



Housing implications of economic, social, and spatial change – key issues

authored by

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EXECUTIVE SUMMARY

AHURI Final Report No. 22: Housing implications of social, spatial and structural change by Judy Yates in 2002 charted changes in home ownership in Australia over the turbulent period 1986-1996. This project covers the same ground over the decade of recovery 1996-2006. However, it extends the original methodology in several ways – the complications of market and urban economics, the interaction of supply and demand, the life cycle determinants of tenure choice, and the impact of risk on financial regimes.

This positioning paper provides a short summary of a series of topics relating to the broader economic and social context of changes in housing tenure. These are:

- change in the global and local economic situation; in particular a major sea change in demand for capital and resources, involving a reversal in the long term decline in interest rates and demand for labour
- expansion of money supply leading to a rapid increase in house prices and record household debt
- debt and financial market instability
- changes in tenure in Australia
- determinants of tenure choice and housing careers
- tenure neutrality
- changes in international policies relating to home ownership
- fast and slow processes of demand and supply
- rent gradients and changes in urban form and density.

The paper draws on longwave theory to distinguish the period 1986-1996 studied by Yates as part of a 30-year period of slow and erratic global economic growth and financial turmoil which began around 1974. From 2003 it is considered that a new era of steady global growth and tightening demand for resources has begun, in which the major concerns in the longer term will not be restructuring, income inequality or financial maneuvering, but real shortages of housing, capital and labour. The study period 1996-2006 is an interim period in which the new situation has become increasingly apparent, but policy has continued to reflect the earlier concerns – particularly in the light of the delayed major financial shakeout which began in 2008.

Yates found that the major change in tenure from 1986-1996 was a rapid increase in housing equity due to the increasing number of outright owners. This situation reversed after 1996 as the money supply expanded rapidly. Record high levels of household borrowing became apparent, causing house prices to rise well above long-term equilibrium levels relative to both incomes and rents.

A very significant, highly countercyclical growth in investor housing also became apparent from 1993, helping to fuel the house price bubble while increasing the supply of rental housing – possibly at the expense of owner-occupation for younger groups. However, tightening of the money supply in 2008 has caused a stabilisation in rental investment, which has been accompanied by a move of first home buyers into medium density housing originally supported by the investment boom.

From 1994, real personal incomes began to increase, though the incomes of the top group continued to rise more rapidly. In spatial terms, the boom areas were in Sydney and Perth, with non-metropolitan New South Wales and Western Australia also staging a strong comeback from 1999.

The Yates study was conducted against a backdrop of financial distress following the boom of the late 1980s, when a number of high-profile collapses occurred in the financial sector post-deregulation. As a consequence, Australian financial organisations have been more circumspect than their US counterparts in extending subprime finance to lower income earners. However, a range of innovative financial productions and securitisations has assisted a fairly significant withdrawal of equity from owner-occupied housing for personal consumption and investment purposes.

The home ownership rate has stayed virtually constant during the whole period from 1960 to the present. However, a somewhat later transition to first home ownership has been evident. Very low rates of return on rental housing have not particularly deterred investors, although the government has helped to cover the losses and risks through negative gearing tax deductions against other income.

A number of recent longitudinal studies conducted in Australia have highlighted the importance of relationship formation and breakup in tenure choice decisions, and the present study intends to incorporate some of these issues.

The question of tenure neutrality is briefly canvassed, as to whether some tenures should be assisted more than others. It is suggested that direct assistance to home ownership is an inefficient way to achieve some of the social benefits that have been considered to accrue from wider owner-occupation, and that policies aiming to improve diversity in tenure and housing types have been moderately successful in other countries.

Recent surveys of housing policy in other countries have shown the same directions as Australia – a slight decline in ownership and a lack of expansion in the stock in favour of more rapid stock turnover. Demand-side policies have also not produced the expected supply-side response in Australia and, in Sydney in particular, there appears to be a modest but continuing shortage of supply. Land price gradients have also steepened dramatically – possibly partly due to land supply constraints at the periphery, but also due to demographic change and economic restructuring.

Housing markets incorporate both rapid short-term changes in demand and much longer term supply responses. Long term changes in planning regulation and local taxing that have added to the costs of new housing have probably not been responsible in the short run for recent substantial declines in affordability – since the price of project homes has risen much more slowly than the price of established houses – but these cost increases do have in the long term a potential to create a chronic affordability decline which will ultimately impact on ownership rates.

The paper concludes with a summary of methodology for the forthcoming project, which is essentially the same as that of Yates, with some technical modifications. The Appendix contains the data specifications for Census tables produced for the analysis.

1 INTRODUCTION

1.1 Background – the results of Yates

AHURI Final Report No. 22 [Housing implications of social, spatial and structural change](#), by Professor Judith Yates, (2002) provides a disaggregated causal analysis of home ownership trends in Australia from 1986-1996, with a perspective on income and regional polarisation. With the 2006 Census data becoming available, AHURI has sought an update of this analysis. The present project aims to follow the methodology of Yates to investigate what changes have occurred in the period 1996-2006 – in what we believe to be a very different era for global financial and labour markets.

The major conclusions of Yates were that:

- real incomes had declined over the period, especially for younger and elderly households, and that this was impacting on home ownership rates, with a drop of 7 percentage points in ownership rates among 25-44 year olds. Declines were greater in non-metropolitan regions. About a quarter of the decline could be attributed to changes in household composition
- there appeared to be an emergent spatial polarisation of incomes. This polarisation was greater within cities
- while home ownership had declined by a small amount, the proportion of households with mortgages had declined very significantly. Nevertheless, a significant number of younger households were able to enter into non-mortgaged ownership.

She concludes:

'There has been both tenure and spatial polarisation of income for all household types in all age groups except for the retirement age group. The economic advantage enjoyed by home owners in metropolitan regions, as reflected in household incomes, is both increasing relative to their counterparts in rental housing in metropolitan regions and to their fellow home owners in non-metropolitan regions.'

What the present study proposes is to see to what extent these trends have continued or reversed, while searching for possible new trends and examining a finer level of detail in some areas suggested by Yates.

In the Positioning Paper for this project, Yates (2002a) undertook an extremely thorough literature review of the following topics related to housing tenure and polarisation:

- income and regional inequality in Australia
- socio-tenurial polarisation
- the economic and social advantages of home ownership
- housing, labour markets, and the 'Oswald hypothesis'.

Apart from the first issue, which is critical to the study, we do not intend to revisit these topics directly. Instead we will concentrate on a range of other issues, including:

- changes in the global and broader economic situation
- increases in real household incomes
- rising house prices and their cause
- financial instability and debt
- changes in home ownership and private rental

- determinants of tenure choice, including changes in family structure
- tenure-neutral policy
- fast and slow processes in demand and supply of housing
- urban planning – sprawl versus consolidation.

Each of these is a large subject in its own right, and only a quick survey of the major issues affecting the present study will be canvassed.

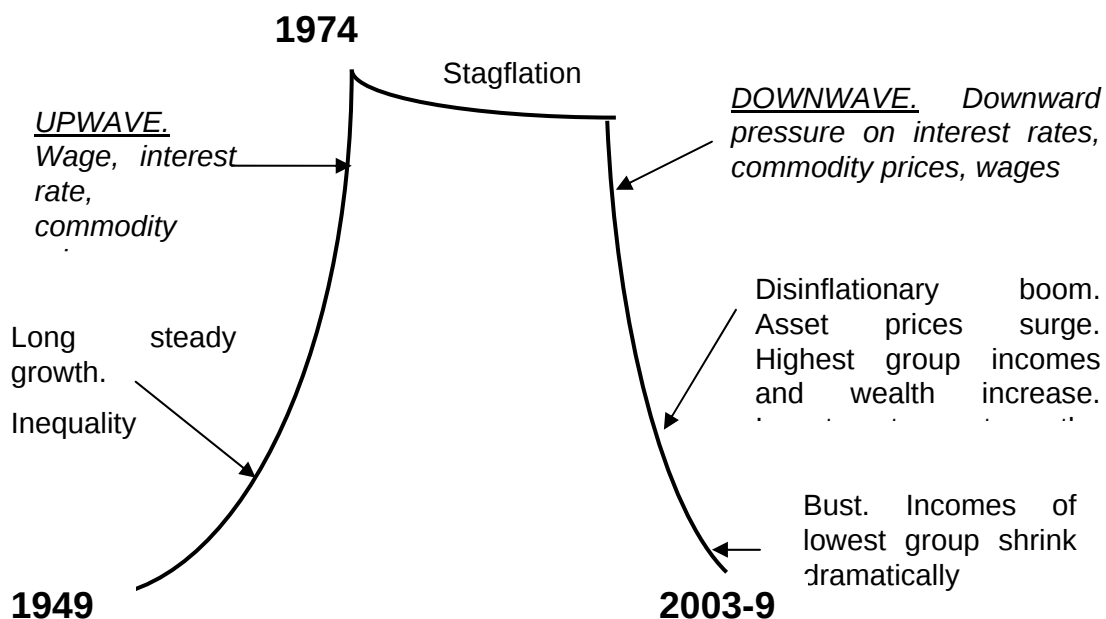
In the remainder of this section we will begin by looking at the major changes in the global macroeconomic situation that have taken place since 1996, including the reversal in the very long decline in resource prices as a result of activity in the emerging giants, the growth of household debt, the massive rise in asset prices, changes in inequality, and the subprime collapse.

1.2 Change in the global macroeconomic situation – reverse of the downwave

First we will take a very brief look at the current rather complex position of the global economy as a result of events and trends of the post-war years. This is not strictly necessary to the subsequent exposition, but it does enable the positioning of the housing and economic trends of the last 20 years within a very long time framework.

Probably the only empirical theory of very long 'secular' trends in the global capitalist economy is that of the Russian Nicolai Kondratyeff (1935). From his examination of long-term empirical data, Kondratyeff posited very long inflationary 'K-upwaves' and deflationary 'K-downwaves' in human affairs, with a rough cycle time of 54 years. K-downwaves are associated with slow irregular growth and falling demands for capital investment of all kinds, reflected most particularly in resource prices, but also in interest rates and wages. K-upwaves are growth periods for world economies, as new technologies mature and come onto line, and new countries join the ranks of the economic leaders.

Figure 1: Schematic of last Kondratyeff long wave, 1949-2003



While the hypothesis has never been accepted into the economic mainstream because it lacks a firm theoretical basis,¹ nevertheless it has shown extraordinary resilience and predictive power, and the cycles have continued to roll on pretty much on track. As Figure 1 shows, the previous K-upwave was the great post-war growth period 1949-74, and the downwave was the period 1975-2003, finishing with a symbolic thud in the disaster of 9/11.²

The upwaves and downwaves are supposed also to coincide with a range of socio-political events and attitudes. During upwaves, labour shortages give labour considerable bargaining power – and these times are associated with conservative attitudes, collective action, and rising incomes – along with many squabbles over resources. Because workers have little bargaining power in downwaves, their real incomes fall and laissez-faire economics becomes the norm. These downwaves are periods of wild fluctuations in economies since excess capacity allows for rapid recessions and mini-boom recoveries; while upwaves are long steady booms punctuated by occasional busts.

Many subsequent authors have elaborated on the proposal, particularly during the just-concluded K-downwave. The eminent urban scholar Brian Berry (1991) associated long waves with “growth rings” in cities exposed to international trade (Sydney in particular shows evidence of such rings). Batra (2005) explained how the United States Federal Reserve Board under the management of Allan Greenspan had prevented the US economy from falling into typical downwave recessions by using Keynesian-style monetary demand management – but at the cost of pumping US

¹ It does form one keystone of a major heterodox “evolutionary” stream in economics, due to Schumpeter (1989). Significant contributions to the literature include Alexander (2002), Barnett (1998), Devezas (2005), Freeman (1983), Goldstein (1991), Hall and Preston (1988), and Van Duijn (1983). http://en.wikipedia.org/wiki/Kondratiev_wave has a good summary of the literature.

² In fact resource prices bottomed in the LTCM/Russian crisis of 1998, while interest rates have now in late 2008 once again returned to rock bottom in many countries due to policy responses to the current economic crisis. The whole period from 1998-2009 can be regarded as an extended long wave bottom.

household debt and housing and stock markets up to unprecedented levels, and by raiding national superannuation funds. This has prolonged the period of financial adjustment typical of longwave troughs.

UN-HABITAT (2003) claimed that the wealthiest group of countries, and in particular the top decile of household incomes within those countries, had been able to maintain a comfortable growth in their lifestyles during 30 years of very low growth by drawing money from all the lower income groups and poorer countries, who as a result had zero or negative gain although world productivity increased steadily during the period. This provides a plausible (and complementary) alternative perspective to the usual rhetoric of globalisation and restructuring.

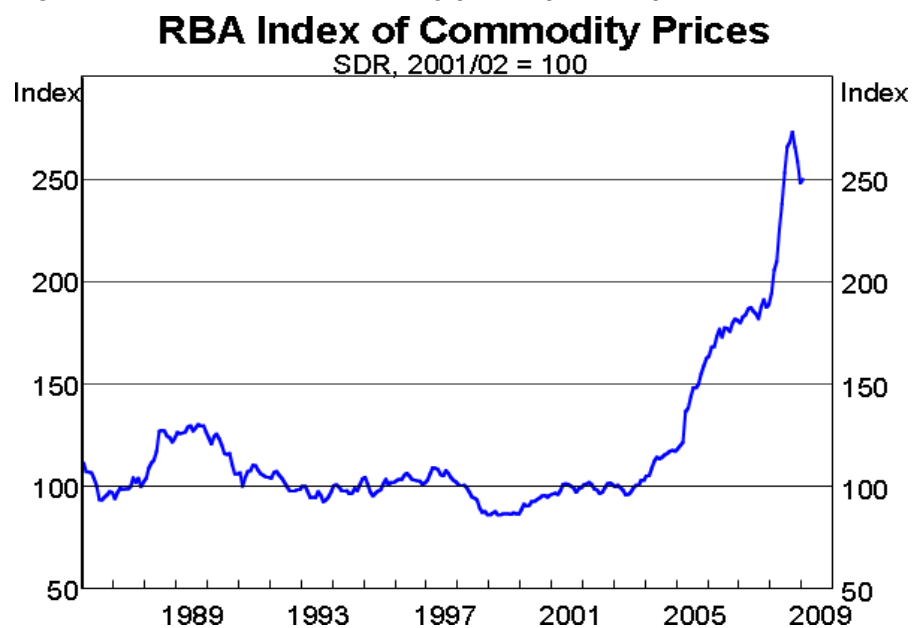
Longwave reversals do not happen in a vacuum, and the present sea change in world affairs has been dominated by the entry of the giants China and India to the ranks of major manufacturing powers and exporters. The CI technologies that are driving the new upwave reduce the costs of management and information, but not particularly energy or materials. The world is therefore heading into an unfortunate situation where the numbers of middle class will probably double globally, but resources appear increasingly scarce and congestion costs (such as the costs of reducing greenhouse emissions) are increasing. This is eventually expected to be highly inflationary, and the past few years have shown this to be the case where energy and food prices are concerned.

The long wave normally comes out of a trough with debt effectively redeemed and written off, but that has been far from the case in the present situation – so that further corrections have been necessary even though the resource cycle is well advanced. For three decades the United States has been spending far beyond what it has earned and, despite the present resource boom, Australia has followed in its wake. This has created an unstable situation which has reached its denouement in the current economic crisis.

1.3 Change in the economic situation in Australia.

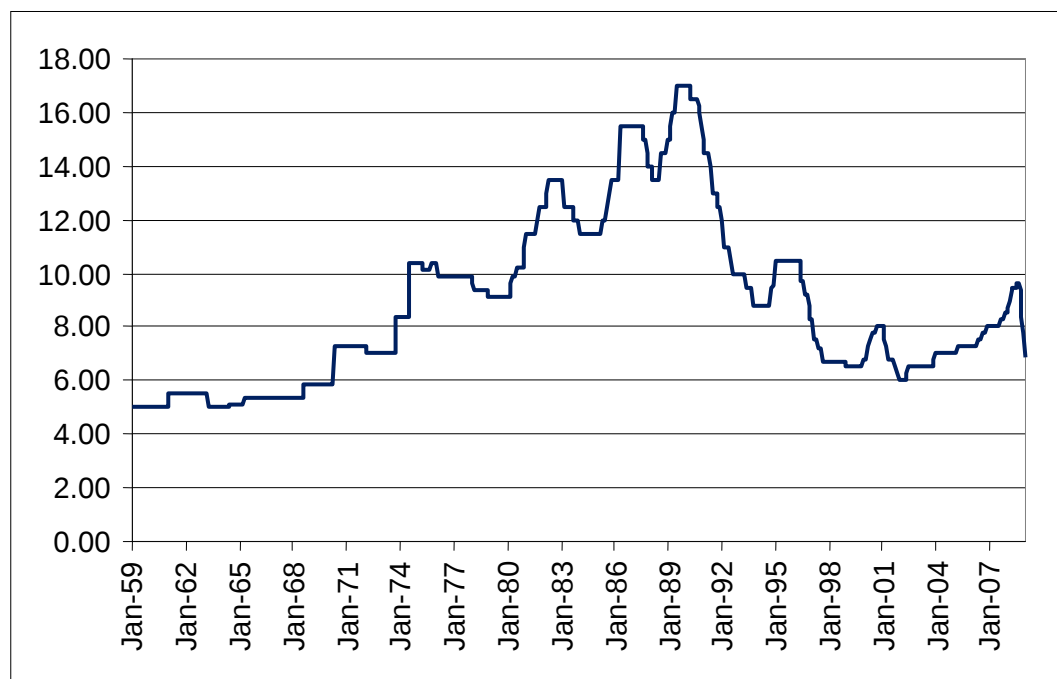
For the purposes of this study it is not necessary to accept the whole Kondratyeff framework, simply to observe that real resource prices, interest rates, and wages have reversed in Australia after a very long period of decline (Figures 2 and 3 show the Australian commodity price index, which appears to have bottomed out in line with the K-wave timetable, and housing interest rates which also would have bottomed if not for the current massive intervention to shore up the global financial system).

