Housing transactions and affordability concerns in Adelaide: implications for planning policy
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Abstract
Housing affordability has continued as a topical issue among many disciplines, including planning. House prices have risen dramatically over the past several years with no real comparable rise in income. Given the steep rise in house prices housing affordability has become a significant issue for policy makers. Current financial meltdown experienced in many countries including Australia affect housing affordability in many ways including rising unemployment, declining housing construction. Housing policy calls for broad approach that takes adequate account of the distinct interdependences involved. This paper examines the interdependences between (1) house price and housing construction, (2) house price and intra-urban variations in housing demand, and (3) housing and urban planning policies. These interconnections are explored using longitudinal house sales price and census 2006 based neighbourhood typologies. Using Adelaide an example this paper will present the extent to which the overall house price profile has overall changed; how that change maps onto neighbourhood types; and the extent to which neighbourhoods can be differentiated according to their trajectories, in terms of both price movements and housing affordability. The analysis is set in the context of debates about the impact of changing housing consumption patterns and its relevance on housing and planning policies.
Housing transactions and affordability concerns in Adelaide: implications for planning policy

Introduction
A housing system describes relationships between demand and need, on the one hand, and the supplies of savings, investment finance, land, and construction activity on the other. In one perspective, it is about transforming wealth into the built form dwellings and other associated infrastructure. Other perspectives include multiple sub-systems such as a housing market, access to credit, and general structuring in the spatial forms of towns and cities. More than this a housing system has processes and characteristics, which include both internal functional efficiencies among stakeholders and the volume of distributions of outputs, which influence social justice and affordable access. This article explores these various features of housing systems, introducing new ways of thinking into the design and operation of housing systems and their overall development contexts. The approach covers both theory and empirical studies.

Housing
Housing demand in the next few decades may lead to consolidation of densities in inner suburbs some changes in the structure of housing in cities (Forster, 2006; Beer, Kearins et al. 2007). Metropolitan strategies of major cities do not support the taken for granted low density suburban development which has been the characteristics of Australian cities for decades. Spatial structure of Australian cities differs from cities in developed countries in many respects: low density, number of room per capita and average travel distances for work and recreation purposes. Australian cities by world standards have some of the lowest densities with very high dependence on private transport. Historically Australia has high home ownership levels and the value of new housing constructions exceeds 4 per cent of the national gross domestic product (Dowling, 2005). Population growth is moderate. It has recorded an increase of 1.3 million people (or 6.6%) since June 2001, with an average annual growth rate of 1.3%. This increase was larger and occurred at a faster rate than the corresponding change in population between 1996 and 2001, when Australia gained 1.1 million people (6.0%) at an average growth rate of 1.2% per annum. Growth is been uneven across states; highest growth has occurred in Queensland (2.4%) and Western Australia (1.6%) while South Australia recorded annual growth rates equal to or lower than the average annual growth rate for Australia overall (1.3%) (ABS, 2006). Growth rate during the five years to June 2006 was faster than the previous five-year period in all but two of the states and territories. Exceptions were Northern Territory and New South Wales, which grew at a slower rate than in the earlier five years.

Population
Population and housing is a contemporary urban and regional planning issue. There is a growing body of evidence that housing in Australian cities and regions are undergoing some fundamental changes in terms of urban sprawl, housing affordability, supply of housing and issues about sustainability. Cities in eastern seaboard have recorded higher than average growth rates while growth in South Australia is less than the national average. Migration has continued to play a major role in population growth. Population of South Australia has grown by 0.46% per annum during 1996 to 2001 and 0.60% from 2001 to 2006 (ABS, 2007). In 2001 as well as 2006 about 73% of state population lived in Adelaide Statistical Division which includes nearly the entire Adelaide metropolitan area. Share of population of Adelaide with respect to South Australia has not changed during the last ten years. South Australia’s sluggish growth of population growth and inability to attract a bigger share of migrants is emerging as a major economic concern. Concentration of population in small number of large cities has been the characteristic of Australia since the beginning of European settlement (Beer and Forster, 2002).
Australian cities are highly urbanized and low density with high levels of home ownership. Car dependence in Australia is one of the highest in the world. Although the concern for compact cities has been raised from time to time suburbanisation trend has not declined. Per capita consumption of resources, as expected, is very high by international standards and it has the fourth largest ecological footprint of 3.7 global hectares per capita preceded only by the United States and Kuwait (Curnow, 2000). State government plans to raise the population of South Australia to 2.0 million by 2050. Since bulk of the population growth is confined to Adelaide metropolitan area, it is likely that Adelaide has to accommodate at least about 0.5 million additional population. The demand for housing is not merely the function of population; household size and internal migration also influence housing demand (Hugo, 2005; Mueller and Tighe, 2007). Population growth of Australia currently at 1.3% is among the highest in OECD countries and is equal to the overall rate of global population growth (Hugo, 2005).

