the population each.

household incomes occurred relatively evenly across all regions, and in both metropolitan and non-metropolitan Australia. Income growth was slightly higher in metropolitan areas. Of the states and territories, the Northern Territory followed by Tasmania experienced the smallest growth in average household income, while Brisbane, Perth and Canberra grew most substantially.

## Differences in household income by age and household type

Not only was income growth experienced quite evenly across Australia's regions over the 1996–2006 period, this growth was also relatively evenly distributed across the generations, although 25–44-year-olds fared slightly better over the time (Table 9). More interestingly, when households are considered by their age (age of household reference person) across the regions, significant disparities emerge. These regional disparities lessen with age. In the under 25 age group, regional variation in growth of average incomes was more than twice that of the total population. Their growth in average incomes over the period ranged from 11.2 per cent in Sydney to 42.4 per cent in the ACT. In comparison, households with reference person aged 65 years and over experienced an average growth in household incomes of 24.7 per cent, and this varied little by region.

**Table 9: Average household income in 2006 and growth from 1996 to 2006 by age cohort and region ($2006 values)**

| | *Age of household reference person* | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | ***15–24*** | | ***25–44*** | | ***45–64*** | | ***65 and over*** | |
| | ***2006 ($pw)*** | ***Growth %*** | ***2006 ($pw)*** | ***Growth %*** | ***2006 ($pw)*** | ***Growth %*** | ***2006 ($pw)*** | ***Growth %*** |
| Sydney | 1137 | 11.2 | 1567 | 24.7 | 1531 | 20.9 | 806 | 26.0 |
| Rest NSW | 942 | 22.3 | 1259 | 24.1 | 1203 | 23.6 | 626 | 22.5 |
| Melbourne | 1053 | 14.0 | 1470 | 24.6 | 1454 | 21.6 | 744 | 24.6 |
| Rest Victoria | 947 | 26.2 | 1226 | 24.0 | 1200 | 25.9 | 617 | 23.2 |
| Brisbane | 1179 | 29.3 | 1500 | 30.2 | 1444 | 25.4 | 717 | 28.2 |
| Rest QLD | 1134 | 32.0 | 1339 | 28.9 | 1245 | 27.0 | 665 | 24.3 |
| Perth | 1096 | 27.4 | 1481 | 30.1 | 1468 | 27.1 | 704 | 27.4 |
| Rest WA | 1158 | 21.0 | 1402 | 24.2 | 1305 | 25.7 | 654 | 24.7 |
| Adelaide | 961 | 24.3 | 1303 | 25.1 | 1329 | 23.6 | 656 | 24.6 |
| Rest SA | 930 | 27.4 | 1191 | 25.5 | 1157 | 26.3 | 602 | 24.0 |
| Tasmania | 901 | 22.1 | 1199 | 20.9 | 1172 | 21.6 | 618 | 22.4 |
| NT | 1234 | 21.0 | 1499 | 19.4 | 1468 | 16.6 | 832 | 22.3 |
| ACT | 1328 | 42.4 | 1735 | 30.5 | 1750 | 24.8 | 956 | 27.8 |
| Metro | 1104 | 19.8 | 1498 | 26.2 | 1472 | 22.6 | 749 | 25.8 |
| Non-metro | 1021 | 26.5 | 1280 | 25.5 | 1215 | 25.2 | 633 | 23.5 |
| Total | 1071 | 22.1 | 1425 | 26.4 | 1376 | 23.1 | 702 | 24.7 |

Source: Census special tabulations 1996 and 2006.

Differences were also evident between the age groups in metropolitan and non-metropolitan Australia. Although in total, average incomes grew slightly more over the 1996–2006 period in metropolitan areas, this pattern is not replicated for each age

group. Households under 25 experienced a much more substantial growth in incomes in non-metropolitan areas, and this difference was also found (though to a lesser degree) for households aged 45–64, whereas those aged 24–44 and those aged 65 years and older appear to have experienced more income growth in metropolitan areas.

Not only did growth in average household incomes vary by the age of household reference person, it also varied by household type. In total, couple-only households experienced the most substantial growth in average incomes over the period, followed by couple households containing children, with an average growth of 32 per cent and 29 per cent, respectively. Although single-person and sole-parent households also experienced growth, it was below the population average at 22 per cent and 18 per cent, respectively. Notably, sole-person households in non-metropolitan areas had a very low rate of average income growth compared to the total population, and this was on top of a preceding decade of negative growth in average incomes documented in Yates (2002).

**Table 10: Household income in 2006 and growth from 1996 by age, household type and region**

| | *Couple* | | *Couple with children* | | *Single person* | | *Sole parent* | |
|---|---|---|---|---|---|---|---|---|
| | *2006 ($pw)* | *Growth %* | *2006 ($pw)* | *Growth %* | *2006 ($pw)* | *Growth %* | *2006 ($pw)* | *Growth %* |
| ***15–24-year-old households*** | | | | | | | | |
| Metro | 1462 | 21.6 | 1101 | 27.9 | 617 | 7.3 | 606 | 3.7 |
| Non-metro | 1366 | 29.5 | 1036 | 31.1 | 604 | 9.4 | 558 | 7.5 |
| Australia | 1424 | 24.2 | 1068 | 29.3 | 612 | 8.1 | 582 | 4.9 |
| ***25–44-year-old households*** | | | | | | | | |
| Metro | 1895 | 26.6 | 1662 | 29.1 | 1043 | 27.9 | 792 | 13.8 |
| Non-metro | 1640 | 31.0 | 1485 | 30.9 | 817 | 19.0 | 691 | 13.1 |
| Australia | 1826 | 28.2 | 1598 | 30.1 | 973 | 25.8 | 751 | 13.3 |
| ***45–64-year-old households*** | | | | | | | | |
| Metro | 1491 | 37.4 | 1875 | 22.9 | 817 | 29.5 | 1193 | 16.6 |
| Non-metro | 1261 | 39.2 | 1673 | 26.9 | 654 | 24.7 | 953 | 15.1 |
| Australia | 1383 | 38.0 | 1813 | 23.9 | 753 | 27.4 | 1116 | 15.5 |
| ***Over 65-year-old households*** | | | | | | | | |
| Metro | 855 | 37.0 | 1420 | 17.7 | 454 | 16.9 | 1053 | 15.6 |
| Non-metro | 761 | 35.7 | 1169 | 16.6 | 402 | 12.1 | 870 | 13.5 |
| Australia | 814 | 36.3 | 1348 | 17.8 | 432 | 14.9 | 992 | 14.9 |
| ***All households*** | | | | | | | | |
| Metro | 1404 | 31.2 | 1738 | 26.8 | 743 | 25.3 | 989 | 19.2 |
| Non-metro | 1147 | 33.1 | 1535 | 30.3 | 583 | 16.9 | 795 | 17.2 |
| Australia | 1299 | 31.7 | 1669 | 28.2 | 682 | 22.2 | 917 | 18.3 |

Source: Census special tabulations 1996 and 2006.

Considering further these variations in average incomes by household type, Table 10 shows the effects to be qualitatively different across age cohorts. For example, in the

25–44-year-old age group, couples without children have much higher incomes than couples with children – in fact they have the highest incomes of all. The reverse is the case for 45–64-year-old households, because households with children are likely to have more people in the workforce. However, although their incomes are still low, childless couples over 45 have increased their incomes more than any other group—probably a cohort effect from the two previous generations.

This table further highlights very limited growth in household incomes by single persons and sole parents among households under 45, who have barely increased their income. This is because they have had few opportunities to improve their position in the workforce and many have been dependent on statutory incomes that have not risen in real terms. In fact, although we noted that sole parents have improved their workforce position, they have improved their actual incomes for all age groups much less than couples and single persons.

## Differences in household income within Sydney and Melbourne

Table B10 in the Appendix describes the distribution of income growth by age and household type in Sydney and its rings. This table shows a similar, but slightly more extreme, pattern of income distribution as seen in the wider Australian population. The incomes of all groups except the youngest fall away from the centre of the city, as housing becomes more affordable. Growth rates of incomes also are higher in the inner city, in line with the steepening house price curve.

The DINK (double income no kids) hypothesis that was current in the 1970s alleged that inner city gentrification was spearheaded by young two-income professional childless couples. This is supported by the fact that the highest average household incomes of all were among inner-city 25–44-year-old couples without children. While older childless couples over 45 had lower average incomes than couples with children, their incomes were rising much more rapidly. Throughout the city, by far the greatest income growth was recorded among couples without children and single persons over 44.

Households who were headed by the very young, and especially those headed by sole persons or single parents, had the lowest rates of income growth over the period. This appears to be a continuation of the trend established in the 1986–1996 period, although it was more broadly focused on 15–44-year-old households in the earlier decade.

Table B11 shows a similar distribution of household income by household type, age and region for Melbourne. Even more consistently than Sydney, Melbourne average incomes fall away from the centre, and income growth rates too, for households over 25. Although incomes are about 10 per cent lower on average, inner Melbourne incomes are 10 to 15 per cent higher than inner Sydney incomes. As in Sydney, 25–44-year-old couples without children have the highest incomes, while the highest income growth rates are recorded among couples over 45 without children.

The low income growth for very young households documented for Sydney was again seen in Melbourne and its regions, although importantly, within this age cohort there was significant variation, with couple households containing children experiencing a 25 per cent growth in average incomes, compared to sole-parent households whose average incomes increased by less than one per cent.

## 3.3 Housing affordability

The issue of housing affordability has become one of the most politically charged topics in Australia today, with different pressure groups taking very different positions. Large industry groups have taken contrary positions, with the real estate industry arguing that houses are affordable and prices should stay high, while the construction industry pushes for relaxation of planning controls to take some of the pressure off a market they believe is severely overheated. Even the methods for measuring affordability have been hotly contested.

What is not contested is that house prices rose extremely rapidly after 2003, as we detailed in the Positioning Paper and consider further in Chapter 6. In the long term, house prices determine affordability because that is what must be paid by a new entrant to the market. However, in the short term, affordability research has concentrated on current housing payments and their relationship to income. The AHURI NRV3[24] has produced eleven research papers and a final report, mostly dealing with traditional treatments of affordability – measures such as repayment ratios, residual incomes or deposit gaps. Because of this extensive research, and because our data do not directly address the issue, we will deal only briefly with an update of the results of NRV3 to the period 1996–2006.

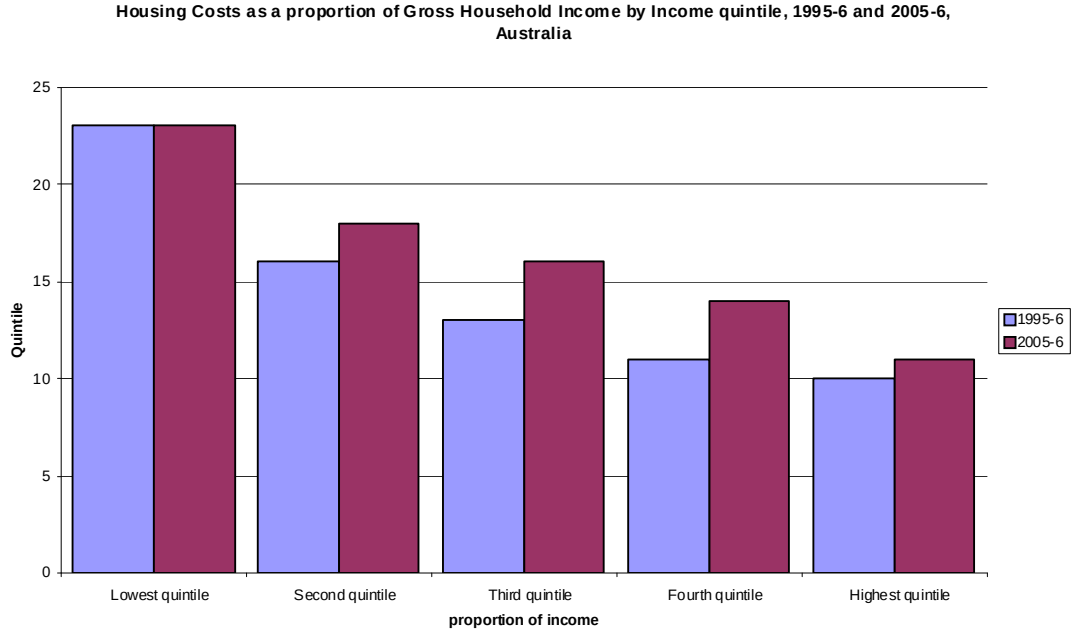
Most of the classic affordability measures only move slowly as house prices rise, because most people have paid lower historical values for their housing. Even for new purchasers, outlays have not been exceptionally high because of low interest rates – and this is evident because markets remain fairly buoyant.

Nevertheless, what does happen as real house prices rise is that the spread in housing payments rises quite quickly. Yates and Milligan (2007) found that housing payments had increased gradually from about 11 per cent of income in the mid-1970s to just over 15 per cent in 2003–4.[25] However, about 15 per cent of households were paying double this amount – over 30 per cent of income on housing costs, which is commonly regarded as the threshold for *housing stress*. Under reasonable scenarios, they expect the proportion in stress to reach 30 per cent within 40 years.

[24] http://www.ahuri.edu.au/nrv/nrv3/nrv3_assoc_docs.html, Yates and Milligan (2007).

[25] On average, Australian households paid 14 per cent of gross income in housing costs by 2006, up slightly from 12 per cent in 1996 (ABS, 2007, cat no. 4130.0.55.001).

**Figure 13: Housing costs as a proportion of gross household income 1996 and 2006**




Source: *Housing Occupancy and Costs* 2005–6. ABS cat no. 4130.0.55.001.

The report of AMP/NATSEM (2008) showed a particularly large increase in housing costs of 62 per cent in the period 2001–06, falling more heavily on the middle-income groups. This reduced the net income gain to Australian households after housing over the period to about 23 per cent, less than in the previous five years. Once inflation and housing costs were taken into account, gross incomes increased by an unimpressive 1.5 per cent per year in Sydney.

Average levels of housing affordability therefore mask significant inequalities within subgroups of the Australian population. The clearest example of this is the case of income – on average, low income households pay a substantially greater proportion of their income for their housing. This gradient appears to have reduced slightly over the study period with the lowest income quintile paying 23 per cent of income in both 1995–6 and 2005–6 (held down by relatively low rent levels and by rent assistance).[26] In each of the other income quintiles, the proportion of income spent on housing costs in 2005–6 increased significantly (Figure 13).

Throughout the decade, private renters have continued to pay the greatest proportion of their income in housing costs, followed by mortgage holders, public renters and (with much lower payments) outright home owners. This pattern has held for most of the decade, although by 2006 with increasing house prices, mortgage holders were the tenure type expending the greatest proportion of income on housing (20%), slightly more than private renters who on average paid 19 per cent.

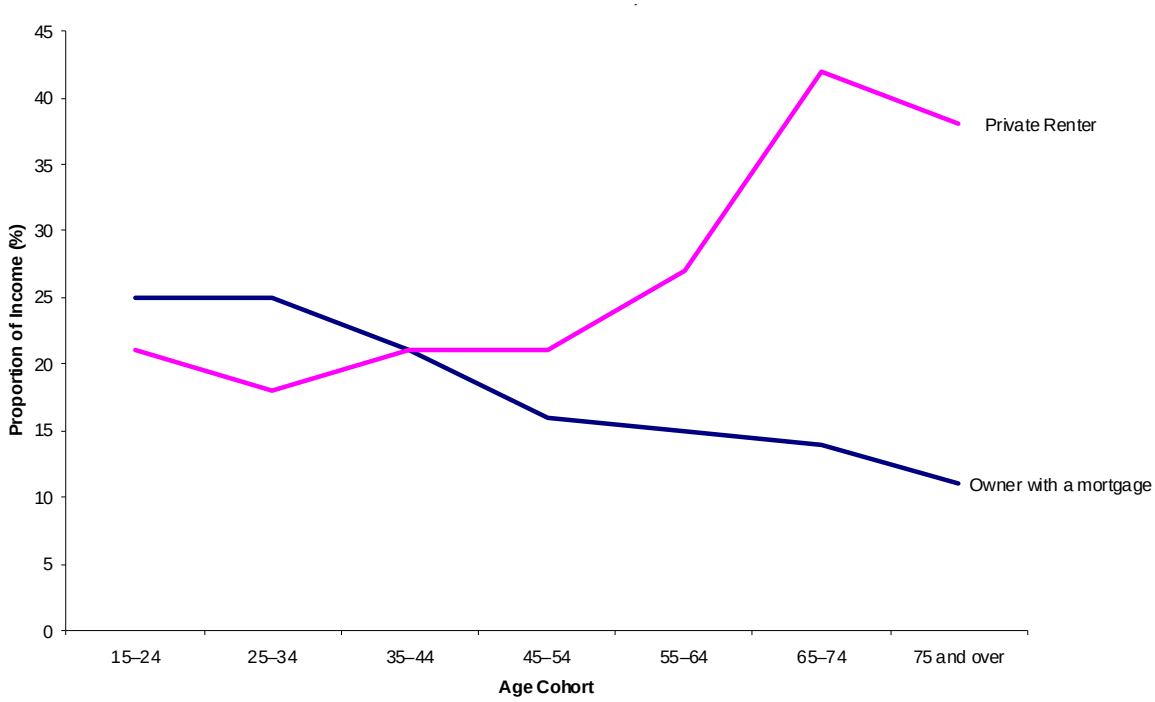
Some groups pay considerably more of their income on housing. For example, households that are poor and headed by a sole parent, and older renters, are likely to expend a large proportion of their income on housing. One-parent households across the decade paid an average 20 per cent of household income for their housing. Within

[26] Simulations by McNamara et al. (2008) have shown that without rent allowances, housing stress among renters in middle-outer capital cites would rise to critical levels.

this group, those that rented privately paid on average 25 per cent of income in housing costs.

McNamara et al (2008) in a NATSEM simulation of the effects of housing on poverty showed that housing costs are pushing an extra 3 to 4 per cent of the population into poverty, and this is particularly pronounced in households over 65, in remote areas and the outer fringes of all cities, and for families with children. Without rent assistance, they found, most of the middle and outer rings of all cities would have high levels of after-housing poverty among renters. This was the case back in 1986 before the introduction of the Rent Assistance program.

**Figure 14: Proportion of income paid on housing by age, renters and purchasers 2005–2006**




Source: Housing Occupancy and Costs 2005–6. ABS cat no. 4130.0.55.001.

Older renters suffer very poor housing affordability, since their incomes tend to fall with age, whereas their housing costs do not. Figure 14 compares housing costs as a proportion of gross income for private renters and mortgage holders across age cohorts. It shows a result of very long standing—that although young home purchasers in Australia are spending greater proportions of their income on housing costs, this proportion decreases with age as their mortgages decline in real terms and are paid off. On the contrary, the average proportion of income paid by renters increases very rapidly after age 45.

Figure 14 highlights the great importance of older renters in the discussion of housing affordability in Australia. It strongly delineates the long-term welfare benefits of home ownership, and the result is critical to policy outcomes, as we shall see in Chapter 7.

## Chapter summary

Economic conditions improved very considerably in Australia during 1996 to 2006, and this has impacted on real household incomes. Gross household incomes have risen by 23 per cent (35% in equivalised terms). This is fairly well distributed across the community, and much of the increase has stemmed from falls in unemployment

and in casual employment. This has resulted in an observable decrease in the proportions of people receiving social security, which has been of benefit to government budgets and the economy.

While almost every group has received benefits from the improved economy, the highest income group and older couple households without children, have done considerably better with real household income increases of over 35 per cent. However, DINKs aged 25–44 remain the highest income group. Although single parents have substantially improved their workforce position, their incomes have increased very slowly compared with other household types.

Within Sydney and Melbourne, income gradients continue to steepen in line with steepening house price gradients. In Sydney, a slight flattening of incomes in the middle ring is evident.

House prices rose considerably faster than incomes during the decade. This had only a modest impact on housing affordability as interest rates were held low, and rents were largely unaffected. Nevertheless, during 2001–2006 a considerable proportion of the gain in incomes was absorbed by rising housing costs, and lower-income households and recent borrowers were beginning to show signs of stress by 2006. The classic welfare result—that older home owners have lower proportionate housing costs than the rest of the community while older renters have considerably higher costs—still holds true.

# 4 HOME OWNERSHIP OUTCOMES

This chapter contains much of the work for which this project was commissioned – a descriptive analysis of changes in tenure during the period 1996 to 2006, with a comparison, where possible, with similar changes in the previous decade. The focus is largely on home ownership, although private rental is also occasionally considered.

The earlier study by Yates (2002) looked largely at the question of whether changes in tenure were exacerbating the substantial increase in income inequality that occurred in the 20 years up to 1996, and also examined a fall in home ownership rates among younger households. As the previous chapter described, while income inequality increased somewhat in the present decade, this took the form only of a widening of the gap between the top 20 per cent of households and the remainder[27], so marginalisation has been less of an issue. This Chapter is concerned with the effects of demographic change on homeownership, and the possibility of an emergent structural problem in mainstream housing markets in Australia which is impinging on ownership.

The chapter begins in Section 4.1 by looking at the distribution of aggregate home ownership in Australia. Section 4.2 is a general discussion of the effects of the principal demographic factors on ownership levels—age, marital status and household type. Section 4.3 *drills down* the aggregate results to show the changes in home ownership that have occurred in different age and income groups. Section 4.4 describes the contribution of marital status and household type to the observed changes. Finally, Section 4.5 discusses spatial variation in home ownership for the 13 national regions used in the study, and in more detail, in Sydney and Melbourne.

As in Chapter 2, the principal data used are specially requested seven-way tables of counts of households from the 1996 and 2006 Census (see Appendix A). These were constructed to be as similar as possible to the same tables for 1986 and 1996 used by Yates (2002). However, because there have been significant increases in missing data in the Census, we have estimated these by the procedure described in Appendix A—so that the home ownership rate in each year is somewhat higher than quoted in Census publications—and also higher than given by Yates (2002) in 1996 by about 5 per cent in older and younger households and 4 per cent in 25–65-year-old households.

This part of the report is of necessity very data-intensive, typically looking at two- and three-way tables and charts of the tenure incidence data and their changes.

## 4.1 Trends in homeownership in Australia

Absolute levels of home ownership are not always of great concern, for the simple reason that otherwise similar countries can have very different home ownership levels without this impacting on the quality of life. In terms of housing the population, tenure levels are not necessarily a direct measure of a successful housing sector.

However, there are a number of advantages associated with home ownership which give the tenure great appeal to Australian policy makers. Home ownership has a particular emotive significance to Australians, being vested in the national identity. It is frequently seen as both contributing to and reflecting social stability (Winter 1994;

[27] *Household Income and Income Distribution, Australia. ABS . Cat No 6523.0*, Flood and Baker (2008), Figure 8.

Saunders 1990; Badcock & Beer 2000). Ongoing improvements to the stock by owner occupiers help to set high housing standards and improve neighbourhoods. As well, home ownership has effectively acted as a major social security program for the aged, since older owner occupiers on average have both very low housing costs and very good housing compared with older renters.

The major question we investigate here is whether home ownership levels are also showing signs of stress through high housing prices and limited supply. The question is not straightforward, since home ownership levels are strongly influenced by demographic factors—most notably the ageing of the population and changes to household type and marital status—and housing market effects on tenure can be disguised by these larger trends.

Another difficulty lies in the fact that home ownership actually consists of two tenures—outright ownership and purchasing with a mortgage—and while these two are increasingly close substitutes due to flexible lending practices [28], their determinants are quite different. Outright ownership can occur in three different ways – through paying off a mortgage, through inheritance and by purchasing with cash. All these are age-dependent, but only the last is income-related.[29] By contrast, the *normal* way of acquiring a dwelling in Australia is through a mortgage, and the ability to take out a mortgage (and especially the size of the mortgage) is strongly income-related.

Spatial effects are not as marked in Australia as say the USA, because of our national financial system and our reasonably uniform planning framework. Nevertheless, some markets have been under more pressure than others because of population movements and because of more restrictive planning practices or genuine land shortages in some jurisdictions. The suspected shortages and imbalances expressed in the national figures should be revealed even more starkly in these places.

The Positioning Paper (Flood & Baker 2008) and many other sources have shown that the incidence of home ownership has been essentially unchanged since 1961 at about 70 per cent of households. In the financial crisis of 1991 it went to a low of 68.9 per cent and by 2006 it had partially recovered to 69.8 per cent, still slightly below 1986 levels.[30]

While total home ownership has barely altered, the proportions of households with and without mortgages changes quite rapidly, depending on conditions in the mortgage market. In the long term, the number of households with mortgages has tended to be about the same as the number of households owning their houses outright. However, in 1991, during the global financial credit squeeze known as the Savings and Loans crisis, the proportion of households purchasing fell to a low of 26.5 per cent, and took 15 years to return to 1986 levels (34.7%).[31]

In a trend noted first by Yates (2000, 2002) and later by Richards (2008), the aggregate figures disguise a continuing decline in home ownership among 25–39-year-olds. This has been concealed by the automatic rise in aggregate ownership due

[28] Housing loans can generally be paid out without penalty in Australia, and it has become increasingly easy to take out new mortgages or extend existing mortgages.

[29] Because home ownership is so widely distributed among older Australians, inheriting a house appears to take place fairly evenly across the income groups – although of course richer parents will leave more valuable properties to their heirs. Bequests by living parents will be more common for the wealthy.

[30] *ABS 1301.0 Yearbook Australia 2008*, reproduced in Flood and Baker (2008), Table 2.

[31] *Housing Occupancy and Costs Survey 2005–6 datacube, ABS Cat.No. 4130.0.55.*001 – shown in Figure 12 of the Positioning Paper (Flood and Baker 2008), which describes this earlier crisis.

to an ageing population – since older households have much higher home ownership rates.

There has also been a later transition to first-home ownership – the proportion of first-home buyers aged over 45 increased from 5 per cent to 9 per cent between 1996 and 2006. In the present high-cost environment, first-home buyers have also moved away from the traditional new separate house and now prefer existing townhouses and units—competing with traditional rental markets. Only 13 per cent of first-time buyers bought a new dwelling in 2005–2006, down from 23 per cent in 1995–6[32] (and in fact more than half bought new dwellings in the early 1980s). Overall, the recovery in home ownership since the 1991 low has not yet restored 1986 levels of home ownership, although the differences have been very small in the aggregate.

## 4.2 Factors affecting tenure choice

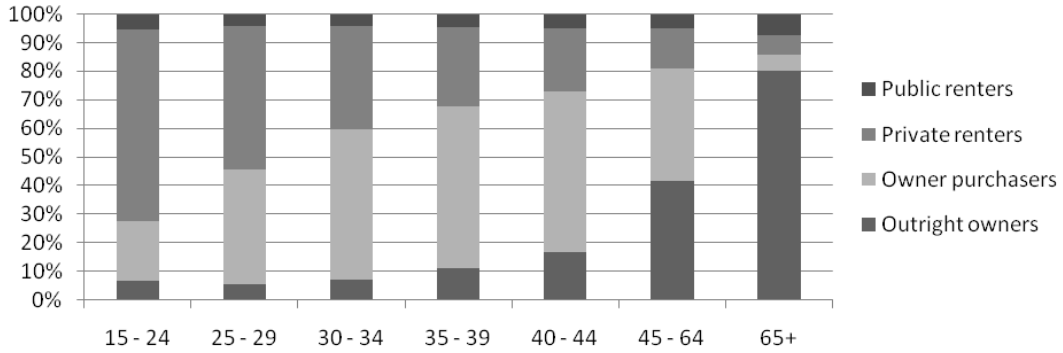
The principal factors affecting levels of home ownership have been studied by many authors.[33] The conclusion reached there is that home ownership is a choice largely determined by personal attitudes and circumstances, but these attitudes are heavily conditioned by a number of endowment variables such as age, income, relationship status and household type.

Essentially, home ownership is about three things—investment, security and stability—and the extent to which a household desires these things will determine their willingness to make the long-term expenditures necessary to secure ownership, and their willingness to devote themselves to a particular location and style of living for a very long period. If investment were the primary concern, then almost everyone would be purchasers, since better investment returns can usually be achieved with moderate gearing. If security were the primary concern then everyone would become outright owners as soon as possible, since this tenure has the lowest costs and least likelihood of external disturbance. On the other hand, if households are at a particular life stage where they are not certain what their future might be, such as after divorce, then they will probably rent.

### Outright ownership and home purchase

The determinants of outright ownership and ownership with a mortgage are different – the first is largely determined by age, and the second by income.

**Figure 15: Incidence of housing tenure by age of household reference person, 2006**




Source: Census special tabulation.

[32] *Housing Occupancy and Costs, Australia, 2005–06. ABS Cat. No. 4130.0.55.001*. Feature datacube First Home Buyers in Australia. The time series is somewhat erratic.

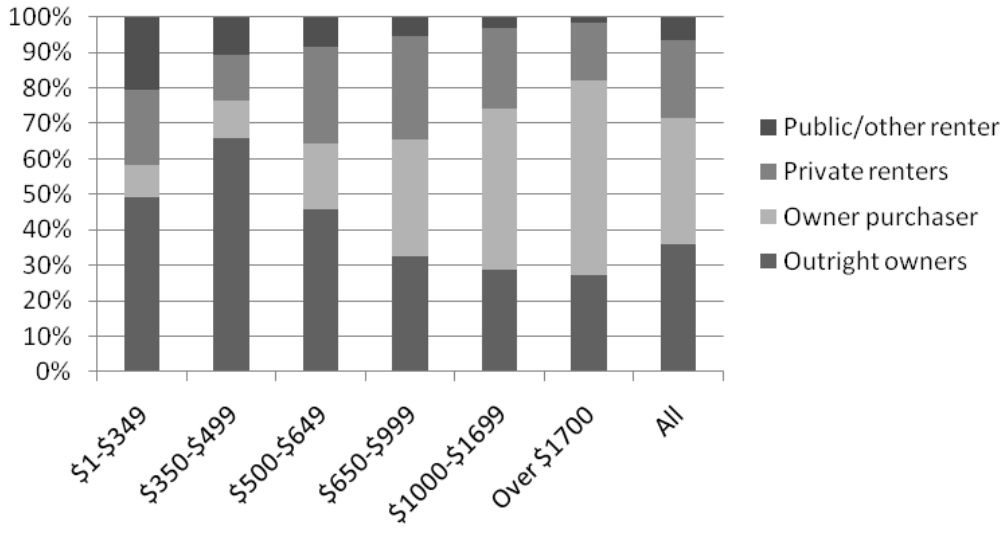
[33] See the Position Paper, Section 2.3 (Flood and Baker 2008).

Figure 15 shows the incidence of outright ownership rises rapidly after the age of 40, as mortgages are paid off. There were 10.3 per cent outright owners in the 35 to 39-year-old age group. This rises by about 2 per cent per year, and among over 65s, the incidence of outright ownership is about 77 per cent.

Because retired households have lower incomes, outright ownership is concentrated in the lower income groups—about 60 per cent of outright owners have household incomes below the median.

Purchasing is at a maximum in middle age. For households under 30, lower incomes, the necessity to save for a deposit, and lifestyle factors combine to reduce the incidence of mortgages; but for 30–45-year-olds, the proportion of households with a mortgage stays fairly constant at about 54 per cent. After age 45 the proportion of households with a mortgage begins to fall off as expected when the typical 25-year mortgage is paid off, so that after 65 only about 5 per cent of households have a mortgage.

**Figure 16: Incidence of major tenures by household income, 2006**




Source: Census special tabulation.

Purchasing is very clearly associated with income. Figure 16 shows a rising proportion of households with a mortgage as household incomes rise. In fact, about 20 per cent of households in the lower half of the income range have mortgages. About 46 per cent of households in the next quartile and 55 per cent in the top quartile are mortgagors. Almost three-quarters of households with a mortgage are in the two upper income brackets. Nevertheless, about 10 per cent of households in the lowest income groups have a mortgage, so it is certainly possible to purchase on a low income.

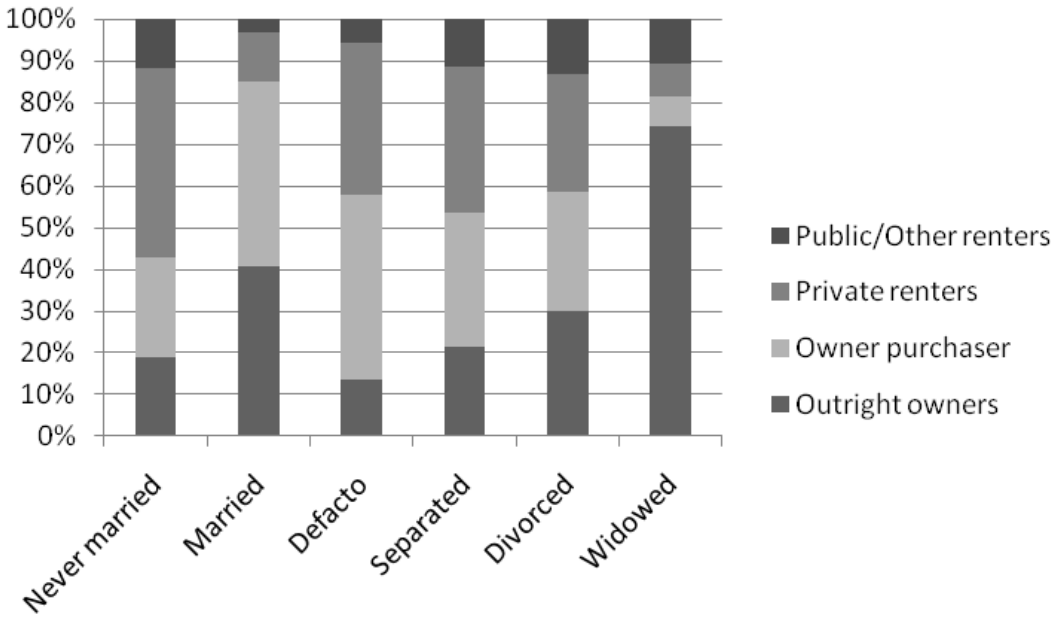
What this means is that when we have a switch from outright ownership to purchasing, as occurred in the study period, rates of home ownership becomes more closely associated with incomes.

## The effect of marital status and household type on ownership rates

There is a very significant difference in ownership by marital status of the household head, as Beer et al. (2006) have shown—and this is probably the major life cycle

effect on ownership—since many people become home owners after marriage, and marriage dissolution is the most common way that owners slip back to renting (Lauster & Fransson 2007).

**Figure 17: Tenure by marital status 2006**

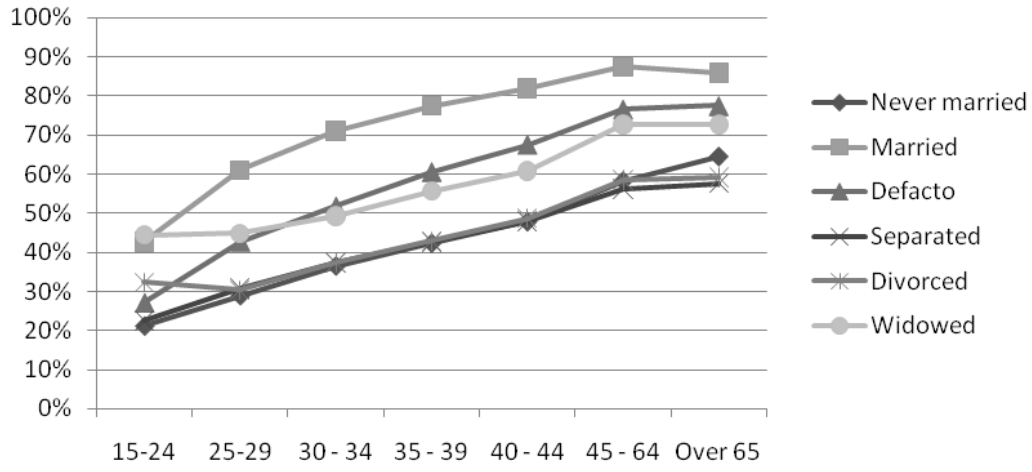



Note: *Other* and *Not stated* categories excluded.
Source: Census special tabulation.

Figure 17 shows the incidence of different tenures by marital status of reference person, and it demonstrates the effect of lifestyle and life cycle on tenure choice .The less permanent *defacto* and divorced categories have about 59 per cent total ownership, while 84 per cent of married couples are home owners. The lives of separated people are often in a state of flux, and 52 per cent own their dwellings. The never-married have 42 per cent ownership. About 78 per cent of widows are owners, mostly outright owners since many are older.

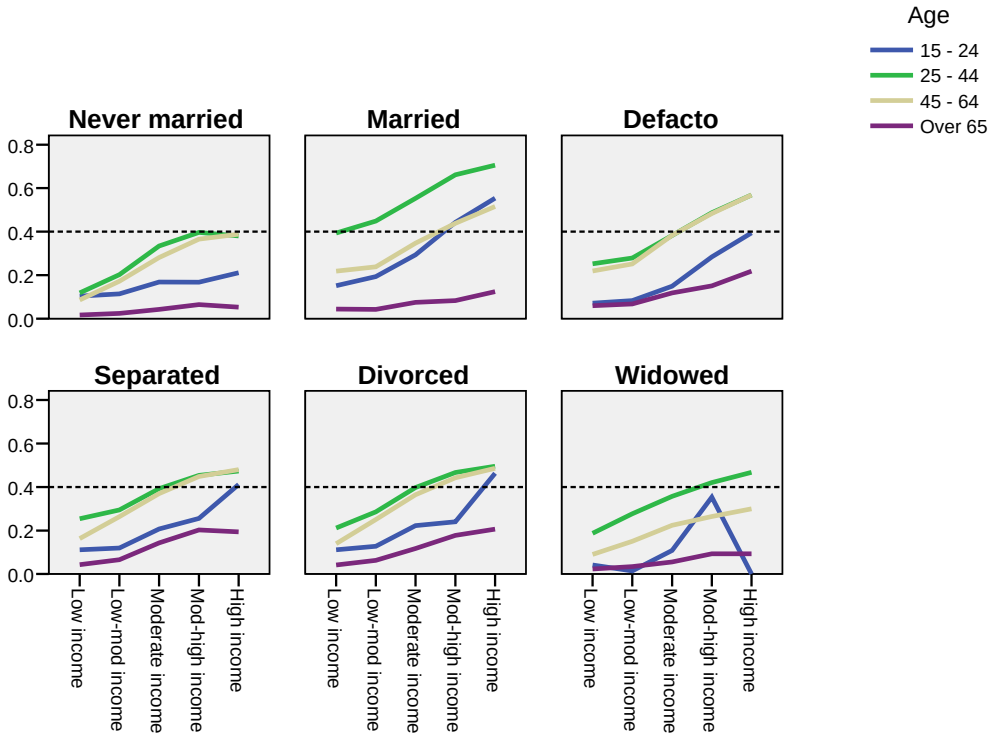
Some of this difference is an age effect, which can be removed by charting ownership by age, for each marital status. Figure 18 shows a clear *ownership hierarchy* with married couples having the highest ownership, typically about 15 to 20 per cent greater than *defacto* couples and widows of the same age, who in turn have about 10 to 15 per cent more ownership than separated, divorced and never-married household reference persons.