Figure 2: RBA Index of commodity prices (nominal) 1984-2009



Source: RBA data

Figure 3: Variable bank mortgage rate for housing, Australia 1959-2009

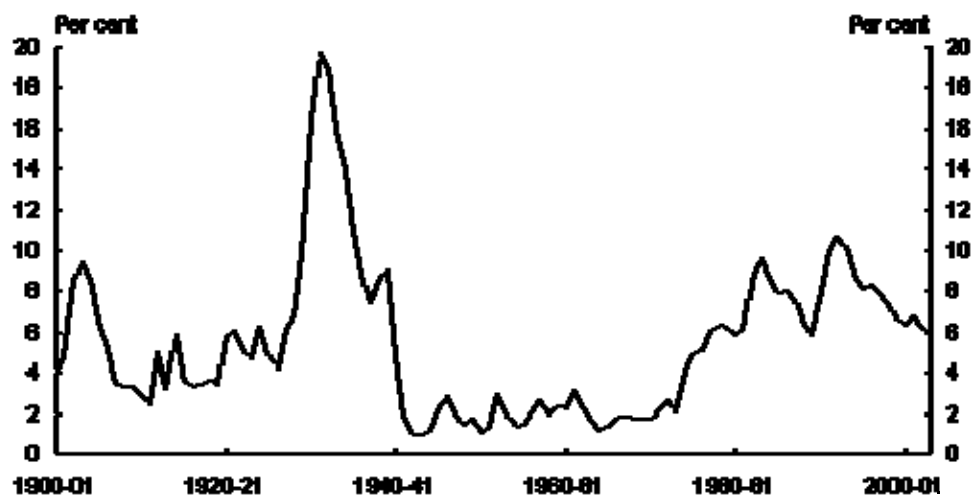


Source: RBA data

Personal remuneration as a component of national income fell from a (probably unsustainable) peak in December 1974 of 63 per cent of household income, to a minimum in 1989 of 54 per cent, from which it has subsequently stabilised to about 56 per cent (Saunders 2001, ABS National Accounts). Within this category however, wage inequality continued to grow until at least 2000, and wage factor costs continued to fall up to 2006.

Australia is essentially a resource economy, and a change in the price of resources meant a massive surge in prosperity throughout the economy in the period 2003-8. The unemployment rate sank below 4 per cent in Feb 2008, to the lowest level since 1975, and the long-term unemployment rate sank below 1 per cent³ – rates typical of the last two K-upwaves (see Figure 4 for the very long term series).

Figure 4: Unemployment rate, Australia, 1900-01 to 2003-04



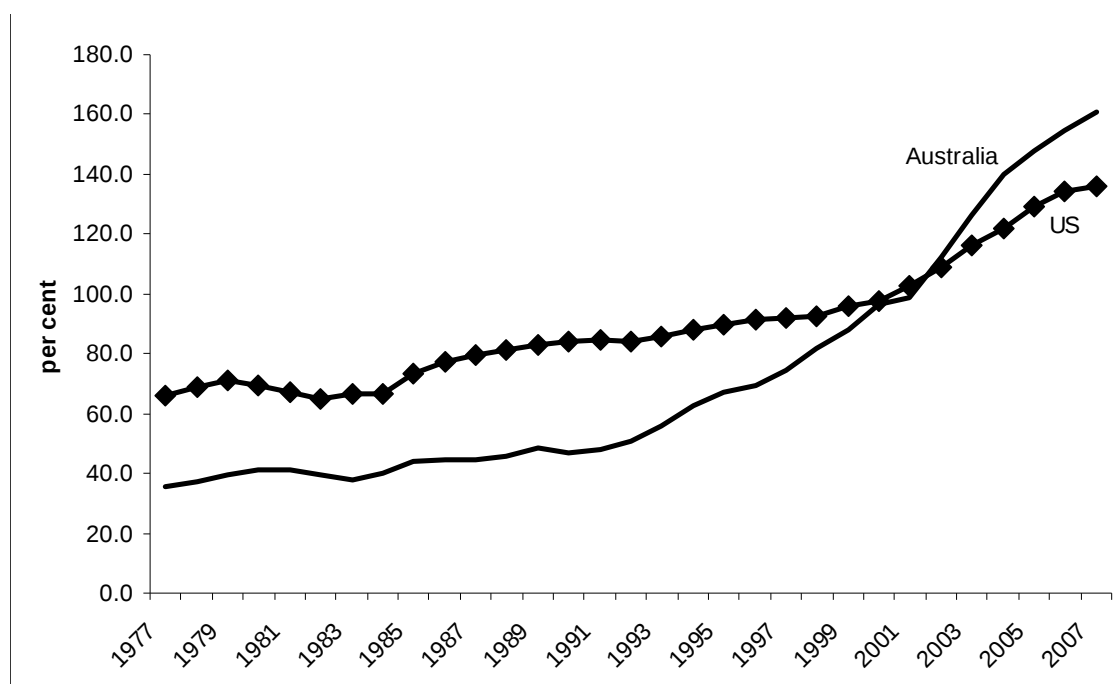
Source Australian Government (2004), Chart 2.

Because Australia is a resource economy and tied to the commodity cycle, the Australian dollar fell in real terms for the whole K-downwave (apart from a short recovery from 1985-1989). Since the China-India boom swung into gear, the Australian dollar rose rapidly from about 47c US in 2001 to near- parity with the US dollar, before falling away in the current recession.⁴

³ *Labour Force, Australia*. ABS Cat.No. 6102.0, and *Australian Labour Market Statistics*, ABS Cat.No. 6105.0

⁴ Sourced from <http://www.rba.gov.au/Statistics/HistoricalExchangeRates/index.html>

Figure 5: Household debt, Australia and USA, 1977-2007



Source: RBA and US Federal Reserve⁵

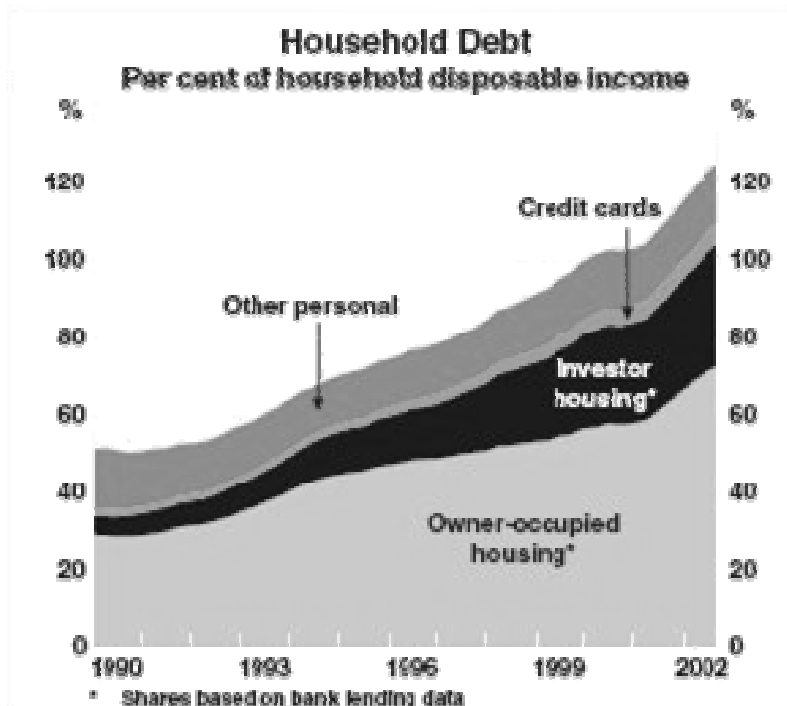
The money supply has also risen extremely rapidly in line with debt. From the election of the Howard government in 1996 almost to the present, the Australian Government has followed an extremely inflationary economic policy, in monetarist terms. From March 1996 to April 2007, currency grew by over 100 per cent, bank deposits by 224 per cent and M1 money supply by 200 per cent.⁶ Much of this money appears to have been borrowed overseas by the banks for the purpose of home lending.⁷ Household debt has risen (albeit from historically low levels) by an average of 14 per cent per annum (Reserve Bank 2003); from about 40 per cent of household disposable income (HDI) in the 1980s – not much more than half that of the USA – to about 140 per cent of HDI, above the level of the USA (see Figure 5).

⁵ Historical data, RBA Table B21 (accessed from <http://www.rba.gov.au/Statistics/Bulletin/B21hist.xls>) US Federal Reserve Statistical Releases (March 2008) (accessed from <http://www.federalreserve.gov/releases/Z1/Current/data.htm>)

⁶ Reserve Bank Statistical Bulletins; Jackson (2007). In the early part of 2008, the money supply was severely reined in and this has affected growth in all the aggregates.

⁷ Tim Colebatch, keynote speech to 3rd Housing Researchers' Conference. Overseas borrowings by Australian financial institutions have risen from under \$50 billion in 1991 to \$262 billion in 2008 (RBA Bulletin table D03hist), though a good portion of this has also gone to business loans.

Figure 6: Components of household debt as a fraction of household disposable income, Australia 1990-2002



Source: Reserve Bank of Australia (2003)

Figure 6 shows that almost all of this growth was for housing, with an especially significant growth in lending for investor housing which, as we will see, has helped to keep rents down at historical lows relative to house prices.

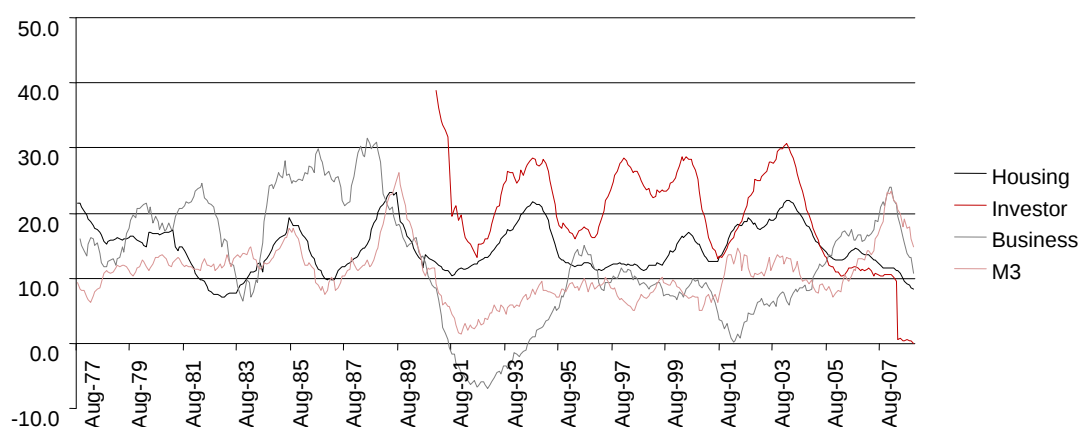
The RBA (2003) concluded that:

'The principal reason that household debt has grown is that with low interest rates, households can now borrow more when they take out their housing loan. This pushes up the average size of new loans, and in time, pushes up the average size of loans outstanding.'

The picture of unrestrained growth in money under the Howard government should, however, be considered in the context of the longer term. Figure 7 shows growth in some important monetary aggregates from 1977-2007. The 'Business borrowings' line is probably the most closely related to economic activity, showing typical K-downwave instability – the irregular blow-out prior to the 1987 crash, the recessions of 1991-93 and of 2002, and the steady boom into 2008 followed by collapse. The M3 money spike⁸ of 1989 coincided with an investor move out of stocks into the property market (shown in the 'Housing investor' line), which also subsequently crashed into the bank crisis of 1991-92. The apartment investment boom of 2003-4 is also clearly visible in this line.

⁸ The M3 is the broadest measure of national money supply used by economists. It includes actual printed money plus most forms of commercial bank money (money created through loans).

Figure 7: Annual growth in financial aggregates 1977-2008⁹



What is perhaps most important for this study is the steady stream of new housing investment loans during the entire 30 years of 'low inflation', cycling between 10 and 20 per cent annual growth rates and, in many cases, pulling out of "slumps" more rapidly than the money supply M3. The first case of downside divergence between lending for housing and money supply occurred in mid-2008, with the former being at a low and the latter at a high (reflecting the extraordinary stock market boom) – showing weakening housing markets and tight rental markets – and followed by a complete collapse of investor spending on housing in the current recession.

1.4 Changes in inequality

Yates (2002a,b) examined polarisation of incomes from 1986-1996 in considerable detail. In this section, studies documenting the changes in income and wealth post-1996 are examined, as well as several reports not considered in Yates (2002a).

1.4.1 Income inequality

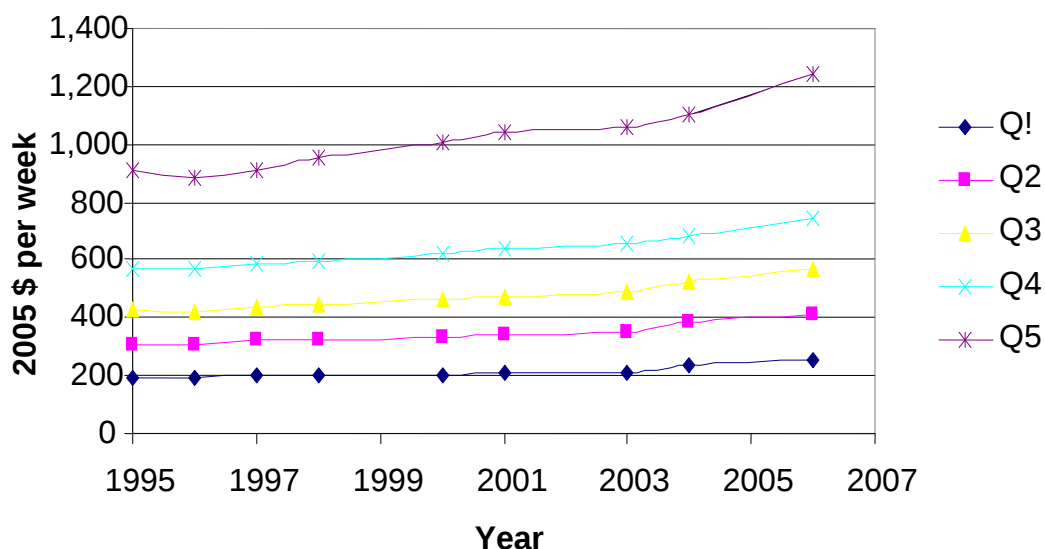
Until the last few years of the downwave, income and wealth inequality rose steadily on a global basis. UN-HABITAT(2003:52) writes: 'The long growth period from 1945-1973 was typified by falling inequality and improving equity. The situation then reversed: income inequality and poverty increased without respite during the recession years from 1978-1993, and real incomes actually fell for the bottom income groups in most countries and for the world as a whole.' In their Figure 3.4, they show that the global Gini coefficient had risen only marginally from 1950-1978, but spurred by a series of market 'reforms' and transfers to the affluent which reversed many of the welfare gains of the post-war period, it rose quite rapidly up to 1998. Particularly within the market-oriented economies, income inequality also rose rapidly at the national level, mostly due to a rise in the incomes of the top deciles (Saunders 2001, Yates 2002a).

Real incomes of the lowest groups in the English-speaking economies began to increase after 1994, recovering some of the substantial losses of real income by the 'working poor' during the 1980s. Nevertheless, inequality continued to increase until at least 2003.

A full consistent series of household incomes per person is not available over the full downwave period from 1974¹⁰. The ABS has provided a series 1994-2006 (Figure 8)

⁹ Sourced from <http://www.rba.gov.au/Statistics/Bulletin/D01hist.xls>

Figure 8: Average equivalised real household income per person, 1994-5 to 2005-6



Source: Household Income and Income Distribution, Australia. ABS . Cat No 6523.0

Figure 8 shows that 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 2004-2006 as labour shortages began to bite as the new long wave gained momentum, rising by over 20 per cent in the lowest income quintile and around 17 per cent in the others. This provided a catch-up for the lowest income groups to achieve close to parity with 1994-95, though the very substantial welfare ground lost during the neoliberal period 1975-1993 will probably never be recovered.

The sudden boost in incomes is paralleled by the substantial increase in money supply and asset prices during the period, which gave a massive boost in wealth to the top group.

1.4.2 Spatial inequality

Yates (2002a,b) devoted considerable attention to regional divides in income, referring to a number of studies that showed increasing incomes in the richer areas and decreasing incomes in the poorer areas of Australia up to about 1996.

A number of reports by NATSEM have investigated changes in spatial inequality since 1996. Ranking Australian postcodes by average income and forming deciles, AMP/NATSEM (2004) found that there had been strong income growth during 1996-2001 of at least 23 per cent for all postcode deciles, but it was upper-middle income deciles that had made the greatest gains, averaging about 27 per cent – showing a mild increase in 'spatial' polarisation.

¹⁰ Real household incomes fell in every quintile except the top in the period from 1975-2000, but this is not very meaningful because household size fell so substantially in the period.