Population of South Australia has grown by about 40,000 from 1996 to 2001, which amounts to 0.76% per annum. Pattern of population growth within the state is not uniform. Out of 125 Statistical Local Areas (SLA) in South Australia, 46 SLAs recorded a total decline of about 11,000 people. Population loss in Whyalla has been the highest (2030), Port Augusta (728) and Port Pirie (385). Such a reduction in population is not merely confined to regional areas. Even within the Adelaide metropolitan area 14 SLAs recorded a total loss of 4527 people. Such an internal shift in population has been confirmed by other studies (Beer, 1998; Badcock, 2001; Bunker and Houston, 2003). Some regional towns have gained population: Roxby Downs (1144) and Victor Harbor (907); growth in the former is mainly attributed to active mining industry while growth of Victor Harbor is due to its attractive coastal environment which attracts many retired people. The population change in Adelaide metropolitan area and its surroundings is depicted in figure 1.

Figure 1. Population change in Adelaide metropolitan area (1996–2001) at Statistical Local Area level
Nearly 71% of population growth of the state has been confined to 55 SLAs which constitute Adelaide metropolitan area. It should be noted that a large number of SLAs in Eyre and York peninsula lost substantial population during the 5 year period from 1996 to 2001. Roxby Downs, a mining town and Victor Harbor and Goolwa coastal areas have made substantial population gains. In the metropolitan area the pattern is uneven: notably, populations in three SLAs in Port Adelaide, Tee Tree Gully and Onkaparinga have recorded a decline of 794, 946 and 563 respectively. Incidentally, SLAs recorded significant population gains namely Marion, Woodcroft, Port Adelaide Enfield East and Tee Tree Gully North lie adjacent to the areas recorded major decline in population during the same period.

The city of Adelaide made a massive population gain of 1746 stands at the center of inner city SLAs with marginal or negative population change. The pattern appear to conform with Forster’s ‘doughnut cities’ metaphor of low density inner city areas but with a city centre of high population growth (Forster,2006). Attraction to city centre has been well documented by researchers (notably Badcock, 1991; Badcock, 1997; Beer, 1998; Badcock, 2001; Beer and Forster, 2002). It could be said that areas outside 5 km radius of the city show some uniformity in population gain. However, it should be noted that no substantial residential land release have occurred in the middle ring suburbs during 1996 to 2001. It is mainly due to infill development and redevelopment of old housing. Two coastal SLAs namely Holdfast Bay North and Holdfast Bay South have over 1600 population. Rural SLAs immediately outside the metropolitan area recorded an uniform gain in population. Almost all SLAs located in the hill face zone have gained substantial population.

Within urban the area availability of land to a large extent constrain population growth. Even though density in all major cities in Australia is some of the lowest in the world, increasing density is noticeable in Adelaide. Population density in Adelaide metropolitan area is shown in figure 2.

![Figure 2. Population density in Adelaide metropolitan area, 2001](image-url)
It is essential to remind the reader that density shown above is gross density which indicates number of person per hectare of total area of respective SLA whether or not the land use is residential. Thus the figure does not indicate net density which will be higher than the gross density and a more accurate measure of residential density. Nevertheless, density in Adelaide ranges from 1 person per hectare in outer SLAs to a maximum of 27. Gross density of Adelaide SLA which includes the city center and North Adelaide, a predominantly a residential area, is the same as many outer areas. Density is marginally higher in SLAs around Adelaide City and they are older areas. However, density in areas developed during the past two decades is noticeably higher. For example, Holdfast Bay, parts of Salisbury and Tee Tree Gully have the highest densities. Some of the SLAs recorded a loss of population during the period 1996 to 2001 also are relatively high densities. For example two SLAs namely Tee Tree Gully (Central) and Onkaparinga (C) Morphett recorded a decline of 946 and 563 people respectively.