**Figure 18: Ownership rate by age and marital status, 1996**




Source: Census special tabulation.

**Figure 19: Purchasers by income, age and marital status, 2006**



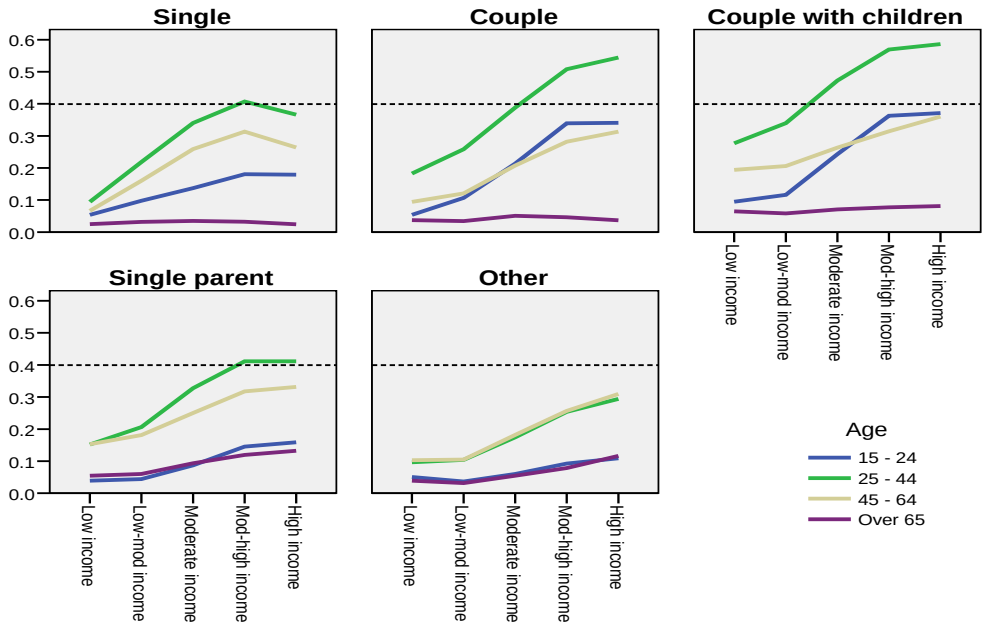

Source: Census special tabulation.

Figure 19 charts the incidence of purchase across income groups for different age groups, with each separate chart covering different marital status group (we will use many such income graphs in what follows, because they show how income affects the different marital status and age groups in vying for mortgage finance). What stands out is how the rate of purchasing is much higher for the 25–44-year-old Gen-X age group than for other age groups among married couples. Essentially, married couples use their incomes to power their way into home ownership during the critical wealth-building years 25–44. By contrast in single, *defacto*, separated and divorced

households, the 25–44 and 45–64-year-old age groups have pretty much the same proportions of purchasers throughout the range.

The youngest households are involved substantially less in home purchase except at the highest incomes. For young households under 25 who are or have been in a relationship, the rate of purchasing rises rapidly for these top incomes. By contrast the never-married group has low, flat involvement in purchasing.

**Figure 20: Percentage purchasing by income, age and household type, 2006**




Source: Census special tabulations.

Figure 20 charts the same income and age categories, but for household type instead of marital status. Now Gen-X shows considerably greater proportions purchasing than other age groups in all household categories except the last, whereas Figure 19 showed this only for the married group. It is clear that being legally married is the critical trigger for home purchase in this age group, rather than household type.

It is also clear that the income curves are much steeper for young couples under 45 than for other categories, showing that income is critical for younger people to achieve ownership and their situation is much more competitive.

The question of whether families with children have higher home ownership rates than similar couples without children is a complex one. *Nuclear families* have a greater desire for stability in their housing arrangements, as schooling, neighbourhood ties and general stability are very important in bringing up a family. They have traditionally been the backbone of the Australian home purchase and home building industries—but they have less disposable income than childless couples of similar incomes, which affects their ability to purchase.

Figure 20 supports the idea that the desire for security is paramount in home purchase—couples with children have significantly higher ownership rates than childless couples of the same age and this is most pronounced for lower income groups. Their income curves are flatter, showing that income is less of a consideration than it is for childless couples. The widely held perception of landlord prejudice

against children and lender bias toward nuclear families may also play a role in their increased ownership levels.

The flattening of the income curves for single household categories at the top end is also very evident. In fact, mortgages are somewhat less common among sole persons in the highest income group. This is a problem with using unequivalised incomes. Essentially, singles in the highest household income group have very high levels of disposable income and are able to pay their mortgages out much faster.

## Summary

Overall, the main considerations in examining the effects of changing demographics on home ownership are:

- Home ownership increases rapidly with age, particularly outright ownership. As the population is getting older, one would expect ownership to be increasing.
- Home purchasing with a mortgage increases rapidly with income. Incomes increased substantially during the decade, therefore one might expect purchasing to have become easier and home ownership to have risen.
- Married couples have much higher home ownership rates than other types of households. During the critical years 25–44, they use their incomes to accumulate housing wealth much more than any other group. Defacto relationships have become more common and marriages are later, so one would expect these factors to cause a fall in home ownership rates, especially in Gen-X households.

Much of the rest of this chapter and the next are concerned with looking at these factors in more detail, to discover to what extent tenure change can be attributed to demographics, or whether structural economic factors are at work within housing markets.

## 4.3 Changes in tenure disaggregated by age and income

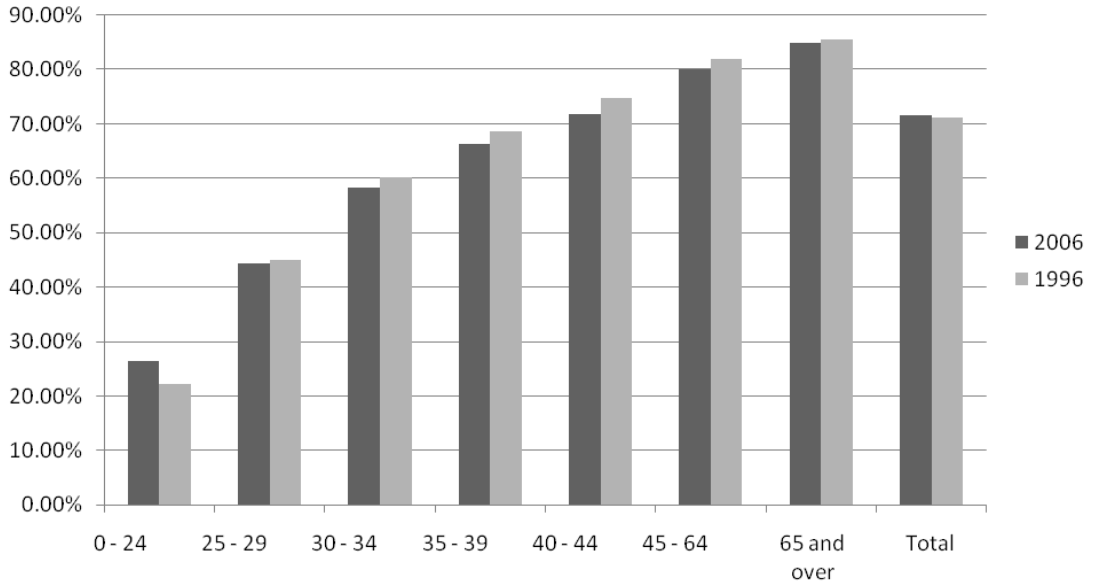
The remainder of the chapter considers the key research question of how home ownership actually changed over the decade 1996 to 2006 for different groups in the population and for different locations.

Chapters 2 and 3 showed there have been significant changes over the decade in all the key underlying variables. From Section 4.2 we can expect these changes to manifest themselves directly in changes in aggregate home ownership, possibly masking any underlying changes in the propensity to own.

As Yates (2002) did, we adopt the standard procedure of *drilling down* to smaller groups which are comparable over time, to see where home ownership rates have actually changed. By doing this, we can also divide gross changes in ownership to *shift* effects within the subgroups, and changes in *share* of each subgroup.

The first and most significant variable, examined in this section, is the effect of age. The population has aged, which one would expect in itself to cause higher aggregate home ownership rates. As well, changes in ownership are heavily underlain with *cohort effects*, or the flow-through of earlier trends into population cohorts as they age. For example, lower ownership rates which Yates found among 35–44-year-olds during the period 1986–96 could be expected to flow through at least partially into lower ownership rates among 45–54-year-olds in 1996–2006.

**Figure 21: Home ownership by age, 1996 and 2006**




Source: Census special tabulation.

The first somewhat anomalous result to be found by *drilling down* and considering ownership rates disaggregated by age is that although home ownership levels have risen slightly overall from 69.4 per cent to 70.1 per cent since 1996, they have fallen slightly in every age group over 30 (Figure 21). This is possible because more people have moved into the older age brackets which have higher ownership levels.

Table 11 shows changes in the incidence of all tenures by age group between 1996 and 2006. The most obvious change is the loss in outright ownership in every age group, which is very marked for all age groups under 65. However, this has been largely compensated by an increase in owner-purchasing, to give only a small decline in total home ownership rates of 1 to 3 percentage points in age groups over 30. The largest falls in total home ownership of over 2 percentage points have been in the 35–44 age group – a cohort which also showed substantial losses in the previous decade while aged 25–34. The baby boomers aged 45–64 in 2006 have much lower outright ownership rates than their peers had in 1996, with only 41 per cent owning outright compared to 56 per cent in 1996. There are a number of possible reasons for this, which cannot be directly identified from Census data, but which may include contributions from:

- Later first-home ownership, delaying payout of mortgages.
- Less outright purchasing of homes, due to much higher real house prices.
- A greater tolerance of debt due to more favourable interest rate terms and better incomes.
- Accelerated capital withdrawal for investment or consumption purposes.
- A fall in inheritance of dwellings.

These possibilities will be discussed later in the report.

**Table 11: Incidence of tenure by age, 1996 and 2006***

| | *Outright owners* | | *Owner purchaser* | | *Total ownership* | | *Private renters* | | *Public and other renters* | |
|---|---|---|---|---|---|---|---|---|---|---|
| | ***2006*** | ***1996*** | ***2006*** | ***1996*** | ***2006*** | ***1996*** | ***2006*** | ***1996*** | ***2006*** | ***1996*** |
| 0–24 | 6.3 | 8.3 | 19.4 | 13.3 | 25.7 | 21.6 | 62.9 | 64.7 | 8.8 | 10.8 |
| 25–29 | 5.0 | 9.9 | 38.4 | 33.6 | 43.4 | 43.5 | 47.8 | 43.6 | 6.5 | 9.9 |
| 30–34 | 6.7 | 15.4 | 50.4 | 43.2 | 57.1 | 58.6 | 34.9 | 29.8 | 6.2 | 9.0 |
| 35–39 | 10.5 | 22.4 | 54.7 | 44.8 | 65.2 | 67.2 | 26.8 | 22.4 | 6.3 | 8.3 |
| 40–44 | 16.3 | 31.1 | 54.4 | 42.2 | 70.7 | 73.3 | 21.5 | 17.6 | 6.3 | 7.2 |
| 45–64 | 40.7 | 56.0 | 38.1 | 24.4 | 78.8 | 80.4 | 13.9 | 11.4 | 6.0 | 6.4 |
| Over 65 | 76.5 | 78.5 | 5.4 | 4.0 | 81.9 | 82.5 | 6.6 | 5.2 | 8.0 | 8.9 |
| **All** | **35.0** | **42.6** | **35.1** | **26.8** | **70.1** | **69.4** | **21.2** | **20.1** | **6.6** | **8.0** |

Note: *This table contains raw figures unadjusted for missing values, and therefore the tenure incidences add to less than 100 per cent.
Source: Special Census cross-tabulations.

The gain in private rental tenure of about 4 percentage points over the decade in the 25–45 age cohort is at least half accounted for by the loss in public housing and in the *other rental* category (mostly employee housing which has been privatised).

There has been a substantial gain in ownership in the youngest age group (household head aged 0–24), with the proportion of purchasers increasing from 13 per cent to 19 per cent, and the actual numbers of purchasers leaping by 30 per cent.

Because age and life cycle effects have such a substantial impact, not just on ownership rates, but on actual tenure behaviour, we will generally disaggregate results by major age cohort

## Changes by income group and age

The falls in overall ownership over the decade shown in Table 11 and Figure 21 for all age groups except the youngest are still quite small, of the order of 2 percentage points, and it is not until the results are further disaggregated by income group, and into metropolitan and non-metropolitan areas, that significant trends appear.

**Table 12: Incidence of home ownership by household income and age of reference person, metropolitan and non-metropolitan areas**

| | ***Low income*** | ***Low-mod income*** | ***Moder-ate income*** | ***Mod-high income*** | ***High income*** | ***Ratio high/low 2006**** | ***Ratio high/low 1996*** |
|---|---|---|---|---|---|---|---|
| ***15–24 years old*** | | | | | | | |
| Metro | 22.1 | 18.6 | 23.4 | 26.8 | 35.3 | 1.60 | 1.53 |
| Non-metro | 18.3 | 17.5 | 23.1 | 32.4 | 42.8 | 2.34 | 2.09 |
| Australia | 20.6 | 18.1 | 23.3 | 28.9 | 37.7 | 1.83 | 1.72 |
| ***25–44 years old*** | | | | | | | |
| Metro | 30.3 | 40.0 | 52.4 | 64.8 | 73.7 | 2.43 | 2.49 |
| Non-metro | 32.0 | 41.3 | 55.5 | 68.7 | 76.2 | 2.38 | 2.02 |
| Australia | 31.0 | 40.5 | 53.5 | 66.2 | 74.3 | 2.40 | 2.28 |
| ***45–64 years old*** | | | | | | | |
| Metro | 52.2 | 66.1 | 73.2 | 82.6 | 90.6 | 1.73 | 1.49 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Non-metro | 59.3 | 71.6 | 76.3 | 84.0 | 89.2 | 1.50 | 1.27 |
| Australia | 55.5 | 68.7 | 74.5 | 83.1 | 90.2 | 1.62 | 1.39 |
| ***Over 65 years*** | | | | | | | |
| Metro | 72.4 | 82.9 | 87.8 | 90.7 | 93.6 | 1.29 | 1.26 |
| Non-metro | 74.3 | 84.6 | 88.4 | 90.2 | 92.5 | 1.24 | 1.20 |
| Australia | 73.2 | 83.7 | 88.0 | 90.5 | 93.3 | 1.27 | 1.24 |
| ***All households*** | | | | | | | |
| Metro | 56.2 | 63.6 | 63.8 | 72.4 | 81.5 | 1.45 | 1.38 |
| Non-metro | 60.0 | 67.0 | 66.3 | 75.0 | 82.3 | 1.37 | 1.24 |
| Australia | 57.8 | 65.1 | 64.8 | 73.3 | 81.7 | 1.41 | 1.33 |

Source: Census special tabulations.

Note: *The 1996 income groups are the same as used by Yates (approximately quintiles). Because of the upward move in real incomes due to improved employment, the five inflation-adjusted income groups for 2006 are somewhat different in size, with the top two groups containing half the number of households. However, an interpolation analysis has shown that the 2006 high-low ratios would barely change if the groups were more even (they would fall by about 0.004 on average).

Table 12 shows the distribution of aggregate home ownership rates across income distribution, for different age groups in metropolitan and non-metropolitan areas. The increasing incidence of home ownership with income, largely due to better access to mortgage finance, is clear in every group except the youngest—forming an 'income gradient' of home ownership rates for each age group. This income gradient or "marginal impact of income" contains a great deal of useful information, and we use the concept extensively throughout the remainder of the report.

A simple measure of the slope of this gradient is the ratio of ownership between households in the highest and lowest income groups, and this is shown in the final two columns, for 2006, and for comparison in 1996. Across all households and in every age group except the youngest, the ratio is greater in metropolitan areas than in non-metropolitan areas. As Yates (2002, p.57) puts it, "the greater marginal impact of income on the incidence of home ownership in metropolitan regions is consistent with the greater affordability constraints in those regions".

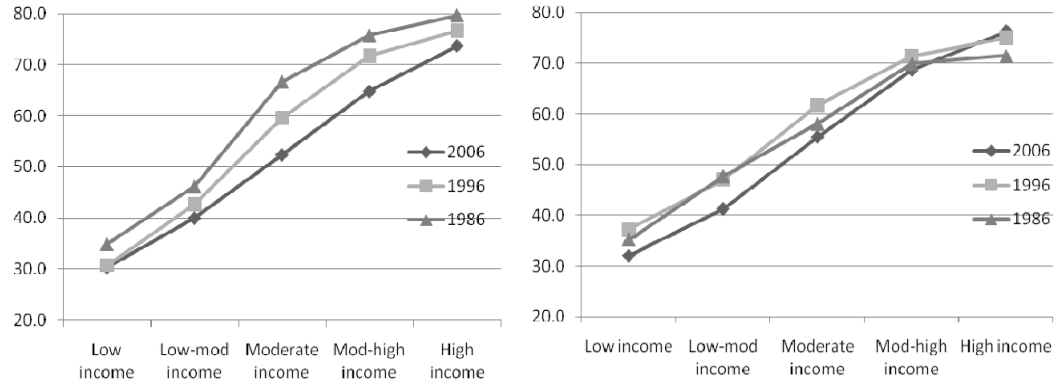
What is most evident is that the ratio increased between 1996 and 2006 for every age group except metro under 25-year-olds, showing a steepening marginal impact of income on ownership and greater affordability constraints.

The table shows a few anomalous *ecological fallacy* results due to the changing age distribution. For example, ownership appears to fall between the second and third income groups. However, as expected ownership is higher as income increases for every age group, and in the key 25–44 entry group, ownership is a full 12 percentage points higher for the third income group. The anomaly occurs because the second income group is considerably older on average—the second group has 40 per cent aged over 65 while the third group has only 15 per cent.

We now consider home ownership outcomes for each of the generational age groups, in more detail and over a 20-year period.

The 25–44-year-old age group is the most important age group for entry into home ownership. Figure 22 shows income gradient curves of ownership rates for 25–44-year-olds in 1986, 1996 and 2006.

**Figure 22: Ownership by income, metro and non-metro areas, 1986. 1996 and 2006, 25–44-year-olds**




***a) Metropolitan*** ***b) Non-metropolitan***

Source: Census special tabulations.

Figure 22 contains one of the most significant results of this report—that home ownership has fallen in the key 25–44 age group in almost every income group for 20 years, through very different economic circumstances—and the incidence of home ownership is now a straight line with income.

In metropolitan households, a drop of 13 percentage points in the incidence of ownership in the middle-income quintile over 20 years and 10 percentage points in the fourth quintile has occurred. In the non-metro areas it means that ownership rates in the top income group has improved, while in the lower income groups ownership has fallen by 5 to 7 percentage points, to bring the non-metro curve for 2006 much more in line with the metro one.

In terms of actual numbers, there are about 25 000 fewer home-owner households in this age group than if the tenure incidence of 1996 (proportion of home owners) had been preserved, and 167 000 fewer home-owning households than if the tenure incidence levels of 1986 had been preserved. About 85 per cent of the loss is in cities. If incomes had not risen from 1996 the loss would have been much greater.

The loss in home ownership between 1996 and 2006 continues the trend observed by Yates in the previous decade, despite the different economic conditions. The biggest changes Yates described were across-the-board losses in ownership among 25–44-year-olds which were largest for the middle-income group in metropolitan areas, at about 6 percentage points, and 8 percentage points for the lowest group in non-metro areas.

The fall in home ownership in the middle-income groups can be interpreted in five ways. First, Yates (2002) reasonably took the change between 1986 and 1996 to reflect the *hollowing of the middle* in the income distribution and the restructuring and casualisation of the workforce during the difficult 1980s, which made taking out a mortgage more difficult. The continuation of the trend through to 2006, when economic conditions were much better, would not fit so easily into the economic restructuring hypothesis.

A second possibility refers to the effects of removing government regulation supporting home ownership. According to this line of thinking, the hump in middle-income home ownership in earlier decades can be interpreted as the outcome of a whole range of home purchase assistance policies, including credit rationing in favour of family home buyers—which led to higher home ownership for middle–upper income

households in this age group. Now, the post-war policy apparatus that caused the ownership rate to lift for middle Australia has been discarded, as part of the neoliberal makeover of the economy, and home ownership rates have returned to their market-determined level.

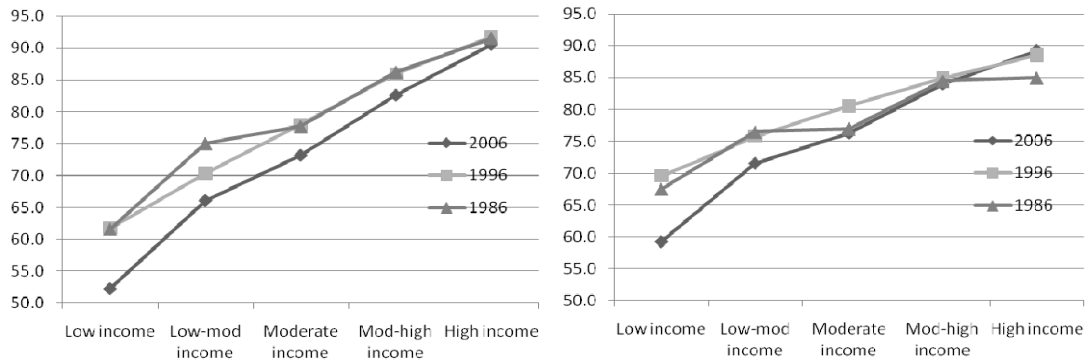
Further evidence is provided by the strong convergence of ownership rates between metro and non-metro areas by 2006. It appears that under credit rationing, metropolitan areas received more than their fair share of finance and this has now been redressed. This is in line with economic theory which says that government intervention often produces uneven results and favours the regions closer to the sources of power, whereas market results are more even.

A third possibility is an overall supply scarcity in which this group is losing out, as the buyers at the margin. There is good evidence for this, which we return to in Chapter 6.

Fourth, there is the possibility that the loss is simply due to demographic change toward groups that have lower propensity to own or lower interest in owning. Most of this chapter and the next will look at this possibility.

Finally, there is indirect evidence for reduced bequests by parents to younger households, both through inheritance and direct gifting—which we believe provides most of the housing owned outright by younger low-income people. The loss in bequests might be substantial, sufficient to explain most losses in ownership over the decade. We consider this possibility later in the section.

**Figure 23: Ownership by income, metro and non-metro areas, 1986. 1996 and 2006, 45–64-year-olds**[34]




***a) Metropolitan*** ***b) Non-metropolitan***

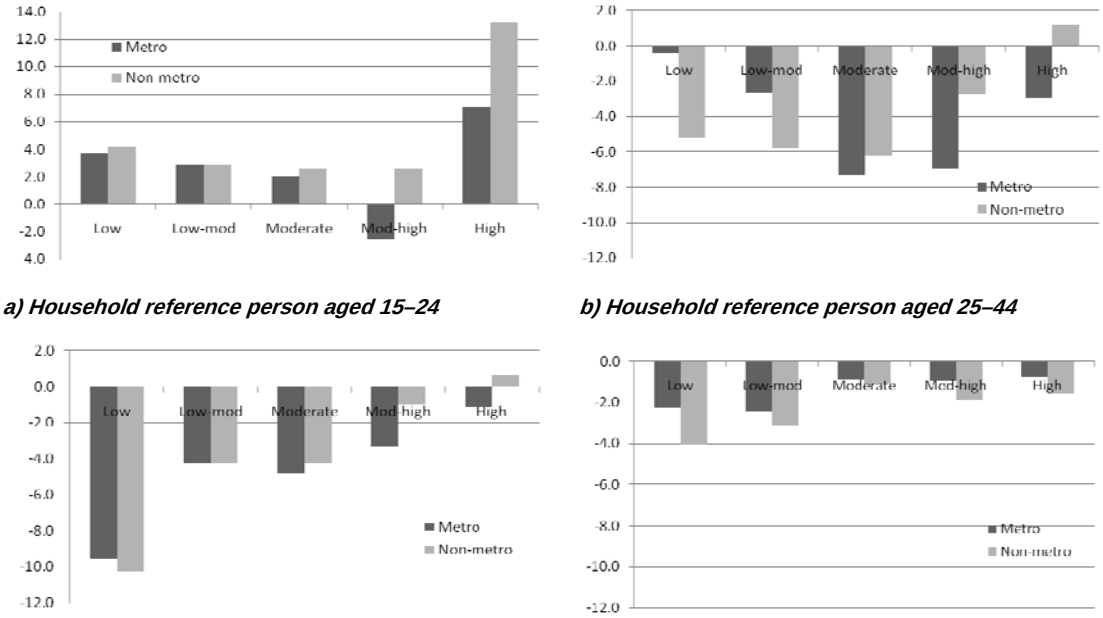
Source: Census special tabulations.

The situation with the baby boomer 45–64-year-old age cohort is even more disturbing than the losses in the younger group, as Figure 23 shows. Between 1986 and 1996 the incidence of home ownership for this age group actually rose in rural areas, and fell only in the second income group. However, between 1996 and 2006 home ownership has fallen in every group except the highest income group, and the falls are much greater for lower income groups, with a steepening income gradient.

The percentage point changes in the incidence of home ownership between 1996 and 2006 for each of the four major age cohorts are shown in Figure 24. Losses in ownership are shown for all groups aged over 25.

[34] Note that 1986 data may not be accurate or comparable. See Appendix A3 and A4.

**Figure 24: Percentage change in incidence of home ownership 1996–2006, by income and age group**




***a) Household reference person aged 15–24*** ***b) Household reference person aged 25–44***

***c) Household reference person aged 45–64*** ***d) Household reference person aged over 65***

Note: Half of all households were in the top two income groups in 2006.
Source: Census special tabulation.

There has been a 15.3 percentage point loss in outright ownership for 45 to 64-year-olds over the decade, and while this has been largely compensated by a 13.7 percentage point gain in purchasing, this has naturally gone disproportionately to the top half of the income distribution. It appears that the substantial loss of home ownership by this cohort in the 1980s and early 1990s has only been fully recovered by the highest income group, and the loss has actually concentrated in the lower income groups where it is likely to have the worst welfare outcomes as the group ages. The bottom income group in particular has been left with a full 10 percentage point drop in home ownership over the decade, as Figure 24c shows. This is a greater fall than anything shown by Yates (2002, Fig. 4.3) for the previous decade. This bottom group now has little chance of achieving home ownership under current conditions. They are mostly on social security and are likely to be receiving rent allowances for up to 40 years.

In numerical terms, in metropolitan areas there are about 27 000 fewer home-owner households in this age group than if the tenure incidence of 1996 had been preserved, and 50 000 fewer home-owning households than if the tenure incidence levels of 1986 had been preserved. There is a gain in ownership in non-metro areas. This is not a huge loss, and could be easily reversed with appropriate programs. (However, it should be recalled that the loss in the current decade occurred in a period of prosperity, during the first half of which housing was affordable, and the losses would have been considerably larger if income levels had not risen).

Despite common perceptions to the contrary, it appears that middle-income baby boomers *did it tough* during their younger years, at least where home ownership was concerned, and they were unable to amass housing wealth to the extent that the previous generations had done, particularly if they subsequently fell on hard times. Several different adverse trends now affect the baby boomer bulge age group more

than any other—a cohort effect from the 1980s, a loss of inheritance and accelerating house prices.

The number of households who have achieved ownership in this age group by 2006 is 130 000 less than if the 1996 incidence had prevailed. About a third are in rural areas, and about 50 000 are in the bottom two income groups. These numbers are not insurmountable—but are still very significant, and are likely to increase a good deal with the flow-through cohort of 40–45-year-olds if current house price levels are maintained.

There are already falls of 2 to 4 percentage points in ownership in the over 65 retired group (Figure 24d) and it is clear that these falls will accelerate very substantially as the baby boomer cohort ages.

The only rosy part of the picture is that the situation of the households with youngest 15–24-year-old reference person (Figure 24a) has substantially improved—with ownership rates increasing by 4.4 percentage points overall. Because the improvements in ownership rates among 15–24-year-olds are believed to be largely due to FHOS, coupled with flexible lending practices, the outcomes are of particular policy interest. Unlike most earlier versions, the present incarnation of FHOS has inexplicably not been means tested or targeted. The highest income group of these young households, who have presumably appropriated most of the benefits, has had the best of all worlds. There has been a spectacular improvement in their position with a 9 percentage points increase in home ownership, and almost 40 per cent of these young high income households are now purchasers.

However, the numbers of these young households are very small and falling and as seen in Chapter 2 they have been affected by a drop in household formation rates. What has happened is that young renters have disappeared. So in reality the overall position of the age group has not improved.

## Outright ownership and bequests

In Chapter 2 we saw that the proportion of elderly couples increased substantially during the decade, largely due to increased longevity in males. We also saw a substantially increased number of single middle-aged children living with their elderly parents.

It is a long-standing tradition in Australia for some elderly widows to either sell or sign over their properties to children and build a *granny flat* in the backyard where they can join in family life and be cared for. However, this does not happen for couples—so that one might expect the signing over of properties to diminish. Also, longer life of the widows who do stay in their property would decrease inheritance.

The role of inheritance and other bequests in becoming a landlord is well established (see for example Wood & Ong 2010, p.8); however, very little has been done to research the role of inheritance in home ownership. Olsberg and Winters (2005) have suggested that direct cash bequests to assist with housing have increased—but this evidence points to a decline in outright bequests of housing, since this may have become too expensive. We do not have the data in this study to get a direct estimate for any decline in inheritance, but some proxy can be obtained by investigating changes in outright ownership. There are really only two ways to become an outright owner, and that is by receiving a bequest or by paying off a mortgage.

Table 13 shows the changes in outright ownership by age and income over the decade.

**Table 13: Incidence of outright ownership by age and income, Australia 1996 and 2006**

| | *Low income* | *Low-mod income* | *Moderate income* | *Mod-high income* | *High income* |
|---|---|---|---|---|---|
| ***1996*** | | | | | |
| 15-24 | 0.114 | 0.075 | 0.068 | 0.068 | 0.079 |
| 25-44 | 0.181 | 0.182 | 0.199 | 0.207 | 0.228 |
| 45-64 | 0.564 | 0.571 | 0.549 | 0.553 | 0.564 |
| Over 65 | 0.733 | 0.826 | 0.832 | 0.850 | 0.875 |
| ***2006*** | | | | | |
| 15-24 | 0.103 | 0.068 | 0.057 | 0.039 | 0.048 |
| 25-44 | 0.111 | 0.105 | 0.101 | 0.093 | 0.107 |
| 45-64 | 0.413 | 0.456 | 0.404 | 0.398 | 0.391 |
| Over 65 | 0.702 | 0.795 | 0.808 | 0.813 | 0.810 |

Source: Census special tabulations.

It is very difficult for lower-income households aged under 45 to have paid off a 25- or 30-year mortgage (if they have managed to become purchasers at all), so that outright ownership for these households will be largely due to bequests. We consider their level of outright ownership can be taken as a proxy baseline for inheritance or outright bequests from parents. We also expect that inheriting a property would be reasonably uniform across all income groups, because of near-universal home ownership among the elderly in Australia. Therefore, in 1996, it is plausible to suggest that 18 per cent of 25–44-year-old households had inherited a house or received it as a gift, and a further 4.8 per cent of the highest income group had managed to pay off their mortgage.

The incidence of outright ownership is fairly flat for 25–44-year-olds in 2006 at around 9 to 11 per cent—which would be consistent with a fall of at least 7 percentage points in inheritance over the decade. This would be enough to explain all the loss in home ownership over the period, if it could be confirmed.

The slight fall in outright ownership for higher income groups in 2006 is less easy to explain, since it ought to be easier for the more affluent to pay off a mortgage. This suggests discretionary factors may be at work, such as capital withdrawal for investment purposes. However, it may be due to the difficulty of paying out the much higher mortgages of 2006.

## 4.4 Changes in home ownership and relationship status

Section 4.2 examined the propensities to own associated with different household types and with reference persons of different marital status. This section looks at the *changes* in ownership rates between 1996 and 2006 and how household characteristics contributed to these changes.

Table 14 shows the differences in total rates of ownership and in purchasing for different relationship status categories. It shows yet another anomalous result—that while home ownership was lower in each age group except the youngest in 2006 compared to 1996, it actually was higher in many subcategories. Among 25–44-year-old households in 2006, every household type except widows has recorded modest gains, but in aggregate, the rate of ownership has fallen. This leaves open the possibility that a good part of the big drop in ownership that occurred in 25–44-year-

old middle-income households shown in Figure 22 is due to an adjustment in relationship status and a shift in the balance toward groups with lower ownership – particularly away from married couples. This was probably true also between 1986 and 1996, when big changes in household structure toward single categories were taking place.[35]

**Table 14: Home ownership by age and marital status of reference person, 2006 and 1996, per cent**

| | ***15–24 years*** | | ***25–44 years*** | | ***45–64 years*** | | ***Over 65 years*** | |
|---|---|---|---|---|---|---|---|---|
| | ***2006*** | ***1996*** | ***2006*** | ***1996*** | ***2006*** | ***1996*** | ***2006*** | ***1996*** |
| Never married | 22.6 | 17.2 | 39.6 | 38.5 | 60.9 | 64.7 | 69.7 | 69.8 |
| Married | 48.1 | 46.9 | 77.0 | 76.5 | 88.7 | 88.1 | 89.5 | 90.0 |
| *Defacto* | 29.7 | 23.3 | 56.8 | 54.1 | 79.1 | 76.8 | 82.6 | 80.5 |
| Separated | 42.0 | 27.5 | 45.9 | 43.5 | 58.4 | 57.2 | 61.1 | 59.0 |
| Divorced | 61.1 | 51.7 | 47.3 | 46.3 | 60.5 | 61.4 | 63.4 | 63.1 |
| Widowed | 78.4* | 79.6 | 70.7 | 71.7 | 76.2 | 78.2 | 79.3 | 78.8 |
| **TOTAL** | **26.8** | **22.6** | **62.2** | **63.4** | **79.2** | **80.9** | **82.2** | **82.8** |

Source: Census special tabulations.

Ownership has fallen slightly for divorced baby boomers, and particularly for the never-married where ownership has fallen by 3.8 percentage points (probably a cohort effect flowing through from 1991). Otherwise, ownership is also up or unchanged for these groups. For married couples too, ownership is up slightly except for households with reference persons over 65.

While changes in home ownership are not very significant overall except for the youngest age group, there has been a distinct improvement in access to home ownership for people with *non-standard* relationships. Ownership rates among the youngest households in *defacto* relationships was higher by 6.4 percentage points, for separated people by 14.5 percentage points and divorced people by 9.4 percentage points. Overall, ownership for *defacto* and separated people is higher in 2006 than 1996 by 2 percentage points. This is probably due to a reduction in discriminatory lending practices, and *low-doc* loans may also have assisted. Also, the fall in proportions of married households has probably given them less competition when applying for loans.

[35] This cannot be confirmed as the Yates dataset did not contain marital status variables.

**Table 15: Home ownership by age and household type, 2006 and 1996**

a) Total home ownership

| | *15–24 years* | | *25–44 years* | | *45–64 years* | | *Over 65 years* | |
|---|---|---|---|---|---|---|---|---|
| | ***2006*** | ***1996*** | ***2006*** | ***1996*** | ***2006*** | ***1996*** | ***2006*** | ***1996*** |
| Sole person | 29.7 | 22.8 | 46.6 | 45.2 | 61.4 | 62.6 | 73.4 | 62.6 |
| Couple and children | 31.6 | 30.3 | 76.6 | 76.2 | 88.8 | 88.5 | 91.3 | 88. |
| Couple no children | 33.9 | 34.1 | 62.1 | 65.3 | 87.7 | 87.2 | 89.3 | 88.5 |
| One parent | 15.7 | 11.9 | 38.5 | 39.5 | 63.9 | 68.0 | 83.4 | 68.0 |
| Other | 20.9 | 15.3 | 43.7 | 40.5 | 66.8 | 71.7 | 79.4 | 71.7 |
| **TOTAL** | **26.8** | **22.6** | **62.2** | **63.4** | **79.2** | **80.9** | **82.2** | **80.9** |

b) Purchasers

| | *15–24 years* | | *25–44 years* | | *45–64 years* | | *Over 65 years* | |
|---|---|---|---|---|---|---|---|---|
| | ***2006*** | ***1996*** | ***2006*** | ***1996*** | ***2006*** | ***1996*** | ***2006*** | ***1996*** |
| Sole person | 18.7 | 9.9 | 36.0 | 27.9 | 23.9 | 15.6 | 3.0 | 2.8 |
| Couple and children | 29.5 | 25.7 | 65.2 | 51.4 | 51.5 | 31.6 | 13.5 | 7.8 |
| Couple no children | 31.5 | 28.1 | 55.1 | 48.6 | 33.8 | 20.8 | 5.5 | 3.9 |
| One parent | 12.0 | 7.5 | 31.4 | 27.5 | 36.8 | 26.1 | 12.5 | 9.7 |
| Other | 14.3 | 7.6 | 32.1 | 26.6 | 34.4 | 25.7 | 12.7 | 9.3 |
| **TOTAL** | **20.8** | **14.6** | **52.2** | **43.1** | **38.5** | **24.9** | **5.6** | **4.2** |

Source: Census special tabulations.