Table 1: Estimated percentage change in average gross household income, by state and region, 1996 to 2001

	<i>Capital cities</i>	<i>Major urban areas</i>	<i>Regional towns</i>	<i>Rural towns</i>	<i>Rural areas</i>	<i>All regions</i>
	%	%	%	%	%	%
New South Wales	26.9	25.6	21.1	23.1	27.8	26.2
Victoria	26.4	24.4	26.2	27.6	28.5	26.7
Queensland	22.8	19.8	18.3	19.5	19.2	21.8
South Australia	24.1		23.1	28.3	28.3	24.3
Western Australia	21.2		14.8	15.9	10.2	19.5
Tasmania	18.5		16.6	18.4	20.8	18.3
Northern Territory	14.9		18.2	28.3	16.4	18.1
Australian Capital Territory	24.4					24.4
Australia	25	22.5	20.1	22.8	23.9	24.5

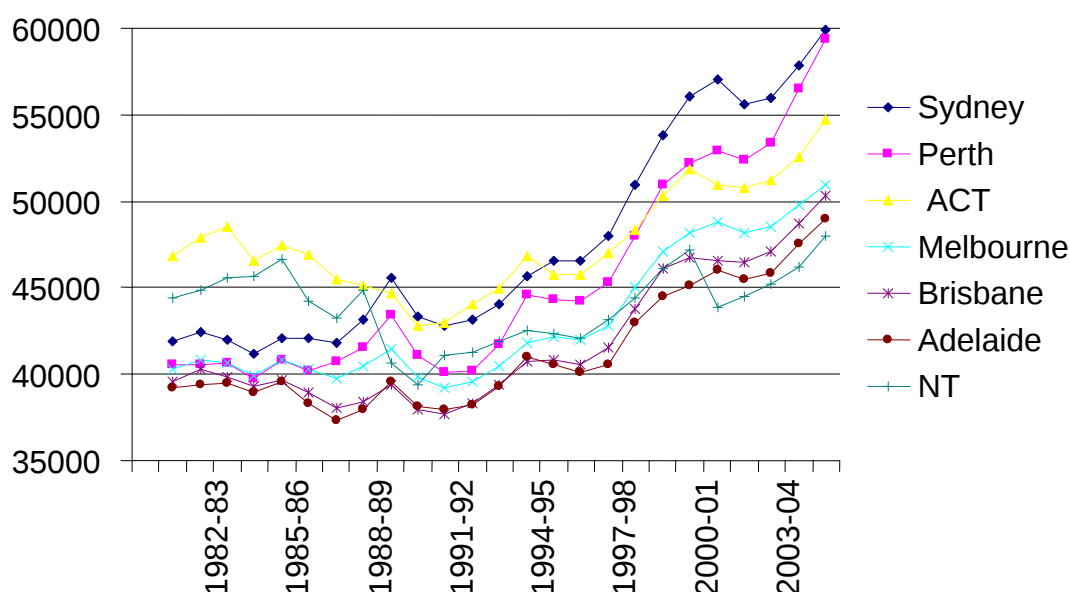
Source: AMP/NATSEM (2004), Table 1.

The authors attribute higher incomes in different postcodes both to much higher workforce participation and employment rates, and to higher proportions of professionals.

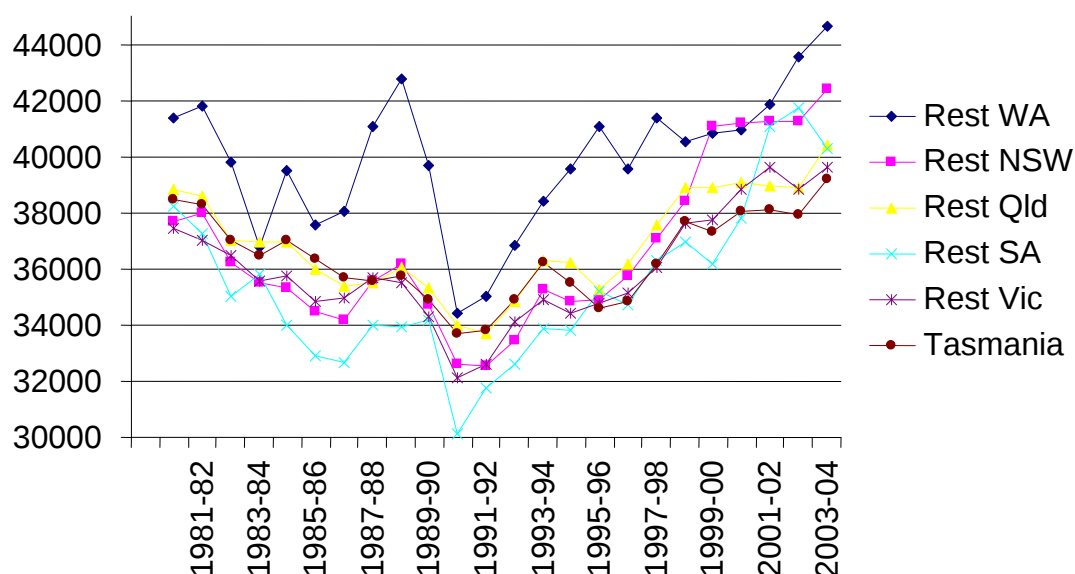
The NATSEM Table 1 of income growth rates by region is somewhat countercyclical and unexpected, showing the lowest growth rates in rural WA and the highest rates in rural South Australia and Victoria. The longer term analysis shown in Figure 9 below puts this in the proper perspective.

Figure 9: Real income per taxpayer 1981-2005

a) Capital cities



b) Rest of state



Source: BITRE database.

The Bureau of Infrastructure, Transport and Regional Economics maintains a database of real taxable incomes by SLA and LGA, and from this we have constructed a longer series. This shows that the NATSEM five-year results can be misleading: in the longer term. Perth has been the big winner (it plateaued in the early 2000s between two major rises), followed by Sydney. In the non-metropolitan areas, Rural WA has had the highest real incomes throughout most of the 1981-2005 period, although incomes suffered a large slump in 1990.

The measurement of spatial inequality – a conundrum

Despite the above results, Flood (2000a) showed that between 1975 and 1996, spatial inequality in Sydney as measured by the index of dissimilarity actually decreased, with both smaller and larger geographical areas becoming more socially homogenous. This appeared to have happened because the weakening of planning regulations had caused a mix of tenures and dwelling types in many areas, allowing for a greater social mix. Flood (2000b) showed that home ownership and free-standing dwellings were in fact much less determinants of spatial inequality in 1996 than they had been in 1975. The major separating factors were now professional status/tertiary qualifications and long-term residential stability.¹¹ At least in Sydney, different tenure types and dwelling types had mixed – apparently as a result of changes in urban planning regimes and the withdrawal of the local state.

Flood (2000a) pointed out that in fact spatial polarisation¹² had remained remarkably constant throughout 1975-1996. The same apparently contradictory result was found in the USA 2001 census, in that urban spatial areas were more mixed with a diffusion of richer and poorer individuals into formerly homogenous areas – but the difference in incomes between the richer and poorer areas had increased. In other words, the apparent polarisation of urban areas has been an income effect rather than a spatial effect.

¹¹ Baum (1997) identified many of the same factors in a non-multilinear analysis.

¹² In terms of the proportion of people who would need to move to obtain income parity between all areas.

The continuation to 2001-06

An update of this study for 2001-06, AMP-NATSEM (2008), showed an acceleration in the rate of income increase from the previous five years, with gross adjusted household incomes increasing by an average 28 per cent (or 31 per cent allowing for the fall in household size) compared with 25 per cent for the previous five years. Once again, the top 20 per cent of SLAs registered a greater rise in household incomes by 3 to 5 per cent.

The report showed a particularly spectacular increase in housing costs of 62 per cent, falling more heavily on the middle income groups. This 'housing bombshell' reduced the gain after housing over the period to about 23 per cent, less than in the previous five years. And, once inflation and housing costs were taken into account, gross incomes increased by an unimpressive 1.5 per cent per year in Sydney.

While the 2001-06 report did not give the same spatial detail as its predecessor, it showed a broad regional change in incomes more in line with the intuitive results of Figure 9, with equivalent household incomes rising most quickly in resource-based rural Queensland and Western Australia (41 per cent) and in the two territories (38 per cent) while incomes rose 27 to 30 per cent elsewhere). Housing costs rose by a similar amount in all the capital cities except Darwin, where they rose in line with incomes.

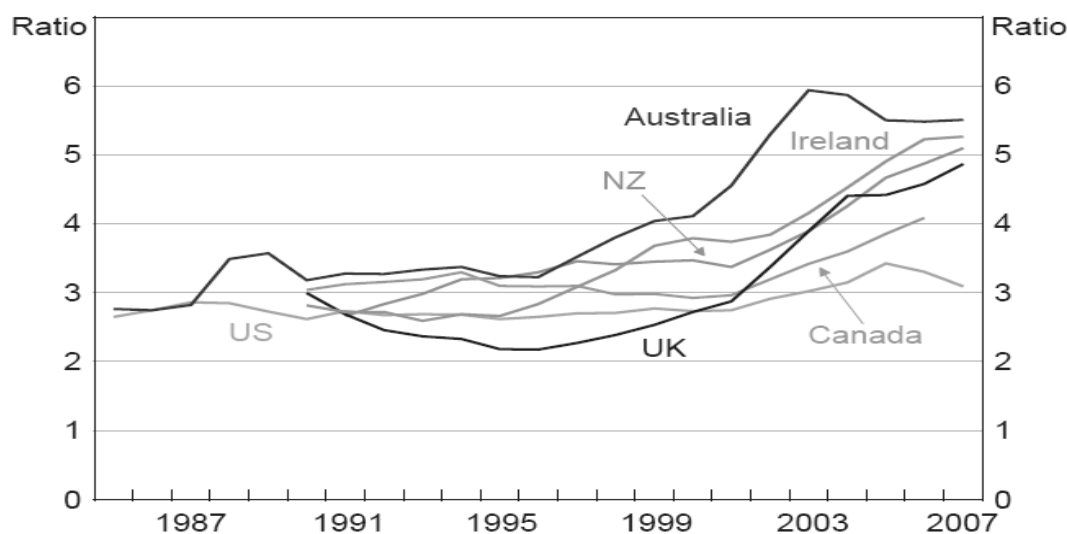
1.5 The rise of house prices

Throughout the whole downwave, interest rates have fallen and housing asset prices have slowly risen in balance. In Australia, prices rose during the boom years of 1987-1989 and then suffered a long flat correction. Yates (2002b, Figure 4.1) shows that real house prices almost doubled in Sydney during this boom, corrected by about 15 per cent up to 1993, and then began to rise steadily. In Brisbane, they rose by 50+ per cent in the boom continuing to 1992, and remained there. In other cities they rose by 30 to 40 per cent in the boom and by 1996, had fallen back almost to 1986 levels.

From 1996, the environment for housing markets has been much more benign not just in Australia but globally. Since that time house price rises in most OECD countries have been particularly startling. But even in the longer term, Girouard et al (2006) find:

'At least since 1970, real house prices have fluctuated around an upward trend, which is generally attributed to rising demand for housing space linked to increasing per capita income, growing populations, supply factors such as land scarcity and restrictiveness of zoning laws, quality improvement and comparatively low productivity growth in construction. A number of elements in the current situation are unprecedented: the size and duration of the current real house price increases; the degree to which they have tended to move together across countries; and the extent to which they have disconnected from the business cycle ... If house prices were to adjust downward, possibly in response to an increase in interest rates or for other reasons, the historical record suggests that the drops (in real terms) might be large and that the process could be protracted.'

Figure 10: House price to income ratios 1986-2007, English-speaking countries

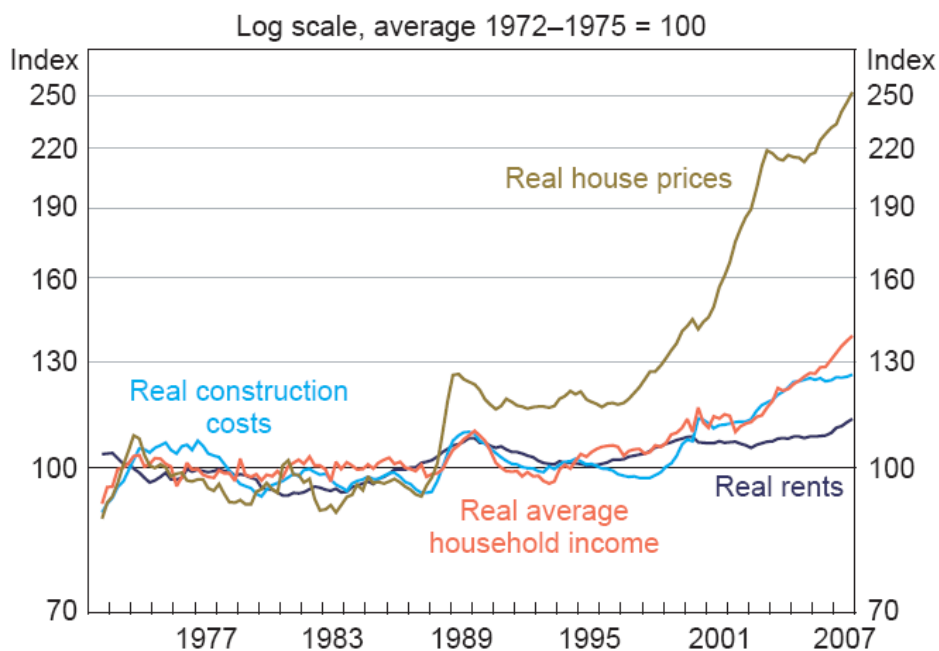


Source: Richards (2008)

Of all the countries in the OECD, house prices have risen the furthest and fastest in Australia since 1996 – apart from Ireland and Spain which have had their own major booms. Figure 10 shows that Australia, which has always been regarded as a country of cheap housing and easily available land, has become one of the most expensive countries for housing (see Section 3.2 for more discussion).

In Australia, since 1996, average house prices have more than doubled in nominal terms and risen by around 80 per cent in real terms — over half of this in the last three years. House prices in Australia are well above what might be expected from rental levels or in relation to average incomes, as Figure 11 below shows.

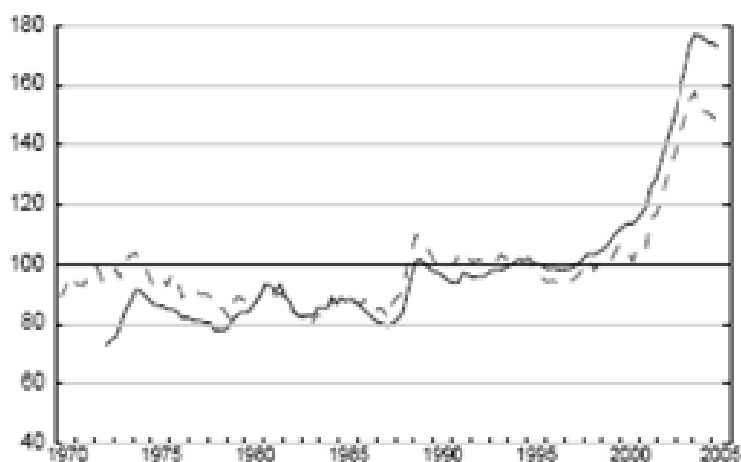
Figure 11: Real house prices and fundamentals



Source: Richards (2008)

OECD Indexes of house prices to annual income and house prices to rents in Australia are shown in Figure 12 as being 80 per cent above the long-term trend average, and therefore likely to fall.

Figure 12: House price valuations against the long-term trend, Australia.



Source: Girouard et al (2006)

The availability of finance is the main short-term constraint on the property market, and house prices will continue to rise as long as money is available. Cheaper, more readily available housing finance in a booming economy, with some added policy stimulus, has resulted in a prolonged surge in demand. Much of the rise in Australia was predicated by easier finance, expressed largely through the rise in the money supply shown in Section 1.3. Borrowing for housing has increased over four-fold in real terms since the early 1990s.¹³

As housing supply cannot be increased very much in the shorter term, this extra borrowing found its way largely into increased housing prices. The Reserve Bank (2003) writes, 'The stability of the aggregate home-ownership rate suggests that the increased availability of credit was largely capitalised into housing prices rather than generating a wider spread of owner-occupation.'

However, deregulation and liberalisation of the finance sector has also played a considerable role, with greater flexibility in financial instruments and less restrictive lending practices. Ellis (2006) describes 'the wave of deregulation and product innovation taking place in financial sectors in most countries. This has reduced interest margins on housing loans, lowering real interest rates paid by mortgage borrowers. Greater competition and product innovation has also encouraged lenders to make finance available to a wider range of potential borrowers than before.' The IMF (2008:134) adds: 'more flexible and competitive mortgage markets have amplified the impact of monetary policy on house prices and thus, ultimately, on consumer spending and output'.

In Australia, increased competition among credit providers has contributed to the doubling of the number of products provided by lenders, including:

- flexible mortgages with variable repayments
- split-purpose loans (splits loan into two sub-accounts, giving tax advantages)
- deposit bonds (insurance company guarantees payment of deposit at settlement)
- non-conforming loans
- redraw facilities and offset accounts
- new providers, including mortgage originators and brokers.

¹³ It has also increased from 10.3 per cent of asset value in late 1989 up to 26.6 per cent at the end of 2007. <http://www.rba.gov.au/Statistics/Bulletin/B21hist.xls>

To a fair extent, rising house prices are associated with movements of capital in and out of the stock market. The investor-driven component of demand for housing was further stimulated by the downturn in the share market from 2000 to early 2003; by a 'supportive' tax environment (see section 2.2); and by aggressive marketing of housing investment 'opportunities'.

In general, government policy has fuelled the rises – particularly through the blowout in the money supply, the facilitation of easy consumer debt, lack of incentives to supply, and demand-side incentives such as the First Home Owners Scheme.