**Housing market**

Housing stock in Adelaide metropolitan area in year 2001 corresponding to 2001 census of population and housing and house sale transactions thereon forms the basis of this research. Adelaide metropolitan area comprises of 55 Statistical Local Areas (SLA) with a total area of 2,390 square kilometres. It consists of 19 Local Government Areas (LGA) with a total population of 1,066,103 in year 2001. Since 2001, population of Adelaide metropolitan area has grown by 3.72% to 1,105,839 in 2006 which accounts for 73% of the state population.

The break down of housing stock in 2001 in compiled from ABS census of population and housing and presented in table 1. On an average the state as a whole there were 30.62 dwelling units per 100 population. Census enumerates dwellings of all types: an unoccupied dwelling unit is the only category which is a sum of all unoccupied dwellings of all types.

<table>
<thead>
<tr>
<th>Dwelling Type</th>
<th>In Adelaide Metropolitan Area</th>
<th>%</th>
<th>Rest of South Australia</th>
<th>%</th>
<th>Total: South Australia</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Separate house</td>
<td>328,095</td>
<td>70.8</td>
<td>126,356</td>
<td>69.4</td>
<td>454,451</td>
<td>70.4</td>
</tr>
<tr>
<td>Total semi detached</td>
<td>57,191</td>
<td>12.3</td>
<td>10,819</td>
<td>5.9</td>
<td>68,010</td>
<td>10.5</td>
</tr>
<tr>
<td>Total flat, unit or apartment</td>
<td>45,498</td>
<td>9.8</td>
<td>5,635</td>
<td>3.1</td>
<td>51,133</td>
<td>7.9</td>
</tr>
<tr>
<td>Total other dwelling</td>
<td>2,212</td>
<td>0.5</td>
<td>4,538</td>
<td>2.5</td>
<td>6,750</td>
<td>1.0</td>
</tr>
<tr>
<td>Not stated</td>
<td>2,511</td>
<td>0.5</td>
<td>1,161</td>
<td>0.6</td>
<td>3,672</td>
<td>0.6</td>
</tr>
<tr>
<td>Unoccupied</td>
<td>28,225</td>
<td>6.1</td>
<td>33,677</td>
<td>18.5</td>
<td>61,902</td>
<td>9.6</td>
</tr>
<tr>
<td>Total</td>
<td>463,732</td>
<td>100.0</td>
<td>182,186</td>
<td>100.0</td>
<td>645,918</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: Compiled from ABS Census 2001 GIS database

Separate house is the dominant type of housing which account for nearly 70% housing stock. The share of separate housing in Adelaide metropolitan area and in the rest of the state is nearly the same. Semi detached housing is the second dominant type and it constitutes 12.3% in Adelaide metropolitan area and its share in the reminder of the state about half of the Adelaide metropolitan area. Flats, unit or apartment constitute 10% of dwellings in Adelaide metropolitan area, where in the rest of the state its share is a mere 3.1%. About one in sixteen dwelling units in Adelaide metropolitan area was unoccupied and the break down of the housing stock of unoccupied dwellings is not available. 18.5% of housing stock in the remainder of the state were unoccupied which is in stark contrast to the metropolitan area. About 22.1% of dwelling units in the metropolitan area consist of semi detached house, flat, unit or apartments. Housing stock in Adelaide metropolitan area and the rest of the state is proportional to their share of population in 2001.
A sizable number of housing stock is owned by the state housing agencies and public authorities; there were 44,698 state owned dwellings which account for 6.9% of the total housing stock in the state. About 77% of such housing was in Adelaide metropolitan area. South Australia has the highest percentage of state owned dwellings in Australia. Number of state owned dwellings in all states and territories in Australia has been declining over the last 3 decades mainly due the changing government priorities accompanied by a gradual decline in federal and state funding for public housing (Badcock, 2001; Gabriel and Jacobs, 2006).