Table 15, which shows the distribution of total home ownership and of purchasing by household type, demonstrates that the big increase in the incidence of ownership among young people is actually for sole persons and single parents. These young couples have made a moderate gain in borrowing compared to the same age group 10 years ago, but this has been countered by lower rates of outright ownership.

However, this is not the case for those aged 25–44 and 45–64; couples with children are very much driving the mortgage market with huge increases in borrowings. The incidence of mortgages among couples aged 25–44 with children were 19 percentage points higher than 10 years earlier, while in the 45 to 64-year-old age group, the incidence of mortgages increased by a massive 20 percentage points among couples with children—a trebling of absolute numbers over the decade. Single parents with mortgages also increased their mortgage holdings substantially.

Yet in most household categories, this mortgaging was actually at the expense of outright ownership and the overall ownership rate actually fell slightly—most notably among single parents aged 45–64 where ownership was lower by 4.1 percentage points. For households over 65, there was a higher incidence of ownership, mostly outright ownership, among sole persons and single parents—probably a cohort effect. Purchasing rates increased only for families with children. Outright ownership as a tenure has increasingly become the province of the childless aged, whereas once it was almost the only type of home ownership for low-income younger people.

Table 14 suggests that some part of the lower ownership levels for middle-income and lower income households for 2006 compared to previous years may be due to differences in marital status; therefore it is necessary to drill down further to see if the same results hold for specific marital status groups.

Table B12 and Table B13 in the Appendix show metropolitan and non-metropolitan home ownership rates by income and marital status, for 25–44-year-olds and 45–64-year-olds, respectively.

Overall a 4 to 5 percentage point fall in ownership is shown for married couples in the third and fourth income groups—about 1.5 per cent below the average over all households. However, ownership has fallen by only a small amount for singles and *defacto* couples in these income groups, and by less than 3 percentage points for the separated and divorced categories.

For those aged 25–44 in *metro areas*, a drop in ownership of more than 5 percentage points occurs for households with the married reference person in the third and fourth income groups—while a greater drop of over 7 percentage points in ownership occurs across all marital types, because of the change in marital composition in the decade (most notably the fall of over 10 percentage points in married couples in these income groups). Ownership fell by a much lower amount of 2 to 3 percentage points in the single categories with medium-high household incomes. However, in line with the under 25s, there is actually a *rise* in ownership of about 4 percentage points among the never-married in the highest income group, possibly due to FHOS.

For those aged 25–44 in *non-metro areas*, something similar happens but an income-group lower. Ownership rates drop by about 6 percentage points in the second and third income groups—but most of this is caused by the substantial shift in marital status toward singles and *defactos*. Now, also, there is a very significant rise in ownership of 11 percentage points among the never-married in the highest income group—which possibly shows a greater benefit of FHOS in non-metro areas where there is more affordable, less tightly constrained housing.

Table 16 shows the part of the change in home ownership due to change in marital status, for 25–44 and 45–64 age groups in urban areas (the shift is calculated in the same way as shift-share in geography, see Appendix A for details). The first column shows the estimated change in ownership due to shifts in marital status, the third column shows the actual change in ownership, while the second column shows the residual or *true change* in ownership due to economic and other factors.

For example, the 7.3 percentage point fall in ownership in the Gen X middle-income group is half due to shifts in marital status and half due to falls in incidence within the marital status groups.

**Table 16: Percentage point shift in home ownership levels due to relationship status changes in metropolitan areas between 1996 and 2006 by income group, 25–44 and 45–64-year-olds**

| ***Income*** | ***25–44*** | | | ***45–64*** | | |
|---|---|---|---|---|---|---|
| | ***Shift***[a] | ***Residual*** | ***Change*** | ***Shift***[a] | ***Residual*** | ***Change*** |
| Low | -2.0 | 1.5 | -0.4 | -4.9 | -4.6 | -9.5 |
| Low-middle | -2.9 | 0.2 | -2.7 | -2.4 | -1.8 | -4.2 |
| Middle | -3.6 | -3.7 | -7.3 | -3.3 | -1.6 | -4.8 |
| Middle-high | -2.8 | -4.1 | -6.9 | -1.6 | -1.8 | -3.3 |
| High | -1.8 | -1.2 | -2.9 | -0.9 | -0.3 | -1.1 |
| All | -1.8 | 0.3 | -1.4 | -1.7 | 0.0 | -1.6 |

Note: [a] See Appendix A for details of how the standard shift is calculated.
Source: Census special tabulations.

In slightly more detail, the largest changes in ownership within metropolitan areas are:

- Middle income group aged 25–44. A fall of 7.3 percentage points in ownership being 2.1 percentage points from fall in ownership among married couples, 1.1 percentage points from fall in ownership among other households, and 3.6 percentage points from loss of married couples in this group.
- Middle-high income group aged 25–44. A fall of 6.9 percentage points in ownership being 2.1 percentage points from fall in ownership among married couples, 1.1 percentage points from fall in ownership among other households, and 2.8 percentage points from loss of married couples.
- Lowest income group aged 45–64. A fall of 9.5 percentage points in ownership being 4.6 percentage points from loss of ownership among marital status groups, and 4.9 percentage points from loss of married couples and widows.

The same procedure may be followed using two steps to segment the aggregate national change in home ownership between 1996 and 2006 by both age and marital status. We obtain the following useful result:

- The incidence of home ownership rose by 0.8 percentage points over the decade, but this was due to changing demographics—a rise of 1.5 percentage points due to ageing of the population, and a fall of 0.7 percentage points due to a fall in proportions of married couples with children.

## 4.5 Variation in ownership by region

Compared with, say, the United States,[36] Australia has quite uniform housing performance and preferences within different parts of the country—with a few notable exceptions. This is partly due to a national banking system but also to the strong Federal system which imposes similar regulations and incentives throughout the country and within states. Demographic change and social trends also seem to be reasonably well synchronised across the country.

However, Australian regions have always had small but pervasive differences in tenure. Some housing and land markets have been under more pressure than others because of population movements and because of more restrictive planning practices or genuine land shortages in some jurisdictions. The shortages and imbalances that are suggested by the national figures should be revealed even more starkly in these places.

On a regional basis, home ownership has changed over the last twenty years as shown in Table 17. The main trends are:

- A general increase in ownership in remote areas, so that non-metro Queensland, WA, SA and the Northern Territory (which once had the lowest home ownership rates) have seen increased rates of home ownership. This may reflect indigenous lending programs and improved penetration of home finance to remote areas—but also to the selling-off of government employee housing and the decline in company towns which were largely rental.
- A continuing decline in the home ownership rate in Brisbane, which has the tightest housing market due to internal migration and other population gains, and a steadying in Sydney and Melbourne from an earlier decline between 1986 and 1996.

[36] See Demographia (2010) for a description of just how differently US regional housing markets have behaved in the leadup to and during the present financial crisis. The same unevenness was evident during the Savings and Loan Crisis of 1990–91.

→ A partial or complete recovery in ownership levels in other areas from the 1991 low.

**Table 17: Home ownership rates, per cent, metro area/rest of state, 1986, 1996 and 2006**

| | *2006* | *1996* | *1986* |
|---|---|---|---|
| Sydney | 67.2 | 66.9 | 70.3 |
| Rest NSW | 71.4 | 69.7 | 70.1 |
| Melbourne | 73.5 | 73.5 | 76.5 |
| Rest Victoria | 75.7 | 74.9 | 76.5 |
| Brisbane | 67.7 | 68.1 | 73.8 |
| Rest QLD | 66.8 | 65.0 | 64.8 |
| Perth | 72.7 | 71.6 | 73.6 |
| Rest WA | 65.7 | 63.9 | 58.6 |
| Adelaide | 71.2 | 69.9 | 73.1 |
| Rest SA | 72.9 | 70.7 | 67.8 |
| Tasmania | 73.5 | 72.0 | 74.6 |
| NT | 49.4 | 44.0 | 37.8 |
| ACT | 69.8 | 66.0 | 68.0 |
| Metro | 70.0 | 69.0 | 72.3 |
| Non-metro | 70.5 | 69.7 | 70.1 |
| Australia | 70.3 | 69.4 | 71.6 |

Source: Census special tabulations, Yates (2002).

Sydney has always had slightly lower ownership levels than the average. By contrast Tasmania, Perth and especially Victoria have had higher levels of ownership. The exact reasons for this have never been clear, because the patterns are not particularly consistent with economic, social or planning factors. One may attribute the difference between Sydney and the other cities to high relative housing prices and the much higher cost of entry to the market in Sydney. One may attribute low ownership rates in the rural parts of northern states to remoteness, indigenous settlement and undeveloped banking systems.

However, one cannot so easily explain the large differences between Brisbane and Perth, which are both boom towns receiving interstate immigration, or why Victoria should have consistently higher ownership levels than other states. This may be related to lower development densities, which are usually associated with lower house prices and more affordable housing, or it may reflect local planning or financial practice. In the absence of a formal explanation, one might conclude that Perth has more of a home ownership culture, or conversely that there are better opportunities for renting in Sydney and Brisbane, making rental a better proposition.

**Table 18: Incidence of major tenures, capital cities 1996 and 2006**

| | *Owners* | *Purchasers* | *Total ownership* | *Private renters* |
|---|---|---|---|---|
| ***2006*** | | | | |
| Sydney | 33.3 | 33.9 | **67.2** | 24.6 |
| Melbourne | 36.3 | 37.2 | **73.5** | 20.9 |
| Brisbane | 30.7 | 37.0 | **67.7** | 25.0 |
| Perth | 32.2 | 40.5 | **72.7** | 20.3 |

| | | | | |
|---|---|---|---|---|
| Adelaide | 35.0 | 36.3 | **71.2** | 16.9 |
| Hobart | 36.6 | 36.1 | **72.7** | 17.5 |
| Darwin | 18.4 | 40.0 | **58.4** | 25.0 |
| Canberra | 30.6 | 39.1 | **69.8** | 19.2 |
| ***1996*** | | | | |
| Sydney | 42.8 | 24.1 | **66.9** | 23.3 |
| Melbourne | 44.7 | 28.8 | **73.5** | 19.9 |
| Brisbane | 38.6 | 29.5 | **68.1** | 23.3 |
| Perth | 38.4 | 33.1 | **71.4** | 19.9 |
| Adelaide | 40.5 | 29.3 | **69.8** | 15.9 |
| Hobart | 40.5 | 30.0 | **70.5** | 17.1 |
| Darwin | 16.9 | 31.7 | **48.6** | 25.4 |
| Canberra | 30.4 | 35.5 | **66.0** | 20.4 |

Source: Census special tabulations.

Table 18 gives the complete tenure breakdown for the major capital cities in 1996 and 2006. The outright ownership figures show that historically, the major cities were not very different prior to 1996. However, the table does show that by 1996 Sydney *the global city* had the lowest proportion of purchasers—suggesting that it was the city hit hardest by globalisation, deregulation and the financial crisis of 1991[37] (while Perth and Canberra were the least hit). High interest rates during the difficult decade prior to 1996, plus workforce casualisation, pushed down the proportion of mortgagors to very low levels—and the overall home ownership rate was affected. Although mortgage relativities have since normalised, ownership levels in Sydney remain easily the lowest of the state capitals. This is partly but not entirely due to the house price differential.

Brisbane has also had somewhat lower levels of owner occupation since 1996. The situation has not improved during the past decade of prosperity. Ownership levels have fallen, probably due to the rapid influx of immigrants and pressure on prices.

Melbourne, Adelaide and Hobart also had slightly lower levels of purchasers during the restructuring period up to 1996, and this remains the case, although aggregate ownership levels are steady or rising. As these cities already had high levels of home ownership, the situation was not particularly worrisome.

The two territories have been the big gainers in home ownership. In the Northern Territory, the arrival of private banking in the 1980s, along with ATSI lending programs, led to a normalisation of the mortgage situation. Ownership has continued to increase by a full 10 percentage points during the study period. In Canberra the dominance of the public sector kept ownership levels slightly lower, since some public servants were only temporarily located there and not inclined to buy. However, ownership increased by almost 4 percentage points in Canberra between 1996 and 2006, and is now higher than the major capitals.

Perth remains the model home ownership city—with the highest proportion of purchasers, it will probably reach the home ownership levels of Victoria within a decade.

[37] Sydney has always been the Australian city most exposed to the global trade cycle – see Flood (2003).

## Effects of age

These small regional differences are not due to differences in age composition—if anything, they are even more obvious with data disaggregated by age.

**Table 19: Home ownership rate by age of reference person, 1996 and 2006, major regions, per cent**

a. 2006

| | *15–24 years* | *25–44 years* | *45–64 years* | *Over 65* | *All* |
|---|---|---|---|---|---|
| Sydney | 24 | 57 | 77 | 82 | 68 |
| Rest NSW | 26 | 62 | 79 | 83 | 73 |
| Melbourne | 25 | 65 | 82 | 86 | 74 |
| Rest Victoria | 30 | 68 | 83 | 85 | 76 |
| Brisbane | 23 | 61 | 78 | 81 | 69 |
| Rest QLD | 25 | 58 | 75 | 81 | 67 |
| Perth | 34 | 68 | 81 | 79 | 73 |
| Rest WA | 32 | 59 | 75 | 77 | 67 |
| Adelaide | 29 | 66 | 80 | 77 | 72 |
| Rest SA | 34 | 68 | 81 | 79 | 74 |
| Tasmania | 31 | 69 | 82 | 82 | 75 |
| NT | 28 | 53 | 67 | 67 | 58 |
| ACT | 23 | 64 | 83 | 82 | 72 |

b. 1996

| | *15–24 years* | *25–44 years* | *45–64 years* | *Over 65* | *All* |
|---|---|---|---|---|---|
| Sydney | 23 | 58 | 79 | 82 | 68 |
| Rest NSW | 20 | 62 | 81 | 84 | 71 |
| Melbourne | 25 | 67 | 84 | 86 | 74 |
| Rest Victoria | 24 | 69 | 85 | 86 | 75 |
| Brisbane | 21 | 64 | 80 | 83 | 70 |
| Rest QLD | 18 | 57 | 77 | 84 | 66 |
| Perth | 27 | 68 | 83 | 79 | 72 |
| Rest WA | 25 | 60 | 77 | 80 | 66 |
| Adelaide | 24 | 67 | 81 | 76 | 71 |
| Rest SA | 26 | 67 | 81 | 79 | 72 |
| Tasmania | 26 | 70 | 83 | 82 | 74 |
| NT | 22 | 49 | 64 | 52 | 52 |
| ACT | 20 | 64 | 83 | 76 | 68 |

Source: Census special tabulations.

These small regional differences are not due to differences in age composition—if anything, they are even more obvious with data disaggregated by age. Table 19 shows the home ownership rate by age and in 2006 and 1996 for the 13 study regions. Mostly, home ownership rates changed very little in each age cohort.

The relativities between regions are fairly obvious in every age group and household type, and are often exaggerated in specific subgroups. In the key 25–44 age group, Sydney has ownership a full 10 percentage points below Melbourne.

Some changes in relativities are in the offering. Perth has easily the highest home ownership among people under 45, followed by Tasmania and South Australia which have been having something of a housing renaissance. As the cohorts move forward this will improve their home ownership position *vis a vis* the other states.

For over 65s, there have been very big gains across the board in the territories, as past changes in policy flow through. The only significant losses are in Queensland and non-metro Western Australia. Cohort effects are evident in those places *catching up*. For example, in the Northern Territory, ACT, South Australia and Perth, households over 65 had substantially lower home ownership rates in 1996 than the previous generation, and the difference has now lessened. There has been an extremely large gain in ownership in the Northern Territory of 15 percentage points in this oldest age group, which is largely a cohort effect from improved ownership opportunities in the previous decade.

Everywhere except Sydney, Melbourne, Brisbane and Canberra, home ownership rates for the youngest under 25 age group have improved by a full 6 percentage points. For 25–44-year-olds, aggregate ownership has fallen by 2 and 3 percentage points in Melbourne and Brisbane, but is otherwise flat. The largest fall is among the baby boomers, with a 2 percentage point drop in ownership in the four largest states. As stated before, this is probably a combination of inheritance, divorce and cohort effects.

For the retired group, there is a fall in ownership in most rural areas, which is probably also demographic due to the rise in single-person and single-parent households in these locations.

Table B14 in the Appendix shows ownership rates by region, age and household type in 2006, as well as changes from 1996. The most significant regional changes in ownership expressed in the tables are as follows.

- Most of the ownership gain for the youngest group of households has been for sole persons and group households. This gain has been particularly impressive in non-metro areas, where it has exceeded 10 percentage points in some instances, and in Perth and Brisbane.
- For households aged 25–44, single persons and group households have also gone against the trend and have improved their ownership position. The gain has been greatest in Perth and non-metro Queensland. Fairly significant ownership losses over 4 percentage points are recorded for couples in the east coast capitals, and for single parents in Perth and Brisbane.
- The worst losses for 45–64-year-olds are recorded in the non-couple categories, especially single parents in Queensland and New South Wales who have lost over 5 percentage points during the decade. Couples have gained marginally in most places.

## Incomes and tenure by region

While overall home ownership has not changed very much, we saw in Section 4.3 that disturbing changes had occurred in certain age-income groups, and suggested that these might be more sharply reflected in regions where housing markets were under pressure. We now investigate this further.

*Middle-aged households (45–64)*

For households in this age group, Table B15 shows the general picture was the same as at the national level for all the study regions except the territories. In all these regions, *outright ownership* was lower in 2006 by about 15 per cent in all income groups[38], compared with the same group in 1996. This was partially compensated by an increase in *purchasing* which rose rapidly with income from about 5 percentage points at the lowest incomes to 15–16 percentage points at the highest incomes. Therefore, the incidence of ownership fell by 10 percentage points for the lowest incomes and stayed unchanged for the highest incomes.

There was little variation on this pattern. New South Wales had a loss of outright ownership and a gain in purchasing in the top group that was a little higher at around 19 per cent. Purchasing rose by only 3 percentage points in Brisbane for the lowest incomes.

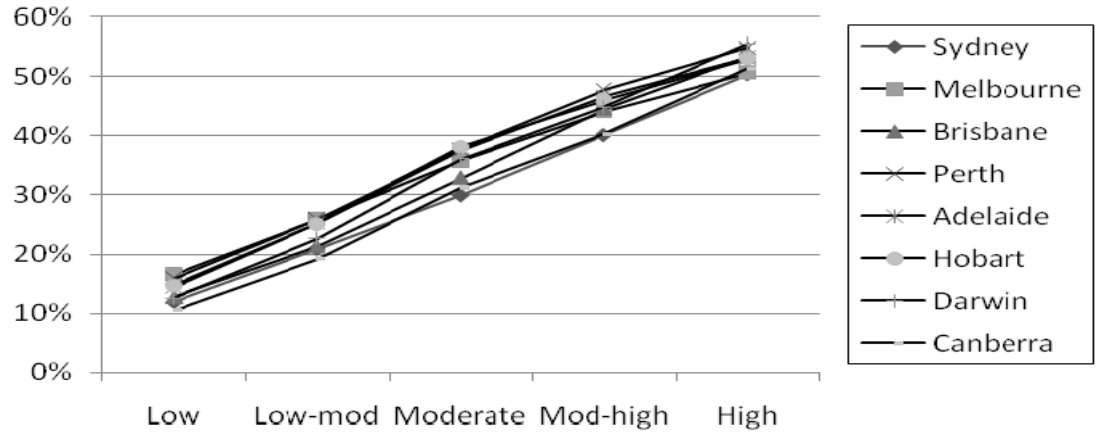
Combining the two effects we find that the incidence of home ownership in the lowest income group of 45–64-year-olds has fallen in almost every region by 9 to 11 percentage points (7 points in South Australia), and by 3 to 6 points in the lower-middle-income groups. Only in the Northern Territory has ownership risen consistently.

Another effect of this process has been to make the incidence of purchasing by income in this age group more similar across the capital cities, as Figure 25 shows.

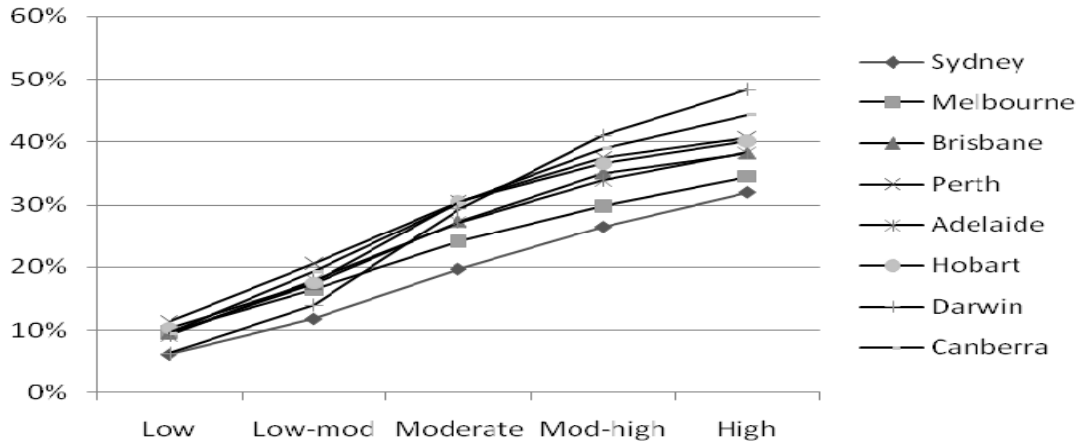
[38] The drop in 2006 was slightly less for the low-middle group, which is older on average. The distributions of outright ownership for 45–64s were quite flat across income groups in every region in 1996 and 2006.

**Figure 25: Proportion of purchasers by income, 45–64 years old, capital cities 1996 and 2006**

**a. 2006**




**b. 1996**




Source: Census special tabulation.

In 2006 the lines are essentially parallel over the income range, which means that region and income are independent in terms of their effect on purchasing. There is less than 5 per cent difference in the incidence of purchasing throughout most of the income distribution between the cities with highest incidence of purchasing (Darwin, Perth and Hobart) and the cities with the lowest incidence (Sydney and Melbourne).

This is a considerable narrowing of the situation since 1996, particularly at the top end of the distribution. The steepening of the curves for Sydney and Melbourne in Figure 25a compared with Figure 25b means that high income earners in major cities where the 1990s credit crunch hit the hardest are now taking out mortgages to the same extent as their counterparts in smaller cities. Perth showed a much steeper curve for middle-income earners than other cities in 1996, but now the other cities have joined it and show a similar higher slope (marginal propensity to own curve).

*Younger households (25–44)*

For younger households, the declines in total ownership for upper-middle incomes cannot be so neatly explained in terms of a flat loss in outright ownership opposing an

income-related gain in purchasing. If anything, the reverse has occurred – with a good deal of regional diversity.

Table B15 shows that the big gains in incidence of *purchasing* have occurred in the non-metro areas, with gains rising steadily from about 4 percentage points in the lowest group to 14 percentage points in the top income group. However, in cities the patterns vary. Sydney and Melbourne have fairly flat gains across the income distribution—6 to 8 percentage points in the lowest income groups, and 4 points for the upper-middle-income groups. In Brisbane, Perth and Adelaide, there has been a 9 percentage point gain for the top income group, less than 4 points for the first and fourth groups, and the second and third income groups have little change.

The balancing losses in *outright ownership* have risen with income—on average from 7 to 12 percentage points from lowest to highest income. Two regions, non-metro Western Australia and the Northern Territory, had flat falls of 8 and 4 percentage points respectively.

### *Explanation*

The pattern for middle-aged households is what one might expect. The ability to take out mortgages rises with income, and the ability to take advantage of an improved lending environment should also rise with income. On the other hand, outright ownership depends either on paying out the mortgage or on bequests. The desire to be debt-free among this older group that can achieve it by steady mortgage payments is probably independent of income, and bequests tend to be provided fairly evenly across the income spectrum.[39]

The pattern for 25–44-year-olds is more difficult to explain. The gains in *purchasing* which are either flat or largely restricted to the top income group may be related to FHOS, or to low-doc mortgages. However, rapidly rising house prices in Brisbane, Perth and Adelaide are clearly squeezing out middle-income purchasers. The losses in *outright ownership* which rise with income suggest a higher tolerance for debt among higher income earners, possibly accompanied by more equity withdrawal. Bequests from parents to these higher income earners probably increasingly take the form of cash rather than unencumbered properties—assisting with a mortgage deposit rather than supplying a whole house.

### *Summarising*

- Regional effects on tenure are largely independent of socioeconomic effects in Australia. There are pervasive differences in home ownership levels between different states, presumably due to state government interventions, but these are maintained fairly evenly across age groups, income groups and household types.
- Regional differences in purchasing have diminished for middle-aged households, mostly due to a lift in borrowing by higher income groups in Sydney and Melbourne.
- A consistent pattern is observed for 45–64-year-olds in all regions of increases in the incidence of purchasing which rise with income, and opposing decreases in outright ownership which are similar for all income groups. This has resulted in big falls in the incidence of ownership for the lowest income group, and more limited falls in the next two income groups.

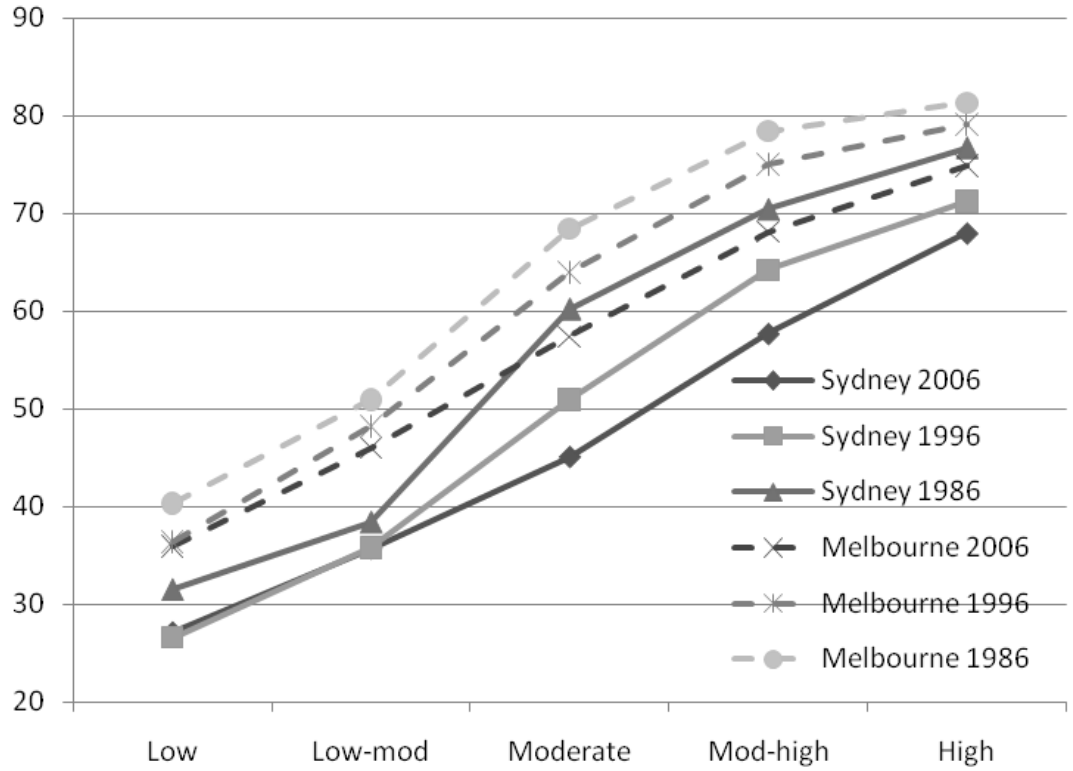
[39] Divorce, too, is independent of income and may cause one partner to rent. However, this would impact equally on both the incidence of home purchase and outright ownership.

- The pattern is much less consistent for 25–44-year-olds in different regions. Brisbane has the biggest losses in the incidence of ownership—about 10 percentage points in the upper-middle-income groups; followed by Perth and Adelaide (6 to 9 points). Upper-middle-income households have lost about 6 percentage points of ownership in most other regions.
- Remote areas have gained ownership, except for lower income, older households.

## 4.6 Changes in home ownership in Sydney and Melbourne

To some extent, what happens in the major cities eventually becomes the pattern for all of Australia. The stresses that have been occurring in home ownership are more pronounced in the larger cities, where supply is tighter, and congestion and distances to the city edge are greater.

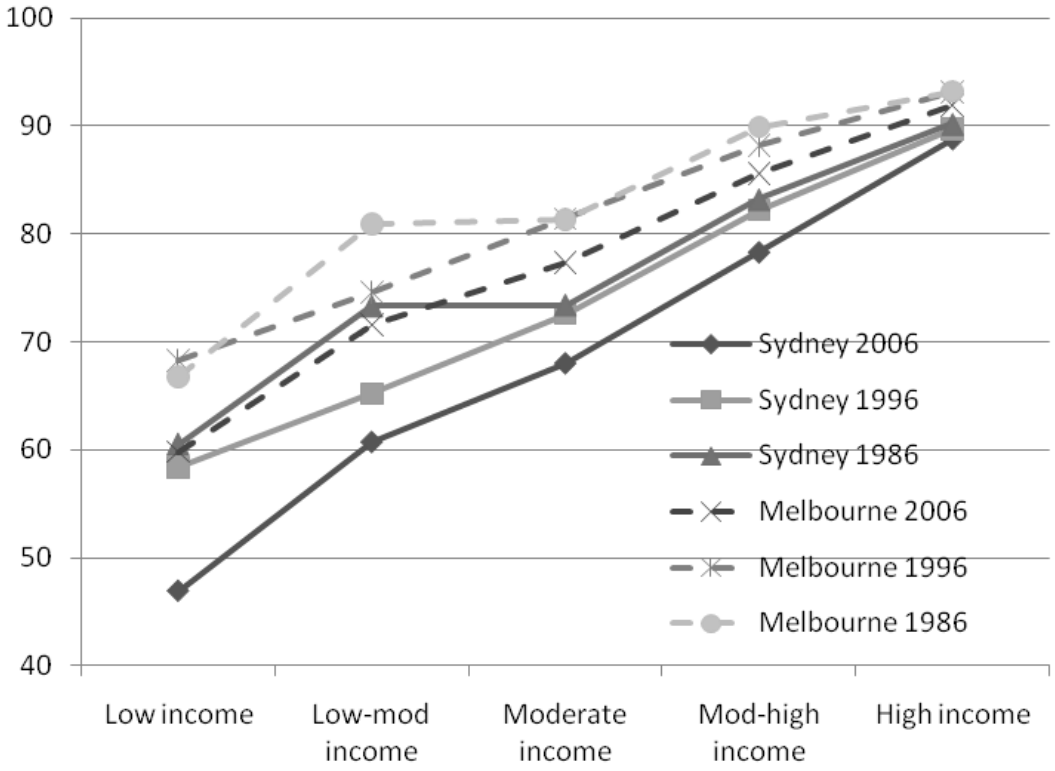
**Figure 26: Sydney and Melbourne, 25–44-year-olds, proportion of home owners by income, 1986, 1996 and 2006**




Source: Census special tabulations, Yates (2002).

The income curves for Sydney and Melbourne follow a similar pattern to Australia as a whole (Figures 22 and 23) In the relatively protected regime of 1986, following 40 years of pro-home ownership policies, Figure 26 shows a very considerable rise of about 9 percentage points in home ownership away from the straight line (which we regard as the free market norm) into the third and fourth household income deciles in both cities. By 2006, all this advantage to middle Australia above the straight line is gone. In 20 years, home ownership in the middle-income group has fallen by 15 percentage points in Sydney and 10 percentage points in Melbourne, and ownership is almost a straight line with respect to incomes.

**Figure 27: Sydney and Melbourne, 45–64-year-olds, proportion of home owners by income, 1986, 1996 and 2006**




Source: Census special tabulations, Yates (2002).

For 45–64-year-olds, something similar occurs, but in 1986 Figure 27 shows that pro-home ownership policies had succeeded extraordinarily well, all the way down to the second income quintile where ownership rates were 73 per cent in Sydney and over 80 per cent in Melbourne. This speaks volumes for exactly how good these policies were in extending home ownership throughout the community.

By 1996 this second quintile had lost its advantage, and by 2006, every income group except the top had a very significant loss in home ownership. The two lowest income groups had a loss of 15 percentage points in ownership in Sydney and about 9 percentage points in Melbourne over 20 years.

Looking at the internal structure of the city, we have already seen in Section 2.3 Figure 11, how different strategies have been adopted in Sydney and Melbourne.

Table B16 has the incidence of ownership by age and income for each ring in Sydney and Melbourne, along with the changes between 1996 and 2006. As usual, the trends are very different for the different generational groups.

For the youngest group, a 4.5 percentage point increase in ownership in the top income group in Melbourne is almost exactly offset by a fall in ownership in the next quintile—most of which occurs in the middle ring of the city. In Sydney, the gains in ownership for the youngest group are real, with a lift of 5.5 percentage points in the top quintile and about 2 percentage points in the second and third quintile. These gains are mostly in the outer ring.

Only in the outer ring does ownership increase with income for young people. It is significant that the ownership rate in the outer ring in both cities is about 60 per cent for the top income earners in this age group—since that is where young people go if

they wish to buy a dwelling—whereas ownership is only about 13 per cent in the inner ring.

For the key 25–44 age group for whom Figure 26 showed that ownership has dropped so heavily, in keeping with the different development strategies, the falls in Sydney have been fairly uniform across the three rings. In Melbourne, the big drops in ownership have been in the inner and middle rings, due to a steepening of the price gradient and a move of new owners to the outer city where new construction is taking place. The largest fall in Melbourne was in the fourth (upper-middle) income group in the inner city, where ownership fell by 11 percentage points.

For 45–64-year-olds, there have been losses in ownership in all income groups, which as earlier stated, is probably a cohort flow-on from the losses they suffered in the 1980s, plus a loss of inheritance.[40] The really big losses are for the lowest income group—which has serious implications for welfare. Spatially the big losses in baby boomer ownership are in the middle and outer rings in both cities, and here they extend right up to the third income group. The relative immunity of the inner ring indicates that these older households have been replacing young households in inner areas—or, in fact, failing to yield to them over time, since these areas have become increasingly unaffordable to high-income younger households without a large deposit.

## Chapter summary

The chapter has painted a picture of some fragility for the future of home ownership in Australia, although home ownership has actually increased slightly in the aggregate. Two age-income groups have suffered particularly large falls in ownership—middle-upper income 25–44-year-olds, and low income 45–64-year-olds. The former are supposed to be the prime drivers of the mortgage market, and their more limited participation will create future cohort effects, while many of the latter can expect a very long period of private rental under reduced circumstances.

These are exactly the same trends observed by Yates (2002) for the period 1986 to 1996, so that the losses for both groups are of the order of 15 percentage points over 20 years. About 352 000 households in total were not home owners in 2006 that would have been owners if the incidence levels of 1986 had been preserved for households aged 25 to 64. It is rather unnerving that these changes should have continued or accelerated through an extremely benign environment for borrowing of all kinds, showing that the trends are independent of the business cycle and relate either to the operation of the housing market itself, or to long-term demographic change.

We have shown that about half of this decrease in ownership is due to changes in marital status. Widows, married couples and couples with children have the highest ownership rates, while never-married single parents have the very lowest ownership rates (as they have little disposable income and have never had a chance to build up equity). Because the proportions of couples with children continue to fall and *defacto* couples have increased quite considerably, a natural decline in home ownership must be expected. However, a minor compensation is a considerable improvement in ownership rates among non-standard families, connected with less discriminatory attitudes by lending bodies.

[40] It is worth noting that since the baby boomers are so much more numerous than the generation that preceded them, inheritance would have fallen off in proportional terms even if their parents were not living longer. The same argument implies that baby boomers will eventually leave a glut of housing, but that is probably twenty to thirty years away.

The timing of home ownership differs between household/marital types. Married couples tend to power their way through to outright ownership in the wealth-building years 25–44, whereas other marital status groups have similar incidences of purchasing in all working age groups. Having two income earners and a high income is particularly important for married couples in this age group.

There has been a spectacular explosion of debt during the decade, and in particular the numbers of 45–64-year-olds with a mortgage have more than doubled. Over 40s are now controlling the mortgage market, whereas in the past younger households were the prime targets for lending institutions.

Outright ownership is increasingly a tenure for older people. There has been a very large loss of about 10 percentage points in outright ownership for 25–44-year-olds, and a loss of 15 points for middle-aged households. This has not been fully replaced by a higher incidence of purchasing, except in high-income households in non-metro areas.

Regional differences have lessened, mostly because of an improvement in ownership in remote areas—non-metropolitan Queensland, South Australia, Western Australia and especially the Northern Territory where there has been a 12 percentage point gain in ownership. The losses in home ownership over 20 years have been in Adelaide, Sydney, Melbourne and especially Brisbane, but they have been apparently negligible during the past 10 years, disguised by the ageing of the population.

The changes in tenure of the past decade could be described as part of a continuing assault on middle Australia following the unpleasant labour and financial restructuring of the previous decade, while minority groups such as single parents, *defacto* couples and people in remote communities have improved their position somewhat.