Throughout the OECD, bubbles in house prices fuelled by money supply rises have been followed by substantial collapses. Girouard et al. (2006) writes: 'If house prices were to adjust downward, possibly in response to an increase in interest rates or for other reasons, the historical record suggests that the drops (in real terms) might be large and that the process could be protracted'. As an example, Hamnett (1999) describes how house prices fell in South Eastern England for ten years following the end of the boom of the 1970s and 1980s. Bordo and Jeanne (2002) conclude that property price booms were three times more likely to be followed by a 'bust' than booms in the stock market.

This has rarely been the case in post-war Australia because immigration has continued to protect housing markets and to provide a floor to possible price falls. Downturns in the Australian market have most commonly manifested themselves in a stabilisation in nominal house prices leading to a fall in real prices due to the effects of inflation, rather than by significant and widespread declines in nominal prices. However, past experience shows that nominal prices can fall appreciably – for example, the median detached house price in Sydney fell by 25 per cent in the two years following the end of the boom in the late 1980s.

Nevertheless, these events have been so rare in Australia compared with other countries that it is popularly taken as a given that house prices will rise indefinitely and that it is necessary to 'stay in' a market that will rise indefinitely. This confidence in itself helps to sustain Australian housing markets.

1.6 Debt and financial market instability

1.6.1 *The Deregulation crisis of 1990*

Yates' study of changes in tenure from 1986-96 was conducted against a background of considerable turmoil in financial markets following global financial deregulation. The deregulation of financial markets in the 1980s helped to fuel the boom-bust of the mid-1980s leading very rapidly to large-scale prudential failures until governments and the industry took action to curb excesses. In the USA during the Savings and Loan Crisis, from 1986 to 1995, the number of US federally-insured savings and loans funds in the United States declined from 3,234 to 1,645. This was primarily, but not exclusively, due to unsound real estate lending.¹⁴ Several regional banks also failed, leading to the crisis of confidence and recession of the early 1990s. The US General Accounting Office estimated the cost of the crisis was around USD \$160 billion, about \$124.6 billion of which was directly paid for by the US Government. House prices fell about 9 per cent during the height of the crisis from late 1989 to mid-1993. Similar loan crises occurred in many other countries that had embraced deregulation (in Sweden, five of the six largest banks had to be shored up by the government).

In Australia, a number of prominent collapses also occurred following deregulation, most notable of which was the failure of the State Bank of Victoria following the

¹⁴ The United States League of Savings Institutions writes: 'Anxious to improve earnings, they departed from their traditional lending practices into credits and markets involving higher risks, but with which they had little experience'.

Tricontinental collapse in 1990. The State Bank of South Australia also failed and had to be rescued by the state government with \$3.3 billion of taxpayers' money. A number of building and credit societies were also exposed to risky commercial lending, the most notable being the Pyramid Building Society collapse, which resulted in a 3 cent levy per litre on petrol in Victoria for five years.¹⁵

Innovative lending for low income borrowers also led to failures. The first mortgage backed securitisations in Australia, in the American style, relied on substantial government involvement. The NSW Government mortgage financing agency, FANMAC, and the mortgage originator, HomeFund, suffered significant difficulties in the early 1990s and required a \$400 million rescue package¹⁶. These organisations ran into trouble because HomeFund was providing home loans to high risk borrowers who could not meet their repayments. Low-income or poorly-equipped households that could not service their repayments were heavily targeted. The specially designed low-start products involved steep increases in repayments made by borrowers after a certain period of time had elapsed. The system was also dependent on high rates of inflation and interest rates continuing, and many borrowers found themselves locked into uncompetitively high fixed interest rates. At its highest level, FANMAC had \$4.6 billion of securities on issue. A 1993 Auditor General's report showed that 11 per cent of HomeFund's unsubsidised borrowers and 35 per cent of HomeFund's subsidised borrowers were in default.

FANMAC seems to be regarded as a valuable lesson for the mortgage finance sector in what not to do, and governments subsequently limited their exposure to all such risky ventures. Nevertheless, private organisations such as RAMS and Aussie Home Loans continued to expand and, by March 2000, \$34.7 billion of securitised funds backed by domestic residential mortgages were on issue. This represented a very substantial supplement to traditional banking sources of finance for home lending. Compared with the USA, these securitisations have been heavily protected against default, with 100 per cent principal and interest repayment insurance policy on each mortgage, provided from highly rated specialist lenders' mortgage insurers.

1.6.2 The subprime crisis of 2007-08

The securitised government-backed mortgage lenders in the United States have been far larger and more successful, and they did not have to learn the same hard lessons about prudential control in the early 1990s. Eventually, once another housing boom and bust hit, the American home finance industry found itself in crisis. While this crisis began in October 2007, outside the period of the present study, it has its roots in the excesses of the early years of the millennium.

Between 1997 and 2006, American home prices almost tripled.¹⁷ Some homeowners used their increased property values to refinance their homes with lower interest rates and to take out second mortgages against the added value to use the funds for consumer spending. As in Australia, US household debt as a percentage of income rose to 130 per cent during 2007.

A small proportion of these loans (6.2 per cent) were subprime mortgages made to borrowers who did not qualify for standard loans, and who often belonged to minorities. By March 2007, the value of these loans was US\$1.3 trillion. About a third had low-start 'sweetener' interest rates that jumped substantially after the qualifying period. By October 2007, when the house price bubble burst, about 16 per cent of

¹⁵ http://fsgstudy.treasury.gov.au/content/download/Davis_Report/rtf/24_Appendix4-2.rtf

¹⁶ <http://www.parliament.nsw.gov.au/prod/parliament/hansart.nsf/V3Key/LC19931215006>

¹⁷ The Case-Schiller house price composite index rose from 76 to 225. http://www2.standardandpoors.com/spf/pdf/index/CSHomePrice_History_112766.xls

these mortgages were in default, resulting in foreclosure notices on 1.3 million properties, a million of which have subsequently been executed.

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The jury is still out in mortgage-backed securities, which have come to predominate as the source of housing funds in the USA.¹⁸ On the one hand, it is regarded as a positive that these securities spread risks of mortgage default throughout the system, particularly in the USA where mortgage defaults are limited liability 'non-recourse' and more commonplace, thereby taking the load off the banks. On the other hand, the exact impact of widespread defaults becomes more and more uncertain, and the fear of 'contagion' leads governments to intervene, causing problems of moral hazard for debt issuers who know the tab for failures due to unsound practices will be picked up by the taxpayer.

The marked decline in underwriting standards appears to be related to the origination system that was prevalent in the US system. Those who originated the loan were paid on the volume of loans they were writing. These loans were then sold to another entity, generally an investment bank, who then packaged the loans into a residential mortgage-backed security (RMBS) which was sold to investors and other securitisation vehicles. The originators had no long-term incentive, beyond reputation, to ensure that the underwriting standards were adequate. Automatic computerised approval systems, which originally were seen as a panacea for race-based redlining and other discriminatory practices,¹⁹ have not turned out to be as accurate and objective in assessing risk as originally hoped. On the borrowers' side, misrepresentation of incomes or documents seems also to have been common, and these fraudulent applications were five times as likely to go into default.²⁰

By mid-2008, banks sought US\$250 billion in funds from investors to meet their losses, and a major credit crunch ensued, with a downturn in all forms of economic activity in the USA. Due to securitisation, the risk was spread widely and impacted on the whole financial sector. This had a global ripple effect on all forms of finance.

The initial housing impact of the subprime crisis would probably not have been as great as the Savings and Loan Crisis, but its effect was magnified many times and spread throughout the world economy by the credit bubble that had developed around mortgage-backed securities. The magnitude and the speed of these declines, which have been likened to a 'perfect storm', were greater than anything seen since the 1930s. Reserve bank governor Glenn Stevens said in September 2008:

'The sophisticated financial system of the 21st century was supposed to spread risk, but a lot of the risk ended up concentrated on the books of highly leveraged institutions'.

¹⁸ The IMF (2004) writes: 'Mortgage-backed securities comprise about 12 per cent of residential mortgage lending in Ireland; 8 per cent in the United Kingdom; 4 per cent in the Netherlands; 6 per cent in Spain; and 18 per cent in Australia. In contrast, in the United States, mortgage-backed securities comprise 57 per cent of home mortgages'.

¹⁹ See for example UN-HABITAT (2001).

²⁰ http://en.wikipedia.org/wiki/Subprime_mortgage_crisis#cite_note-41

The vehicles by which mortgage risk was shared throughout the financial system most commonly took the form of Collateralised Debt Obligations (CDOs), special purpose vehicles that bundled assets, especially mortgage-backed securities, commercial property and high yielding corporate debt, and sold tranches of synthetic bonds and equity issued at different risk levels.²¹ By late 2007, nearly two thirds of all US mortgages were held in these pools. Once the underlying assets were in default however, almost half of all bundled derivatives were in default, and the losses could not be quarantined. Confidence in all forms of complex derivatives eroded, credit markets froze and it became very difficult to obtain finance of any kind. Financial institutions reported losses of US\$435 billion by July 2008, and three major US investment banks failed in September 2008, while the principal issuers of mortgage backed securities were nationalised. By the end of 2008, \$1.1 trillion of losses had been reported, with a further \$1 trillion anticipated. A rescue stimulus package of \$1.2 trillion reached final approval in February 2009.

The decline in the broader economy fed back into the housing market, exacerbating the problem. A continued wave of foreclosures put rapid downward pressure on housing markets. The United States has lost \$6 trillion in housing wealth since the peak of the bubble. By the end of 2008, the US housing market had fallen by 23 per cent and had given back all its bubble gains – while seeming likely to fall further. An additional 5.9 million foreclosures were expected over the next four years to 2013.

While a number of other countries had enjoyed an even greater housing bubble due to easy finance, this was not among low-income households as in the USA, and housing prices remained high. However, the subsequent credit squeeze and recession was rapidly exported – particularly to countries highly leveraged with debt. In Spain, unemployment rose to almost 14 per cent; in Ireland universal wage cuts were proposed; while several British banks and all Icelandic banks were effectively nationalised. While most national stock markets fell by more than 50 per cent in the 12 months from November 2007, house prices had not fallen very far as there were few foreclosures to set the pace, and so median household wealth had not declined to the extent of the USA.

What was however apparent was a substantial fall in new construction from 2007 levels – an annual contraction of 50 per cent in housing starts in the USA, and 27 per cent in the UK to a post-war low – and a similar fall in property sales. In Australia, new construction fell by 25 per cent, while the purchase and refinancing of existing dwellings fell by 35 per cent from historic highs.

A surplus inventory of homes has occurred,²² with a substantial fall in house prices which has impacted further on consumer spending and the default rate. Overbuilding during the boom period, increasing foreclosure rates and unwillingness of many homeowners to sell their homes at reduced market prices have significantly increased the supply of housing inventory available, and housing investment has slowed.

According to former US Federal Chief, Paul Volcker:

‘The country has been spending more than it’s been producing, and that will have to come to an end. So far, the potential losses look manageable, compared with the savings-and-loan crisis of the 1980s and the tech-stock crash of 2000-02. But the housing debacle could yet take years to work out, thanks to the sheer complexity of it. The new financial system – shifting risk

²¹ These offered returns a few percentage points above the market while claiming to be very low risk. Many institutions took advantage of these in the low-interest financial environment after the dot-com collapse, including a number of Australian local governments.

²² See, for example, IMF (2008), Figure 2.1

from banks to securities markets – has worked ‘pretty well’ up until now. We’re going to find out if it works well for a major-league crisis’.²³

On the positive side, it is agreed that subprime lending improved the home ownership rate in the USA from 64 per cent in 1994 to 69.2 per cent in 2004. Debelle (2008), Assistant Governor of the Reserve Bank of Australia, states: ‘One noteworthy feature associated with the expansion of non-prime lending has been the rise in home-ownership rates, particularly amongst minorities, that it has facilitated. Delinquency rates may be currently around 25 per cent, that does mean that 75 per cent of borrowers have thus far been able to purchase a house’.

This disturbing level of delinquency would be unacceptable in other parts of the world for such a limited benefit, and adds credence to naysayers who have often stated that extending home ownership to lower income groups is an unnecessarily risky business.

Initially, Australia was partially insulated from the subprime crisis because its economy is increasingly connected to East Asia rather than the United States. Nevertheless the credit crunch has had an effect and both the stock market and house prices have come off the boil in 2008.²⁴ A few local councils and hedge funds have had exposure, but most balance sheets are strong.

Is Australia also at risk of housing market default? Debelle (2008) believes not²⁵, in that:

- Non-conforming housing loans are only 1 per cent of the market. Arrears on these loans are well above average at 4.5 per cent, but far below the US. Under Australian law and custom there are much greater incentives for consumers not to default on house loans, and institutions are much more prepared to prevent this happening.
- Low-start instruments and discounts are relatively limited here. Average loan to valuation ratios are considerably higher here, and lending practices are generally more conservative.
- The bulk of the finance debt in Australia is held by high income earners, which is where the risk should reside.

Nevertheless, despite this extra prudential care, on the gross aggregates Australian housing and financial markets are in an even more unsustainable and bulging state than the USA, and it is questionable that the balloon can hold on all fronts until asset inflation diminishes to more manageable levels, or incomes and rents rise to match.

1.6.3 Securitisation in Australia

Much of the concern in the subprime crisis has been about securitisation and its potential for ‘contagion’ with the risks of widespread mortgage default spread throughout the financial sector. It appears that it is this, plus the blow-out in housing credit, which has led the RBA to its current interest in housing markets, with many bulletins and research papers devoted to these topics.²⁶

²³

http://www.brookings.edu/~media/Files/events/2008/0404_subprime_crisis/0404_subprime_crisis_volckerr.pdf

²⁴ Fixed business lending in particular fell from a record \$35.6 billion to \$21.6 billion, Jan-April 2008. (RBA Table D06, Lending commitments).

²⁵ RBA (2007) Financial Stability Review, March, contains considerable data in support of this assertion. However the subsequent global meltdown has shown that the spreading of risk has threatened the whole global financial system.

²⁶ Prior to 2004, housing was not particularly a brief of the RBA. However, a search of their site reveals over 100 housing-related publications or presentations since 2006.

Mortgage-backed securitisation started in a modest way in Australia around 1987, sponsored by state housing departments in NSW and Victoria as a possible alternative to their concessional lending programs under the Commonwealth State Housing Agreement (CSHA). Soon private sector originators took over the activity and it grew rapidly from \$5 billion in 1996. Asset-backed securities hit their highest point in June 2007, with \$274 billion worth of assets held in securitisation vehicles and \$216 billion issued in outstanding loans – about 35 per cent of outstanding lending for housing. This had fallen to 28 per cent by April 2008.²⁷

About 5 per cent of the securitised loans are subprime. Losses on the pool of loans have been almost negligible to date, and investors have shown increasing confidence in the issues, with spreads against the bank bill rate steadily falling from 2000 to 2006 (Reserve Bank 2006).²⁸

However, in early 2008 no issues were made in the aftermath of the subprime crisis. The Reserve Bank began intervening in the market for asset backed securities in a fairly substantial way by making on-market purchases to kick-start the sector, totalling \$2.35 billion by April 2008.²⁹ Governor Glenn Stevens said in April 2008:

'In periods of particularly unusual market duress, central banks should be prepared to move beyond the normal scope of operations to provide liquidity against a broad range of assets'.

By late 2008 evidence of a sustained global downturn had become overwhelming, and the Federal government has so far unveiled \$72 billion in stimulus spending, coupled with a guarantee of bank deposits and a very substantial drop in interest rates. It is expected that continued injections of funds will be necessary to keep the economy on an even keel.

SECTION SUMMARY

This section has engaged in a broad overview of changes in the world economic situation in the two decades 1986-1996 and 1996-2006.

In the earlier period studied by Yates, erratic economic conditions and low growth persisted from a period of very high interest rates and unemployment around 1986, and in these uncertain times households paid off their mortgage debt rapidly. A major bank crisis and credit crunch occurring around 1990 in the aftermath of deregulation was symptomatic of the generally hostile mortgage market conditions. A 'hollowing out' of labour markets extended from 1976 and contributed to rising household income inequality.

The period of the present study was benign by comparison, with accelerating economic growth after 1988 as the Asian superpowers extended their economic expansion. Wages rose quite rapidly after 1998 and unemployment fell to levels not seen since the 1960s. However, the top income group continued to gain income and wealth disproportionately, especially as asset prices rose.

Much of the period was a very lax time for monetary policy. Interest rates were low, finance was freely available and debt soared. House prices rose relative to incomes and rents to levels never seen before, largely fuelled by the debt explosion. However, new supply did not respond to this huge increase in demand and in housing turnover. In Australia, most of this wealth bubble resided in established dwellings in good locations, accompanying greater income inequality. Although assisted by the First

²⁷ RBA Table D02

²⁸ In the USA these spreads rocketed in 2007.

²⁹ <http://www.bloomberg.com/apps/news?pid=20601081&sid=aegfyWnNxJyE>

Home Owner's grants, many younger people continued to shun the market and, as in the previous decade, home ownership stayed steady despite an aging population.

The bubble in house prices and debt in the USA had been accompanied by lax lending practices and complex securitisation which spread the risk throughout the world economy. In the period immediately following this study, the housing market began to deflate in the USA and widespread delinquencies in mortgages and associated debt products occurred. Credit dried up globally with disastrous results for some countries. The malaise created a global economic downturn and stock market collapse. Very rapid falls of 25 per cent in house prices in the USA from a high in mid-2006 were immediately followed by a million mortgage defaults and foreclosures. The initial subprime debacle was restricted almost entirely to the USA; but the wider economic fallout was global. While the volume of sales dropped considerably in Australia from mid-2008, house prices showed only modest falls.