Population growth, age-specific growth rates and age structure are three major factors that determine the demand for housing (Hugo, 2005). During the past four decades population growth has accounted for three quarters of household growth in Australia. Household size has been steadily decreasing and in 2001 average household size of South Australia was at 2.4, lowest in Australia. Average household size in New South Wales, Queensland, Victoria, Western Australia and ACT were 2.6 and 2.5 in Tasmania. Ageing population is expected to exert increased housing demand in coming years.

**Housing supply**

Whole sector housing development and the various qualities of housing systems are closely linked. Even though housing supply is predominantly carried out by private sector it is influenced by land use planning, zoning and eventually the price. A housing system describes relationships between demand and need on the one hand, and the supplies of savings, investment finance, land, and construction activity on the other. In one perspective it is about transforming wealth into the built form dwellings and other associated infrastructure. Despite wide ranging debate on the need for an improved housing agenda in Australia, many questions remain unanswered. For example, policies about urban growth in favour and against urban sprawl, growth management strategies, housing finance and regulations are yet unresolved issues.

Supply of housing is influenced by many factors: population growth, household formation, availability of land, associated infrastructure and services, credit. Building approvals over a median term is a good measure of manifested demand which reflect the level of realized housing supply. Table 2 provides a summary of planning approvals granted for construction of housing in South Australia from June 2001 to July 2006 which roughly coincide with two inter-census periods.

**Table 2. Building approvals, South Australia, 2001-2006**

<table>
<thead>
<tr>
<th>Year (June - July)</th>
<th>Number of Dwellings</th>
<th>Value of Approval ($’000)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>New houses</td>
<td>New other residential building</td>
</tr>
<tr>
<td>2001-02</td>
<td>9,195</td>
<td>1,684</td>
</tr>
<tr>
<td>2002-03</td>
<td>8,642</td>
<td>1,993</td>
</tr>
<tr>
<td>2003-04</td>
<td>9,038</td>
<td>2,305</td>
</tr>
<tr>
<td>2004-05</td>
<td>8,347</td>
<td>2,454</td>
</tr>
<tr>
<td>2005-06</td>
<td>8,281</td>
<td>2,863</td>
</tr>
<tr>
<td>Total</td>
<td>43,503</td>
<td>11,299</td>
</tr>
</tbody>
</table>

Source: (ABS, 2001-06)

(a) Includes conversions and dwelling units approved as part of alterations and additions or the construction of non-residential building.
(b) Includes conversions.

New houses account for the bulk of building approvals. It constitutes for about 78% of dwellings approved during the five years. New other dwellings include semi detached houses, flats, units and apartments. It is observed that approvals of new other residential building are nearly stable over the five years. It should be noted that the recent housing boom lasted until 2003. Number of approvals for new houses in South Australia since 2003 has declined by
about 10%. Approvals during the 2004-05 and 2005-06 dropped from around 9200 units in 2001-01 to around 8300 units in 2005-06. However during the same period number of approvals new other residential buildings has increased steadily from 1,684 in 2001-02 to 2863 units in 2005-06. New other residential building includes semi-detached houses, flats, units and apartments.

While approvals for new houses have declined approvals for other residential buildings have steadily increased. Additions and alterations to existing buildings were steady at about 1.5% of total building approvals. Alterations and additions to existing buildings do not necessarily increase the housing stock. However, it plays an important role in enhancing the value of existing housing stock. In many cases additions and alterations happen after purchase of housing and the new occupant apply to the local council for improvement and refurbishment to individual taste. In large towns and cities this process may result in increase in property value and displacement of low income households and it is generally known as gentrification (Badcock, 1991; Lees, 2000; Badcock, 2001; Hamnett, 2003; Bounds and Morris, 2006; Searle, 2007).