# 5 MULTIVARIATE ANALYSIS

The previous chapter has detailed how tenure is distributed in our principal data sets, when the explanatory variables are considered in pairs and in triples. However, even drilling down to three-way tables is not sufficient to reveal the full richness of the underlying data set. Also, the disaggregation procedure has not indicated how important the different independent variables are in affecting tenure choice, or how ownership varies in a full set of dimensions. For this a multivariable model is necessary, which contains all the interactions between the different variables. The multidimensional model removes the effects of demographic changes, leaving only the residual housing market effects visible.

One of our research questions was to establish how the determinants of home ownership have changed since the Yates study, and while we have made a large number of observations in Chapter 4 relating to these changes, it is in this chapter than we rigorously investigate the changes using a statistical model.

## 5.1 General linear model

The multivariate model estimates the probability of ownership (or other tenure) in terms of the independent variables in the dataset. The simplest multivariate model is called the general linear model (GLM). This is an extension of regression and analysis of variance (ANOVA) models, which calculates the amount of variance in a target-dependent variable due to particular independent variables and factors, and gives coefficients for each level of the factors.

The GLM for estimating cell probabilities of a discrete variable based on a number of independent categorical variables can use a number of different transformations of the dependent variable, which commonly include linear, loglinear, logit or probit models as specific forms. The logit form has frequently been used in the analysis of tenure choice (see Yates 2006 for example) but there is no *a priori* reason for assuming one functional form or the other unless the statistical distribution of the dependent variable is known.[41]

Here we are estimating the probability of various tenure choices subject to a set of determinants—age, marital status, household type, persons employed, region and household size.

We tried several transformations of tenure probabilities, but the best fit was obtained with the simplest linear (ANOVA) model and this has been used throughout the following analysis. The linear model has the added benefit of being the easiest to interpret, and unlike the logistic model (Yates 2006) the results and coefficients are independent of the assumed sequence of choices.

The problem with analysing these large Census cross-tabulations is that all the variables are all highly statistically significant, but they are quite highly correlated and can explain each other to some extent. Each variable taken alone can explain a good deal of the variance in home ownership rates, and adding other variables in does not improve things very much. Even the simple linear model can behave in unexpected ways and can be hard to understand when the variables are correlated, and the more commonly used logit model becomes quite unstable, although this is rarely recognised.

[41] See for example http://faculty.chass.ncsu.edu/garson/PA765/logit.htm.

The first step in the analysis is to look at the overall explanatory power of each variable in terms of its contribution to the GLM. In fact, in our data set the variables are so highly correlated that each major explanatory variable on its own explains more than 90 per cent of the variance in the full data set, and adding in other variables only makes a small improvement.

When GLM models using the single effects of all the variables (without any interactions between variables) are constructed for owning, purchasing and private renting, the proportions of model variance explained by each variable are shown in Table 20.

**Table 20: Per cent of model variance due to each socioeconomic variable, major tenures 1996 and 2006**

| | *Owning* | | *Purchasing* | | *Private renting* | |
|---|---|---|---|---|---|---|
| ***Variable*** | ***1996*** | ***2006*** | ***1996*** | ***2006*** | ***1996*** | ***2006*** |
| Age | 53.0% | 91.8% | 71.9% | 64.6% | 44.6% | 43.0% |
| Marital status | 29.2% | 3.5% | 11.1% | 8.9% | 35.5% | 34.9% |
| Household type | 9.2% | 1.7% | 4.6% | 13.5% | 11.8% | 13.0% |
| Income | 7.8% | 0.1% | 6.9% | 6.3% | 1.7% | 1.3% |
| Persons employed | 0.6% | 0.8% | 0.0% | 2.8% | 0.2% | 0.3% |
| Region | 0.1% | 2.0% | 5.4% | 2.7% | 6.2% | 7.0% |
| *R2* | *0.993* | *0.990* | *0.955* | *0.977* | *0.903* | *0.899* |

Note: The procedure here is to take the percentage of each tenure (weighted by number of households in each cell) as dependent variable, and construct a GLM without intercept and with only "main effects" for all of the independent variables. The percentages in the table show the relative amount of variance in the dependent variable explained by each independent variable.

Table 20 shows the percentage of variance in the incidence of owning, purchasing and renting expressed by each variable in the cross-tabulation. It contains a good deal of important information.

First, age is statistically dominant in tenure choice in Australia, because home ownership is so prevalent in older households, and the type of tenure chosen depends on age above all else. When it comes to choosing private renting versus owning (last two columns in Table 20), about 44 per cent of variance is due to age, and much of the remainder is due to marital status and household type. Once these are taken into account, income only makes a small contribution across the whole population—because so many older home owners and smaller households have low incomes. Region makes a slightly larger contribution, but still only 7 per cent.

When it comes to purchasing, older households have often paid off their mortgages and young people may not be able to afford mortgages or are less interested in settling down. So age also accounts for about two-thirds of the variance in the incidence of *home purchase*. An increasing proportion of older households have taken out a mortgage in the liberal financial environment of the study decade, so this age effect has lessened fairly substantially from 1996 to 2006.

The most marked redistribution of the decade is in *outright ownership*. By 2006 this was almost completely determined by age, and outright ownership was almost entirely a tenure for older households. In 1996 by comparison, many younger people were outright owners, and this was affected by income, by household type and by marital status—only half the model variance in outright ownership was due to age. We have already suggested the huge loss in outright ownership in younger households is largely due to a loss of bequests, especially inheritance.

The second most important variable in determining tenure choice is marital status. Over a third of the variance in the incidence of renting versus owning is due to this factor. Its importance in determining outright ownership has fallen right away.

For purchasers, household type has become a significantly less important determinant since 1996, with the relative importance of marital status increasing somewhat. This is partly due to more liberal lending practices, and greater acceptance of *defacto* and single households by mortgage providers.

Income and numbers of persons employed has a small but significant impact on household tenure choice in this model. The effect of income has fallen away somewhat over the decade, while the effect of employment status has increased slightly. This is in general agreement with our assertion that almost anyone with a job could become a home owner during this period if they wished.

As already stated, regional differences in tenure are quite small in Australia. There has been a diminution of regional differences in the incidence of purchasing, so that only a few per cent of the variance is explained by regional differences, once socioeconomic differences are accounted for. However, about 7 per cent of the choice between home ownership and renting is explained by regional differences—mostly arising from low home ownership in remote areas—which is sufficient to cause a change in the national home ownership rate.

## 5.2 Separate analysis for each age group

We have already established that the determinants of ownership are qualitatively different for different age groups, and this is further borne out by multidimensional analysis. The overweening impact of age on tenure choice can be removed by doing the analysis separately for each age group, as we have done in much of the analysis of the previous chapter. If this is done, the relative impact of different variables changes markedly, and in particular, regional differences become much more important (Table 21).

What this means is that total ownership does not vary much between regions, but ownership in each age group varies a great deal. It could almost be said that there is a *fixed* amount of ownership to be had in each region and that each age group competes for it, with different age groups being successful in different places.

**Table 21: Per cent of model variance due to each variable, major tenures 2006, separate age groups**

a) Incidence of outright ownership

| | *15–24* | *25–44* | *45–64* | *Over 65* |
|---|---|---|---|---|
| Marital status | 4.9% | 26.2% | 26.3% | 48.9% |
| Household type | 50.9% | 36.5% | 34.0% | 0.3% |
| Persons employed | 1.9% | 0.3% | 2.3% | 2.8% |
| Income | 30.1% | 0.7% | 8.6% | 7.2% |
| Region | 12.2% | 35.8% | 24.0% | 40.8% |

b) Incidence of purchasing

| | *15–24* | *25–44* | *45–64* | *Over 65* |
|---|---|---|---|---|
| Marital status | 14.4% | 21.7% | 4.0% | 6.7% |
| Household type | 29.2% | 28.8% | 21.8% | 6.6% |
| Persons employed | 0.3% | 9.1% | 6.4% | 76.1% |
| Income | 22.7% | 17.1% | 55.0% | 0.3% |
| Region | 33.3% | 22.9% | 10.2% | 10.2% |

c) Incidence of private renting (and total ownership)[a]

| | *15–24* | *25–44* | *45–64* | *Over 65* |
|---|---|---|---|---|
| Marital status | 15.5% | 30.8% | 43.4% | 50.9% |
| Household type | 35.2% | 33.2% | 1.7% | 0.7% |
| Persons employed | 3.6% | 3.6% | 3.1% | 0.2% |
| Income | 2.3% | 5.7% | 6.7% | 3.5% |
| Region | 43.1% | 26.7% | 45.0% | 44.7% |

Note: [a] Because home ownership in Australia is essentially the complement of private renting (other rental categories being so small) the same results apply to home ownership in our model.

Table 21 shows household type is very important for determining outright ownership rates in all but the oldest age group.[42] Regional differences are also substantial, particularly for the key Gen-X (25–44) group, where they explain a third of model variance.

Household type and regional differences also explain much of the variance in the incidence of mortgages for households under 45. However, for older households, economic factors are important, with income determining 55 per cent of variance for 45–64-year-old households, and numbers of persons employed determining three-quarters of the variance for over 65s. What we are seeing here is different kinds of generational behaviour. If you are young, whether you are married and where you are located determines your chances of getting a mortgage. If you are a baby boomer—then if you have a low income you miss out. If you are over 65—then if you have a job you can get a mortgage.

[42] The oldest group is different because there are relatively few mortgages and so the distribution of outright ownership is almost the complement of the distribution of renting.

Once the effects of age are removed, regional differences are very pronounced for determining the incidence of renting (and home ownership), explaining about 45 per cent of model variance for all but Gen-X. The effect of marital status rises rapidly with age, explaining over 50 per cent of the variance in rental levels for the over 65s. For younger households, household type is very important (having children, living as a sole person or single parent), but its effect is negligible in households over 45.

The results of this analysis will carry over to virtually any kind of multidimensional analysis—regional differences will be insignificant if all households are considered together, but they will leap into prominence if the generation groups are analysed separately.

Also, it shows that marital status change is responsible for causing increased levels of renting/ownership in over 45s. Household type largely affects younger households, but it also affects the split between outright ownership and purchasing in baby boomers—because families with children in this age group are much more likely to be still purchasing than families without children who have been able to pay off their mortgages faster. This was *not the case* in 1996—an important result.

**Table 22: Per cent of model variance due to each variable, major tenures 1996, separate age groups**

a) Incidence of outright ownership

| | ***15–24*** | ***25–44*** | ***45–64*** | ***Over 65*** |
|---|---|---|---|---|
| Marital status | 16.8% | 23.3% | 41.7% | 23.5% |
| Household type | 52.1% | 44.6% | 7.2% | 0.9% |
| Persons employed | 0.1% | 1.8% | 0.1% | 0.1% |
| Income | 4.8% | 1.1% | 11.0% | 8.2% |
| Region | 26.2% | 28.4% | 37.5% | 67.3% |

b) Incidence of purchasing

| | ***15–24*** | ***25–44*** | ***45–64*** | ***Over 65*** |
|---|---|---|---|---|
| Marital status | 48.8% | 8.8% | 4.7% | 8.4% |
| Household type | 20.7% | 14.1% | 3.4% | 17.7% |
| Persons employed | 0.1% | 9.9% | 1.7% | 6.5% |
| Income | 11.0% | 23.9% | 45.7% | 0.0% |
| Region | 19.3% | 43.1% | 42.9% | 67.3% |

c) Incidence of private renting (and total ownership)

| | ***15–24*** | ***25–44*** | ***45–64*** | ***Over 65*** |
|---|---|---|---|---|
| Marital status | 42.3% | 23.0% | 63.4% | 40.8% |
| Household type | 36.8% | 32.6% | 1.2% | 0.6% |
| Persons employed | 0.8% | 4.2% | 2.5% | 0.0% |
| Income | 0.8% | 12.4% | 1.9% | 0.0% |
| Region | 19.2% | 27.6% | 31.0% | 58.6% |

The same table for 1996, Table 22, shows some very different sources of variance.

- Home ownership for young people was much less about marital status and much more about income and region (that is, spatial and income inequality were stronger in 1996).
- Regional disparities in purchasing rose rapidly with age in 1996, while now they fall very substantially with age.
- Regional inequalities in ownership have increased substantially for the 45–64-year-old group, but have fallen for older people.
- Regional disparities in outright owning versus purchasing have decreased.
- Household type affects purchasing in 2006 much more than in 1996 (i.e. families with children are much less likely to have paid off their mortgages).
- Economic considerations are somewhat more important in achieving home ownership for older households in 2006 than in 1996, but less important for 25–44-year-olds (this represents a flow-through from the *lost housing generation* of the 1980s, from which low income households have been unable to recover).

## 5.3 Coefficients

The GLM is a regression where each factor level is a dummy variable, so that there is a coefficient expressing the change caused by each level of that factor. Table 23 shows the coefficients in 1996 and 2006 for the regression of the proportion of home owners against household income, persons employed, household type and marital status. It contains a great deal of valuable information.

**Table 23: Coefficients, GLM model of home ownership, different age groups, 2006 and 1996**

| | ***Under 25*** | | ***25–44*** | | ***45–64*** | | ***Over 65*** | |
|---|---|---|---|---|---|---|---|---|
| | ***2006*** | ***1996*** | ***2006*** | ***1996*** | ***2006*** | ***1996*** | ***2006*** | ***1996*** |
| Low income | 36.0 | 38.6 | 67.0 | 69.7 | 72.5 | 80.6 | 84.8 | 81.3 |
| Low-middle | 33.8 | 35.4 | 71.5 | 70.6 | 84.2 | 82.5 | 88.0 | 86.7 |
| Middle | 36.5 | 38.7 | 78.4 | 78.0 | 86.4 | 86.1 | 92.6 | 90.0 |
| Middle-high | 41.7 | 45.3 | 83.4 | 85.0 | 89.8 | 89.9 | 91.8 | 92.5 |
| High income | 47.4 | 46.0 | 87.3 | 88.2 | 93.8 | 92.9 | 95.3 | 94.4 |
| No-one employed | -7.8 | -8.2 | -21.7 | -20.7 | -3.4 | -7.2 | -1.3 | -0.7 |
| One person | 2.5 | -1.7 | -8.5 | -6.3 | -0.3 | -2.1 | 0.9 | 1.2 |
| Two persons | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Single | 28.0 | 11.8 | 1.0 | -2.2 | -7.8 | -11.4 | -5.4 | -6.7 |
| Couple | 1.9 | 3.4 | -12.8 | -10.6 | 3.7 | 4.3 | 2.7 | 4.6 |
| Other | 12.6 | -0.1 | -16.1 | -21.5 | -13.4 | -13.5 | -4.5 | -5.3 |
| Single parent | 14.8 | 1.9 | -8.0 | -9.7 | -12.1 | -12.1 | -4.3 | -6.0 |
| Couple with children | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Never married | -33.7 | -27.2 | -25.0 | -23.6 | -10.2 | -5.0 | -8.7 | -5.6 |
| Widowed | 7.4 | 24.6 | 3.4 | 9.7 | 6.6 | 9.4 | 0.7 | 2.0 |
| *Defacto* | -16.2 | -23.0 | -17.8 | -21.1 | -11.7 | -15.5 | -9.0 | -14.3 |
| Divorced | -28.4 | -23.5 | -16.0 | -15.4 | -13.3 | -13.7 | -17.3 | -17.1 |
| Separated | -20.1 | -20.8 | -15.3 | -13.4 | -10.1 | -8.3 | -15.0 | -12.6 |
| Married | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

This table contains a great deal of useful information, including results that have not been explored in Chapter 4.

The coefficients for employed persons, household type and marital status show the average difference in home ownership from the benchmark levels, which are taken as married, couple with children, and two or more people employed. The income coefficients in the first rows of the table are the estimated ownership rates for each income level in the benchmark group.

The household type and marital status variables need to be considered *together*, by adding pairs of coefficients. For example, in the 25–44-year-old age group, divorced single parents will have (8+16) = 24 percentage points less home ownership on average than married couples with children, and *defacto* couples have about 30.6 percentage points less ownership, slightly better than in 1996.[43]

Summing the coefficients gives ownership rate of a particular group. For example, the estimated ownership rate for low-income, unemployed, single, never-married persons aged 25–44 would be (67–21.7+1- 25) or 22 per cent.

The coefficients also show very clearly that Australia's high home ownership levels are largely achieved through the savings of working families in the 25 to 44-year-old age bracket. In this age group, home ownership is greatly affected by the number of workers: it is 5.5 percentage points lower in households with one person working and 17.7 percentage points lower in households with no-one in the workforce—a slightly lower reduction than in 1996, probably because of more liberal lending practices. In the under 25 age group and the 45 to 54 year age groups, having no-one working reduces ownership by more modest levels of 9 per cent and 6.7 per cent, respectively. For the two younger age groups, being married and having children are also considerably more important than for older households.

In the first rows of the table, the coefficients for different income groups are the residuals after the effects of household and family type and employment status have been accounted for. Mostly these residual changes in ownership are not very large.

The largest change is in the baby boomers aged 45–64, where there has been a full 7 percentage points drop in home ownership in the poorest group. This is the cohort effect referred to in Section 4.5, a flow-on from the disastrous years following deregulation. The other income groups have managed to recover and have slightly higher adjusted rates than in 1996, but the lowest income group has not recovered at all.

Things are also not good in the younger age groups, despite the impact of FHOS. For the youngest households under 25 there has been a fall in adjusted home ownership of 2 to 4 percentage points in all income groups except the highest. Most of this is due to the loss in inheritance. The single group to gain, is the top income group, and then only by 1.4 percentage points.

A number of these adjusted results contradict the differentials shown in Chapter 4 in Figure 24, particularly for 25–44-year-old and retired households, suggesting that the falls in ownership shown there may be due to changes in endowments rather than an underlying market decline in access to ownership. We already have seen that half the fall in the ownership rate for upper-middle-income 25–44-year-olds is due to marital status, and this result says that the rest is due to other variables. This requires further examination.

[43] In fact the second order interactions need to be modelled to get accuracy here—summing the two components is only an approximation.

## Income curves and elasticities for home purchase

Another application of GLM is to obtain measures of the slope or marginal change in home purchase rates with respect to income. We know from earlier analysis that this is relatively small, even for the key 25–44-year-old age group most directly involved in purchasing. Typically a 5 per cent increase in income leads to a 1 per cent increase in ownership, and this becomes considerably less once the effect of marital status and household type is taken into account. The income effects on ownership have also lessened with time, due to liberalised lending practices.

**Table 24: Elasticities of incidence of home purchase with respect to income, 25–44-year-olds, regions, 1996 and 2006, with and without adjustments for marital status and household type**

| | *1996* | | *2006* | |
|---|---|---|---|---|
| | ***Basic*** | ***Adjusted*** [a] | ***Basic*** | ***Adjusted*** [a] |
| Sydney | 0.223 | 0.184 | 0.197 | 0.162 |
| Rest NSW | 0.24 | 0.174 | 0.263 | 0.187 |
| Melbourne | 0.201 | 0.171 | 0.183 | 0.146 |
| Rest Victoria | 0.196 | 0.141 | 0.233 | 0.157 |
| Brisbane | 0.236 | 0.197 | 0.255 | 0.161 |
| Rest QLD | 0.192 | 0.121 | 0.212 | 0.199 |
| Perth | 0.215 | 0.166 | 0.224 | 0.150 |
| Rest WA | 0.146 | 0.11 | 0.168 | 0.173 |
| Adelaide | 0.268 | 0.188 | 0.246 | 0.119 |
| Rest SA | 0.166 | 0.104 | 0.193 | 0.126 |
| Tasmania | 0.23 | 0.179 | 0.242 | 0.182 |
| NT | 0.202 | 0.161 | 0.216 | 0.214 |
| ACT | 0.272 | 0.238 | 0.246 | 0.221 |
| Australia | 0.198 | 0.164 | 0.210 | 0.159 |

Note: [a] The adjusted model removes the effects of the household variables.

Table 24 shows elasticities of rates of home purchase with respect to income (marginal propensity to become a home owner) for different regions, for the key 25–44-year-old home purchasing group. For example, a doubling of income in Sydney would lead to a 22.3 percentage points increase in home ownership in 1996 and a 19.7 percentage points increase in 2006, on average. However, if the effects of household type and marital status are removed using a GLM, the elasticities fall to 0.184 and 0.117, respectively.

We have referred to these elasticities or income curves in some of our most critical results, such as Figure 15. They are indicators of the health or the level of activity in housing markets—but like many other key indicators, there are several possible reasons for steep or shallow curves. Essentially, like all Engel-type curves in economics, a steep curve represents a *luxury* situation, whereas a shallow curve is a *necessity* situation. Purchasing curves will be steep and elasticities high if:

1. The housing market is highly contested with different groups vying strongly for relatively few properties.
2. Turnover in the market is high and prices and average mortgages are rising.
3. Housing finance is in short supply in an active market and high income households are being given preference.

4. Land price and income gradients are steepening within a city.
5. A particular group is able to quickly choose alternatives such as renting or staying at home if mortgage costs become too high.

At the other extreme, curves will be more shallow for groups that regard ownership as essential, such as families with children; and in sluggish markets that are losing population or have excess supply.

As the curves are average curves, there will be quite a delay while the effects of specific finance booms or shocks work their way down to the average loan.

The elasticities in Table 24 are fairly constant across regions, but they could be expected to be highest in the most expensive and active property markets, since there the loans are newest and higher income should confer an advantage. Alternatively, the places with the highest elasticities are where mortgages are in shorter supply and being rationed to higher income groups. In fact, after adjusting for household type and marital status, they are largest in the territories, rural NSW and Queensland, and lowest in Victoria, Perth and rural SA. This is largely a turnaround from 1996, where they were highest in the ACT, Brisbane, Adelaide and Sydney, and lowest in the rural and remote areas.

This turnaround probably reflects the competition for mortgages in these locations: 1996 was still a period of recovery from the 1990–1 credit crunch and it seems likely from this evidence that recovery from the downturn started in the capital cities. If the first rush on mortgages took place in the major cities, then the high elasticities there represent the rationing of loans toward higher-income metropolitan customers during 1991–96.

Later, in the easy money era of 1996–2006, the recovery moved to the rural areas as surplus loan money became both available and contested there. In support of this interpretation it should be noted that the income elasticity fell substantially in the five major cities between 1996 and 2006, but it rose in rural areas and rose very substantially in remote areas where the gains in ownership were occurring.

Adjusting for the demographic variables reduces the income elasticity in every case, and fairly substantially in some places. This is to be expected since the demographics explain several times as much variance in the incidence of purchasing as income does. The reductions will be greater in places where incomes correlate most strongly with household type, and so on. The household types are spread somewhat more evenly through the income distribution in the two large cities and in the remote areas than they are elsewhere, so the difference there is less.

A more detailed picture of income-related effects on home purchase in 2006 than just a simple elasticity (slope of the income curve) can be obtained by charting the marginal means after accounting for all the other socioeconomic variables, to give a full income curve. For 25–44-year-old purchasers in the metropolitan areas in 2006, this is shown in Figure 28.

**Figure 28: Estimated marginal home purchase rates, metro areas 2006, age 25–44**

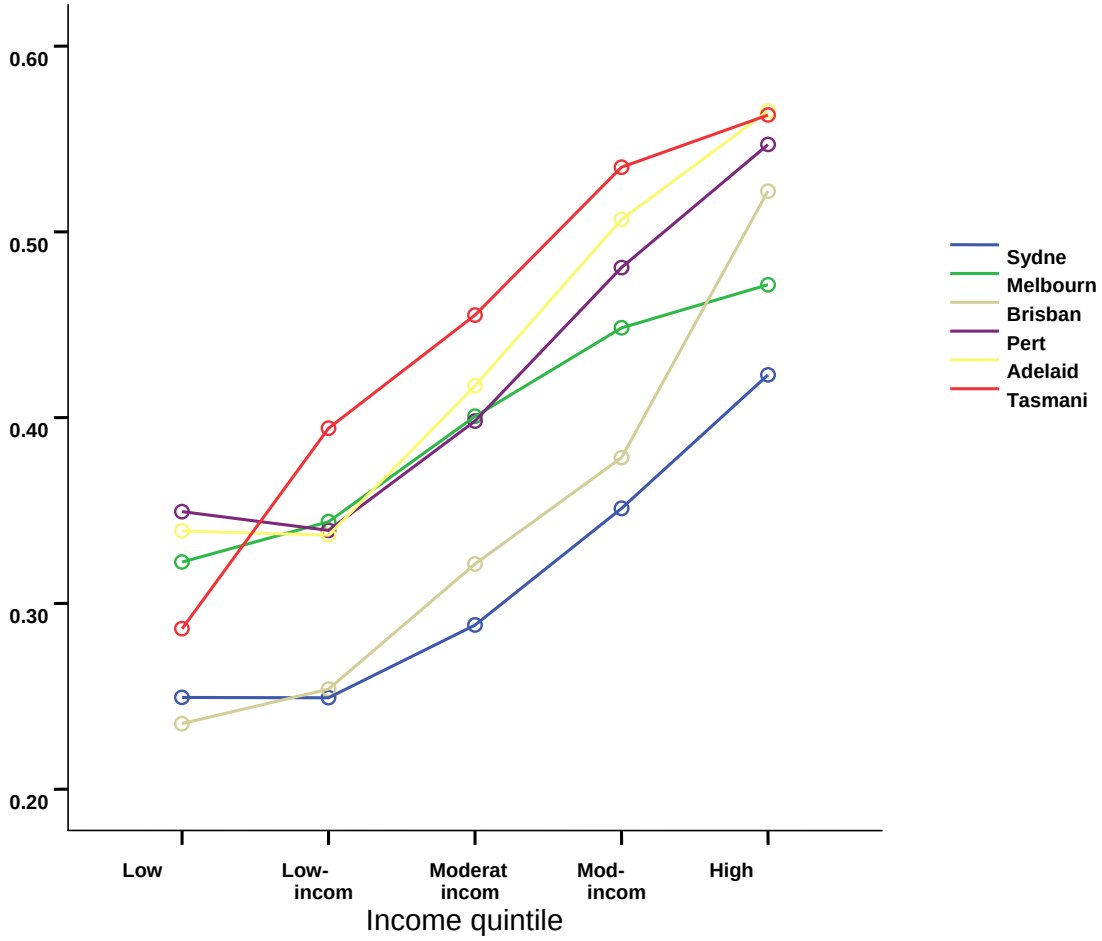
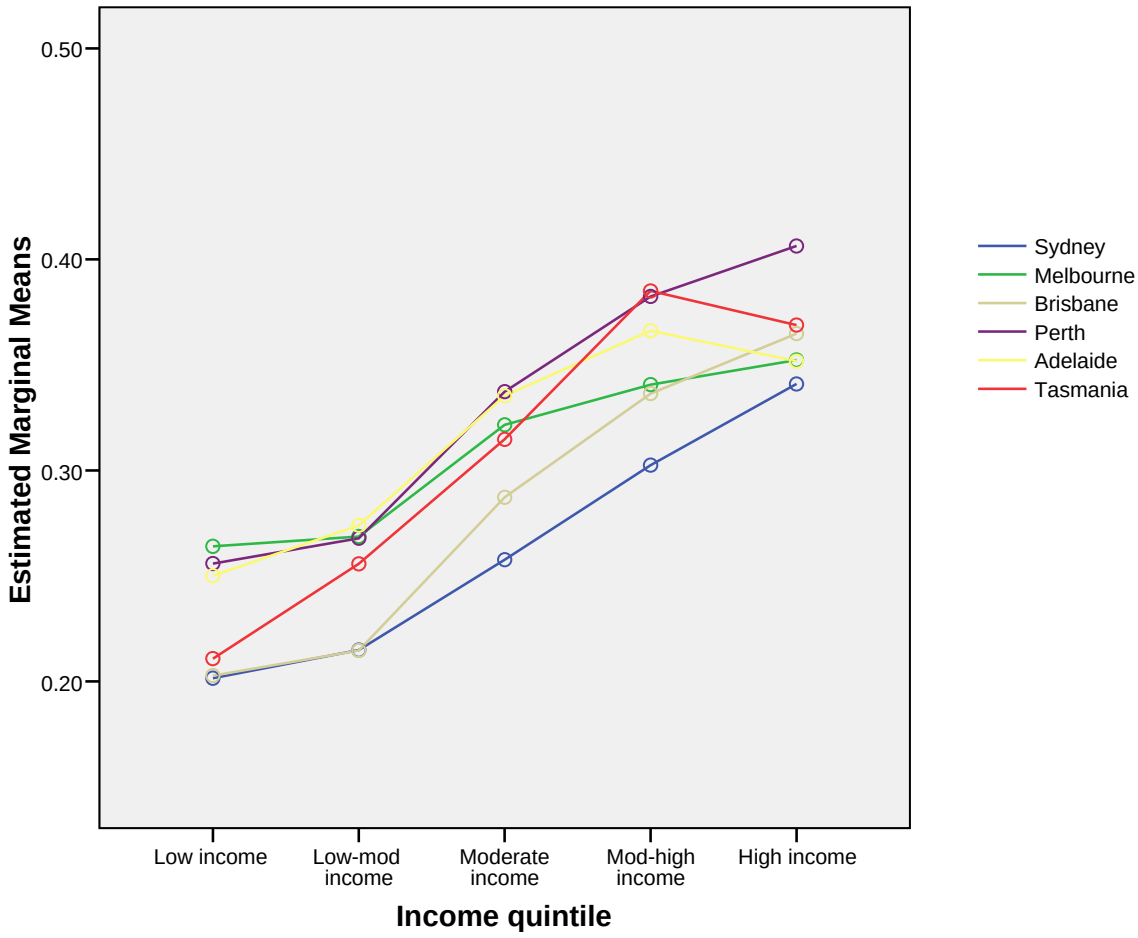



Figure 28 shows adjusted income curves for each of the capital cities; home purchase rates after accounting for other variables are shown to vary between capital cities, with Sydney and Brisbane low, and Adelaide, Perth and Tasmania high. Melbourne's adjusted purchase rates are moderate, showing that its high ownership rates are due to past endowment and cohort factors, and it is the most equitable city with the flattest curve. Purchasing in Brisbane rises particularly steeply with income at the top end, suggesting a very active and contested property market.

For the baby boomers, the income differentials are more modest and uniform, as Figure 29 shows—just as they were in Figure 23.

**Figure 29: Home purchase rates, metro areas 2006, age 45–64**




Once again, Sydney has the lowest adjusted income curve for purchasers and Perth the highest. Brisbane has the steepest curve, showing the greatest competition for mortgages. Purchasing falls off for the top incomes in Adelaide and Tasmania, presumably because the populations are slightly older, live in cheaper cities and have already paid out their mortgage.

## Chapter summary

The principal data sets used in this study are multidimensional in nature. Without more sophisticated analysis, one can never be sure whether the whole story is being told with the simple two- and three-dimensional tables and graphs which were displayed in Chapter 4, or what the statistical significance of the various results may be. Multidimensional methods such as ANOVA can be used for a more sophisticated analysis of relationships and their significance.

The GLM is a generalisation of linear regression which can be used for categorical variables. It is a good and simpler alternative to logistic modelling, and we believe it should be used more frequently when there is no reason not to do so. Here it is used first to look at the characteristics of the data set and the correlations and significance of the different socioeconomic variables in explaining home ownership; and second to remove the socioeconomic effects from the data to see how underlying tenure choice behaviour has changed with time.

All the variables used in the special Census tables are quite highly cross-correlated, and they all have high statistical significance in explaining home ownership patterns (they were chosen for this reason). Age and marital status are by far the most important determinants of tenure choice, and they dominate income and regional differences. However, if the analysis is done separately for each age group, some distinctive trends emerge.

First, the effect of marital status on outright ownership rises substantially with age, whereas the effect of household type falls rapidly with age. In fact, household type really only affects the youngest purchasers. Regional effects dominate for the oldest households and are not very large for the youngest households—showing that ownership patterns are converging strongly across Australia in a more market-oriented environment. Income affects baby boomer purchasers most heavily, and has little effect on outright owners or on the over 65s. Private renting for households over 45 depends largely on marital status and region.

The GLM model can show the incidence of home ownership by income once the effects of household type, marital status and employment status have been removed—and how much each level of the factor affects ownership. There are very many useful results shown in this analysis—many of which confirm that purchasing behaviour is qualitatively different at different phases of the life cycle. For example:

- Being in a *defacto* relationship lowers the probability of ownership by 18 percentage points for younger households and about 10 percentage points for older households, but this effect was 4 per cent higher in 1996.
- The decrease in ownership from never having married falls from 25 per cent in 25–44-year-olds to 10 per cent in 45–64-year-olds, and the effects have increased since 1996. For never-married single parents, who have the lowest incidence of home ownership of any group, the effects are 41 percentage points and 23 percentage points respectively, but this has improved a little since 1996.
- Having no-one employed lowers ownership by nearly 22 percentage points for Gen-X, but has a much smaller impact on other age groups, showing the importance of being in the workforce in this group.
- The largest change in home ownership after accounting for demographic change is a 7 percentage point drop in ownership in the lowest income quintile for over 45s. Other changes are quite small—showing in particular that the loss in ownership in upper-middle 25–44-year-olds households is largely demographic.
- It is confirmed that the gain in ownership rates in high-income under 25s is only 1.5 percentage points after accounting for demographics, and has been at the expense of a loss of 2 to 3 percentage points in ownership in all other income groups.

Some of these results stand in contrast to the results of Chapter 4 and indicate areas for further research.

As well, a variant of the model can calculate marginal changes in home purchase rates as incomes rise. This effect is surprisingly small—even for the key purchasing 25–44 group a 5 percentage points increase in income leads only to a 1 percentage point increase in purchasing. The elasticities diminish quite substantially if the marital status and household type effects are removed.

What these elasticities show is the prevalence of loan rationing to higher income groups. In 1996 in the early days of post-1991 recovery, the elasticities were highest in Brisbane, Sydney, Adelaide and Canberra, but by 2006 things had turned around and it was the rural and remote areas that had higher elasticities.

Mapping the marginal means from the model gives full income curves as in Chapter 4, but adjusted to remove demographic effects. This repeats earlier conclusions that purchasing rates are low in Sydney and Brisbane, but the income curve among 25–44-year-old purchasers is steepest in Brisbane, showing it is the most contested and unequal market. Melbourne has the flattest curve, showing that loans are distributed more equally there. Perth and Hobart have the highest purchasing rates at high incomes. Among older households, the regional differentiation is much less than for under 45s and their income curves are flatter, but they follow the same regional patterns.

The results of this analysis are not always easy to interpret, but they point to trends and differences that cannot be easily discovered by other means. This provides a fertile source for further research.

# 6 THE ECONOMIC CLIMATE AND HOUSING POLICY

Up till this point, this report has attempted to provide the facts from the broad statistics with limited attempts to embellish with explanations from other sources or from theory. However, there has been a radical change in Australia's economic, social and environmental situation within the last twenty years, and the attitude to housing policy has changed so dramatically that it is not possible to evaluate the empirical results without referring to these changes.

Our concern here is that although declines in ownership over the present decade have been small and partially mediated by changing demographics, a dangerous situation has arisen which could result in a much worse outcome in succeeding decades, when home ownership is no longer protected by the one-off improvement in employment which occurred during the study period. In fact, the very lack of improvement during the decade is itself symptomatic of an undesirable situation.

Although aggregate home ownership changes have been very small over a very long period, there are two reasons why we believe complacency is unwarranted. First, the GFC triggered by the US subprime mortgage collapse (briefly described in Flood & Baker 2008) is a stark reminder of the dangers of excessive lending into house price bubbles. That this economic collapse has occurred much more dramatically in those parts of the USA most subject to restricted planning regimes and runaway house prices (Demographia 2009; Case & Quigley 2010) emphasises the strong interrelationship between housing market imbalances and general economic malaise.

Second, two key indicators of poorly functioning housing markets have moved into the danger zone in Australia.[44] These indicators are the *house price-to-income ratio*, which as described in Demographia (2009; 2010) and Richards (2008) rose to record levels in all Australian housing markets by 2005, and the *household formation rate*, which as detailed in Chapter 3 has fallen to low levels and is accompanied by increasing household size. The first indicator is a measure of a long-term structural imbalance between supply and demand, while the second is a more critical indicator of housing shortages or inadequate housing opportunities.

The median price-to-income ratio or *median multiple* has had an heuristic benchmark since its inception which states that an affordable market should have a ratio no more than three, and that ratios over six are highly unaffordable and symptomatic of rigid and inefficient land markets. The median multiple was in the *severely unaffordable* range over 6 for most Australian cities in late 2008—the highest ratio in the world, according to Demographia (2009; 2010). Sydney, the Gold Coast and Sunshine Coast have ratios over 8.

Yates (2002) concentrated Chapter 6 of her report on showing that increased economic inequality of the 1986–96 decade was reflected both spatially and in housing tenure. This inequality was created by the *liberalisation* of labour markets in the 1980s—sometimes known as *globalisation* because it was accompanied by greater exposure to global markets through dismantling of tariff barriers. As well, taxation rates on higher income groups were significantly lowered as an incentive to enterprise, giving them greater disposable income. Workforce casualisation and fiscal favouring of high income groups also continued through the study decade, but the tenure and spatial outcomes were relatively mild and it is not clear whether housing outcomes added to or reduced inequality.

[44] The Housing Indicators Programme 1992–3 (Angel 2000; Angel and Mayo 1993) was devised to measure the health of housing markets as a whole in a worldwide comparative study. These two indicators are key measures of poorly functioning markets where supply is inadequate.

The Positioning Paper (Flood & Baker 2008) continued the story. In this chapter we recapitulate and extend its main points regarding the economic climate and housing market impacts of the much more hospitable decade 1996–2006, which could be considered to be the payoff for the tough 1980s, and we continue into the present period of financial crisis.