The house price bubble in the USA was very regional and restricted largely to sun-belt areas. In Australia also, demand was regional. Incomes rose most markedly during this 'globalisation period' in Sydney, Western Australia and the A.C.T. – but house prices followed a more complex pattern, as will be discussed in the main report.

2 HOUSING TENURE

Section 1 of this report was concerned with broad market and distributional issues affecting the Australian housing market and housing tenure. This section looks at some specifics of the tenure question in Australia, concluding with a summary of international policy changes in the last ten years.

2.1 Changes in tenure in Australia

The proportions of households in different tenures have remained virtually constant for forty years in Australia – it is probably unknown for any other aggregate of such intense policy interest to remain virtually fixed for more than a generation. Table 2 shows the number of households in the major tenure types for the period.

Table 2: Numbers of households in different tenures and aggregate home ownership rate, Australia 1966-2006

<i>Year</i>	<i>Owner without a mortgage</i>	<i>Owner with a mortgage</i>	<i>All owner occupied private dwellings</i>	<i>Renter</i>	<i>Other tenure</i>	<i>Total(a)</i>	<i>Owner occupation rate</i>
'000	'000	'000	'000	'000	'000	'000	%
1966	na	na	2 231.9	835.1	59.6	3 126.5	71.4
1971	na	na	2 468.9	1 001.3	119.3	3 589.5	(b)68.8
1976	1 306.3	1 437.8	2 761.5	1 044.5	232.5	4 038.5	68.4
1981	1 548.9	1 542.9	3 178.9	1 164.5	190.6	4 534.0	70.1
1986	1 981.9	1 604.4	3 586.3	1 334.4	174.1	5 094.8	70.4
1991	2 362.0	1 561.3	3 923.2	1 560.6	210.3	5 694.2	68.9
1996	2 658.0	1 656.1	4 314.0	1 866.0	67.8	6 247.8	69
2001	2 810.9	1 872.1	4 683.0	1 953.1	101.3	6 737.4	69.5
2006	2 478.3	2 448.2	4 926.5	2 063.9	65.7	7 056.1	69.8

Note: a) Excludes tenure not stated

b) inclusion of Indigenous households contributed to the fall

Source: ABS 1301.0 Yearbook Australia 2008

In the 2005-06 Survey of Income and Housing, 34 per cent of households owned their homes outright (i.e. without a mortgage) and 35 per cent were owners with a mortgage. A further 22 per cent were renting from a private landlord and 5 per cent were renting from a state or territory housing authority.

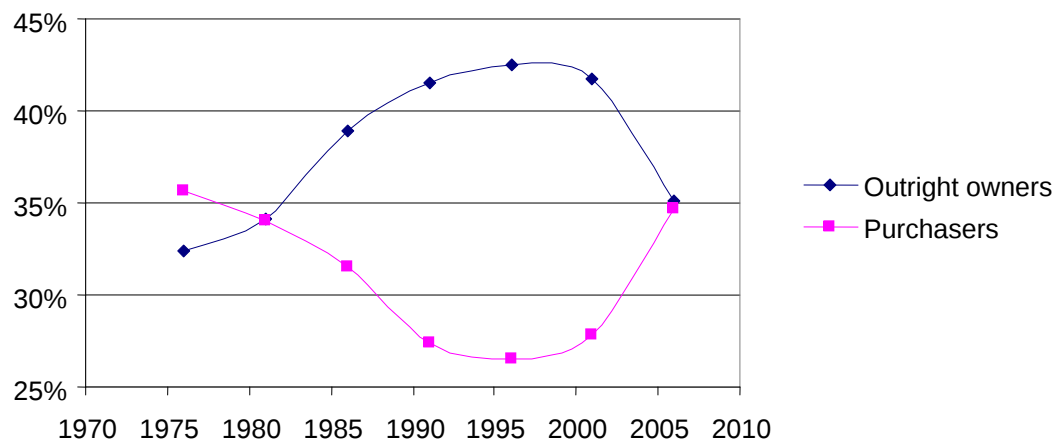
The changes in tenure are so small over the period that small changes in definition can affect the result. Nevertheless, it does appear that the proportion of renters rose by almost 4 per cent between 1986 and 1996, falling back by about 1 per cent after that time.

The aggregate figures disguise a change in ownership rates in particular subgroups of the population. For example, a number of authors, including Yates (2000, 2002a) and Richards (2008) have pointed out the fall in ownership rates in 25-39-year-olds, dropping from 65 per cent in 1986 to 58 per cent in 2006. In fact, if the

homeownership rate stays constant, any change in demographics implies an adjusting change in homeownership in particular sectors.³⁰

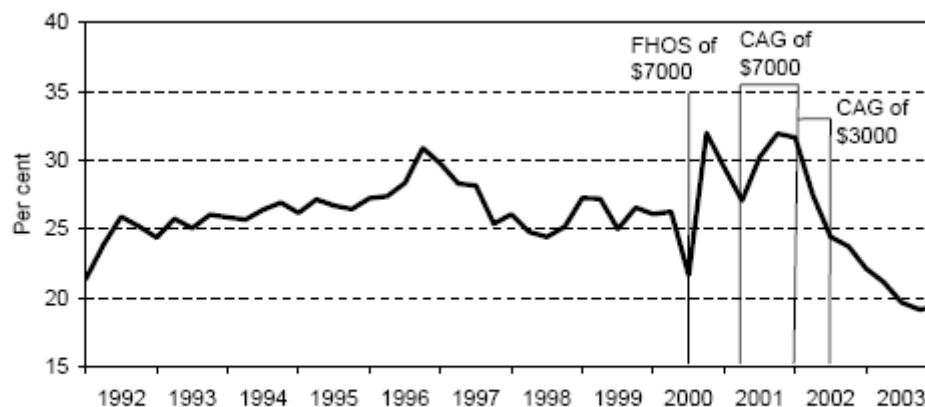
What does respond to the financial environment is the proportion of households with mortgages. The proportion of mortgagors fell to historically low levels in the mid-1990s following the banking crisis (Figure 13).³¹ Between 1996 and 2006, the number of households with a mortgage increased by 50 per cent, while the number of outright owners actually fell. The proportion of purchasers was at its lowest level in 1996 at 26.5 per cent of households, returning almost to 1976 levels by 2006 (34.7 per cent).

Figure 13: Proportion of households who are outright owners or purchasers 1975-2005, Australia



Source: Housing Occupancy and Costs Survey 2005-6 datacube, ABS Cat.No. 4130.0.55.001

Figure 14: Loan approvals to first home buyers as a proportion of total approvals



Note. Excludes refinancing of established dwellings.

Source: Treasury (2003-4)

³⁰ For example, the number of households with a reference person over 55 increased from 22 per cent to 24.3 per cent in 2001-2006 – and because the older group always has a higher rate of home ownership – the home ownership rate in the younger group must fall to balance.

³¹ It seems likely that investment advisors also played a considerable role in the increase in home equity, since at the time, with the stock market and housing market still in the doldrums, most advisers were recommending paying off the home mortgage as the best investment strategy.

The census shows that the mortgage recovery took place largely after 2001, but the Housing Occupancy and Costs Survey shows a smoother transition after 1996 (Figure 14).

The major form of direct assistance to home ownership introduced during the period has been the First Home Owners Scheme (FHOS) in 2000 (AIHW 2008:32) to help offset the impact of the GST on construction prices (the grant was not restricted to new homes however). FHOS was a non-means-tested version of similar schemes in the 1970s and 1980s and, as with the earlier schemes, it was introduced just as house prices were beginning a sustained rise and contributed to further rises in prices.³² A model by Wood et al. (2003) suggested that while the grant was very helpful in improving affordability of entry, the scheme largely caused first home buyers to accelerate their purchases. This has been subsequently borne out by the statistics, as Figure 14 shows. Following the Grant, first home owner mortgage finance rose to a 10-year high of over 30 per cent of new housing finance approvals, but subsequently fell back to a record low of under 20 per cent.

Some statistics support a somewhat later transition to first home ownership, which may have been encouraged by FHOS. For example, the Housing Occupancy and Costs Survey shows an apparent rise in older first home owners over 45 (from 5.1 per cent to 9.2 per cent in the period 1995-6 to 2005-6).³³ The main target group aged 25 to 35 has fallen from a maximum of 65 per cent of first purchasers in the year of introduction of FHOS down to 53 per cent in the rebound years of 2002-3 and 2005-6. Also, the proportion of purchasing families with only one income appeared to surge by four points in these same years. However, household incomes of first time buyers were apparently unaffected by FHOS, as there was no targeting.

Finally, these same data show that the proportion of first buyers buying separate houses seems to have fallen by a good 12 percentage points in the high cost 2005-6 period, with these buyers of townhouses and units probably causing the current pressure on the rental market. The interest in new dwellings by first home buyers has fallen from 23 per cent down to 13 per cent since 1995-6. These issues will be studied in more detail in the main project.

Because first home buyers are not such a large component of the market, the Productivity Commission believes that FHOS could have added no more than 3 per cent a year to house prices during a time when these were rising by 15 per cent. However, they state regarding home ownership:

‘the case for support beyond what is already available through the tax system is not compelling...The money involved could yield a higher return to the community if redirected to support the broader housing needs of low income households’ (Productivity Commission 2004:32).

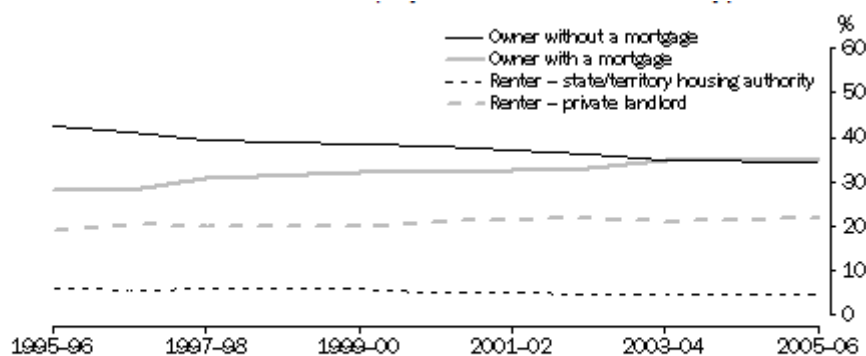
³² Flood and Yates (1987) showed that the earlier schemes were extremely regressive and largely appropriated by higher income earners until means testing was brought in, which also appeared to reduce the impact on prices. The Productivity Commission (2004) reaches the same conclusion about the present scheme.

³³ ABS Cat. No. 4130.0.55.001 - Housing Occupancy and Costs, Australia, 2005-06. Feature datacube First Home Buyers in Australia. The time series is erratic and the apparent changes fall well within the relative standard error of estimates.

2.2 Private rental and housing investment

Since 1995-96, Figure 15 shows that the proportion of households renting from state/territory housing authorities has declined slightly while the proportion renting privately has increased from 19 per cent to 22 per cent.

Figure 15: Households by tenure and landlord type

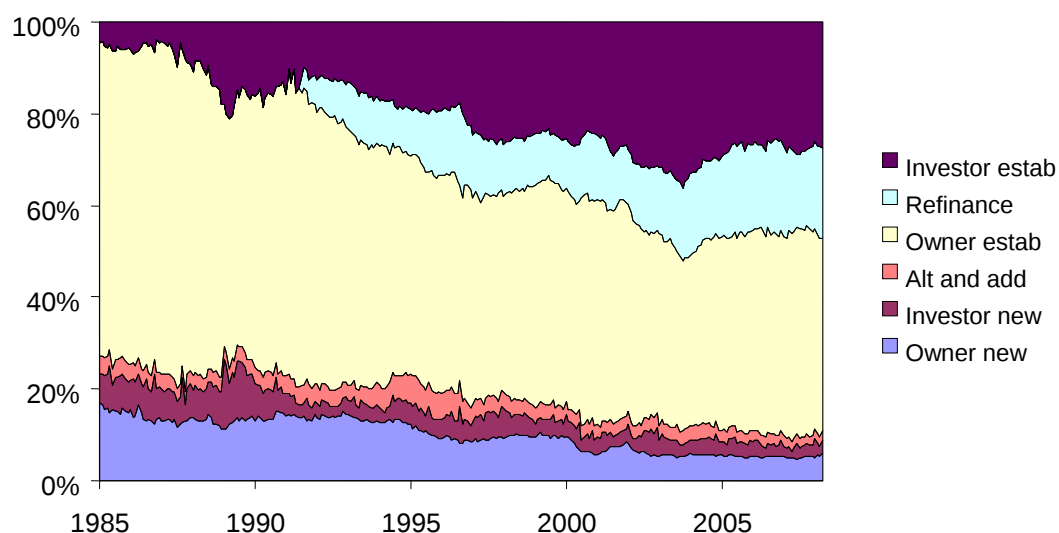


Note: No data are available for 1998-99, 2001-02 or 2004-05. Values have been interpolated for these years.

Source: Housing Occupancy and Costs, Australia (4130.0.55.001).

Figure 16 shows a percentage breakdown of outstanding home lending by purpose. The steady drop off in lending for new housing is apparent – it has fallen from about 27 per cent of the market in 1989 to about 10 per cent. However, most obvious is the dramatic increase in refinancing and in investor borrowing for established housing. These two proportions are connected – it seems likely that many of these refinancings are baby boomers buying investment properties or other growth assets for their retirement.³⁴ The investor percentage peaked at 29 per cent of all borrowings in June 2007 just before the subprime crisis – but refinancings are still rising proportionally at over 20 per cent of loans in March 2008.

Figure 16: Mortgage lending, all lenders. Per cent by purpose 1985-2007



Source: RBA Bulletin Table D6. Lending commitments, all lenders.

³⁴ This is a fairly natural outcome of increased household income and asset inequality – the richer households can be expected to buy investment properties that the poorer households will live in.

Colebatch (2008) has argued that investors have crowded out new home owners; and that private rentals are at their present very low level relative to house prices principally for this reason. He also argues that it is the availability of negative gearing against other forms of income that has encouraged these investors.

Table 3: Rentals and costs by state, \$ per schedule 2005-6

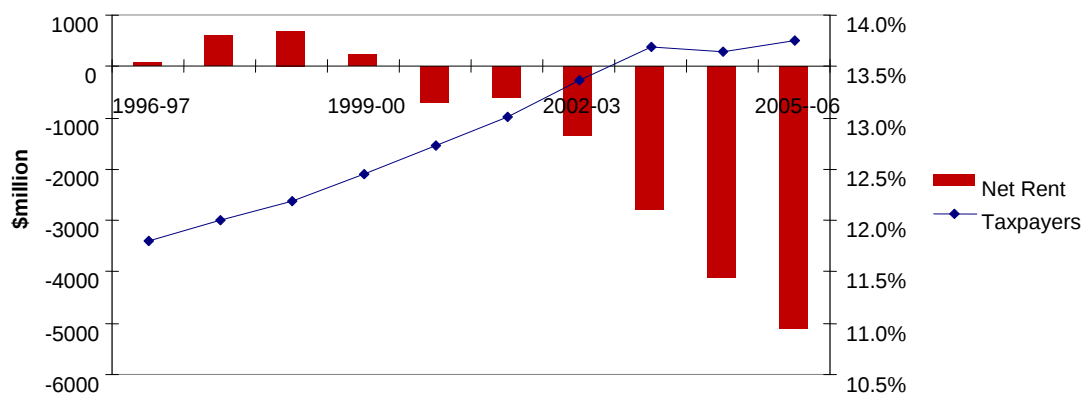
<i>Location of rental property²</i>	<i>Annual rent</i>	<i>Annual expenses</i>	<i>Interest</i>	<i>Loss</i>
NSW	10,045	5,238	7534	-26.1%
VIC	7,865	3,739	5,549	-17.4%
QLD	8,096	5,197	5,969	-37.2%
SA	6,476	3,421	4,246	-17.5%
WA	6,404	3,841	5,356	-40.9%
TAS	6,268	3,106	3,623	-6.6%
ACT	9,314	5,664	6,245	-27.4%
NT	8,106	4,700	5,481	-25.1%
Total	8,388	4,602	6,177	-27.5%

Note: The number of schedules is somewhat larger than the number of rental properties

Source: ATO Taxation Statistics 2005-6, Table 16.

Negative gearing is only useful if the loss claimed can be recouped against future capital gains, which are taxed at a lesser rate, and therefore it will tend only to be favoured in periods and places when house prices are rising. Table 3 shows that negative gearing is greatest proportionally in Western Australia, Queensland and Sydney, and lowest in Tasmania, which bears out this assertion.

Figure 17: Individual Taxpayer returns. Net rent and % taxpayers with rental income



Source: Australian Taxation Office. Taxation Statistics 1996-97 to 2005-06

Figure 17 suggests that many landlords have been victims of rising interest rates rather than opportunists cashing in on negative gearing. In the late 1990s, aggregate net rentals in Australia were in fact positive, and turned modestly negative in 2000-2001. Losses ballooned in subsequent years. Throughout this period the proportion of taxpayers with rental income increased – right through to 2003-4, and then became stationary. New landlords seem to have been motivated by rising house prices rather than the prospect of delaying tax; however, despite the huge losses on rental properties recorded in 2005-06, landlords held on to their properties. Given the subsequent tightening of the rental market it seems likely that some began to desert after this time.

It remains a fact that rents are extremely low – to the point that more than half the rent is already going in non-interest expenses, as Table 3 also shows.