Building approvals in South Australia should be seen in the light of recent housing boom that lasted until 2003 and the accompanied increase in house prices throughout Australia. Many authors have argued that housing affordability has decreased and the cost of housing for low and middle income groups have come under severe housing stress (Bunker and Houston, 2003; Passmore, Sherlund et al. 2005; Yu, 2005; Cannon, Miller et al. 2006; Gallin, 2006; Costello, 2007). Total number of dwellings approved since 2001-02 has marginally increased. This is mainly due to the increase in approvals for dwellings other than separate house i.e. flats, units and apartments. Average value of building approvals for new houses in South Australia has increased dramatically from $113,000 in 2001-02 to $158,000 in 2005-06. The rate of increase is unprecedented in the state. This includes value of super structure excluding the cost of land and registration charges in case of land purchase. Total value of approvals of new residential buildings per year was $1.18 billion per year. On an average value of all new other residential buildings per year was $0.325 billion. In general there is a steady increase of value of building approval across all housing types which implies that in spite of decreasing housing affordability levels the construction industry is buoyant.

It is interesting to note the spatial distribution of housing approvals in South Australia. Separate houses are the dominant dwelling type in Australia. Other dwelling types include flat, unit and apartment. Separate housing accounted for 78% of all dwelling approvals in South Australia in the five year period from 2001-02 to 2005-06. Of the total separate houses approved in the state 73% were in the Adelaide metro. However, in case of other dwelling units, 86% were in Adelaide, suggesting that units, flats and apartments are not as popular in regional areas. Further, the mix of dwelling types approved in the same period as shown in figure 3 and 4 varies substantially in South Australia.
Median household income in Adelaide metropolitan area is substantially higher than the regional areas. Approval of separate housing in regional SLAs varies significantly. In Adelaide, majority of separate housing approvals were confined to middle and lower income SLAs, notably Port Adelaide Enfield and Salisbury. Inner city areas being already nearly fully developed did not account for significant building activity. Approval of separate housing was more dispersed in outer areas.
Approvals for other types of dwellings (flats, units and apartments) are confined to inner and middle areas and in beach front areas. Approvals for other dwelling units in the City of Adelaide are the highest in the state. In very high income areas only a small number of such dwellings have been approved. It can be argued that demand for the two types of dwellings is quite distinct and it appears to be sensitive to proximity to the city centre and economic status. High number of flats, units and apartments in inner city areas suggest that redevelopment in established residential areas have continued during the housing boom period. As seen earlier, the magnitude is gradually increasing. Figure 5 depicts the distribution of housing approvals in Adelaide metropolitan area by Statistical Local Areas.

Distribution of approvals show that concentration of units, flats and apartments though smaller in number it is dominant in already built up areas and are pronounced in the city centre and some of the expensive redevelopments along the coast like Glenelg. City of Adelaide which consist of Adelaide and North Adelaide suburbs has the highest number of units, flats and apartments. There appears to be an increasing trend towards inner-city living. Similar patterns of higher magnitude have taken place in other cities in Australia in particular Melbourne (Fincher, 2004; Yu, 2005; Fincher, 2007). The changing preference towards city living raises many issues of affordability and provision of infrastructure. However, how far this trend has contributed positively to housing affordability and in reducing the demand for land in outlying areas is not well investigated. Large numbers of approvals for separate dwellings have taken place in areas where large land releases took place.

It is important to examine housing market trends in terms of house price, number of sales, affordability and availability of credit for housing in broader perspectives (Dowling, 2005; Guhathakurta and Stimson, 2007; Mueller and Tighe, 2007). Housing affordability and housing cost has become a major policy issue since the onset of last property boom and substantial increase in property prices throughout Australia. Similar boom has happened elsewhere notably in UK, United States and Europe (Passmore, Sherlund et al. 2005; Gallin, 2006; Michayluk, Wilson et al. 2006; Dusansky and Koc, 2007).
House price throughout Australia has escalated drastically during the property boom until 2006. Though it is a national phenomenon, its effect is more acute in major cities. Figure 6 depicts the number of sales of established houses in major Australian cities during the period 2002-2006. Sales peaked in the middle of 2003 in all eight large cities and since then gradually declined. In order to make a comparative assessment of housing sales the figures are normalized to 1000 population in 2001.