## 6.1 Deregulation and the growth of debt

In the post-war years Australia had been a relatively isolated and protectionist country concentrating on import replacement and providing a considerable level of welfare to its residents through policies of stable full employment, social security and home ownership. Because Australia had such a large amount of land relative to its tiny population, housing had been seen as one of its particular strengths in attracting immigrants and industry. Various assistance programs allowed home ownership to be extended well down into the household income spectrum, and although the lower 30 per cent of the population generally missed out, life cycle changes and inheritance assured that at some point in their lives almost anyone could have a chance at ownership, which would then be retained into old age. This ensured that for up to 90 per cent of the population, housing costs would be at a minimum during retirement.

The major demographic trend of the post-war years has been the life cycle progress of the baby boomers. From the early 1970s through to the end of the 1980s they were entering the job market and the housing market not just in Australia, but throughout most of the OECD. Some authors such as Dent (1992) see much of what happened in those lean inflationary years in terms of this pressure, during which there were not enough jobs, finance, goods or housing to meet the huge surge in demand—resulting in high unemployment, high interest rates, flat or falling real wages, and inflation without economic growth.

The response to this poor economic environment in Australia, as in other English speaking countries, was a heavy dose of market liberalism and deregulation. Deregulation was the major policy response to try to amend this situation of extended stagflation. Labour markets were deregulated to permit lower real wages, while many more casual jobs were created.

From 1982–3, financial markets were also deregulated, which allowed for many new types of financial instruments to be created, while removing interest rate caps and other restrictions on home lending. This resulted in a classic boom and bust in asset values and lending peaking in 1987–88. Within a few years, the relaxation of prudential lending practices led to the Savings and Loan crisis of 1990, a number of highly publicised credit collapses, and a major credit squeeze, with a crash and major credit crunch in 1990–91 which in Australia was the worst in the post-war years. Because of very high interest rates at that time, householders both minimised their housing loans and paid off these loans rapidly, so that the proportion of households with mortgages fell from a typical 35 per cent before 1975 to about 27 per cent between 1990 and 2000 (see Flood & Baker 2008, Figure 13). The collapse of the Homefund scheme for low-income borrowers cost the NSW government $400 million and Victoria and South Australia lost their State Banks. These events seem to have been a valuable lesson for the Australian banking establishment in the dangers of lending to high-risk borrowers, which other countries never received.

It was in the context of this hostile lending environment that Yates' study was undertaken.

But almost immediately the Savings and Loan crisis was over, housing finance began an expansion of epic proportions. The Positioning Paper presented evidence similar to

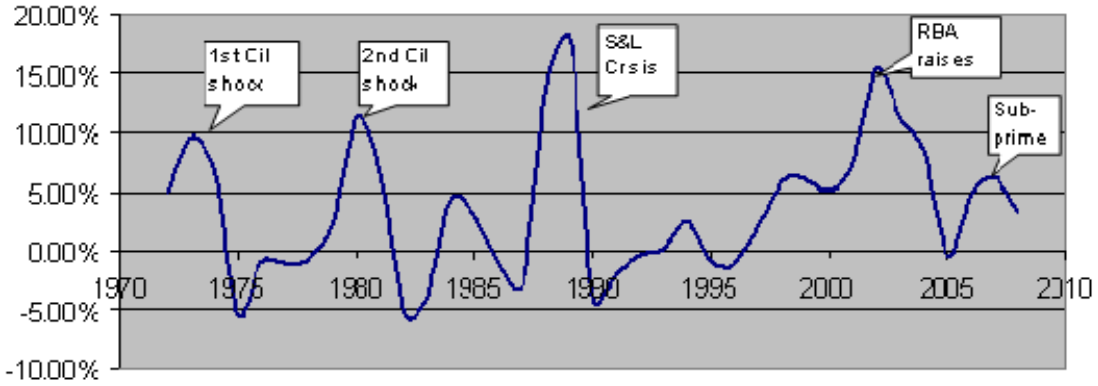
Chapter 3 that real incomes rose rapidly during the decade 1996 to 2006, but this only slowed rather than reversed the welfare losses of the 1980s. Debt grew much faster than income, as people cashed in on both their perceived housing wealth and their future earnings prospects. A housing refinancing and investment boom continued from 1991, with annual growth in investor spending of 15 to 30 per cent annually, while total housing finance grew by 10 to 20 per cent annually for more than 20 years from 1984 to 2007 (Davies 2009; Flood & Baker 2008).

Most of this funding found its way directly into house prices which were reflected in higher housing payments. Although interest rates were much lower in 2006 than in 1986, interest payments almost doubled over 20 years as a fraction of income. About a quarter of the rise in income over the last decade went into higher housing interest payments.

Amid a global wash of money after 1998 and interest rates that were set to record lows to ward off financial collapse during a sequence of volatile events such as the Asia Crisis, the Long Term Capital Management (LTCM) hedge fund collapse, and the dot-com bubble, new much more flexible loan instruments and low-doc loans were easily available to almost anyone that wished to buy a house. After a prolonged slump from 1991 to 1996, established house prices began rising at a real rate of about 6 per cent per annum. From 2002 established house prices ran up at annual rates of more than 15 per cent, exceeding even the spectacular 1988–89 boom. Over the decade 1996–2006, real house prices in the capital cities rose by about 88 per cent (300% in nominal terms), compared with 22 per cent and 14 per cent in the two previous decades.[45]

Figure 30 shows that it was not so much the rapidity of the price rise after 1996, but its unrelieved longevity that caused the problem. By 2007 Australia had—along with Ireland and Spain who had also enjoyed economic booms—some of the most expensive housing in the world relative to incomes. This resulted in the rapid growth of housing costs for people with middle incomes after 2001, which eroded a portion of the gain in incomes—as Chapter 3 has shown.

**Figure 30: Housing market annual price rises, 1972–2008**




Source: Abelson and Chung (2004), ABS Cat. No 6416.0.

Chapter 3 showed that real incomes rose rapidly during the decade 1996 to 2006, but this slowed rather than reversed the welfare losses of the 1980s. Debt grew much faster than income, as people cashed in on both their perceived housing wealth and their future earnings prospects. The ratio of housing debt to assets in Australia was at

[45] Taken from Kryger (2006) and Abelson and Chung (2004).

a low of 10.3 per cent in March 1989 and by mid-1996 it had hit a record level of 18.6 per cent. After a flat period house prices began to rise rapidly in 2001 and debt continued to rise, reaching 30.8 per cent of assets in mid-2009. Total housing debt had increased in a steady exponential progression from 1990 to ten times its real 1990 level in 2008, and had more than quadrupled from 33 per cent to over 160 per cent of household disposable income (Flood & Baker 2008, Figure 5).

By late 2009, some media commentators were issuing warnings on the level of debt:

> Reserve Bank figures show mortgage, credit card and personal loan debts now stand at $1.2 trillion, up 71 per cent from just five years ago … It's the first time household debt has cracked 100 per cent of annual GDP and it's a terrible, terrible sign … Household mortgages account for almost 90 per cent of annual GDP, up from 17 per cent in 1990 and by five per cent in the last year alone as first-home buyers have flooded the market.[46]

These high debt levels, and rapidly increasing house prices in most cities had already attracted from 2003 the attention of the Reserve Bank of Australia (RBA). Australia's central bank had previously had no special interest in housing. The RBA began to raise interest rates after 2003 in what many regarded as a belated response to a nascent property bubble—but which was very unpopular with the public. The immediate demise of several purely speculative endeavours such as the National Investment Institute followed, price rises stabilised, and it appeared that matters were under control.[47]

However, at this point boom conditions were re-entered and prices began to rise again. House prices doubled in Perth in just over two years, and they were up about 40 per cent everywhere but Sydney, where they did not rise at all.

When the US *perfect storm* known as the subprime collapse or the Global Financial Crisis hit in late 2007, housing market and housing finance excesses were subsequently blamed for *the most serious financial upheaval since the Great Depression*. Inflated house prices fell by 50 per cent in many American cities, and up to 75 per cent in some jurisdictions.

Initially there was an alarmed response in Australia to the crisis. New construction fell by 25 per cent, while the purchase and refinancing of existing dwellings fell by 35 per cent from historic highs, and sales of existing stock fell by up to 60 per cent in the capital cities. However, there were no foreclosures of subprime and other loans to push prices back down toward pre-boom levels. As in the USA (but to a much lesser degree), house prices fell more in the cities where rises had been highest—in Perth by 9 per cent in the 15 months after December 2007, in Sydney by 8 per cent and in Melbourne, Brisbane and Hobart by 3 per cent. In Adelaide prices barely fell.[48]

By late 2008 the very prompt response of the government in pushing interest rates back down to record lows, and in enacting a spending stimulus package, appeared to have stabilised the situation. Disposable incomes actually rose during the crisis period, propelled by this rapid government intervention.[49] It seemed that Australia was

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[46] Nick Gardner, *Sunday Telegraph*, 27/12/2009, also citing Steve Keen and Shane Oliver.

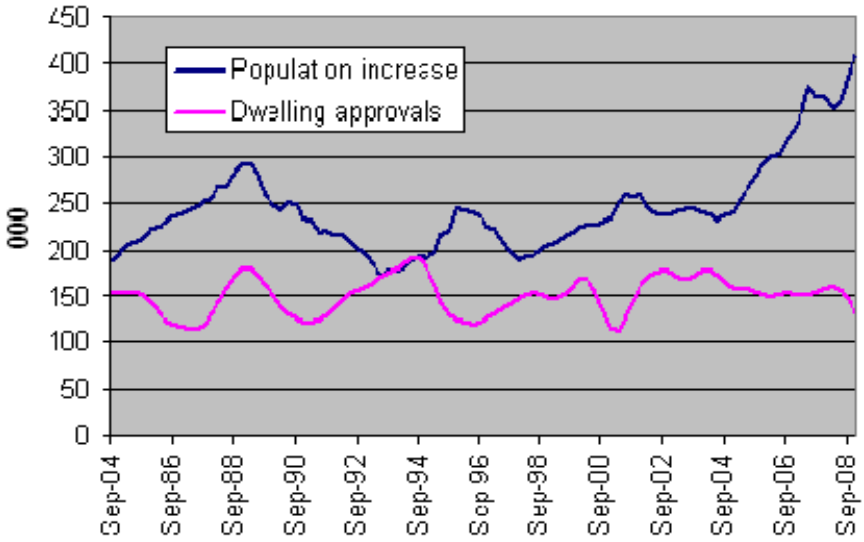
[47] This organisation had specialised in *buying bulk property with no money* and "creating change in a society stuck in a poverty mentality". http://www.abc.net.au/pm/content/2003/s997957.htm. Its publicity had featured a single mother on benefits of $20 000 per year who had been able to buy four apartments worth over $1 million.

[48] Sourced from ABS 6416: House price indices.

[49] Gerard Minack, Morgan Stanley Australia Strategy and Economics, February 24, 2010: *The Odd Expansion* states that the intervention package boosted disposable incomes by 4 per cent and interest rate cuts by a further 5 per cent over the year to September 2009.

sheltered from the global fallout by what appeared to be a well-managed economy and financial system, and consumer confidence was retained. New lending hit record levels by March 2009, fuelled by the continuation of the First Home Owners Grant, and higher housing prices continued to follow debt.[50] By December 2009 house prices had resumed their upward trend and were 15 to 20 per cent higher than at the start of the crisis in November 2007 in all cities except Sydney and Perth.

**Figure 31: Construction and population increase, Australia 1984–2008**




Source: Reserve Bank.

As Figure 31 shows, a surge in population occurred from 2004 which was accompanied by a decrease in new construction. By mid-2009 the RBA began warning of a *new* price bubble which would need future interest rate rises to contain it.

## 6.2 The debate on the house price bubble

From a country of easily available land and cheap housing, Australia now has some of the most expensive housing in the world. It is hard to know what could restore the situation. Prior to deregulation, excessive lending was always reined in, and housing booms resulted in large supplies of unsold speculative housing that helped hold down prices for a long time, because new construction was such a significant part of the market.

Since 2003 there has been considerable debate on the cause and significance of these very rapid house price rises and the associated levels of national indebtedness. Essentially the arguments have been of four kinds.

- House price rises do not matter as long as housing remains affordable, and are even desirable.
- Booms and busts are a normal part of capital flows in an open economy which can be fixed by regulation, interest rate controls and pump-priming.

[50] By March 2009 there was talk of a *trickle up* effect (Don Stammer, *The Australian* March 4; *The Age* Business Day, July 30 2009), where first-home buyers were paying such good prices for entry housing that they were encouraging sellers to trade up. In fact this had been going on for most of the decade.

- There is a long-term imbalance between supply and demand for housing in Australia, caused by *smart growth* policies and/or the differential taxation of new and existing dwellings.
- Speculative rental investors are the main cause of the problem.

While we will not discuss these arguments in a great deal of detail, the various positions result in very different policy prescriptions, which we will now outline.

### *6.2.1 Capital price of housing does not matter*

This stems from the traditional housing economics position that housing is a flow of services, not a consumption good. As long as the flow of services is maintained and affordable, and entry to home ownership can be achieved, it does not really matter what the capital price of housing is, as it will and should move up and down with interest rates like other assets. In fact, rising prices mean the community is wealthy and can borrow for productive purposes. The argument here is that finance was previously constrained; that there is much more finance available as a result, which has pushed down interest rates and allowed asset prices to rise as a sort of *efficiency dividend*.

The response of the Australian government to the crisis—in keeping interest rates low and providing deposit assistance to first-time buyers—is based on this attitude.

However, higher prices have to be paid, ultimately in full, by all new entrants to the market, and by those who wish to upgrade their housing. In a situation of tight supply, subsidies can be completely absorbed by higher prices. The so-called *wealth effect* is in fact a *debt effect* leading to more money that has to be paid back—a drain on the economy and a drop in the standard of living. The only real beneficiaries from higher prices are people with more than one house, and the few housing downgraders.[51]

Battelino (2009) has argued that household income has risen, which means that households have more money to spend on housing and can tolerate these higher costs, and states:

> the experience of the last few years suggests that the Australian household sector as a whole appears to have the financial capacity to sustain a relatively high ratio of housing prices to income. For example, a typical household that in 1996 was devoting 30 per cent of its disposable income to debt servicing would today be able to devote 47 per cent of its disposable income to debt servicing while still having the same standard of living.

However, this appears to be a rationalisation of an unnatural state of affairs. It is at odds with the standard result that in the long term, people with higher incomes spend a lower proportion of their income on housing (see the evidence in Chapter 3). Instead, house prices have risen much faster than incomes. It is clear that some form of congestion is at work and the higher house prices are a capitalisation of that congestion. ‘Higher house prices are a congestion cost, not an efficiency dividend’.

In the longer term, interest rates must rise back to what the RBA describes as ‘more normal levels’—and beyond these, when ultimately an inflationary situation is encountered. Very rapid declines in affordability can then be expected to emerge from the high prices currently in place, unless incomes have risen to match by that time.

[51] Tim Colebatch, *The Age* March 17 2009.

### 6.2.2 Boom and bust

Unregulated capitalist asset markets are quite volatile and proceed in booms and busts, led by euphoria and fear—what Keynes called *animal spirits* (Akerlof & Schiller 2009) and others have referred to as *irrational exuberance*.[52] The Australian stock market index rose by two and a half times between 2003 and 2007, before pulling back to 2000 levels in 2009. This type of pullback is regarded as healthy for markets that have moved ahead of themselves; and even though it badly damaged the value of superannuation holdings of ordinary Australians—retirement benefits which the government had spent decades trying to encourage—the government made no real attempt to intervene.

However, pullbacks in mortgage markets can be more damaging, leaving long-term *toxic assets* on the books of major institutions which they are reluctant to write off without bankruptcy and which continue to act as an impediment to recovery—as the Japanese found after the crash of 1989 and the USA and a number of other boom–bust economies are finding out at present. As well, the widespread nature of housing ownership means that the sector is *too big to fail* and when in 2009 it looked as if the housing market might follow the stock market with a necessary correction, vigorous action was taken to keep prices high and markets buoyant, despite the government's strong commitment to affordable housing.

The weakness of the pure cycle argument is that in normal markets that overshoot, supply will return to the trend level. However, housing markets are not the same as other markets in assets. They are very rigid on the downside, especially in Australia, and tend to ratchet up through succeeding business cycles against what appears to be a hard supply constraint that only responds very slowly. It appears there is very little room to move in our markets and any demand pressure will send prices up with little prospect of a return to the historical trend.

### 6.2.3 Imbalance between supply and demand

Initially when house prices rose out of control, the RBA was reluctant to endorse the idea of a chronic supply inadequacy, since it was felt that new construction was now such a small part of the housing market that extra construction could never compensate for the large surge in demand that occurred between 2000 and 2007.

However, persistent lobbying by the development industry (see for example Demographia 2009; 2010) and support for supply imbalance from eminent international economists such as Shiller (2005; 2009) and especially Paul Krugman[53] on the root cause of the GFC, eventually led to a consensus that long-term poor supply was at the heart of the house price boom. Market liberals would say that this is because governments only liberalised one part of a finely balanced system—liberalising finance but not planning—so that the expansion of finance could not be matched by an expansion in housing supply.

In the Australian situation the idea led to something of a quandary. While there was no doubt that the *smart growth* or urban consolidation push had continued to restrict the release of new land around cities, Australia remained well-housed and construction levels were high by international standards—both in terms of numbers of units and investment.[54]

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[52] Shiller (2005, 2009) from a term coined by Allan Greenspan.

[53] See for example http://krugblog.wordpress.com/favorite-columns/ where Krugman divides the USA into two parts depending on their planning regimes—as early as 2006.

[54] Average new house sizes are 210 sqm, the largest among comparable countries. Annual construction levels run at about 35 units per 1000 households, well above the USA.

Consensus was reached that while construction levels did not seem to be particularly low, in fact supply had been *drip-fed* for decades, leading to a chronic shortage, very tight rental markets and perpetually rising house prices. Australia's very concentrated population distribution also added to the problem, and the congestion costs of having most of the population living in six large cities were being reflected in high house prices.

Ongoing analysis of the problem has made use of comparative studies of the uneven impact of the GFC in both USA and Europe. In Europe, as Connor et al (2010) discuss, house price rises were largely restricted to those countries which permitted or encouraged a rapid influx of money—similar to the rapid growth of the money supply in Australia during the Howard years.[55] Whether or not the planning regime was restrictive or liberal did not seem to matter very much in the face of these very rapid inflows of money, since supply had no chance of compensating for such large surges in demand.

In the USA, the decentralised banking system may also have played a role in the uneven impact of the GFC (only about a third of large cities had a rapid price rise followed by a bust). However, the role of local planning seems to have been critical in the USA. Virtually all the cities that experienced the GFC had particularly tight planning regimes—and those that did not have price rises, such as the rapidly growing Texas cities—had high taxes on the ownership of existing property coupled with relatively liberal planning regulations (Demographia 2010).

### *6.2.4 The imbalance between new and existing property*

The Positioning Paper put forward the hypothesis that much of the rise in house prices could be attributed to an imbalance that developed between investment in new and existing housing after deregulation, because financial markets were deregulated but not land markets.[56] The supply of new land continued to be heavily controlled by planning agencies which trickled supply onto the market.[57] A range of new charges on developers was also imposed, originally intended to recoup costs, but which ultimately became a form of revenue raising in some cities, well in excess of the costs of the services provided. As a result of various restrictive practices and taxation increases, the fraction of land cost in a typical new house and land package rose from about a third in 1973 in the five major cities to about a half in Melbourne and Brisbane, 60 per cent in Adelaide, 70 per cent in Perth and 80 per cent in Sydney.[58]

The impact of city growth on existing dwellings is not commonly appreciated, even though it has been studied in elementary land economics since the nineteenth century.

[55] Discussed in the Positioning Paper (Flood and Baker 2008, Figure 5) and closely related to the growth in debt. The fact that this growth was largely internally generated rather than due to money inflows as in the European countries helped protect Australia from a financial and house price collapse – since the money did not retreat during the bust period.

[56] Alan Evans (2004) puts forward reasons why planning did not attract the attention of neoliberal reformers.

[57] It has been alluded that the development industry colluded in this by keeping land off the market in *land banking* to preserve shortages and keep prices high, but this is hotly denied.

[58] See for example Table 1 in Moran (2006) for Australian capital cities.

**Figure 32: The rise in land prices as the city boundary expands**

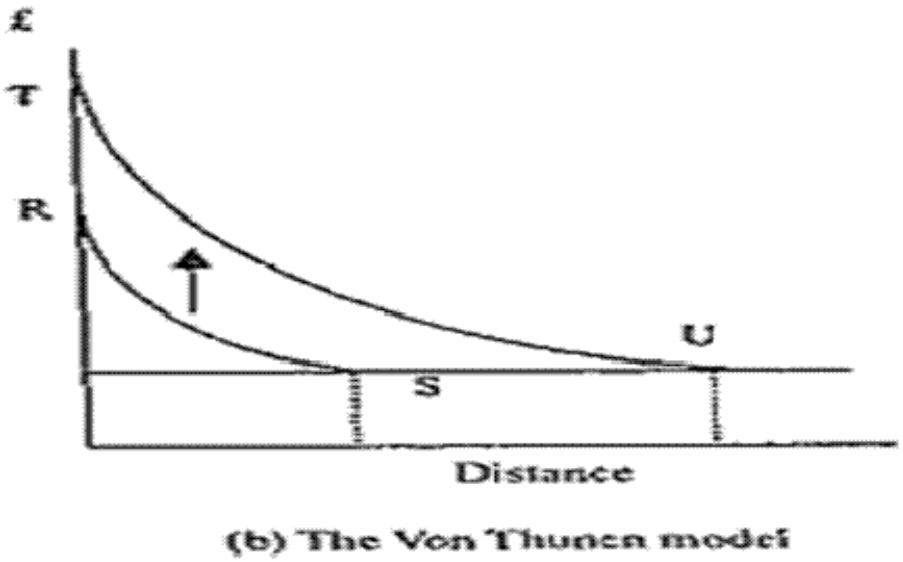



Figure 32 shows that as the city boundary expands the land price curve rises to compensate for the greater travel costs involved (in the standard Muth–Mills model land prices rise by exactly the marginal increase in travel costs, both in terms of actual costs and extra time spent travelling).[59]

The costs of imposing an artificial boundary to growth are also a part of any urban or real estate economics course—although this does not seem to be widely appreciated by Australian policy makers or the media. By blocking natural growth, the price gradient both lifts and steepens as population density increases to give considerably higher land prices within the boundary (Evans 2004, gives a good graphical explanation).[60]

While new housing at the fringe became heavily taxed through developer charges to compensate for the costs of *sprawl*, all housing internal to the city rose in price also—by at least the amount of the charge (see Flood & Baker 2008). No attempt has ever been made by governments to capture this unearned value increase on existing properties due both to city population growth and to the attempts to contain it. As a result, existing properties have become a better investment proposition than new construction, which is both highly taxed and complex to execute.

### *6.2.5 The contribution of investors*

Some commentators such as Colebatch (2009) have put the blame for rising house prices and falling ownership squarely on rental investors, saying that the taxation treatment of rental housing (particularly the so-called negative gearing tax benefit) has given investors an advantage over prospective owners, causing house prices to rise and ownership to fall. There is evidence both for and against this assertion.

Small-scale investment in residential property has probably been the retirement income strategy of longest standing in Australia, considerably pre-dating superannuation. As stated in the previous section, investors are the only ones to really benefit from capital gains. When prices rise continuously, as they did through most of

[59] This can be found in any standard urban economics text, such as Arnott (2003).

[60] A common rule of thumb for imposing a blanket green belt is that prices will double inside the belt. See for example World Bank (1996).

the 1970s, and investment funds are easily available, rental property also provides a very effective and quite rapid wealth creation strategy—with borrowings on the capital gains from one property used to purchase more. When capital gains become the main motivator rather than rental yield, that is one definition of a market bubble. Rental yield has been only a minor concern for a long time, largely used to generate cash flow rather than income—and it is reasonable to say that we have been in a property bubble since the uneven deregulation of the early 1980s.

Renters have benefited considerably during the period of asset inflation, because landlords have been prepared to tolerate this very low rental yield[61]—but landlords have also been prepared to pay much higher prices than normal yield considerations would dictate, which has definitely affected certain entry submarkets for housing (such as units, town houses and well-located small houses).

The tax deduction landlords receive for interest payments reduces their cost of finance relative to home purchasers, encouraging them to take larger mortgages than they otherwise would and outbid owners. The presence of the so-called negative gearing tax benefit (which is also available on all other forms of investment), has had an influence on landlords, as the government effectively assumes some of their risk, allowing them to write off their losses against other income on losing investments.[62] As Flood and Baker (2008), Table 3 and Figure 17 detail, from 2000, investors began to lose money overall on rental housing while their numbers continued to increase, and by 2006, 11 per cent of individual taxpayers were rental investors, two-thirds of whom had negative cash flow. In 2006–7, 1.6 million individual taxpayers reported total rental losses on 2.2 million properties of about $6.4 billion—about the same as the Medicare Levy. Almost 80 per cent of rental income was going out in interest payments alone[63]—a strong indication that rent was simply being charged to try to meet the bills rather than to obtain an economic return.

While this situation is alarming, it does not necessarily imply that it is the tax treatment of landlords that has caused house price rises or a fall in ownership. The fact is that Australia does not have an excess of rental properties, which would be expected if government policy was leading to excess investment in the sector. In fact, vacancy rates are very low by international standards, being typically 1.5 to 4 per cent in different cities, compared with, say, the vacancy rates of over 10 per cent that are typical in the USA.[64]

What one can see in fact is two things. First, there has been a very substantial growth in the proportion of housing finance going to investors—because they are encouraged to do so by persistent capital gains. And following directly from this, there has been a huge shift in the proportion of landlord investment going to existing housing instead of to new development, just like owner-occupied housing.

The *growth in market share* by investors was shown in the Positioning Paper (Flood & Baker 1999, Figures 6, 7 and 16). Investor finance rose from about 4 per cent of total housing finance in 1986 to 29 per cent in 2007. As well, it is known that due to greater

[61] There has been much published on the fall in yield—which traditionally has been 7 to 9 per cent of property value, but now sits at 3 to 4 per cent on average. Some have said that because of supply inelasticity, most of the benefit to landlords went straight into house prices, and renters were unable to capture much.

[62] Deliberate negative gearing strategies have also been a feature of the investment scene for a long time, as people with high salaries lower their tax bill using negative rental cash flow, in the hope of recouping the money later on as capital gains.

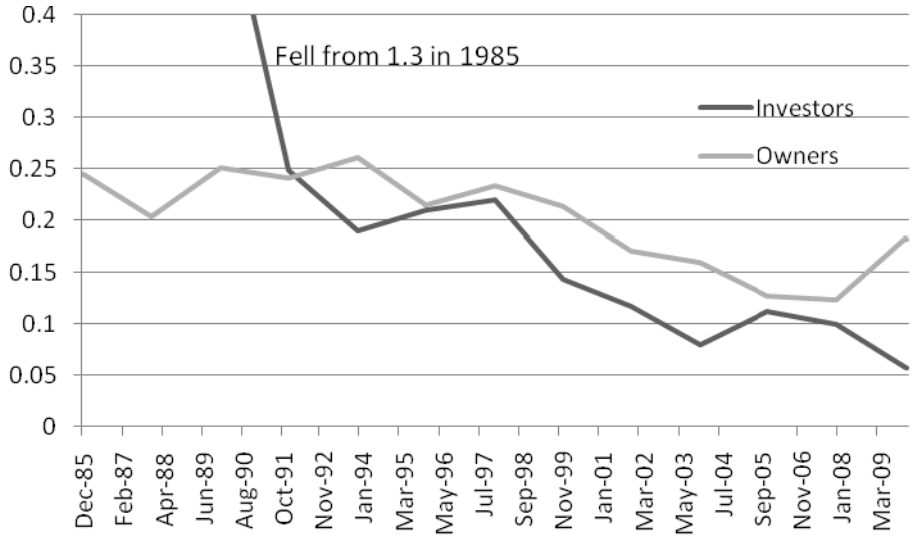
[63] Australian Taxation Office Statistics, Tables 2C and 16.

http://www.ato.gov.au/docs/00177078_2007PER16.xls

[64] US Census Bureau. Housing vacancies and home ownership Table 1.

income inequality and prosperity, there has also been a very substantial growth in the proportion of unoccupied *second homes* including holiday homes and town retreats, which has also removed some housing from the owner-occupier market (Paris 2008; Paris et al 2009).

**Figure 33: Ratio of annualised lending for new construction to lending for existing housing, owner occupiers and investors 1985 to 2009**




Source: *Housing Finance Australia* ABS Cat No. 5609.0, Table 11.

This changed role of investors following deregulation is particularly noteworthy. Up till 1987, as Figure 33 shows, investors borrowed more for new construction than on purchasing housing (up till 1977 finance for new construction by owner occupiers had also been more than half their total borrowings). After October 1987, investors began spending on purchasing housing rather than construction, and by 1992, they borrowed approximately five times as much for purchasing housing, which became twenty times as much by 2009. From 1991, investors who had hitherto played a significant role in new construction, effectively became focused on purchase, mostly of existing dwellings. It seems that, just like owner occupiers, they sought better located properties which had more capital gains (and were easier to rent), and they were put off new construction by the increasing compliance costs.

This extra borrowing by landlords has been presumably due to liberalisation of the borrowing rules so that owner occupiers are no longer given preferential treatment by lenders, and new construction was also no longer given preference. This has benefited renters so that they indirectly receive a fair share of housing finance, but it has put an extra pressure on house prices that did not exist prior to deregulation—and has probably also helped to reduce home ownership.

## 6.3 Demographics, home ownership and the price debate

In this section we describe how the findings of Chapters 2, 3 and 4 relate to the larger debate on house prices discussed in the previous section.

### *6.3.1 Do higher house prices matter?*

Eventually, rising prices must be reflected in a decline in affordability, even if the interest rates do not rise. Chapter 3 showed that at present, only modest declines in affordability were evident, mostly among newer purchasers and among renters. However, many households were placed *on the edge* by higher costs—many urban

renters in particular were only being kept below the unaffordability threshold by the Rental Allowance. A situation of vulnerability exists, and changes in economic conditions such as rising interest rates or rents could cause a very substantial shift to a position of widespread difficulty as in the USA.

We believe that even though demographics can account for much of the change, the declines in home ownership among particular groups reported in Chapter 4 are a direct result of declining affordability at the margin.

### *6.3.2 Boom–busts are normal and self-correcting*

As stated, busts have been quite uncommon in Australian housing markets and confined to particular submarkets. An expectation of perpetual growth has been built up which is reflected in investor behaviour, and governments have shown themselves unwilling to tolerate housing busts, as they do in the stock market.

We believe that the downside *stickiness* in housing markets is a direct result of an imbalance between supply and demand that developed after deregulation, and that measures specific to the housing market need to be undertaken, above and beyond standard Keynesian demand management.

### *6.3.3 Investors have squeezed out owners*

Declining ownership levels are due in part to this effect—especially if the rise in second homes is included. However, rental markets are also exceptionally tight and provide further evidence of a supply–demand imbalance.

We believe that in a situation of shortage *stronger hands* seek to maintain their share and that baby boomers *catching up* from the difficult period 1974–96 as economic conditions have improved, have been more significant than investors in squeezing marginal ownership groups.

### *6.3.4 Supply–demand imbalance*

It is to this debate that the results of this report are most significant.

Our contention is that a number of major indicators that are normally regarded as demonstrating the health of housing markets—indicators from the UNCHS-World Bank Housing Indicators Programme 1992–4 that were devised with exactly this purpose—have shown graphic deterioration in Australia over a twenty-year period, and most significantly since 2001.

- The household formation rate has declined since 2000, and household sizes have increased. The latter has not happened since the 1920s. Coupled with rising house prices, this is a primary sign of inadequate supply.
- New house construction has not responded to the improved financial conditions of the decade. This is a sign of a poorly functioning market with rigid land supply.
- House price-to-income ratios have risen to levels above 6, which indicates a housing market in crisis due to inadequate supply.
- Home ownership rates have fallen among the major marginal purchasing groups – mid-upper income 25–45-year-olds and lower income over 45-year-olds. This has occurred through all stages of the economic cycle, and indicates that housing market rigidities are to blame.

There remains an unanswered question—exactly how do these high house prices cause the reduction in ownership observed in Chapters 4 and 5? House prices can only continue to rise if the demand is there and people can pay the higher prices—so

why should home ownership be falling among key groups if there is such healthy demand?

In the cities, this is an application for classic urban economics or *urban ecology* (see Arnot & McMillan 2006 or O'Sullivan 2003 for a recent summary of the eighty-year literature on the subject). The neoclassical urban economics model views unconstrained urban development as a competition between land uses, with the highest bidder per unit of land at any point in the city being the winner.

The neoclassical model finds that the inner city will be a contested area. When it comes to residential location, the inner ring has tended to be something of a battleground between the poor who try to minimise travel costs by being within walking distance of facilities or having access to public transport, and the rich who put a high value on their travel time and can afford to pay for good accessibility.

Demographic and economic structural changes will affect this balance in the longer term. We have already made a number of references to the steepening of the income curve and the rise of two-income families, which has been regarded as responsible for classic gentrification of inner areas. The departure of single parents from the inner city—observed in Chapter 2—is another manifestation of this phenomenon.

The exact effect of a chronic *drip fed* housing shortage within the context of the neoclassical urban model or institutional economic model has not been studied as far as we know. However, one can make a few observations. In a situation of general shortage or restriction, the *stronger hands* will seek to preserve their position by outbidding the *weaker hands*. In this case, the stronger hands are those with greater wealth or greater income, who can pay higher prices for the scarce resource—housing. These are the over 45s, who have had more time to save a deposit or build up housing wealth, and the higher income households, who can afford to borrow more.

In a chronic situation, they will therefore bid housing continually just above the price that the next group down can afford, and home ownership will start to fall in the lower group. This is precisely what we have observed in Chapter 4.

## 6.4 Summary and consolidation of results

This chapter recapitulated the findings of the Positioning Paper on the growth of debt and the house price bubble, and summarised the arguments that have taken place about the role of housing in instigating the GFC. It described how the results of this study added to the validity of the various positions that have been taken, coming out strongly on the side of a structural imbalance between housing supply and demand.

We are now in a position to be able to consolidate the many demographic and economic interrelationships we have observed in this report, and we can now list the multiple and linked causes of the various phenomena we have studied. The correlation between the results one would expect from urban and financial market theory and the actual results we have reported can be seen in Table 25.

**Table 25: Changes in urban and finance markets with theoretical and observed outcomes**

| ***Phenomenon or policy*** | ***Theoretical outcome*** | ***Observed outcome*** |
|---|---|---|
| ***Urban model predictions*** | | |
| Greater income inequality | Steepening house price curve.<br>Greater share of land in inner area to wealthy.<br>Poor move out to next ring. | Yes |
| Increase in two-income families | Steepening house price curve.<br>Higher proportion of DINKs in inner areas. | Yes |
| General house price rise | Home ownership falls in marginal groups.<br>Fall in household formation rate. | Fall in ownership, mid-high income under 45s and lower income over 45s.<br>Yes |
| Inner city house price rise | Lower income households that do not need access to the centre vacate it, especially households with higher land requirements. | Single parent families depart inner ring for outer ring and areas external to city. |
| Shortage of new land for construction | Land prices rise and steepen.<br>Land prices rise relative to new construction costs. | Yes |
| Higher taxation of new blocks | Land prices rise relative to new construction costs.<br>Greater turnover and investor interest in existing dwellings. | Yes |
| Non-means tested FHOS | Younger people improve ownership, especially people with more disposable income.<br>House prices rise by more than the grant in cheaper areas. | Young higher income families and especially singles improve ownership.<br>Yes |
| ***General economic analysis*** | | |
| Liberalisation of finance markets | Improvement in ownership rates for non-standard families.<br>Improvement in ownership rates in remote areas.<br>More borrowing by higher income people.<br>More borrowing by landlords. | Yes<br>Yes<br>Yes<br>Yes |
| Expansion of money supply<br>Lowering of interest rates | Rise in price of all asset classes. | Yes |
| Increase in incomes | Increase in construction. | NOT observed |

| | | |
|---|---|---|
| | Less than proportional increase in house prices | NOT observed |
| Casualisation of the job market | Difficulty in obtaining mortgages for those with casual incomes<br>Delay in marriage<br>Delay in seeking home ownership | Observed in 1986–96, uncertain in 1996–2006<br>Yes<br>Yes |
| ***Demographic analysis*** | | |
| Greater longevity | Fall in inheritance<br>Fall in headship rate among over 45s | Some evidence<br>Observed |
| Ageing population | Rise in aggregate home ownership | Yes, when other demographic effects are removed |
| Larger number of *defacto* relationships and divorcees<br>Fewer marriages and children | Fall in aggregate home ownership | Yes, when the effect of age is removed |

Re-ordering this list by the major impacts and their causes leads to the following list.

*House prices*

- General rises in house prices are due to expansion of city populations and growth in money supply/holding interest rates low.
- The steepening house price curve is a result of a combination of greater income inequality, shortages of land and increase of two-income families.
- Rise in land price at fringe relative to construction cost is due to taxes and restrictions.
- Rise in house price in entry areas is due to FHOS.
- Increased turnover and share of established dwellings is due to increase in city size, shortage of land, taxes on fringe land and lack of value capture.

*Home ownership*

- General fall in home ownership is due to job market and relationship instability, later marriage and lower fertility and loss of inheritance due to longevity.
- General rise in home ownership is due to ageing of the population.
- Fall in ownership among marginal categories is due to high and rising house prices.
- Rise in home ownership among young people is due to FHOS.
- Rise in home ownership among non-family and minority group households, and in non-metropolitan areas is due to liberalisation of finance markets.
- Rise in home ownership in remote areas is due to better penetration of the banking system, ATSIC lending programs, decommissioning of mining towns and FHOS.

*Demographic*

- Fall in household formation is due to delayed marriage, steadying divorce rate, job market instability, high housing costs and longevity.