Landlords are hurting – although the government has been absorbing a significant proportion of their loss and risk through the tax system. In the event of a housing price decline, the sector may be seriously in trouble. As this is the principal tenure of Australia's low income earners, and many are already paying high proportions of their income in rent, an affordability crisis of considerable magnitude is in the offing unless the government acts to support supply.

2.3 Determinants of tenure choice

A key part of the proposed study and the original relates to determinants of tenure choice, and in fact a great deal of research has been undertaken both in Australia and overseas on this issue.

Yates (2002b, Chapter 5.3 and Appendix C) found that rising income, persons employed, and various household types were primary determinants of home ownership. In Chapter 5, she also decomposed the changes in home ownership from 1986-96 to show that declining household size and an increase in households with no wage income was responsible for at least half the decline in home ownership nationally but that, particularly in the regions with rising prices, a decline in affordability was largely responsible for the decline in ownership. Young households were typically being excluded.

In recent years, the emphasis has moved from cross-sectional or static studies to a consideration of tenure as a sequence of life cycle choices.³⁵ The recent availability of household surveys, including the NLC survey, HILDA and the Housing 21 Survey, have made it possible to undertake a more detailed examination of housing tenure determinants. These have focused on attitudes, and on relationship formation and dissolution.

Wulff (1993) and many others have highlighted the importance of social perceptions in determining the preference for home ownership over other tenures. Merlo and MacDonald (2002) examined the expressed aims and perceptions of 789 non-home owners in the NLC survey to find the determinants of preferences for home ownership. They found that childbirth aspirations, independence and career aspirations correlated well with home ownership aspirations. In a logit estimation, they showed that age and education were strong determinants, but sex, ethnicity, relationship status and employment status were not. About 31 per cent of those who thought that buying a home was important actually achieved this goal in the next three years. Success was dependent on the number of workers in the household, income, non-English speaking background, and, negatively, on career aspirations. Young people were less likely to succeed.

Richards (2008) suggests that the rise in housing expenditure may signify a change in preference for housing as incomes have risen, and that housing may be a 'superior good'.³⁶ The recent work by Ben-Shahar (2007) also highlights the importance of economic factors in explaining tenure choice for home ownership. Interestingly

³⁵ The earliest research on life-cycle attainment in housing was undertaken by Hal Kendig (1981, 1984, 1990). Limited work was also undertaken for the National Housing Strategy (1991) using the special-purpose HALCS survey, which was the first of its kind to investigate both attitudes and housing outcomes.

³⁶ A superior good is one on which people spend a higher proportion of their income as incomes rise. However, it is very well known from the literature that housing is an inferior good or necessity, so the higher expenditure is almost certainly due to a price increase.

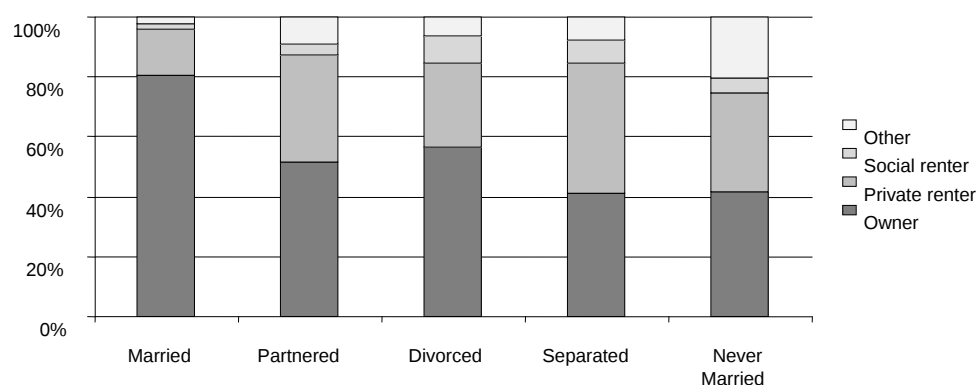
though, he suggests that psychological factors may be even 'more meaningful than the economic ones in explaining actual tenure decisions' (p. 854).

Flatau et al. (2004) give a major role to household formation and dissolution in tenure decisions, modelling the risk of exit from the parental home, deposit requirements and transaction costs.

Beer et al. (2006) highlight the lifecycle component to housing careers, finding that ownership is closely aligned with lifecycle stages. They suggest that housing careers and the pathways that they take are becoming increasingly varied, nevertheless, these pathways are also clearly linked to lifecycle stages and household structure, for example, in their study marriage dissolution was the greatest cause of moves from home ownership into rental. Similar to the findings in this study, a recent examination of preferences for home ownership in Finland and Sweden (Andersson et al. 2007) found that preference for homeownership was strongly lifecycle related, with renting '*seen as an acceptable alternative for the young, as well as for the elderly. [and] Home ownership ... seen as the choice for families with children*' (p. 160). Though the preference for home ownership is well established to be closely linked to the lifecycle stage of marriage, recent work by Lauster and Fransson (2007) suggests that emerging changes in family formation patterns have to some extent decreased the importance of marriage as a key lifecycle stage for entry into home ownership.

Flood (2007) quantified both attitudes and relationship changes in a GLM multidimensional analysis of the Housing 21 survey, by showing that attitudes are in fact the most significant determinants of tenure – but these attitudes are already heavily conditioned by socioeconomic endowment variables. He attempted to separate an attitude index which was more independent of the underlying endowments, showing that attitude was still the most important variable in determining tenure choice, but household type, marital status, income source and education level now impacted the result. In particular, relationship break-up and being in less permanent relationships were strong determinants of private renting as an alternative to ownership.

Figure 18: Housing tenure by marital status, persons under 45



Source: Flood (2007)

For younger households under 45, 80 per cent of married persons were home owners, only around 50 per cent of partnered or divorced persons, and 40 per cent of separated or never married persons (Figure 18). Flatau et al. (2004, Table 4.2) obtained similar results for the HILDA survey, also showing that remarriage tended to recover most of the home ownership share.

Annual divorce rates rose by about 2 per 1000 from 1986 to 1996 for those aged 30 to 55,³⁷ but then fell back quite substantially up to 2006 for persons under 45. From the life cycle tenure analysis it seems very likely that changes in the rate of relationship breakup have also contributed to changes in home ownership and these will be considered in the full study.

2.4 Tenure neutrality and tenure mix

For many years a substantial debate has been conducted in Australia and overseas as to whether government policy should be tenure-specific and attempt to help some forms of housing tenure at the expense of others.

There have been several strands to the discussion, but the economic argument is the most common. From an economic point of view, the question ultimately hinges on whether housing is a *merit good*;³⁸ and specifically on whether home ownership, the dominant tenure in Australia, is a merit good that should be specifically assisted by government, given many home owners are relatively affluent.

A number of European countries have chosen not to assist home ownership above other tenures, and some of these countries have quite low home ownership rates – most notably Switzerland, which has the highest per capita income in Europe and which has a home ownership rate of only 25 per cent.

The problem is that home ownership is already very substantially assisted indirectly through the taxation system in a number of ways that are highly regressive, favouring those with higher incomes. In Australia, this was originally pointed out in detail by Flood and Yates (1987) and confirmed by subsequent studies such as Flood (1993), Productivity Commission (2004) and Abelson (2005).

It is not in dispute that home ownership conveys a superior basket of rights to other forms of housing tenure. Owners have the right to occupy, modify and dispose of the dwelling as they see fit; making full use of the surrounds. They also obtain a substantial investment asset which in Australia has tended to rise almost everywhere in the long term, due to continued population pressure. The question is, if home ownership is superior, should not people pay *more* for it in the long term rather than less?

This simple argument has been muddled by second-best arguments and by externality arguments. The former state that as home ownership is cheaper in the long term, partially due to government policy, should not the government help more people to get into this more favourable tenure? This kind of assistance is popular with the electorate, but unless it is carefully designed and means-tested (which it very rarely is), it can result in extra pressure on house prices, affecting costs for most other tenures, and it can result in payments to people who do not need the assistance. The assistance may also result in lower-income households taking on risk that they are ill-equipped to deal with.

The externality argument says that general home ownership may have area-wide benefits such as improved private investment, better neighbourhoods and security – and possibly better environmental outcomes; while on the negative side it may result in reduced labour market and housing market mobility, resulting in more local unemployment and less efficient use of the stock. This may well be the case – but it is a fact that such externalities are largely capitalised into land prices because of

³⁷ ABS 3307.0.55.001 *Divorces, Australia, 2006*. This is a roughly a 20 per cent increase in divorce.

³⁸ A merit good is a commodity which it is considered that an individual or society should have on the basis of some norm other than respecting consumer preferences.

inelastic supply, already benefiting local home owners.³⁹ Secondly – there are likely to be other means of achieving the same results which directly address the issues and are much more efficient than indirect home ownership subsidies. Area-wide subsidies are notorious for being largely appropriated by higher income groups; and much of the literature has suggested a number of unwanted exclusionary outcomes from high concentrations of specific tenures in suburban tracts.

While tenure neutrality has usually referred to the desirability or otherwise of assisting home ownership more than other tenures, there have also been efficiency arguments relating to the social benefits of maintaining a good mix of tenures, and equity arguments relating to assistance with high housing costs for those of other tenures. Commonwealth rent assistance (CRA) began in 1988 in Australia because of the desire to provide some assistance to the many low-income families in private rental accommodation, and it has gone on to be the largest form of direct housing assistance since the late 1990s, larger than Commonwealth-State Housing Agreement expenditure for social housing. Regardless, it has also been generally recognised in Australia that social housing is the preferred tenure for the lowest income groups, combining security of tenure with lowered rentals.

In Britain, tenure mix has been explicitly recognised as a desirable aim of government (partly because of the existence of large public housing estates in depressed areas). DETR (2000) write: *‘Across all types of housing, owned or rented, private or public, our policies are intended to deliver improvements in quality and choice’*.⁴⁰ Tunstall and Fenton (2006) provide a good review of the extensive literature, finding a ‘measured optimism’ regarding mixed tenure areas, citing the considerable benefits to be gained from inclusionary policies rather than exclusion typically associated with specific tenures.

2.5 International housing policy responses

The recent AHURI report by Lawson and Milligan (2007) reviews housing and associated social policies in a number of countries that are economically similar to Australia.⁴¹ The comparative review examines what shapes both the demand for, and supply of, housing (especially affordable housing) in each nation. In addition, they survey a number of national policy responses aimed at assisting lower income households into home ownership. Lawson and Milligan address three major groups of issues which are also at the heart of the present study:

- changes in demographics and restrictions in supply
- house price rises and declining affordability
- policy responses.

2.5.1 Demographic issues and housing supply

As in Australia, there was a clear trend across all nations towards decreasing household size, a growth in the number of households, and a related increasing demand for housing units. This was in some countries offset by stabilisation or falls in birth rates or even population levels, taking pressure off the key family housing sector. The ageing of populations in developed economies has also acted to tie up housing and constrain supply, as households remain in housing that may have originally been purchased for a larger household.

³⁹ What this means in practice is that subsidies to new home owners which result in these externalities should be partially recouped by general taxes rather than the usual local taxes that accrue once more to the same community.

⁴⁰ Munro (2007) regards this as rhetoric unsupported by public opinion.

⁴¹ Austria; Belgium; Canada; Denmark; Ireland; France; Germany; the Netherlands; New Zealand; Switzerland; the United Kingdom; the United States.

In many nations, greater female participation in the workforce has increased the income levels of many households by creating double income households that are characterised by higher incomes and higher borrowing power. Along with falling household size, this has tended to create greater inequalities in household incomes.

In some regions within the study countries the demographic change has been migration-related, where in-migration to nations or to regions within them (for example, rural to urban migration in Belgium) has created increased demand, and pressure on housing supply.

Lawson and Milligan's analysis of new housing supply in the European study countries showed a generalised decline persistent over the last quarter century. This is notable considering the corresponding net increase of new households over the same period in most, if not all of the nations. They conclude that the '*lack of new housing and inelastic supply seems to be a salient problem plaguing housing markets in many countries in this study*' (p. 50). For the last twenty-five years demand-side measures have been the preference of the selected national governments, while more direct measures, such as housing construction and provision have become less of a focus. Lawson and Milligan suggest that:

'the demand assistance route, which has been favoured by neo-liberal governments and international agencies such as the OECD and IMF, has proved costly and unable to stimulate supply or steer broader urban goals' (p. 63).

UN-HABITAT (2001: 100) concurs:

'Government support in the form of finance...is now almost unheard of. Government subsidies for new construction have declined in virtually all countries and in recent years there has been no support at all from central governments including Australia, Canada, the US and the Netherlands.'

2.5.2 Home ownership and affordability

While the promotion of home ownership was found to be prioritised by a majority of national governments included in this review, access to home ownership and affordability were found to be in decline.

Owner occupation levels varied significantly among the countries in this study, from 35 per cent in Switzerland to 77 per cent in Ireland. The level of owner occupation within a country is dependent on a number of direct and indirect factors that can encourage or prevent households from entering or remaining in home ownership. Important among these are: historical or political support for home ownership and any related assistance or subsidies available, the treatment of home ownership within the taxation system, the operation and regulation of the mortgage market, the wider global financial market, interest and employment rates, and the affordability of housing in the market.

Affordability and the cost of housing have a significant influence upon home ownership levels. Across the nations surveyed, there was a widespread trend towards growth in house prices in recent years (p. 41). The review shows that not only had house prices increased, but that households were increasingly likely to be classified as being in housing stress. Canada was a notable example, having '13.6 per cent of households...paying over 50 per cent of their disposable income on housing in 1999' (p. 42.). Lawson and Milligan make the important point that while housing stress is concentrated in low income households, it is increasingly becoming a more widespread problem, and is especially relevant to younger households who seek to enter homeownership. Although problems of affordability are generally increasing in the countries investigated, there are notable difference effects resulting from the way

housing is provided and regarded differently in each country, for example, the presence and character of safety nets, and the size of the socially rented sector.

The Lawson and Milligan report highlighted consistent and relatively rapid rises in house prices in the majority of the nations over the last quarter century. Both demand and supply-side factors, acting separately and in combination, have fuelled these rises. Reduced investment in housing infrastructure during the 1980s and 1990s in many of the surveyed countries and the promotion of indirect assistance models by neo-liberal governments have contributed. The United Kingdom is a useful example, having already undergone significant promotion of home ownership in the decades preceding 2000 (mainly through sales of social housing to sitting tenants, and Mortgage Interest Rate Tax Relief) (Hamnett 1999). The previously large scale transfers of social housing to owner-occupation through the Right to Buy scheme have tapered significantly in recent years and they currently have significant acknowledged problems with affordability (Munro 2007).

As in Australia, there has been a corresponding widening and deregulation of the mortgage finance sector, via a number of mechanisms that have extended the access to housing finance to many population groups previously unable to afford home purchase. Across the nations it has generally become easier to obtain mortgage credit, and there are a wider variety of mortgage products available (this has made such credit available to many who would have previously been excluded). Of much recent interest has been the secondary mortgage market that has evolved in many countries (notably the US), and the Lawson and Milligan review finds that such instruments have been integral to the increase in home ownership among previously excluded groups.

Further fuelling growth in the mortgage finance sector has been the *'high level of consumer confidence that accompanied economic growth, increased incomes and employment security throughout the 1990s'*. This has also been paired with low or falling interest rates in many of the countries examined over the last ten years. Together, these factors have driven increased demand from owner occupiers wishing to renovate or upgrade, as well as investors and purchasers of second homes, and contributed to the increase in house prices.

2.5.3 Policy responses

Many of the governments in this study provided strong incentives through the taxation system to invest in home ownership. These incentives, most commonly full or partial tax deductions for mortgage interest rates, have necessarily contributed to house price rises in recent years.

There has been an emerging focus on the development of alternate and more mixed policy responses to promote home ownership. While promoting home ownership is a policy goal of all but two of the countries in this study (Austria and Germany), ownership rates are either low, stalled, or in decline in all countries. Lawson and Milligan suggest that housing affordability is a key reason for this and, interestingly, that often the very programs used to promote home ownership have contributed to high house prices and resultant affordability problems. Affordability is seen as a significant (and increasing) barrier to home ownership for lower income households and this exclusion from ownership has the potential to increase the tenure-based wealth gap within many of the countries examined. Notably, Lawson and Milligan find that:

'So far, specific policies targeted to lower-income households, such as shared equity schemes and various forms of deposit gap or mortgage assistance, have not turned this situation around in most countries' (p. 74).

This refers to the recent past, but in the longer term both the United Kingdom and the USA have increased owner-occupation rates. The United Kingdom has had the greatest increase in home ownership rates of any comparable country (Freeman et al. 1996), with home ownership rates rising from 56 per cent in 1981 to 71 per cent by 2000 (Wilcox 1997)⁴² – similar to the Australian experience 1947 to 1961.

This has been achieved through a very large scale selloff of public housing through the Right to Buy Scheme and other associated programs⁴³, and through various Low Cost Home Ownership schemes. These latter include:

- shared equity schemes, including CSO Homebuy and DIYSO (about 90 000 units)
- capital subsidies to developers (GRO) (1400 units in Scotland)
- mortgage rescue schemes (about 2000 households).

The gains in home ownership were unfortunately accompanied by high levels of arrears and repossession during the recession and housing slump in the early 1990s (Bramley and Morgan 1998).

Another exceptional case is that of the US, where some success had been achieved promoting home ownership to low income and other targeted groups through mortgage backed securities underpinned by implicit state mortgage guarantees – but at the cost of moving financial risk onto these households which they have been ill-equipped to handle and which has flowed on to the whole economic system (see Section 1.6).