Figure 6. Number of established houses sold in major cities, 2002-2006
Source: ABS, 6416.0 House Price Indexes: Eight Capital Cities

Above figure presents number of established house sales for five years normalized to 1 million population and indicate differences in market intensity among the eight cities. Rate of transactions differ by a large measure. Number of sales hit a record high in September 2003 in all cities and gradually declined. Brisbane, Hobart and Perth had the highest number of sales of around 800 per million people, where as in Sydney and Canberra it was less than half of that. It could be attributed to high houses prices. Home Sales in Adelaide is similar to that of Melbourne although it has fluctuated frequently. Melbourne and Adelaide did not experience high fluctuations. While the number of sales since September 2003 has dropped in all cities with the exception of Perth where the sale numbers were very volatile. Perth has witnessed a second peak since January 2004 and continued for two years until the end of 2005. Since the beginning of January 2006 sales in Perth has plummeted drastically by more than half. In December 2006 number of sales was marginally above that of Sydney. With the exception of Perth number of sales in other cities could described as more or less stable. Housing market in Adelaide was the most stable among the eight cities and Perth most volatile. The split of sales for owner occupation and investor housing is not available for the corresponding period.

Reader should be reminded that above information is in the form of price indexes is for established houses. It is calculated on the reference base March 2002 = 100.0 for each of the eight capital cities as well as a weighted average of them. Capital city indexes measure price movements over time in each city individually. Median sale price and number of sales have are closely related. Sale price influence the number of sales significantly. House price in Sydney is significantly higher than other cities. In 2002 median price in Perth, Brisbane and Adelaide were nearly the same and Hobart the lowest. Melbourne and Canberra were started at the same level over the course of time it has increased more than that of Melbourne. Median sale price has flattened briefly in Sydney and Melbourne after November 2003 while
price in Adelaide, Perth Darwin and Hobart increased at steady pace with a slight drop September 2004. Since March 2005 two cities namely Perth and Darwin have defied the trend in other cities. Perth and Darwin witnessed a steep rise in prices while prices in other cities were nearly stable. Rise in prices in Perth since September 2005 has resulted in a sudden drop in number of sales. By the end of 2006, Sydney, Perth and Canberra were the most expensive while Hobart and Adelaide hold their positions and the lower end of the scale. It should be noted that median house price differentials have narrowed to some extent.

![Figure 7. Median sale price index of established houses in eight major cities, 2002-2006](source: ABS, 6416.0 House Price Indexes: Eight Capital Cities)

Above trend pose serious questions to policy makers and households alike especially households with lesser resources and income. The rate of increase is astonishing; in Hobart and Adelaide median price has nearly doubled while in Sydney and Melbourne the net change is roughly the same as the price differentials in Adelaide and Melbourne. Perth and Darwin are distinct and defy the general trend observed in other cities. It should be kept in mind that the above figures do not necessarily inform who is left out of the market especially those among the low and middle income groups.

How did households and wider community cope with this growing house prices and how their housing need is met? It is necessary to have a closer look at housing market to evaluate if it is uniform within a city or it plays out differently to various income groups. The following section deals with house prices in Adelaide metropolitan area in some detail towards answering that question.

**House sale price in Adelaide**

House sale numbers and sale price is presented for all suburbs in Adelaide. Suburbs are relatively smaller entities than SLAs and house sale data and socio-economic data information are available at this scale it is chosen to be the unit of analysis. Every city has its own character and a unique configuration of rich and poor areas. It is essential to keep in mind the current housing structure of Adelaide to evaluate the house price change.
Figure 8a. Median weekly household income, 2001

Figure 8b. Unemployment rate, 2001

Figure 8a depicts median weekly household income compiled from ABS census 2001 and figure 8b presents unemployment rate Adelaide metropolitan area. High income areas typically located in inner and middle suburbs have low unemployment.

Number of sales and median sale price of houses transacted during 2004 to 2006 have been analysed to present trends in house price and address housing affordability issues. The data is presented at suburb level geography. Median sale price information do not provide the
lowest and highest sale price in each suburb. It provides a comparative picture of price levels over the three years period.