# 7 CONCLUSIONS

As a follow-on from an existing study, this report faces the challenges of determining to what extent the results of the previous study hold true and have continued, while determining what new trends have emerged or what previously concealed trends have now sprung to the fore. The report is extremely data-intensive and it is not so easy to avoid repetition and target what is truly important in such a wash of data.

The analysis also suffers from the difficulty that it is dealing with a major indicator, the home ownership rate, which changes extremely slowly if at all in the aggregate. Any data errors may result in a reversal of conclusions—because the changes are so small even over a decade, that changes in the treatment of missing data or in what households are included may produce spurious trends (see Appendix A). The principal independent variables used in the analysis are also highly correlated, so that considerable care must be taken to ensure that any change attributed to one variable is not in fact due to another. Also, changes induced by other factors (such as bequests) for which we have no data may be sufficiently large to invalidate other results.

The report has shown that the key trends in home ownership identified by Yates (2002) have continued despite a very substantial change in the broad economic climate for housing. However, the way they have continued prompts some re-assessment of the original analysis by Yates.

This chapter recapitulates the principal trends and findings that have been uncovered from analysis of the Census data set and other data. Section 7.1 deals with the demographic and income distribution findings of Chapters 2 and 3. Section 7.2 revisits the changes in home ownership in specific groups and the likely causes, analysed in Chapters 4 and 5. Section 7.3 discusses the effects of existing housing policy. Section 7.4 considers opportunities for future research, and finally Section 7.5 contains prescriptions for government action to address the changes.

## 7.1 Sociodemographic and long-term economic change

The business cycle moves quickly through several cycles per decade. An analysis that covers a decade will smooth these ups and downs and distinguish longer term economic trends that the perambulations of the business cycle conceal. Changes in the social structure are less spectacular and threatening than changes in *flows* in the economy, but they are more inexorable and certain, providing the backdrop against which changes in housing markets may be observed. These “stock” demographic variables change at about the same slow rate as housing tenure, and their trends can therefore be directly observed in tenure changes.

The first trend is the *ageing of the population* through smaller families, through longevity and through the progression of the baby boomer bulge. The proportion of the population aged under 30 peaked at 53 per cent in 1971 and had fallen to 40 per cent by 2006. The proportion of the population aged over 65 increased from 11 per cent to 16 per cent. Men in particular lived considerably longer—and this may have had a very considerable impact on inheritance, as elderly couples will hold onto their properties when a widow may not. A simple way of looking at this is that if larger numbers of older people are occupying dwellings, there will be fewer for young people.

A very long-standing fall in *average household size* dating back to the 1920s appears to have stabilised or reversed. The proportion of single-person households among younger people has stabilised after a steady thirty-year increase.

However, the proportion of *couple households with children* has continued to fall by 4 percentage points in rural areas and 5 percentage points in non-metro areas, where there has been a fall in actual numbers of *nuclear* households. In fact there has been a very substantial decline in nuclear households in the 25–44 age group, partially balanced by a gain in the 45–64-year-old age group with more adult children staying at home.

The very rapid increase in *single parent households* recorded in the previous decade 1986–1996, with a numerical increase of 130 per cent, stabilised in 1996–2006, and the growth rate of these households was the same as sole persons, and couples without children.

The *marriage rate* continued to fall and age at first marriage rose. The proportion of people married fell in every age group under 60, although it increased for women over 65 as men lived longer. *Defacto* relationships became more common, rising to nearly 9 per cent of household reference persons from about 6 per cent a decade earlier. The average duration of marriage increased significantly over the decade. The difference in the distribution of marital status between metropolitan and non-metropolitan areas reduced by about half over the decade.

The most noticeable demographic factor was a very substantial *drop in household formation*, with an actual net loss in younger households over the decade. A fall in household formation is a major valve for relieving pressure in tight housing markets, and the message is that as house prices rise, more and more people will continue to live with their parents or other relatives. Australia had 96 000 households aged under 35 less in 2006 than 10 years earlier, and lost nearly 10 per cent of households with reference persons aged under 25, mostly due to the lower birthrates of the previous twenty years The largest losses in young households were in Sydney, and the largest losses in 25–44-year-old households were in non-metro NSW.

The *household headship rate* continued to fall for younger households—a phenomenon which has also been noted in the USA. Sydney in particular has the lowest headship rate for young people, pointing to high housing prices in the city as a major contributing factor. As well as preventing young people striking out on their own, these high prices may have contributed to delayed marriage.

In most places, *household growth* was about half of the previous decade. In South Australia, Tasmania and the ACT, household formation rates fell by about two-thirds. Nationally, non-metro households grew slightly faster than metro households, but that is largely due to growth in Queensland. One might imagine that such a large fall in household formation would take pressure off the housing market—and that was probably true for new construction—but in fact, housing markets powered ahead during the decade, fuelled by improvements in the economic climate and by easy finance.

## Economic changes

From 2003 there has been an economic boom largely based on mineral exports to China and India. This caused unemployment rates to sink to their lowest levels since 1975, and 1.4 million jobs were created. Brisbane, Perth and Adelaide benefited the most. Families with children, including single parents and young people, particularly benefited from an increase in workforce participation. There was a fall of over 40 per cent in nuclear families aged under 45 with no-one working. Young sole persons also had a considerable improvement in proportions working.

Equivalised household income per person grew only very slowly at less than 1 per cent per year until 2003, and then began to accelerate rapidly from 2004 to 2006,

rising by over 20 per cent in the lowest income quintile and around 17 per cent in the other incomes. Over the decade real gross household incomes rose by 23 per cent—of which about 13 per cent was due to real wage rises and the remainder to improved employment. The rises were reasonably uniform across all income groups but the top quintile continued to press its advantage. Rapidly rising house prices and housing payments from 2001 to 2006 unfortunately eroded much of the increase in disposable income during that period.

## 7.2 Home ownership – market failure?

In Chapters 4 and 5 we discussed at some length important changes in home ownership that occurred between 1996 and 2006. Aggregate home ownership was essentially unchanged—but this was because the ageing of the population disguised underlying trends.

There was a wholesale recovery in the decade from outright ownership which had been historically high in the 1991 credit crunch—and beyond this, a general fall of around 10 per cent in base-level outright ownership for younger low-income households which appeared to stem from a loss of bequests. Very significantly, there was a substantial loss of about 9 per cent in ownership among low-income baby boomers, which appeared to be a cohort effect associated with lower general ownership rates in the previous decade. What is worse, the trends to significantly lower home ownership among younger upper-middle-income people identified by Yates continued unabated into the next decade, indicating that this was a structural problem which would worsen the situation of over 45s in the future.

The puzzle is that if the decline in home ownership recorded between 1986 to 1996—largely among younger middle-income people—was caused by the tight credit conditions that reigned during much of the period, coupled with increased income inequality and labour market insecurity, then why did the situation not reverse when the lending situation reversed and labour markets improved? Why did new construction not increase in a boom? Why did home ownership not change at all, once demographic change was allowed for? Why did the major trend observable from Yates (2002)—a fall in ownership among middle-upper income 25 to 44-year-olds—continue into 2006, to give a total 12 to 15 percentage point fall in ownership over 20 years?

For the baby boomers, the answer is straightforward. They *did it hard* in the high-interest, low-credit housing markets of the late 1970s and 1980s. The higher-income baby boomers managed to recover, but the low income ones did not.

This leaves social security policy makers with an unpleasant situation. Very soon, for the first time in history, there will be two generations of retired people, and in many cases both will be receiving aged pensions. An increasing number of this second generation will not be home owners, and they will require rent allowances or public housing, which most of the poorest are receiving already, for a further twenty years or so.

For the 25 to 44-year-olds, the situation is not so clear-cut. Have they failed to become home owners because their tastes have changed, due to an acceptance that their lives are more unstable? Perhaps because of less commitment to settling down, or because of the decline of long-term stable employment? Evidence in Chapters 4 and 5 shows that at least half of the decline is due to demographic change – most notably the very substantial decline in legally married couples—which is another expression of instability. However, all the evidence (for example, AHURI NRV2 (Beer

et al. 2006) or Munro (2007) indicates that people are just as interested in home ownership as they ever were.

Could it be that housing markets have been driven by baby boomers catching up from the high-interest years of the 1980s? Has this high demand caused prices to run ahead of what middle-income Gen-Xs can currently afford? This seems likely, but higher prices will only occur if supply is constrained, otherwise it should simply expand to meet the need.

Another suggestion, at least for the larger cities, is that they have become too big, that people no longer want to locate at the periphery where they are poorly served by services of all kinds and where jobs are a distant drive; they would prefer to rent further in. However, if they can afford to rent and they have a deposit, and costs are balanced between the tenures as they should be, they can afford to buy as the long-term costs are not very different. In that case, lower ownership is due to investors outbidding them in inner locations and crowding them out, driven by seemingly inexhaustible capital gains to purchase even when net rental returns are negative.

In the long-term, we have presented evidence to support the strongly stated opinions of the development industry—that the weak take-up of homeownership under apparently ideal conditions is because the finance market was liberalised but the land market never was. This put a permanent squeeze on supply that has caused prices to rise just out of reach of marginal purchasers. This is a slow process which is often ignored as the economy goes through more rapid cycles. What is more, only the most disadvantageous aspect of deregulation, user-pays developer contributions, was applied to land and often abused as a form of local taxation, whereas in the past the whole community had paid for residential infrastructure through general taxes. It took 20 years and a major boom to make these constraints and extra costs really visible, but the effect of these constraints has been creeping up steadily.

What would a liberalised land market look like? It would be one without planning controls like most informal development in the third world—which, whatever its other failings, does deliver affordable housing. In informal systems—which are actually unregulated market systems—land comes on-stream through direct deals between landowners and developers, without land-banking by state authorities, without green belts or other restrictions, and generally without building or planning controls. Of course this is regarded as *chaos* by planners and usually results in a particularly ugly urban form. It is very difficult to schedule services under this arrangement as it usually results in *leapfrogging* where development takes place well beyond the perimeter as landowners strike good deals with developers. Nevertheless, there are now repeated calls in Australia and elsewhere for a more liberal approach to development and redevelopment.

The other aspect of liberalisation has been allowing higher densities in already established areas—and here very substantial inroads have been made under the *smart growth* rubric. However, the conclusion from the standard urban model is that higher densities result in more congestion, higher prices and lower home ownership—and if Sydney is any example, this is what has happened.

In a similar vein, Australia's unusual regional settlement pattern where the bulk of the population is packed into five large cities must also carry part of the burden of blame. Originally, Australia had the highest urban home ownership in the world because of abundant land and a small population with high incomes. The continued concentration of population into very small areas imposes a higher level of congestion costs per person than occurs in, say, the USA with its distributed settlement system, and high house prices can be regarded as the capitalisation of those congestion costs. But

because house prices are also high in non-metropolitan Australia and the trends we have described are fairly consistent over space, this cannot be the main source of the price explosion.

## 7.3 The role of existing housing policy

Finally, there is the question of existing government housing policy. For much of the post- war period, Australia did have policies which helped extend home ownership very substantially into middle-income Australia (Paris 1993) and now they are mostly gone. These policies included the setting of reduced interest rates for home lending, which caused finance to be substantially rationed, and quite substantial and eventually largely self-funding home purchase assistance programs for middle-income earners, funded through the Commonwealth-State Housing Agreement. These were coupled with a paternalistic banking system where loans were assessed by local bank managers or financial agents who knew the people they were lending to, and had a natural bent toward assisting young married couples into ownership as a kind of community building activity.

This cooperative system was quite inimical to neoliberalism which seeks to have private organisations act only from profit motives, and to eliminate all subsidies to the production side. Market liberals and minority representatives in the USA found this traditional lending system particularly disadvantageous to minorities, and strove to have it dismantled through online impersonal assessment systems—now widely regarded to have been a major contributing factor in the subprime collapse.

In Australia we have seen similar attempts to reduce discrimination in lending. The substantial ATSIC lending program is one of the reasons for the considerable advance in ownership in remote locations (the others being the discontinuation of company towns, the privatisation of government employee housing, and the improvement of the banking system in the Northern Territory). Singles, *defacto* couples and single parents have also benefited from a change in lender attitudes (although the latter are heavily constrained by incomes).

The move to demand-side subsidies has been almost complete and may be a significant contributor to uncontrolled price rises and the decline of housing supply. In theory, demand subsidies should not have too much effect if they are means tested and are not strongly related to housing costs—in which case they act largely as an income supplement. For this reason, rent allowances provided through the social security system are widely regarded as a successful if rather expensive means of reducing the rental burden without a corresponding increase in rents.

The FHOG is a different matter. This subsidy is enormously popular with government and the public, but is universally disliked by housing economists, especially in the non-means tested form which has been in place since 2001. It was originally introduced to offset the introduction of the Goods and Servies Tax but no attempt has been made to tie it to that tax, as first home buyers almost entirely buy established dwellings which are not subject to the tax. Flood and Yates (1987) showed that earlier Home Ownership Grants were associated with rapid rises in house prices, unless they were means tested. It has been said that FHOS is a trap that has actually caused rises in house prices greater than the amount of the grant—and this has actually occurred in low-cost locations in Sydney and Melbourne.[65]

The Grant does seem to have met its objectives in that there has been an unexpected rise in home purchase among the youngest households, enough to counter the loss in

[65] The median house price in low-cost outer Melbourne suburbs rose by about twice the amount of the grant in the rush to take up the grant in late 2009. *Throwing petrol on the blaze* is a common metaphor.

outright ownership which had previously been their main means of accessing home ownership. However, we have shown that most of this rise in ownership occurred in the top income group and ownership actually fell in lower income groups, after allowing for demographic change. The program has also not been successful in maintaining ownership levels among 25–44-year-olds.

## 7.4 Further research

While the focus of this report has been on disaggregating a large Census dataset, these data still remain heavily aggregated and cannot always clearly demonstrate what is happening, so that several alternative explanations may be possible, both of which may in fact be true. The report therefore creates as many new questions as it answers—and perhaps that should be the role of a broad empirical study, to point out aggregate changes which more detailed research can explore fully.

Because of these data constraints, and because it has tackled so many new areas, this report has uncovered perhaps more questions than it has solved.

Some areas that would benefit from future research would be:

- Closer investigation of the exact reasons why the key income-age groups we have identified have been unable or unwilling to achieve home ownership.
- Modelling social security impacts of declining home ownership.
- Analysis of the decline of home purchase assistance and regulated mortgage markets and their impact on home ownership levels.
- The role of bequests in providing housing for lower income people.
- A fuller examination of land and planning policy and the way it has contributed to high prices.
- More detailed examinations of the fall in headship rates/decline in household formation.
- Analysis of possible policies to reduce the price of housing.
- Theoretical examination using the standard urban model as to how long-term supply shortages can produce the observed results.
- The effect of demand subsidies in a situation of tight supply.
- Congestion costs of Australia's settlement system.

## 7.5 Policy responses

> The tremendous irony is that the very politicians who for years talked of affordable housing are fighting to keep housing prices from falling. How does housing become more affordable except by keeping prices down?[66]

The report has stated that falling home ownership rates are due to two things—demographic change, and decreased affordability caused by a chronic imbalance between supply and demand. There is little that governments can do about demographic change except to take account of this in their planning decisions. However, we maintain that high prices and decreased affordability have been caused by government policy, and it can be fixed by government policy if the will is there.

This report has also identified the primary long-term cause of continually rising house prices in Australia to be a deregulation of the financial system after 1981 without any

[66] Thomas Sowell, Hayekian economist. http://www.reason.com/news/show/133593.html

corresponding deregulation of the planning system. Possible answers therefore are either to deregulate the planning system, to re-regulate the financial system so that housing finance is rationed once more for existing dwellings; or to tax away the undesirable price rises.

The arguments that the Australian housing market is riding for a fall—or indeed needs a fall in order to resume its orderly operation—are essentially those used for any overpriced asset class that has moved well above its long-term trend. Price-to-income ratios are too high—where income is either rental income from the asset or the income of the occupants.

There are few examples of a bubble deflating in an orderly fashion, since in a boom expectations are out of kilter with reality and there are too many people with a vested interest in the bubble continuing. In the case of housing, the experience of other countries has led Australian governments to believe the sector is *too big to fail* compared with say the stock market, and that serious action to undo the bubble would cause a systemic collapse.

However, there is one country, China, that has regarded inflating property prices as a serious threat to an expanding economy and has specifically targeted housing rather than using economy-wide dampening measures. China's State Council constrained demand in April 2010 by requiring a 50 per cent deposit on second dwellings and a 30 per cent deposit on first homes, which caused a more than 50 per cent drop in new home sales in some cities.[67] It has also rapidly increased supply in an attempt to build itself out of its housing bubble. The supply of land has doubled in most Chinese cities over the past twelve months, and land for residential construction has increased by 35 per cent. Gains are already being reaped in improved affordability, with land prices falling by an average 9 per cent in the first half of 2010, accompanied by improved turnover.[68] According to property broker Jones Lang Lasalle, China's house prices are set for a *healthy correction of 15 to 20 per cent rather than a collapse* as a result of this tweaking.[69]

What kinds of policies would help in Australia in the current situation? The problem is that getting people to spend less requires sticks and not carrots, since all incentives or actual government expenditure result in extra demand and further price rises to a greater or lesser extent. Most forms of prudential interference are also quite inefficient with unintentional consequences, and can lead to *nanny state* accusations of the government saving citizens and institutions from their own folly.

We will consider several strategies or scenarios, most of which are necessarily harsh.

### *7.5.1 Actually reduce the price of housing by limiting finance.*

Simply raising interest rates, which is the only lever currently available to the RBA, is not an attractive option as it affects all parts of the economy as well as actually lowering affordability. There is no reason why economic growth should pay the price for imbalanced deregulation in the housing sector. More direct strategies would involve actually reducing the supply of housing finance using traditional levers. For example, requiring a 50 per cent deposit on existing housing would be a reasonable

[67] Alan Kohler, *Business Spectator* 16 April 2010, http://www.businessspectator.com.au/bs.nsf/Article/China-property-bubble-GDP-interest-rates-pd20100416–4JSW4?opendocument&src=rss

[68] See *CapitalVue News*, July 13 2010. http://www.capitalvue.com/home/CE-news/inset/@10063/post/1203909

[69] Bloomberg News, July 6 2010, http://www.bloomberg.com/news/2010–07–07/china-property-set-for-healthy-correction-not-collapse-jones-lang-says.html

measure, if housing is regarded as being at double the correct price. This would immediately curb lending on established housing by up to half, and act as a prudential restriction on banks to prevent over-lending which might avert their ultimate collapse. Another strategy would be to increase loan-to-repayment ratios on existing homes back to the levels of the 1970s (25% of the income of the principal wage earner).

However, apart from being very unpopular, these would have a number of drawbacks in that an affordability program that makes houses less affordable is not so easy to justify. The costs in the short term would fall unevenly on lower-income earners and first home buyers who would be forced to purchase new homes, and would leave the inner and middle cities in some disarray with rapidly falling prices. Unless supply were also liberalised, it would probably simply lead to offspring staying at home longer while they raised the deposit—which in itself might not be a bad thing for increasing density and improving energy efficiency.

### *7.5.2 Value capture on existing properties*

Fiscal measures are probably the most reasonable approach. Extending capital gains tax to cover owner-occupied housing, as a form of value capture due to gains that have been created by government actions, and restoring real net capital gains to full parity with other income would give the market very considerable pause—although taxation of gains has not stopped investors from jumping into the established market in a big way. Allowing gains to be rolled forward into another house would defeat its purpose. Making the tax payable on nominal gains in the current year would rapidly dampen the public's enthusiasm for market price rises, although this is probably excessively harsh. Stepping up stamp duty rates on existing property with an exemption to first buyers, or making property or land taxes larger and progressive, would put a damper on the market—although getting the states to co-operate would not be easy, since there is an incentive to each state to not co-operate to improve in-migration.

Reducing or eliminating taxation on new dwellings would also restore some balance to the market. Using new developments as a method of actually raising revenue, as has been occurring in New South Wales, is quite inappropriate. Developer contributions should be limited by law to no more than the cost of supplying infrastructure. If they are to be used as a form of value capture when land is rezoned urban, then this capture should also extend across the city, since extending the urban boundary causes a price increase in all urban land, not just the land at the boundary.

### *7.5.3 Quarantine negative gearing*

In the case of landlords, it is really not acceptable that they should continue to enter the market while most rentals are running at a net loss, causing the government to shoulder half of the loss in reduced tax receipts. However, we do not want landlords to depart while the rental markets are so tight. What is needed is a return to the 1980s where the majority of housing loans to investors are made on new housing. Probably the easiest method is to eliminate negative gearing by quarantining losses on all classes of investment in the same way that losses are currently restricted on all classes of business income—with an exemption for new rental housing over the first five years. In other words, losses on rental income from existing dwellings should only be written off against other rental income, which is the norm in other countries.

### 7.5.4 Higher taxes on second homes

Second homes are taking properties out of the market—but this would not be a problem if they were replaced by new construction. It would not be unreasonable to fund new affordable housing initiatives partially through a tax on vacant second homes.

### 7.5.5 More construction of affordable housing

Affordable rental housing does not directly assist with home ownership, but it can do so indirectly by taking some investor pressure off existing housing, and by providing alternative housing choices for those who are unable to achieve ownership in a high-cost market. It has always been difficult to ensure supply to the bottom end of the rental market in the absence of a large public housing sector. Direct methods of adding to the supply of affordable housing have been strongly advocated by AHURI NRV3. Their recommendations (Yates & Milligan 2007) include:

- Tackling housing supply through the planning and development process.
- Improving demand-side housing assistance programs to make them more flexible and appropriate to households in need.
- A national policy for funding and delivering additional supply of affordable and well-located housing for rent and sale.
- Changes to the social housing system to secure the viability of this source of affordable housing and better integrate with new supplies of affordable housing.

The National Rental Affordability Programme (NRAS)[70] is a supply-side response that seeks to provide 50 000 affordable units by 2012 through direct subsidies to landlords, making their returns cash-flow positive. The Social Housing Initiative, part of the Nation Building Economic Stimulus Plan, is another funding source for affordable rental housing. However, the fairly modest production targets and the centralised management have led to suggestions for broader funding sources and management, along the lines of those in some European countries. (Lawson et al. 1998).

These programs are seeking alternative funding sources to those already available and are intended to form partnerships with organisations, rather than attempting to redirect landlord activity. However, vehicles are available for small investors to participate, and investment advisors are already calling on their clients to look seriously at these positive cash flow rental investments.[71]

### 7.5.6 Liberalised land supply

Liberalising land supply in an acceptable way is quite difficult, as there is no real constituency apart from the construction industry that wishes to do this. Some cities have already partially done this by discontinuing growth corridors and green belts. Considerable inroads have been made in many places, especially Sydney, to reduce local opposition to medium-density infill developments with dwellings with smaller land footprints and smaller floor area. This is the natural market response to higher prices and also permits a mix of household types and incomes.

[70] http://www.fahcsia.gov.au/sa/housing/progserv/affordability/nras/

[71] *Australian Property Investor*, February.

Regional policies, such as the development of new towns and employment centres, could also be tried, limiting the sizes of the five major cities, but decentralisation policy has a poor history in Australia.

### *7.5.7 Ownership programs for low-income over 45s*

Positive measures to assist those most affected by the supply–demand imbalance are a reasonable strategy as long as the measures are properly targeted. Dealing with the major trends of falling home ownership detected by this report is a matter of some urgency, as they will result in a long-term welfare burden if left untended. There are currently no programs to make housing affordable for low-income 45 to 64-year-olds—the demographic that is suffering the greatest losses. The problem may right itself naturally once the boomers move through and inheritance starts to be re-established, but this is too late. Once home ownership is largely restricted to higher-income older people, inheritance will not be as much use as a redistributive measure, since the dwellings will only be passed down to their children who are probably also affluent.

Extending the FHOS to assist lower-income people who may have been owners in the past but have been out of the market for some time would be a step in the right direction. However, most of those who have not achieved home ownership by this stage probably never will without a very significant incentive, and may remain in rental housing. For those who cannot be enticed into ownership, an expanded public housing solution may be cheaper than paying up to 40 years of rent allowances.

The core group who need to be targeted are the middle-income 25–45-year-olds, the natural targets of all past home purchase assistance programs. If something is not done, the current situation of 45–64-year-olds will worsen as the present Gen-X cohort moves into this age group, and lower home ownership will probably start seriously affecting the second and third income groups as well. Therefore some very substantial targeting of home purchase assistance is needed, in a way that will not increase house prices as much as FHOS does. The traditional solution of low, stable interest rate lending to qualifying households is probably the best. Shared-equity schemes have been moderately successful elsewhere and help to transfer the risk of the present high price regime away from individuals to the government.

### *7.5.8 Alter community perceptions*

The real thing that needs to be changed is the mistaken perception—house price rises good, price stagnation bad, price falls unthinkable. Reducing inflation is the prime directive of central banks and house price appreciation is inflation. Any other form of inflation (except stock market asset appreciation) can bring down governments, but in housing it seems to be a cause for celebration. As long as this attitude persists, nothing will be done until the true danger makes itself evident. Once the problem is recognised and faced, then the means of correcting it will also be evident.

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# APPENDIX A. DATA CONSIDERATIONS

The main sources of data for this report were two special cross-tabulations from the 2006 and 1996 Census, designed to be as close as possible to the tables for 1996 and 1986 used by Yates (2002) and which are described in detail in an Appendix of the Positioning Paper for this study (Flood & Baker 2008). Most of the other data originate from the ABS and the Reserve Bank of Australia.

Although the Census is supposed to be a complete tabulation of persons and households in Australia on the day of census, in fact it has some sources of error. Households may be absent from home, they may consist entirely of visitors from abroad, or they may refuse to answer questions or answer incorrectly or inconsistently. Some of the very small changes of slow-moving averages recorded in this report, such as the overall changes in home ownership, household formation, household headship or household size, actually fall outside the level of accuracy of the Census and considerable care has to be taken to establish exactly what definitions are used or what households are included or excluded.

## A1 Households and population

Given the importance of household formation rates and household headship rates to the conclusions of this report, and the fairly small changes involved, it is vital that accurate data should be used in their calculation. However, this is by no means as easy a task as might be anticipated. These numbers are ratios of population and dwellings, and both of these are problematic as to the exact definition that should be used and the accuracy of their collection.

Ideally we are seeking *occupied private dwellings* (each of which should contain one household) and the *population that resides in them*. Because we are considering the pressure on the housing market, it does not really matter whether these people are permanent residents or not – since visitors from interstate and abroad are all using the housing, although perhaps seasonally.

### *Households*

The problem here lies with two categories of households, neither of which are included in the Census tables ordered for the project (as with the tables in Yates 2002).

The first category consists of households comprised entirely of overseas visitors. These are not particularly problematic as they are not very numerous (130 000 households in 2006) and they stay fairly constant as a proportion of all households. However, they are proportionally more numerous in places where larger numbers of overseas visitors are present and may cause a mild under-enumeration in these areas if ignored.

A more significant problem is the category of “Other non-classified households’ – which mostly consists of households that were deemed as occupied by the census collector but who did not respond to a household call and subsequent mailing. Unfortunately this group has tripled in size (from 93 000 households in 1996 to 322 000 households in 2006, or 4.2% of the stock). This rapid growth is almost certainly associated with increased prosperity. Many of these vacant houses will be second homes, which are not strictly “occupied”. Others may be associated with families or individuals who are traveling for work or holidays. Indigenous housing may sit vacant

while the occupants are traveling – or in remote communities some people may be disinterested in census forms.[72]

Including or excluding these households makes a major difference to some of the conclusions of this report. If they are included then household size fell from 1996 to 2006, in line with Figure 4. If they are excluded then household size rose, for the first time since 1970, and household formation is lower by about 3 per cent over the decade. They have been excluded in any tables and figures derived directly from the cross-classified tables, such as Figure 2 and Table 4.

There is in fact an argument for including second homes for some purposes of analysis since they provide extra housing for a household (effectively making the household size smaller) and more especially since their purchase puts extra pressure on housing markets, removing housing which might otherwise be available for renters or other home buyers (Paris 2008). However, we have not attempted to do this here.

A considerable problem is that these non-classified households are not uniformly distributed geographically, nor is their very substantial increase over the period 1996 to 2006, as Table A1 shows.

**Table A1: Percentage difference between "households" and occupied dwellings, states 1996 and 2006**

| | *NSW* | *VIC* | *QLD* | *WA* | *SA* | *TAS* | *NT* | *ACT* | *Aust-ralia* |
|---|---|---|---|---|---|---|---|---|---|
| 1996 | 3.2% | 2.4% | 5.0% | 4.2% | 2.4% | 2.5% | 16.0% | 10.3% | 3.4% |
| 2006 | 6.1% | 4.9% | 8.4% | 7.8% | 4.4% | 3.9% | 20.1% | 5.1% | 6.3% |

The differences appear to show a relationship with remoteness, with holiday locations and also with indigenous populations. They are also associated with states where population is increasing more rapidly. The odd one out is the ACT, which presumably shows a high number of occupied but vacant homes due to the demands of the public service – although why the proportion should have fallen so much in 2006 is unclear.

It is also likely that these differences are correlated with other key variables.

### *Population*

The issues of population are even more difficult to resolve. First, one must be careful because some published Census tables show persons in non-private dwellings or include overseas visitors, while others do not.

ABS also runs a regular Estimated Resident Population (ERP) series that they regard as more accurate than Census data. These are contained in their publication *Australian Demographic Statistics* (Cat.No.3101). The estimates use other sources of data than the Census and are generally higher, because they estimate people who do not fill in their census form or who are temporarily overseas. According to a discussion with the ABS, the former is particularly common among younger people who are disaffected with "the system" and among indigenous people, while elderly people may have difficulty completing the form. The numbers of non-returns are becoming worse to the point that countries are discussing what they can do to conduct viable future censuses (ABS Population Division, private communication).

[72] Anecdotal, ABS.

A comparison between state/age population tables from the ERP and the Census in Table B17 of Appendix B shows some substantial differences. In every state the discrepancy between ERP and the Census for under 45s increased significantly between 1996 and 2006, and for the key 25–29 age group, it doubled to almost 10 per cent. Whether this is due to more overseas travel or greater non-compliance is uncertain, but the change is fairly uniform. However, for households over 45 it decreased everywhere except for Queensland. In Queensland and the Northern Territory, the Census was actually higher than ERP for over 65s, and it is not clear why this should be the case.

Using both the higher ERP population estimates and the lower household estimates (net of non-classifiable households) reverses the result of Figure 4 that household size decreased from 1996 to 2006. However, there is no reason to do this.

Using either the higher population estimates or the lower household estimates reverses the result that headship rates increased for younger households.

## A2 The cross-tabulations

The Census cross-tabulations were of occupied private dwellings (that is, excluding hotels, boarding houses, institutions, second homes and the like). The data were in the form of 'flat files" which gives a number for each level of the various factors followed by a count of the numbers of households with these characteristics. In order to preserve anonymity, ABS allows a minimum cell size of 3, which can produce errors in large tables, even though the marginal totals are supposed to be accurate. There were many cells that were empty in 1996 and not in 2006, and also vice versa, which made direct comparison of the two tables difficult.

The data were manipulated considerably from the description in the Positioning Paper, and in order to produce tables consistent with Yates (2002), the following classifications were used in most cases.[73]

*Region*

The spatial classification was metropolitan/non-metropolitan for each state or for Australia. In the former case, Tasmania and the territories were usually given a single classification because of their small populations. As well, Sydney and Melbourne were divided into inner, middle and outer rings as per the Positioning Paper.

*Age*

Although a finer level of disaggregation was available, by and large the age groups were generational—Gen Y (household reference person under 25), Gen X (25–44), Baby boomer (45–64), Retired (over 65). Much analysis was done separately for these age groups. In a few cases such as Table 4 and Figure 7, more detailed age groups were used.

*Marital status*

This was a combination of two Census questions for household reference persons. The classifications were Never married, Married, Defacto, Separated, Divorced, Widowed. Defacto took preference over other categories.

*Household type*

Defined to be Sole person, Couple, Couple with children, Sole parent, Other. In many cases this needed to be considered in conjunction with Marital status.

[73] Based on Census Dictionary 2006, ABS Cat. No. 2901.0.

*Large households*

A flag for families with more than two children. This was significant for 1996 but not for 2006

*Persons in the workforce*

Defined to be 0, 1, 2, 3 or more for each household.

*Income*

Unfortunately the household income classifications in 2006 did not match quintile barriers. The quoted Census incomes were gross and not "equivalised" or adjusted for household size, as occurs in most other ABS publications.

Incomes rose a great deal between 1996 and 2006, and there was a question as to whether to lift the boundaries of the income classifications by the rate of inflation, or whether to try to divide households into (unequivalised) income quintiles for comparison between 1996 and 2006. This had not been an issue between 1986 and 1996, because incomes did not rise. The data were provided in such a way that only the former method could be used—which meant that because much of the income increase was due to improved employment, the top two income groups in 2006 contained over half of all households instead of only 40 per cent. Table A2 shows the proportions of households and the mean incomes in 2006 dollars in each of the five categories.

**Table A2: Income categories, $2006, 1996 and 2006, with mean income**

| | 2006 $ | | Incidence | |
|---|---|---|---|---|
| | 1996 | 2006 | 1996 | 2006 |
| Low | 285 | 276 | 21% | 17% |
| Low-middle | 515 | 538 | 18% | 16% |
| Middle | 837 | 825 | 21% | 15% |
| Mid-high | 1288 | 1350 | 20% | 27% |
| High | 2071 | 2445 | 19% | 25% |

Note:
1. Interval limits have been lifted according to inflation. Because the gross household income rise is double the inflation over the period, this has resulted in a thinning of the bottom three groups.
2. Average income of the bottom group is taken at 3/4 of the interval upper limit, in line with ABS 65230DO001 *Household Income and Income Distribution*, Australia, 2005–06.
3. Average income of the top group is taken as 1.33× the lower limit in 1996 and 1.44 in 2006 – in line with ratios for the 80th and 75th per centile in those years.
4. CPI inflation factor applied to 1996 data is 154.3/119.8. or 1.288.

## A3 Missing data

The Census data included a missing category for both tenure and income, for incomplete census forms. Older people, young people and people in remote locations are known to have a higher incidence of incomplete data, and these have tenure and income characteristics different from the norm. So these missing cells needed to be estimated – because bias within them could affect the results.

Statistical Package for the Social Sciences (SPSS) provides a method for estimating missing cells as a linear function of the predictor variables, and Yates (2002) put some effort into using a similar method for her 1986 and 1996 data. In the present case it was considered sufficient to simply pro-rata the missing income and tenure

data into the other levels of income and tenure, for each level of the other classifying factors, since this gives the maximum likelihood estimate of the missing values.

As a guide, tenure was not stated in an average 2 per cent of households. This was larger at 5 per cent for single persons or widows, 4 per cent for people over 65, 8 per cent in non-metro Northern Territory, and 8 per cent for people who did not state their incomes.

Income was not stated in a larger 11 per cent of households, and for a very high 37 per cent of households who did not state their tenure. Missing income was a higher 16 per cent of families with children and only 5 per cent for sole persons. Income was missing for a higher proportion of older unretired people, but a lower 9 per cent for the not employed. More married people did not state their income—13 per cent as opposed to 9 per cent of the never-married.

Incorporating the missing data made very little difference to household type or relationship aggregates. It caused the incidence of outright ownership to lift by about 1 percentage point and purchasing and rental to lift by about half a percentage point.

Most of the analysis in the report has been done with the missing income and tenure data estimated by pro-rata – which gives slightly different results in 1996 to the same tables produced by Yates (2002). However, a few of the early tables and figures in the report have been calculated with missing data excluded. Where we have calculated results for 1986, 1996 and 2006, we have used Yates' 1986–1996 differences rather than the actual levels. That is, we have subtracted this difference from our 1996 levels, which are slightly different from Yates', to obtain comparable 1986 figures.

## A4 Household type – definitional issue

Yates (2002, section 2.1.2) pays considerable attention to a proposed anomalous, very substantial growth in the numbers and proportions of nuclear families (couples with children) between 1986 and 1996, and a corresponding fall in couples without children. However, it is very hard to reconcile this with other data sources which show a long trend of decline in nuclear families. For example AIFS (2001, p.6) and ABS (2008) show the opposite: that nuclear families were about double the numbers of households without children in 1986.

It seems likely that some definitional error by ABS in the 1986 cross-tabulation was the cause of this anomaly.

## A5 Shift-share partitioning

In several places, we have broken down changes in incidence of home ownership, in part due to the change in some demographic variable, and a residual or "real" change. To do this we use a partial version of the standard shift-share formula used in geography – which is calculated as follows.