Most of the countries are facing very similar housing challenges to Australia, though without the extra pressures of a resource boom and rising populations. Across the review nations '*no single national housing policy stands out as exemplary*' (Lawson and Milligan 2007:155), but there are many lessons for Australian housing policy from the many good housing policy initiatives that do exist.

SECTION SUMMARY

This section has looked at issues surrounding changes in tenure policy and outcomes in Australia and elsewhere from 1986-2006.

While home ownership is clearly a superior tenure for families and those on fixed incomes, arguments for subsidising it have never been convincing to economists. In the absence of a supply response, housing subsidies, when coupled with loose financial regimes and rising demand, will find their way into elevated house prices and rapidly expanding debt. Specific programs to improve the home ownership rate for lower income groups have rarely been successful and, on occasion, have resulted in large scale defaults.

In Australia, despite very substantial government support, home ownership rates have not risen since 1961, and actually fell in 1986-1996, especially for younger households – probably due to increased income inequality and a hostile financial environment. Ownership with a mortgage fell from 35 per cent in 1981 to 26 per cent in 1996, but has since returned to the higher levels. This has been accompanied by a very substantial growth in refinancing and in household debt, supported by more flexible lending practices and falling interest rates.

⁴² In England the rate actually peaked at 75 per cent in 1981, before the Thatcherite programs took effect. Home ownership fell in absolute and percentage terms after 2005. As in Australia, it has been claimed that would-be home owners have been priced out of the market by prospective landlords. <http://news.bbc.co.uk/2/hi/business/7242492.stm>

⁴³ 1.8 million dwellings were transferred to sitting tenants between 1981 and 1994 with discounts of up to 70 per cent of market value (Bramley and Morgan 1998). About 13 per cent of home owners are in dwellings that were formerly publicly owned (Munro 2007).

Loans to investors have provided an important countercyclical investment vehicle and rose to almost 30 per cent of all loans in 2004, falling away rapidly in the current crisis. This investment provided an important cushion for rents and diverted a portion of the stock to rental tenure and smaller dwellings in line with changing demand. However, after 2001, higher housing prices had become out of balance relative to rents and most landlords were taking losses. These losses ballooned after 2005 to the point that they have become a significant drain on taxation revenue.

The availability of longitudinal surveys has encouraged a re-examination of the effect of demographic change and household attitudes on the question of tenure choice. An ageing population, marital breakdown, and changing household size are significant contributors to tenure outcomes, and they must be allowed for in determining 'underlying' changes in ownership levels due to affordability and finance availability. These will be explored in the final report.

3 MARKETS AND SUPPLY ISSUES

3.1 Fast versus slow – money supply or physical supply?

In a market, prices will rise when demand exceeds supply. There are two lines of thought regarding rapidly rising house prices. The first, typically supported by macroeconomists such as the Reserve Bank and the Productivity Commission, states that supply is largely inelastic and can only be supplemented very slowly, and it is the cost and supply of housing finance that largely determines price rises. This was discussed in Section 1.5.

The second argument, usually favoured by housing and land economists and by the residential building industry, says that ultimately house prices are determined by housing supply constraints, and that these are largely engineered by local and state governments through restrictions on the supply of land, through excessive planning regulation, and by taxes on land development and residential construction.

This latter approach is very old and is intuitively attractive – surely the price of new housing at the periphery, at least, must be determined by these constraints, and ultimately the whole market must be proportionally affected by these marginal additions.

The Housing Industry Association in particular has strongly lobbied against a number of changes to planning rules and charges that it believes have disadvantaged new peripheral housing and have caused its price to rise. These are the slow release of land due to urban planning restrictions; general taxes on housing, including GST and stamp duty; and developer charges for physical and social infrastructure on new developments – which, before 1980 or so, were borne from general revenue but now which are entirely placed on developers.

The Productivity Commission (2004, Figure 6.4) states that the HIA assertions on land and supply shortage are correct for some cities, but not for others. In Sydney, for example, which continues to suffer from chronic land shortage due to natural constraints, the supply of greenfield sites dipped substantially in 1995-1997, and again after 2000. However, the supply of lots in Melbourne increased somewhat after 1999. In NSW and Queensland, there appears to be a long-term supply shortfall, which is not large, representing about 5 per cent of underlying demand in NSW over the period 1996-2003 and 10 per cent in Queensland. Both states have had very substantial rises in house prices at different times in the cycle, and the lack of an adequate supply response has definitely contributed to high prices during any prolonged surge in demand. Supply and demand are broadly in balance elsewhere.

Developer charges appear to be arbitrary and unrelated to actual infrastructure costs, according to Urbis JHD (2006), who write: 'New houses in Sydney incur total infrastructure charges of \$68,233 compared to an actual direct infrastructure cost estimate of \$1,752 – a difference of over \$66,000'. This effectively taxes new home buyers for services benefiting the broader community – the opposite to what happened in the past when the general taxpayer bore the infrastructure costs. Infrastructure charges are considerably less in Melbourne and Brisbane, but still exceed the actual cost of provision.

However, while the assertions of the HIA are broadly correct in Sydney and Melbourne at least, the question is whether these costs are actually passed on to the new house buyer, and whether these costs and constraints make very much difference.

Up till 1973 or so, the majority of housing sales in Australia were in fact for newly constructed housing, and more than half of these were for first-time home buyers. In those days, supply bottlenecks such as materials and labour shortages were crucial in determining housing prices. However, from that time new housing has become a smaller and smaller part of market turnover (currently about 11 per cent of sales nationally),⁴⁴ and first-time buyers have increasingly tended to purchase existing homes. Therefore, peripheral additions cannot be said to drive the market, at least in the shorter term. In fact Abelson (2005) argues that the reverse is now true:

'The Housing Industry Association contends that new home buyers are 'inappropriately facing massive bills for upfront contributions to social and community infrastructure' as well as GST and stamp duties and that the taxation of housing is 'impacting severely on housing affordability'. The implication is that all such taxes on new houses are passed forward to the consumer. This would occur only if the demand for new housing were perfectly inelastic and supply perfectly elastic. Market conditions for new housing are almost the exact opposite of this'.

Abelson goes on to say that, in the circumstances, any charges on new housing cannot be passed on to the consumer, but instead must be borne by the builder and developer. This will effectively come off the price of raw land, which normally has a very substantial mark-up against raw agricultural land, because of anticipated profits from development for owner occupation. Accordingly, all these charges do not increase the price of housing, but rather lower the price of land. A natural corollary of this would be that, in the past, failure to charge full costs for government contributions to development was largely appropriated as a subsidy by landowners and land speculators in advance of the actual development.

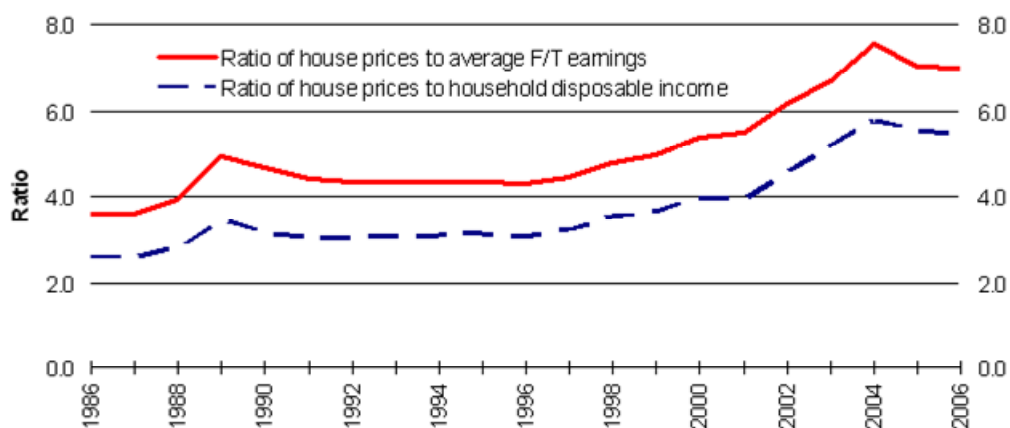
However, this argument, which essentially says that supply does not matter very much, goes against many decades of comparative study in urban economics – for example, Quigley and Raphael (2005), Glaeser, Gyourko and Saks (2005a, 2005b, 2006). Different rates of housing affordability in different cities and countries are usually attributed to bottlenecks in the supply of land (Angel 2000). Abelson (1991) attributed long-term structural differences in the price of housing in Sydney compared with other capital cities to be largely due to hilly terrain and constraints on expansion, and Richards (2008) follows the same theme.

The most common comparative international measure of affordability is the house price-to-income ratio, which divides the median price of housing by median gross annual household income. If this ratio is 3 or less, the housing market is regarded as extremely effective with little government interference; if it is around 6 the market is regarded as tight and inefficient with poor land supply; and higher values (such as in former socialist countries) are considered to be the outcome of gross market distortions or very serious restrictions on urban growth.⁴⁵

⁴⁴ In terms of home purchase finance for owner-occupation, ABS Cat No 5609. *Housing Finance Australia*. April 2008. According to ABS Cat.No.4102.0, *Social Trends 2003*, about 14 per cent of FHOS recipients bought a new dwelling, although the grant was higher than for established dwellings. Also see Section 2.1.

⁴⁵ See Figure 9 for recent international comparisons.

Figure 19: House price to income ratios, Australia 1986-2006



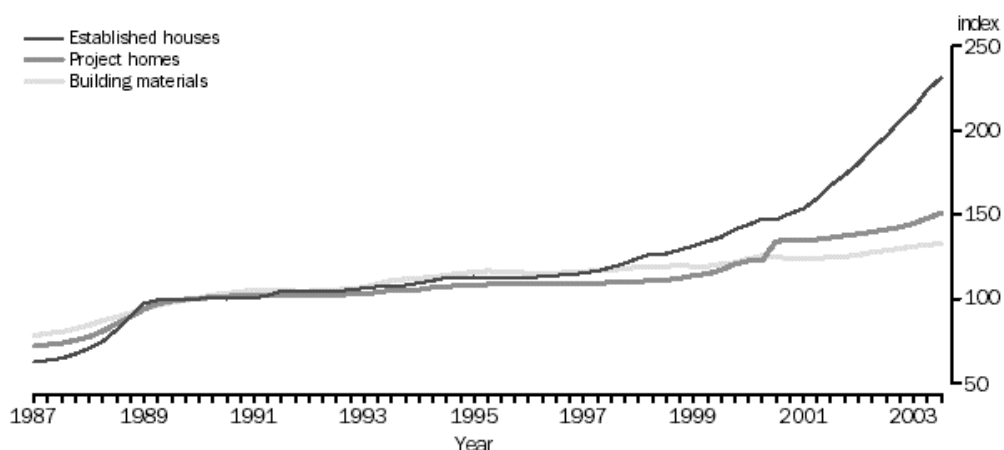
Source: Kryger 2006

On this basis, one would be forgiven for assuming from Figure 19 that Australia's housing supply situation had moved from a largely unrestricted land supply situation to an extremely tight and restricted situation. This is precisely what the HIA have claimed. However, except in Sydney, there is no evidence that since 1998 when the price-to-income ratio broke out from historical levels, land supply has become any more restrictive or rationed than it was before this time. As we have seen in Section 1.5, the move in prices was in fact away from long-term equilibrium determined by supply, and was occasioned by an expansion in debt and the money supply.

That the recent rise in average house prices has not a great deal to do with supply is shown in Figure 20. Here we see that established house prices have more than trebled over 20 years, whereas the cost of project homes has risen by only 150 per cent, and materials costs by less than the rate of inflation.

However, it would be wrong to say that policies aimed at increasing housing supply or reducing the costs of new housing are no longer relevant in a market dominated by established housing turnover. What we are seeing in urban housing markets are fast and slow processes working together, and to ignore the slow processes of supply is asking for trouble in the long term.

Figure 20: Price indices for established houses, project homes and building materials, 1987-2003



Source. ABS Cat. No 4102.0. *Social Trends* 2004.

The change in the stock is rarely more than 2 per cent annually (compared with a 4.5 per cent average turnover), so that supply normally adjusts very slowly to excess demand. Supply effectively acts as a constraint or trajectory against which fast moving demand changes – responding to finance, household income, and demand policies – operate. Demand ‘bumps against’ supply as it moves rapidly, and in the very long term equilibrium will occur. Over a lengthy period of time, slow additions will mount up, so that eventually, persistent added costs of supply will flow through the housing system.

While shorter term price increases may have little to do with supply, the reverse should definitely be the case (Richards 2008). The lack of responsiveness of supply to much higher house prices is indicative of an extreme ‘stickiness’ in the market, preventing new housing from coming online to take pressure off the overheating market.⁴⁶

3.2 Price gradients, urban densities, and changes in planning regimes

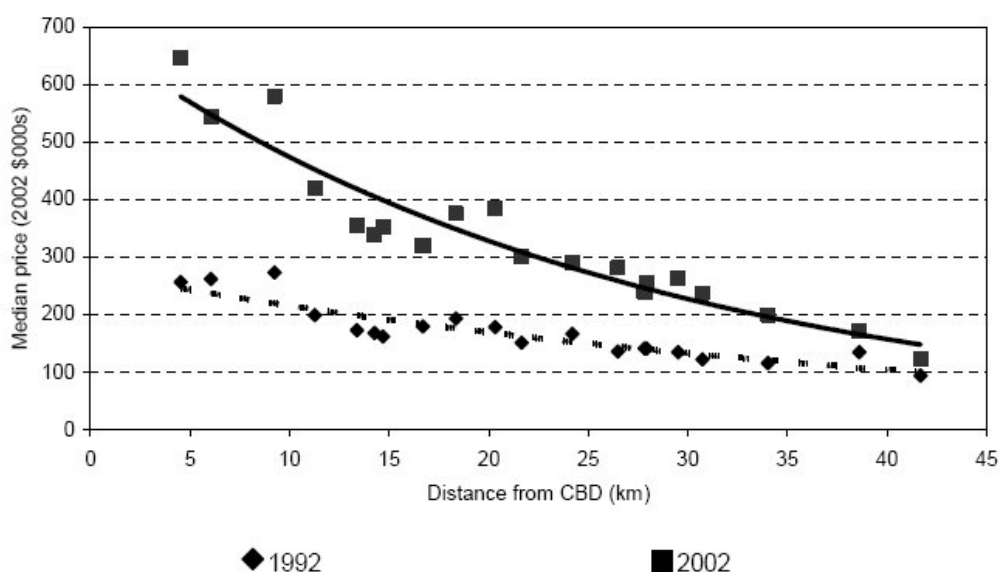
Throughout the 1980s and 1990s, particularly during the tenure of Federal Minister Brian Howe in 1983-1996, a spirited debate took place between environmental advocates who wished to see smaller footprints for Australia's cities, local planners concerned with lack of social mix, ballooning infrastructure costs on the urban boundaries, and shrinking population densities in middle-ring suburbs, and home ownership advocates who believed that Australia had been founded on an ideal of limitless land and a dream of home ownership on a quarter acre block (see Troy 1996).

There is no doubt that, due to shrinking household size, a mismatch began to open up between the housing stock and the requirements of family structure. In particular, the rapid growth in single person households required a fairly major redevelopment of the stock in favour of smaller dwellings, while the considerable bulk of the stock was designed for the ever-shrinking proportion of nuclear families. From the mid-1980s, weakening of the powers of local government to restrict development, coupled with pro-active policies by the states encouraging mixed or medium density infill development, have led to an increase in urban densities, particularly towards the city centre.

For the whole downwave, urban land price gradients continued to steepen, which is very apparent in Figure 21 for Melbourne. The situation is similar in other cities.

⁴⁶ Part of the problem is that land rather than improvements appreciates in value, and conversion from other land uses is not necessarily more profitable as prices rise. Price rises at the periphery are already partly anticipated by speculative land values.

Figure 21: Change in Urban price gradient, Melbourne 1992-2002 (Nepean highway line)



Source: Productivity Commission (2004), Figure 6.2b

There are several reasons why this has happened:

- Increasing household income inequality has increased the value of time for high income households and led them to gentrify inner areas, bidding up prices.
- Two-income families have a natural tendency to locate centrally, as both partners need to be close to work. The proportion of these families continues to increase and they have been major drivers of residential differentiation (Flood 2000b).
- Infill policies have increased densities in inner areas, which places pressure on land prices.

Fairly obviously, a steepening land price gradient will result in a substantial increase in average house prices. However – growing cities can almost always be expected to have higher prices, whether this happens by increasing densities or by expanding the boundary. Whenever the city boundary expands, average house prices will rise in the long term – because from standard urban economics the price of housing at the centre of the city must be at least equal to the cost at the boundary plus (increased) transport costs to the centre.

So the question is – if the population expands, which strategy will result in the greatest increase in prices – expanding the city boundary or increasing densities (of dwellings or people)? Theoretically – creating a shortage of anything will always increase its price in an open market more than the congestion costs of allowing supply to expand naturally. The empirical result is also unequivocal – putting a green belt or other major land constraint around a city can typically be expected to double prices inside the belt (Angel 2000).

Increasing land prices does not necessarily mean that affordability will be affected – as long as the average amount of land per dwelling decreases to match. The Productivity Commission (2004, p123) writes:

‘Urban consolidation policies that introduce constraints on fringe development, including through ‘urban growth boundaries’, are likely to increase the scarcity value of land. Their effects on housing affordability depend on the scope to increase housing densities’.

SECTION SUMMARY

This section has dealt with supply and with urban spatial issues in relation to house price change and tenure choice.