Figure 9. Number of sales as percentage of total dwelling units in suburbs

It is seen that housing market was more buoyant in outer suburbs than in inner and middle suburbs, which happen to be the expensive suburbs. It should be noted that few suburbs have recorded more than 100% of dwelling units sold during the three years. Most such suburbs were newly developing suburbs which had very few or no housing in 2001. In general sales in southern and north-eastern suburbs witnessed higher rate of sales. The reader should be reminded that above figures does not represent actual number of sales. In order to provide a structure of sale price in Adelaide, sale prices in all suburbs were normalised to the median price of Adelaide suburb. Adelaide suburb as a benchmark has two advantages: it is the commercial core of the city and located roughly at the centre of the metropolitan area besides being one of the oldest suburbs around which the city grew. Sale price index of all suburbs is presented in figure 10.
The sale price index to some extent reinforces the existing household income differentials with few noticeable changes. Eastern and southern suburbs in the inner city continue to be the expensive areas in Adelaide. However, prices in some of the coastal suburbs have up and are comparable to expensive eastern suburbs. Least expensive suburbs in the north and south continue to be the least expensive areas within the metropolitan Adelaide. The above merely compare all suburbs with Adelaide and it does not provide where prices have escalated or remained otherwise. In order to gain an insight into the increase in price during the three year period the difference between maximum and minimum median sale price over the three year period is computed and presented in figure 11.

It should be noted that the information consist of sale price from 2004 to 2006, well after the property boom in general has cooled down in many parts of Australia most notably in Sydney and Melbourne. In Adelaide the housing boom has continued much longer. It is worth noting that prices in substantial number of suburbs have increased from 10 to 15 percent over the period of three years. This is on the top of the boom price took place until 2003. The city of Adelaide itself witnessed a massive increase in price of nearly 50%. Same is the case with few coastal and inner suburbs.
Price in expensive inner and eastern suburbs have gone further suggesting that housing market for expensive properties located in these suburbs seem to be growing while price in middle and low range suburbs have begin to stabilise. The market for rich and the rest seem to have a stark contrast. Increase in newly developing suburbs in south and northeast are also substantial.

In order to provide a crude measure of affordability i.e. number of years of household income required for a household living in a suburb to buy a house in the same suburb at a price equivalent to December 2006 quarter sale price is computed for all suburbs and presented in figure 12. Even though it is a crude measure, it could be argued that the rate of growth of household income rarely exceed the increase in house prices. This is true not only in Australia but also true in most of the developed countries. Similar measures are widely used in housing studies and policy analysis.

Figure 11. Percent change in median sale price, 2004-06
Upto 10 years of household income is required to buy a house in outer suburbs. Even in outer suburbs there are not many suburbs within 3 years household income; price in most outer suburbs range from 6 to 10 years of household income. Price in inner and middle suburbs are well over 10 years of income and in some suburbs it is over 20 years. Stated other wise, even for high income households living in these suburbs it is going to be a substantial effort to afford a house if they were to buy in the same suburb. This has the potential to differentiate our cities into rich and poor areas in more pronounced lines of income.

**Conclusion**

The precise nature of housing market is difficult to predict. Low interest rate, high employment levels and vibrant economy have enabled people easy access to easy finance. How for planners and policy makers have taken into account housing market trends and made provision for housing in adequate quantity at affordable price at right time is uncertain. Urban development is a slow process and long term strategic plans do not necessarily have policies and programs to effectively deal with such issues. Unless the government intervene into the immediate issue of arresting prices, home ownership for households at low income levels will remain very difficult. Housing prices physically divides people into rich and poor communities at the neighbourhood level which represents substantial social injustice and the housing gap between rich and poor areas is growing.

The research reported in the paper pertains to the period before the onset of the global financial crisis started in late 2008. Though its effects on the economy, housing market and
housing supply is widely reported in popular media it is yet to appear in academic literature. The changed situation will have a long lasting effect on housing and urban development.

Analyses based on home sale price and locations clearly do not take us very far. The variables that appear important—for example, location, housing supply and housing market—combine both economic and location effects. To ascribe importance to the influence of housing market on sale price may superficially look like another attempt at a simple economic explanation, but it would be a mistake to see it this way. The deeper question is why such variations are more prevalent in, say, some parts of the city than in the entire city. Here the housing preferences, including location, household characteristics are surely important.

Economic causes for house prices have to be integrated with other—social and cultural—factors to give depth to the explanation.

References