Suppose we have some incidence variable (such as the home ownership level) which takes the value $p_0$ at time $t_0$ and $p_1$ at time $t_1$. If $w_{i0}$, $w_{i1}$ are the distribution weights or percentages at $t_0$ and $t_1$ for some changing underlying variable $i$ (such as age or marital status), then we must have

$$p_0 = \sum_i w_{i0} p_{i0} \quad \text{and} \quad p_1 = \sum_i w_{i1} p_{i1}$$

where $p_{i0}$ and $p_{i1}$ are the incidence values for each level of $i$ at $t_0$ and $t_1$. Then we have the identity.

$$p_1 - p_0 = \sum_i (w_{i1} - w_{i0})\, p_{i1} + \sum_i (p_{i1} - p_{i0})\, w_{i0}$$

The first term is the shift in *p* due to the change in distribution of *i*, and the second term is the residual or “true change” independent of *i.*

# APPENDIX B. DETAILED TABLES

**Table B1: Percentage growth in households by age, 1996–2006**

| | 0–24 | 25–29 | 30–34 | 35–39 | 40–44 | 45–64 | Over 65 | Total |
|---|---|---|---|---|---|---|---|---|
| Sydney | -11.9 | -6.5 | 1.4 | 2.3 | 11.6 | 23.1 | 11.5 | 10.4 |
| Rest NSW | -13.7 | -15.8 | -12.4 | -12.2 | 2.3 | 29.5 | 22.3 | 10.5 |
| Melbourne | -3.0 | -6.5 | 3.7 | 10.4 | 14.4 | 28.1 | 20.4 | 15.6 |
| Rest Victoria | -9.3 | -13.6 | -10.6 | -7.4 | 3.1 | 33.6 | 19.5 | 12.2 |
| Brisbane | -5.6 | -0.1 | 12.6 | 16.0 | 17.2 | 36.0 | 21.0 | 19.9 |
| Rest QLD | -5.6 | -6.8 | 2.6 | 5.5 | 18.4 | 43.1 | 35.5 | 22.5 |
| Perth | -6.8 | -5.4 | 0.8 | 6.6 | 9.4 | 35.0 | 24.9 | 16.7 |
| Rest WA | -10.8 | -17.4 | -14.1 | -6.4 | 9.2 | 42.8 | 40.1 | 15.5 |
| Adelaide | -16.3 | -15.7 | -10.6 | -4.7 | 4.7 | 26.1 | 10.6 | 7.0 |
| Rest SA | -8.8 | -21.5 | -17.9 | -9.4 | 5.5 | 30.3 | 19.2 | 9.4 |
| Tasmania | -17.0 | -21.9 | -17.2 | -12.2 | -0.7 | 28.2 | 17.7 | 6.4 |
| NT | -11.6 | -15.8 | -4.6 | -0.2 | 6.9 | 39.6 | 65.8 | 12.9 |
| ACT | -18.3 | -8.7 | -3.0 | -2.1 | -0.1 | 30.0 | 44.9 | 12.3 |
| Metropolitan areas | -8.6 | -6.6 | 2.1 | 6.0 | 11.8 | 28.4 | 17.3 | 13.6 |
| Non-metropolitan | -10.4 | -13.8 | -9.0 | -6.2 | 7.1 | 34.5 | 25.5 | 13.9 |
| Australia | -9.3 | -9.1 | -1.7 | 1.6 | 10.1 | 30.6 | 20.5 | 13.7 |

**Table B2: Age-specific headship rates by state, 1996 and 2006, per cent**

| | | 15–24 | 25–29 | 30–34 | 35–39 | 40–44 | 45–64 | Over 65 | Total |
|---|---|---|---|---|---|---|---|---|---|
| NSW | **1996** | 13.6 | 39.0 | 47.8 | 51.7 | 53.7 | 55.6 | 60.1 | 45.8 |
| | **2006** | 11.9 | 38.3 | 47.9 | 51.7 | 54.4 | 56.1 | 60.7 | 46.8 |
| VIC | **1996** | 13.2 | 39.7 | 48.8 | 52.3 | 54.3 | 56.4 | 62.1 | 46.2 |
| | **2006** | 12.1 | 39.4 | 48.9 | 52.5 | 54.8 | 56.7 | 61.7 | 47.2 |
| QLD | **1996** | 17.9 | 42.9 | 49.2 | 52.2 | 54.3 | 54.1 | 55.7 | 45.8 |
| | **2006** | 15.7 | 42.6 | 49.6 | 52.7 | 54.6 | 54.6 | 57.3 | 46.8 |
| WA | **1996** | 17.2 | 43.3 | 50.5 | 53.2 | 55.1 | 56.2 | 60.8 | 47.0 |
| | **2006** | 15.2 | 43.4 | 50.1 | 53.2 | 55.3 | 56.3 | 60.9 | 47.8 |
| SA | **1996** | 17.6 | 44.8 | 51.3 | 54.2 | 55.5 | 56.7 | 63.1 | 49.1 |
| | **2006** | 14.9 | 44.3 | 51.5 | 54.6 | 56.5 | 57.4 | 62.6 | 49.7 |
| TAS | **1996** | 18.8 | 46.3 | 51.6 | 53.8 | 55.3 | 57.1 | 64.7 | 49.3 |
| | **2006** | 16.5 | 46.0 | 51.1 | 54.2 | 56.1 | 57.1 | 64.3 | 50.2 |

| | | 15–24 | 25–29 | 30–34 | 35–39 | 40–44 | 45–64 | Over 65 | Total |
|---|---|---|---|---|---|---|---|---|---|
| NT | **1996** | 17.2 | 39.1 | 45.2 | 49.3 | 51.5 | 48.0 | 34.5 | 39.5 |
| | **2006** | 15.8 | 38.6 | 45.3 | 48.6 | 50.8 | 47.0 | 39.8 | 40.1 |
| ACT | **1996** | 17.3 | 48.1 | 55.3 | 58.3 | 59.9 | 63.0 | 65.1 | 49.6 |
| | **2006** | 13.5 | 41.1 | 49.8 | 53.6 | 55.2 | 57.8 | 61.5 | 46.5 |
| AUSTRALIA | **1996** | 15.2 | 41.0 | 48.9 | 52.3 | 54.3 | 55.7 | 60.2 | 46.3 |
| | **2006** | 13.4 | 40.5 | 49.0 | 52.5 | 54.8 | 56.0 | 60.5 | 47.2 |

Source: Derived from Census Cat. No. 2068.0 for population, adjusted to include overseas visitors, and from Census special tabulations for households, adjusted to include non-classified households.

**Table B3: Incidence of household types by region, 1996 and 2006**

| | *Single* | | *Couple* | | *Couple with children* | | *Single parent* | |
|---|---|---|---|---|---|---|---|---|
| | *2006* | *1996* | *2006* | *1996* | *2006* | *1996* | *2006* | *1996* |
| Sydney | 23.1 | 22.1 | 23.3 | 22.3 | 35.5 | 37.4 | 10.7 | 10.2 |
| NSW non-metro | 25.9 | 23.3 | 28.6 | 26.7 | 29.2 | 34.4 | 11.3 | 10.3 |
| Melbourne | 23.8 | 22.6 | 23.9 | 22.2 | 34.5 | 38.1 | 10.5 | 9.8 |
| Vic non-metro | 26.3 | 23.8 | 28.6 | 26.0 | 30.2 | 35.9 | 10.5 | 9.6 |
| Brisbane | 22.3 | 21.7 | 25.9 | 24.1 | 32.8 | 35.7 | 11.0 | 10.5 |
| Qld non-metro | 23.1 | 21.6 | 29.7 | 27.6 | 30.1 | 34.3 | 10.7 | 9.7 |
| Adelaide | 25.0 | 23.5 | 25.9 | 24.1 | 32.5 | 35.6 | 10.3 | 10.1 |
| SA non-metro | 23.8 | 21.1 | 30.7 | 27.1 | 31.3 | 37.9 | 9.4 | 8.7 |
| Perth | 28.2 | 26.2 | 26.0 | 25.3 | 29.1 | 32.4 | 11.2 | 10.3 |
| WA non-metro | 26.5 | 23.9 | 31.2 | 29.4 | 29.4 | 35.0 | 9.3 | 8.2 |
| Tas | 26.9 | 24.9 | 28.1 | 25.6 | 28.9 | 34.4 | 11.2 | 10.3 |
| NT | 22.9 | 19.4 | 23.2 | 21.0 | 31.7 | 37.4 | 11.2 | 10.6 |
| ACT | 23.2 | 21.5 | 25.5 | 22.1 | 33.5 | 38.2 | 10.4 | 10.8 |
| Metro | 24.0 | 22.8 | 24.5 | 27.0 | 33.7 | 35.0 | 10.7 | 10.2 |
| Non-metro | 25.1 | 22.8 | 29.2 | 23.0 | 29.8 | 36.6 | 10.7 | 9.5 |
| Australia | 24.4 | 22.8 | 26.2 | 24.5 | 32.3 | 36.0 | 10.7 | 10.0 |

**Table B4: Growth of households by household type, 1986–2006**

| | *Single* | | *Couple*[a] | *Nuclear*[a] | *Single parent* | | *All* | |
|---|---|---|---|---|---|---|---|---|
| | *86–96* | *96–06* | *96–06* | *96–06* | *86–96* | *96–06* | *86–96* | *96–06* |
| Sydney | 31 | 15 | 15 | 5 | 126 | 16 | 16 | 10 |
| NSW non-metro | 59 | 23 | 18 | -6 | 129 | 21 | 23 | 10 |
| Melbourne | 41 | 22 | 24 | 5 | 143 | 23 | 18 | 16 |
| Vic non-metro | 53 | 24 | 23 | -6 | 135 | 23 | 19 | 12 |
| Brisbane | 61 | 23 | 29 | 10 | 157 | 25 | 36 | 20 |
| Qld non-metro | 79 | 31 | 32 | 7 | 154 | 35 | 40 | 23 |
| Adelaide | 55 | 24 | 26 | 6 | 114 | 20 | 18 | 17 |
| SA non-metro | 54 | 31 | 31 | -4 | 104 | 25 | 16 | 16 |
| Perth | 74 | 15 | 10 | -4 | 120 | 16 | 36 | 7 |
| WA non-metro | 79 | 21 | 16 | -8 | 113 | 23 | 28 | 9 |
| Tas | 58 | 15 | 17 | -11 | 108 | 16 | 18 | 6 |
| NT | 44 | 33 | 25 | -4 | 87 | 20 | 23 | 13 |
| ACT | 95 | 21 | 30 | -2 | 108 | 9 | 34 | 12 |
| Metro | 46 | 19 | 21 | 4 | 131 | 19 | 22 | 13 |
| Non-metro | 63 | 26 | 24 | -2 | 132 | 26 | 26 | 15 |
| All | 52 | 21 | 22 | 2 | 131 | 22 | 23 | 14 |

Note: [a] Problems have been discovered in the 1986 special tabulation which prevent calculation in growth of these household types 1986–96.

**Table B5: Incidence and rate of growth of households by age, Sydney and Melbourne 1996–2006**

| | Sydney | | | | Melbourne | | | |
|---|---|---|---|---|---|---|---|---|
| | Inner | Middle | Outer | *All* | Inner | Middle | Outer | *All* |
| **Incidence 2006** | | | | | | | | |
| 0–24 | 5.7 | 3.2 | 3.7 | *4.0* | 6.8 | 3.7 | 3.2 | *4.3* |
| 25–29 | 9.8 | 6.3 | 6.4 | *7.3* | 9.3 | 6.5 | 6.8 | *7.3* |
| 30–34 | 12.3 | 9.3 | 9.3 | *10.1* | 10.7 | 9.3 | 10.2 | *9.9* |
| 35–39 | 11.3 | 10.6 | 10.6 | *10.8* | 10.5 | 10.7 | 12.1 | *11.1* |
| 40–44 | 10.3 | 11.5 | 11.6 | *11.2* | 9.8 | 10.7 | 12.5 | *11.0* |
| 45–64 | 31.9 | 38.0 | 38.7 | *36.5* | 32.6 | 36.1 | 38.5 | *36.0* |
| Over 65 | 18.8 | 21.2 | 19.6 | *20.1* | 20.2 | 23.1 | 16.6 | *20.4* |
| **Incidence 1996** | | | | | | | | |
| 0–24 | 6.7 | 4.0 | 5.1 | *5.0* | 7.0 | 4.5 | 4.4 | *5.2* |
| 25–29 | 10.4 | 7.4 | 8.7 | *8.6* | 10.1 | 8.2 | 9.6 | *9.0* |
| 30–34 | 11.9 | 10.2 | 11.5 | *11.0* | 10.7 | 10.4 | 12.6 | *11.1* |
| 35–39 | 11.1 | 11.2 | 12.9 | *11.6* | 10.5 | 11.1 | 13.6 | *11.6* |
| 40–44 | 10.0 | 11.0 | 12.3 | *11.1* | 9.9 | 10.7 | 12.9 | *11.1* |
| 45–64 | 29.5 | 35.1 | 32.2 | *32.8* | 29.3 | 34.2 | 32.4 | *32.4* |
| Over 65 | 20.3 | 21.1 | 17.4 | *19.9* | 22.6 | 20.8 | 14.5 | *19.6* |
| **Growth rates 1996 to 2008, per cent** | | | | | | | | |
| 0–24 | -7.4 | -11.8 | -18.2 | *-11.9* | 7.6 | -11.7 | -3.3 | -3.0 |
| 25–29 | 2.1 | -6.6 | -16.7 | *-6.5* | 2.2 | -13.2 | -5.5 | -6.5 |
| 30–34 | 11.1 | 0.9 | -8.1 | *1.4* | 11.2 | -3.0 | 7.4 | 3.7 |
| 35–39 | 9.4 | 4.3 | -7.0 | *2.3* | 11.5 | 4.7 | 17.7 | 10.4 |
| 40–44 | 11.2 | 14.8 | 6.9 | *11.6* | 9.2 | 8.1 | 27.6 | 14.4 |
| 45–64 | 16.6 | 19.4 | 35.9 | *23.1* | 23.3 | 14.6 | 57.3 | 28.1 |
| Over 65 | -0.4 | 10.9 | 26.9 | *11.5* | -1.0 | 20.7 | 51.7 | 20.4 |
| All | 8.0 | 10.4 | 12.9 | *10.4* | 10.7 | 8.8 | 32.3 | 15.6 |

Source: Census special cross-tabulations.

**Table B6: Incidence and rate of growth, household type, Sydney and Melbourne 1996–2006**

| | Sydney | | | | Melbourne | | | |
|---|---|---|---|---|---|---|---|---|
| | Inner | Middle | Outer | *All* | Inner | Middle | Outer | *All* |
| **Incidence 2006** | | | | | | | | |
| Sole person | 30.9 | 20.3 | 20.1 | *23.1* | 30.9 | 23.5 | 18.4 | *23.8* |
| Couple no children | 25.1 | 22.8 | 22.3 | *23.3* | 24.4 | 23.6 | 23.8 | *23.9* |
| Couple and children | 24.8 | 39.8 | 38.5 | *35.5* | 26.5 | 34.6 | 41.1 | *34.5* |
| One parent | 7.9 | 10.7 | 13.4 | *10.7* | 7.6 | 11.1 | 12.0 | *10.5* |
| Other | 11.3 | 6.4 | 5.7 | *7.5* | 10.5 | 7.3 | 4.7 | *7.3* |
| **Incidence 1996** | | | | | | | | |
| Sole person | 31.4 | 19.3 | 17.6 | *22.1* | 32.1 | 21.1 | 15.9 | *22.6* |
| Couple no children | 22.4 | 22.5 | 21.7 | *22.3* | 22.1 | 22.3 | 22.2 | *22.2* |
| Couple and children | 25.2 | 41.5 | 42.8 | *37.4* | 26.8 | 39.4 | 46.7 | *38.1* |
| One parent | 8.6 | 10.1 | 12.0 | *10.2* | 8.3 | 10.3 | 10.5 | *9.8* |
| Other | 12.4 | 6.6 | 5.8 | *8.0* | 10.7 | 6.9 | 4.6 | *7.3* |
| **Growth rates** | | | | | | | | |
| Sole person | 6.4 | 16.2 | 28.8 | *15.1* | 6.7 | 20.7 | 53.0 | *21.7* |
| Couple no children | 20.8 | 11.6 | 15.8 | *15.3* | 22.3 | 15.6 | 41.5 | *24.3* |
| Couple and children | 6.4 | 5.8 | 1.6 | *4.6* | 9.5 | -4.5 | 16.3 | *4.9* |
| One parent | -0.4 | 17.4 | 25.7 | *16.0* | 1.6 | 16.8 | 51.7 | *23.5* |
| Other | -1.9 | 6.5 | 10.7 | *3.8* | 8.5 | 14.6 | 34.3 | *15.6* |
| **All households** | **8.0** | **10.4** | **12.9** | ***10.4*** | **10.7** | **8.8** | **32.3** | ***15.6*** |

Source: Census special cross-tabulations.

**Table B7: Incidence and rate of growth, marital status, Sydney and Melbourne 1996–2006**

| | Sydney | | | | Melbourne | | | |
|---|---|---|---|---|---|---|---|---|
| | Inner | Middle | Outer | *All* | Inner | Middle | Outer | *All* |
| **Incidence 2006** | | | | | | | | |
| Never married | 27.3 | 12.3 | 12.1 | *16.3* | 26.3 | 15.8 | 11.4 | *17.1* |
| Married | 41.3 | 59.1 | 55.1 | *53.3* | 43.0 | 53.3 | 57.7 | *52.1* |
| Defacto | 10.5 | 5.9 | 7.5 | *7.6* | 9.3 | 6.7 | 8.5 | *7.9* |
| Separated | 3.3 | 4.2 | 5.4 | *4.3* | 3.4 | 4.3 | 5.1 | *4.3* |
| Divorced | 9.8 | 9.4 | 11.0 | *9.9* | 9.5 | 9.8 | 10.2 | *9.9* |
| Widowed | 7.7 | 9.1 | 8.8 | *8.6* | 8.5 | 10.0 | 7.1 | *8.8* |
| **Incidence 1996** | | | | | | | | |
| Never married | 26.6 | 11.2 | 10.4 | *15.2* | 25.3 | 13.5 | 9.5 | *15.5* |
| Married | 42.4 | 61.9 | 60.4 | *56.2* | 44.4 | 59.0 | 64.3 | *56.6* |
| Defacto | 7.3 | 4.4 | 5.8 | *5.6* | 5.9 | 4.4 | 5.8 | *5.2* |
| Separated | 4.0 | 4.1 | 5.6 | *4.5* | 4.2 | 4.5 | 5.3 | *4.6* |
| Divorced | 9.7 | 7.9 | 8.7 | *8.6* | 9.1 | 7.8 | 7.7 | *8.1* |
| Widowed | 9.9 | 10.5 | 9.0 | *9.9* | 11.2 | 10.8 | 7.3 | *10.0* |
| **Growth rates** | | | | | | | | |
| Never married | 11.1 | 21.3 | 31.8 | *18.4* | 15.2 | 27.8 | 58.8 | *27.6* |
| Married | 5.3 | 5.4 | 2.9 | *4.7* | 7.2 | -1.7 | 18.6 | *6.3* |
| Defacto | 55.4 | 48.6 | 46.2 | *50.4* | 75.1 | 65.7 | 94.1 | *77.1* |
| Separated | -10.3 | 10.8 | 9.2 | *5.1* | -9.6 | 3.4 | 27.1 | *7.6* |
| Divorced | 8.6 | 30.6 | 42.3 | *27.0* | 14.8 | 36.6 | 75.0 | *40.1* |
| Widowed | -16.7 | -3.7 | 10.3 | *-3.8* | -15.4 | 1.5 | 27.7 | *1.8* |
| **All households** | **8.0** | **10.4** | **12.9** | ***10.4*** | **10.7** | **8.8** | **32.3** | ***15.6*** |

Source: Census special cross-tabulations.

**Table B8: Incidence and rate of growth, persons employed 1996 and 2006 by household type, metro and non-metro**

| **Incidence 1996** | | 0 | 1 | 2 | 3+ | All |
|---|---|---|---|---|---|---|
| Non-metro | Sole person | 62.7% | 37.3% | - | - | |
| | Couple no children | 44.6% | 18.3% | 36.3% | 0.8% | |
| | Couple and children | 11.7% | 31.1% | 42.5% | 14.7% | |
| | One parent | 46.2% | 39.5% | 11.8% | 2.5% | |
| | Other | 26.3% | 25.0% | 37.6% | 11.1% | |
| | All | 36.4% | 29.6% | 27.9% | 6.2% | |
| Metro | Sole person | 56.0% | 44.0% | 0.0% | 0.0% | |
| | Couple no children | 38.6% | 18.0% | 42.0% | 1.5% | |
| | Couple and children | 9.4% | 29.4% | 41.6% | 19.6% | |
| | One parent | 36.4% | 42.2% | 16.6% | 4.8% | |
| | Other | 18.9% | 23.3% | 43.3% | 14.5% | |
| | | 30.2% | 31.0% | 29.8% | 9.1% | |
| **Incidence 2006** | | | | | | |
| Non-metro | Sole person | 59.1% | 40.9% | - | - | |
| | Couple no children | 40.4% | 19.1% | 39.6% | 0.9% | |
| | Couple and children | 7.7% | 27.3% | 45.8% | 19.2% | |
| | One parent | 37.2% | 43.5% | 15.4% | 3.9% | |
| | Other | 23.7% | 26.3% | 36.2% | 13.8% | |
| | All | 34.1% | 30.0% | 28.8% | 7.1% | |
| Metro | Sole person | 51.0% | 49.0% | 0.0% | 0.0% | |
| | Couple no children | 33.6% | 19.3% | 45.4% | 1.7% | |
| | Couple and children | 6.5% | 27.5% | 43.9% | 22.1% | |
| | One parent | 30.0% | 44.0% | 19.8% | 6.2% | |
| | Other | 16.4% | 25.3% | 41.3% | 17.0% | |
| | All | 27.0% | 32.3% | 31.0% | 9.7% | |
| **Growth rates 1996–2006** | | | | | | |
| Non-metro | Sole person | 17.9% | 37.2% | | | 25.1% |
| | Couple no children | 11.6% | 28.1% | 34.6% | 50.3% | 23.3% |
| | Couple and children | -36.2% | -15.0% | 4.4% | 26.9% | -3.1% |
| | One parent | 0.7% | 37.5% | 63.9% | 92.9% | 25.0% |
| | Other | -1.2% | 15.4% | 5.8% | 36.7% | 9.8% |
| | All | 6.8% | 15.5% | 17.5% | 31.3% | 13.9% |
| Metro | Sole person | 8.8% | 32.9% | | | 19.4% |
| | Couple no children | 5.4% | 29.8% | 30.5% | 39.9% | 20.8% |
| | Couple and children | -27.2% | -2.2% | 10.2% | 18.0% | 4.6% |
| | One parent | -1.5% | 24.6% | 43.0% | 56.0% | 19.6% |
| | Other | -4.5% | 20.0% | 5.3% | 29.4% | 10.4% |
| | All | 1.8% | 18.4% | 18.1% | 22.2% | 13.6% |

Source: Census special cross-tabulations.

**Table B9: Incidence of persons employed per household by region, 1996 and 2006**

| | *1996* | | | | *2006* | | | |
|---|---|---|---|---|---|---|---|---|
| *Persons employed* | *No-one* | *1 person* | *2 people* | *3 or more* | *No-one* | *1 person* | *2 people* | *3 or more* |
| Sydney | 29.3 | 30.1 | 30.4 | 10.2 | 26.6 | 32.1 | 31.2 | 10.1 |
| Rest NSW | 39.2 | 28.4 | 26.5 | 5.9 | 37.7 | 28.7 | 26.9 | 6.7 |
| Melbourne | 29.6 | 31.6 | 29.8 | 9.0 | 27.0 | 32.6 | 30.7 | 9.7 |
| Rest Victoria | 37.0 | 29.1 | 27.7 | 6.1 | 34.2 | 29.7 | 29.0 | 7.1 |
| Brisbane | 29.7 | 30.8 | 30.5 | 9.0 | 25.4 | 31.5 | 32.8 | 10.3 |
| Rest QLD | 34.1 | 30.3 | 28.9 | 6.7 | 31.0 | 30.9 | 30.1 | 8.0 |
| Perth | 30.5 | 32.3 | 28.9 | 8.3 | 26.3 | 33.8 | 30.3 | 9.6 |
| Rest WA | 29.0 | 33.0 | 31.3 | 6.7 | 28.4 | 33.3 | 31.2 | 7.1 |
| Adelaide | 36.9 | 29.9 | 26.5 | 6.7 | 33.2 | 31.1 | 27.8 | 8.0 |
| Rest SA | 36.7 | 29.2 | 28.6 | 5.4 | 34.3 | 29.5 | 29.8 | 6.4 |
| Tasmania | 37.9 | 30.4 | 26.0 | 5.7 | 35.8 | 30.4 | 27.4 | 6.4 |
| NT | 19.3 | 34.6 | 36.7 | 9.4 | 19.1 | 35.3 | 35.9 | 9.7 |
| ACT | 21.5 | 33.8 | 35.5 | 9.2 | 20.3 | 32.4 | 36.2 | 11.1 |
| All | 32.5 | 30.5 | 29.1 | 8.0 | 29.6 | 31.4 | 30.2 | 8.8 |

Source: Census special cross-tabulations.

**Table B10: Household income in 2006 and growth from 1996 by age and household type, Sydney metropolitan region**

| | Couple no children | | Couple and children | | Sole person | | One parent | |
|---|---|---|---|---|---|---|---|---|
| | 2006 | Growth | 2006 | Growth | 2006 | Growth | 2006 | Growth |
| | $pw | % | $pw | % | $pw | % | $pw | % |
| **15–24-year-old households** | | | | | | | | |
| Inner Sydney | 1472 | 7.9 | 1230 | 20.9 | 683 | 7.2 | 688 | 5.1 |
| Middle Sydney | 1513 | 15.5 | 1057 | 15.0 | 647 | -0.4 | 627 | 0.5 |
| Outer Sydney | 1460 | 20.6 | 1086 | 19.3 | 627 | 8.4 | 588 | 0.8 |
| Sydney | 1484 | 14.6 | 1082 | 17.2 | 657 | 4.5 | 612 | 0.7 |
| **25–44-year-old households** | | | | | | | | |
| Inner Sydney | 2073 | 24.4 | 1950 | 33.5 | 1347 | 39.9 | 959 | 20.2 |
| Middle Sydney | 1904 | 21.7 | 1705 | 24.6 | 1057 | 24.6 | 821 | 10.6 |
| Outer Sydney | 1771 | 24.7 | 1550 | 25.1 | 869 | 16.8 | 734 | 10.5 |
| Sydney | 1953 | 24.2 | 1700 | 27.0 | 1156 | 30.9 | 807 | 11.5 |
| **45–64-year-old households** | | | | | | | | |
| Inner Sydney | 1825 | 36.9 | 2004 | 25.0 | 1053 | 37.9 | 1340 | 20.2 |
| Middle Sydney | 1566 | 32.6 | 1909 | 18.4 | 845 | 28.2 | 1271 | 11.7 |
| Outer Sydney | 1352 | 38.1 | 1779 | 21.5 | 690 | 25.6 | 1122 | 15.9 |
| Sydney | 1553 | 35.0 | 1890 | 20.2 | 875 | 29.9 | 1240 | 14.1 |
| **65 & +-year-old households** | | | | | | | | |
| Inner Sydney | 1091 | 42.0 | 1621 | 20.3 | 568 | 26.6 | 1209 | 18.9 |
| Middle Sydney | 919 | 37.2 | 1529 | 15.9 | 474 | 18.1 | 1133 | 15.2 |
| Outer Sydney | 736 | 35.5 | 1321 | 17.7 | 395 | 12.9 | 975 | 13.9 |
| Sydney | 904 | 37.1 | 1501 | 16.6 | 479 | 18.5 | 1109 | 15.1 |
| **All households** | | | | | | | | |
| Inner Sydney | 1754 | 31.7 | 1951 | 29.0 | 1004 | 38.2 | 1188 | 23.4 |
| Middle Sydney | 1428 | 27.8 | 1784 | 21.6 | 736 | 24.6 | 1065 | 14.9 |
| Outer Sydney | 1235 | 27.5 | 1631 | 25.0 | 609 | 17.4 | 903 | 17.7 |
| Sydney | 1471 | 29.3 | 1769 | 24.1 | 801 | 27.6 | 1033 | 16.8 |

Source: Census special tabulations 1996 and 2006.

**Table B11: Household income in 2006 and growth from 1996 by age and household type, Melbourne metropolitan region**

| | Couple no children | | Couple and children | | Sole person | | One parent | |
|---|---|---|---|---|---|---|---|---|
| | 2006 | Growth | 2006 | Growth | 2006 | Growth | 2006 | Growth |
| | $pw | % | $pw | % | $pw | % | $pw | % |
| **15–24-year-old households** | | | | | | | | |
| Inner Melbourne | 1421 | 13.6 | 1206 | 44.9 | 597 | 0.7 | 550 | -5.5 |
| Middle Melbourne | 1367 | 15.1 | 1019 | 22.1 | 578 | 1.2 | 582 | -1.6 |
| Outer Melbourne | 1462 | 21.7 | 1091 | 23.7 | 610 | 4.7 | 607 | 4.2 |
| Melbourne | 1414 | 17.2 | 1074 | 25.4 | 593 | 1.9 | 592 | 0.8 |
| **25–44-year-old households** | | | | | | | | |
| Inner Melbourne | 2010 | 24.2 | 1933 | 32.9 | 1196 | 34.1 | 878 | 19.4 |
| Middle Melbourne | 1839 | 25.5 | 1597 | 28.3 | 962 | 21.6 | 749 | 7.3 |
| Outer Melbourne | 1750 | 24.8 | 1496 | 23.2 | 881 | 15.8 | 741 | 10.6 |
| Melbourne | 1873 | 25.2 | 1617 | 27.5 | 1030 | 24.7 | 763 | 9.9 |
| **45–64-year-old households** | | | | | | | | |
| Inner Melbourne | 1774 | 37.4 | 2026 | 26.6 | 971 | 36.2 | 1262 | 19.6 |
| Middle Melbourne | 1378 | 38.7 | 1797 | 21.8 | 759 | 30.0 | 1160 | 13.4 |
| Outer Melbourne | 1333 | 36.5 | 1772 | 20.9 | 709 | 25.1 | 1124 | 15.1 |
| Melbourne | 1446 | 37.5 | 1835 | 22.6 | 808 | 29.2 | 1170 | 14.7 |
| **65+-year-old households** | | | | | | | | |
| Inner Melbourne | 1088 | 42.6 | 1517 | 19.0 | 562 | 27.6 | 1097 | 16.1 |
| Middle Melbourne | 762 | 36.8 | 1365 | 15.8 | 410 | 13.7 | 1035 | 15.1 |
| Outer Melbourne | 756 | 34.6 | 1284 | 16.2 | 405 | 10.7 | 969 | 15.5 |
| Melbourne | 832 | 35.9 | 1375 | 15.8 | 453 | 16.3 | 1033 | 14.6 |
| **All households** | | | | | | | | |
| Inner Melbourne | 1657 | 33.9 | 1953 | 29.8 | 897 | 33.8 | 1107 | 22.8 |
| Middle Melbourne | 1280 | 29.3 | 1670 | 24.9 | 673 | 20.9 | 975 | 14.9 |
| Outer Melbourne | 1269 | 26.8 | 1599 | 23.8 | 650 | 17.2 | 910 | 17.6 |
| Melbourne | 1372 | 29.9 | 1698 | 25.5 | 739 | 23.6 | 976 | 16.3 |

Source: Census special tabulations 1996 and 2006.

Note: that all home ownership figures in Tables B12 to B16 contain estimates of missing values, including non-classifiable households and those who did not state income or tenure, and are therefore somewhat higher than published ABS figures or those of Yates (2002).

**Table B12: Incidence of home ownership by income, marital type and metro-non-metro, age 25–44, 1996 and 2006**

| | 2006 | | | | | | 1996 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Low* | *Low-middle* | *Middle* | *Middle-high* | *High* | *All* | *Low* | *Low-middle* | *Middle* | *Middle-high* | *High* | *All* |
| AUSTRALIA | | | | | | | | | | | | |
| Never married | 22.39 | 29.41 | 42.74 | 48.30 | 46.75 | 38.58 | 22.81 | 29.71 | 43.01 | 48.62 | 41.20 | 37.06 |
| Married | 54.02 | 59.44 | 67.47 | 76.87 | 82.97 | 76.55 | 54.03 | 59.96 | 71.61 | 80.31 | 84.31 | 75.95 |
| Defacto | 35.47 | 36.34 | 45.13 | 53.95 | 62.50 | 54.52 | 34.90 | 32.97 | 45.15 | 55.60 | 61.75 | 50.58 |
| Separated | 33.03 | 35.84 | 46.52 | 53.36 | 56.55 | 43.39 | 30.34 | 35.13 | 48.05 | 53.40 | 53.37 | 41.15 |
| Divorced | 31.22 | 37.41 | 48.94 | 56.34 | 60.64 | 45.62 | 29.99 | 37.88 | 51.16 | 59.08 | 58.73 | 44.34 |
| Widowed | 49.58 | 56.42 | 65.54 | 70.99 | 75.00 | 60.63 | 56.41 | 59.75 | 70.25 | 76.42 | 78.53 | 64.02 |
| **All** | **30.99** | **40.51** | **53.52** | **66.17** | **74.33** | **60.80** | **33.45** | **44.58** | **60.44** | **71.61** | **76.22** | **61.75** |
| Metro | | | | | | | | | | | | |
| Never married | 21.01 | 29.06 | 42.43 | 47.77 | 45.62 | 39.12 | 20.91 | 28.95 | 44.03 | 49.59 | 41.13 | 38.04 |
| Married | 50.92 | 56.86 | 65.94 | 76.34 | 83.33 | 76.56 | 48.30 | 56.84 | 71.38 | 81.25 | 85.63 | 76.91 |
| Defacto | 32.71 | 34.25 | 42.86 | 51.68 | 60.98 | 53.98 | 29.59 | 30.94 | 44.06 | 55.05 | 61.49 | 51.72 |
| Separated | 32.96 | 36.07 | 46.79 | 53.13 | 55.74 | 44.02 | 28.73 | 35.92 | 48.51 | 54.12 | 53.62 | 42.09 |
| Divorced | 30.59 | 37.82 | 48.98 | 56.43 | 60.51 | 46.45 | 28.47 | 37.83 | 51.43 | 59.98 | 59.06 | 45.34 |
| Widowed | 47.74 | 54.83 | 64.81 | 71.42 | 77.90 | 60.56 | 54.45 | 58.71 | 69.93 | 77.83 | 76.54 | 63.72 |
| **All** | **30.29** | **39.95** | **52.36** | **64.79** | **73.71** | **61.00** | **30.74** | **42.66** | **59.66** | **71.71** | **76.63** | **62.41** |

| Non-Metro | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Never married | 24.20 | 29.90 | 43.41 | 49.83 | 52.24 | 37.43 | 25.53 | 30.93 | 40.54 | 45.51 | 41.52 | 34.91 |
| Married | 61.05 | 63.69 | 69.84 | 77.74 | 81.94 | 76.52 | 62.48 | 63.70 | 71.93 | 78.62 | 80.73 | 74.25 |
| Defacto | 37.98 | 37.97 | 47.48 | 57.25 | 67.21 | 55.46 | 38.65 | 34.59 | 46.39 | 56.61 | 62.57 | 48.77 |
| Separated | 33.15 | 35.54 | 46.05 | 53.84 | 59.07 | 42.31 | 32.54 | 34.06 | 47.20 | 51.74 | 52.62 | 39.59 |
| Divorced | 32.19 | 36.82 | 48.85 | 56.12 | 61.11 | 44.06 | 32.11 | 37.94 | 50.59 | 56.69 | 57.49 | 42.49 |
| Widowed | 52.21 | 58.57 | 66.70 | 70.07 | 67.96 | 60.73 | 59.19 | 61.15 | 70.82 | 73.43 | 85.06 | 64.50 |
| **All** | **32.02** | **41.28** | **55.46** | **68.67** | **76.24** | **60.39** | **37.18** | **47.07** | **61.69** | **71.43** | **75.03** | **60.54** |

**Table B13: Incidence of home ownership by income, marital type and metro-non-metro, age 45–64, 1996 and 2006**

| | 2006 | | | | | | 1996 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Low* | *Low-middle* | *Middle* | *Middle-high* | *High* | *All* | *Low* | *Low-middle* | *Middle* | *Middle-high* | *High* | *All* |
| AUSTRALIA | | | | | | | | | | | | |
| Never married | 45.60 | 55.19 | 65.47 | 72.13 | 76.78 | **60.02** | 53.52 | 61.28 | 68.98 | 77.73 | 77.93 | 63.77 |
| Married | 78.59 | 81.06 | 84.28 | 88.58 | 92.72 | **88.65** | 82.18 | 81.76 | 85.09 | 89.17 | 92.58 | 87.94 |
| Defacto | 66.35 | 66.47 | 72.13 | 77.47 | 84.37 | **77.85** | 64.84 | 60.47 | 69.09 | 76.74 | 82.62 | 73.45 |
| Separated | 45.98 | 52.37 | 59.51 | 66.07 | 69.90 | **57.77** | 47.29 | 52.09 | 60.64 | 65.24 | 70.47 | 56.58 |
| Divorced | 46.99 | 55.45 | 63.82 | 69.97 | 75.13 | **60.23** | 50.52 | 57.50 | 65.67 | 72.89 | 76.65 | 61.05 |
| Widowed | 66.52 | 72.38 | 79.17 | 82.72 | 88.26 | **75.26** | 71.72 | 76.28 | 81.05 | 85.40 | 88.61 | 77.47 |
| **All** | **55.54** | **68.69** | **74.46** | **83.12** | **90.22** | **78.72** | **65.43** | **72.78** | **78.99** | **85.61** | **90.95** | **80.36** |
| Metro | | | | | | | | | | | | |
| Never married | 42.76 | 54.54 | 64.97 | 73.00 | 77.76 | 60.84 | 49.59 | 59.49 | 68.82 | 79.14 | 79.03 | 63.57 |
| Married | 74.66 | 78.49 | 83.47 | 88.47 | 93.23 | 89.00 | 79.90 | 79.92 | 84.70 | 89.79 | 93.50 | 88.65 |
| Defacto | 60.86 | 62.67 | 70.85 | 76.79 | 84.80 | 78.63 | 60.86 | 57.75 | 68.13 | 77.16 | 83.35 | 74.89 |
| Separated | 43.05 | 51.47 | 58.84 | 66.13 | 70.24 | 58.07 | 43.74 | 50.62 | 60.40 | 66.51 | 71.06 | 56.69 |
| Divorced | 44.19 | 54.55 | 63.52 | 70.36 | 75.81 | 60.76 | 48.13 | 56.71 | 65.73 | 73.72 | 77.11 | 61.51 |
| Widowed | 64.58 | 71.05 | 78.82 | 82.97 | 88.74 | 75.54 | 69.90 | 75.67 | 80.85 | 86.20 | 89.69 | 77.65 |
| **All** | **52.24** | **66.10** | **73.18** | **82.59** | **90.61** | **79.13** | **61.77** | **70.31** | **77.99** | **85.93** | **91.75** | **80.77** |

| Non-Metro | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Never married | 49.14 | 56.13 | 66.52 | 69.84 | 72.81 | 58.54 | 59.02 | 64.44 | 69.40 | 72.90 | 73.60 | 64.16 |
| Married | 82.80 | 83.56 | 85.28 | 88.74 | 91.42 | 88.07 | 84.31 | 83.67 | 85.63 | 88.07 | 89.91 | 86.71 |
| Defacto | 69.49 | 68.80 | 73.25 | 78.29 | 83.31 | 76.80 | 67.29 | 62.55 | 70.15 | 76.03 | 80.38 | 71.35 |
| Separated | 49.16 | 53.48 | 60.55 | 65.93 | 68.76 | 57.29 | 51.44 | 54.32 | 61.14 | 61.78 | 68.22 | 56.37 |
| Divorced | 50.32 | 56.66 | 64.37 | 69.02 | 72.71 | 59.31 | 53.82 | 58.84 | 65.51 | 70.25 | 74.60 | 60.12 |
| Widowed | 68.73 | 74.06 | 79.75 | 82.17 | 86.51 | 74.83 | 73.88 | 77.11 | 81.43 | 83.22 | 84.56 | 77.17 |
| **All** | **59.32** | **71.58** | **76.34** | **83.98** | **89.21** | **78.05** | **69.59** | **75.78** | **80.59** | **84.97** | **88.56** | **79.65** |

Source: Census special tabulations 1996 and 2006.