Declining or stationary supply has accompanied the recent very large run-up in house prices almost everywhere in the OECD, and this has encouraged industry lobby groups to press for reforms in the land development process. Stringent planning and environmental regulations, slow rates of land release, and rising levels of developer contributions, have long been a feature of the urban system, and these have been targeted as a significant cause of the present housing bubble, where the government may take action.

Urban economics shows that expanding urban boundaries, increased densities, and increasing inequality will all contribute to higher average land and housing prices, while the latter two will cause steeper urban price gradients. However, Reserve Bank and academic economists have not supported the supply argument, stating that new supply in any year is too limited to make much difference and that new dwelling prices at the periphery have not risen rapidly. We have suggested that slow and fast processes are both at work and that, in the long run, restrictions in supply will always manifest themselves in higher prices which may be exacerbated by rapid money growth.

4 ISSUES AND RESEARCH OUTLINE

4.1 Overview

What this concept paper has attempted to address is the differences in the broad economic and social environment for housing 1996-2006 from the period 1986-1996 covered by Judy Yates (2002a, b) in her original study of changes in housing tenure. It has also briefly reviewed a range of issues not covered by Yates, most specifically related to research in housing finance, life cycle considerations, tenure choice, planning regimes, land price gradients, and house prices and costs.

It has taken the view that the period 1974-2003 was a Kondratieff downwave in which economic growth was slow and very erratic, the demand for capital and resources as expressed by interest rates, wages and resource prices was falling, income and wealth inequality increased rapidly due to lack of demand for labour, and the only real pressure on housing markets took the form of occasional booms and bubbles from the unstable financial situation.

We now consider that we have moved into a very different era of steady and increasing pressure on capital and resources, and that Australia is particularly affected as a supplier of raw materials and some expertise to the new super-economies. Essentially, planners and housing professionals have had it easy for a long time, with a lot of slack in the system, but that is changing. Imbalances will no longer be caused by artificial flows of intangibles but by genuine underlying resource shortages. Labour markets and housing markets are tightening. Interest rates will be relatively high to hold down excessive growth, demand and inflation; there will be pressures on supply, on building labour, materials and land – something that has not been seen for a generation.

The study period 1996-2006 is transitional. It has already shown many of the characteristics of an emergent upwave, but it has retained the policies and attitudes of the previous era. A first pass through the tenure data shows that tenure patterns have been fairly stable. The imbalance in outright ownership versus mortgage finance identified by Yates and due to the banking crisis of the early 1990s has been corrected with a reversion to long-term levels of approximate equality in proportions of owners and purchasers. In fact, the recovery has overshot to record levels of household indebtedness, and house prices which are way above historical trend levels, with regard to either incomes or rents.

The report has identified and briefly examined six possible causes of ballooning house prices from 1996-2006:

1. excessive growth in the money supply
2. liberalised lending practices
3. large-scale purchase of investment properties, presumably by baby boomers seeking retirement incomes
4. rising incomes
5. restricted housing supply
6. government incentives, such as the First Home Owners Scheme.

Correcting this overshoot is a challenge that Australia has not faced before, but which the RBA has explicitly tackled. The Reserve Bank of Australia clearly regards the house price boom as the major threat to financial stability, and has undertaken a large number of research studies. For several years the RBA attempted to take the heat out of the market through interest rate rises. During the first phase of subprime made on-

market purchases of mortgage-backed securities in an attempt to strengthen this market. Now in line with other OECD countries, in the wake of the subprime crisis they have had to reverse dramatically their contractionary policies by dropping interest rates rapidly, while the government has issued substantial deficit spending in an attempt to soften the credit squeeze.

Both the contractionary and expansionary policies have been quite recent and have not yet flowed through into significant changes in tenure patterns, where we have still been seeing the tail end of the activities of the last thirty years. Although home ownership rates stayed constant during the study period as they have done for the past 35 years, home ownership rates have fallen in younger households, and many commentators believe that this will result in a longer-term drop in home ownership rates. The supply of new housing has not responded to the higher prices; and supply remains below effective demand in some locations, especially Sydney.

By comparison with incomes, and especially in comparison with house prices, rents have stayed remarkably low, which has assisted low-income households. It appears that this is largely due to the investment housing boom – but it is also due to continually rising prices and to negative gearing, which have encouraged landlords to accept net rental rates of return that are at unprecedentedly low levels. These low rents have encouraged the growing proportions of private rental tenure among younger households. During the rises in interest rates and the tightening of the money supply in early 2008, rental vacancy rates fell to extremely low levels and the now the effects of looming recession remain uncertain.

4.2 Research issues and questions

The purpose of this project is to look in detail at changes in housing tenure (specifically, home ownership) from 1996, as shown in the 2006 census. As well as looking at changes in tenure rates by region, age and employment status as Yates (2002b) has done, it is our intention to look at changes due to marital status and at the effect of house price changes as far as is possible – although the latter have changed so rapidly that the effects have yet to pass through the system

The questions the project seeks to answer are, for the decade 1996-2006:

- What was the change in home ownership rates for different regions, age cohorts, household types and categories of employment status?
- 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?
- This review has provided some partial answers for these questions.
- Overall, home ownership has continued to stay steady as it has done for 40 years. However, the numbers of purchasers with a mortgage has increased very substantially, and so has household indebtedness. The project will look at the detailed changes using the main data set and by access to other Census products. The flowthrough of younger age cohorts previously considered to be at risk will be of interest.
- Incomes increased quite rapidly over the period, but more for the top income group. Income inequality increased, but much less than it did in the previous ten years. This result is expected to vary somewhat by region.
- House prices have changed very rapidly almost everywhere. This does not appear to have deterred would-be buyers as finance has been freely available (which is precisely the cause of the price increase). So far rents have not followed suit, but

rental shortages have become very apparent. Project homes at the periphery remain comparatively affordable, though increasingly distant from the city centre. A bursting of the bubble would have deleterious effects that could last for a considerable time. Rising petrol prices and mortgage rates have lowered disposable incomes for many households, but while labour markets remain tight and wages continue to rise, difficulties in market entry are not really apparent.

- Life cycle analysis has revealed that relationship changes and attitudes are key determinants of tenure choice. We have included the former in our endowments for analysis.

4.3 Research methodology

The project essentially follows the methodology of Yates (2002b). It consists of an analysis of housing tenure outcomes at a regional level, to see to what extent household characteristics such as age of household reference person, number of workers, income, marital status, and household size and type have on tenure choice. To do this, it compares two large cross-classified census tables of households at ten-year intervals (1996 and 2006 in this case), made as similar as possible and adjusted for missing values. For this purpose, 8-way special cross-classifications of households for the 1996 and 2006 Census have been obtained. The 2006 Table is described in Appendix A; it is generally similar to that obtained by Yates for 1986 and 1996, but it includes several extra age categories, plus a classification of marital status.

The analysis proceeds through a shift-share analysis to look at regional changes in household income controlling for age and household type. Change in tenure is examined in the same way, controlling for age, household type and marital status; and also using a logit model which estimates both the determinants of home ownership/rental and the determinants of change in home ownership during the period.

Yates identified the necessity to estimate missing values for income as these varied in a systematic way with the number of income earners, resulting in possible errors in tenure estimates. We propose to do this using pro-rata entropy-maximisation methods, which are very similar and more direct.

If time and data permit, we also intend to conduct a partial analysis of the effects of changes in price on tenure choice. This is not easy in Australia, because this type of study is data-intensive, requiring a special purpose survey. The Survey of Income and Housing Costs in fact has the data required, but confidentiality requirements do not allow for the accurate spatial identification of respondents which is necessary to estimate local land prices.

At present, the 2006 cross-classification table described in Appendix 1 has been obtained and is under preliminary examination. The BLOGIT program has also been purchased, along with software to estimate missing values using entropy maximisation.

APPENDIX: THE DATA SET

The major data source for the project is a special matrix cross-tabulation from the Australian Census for Population and Housing for 2006, constructed to be compatible wherever possible with two similar cross-tabulations for the 1986 and the 1996 Census by Yates (2002). Some extra categories have been included to investigate some key issues identified by Yates in her 2002 study, and an extra variable on Marital Status has been added, because of results on tenure choice by Flood (2007) and others, which showed this to be a very significant determinant of tenure choice.

The table counts Australian households within private occupied dwellings, excluding households who have visitors (from overseas or within Australia) as the reference person, and all non-family households.

Cross-tabulations are limited by ABS software to about five million cells. ABS randomises small cells, stating 'No reliance should be placed on small cells as they are impacted by random adjustment, respondent and processing errors...When calculating proportions, percentages or ratios from cross-classified or small area tables, the random error introduced can be ignored except when very small cells are involved, in which case the impact on percentages and ratios can be significant'. Therefore, it is wise to limit the number of variables and the number of categories in each variable, to prevent these errors being promulgated during analysis.

This study follows and extends Yates (2002b) in obtaining a table which cross-classifies Geographical Area (23 categories), Household Income (10 categories), Age (7 categories), Tenure (7 categories), Marital Status (5x2 categories), Household type (6 categories), Number of children (2 categories), Persons employed (3 categories).

A.1 Spatial regions for the study

In the smaller states, regions were capital city/rest of state. For Sydney and Melbourne, statistical sub-divisions were aggregated to form inner, middle and outer rings; while Brisbane was divided into an inner and an outer ring. In New South Wales, three extra regions were added – Hunter, Illawarra and North Coast. The statistical sub-divisions or statistical regions included in these definitions are indicated in Table 4

Table 4: Regions in ABS data set (23 zones)

<i>NSW (7 zones)</i>	<i>VICTORIA (4 zones)</i>
<i>Metropolitan (1 Inner, 2 Middle, 3 Outer)</i>	<i>Metropolitan (1 Inner, 2 Middle, 3 Outer)</i>
Inner Sydney (SSD) 1	Inner Melbourne (SSD) 1
Eastern Suburbs (SSD) 1	Southern Melbourne (SSD) 1
Inner Western Sydney (SSD) 1	Boroondara City (SSD) 1
Lower Northern Sydney (SSD) 1	Western Melbourne (SSD) 2
St George Sutherland (SSD) 2	Moreland City (SSD) 2
Canterbury-Bankstown (SSD) 2	Northern Middle Melbourne (SSD) 2
Central Western Sydney (SSD) 2	Eastern Middle Melbourne (SSD) 2
Blacktown (SSD) 2	Greater Dandenong City (SSD) 2
Central Northern Sydney (SSD) 2	Eastern Outer Melbourne (SSD) 2
Northern Beaches (SSD) 2	Yarra Ranges Shire Part A (SSD) 3
Fairfield-Liverpool (SSD) 3	Melton-Wyndham (SSD) 3
Outer South Western Sydney (SSD) 3	South Eastern Outer Melbourne (SSD) 3
Outer Western Sydney (SSD) 3	Hume City (SSD) 3

Gosford-Wyong (SSD) 3 <i>NSW non-metropolitan</i> 4 Hunter SR 5 Illawarra SR 6 Mid-North Coast SR 7 Rest of NSW	Northern Outer Melbourne (SSD) 3 Frankston City (SSD) 3 Mornington Peninsula Shire (SSD) 3 4 VIC non-metropolitan/ Rest of Victoria
<i>QUEENSLAND 3 zones</i> 1 Brisbane City Inner Ring SR - City Core SR: E & S Inner SR: N & W 2 Brisbane City Outer Ring SR: E & S SR: N & W South and East BSD Balance SR North and West BSD Balance SR Ipswich city 3 Queensland non-metropolitan/Rest of QLD <i>WA 2 zones</i> 1 Metropolitan Central Metropolitan (SSD) East Metropolitan (SSD) Inner North Metropolitan (SSD) Outer South West Metropolitan (SSD) Outer South East Metropolitan (SSD) 2 Western Australia non-metropolitan/Rest of WA	<i>SA 2 zones</i> 1 South Australia metropolitan Northern (SSD) Western (SSD) Eastern (SSD) Southern (SA SSD) 2 Rest of SA <i>TAS 2 zones</i> 1 Tasmania metropolitan – Greater Hobart (SD) 2 Tasmania non-metropolitan/Rest of TAS <i>NT 2 zones</i> 1 NT Metropolitan – Darwin (SD) 2 NT non-metropolitan – Rest of NT <i>Australian Capital Territory</i>

This is not a complete enumeration of Australia as the smaller territories are excluded.

The inner zones (code 1) in both Sydney and Melbourne, containing statistical subdivision within ten kilometres of the city centre, have the highest population densities.

The outer zones (code 3), containing statistical sub-divisions roughly 25 to 30 kilometres from the centre, have the lowest population densities and the greatest supply of land available for residential development. Yates calculated the inner and outer zones to contain just over a quarter of the city population in 1996.

In New South Wales, the Hunter and Illawarra regions are centred on Newcastle and Wollongong, respectively, and represent two 'old economy' regions. The Mid-North Coast region contains the expanding Coffs Harbor and Port Macquarie urban regions and can be regarded as representing a 'new economy' or tourist/leisure based region.

A.2 Income data (10 categories)

Gross household income is the preferred measure of income used in housing market studies. Yates (2002) used more or less the same income categories (inflation adjusted) in 1986 and 1986, to represent approximate quintiles of the household income distribution, and we have endeavoured to do the same in 2006. Because of changes in the income distribution we have used different multipliers to define the boundaries of each income group.

Table 5: Income boundaries and means 1996 and 2006

	<i>1996 (\$ pw)</i>	<i>Adjustment factor*</i>	<i>2006 equiv (\$pw approx)</i>	<i>Actual 2006 categories</i>
Low income	0-299	1.328	0-399	0-349 plus 1/3 of 350-499
Low-mod income	300-499	1.340	400-669	500-649 plus 2/3 of 350-499
Moderate income	500-799	1.339	670-1049	650-999
Mod-high income	800-1199	1.313	1050-1674	1000-1699
High income	1200+	1.397	1675+	1700+

* derived from 2005-06 and 1995-96 Household Expenditure Survey (ABS Cat. 6523.0)⁴⁷

Unfortunately, the actual income categories used in the 2006 survey do not match these adjusted limits well in the two critical categories of lowest income. Therefore, we asked for an extra category and divided it between the two quintiles, as the last column of Table 5 shows.

We selected the following income groups for the table (9 categories):

negative	650-999
nil	1000-1699
0-349	Over 1700
350-499	Partial or not given
500-649	

Because of the difficulties and biases reported by Yates, we have also included the categories 1, 2, and 9 and 10 of misreported or partially reported income.

A.3 Age of reference person (7 categories)

As with Yates (2002), the age data used in this report refers to the age of the reference person in the household. Because of Yates' (2002b, Chapter 5) emphasis on the 'critical formation years' we selected age categories in five-year intervals from 25 to 45 years of age:

1. 0-24 years
2. 25-29 years
3. 30-34 yrs
4. 35-39 yrs
5. 40-44 yrs

⁴⁷ Household Expenditure Surveys used equivalised scales (adjusted for family type) in 1996-2006, but as we are only seeking approximate ratios for the quintiles here, this should not make a significant difference.

6. 45-64 years
7. Over 65

A.4 Tenure data (7 categories)

In the 2006 Census, there were separate variables for Tenure (TEND) and for Landlord type (LLDD). In order to obtain the usual tenure categories, we requested the following:

1. Outright owners (TEND=1)
2. Owner purchasers (TEND=2 and 3)
3. Private renters (TEND = 4, LLDD = 10, 31, 32)
4. Social renters (TEND = 4, LLDD = 20, 60)
5. Other renters (TEND = 4, LLDD = 40, 51, 52, &&)
6. Other (TEND = 5,6,7)
7. Not stated (TEND=&, @)

Owner purchasers include those under a rent-to-buy scheme. Private renters include those renting from an estate agent or someone not in the household. Social renters include public and community renters. Other renters include employees and residential parks. Other includes rent free, life tenure, and other tenure type.

A.5 Household categories (5 categories)

The results are presented for the four major household types in Australia: couples, couples with children; single persons and sole parents. As with Yates (2002b), all other households, such as group or multiple family households, are included in a catch-all 'other' category. Visitor-only households and non-private dwellings (hotels and institutions) are excluded from the count.

A.6 Marital Status (5x2 categories)

A number of survey studies have revealed that persons who have recently established or discontinued a relationship are considerably more likely to be renters (see the discussion in Section 2.1). We therefore have added a variable on marital status.

Because of the increasing number of de-facto relationships, the 2006 Census distinguishes two kinds of marital status, Registered marital status (MSTP) and Social marital status (MDCP). We asked for the following categories of MSTP:

1. Never married
2. Widowed
3. Divorced
4. Separated
5. Married

cross-classified by 2 categories of MDCP (De-facto and not). It would have been possible to use a single composite variable of 7 categories – but tricky to define properly.

A.7 Household type (five categories)

Although the variables and categories that define household type have changed, ABS were able to construct an equivalent composite to Yates, for single family households: couples, couples with children, single persons, sole parents and a catch-all 'other' category for group and multiple family households.

A.8 Large and small households

Part of the original Yates modelling was to include a proxy variable for 'large' households – ones with more than two children of any age; the argument being that these households needed more than two bedrooms. The flag for these large households turned out to be very significant in the model, therefore we have included it.

A.9 Number of persons employed

Yates included a simple count of persons employed full or part-time in the household (restricted to three categories, being 0, 1, 2 or more employed persons) as a proxy for several things:

- households where no-one is employed are usually either 'retired' or largely supported by welfare payments
- many studies have revealed the extra purchasing power and increased likelihood of ownership among multiple income families
- Yates also reported a statistical bias in that households with multiple income earners were more likely to report 'partial' results or to under-report incomes.

For these same reasons, we have included this variable. Like Yates we have excluded visitors from the count, but unlike Yates we have included residents that were absent on census night.

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