**Table B14: Incidence of home ownership by region, household type and age 2006, with changes from 1996**

| | *Incidence of home ownership, per cent* | | | | | | *Change from 1996, percentage points* | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Single* | *Couple* | *Couple with children* | *Single parent* | *Other* | *All* | *Single* | *Couple* | *Couple with children* | *Single parent* | *Other* | *All* |
| **Age 15–24 years** | | | | | | | | | | | | |
| Sydney | 28.8 | 25.7 | 23.6 | 12.8 | 20.4 | 23.3 | 4.3 | -2.0 | -2.1 | -0.8 | 3.5 | 1.6 |
| Rest NSW | 25.2 | 33.0 | 24.4 | 10.7 | 21.6 | 24.2 | 6.6 | 4.1 | 2.8 | 2.3 | 9.6 | 6.3 |
| Melbourne | 31.1 | 30.3 | 33.3 | 18.2 | 18.1 | 24.8 | 4.6 | -6.3 | 0.9 | 2.4 | 2.0 | 0.6 |
| Rest Vic | 30.3 | 41.6 | 30.6 | 12.4 | 24.1 | 29.5 | 6.1 | 3.7 | 1.0 | 2.7 | 9.5 | 6.4 |
| Brisbane | 28.9 | 27.7 | 21.3 | 10.7 | 17.6 | 22.0 | 8.6 | -2.6 | -0.5 | 1.5 | 3.5 | 2.7 |
| Rest QLD | 27.8 | 30.3 | 25.5 | 11.4 | 21.0 | 24.7 | 8.2 | 3.3 | 3.6 | 2.4 | 9.3 | 6.6 |
| Perth | 38.5 | 41.1 | 33.4 | 15.7 | 27.2 | 33.2 | 10.3 | 3.5 | -2.2 | 2.3 | 8.5 | 6.9 |
| Rest WA | 30.0 | 34.2 | 33.5 | 14.4 | 28.8 | 30.0 | 3.7 | 2.4 | 8.8 | 6.9 | 11.6 | 6.6 |
| Adelaide | 31.0 | 39.4 | 34.3 | 12.9 | 20.4 | 28.0 | 8.8 | -0.9 | 2.2 | 3.3 | 5.5 | 4.9 |
| Rest SA | 27.2 | 43.7 | 34.4 | 19.3 | 30.2 | 32.1 | 6.0 | 3.9 | 2.9 | 8.2 | 10.8 | 6.7 |
| Tasmania | 26.6 | 41.0 | 34.0 | 13.3 | 21.3 | 28.0 | 7.2 | -1.5 | 3.7 | 5.2 | 8.0 | 5.2 |
| NT | 27.0 | 22.0 | 18.9 | 7.1 | 20.0 | 20.9 | 11.0 | 2.6 | -0.6 | -2.6 | 6.7 | 5.0 |
| ACT | 28.6 | 25.0 | 19.3 | 18.4 | 15.7 | 21.2 | 8.1 | -2.9 | -4.5 | 8.8 | 3.6 | 3.1 |
| Australia | 29.7 | 32.3 | 27.6 | 13.0 | 20.8 | 25.7 | 6.8 | 0.0 | 1.3 | 2.2 | 5.8 | 4.2 |
| **Age 25–44 years** | | | | | | | | | | | | |
| Sydney | 39.1 | 50.8 | 72.8 | 33.3 | 39.6 | 55.8 | -0.3 | -4.6 | 0.7 | -0.3 | 4.4 | -0.9 |

| | *Incidence of home ownership, per cent* | | | | | | *Change from 1996, percentage points* | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Single* | *Couple* | *Couple with children* | *Single parent* | *Other* | *All* | *Single* | *Couple* | *Couple with children* | *Single parent* | *Other* | *All* |
| Rest NSW | 42.5 | 65.2 | 75.1 | 32.8 | 47.8 | 60.3 | 1.4 | 1.9 | 2.1 | -1.0 | 8.7 | 0.2 |
| Melbourne | 48.9 | 61.1 | 81.0 | 43.6 | 40.3 | 64.0 | 0.3 | -6.1 | 0.4 | -1.0 | -0.1 | -2.1 |
| Rest Victoria | 50.2 | 72.2 | 80.6 | 40.1 | 51.6 | 67.0 | 0.4 | 0.5 | 1.1 | -0.6 | 4.8 | -1.0 |
| Brisbane | 45.6 | 62.7 | 74.2 | 32.5 | 41.0 | 59.7 | 1.0 | -4.0 | -1.2 | -3.1 | 1.3 | -2.1 |
| Rest QLD | 43.1 | 59.9 | 69.1 | 32.0 | 41.6 | 56.7 | 3.1 | 0.3 | 1.6 | 0.0 | 8.6 | 0.9 |
| Perth | 55.0 | 71.3 | 80.1 | 39.8 | 49.0 | 67.0 | 4.5 | 0.1 | -1.9 | -4.0 | 7.6 | -0.5 |
| Rest WA | 43.8 | 57.6 | 67.1 | 33.9 | 42.5 | 56.6 | 0.9 | 0.1 | 0.0 | 1.0 | 7.2 | -0.6 |
| Adelaide | 51.0 | 70.4 | 81.3 | 38.9 | 44.8 | 64.9 | 4.8 | -2.9 | -0.8 | 0.2 | 2.5 | -0.8 |
| Rest SA | 49.0 | 70.7 | 78.3 | 41.0 | 50.1 | 65.8 | 2.3 | 1.8 | 2.2 | 3.5 | 6.3 | 0.7 |
| Tasmania | 50.4 | 71.7 | 80.2 | 41.7 | 48.1 | 66.2 | 2.1 | -1.6 | 0.3 | 1.2 | 5.7 | -0.8 |
| NT | 33.9 | 47.7 | 53.3 | 31.9 | 25.4 | 43.3 | 0.8 | 3.4 | 4.4 | 4.6 | 2.5 | 2.7 |
| ACT | 49.1 | 59.2 | 75.8 | 40.2 | 37.0 | 60.6 | 2.1 | -3.9 | 1.6 | 2.3 | -0.4 | 0.0 |
| Group total | 45.9 | 61.0 | 75.8 | 36.5 | 42.1 | 60.8 | 1.4 | -2.8 | 0.5 | -0.8 | 3.9 | -0.9 |
| **Age 45 – 64 years** | | | | | | | | | | | | |
| Sydney | 56.8 | 84.0 | 86.6 | 60.9 | 64.6 | 76.2 | -2.4 | 0.1 | -0.1 | -4.1 | -2.9 | -1.8 |
| Rest NSW | 61.1 | 88.5 | 88.3 | 60.6 | 64.8 | 78.5 | -2.7 | 1.1 | 1.1 | -4.9 | -4.9 | -1.8 |
| Melbourne | 65.1 | 89.5 | 91.3 | 69.7 | 69.7 | 82.3 | -0.7 | 0.0 | 0.4 | -3.1 | -4.4 | -1.4 |

| | *Incidence of home ownership, per cent* | | | | | | *Change from 1996, percentage points* | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Single* | *Couple* | *Couple with children* | *Single parent* | *Other* | *All* | *Single* | *Couple* | *Couple with children* | *Single parent* | *Other* | *All* |
| Rest Victoria | 66.2 | 91.3 | 91.3 | 67.3 | 71.5 | 82.8 | -3.8 | 0.9 | 1.3 | -3.5 | -3.7 | -1.7 |
| Brisbane | 59.2 | 86.4 | 87.9 | 59.9 | 63.9 | 77.4 | -1.3 | -0.2 | -0.4 | -6.2 | -4.9 | -2.3 |
| Rest QLD | 59.4 | 85.2 | 83.8 | 55.0 | 58.5 | 75.1 | -2.4 | 0.8 | 1.3 | -4.6 | -3.4 | -1.5 |
| Perth | 63.0 | 89.5 | 90.8 | 67.8 | 67.3 | 81.1 | 0.1 | 0.3 | -0.3 | -2.3 | -3.9 | -1.4 |
| Rest WA | 57.8 | 83.3 | 82.4 | 55.6 | 55.5 | 74.2 | -2.9 | 0.0 | 0.9 | -1.5 | -0.7 | -1.7 |
| Adelaide | 59.7 | 89.5 | 91.3 | 65.3 | 67.0 | 79.4 | 1.8 | 1.3 | 0.1 | -2.0 | -1.9 | -1.4 |
| Rest SA | 62.6 | 88.9 | 89.8 | 62.0 | 67.7 | 80.5 | -0.2 | 2.2 | 3.2 | -1.1 | -0.6 | 0.2 |
| Tasmania | 63.6 | 90.4 | 91.0 | 66.4 | 68.1 | 81.0 | -0.1 | 0.6 | 0.7 | -2.3 | -4.6 | -1.3 |
| NT | 47.4 | 71.5 | 72.7 | 51.0 | 32.6 | 60.4 | 3.9 | 4.7 | 6.1 | 5.9 | 4.9 | 4.1 |
| ACT | 67.8 | 89.3 | 90.6 | 68.1 | 68.4 | 82.0 | 2.0 | 2.4 | 1.6 | -1.9 | -0.4 | 0.3 |
| Group total | 61.1 | 87.5 | 88.6 | 63.3 | 64.8 | 78.7 | -1.4 | 0.6 | 0.4 | -3.8 | -3.6 | -1.6 |
| **Over 65 years** | | | | | | | | | | | | |
| Sydney | 73.4 | 88.2 | 89.9 | 81.0 | 77.8 | 81.2 | -0.5 | -0.9 | 0.8 | 0.0 | -1.5 | -0.3 |
| Rest NSW | 74.9 | 90.4 | 90.8 | 82.6 | 80.2 | 83.0 | -1.2 | -0.3 | -0.7 | -0.7 | -2.6 | -0.8 |
| Melbourne | 78.7 | 92.0 | 93.3 | 86.6 | 81.5 | 85.9 | 0.1 | -0.1 | 1.0 | 1.6 | -0.2 | 0.5 |
| Rest Victoria | 77.0 | 91.8 | 93.4 | 85.8 | 80.2 | 84.6 | -1.9 | -1.2 | 0.2 | -2.0 | -6.2 | -1.5 |
| Brisbane | 71.6 | 88.3 | 89.4 | 81.1 | 75.5 | 80.3 | -3.5 | -2.3 | -1.6 | -3.5 | -6.5 | -2.8 |

| | *Incidence of home ownership, per cent* | | | | | | *Change from 1996, percentage points* | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Single* | *Couple* | *Couple with children* | *Single parent* | *Other* | *All* | *Single* | *Couple* | *Couple with children* | *Single parent* | *Other* | *All* |
| Rest QLD | 71.4 | 88.0 | 87.3 | 78.6 | 76.0 | 80.2 | -4.3 | -2.0 | -3.0 | -2.1 | -2.3 | -2.9 |
| Perth | 69.2 | 87.0 | 90.9 | 81.8 | 77.5 | 78.9 | 1.2 | -0.7 | 0.0 | -1.3 | -3.0 | 0.3 |
| Rest WA | 66.9 | 84.9 | 87.4 | 76.0 | 67.1 | 76.8 | -2.0 | -3.1 | -1.3 | -3.9 | 1.4 | -2.3 |
| Adelaide | 66.0 | 86.3 | 92.3 | 81.5 | 75.5 | 76.9 | 1.7 | 1.5 | 1.0 | 0.2 | -2.3 | 1.4 |
| Rest SA | 67.6 | 87.2 | 89.7 | 81.5 | 76.5 | 78.3 | -0.5 | -0.1 | -1.7 | -0.1 | -7.4 | -0.4 |
| Tasmania | 72.9 | 90.5 | 91.6 | 83.8 | 79.6 | 81.8 | 0.0 | -1.2 | -1.6 | 0.8 | -1.0 | -0.4 |
| NT | 45.5 | 76.4 | 68.7 | 54.1 | 35.3 | 57.5 | 9.9 | 9.2 | 9.4 | 5.6 | 7.0 | 9.7 |
| ACT | 70.4 | 89.7 | 93.3 | 79.0 | 81.8 | 81.1 | 7.6 | 4.5 | 6.0 | 3.7 | 5.6 | 6.0 |
| Group total | 73.2 | 89.2 | 90.9 | 82.4 | 78.0 | 81.7 | -0.9 | -0.7 | 0.0 | -0.5 | -2.4 | -0.6 |
| **All households** | | | | | | | | | | | | |
| Sydney | 56.9 | 72.4 | 79.5 | 52.0 | 45.2 | 67.2 | -0.4 | -1.0 | 1.3 | 0.8 | 3.0 | 0.3 |
| Rest NSW | 62.1 | 84.0 | 80.0 | 47.9 | 50.3 | 71.4 | 1.1 | 1.9 | 3.0 | 1.2 | 7.7 | 1.7 |
| Melbourne | 63.8 | 79.3 | 85.9 | 60.9 | 44.0 | 73.5 | 1.0 | -1.5 | 1.1 | 1.1 | 0.7 | 0.1 |
| Rest Victoria | 66.0 | 86.6 | 84.6 | 54.0 | 52.2 | 75.7 | -0.3 | 0.9 | 2.1 | 1.0 | 6.8 | 0.7 |
| Brisbane | 58.5 | 76.8 | 79.4 | 48.0 | 41.3 | 67.7 | 0.2 | -1.2 | 0.0 | -1.4 | 3.1 | -0.4 |
| Rest QLD | 58.9 | 78.5 | 74.1 | 44.2 | 44.3 | 66.8 | 0.9 | 1.2 | 2.6 | 1.1 | 8.9 | 1.8 |
| Perth | 61.6 | 81.5 | 84.3 | 55.2 | 48.0 | 72.7 | 3.5 | 0.8 | -0.4 | 0.7 | 8.2 | 1.3 |

| | *Incidence of home ownership, per cent* | | | | | | *Change from 1996, percentage points* | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Single* | *Couple* | *Couple with children* | *Single parent* | *Other* | *All* | *Single* | *Couple* | *Couple with children* | *Single parent* | *Other* | *All* |
| Rest WA | 55.8 | 76.8 | 71.8 | 43.9 | 44.7 | 65.7 | 1.1 | 1.3 | 1.9 | 3.3 | 9.0 | 1.7 |
| Adelaide | 58.6 | 81.9 | 85.5 | 53.6 | 44.7 | 71.2 | 4.2 | 0.9 | 0.5 | 2.9 | 5.5 | 1.4 |
| Rest SA | 59.8 | 84.1 | 81.9 | 50.9 | 52.7 | 72.9 | 2.4 | 2.3 | 3.4 | 3.9 | 6.1 | 2.1 |
| Tasmania | 62.8 | 85.1 | 83.8 | 53.3 | 48.7 | 73.5 | 2.8 | 0.7 | 1.5 | 3.4 | 8.4 | 1.5 |
| NT | 41.0 | 59.6 | 59.0 | 39.3 | 26.9 | 49.4 | 6.1 | 7.4 | 6.1 | 7.5 | 4.9 | 5.9 |
| ACT | 60.8 | 76.4 | 82.2 | 55.8 | 37.2 | 69.8 | 7.2 | 2.0 | 3.0 | 6.3 | 5.2 | 3.8 |
| Group total | 60.5 | 79.3 | 81.1 | 52.1 | 45.2 | 70.3 | 1.2 | 0.3 | 1.5 | 1.1 | 4.6 | 0.9 |

Source: Census special tabulations 1996 and 2006.

**Table B15: Incidence of home ownership by region and income 2006, 25–44 and 45–64-year-olds, with changes in outright ownership and purchasing since 1996**

| Income | *Sydney* | *Rest NSW* | *Melbourne* | *Rest Victoria* | *Brisbane* | *Rest QLD* | *Perth* | *Rest WA* | *Adelaide* | *Rest SA* | *Tasmania* | *NT* | *ACT* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Age 25–44** | | | | | | | | | | | | | |
| *Incidence of homeownership, per cent* | | | | | | | | | | | | | |
| Low | 53.8 | 59.9 | 62.3 | 63.3 | 55.5 | 59.1 | 56.0 | 56.6 | 59.1 | 51.8 | 58.1 | 27.0 | 43.9 |
| Low-mod | 60.6 | 67.4 | 68.8 | 71.6 | 59.6 | 63.7 | 64.1 | 63.8 | 69.8 | 64.1 | 68.5 | 35.4 | 57.8 |
| Moderate | 59.3 | 67.3 | 68.0 | 73.4 | 58.5 | 60.6 | 66.7 | 61.7 | 70.9 | 68.4 | 72.3 | 42.0 | 63.1 |
| Mod-high | 68.1 | 76.8 | 75.6 | 81.8 | 68.4 | 69.2 | 76.4 | 69.2 | 80.6 | 78.5 | 81.2 | 51.5 | 67.8 |
| High | 78.1 | 86.4 | 82.9 | 88.6 | 81.7 | 78.0 | 85.5 | 71.9 | 85.1 | 88.2 | 89.0 | 63.6 | 80.7 |
| *Change in outright ownership 1996–2006, percentage points* | | | | | | | | | | | | | |
| Low | -6.5 | -8.5 | -7.5 | -9.3 | -4.8 | -7.9 | -6.1 | -9.1 | -4.0 | -7.0 | -7.3 | -6.8 | -0.6 |
| Low-mod | -7.9 | -8.4 | -8.4 | -10.2 | -6.1 | -7.4 | -5.8 | -8.3 | -5.6 | -7.5 | -8.0 | -5.0 | -2.4 |
| Moderate | -10.2 | -10.2 | -10.8 | -12.2 | -8.4 | -9.3 | -8.3 | -8.2 | -8.4 | -10.6 | -11.2 | -4.1 | -3.7 |
| Mod-high | -11.8 | -12.5 | -12.3 | -13.6 | -11.2 | -11.5 | -9.6 | -7.0 | -9.6 | -10.4 | -11.7 | -3.7 | -6.9 |
| High | -12.7 | -14.2 | -12.3 | -14.8 | -12.2 | -11.6 | -10.9 | -8.7 | -10.4 | -12.8 | -12.0 | -4.0 | -8.1 |
| *Change in purchasing 1996–2006, percentage points* | | | | | | | | | | | | | |
| Low | 7.0 | 3.8 | 7.0 | 3.2 | 2.7 | 3.5 | 3.8 | 2.3 | 3.4 | 3.5 | 4.3 | -1.1 | 2.4 |
| Low-mod | 7.8 | 3.1 | 6.3 | 3.4 | -0.1 | 2.6 | 0.1 | 1.9 | 0.9 | 2.3 | 3.8 | 0.8 | 2.1 |
| Moderate | 4.4 | 4.3 | 4.2 | 6.0 | -2.7 | 2.5 | -0.8 | 3.9 | 0.1 | 5.9 | 4.4 | 1.3 | -1.9 |
| Mod-high | 5.3 | 9.1 | 5.4 | 10.9 | 0.3 | 8.0 | 3.3 | 6.7 | 3.8 | 10.9 | 8.4 | 5.1 | -1.9 |
| High | 9.5 | 14.8 | 8.1 | 14.5 | 8.8 | 15.1 | 9.8 | 8.8 | 8.5 | 13.7 | 11.1 | 10.6 | 3.7 |
| *Change in ownership 1996–2006, percentage points* | | | | | | | | | | | | | |
| Low | 0.5 | -4.7 | -0.5 | -6.2 | -2.1 | -4.5 | -2.2 | -6.8 | -0.5 | -3.5 | -3.0 | -7.9 | 1.8 |
| Low-mod | -0.1 | -5.4 | -2.2 | -6.8 | -6.2 | -4.8 | -5.7 | -6.4 | -4.7 | -5.2 | -4.2 | -4.2 | -0.3 |

| Income | *Sydney* | *Rest NSW* | *Melbourne* | *Rest Victoria* | *Brisbane* | *Rest QLD* | *Perth* | *Rest WA* | *Adelaide* | *Rest SA* | *Tasmania* | *NT* | *ACT* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Moderate | -5.8 | -5.9 | -6.6 | -6.2 | -11.1 | -6.8 | -9.1 | -4.3 | -8.3 | -4.7 | -6.8 | -2.8 | -5.6 |
| Mod-high | -6.5 | -3.4 | -6.9 | -2.7 | -10.9 | -3.5 | -6.3 | -0.3 | -5.8 | 0.5 | -3.3 | 1.4 | -8.9 |
| High | -3.2 | 0.6 | -4.2 | -0.4 | -3.4 | 3.5 | -1.1 | 0.1 | -1.9 | 0.9 | -0.9 | 6.6 | -4.3 |
| **Age 45–54** | | | | | | | | | | | | | |
| *Incidence of homeownership, per cent* | | | | | | | | | | | | | |
| Low | 46.9 | 57.9 | 59.8 | 62.5 | 52.1 | 58.6 | 54.3 | 58.4 | 48.6 | 61.6 | 59.2 | 32.1 | 44.1 |
| Low-mod | 60.7 | 71.1 | 71.6 | 76.4 | 63.3 | 68.1 | 68.3 | 69.8 | 67.8 | 75.7 | 74.0 | 44.8 | 62.7 |
| Moderate | 68.0 | 77.2 | 77.3 | 82.2 | 70.2 | 71.3 | 75.6 | 72.7 | 76.9 | 79.7 | 81.2 | 53.7 | 73.9 |
| Mod-high | 78.3 | 85.2 | 85.6 | 89.4 | 80.6 | 79.8 | 85.4 | 78.7 | 86.5 | 87.4 | 88.4 | 64.1 | 80.8 |
| High | 88.8 | 91.9 | 91.9 | 93.6 | 90.1 | 86.2 | 91.6 | 80.6 | 93.5 | 91.2 | 94.2 | 73.3 | 91.2 |
| *Change in outright ownership 1996–2006, percentage points* | | | | | | | | | | | | | |
| Low | -17.3 | -16.4 | -15.3 | -16.2 | -12.5 | -14.8 | -13.7 | -14.4 | -14.4 | -13.3 | -13.0 | -6.4 | -4.7 |
| Low-mod | -13.6 | -11.5 | -12.4 | -12.0 | -8.5 | -10.0 | -10.9 | -12.3 | -13.3 | -12.1 | -10.7 | -3.3 | -1.2 |
| Moderate | -14.9 | -14.8 | -15.8 | -15.4 | -12.4 | -15.0 | -13.0 | -13.4 | -15.5 | -16.6 | -13.6 | -3.7 | -3.7 |
| Mod-high | -17.5 | -16.4 | -16.9 | -15.6 | -15.0 | -14.7 | -13.6 | -8.8 | -15.5 | -13.2 | -13.2 | -0.5 | -5.3 |
| High | -19.3 | -18.7 | -17.4 | -16.1 | -17.7 | -16.6 | -15.7 | -14.9 | -15.5 | -15.4 | -14.5 | -5.1 | -8.2 |
| *Change in purchasing 1996–2006, percentage points* | | | | | | | | | | | | | |
| Low | 5.8 | 5.4 | 6.8 | 5.0 | 3.2 | 4.8 | 4.6 | 5.0 | 5.2 | 6.5 | 5.8 | 5.1 | 1.0 |
| Low-mod | 9.2 | 7.2 | 9.4 | 7.5 | 3.9 | 6.5 | 5.4 | 6.9 | 7.3 | 8.8 | 7.2 | 5.5 | -0.2 |
| Moderate | 10.3 | 11.1 | 11.7 | 11.5 | 5.5 | 9.5 | 7.2 | 9.2 | 10.4 | 13.5 | 9.3 | 5.4 | 0.9 |
| Mod-high | 13.7 | 15.1 | 14.3 | 14.6 | 9.6 | 13.0 | 10.3 | 9.7 | 12.7 | 14.3 | 11.2 | 7.1 | 1.5 |
| High | 18.4 | 19.1 | 16.2 | 16.3 | 15.3 | 18.2 | 14.1 | 15.1 | 14.9 | 17.3 | 14.2 | 8.0 | 7.2 |
| *Change in ownership 1996–2006, percentage points* | | | | | | | | | | | | | |
| Low | -11.5 | -11.0 | -8.5 | -11.2 | -9.4 | -10.0 | -9.1 | -9.4 | -9.2 | -6.9 | -7.1 | -1.4 | -3.7 |

| Income | *Sydney* | *Rest NSW* | *Melbourne* | *Rest Victoria* | *Brisbane* | *Rest QLD* | *Perth* | *Rest WA* | *Adelaide* | *Rest SA* | *Tasmania* | *NT* | *ACT* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Low-mod | -4.5 | -4.4 | -3.0 | -4.6 | -4.5 | -3.6 | -5.6 | -5.4 | -6.0 | -3.3 | -3.6 | 2.3 | -1.4 |
| Moderate | -4.6 | -3.7 | -4.1 | -3.8 | -6.9 | -5.5 | -5.9 | -4.2 | -5.0 | -3.0 | -4.3 | 1.8 | -2.8 |
| Mod-high | -3.9 | -1.3 | -2.6 | -1.0 | -5.4 | -1.7 | -3.3 | 0.8 | -2.7 | 1.1 | -1.9 | 6.6 | -3.9 |
| High | -0.9 | 0.4 | -1.2 | 0.2 | -2.5 | 1.5 | -1.6 | 0.2 | -0.6 | 1.9 | -0.3 | 2.9 | -1.1 |

Source: Census special tabulations 1996 and 2006.

**Table B16: Sydney and Melbourne rings, home ownership 2006 and percentage point change in home ownership 1996–2006 by income groups**

| | Incidence of home ownership 2006 | | | | | | Percentage point change in ownership 1996–2006 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Low income | Low-mod income | Moderate income | Mod-high income | High income | All | Low income | Low-mod income | Moder-ate income | Mod-high income | High income | All |
| **Under 25** | | | | | | | | | | | | |
| Sydney inner | 19.1 | 13.7 | 14.2 | 11.0 | 12.9 | 13.8 | -1.3 | 0.4 | 2.8 | 1.7 | 1.2 | 1.2 |
| Sydney middle | 26.2 | 21.3 | 24.8 | 25.3 | 37.3 | 26.9 | 0.1 | 2.0 | 2.4 | -2.0 | 4.8 | 1.4 |
| Sydney outer | 18.6 | 19.1 | 25.0 | 35.6 | 56.3 | 31.1 | 3.6 | 4.3 | 0.5 | -3.7 | 8.6 | 4.2 |
| *All Sydney* | 21.6 | 18.1 | 21.1 | 23.5 | 31.4 | 23.3 | 0.8 | 2.2 | 1.8 | -0.9 | 5.5 | 2.0 |
| Melbourne inner | 19.6 | 13.3 | 14.3 | 10.8 | 13.5 | 14.2 | 1.1 | 1.7 | 2.9 | -0.7 | 0.1 | 1.1 |
| Melbourne middle | 22.6 | 18.5 | 23.7 | 20.9 | 33.5 | 23.0 | 0.6 | 0.2 | 0.1 | -9.8 | 1.3 | -1.7 |
| Melbourne outer | 31.7 | 29.9 | 37.7 | 48.1 | 64.6 | 43.0 | 5.6 | 4.2 | -0.4 | -5.9 | 7.0 | 3.6 |
| *All Melbourne* | 23.1 | 19.3 | 24.0 | 25.8 | 33.3 | 24.8 | 1.5 | 1.4 | 0.7 | -4.8 | 4.5 | 0.7 |
| **25–44** | | | | | | | | | | | | |
| Sydney inner | 19.1 | 24.2 | 28.5 | 35.9 | 50.9 | 41.3 | 0.1 | 0.1 | -3.7 | -7.4 | -3.6 | -0.3 |
| Sydney middle | 29.1 | 38.1 | 47.1 | 60.1 | 76.1 | 60.3 | -0.1 | 0.5 | -5.7 | -6.8 | -1.5 | -0.7 |
| Sydney outer | 29.7 | 39.0 | 54.7 | 71.2 | 84.6 | 64.4 | 0.2 | -2.3 | -7.3 | -6.3 | -0.5 | -0.9 |
| *All Sydney* | 27.1 | 35.7 | 45.1 | 57.7 | 68.0 | 55.8 | 0.5 | -0.1 | -5.8 | -6.5 | -3.2 | -1.1 |
| Melbourne inner | 23.8 | 29.7 | 35.4 | 44.5 | 60.0 | 48.3 | -0.3 | -1.2 | -7.5 | -11.3 | -6.0 | -2.5 |
| Melbourne middle | 35.0 | 44.6 | 55.5 | 67.4 | 79.3 | 64.0 | -1.4 | -2.2 | -7.8 | -8.2 | -3.2 | -2.4 |
| Melbourne outer | 45.2 | 55.6 | 71.3 | 82.0 | 89.2 | 76.1 | -4.0 | -5.1 | -6.7 | -4.9 | -2.0 | -2.6 |
| *All Melbourne* | 35.9 | 46.0 | 57.4 | 68.1 | 74.9 | 64.0 | -0.5 | -2.2 | -6.6 | -6.9 | -4.2 | -2.3 |
| **45–64** | | | | | | | | | | | | |
| Sydney inner | 36.4 | 51.4 | 58.0 | 69.3 | 82.7 | 69.0 | -9.2 | -3.2 | -4.4 | -3.6 | -0.7 | 0.2 |
| Sydney middle | 48.9 | 62.1 | 69.4 | 79.4 | 90.5 | 78.6 | -12.2 | -6.8 | -6.1 | -5.3 | -1.2 | -3.3 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sydney outer | 51.6 | 64.2 | 72.6 | 82.6 | 92.2 | 78.1 | -13.3 | -4.3 | -4.2 | -3.2 | 0.3 | -1.7 |
| *All Sydney* | 46.9 | 60.7 | 68.0 | 78.3 | 88.8 | 76.2 | -11.5 | -4.5 | -4.6 | -3.9 | -0.9 | -1.9 |
| Melbourne inner | 47.6 | 61.9 | 68.1 | 78.6 | 88.0 | 76.9 | -5.6 | 0.3 | -2.7 | -2.4 | -0.4 | 1.5 |
| Melbourne middle | 59.2 | 71.1 | 76.5 | 85.3 | 92.5 | 81.7 | -11.4 | -5.2 | -6.2 | -3.6 | -2.0 | -3.4 |
| Melbourne outer | 69.2 | 77.3 | 83.1 | 89.5 | 94.8 | 86.6 | -8.7 | -4.3 | -4.0 | -2.6 | -0.8 | -2.1 |
| *All Melbourne* | 59.8 | 71.6 | 77.3 | 85.6 | 91.9 | 82.3 | -8.5 | -3.0 | -4.1 | -2.6 | -1.2 | -1.5 |
| **Over 65** | | | | | | | | | | | | |
| Sydney inner | 64.8 | 77.6 | 85.1 | 88.9 | 92.9 | 78.2 | -2.7 | -3.8 | -1.1 | -0.2 | -0.5 | 0.4 |
| Sydney middle | 73.6 | 83.1 | 88.4 | 91.3 | 94.1 | 83.2 | -2.8 | -3.5 | 0.2 | -0.3 | -0.1 | -0.3 |
| Sydney outer | 73.7 | 81.5 | 85.7 | 87.9 | 91.6 | 80.3 | -4.7 | -2.9 | 0.2 | -0.7 | -0.5 | -1.8 |
| *All Sydney* | 71.5 | 81.5 | 86.9 | 89.9 | 93.4 | 81.2 | -3.0 | -3.3 | -0.2 | -0.4 | -0.4 | -0.4 |
| Melbourne inner | 71.0 | 82.7 | 89.0 | 92.3 | 94.1 | 82.5 | -2.1 | -2.6 | -0.7 | 0.2 | -0.9 | 0.7 |
| Melbourne middle | 81.0 | 88.8 | 90.9 | 93.3 | 95.4 | 87.3 | -2.1 | -1.2 | -0.1 | 0.5 | 0.7 | 0.0 |
| Melbourne outer | 80.4 | 87.8 | 91.1 | 92.7 | 94.9 | 86.5 | -1.3 | -1.5 | -0.9 | -0.7 | -1.6 | 0.1 |
| *All Melbourne* | 78.5 | 87.3 | 90.5 | 92.9 | 94.8 | 85.9 | -1.5 | -1.2 | -0.3 | 0.2 | -0.3 | 0.4 |
| **All households** | | | | | | | | | | | | |
| Sydney inner | 45.7 | 52.5 | 47.0 | 52.7 | 63.9 | 55.8 | -5.1 | 2.9 | -0.9 | -2.0 | -0.9 | 0.6 |
| Sydney middle | 56.7 | 63.1 | 62.1 | 71.0 | 83.6 | 71.1 | -6.3 | 0.8 | -2.3 | -3.0 | -0.6 | -0.6 |
| Sydney outer | 56.0 | 62.1 | 64.5 | 75.8 | 88.1 | 71.6 | -5.5 | 3.6 | -1.9 | -3.0 | 0.9 | 0.6 |
| *All Sydney* | 53.8 | 60.6 | 59.3 | 68.1 | 78.1 | 67.2 | -5.4 | 2.5 | -1.5 | -2.3 | -0.8 | 0.2 |
| Melbourne inner | 52.2 | 58.8 | 54.1 | 60.3 | 72.5 | 62.8 | -3.7 | 3.1 | -1.9 | -4.0 | -1.8 | 0.3 |
| Melbourne middle | 64.3 | 70.3 | 68.0 | 76.0 | 85.6 | 74.4 | -4.4 | 3.4 | -3.3 | -3.9 | -2.0 | -0.9 |
| Melbourne outer | 67.4 | 72.8 | 76.7 | 84.4 | 91.8 | 80.8 | -3.6 | 1.6 | -3.0 | -2.9 | -0.8 | -0.5 |
| *All Melbourne* | 62.3 | 68.8 | 68.0 | 75.6 | 82.9 | 73.5 | -3.4 | 3.4 | -2.2 | -2.9 | -1.7 | -0.1 |

Source: Census special tabulations 1996 and 2006.

**Table B17: Percentage difference between Estimated Resident Population and the Census, by state and age, 1996 and 2006**

| | NSW | | VIC | | QLD | | WA | | SA | | TAS | | NT | | ACT | | AUSTRALIA | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **1996** | **2006** | **1996** | **2006** | **1996** | **2006** | **1996** | **2006** | **1996** | **2006** | **1996** | **2006** | **1996** | **2006** | **1996** | **2006** | **1996** | **2006** |
| 15–24 | 4.4% | 6.8% | 4.3% | 6.5% | 3.4% | 6.9% | 3.7% | 7.4% | 4.2% | 6.7% | 3.8% | 6.0% | 1.4% | 8.4% | 3.5% | 5.3% | 4.0% | 6.8% |
| 25–29 | 5.5% | 10.3% | 5.4% | 10.3% | 3.5% | 9.4% | 4.3% | 10.5% | 4.6% | 9.5% | 3.5% | 8.1% | 0.3% | 7.9% | 5.4% | 8.4% | 4.8% | 9.9% |
| 30–34 | 4.5% | 6.8% | 4.5% | 6.7% | 2.5% | 5.8% | 3.9% | 6.8% | 3.6% | 6.2% | 3.2% | 5.0% | -0.1% | 5.8% | 4.3% | 4.4% | 3.9% | 6.5% |
| 35–39 | 3.5% | 4.2% | 3.8% | 4.2% | 1.8% | 3.6% | 3.2% | 4.6% | 3.1% | 3.7% | 2.3% | 3.0% | -1.1% | 3.4% | 4.0% | 2.0% | 3.1% | 4.0% |
| 40–44 | 3.3% | 4.3% | 3.6% | 4.1% | 1.9% | 3.9% | 3.3% | 5.1% | 2.9% | 4.0% | 2.3% | 3.6% | -2.2% | 3.0% | 3.8% | 1.5% | 3.0% | 4.1% |
| 45–64 | 3.9% | 3.5% | 5.9% | 4.4% | -0.6% | 1.5% | 3.3% | 3.8% | 4.4% | 4.1% | 4.4% | 4.4% | -14.9% | -9.6% | 5.6% | 1.9% | 3.4% | 3.3% |
| Over 65 | 2.5% | 2.1% | 8.4% | 5.6% | -6.5% | -4.0% | 2.0% | 2.0% | 4.8% | 3.8% | 6.7% | 5.1% | -37.0% | -29.5% | 6.3% | 3.8% | 2.4% | 1.8% |

Source: Population by Age and Sex, Australian States and Territories. ABS Cat.No. 3201.0 and Census 2006 Age by Sex for Time Series, extracted by state, Cat.No. 2068.0.

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