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Tenure Mix and Social Housing: A Case Study from Sydney, Australia

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Abstract

There is a growing emphasis on removing concentrations of social housing through policies of social or tenure mix in Australasia. This has also been a policy objective in the United States and United Kingdom over the past two decades. The paper reports on research undertaken in New South Wales, which tested methods for evaluating social housing policy interventions, with tenure mix policy as a case study.

The method is a macro-level model of tenure mix and property prices in Sydney, Australia. The research makes significant contributions to the theory and practice of tenure mix policy, specifically about the location of tenure mix interventions, the type of tenure mix policies that would be appropriate, and the location of new social housing.

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Introduction

There is a growing emphasis on removing concentrations of social housing through policies of social or tenure mix in Australasia. This has also been a policy objective in the United States and United Kingdom over the past two decades. The paper reports on research undertaken in New South Wales, which tested methods for evaluating social housing policy interventions, with tenure mix policy as a case study.

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Tenure mix in theory

'Social mix' is a broad term, and refers to a mix of people in a set space, who differ in terms of household type, income, tenure, age, education, ethnicity, or gender (Johnston 2002: 4-5; Atkinson 2008: 21). 'Tenure mix' is one form of social mix, and refers to a mix of housing tenures in a particular location. A 'mixed tenure' neighbourhood might not necessarily mean a mix of residents with different socio economic statuses (Johnston 2002: 4-5). There are three broad strategies for implementing tenure mix policies, summarised by Kearns and Mason (2007: 664 - 665) as 'dilution', 'diversity' and 'dispersal'. 'Dilution' is the marginal reduction in the number of social housing dwellings in a neighbourhood. This can be achieved by selling social housing dwellings to tenants, or on the private market, or developing new private market dwellings in the neighbourhood. 'Diversity' refers to ensuring new housing developments have a proportion of social housing properties. This is commonly achieved through agreements between planning authorities and property developers. 'Dispersal' refers to the relocation of residents in deprived social housing neighbourhoods to less deprived locations.

The expected benefits of pursuing a social mix policy (through tenure mix) in deprived neighbourhoods is set out by Kearns and Mason (2007: 665). These expected benefits include economic and service impacts, for example an enhanced local economy; social and behavioural impacts, such as reductions in anti-social behaviour; community level impacts, for example increased social interaction; and reduced social exclusion, including less stigma. Health impacts are also cited. Atkinson (2008: 10) summarised Australian research by Phibbs and Young (2005) in which participants felt their health had improved as a result of changes in their housing and neighbourhood circumstances.

In contrast to these expected benefits, there have also been critiques of tenure mix policy, as set out by Arthurson (2002). With reference to tenure mix interventions on Australian social housing estates, she contends that negative impacts include an overall reduction in the supply of social housing, disruption to estate communities as tenants are relocated (temporarily or permanently), and displacement effects from moving tenants to other locations rather than addressing their problems. Cameron (2003) and Lees (2008) contend that policies in the UK and US promoting social mix are actually gentrification rebranded as a public policy tool. For example, HUD's Hope VI is noted for replacing high rise, high density social housing with new lower density, mixed income communities. This is, according to Lees et al., 'gentrification disguised as 'social mix'' (2008: 207). One key criticism is that social mix policies explicitly support gentrification in the sense that they promote wealthier households to move into poorer areas (Blomley 2004: 99).

A further major area of criticism is displacement, where lower income residents (or in the case of tenure mix, social housing tenants) are moved out of their neighbourhood, either through formal relocation programs or through rising housing costs. Displacement is very difficult to measure, as the new geographical location of displaced residents is often not recorded (Atkinson 2000; Newman and Wylie 2006). While difficult to measure, displacement is an important consequence of social or tenure mix interventions as it raises social justice issues. Writing in 1982, Hartman et al. contend that the involuntary movement of people from their homes is wrong, regardless of whether it is because of government policy or private market forces (1982).

Studies of social mix are commonly framed in terms of 'area based effects'. These are defined by Atkinson and Kintrea as 'the net change in the contribution to life-chances made by living in one area rather than another' (2001: 2278). Atkinson and Kintrea argue that literature on area based effects from the US has focused on cities with concentrations of urban poor, where these concentrations create additional impacts which prevent residents from escaping poverty (2001: 2278). In their summary of the literature, they identify impacts including a 'ghetto culture' which stresses short-term goals, a lack of role models caused by the absence of a middle class, forms of social capital which are constraining rather than enabling, poor quality services, and reduced access to jobs. In the UK, Atkinson and Kintrea argue that the evidence base for area effects is weaker, with little evidence on area effects for British cities. Doherty et al. support this view on the UK, contending that previous studies have been ambiguous about the existence of area effects and the benefits of social mix policy (2006: 7-8).

Looking at Australia, Atkinson (2008: 7-8) analysed the concentration of social housing using 2001 Census data. He found that areas of concentration were not common, with only 415 (or one per cent) of Census Collection Districts (CDs) having 50 per cent or more social housing, and 113 CDs with over 80 per cent social housing (out of 38,873 CDs nationally). Atkinson cites Randolph and Holloway's 2005 report, which argued that problems of poor neighbourhood quality and poverty concentration also lie in private sector housing areas in Australia, as disadvantaged households are prevalent in private rental tenures (Randolph and Holloway 2005: 199). This leads Atkinson to contend that area concentrations of poverty are not in themselves tenurial (2008: 2). Also in Australia, Randolph and Wood assessed the extent to which the objectives of 'tenure diversification' (or tenure mix) policies had been achieved, using case studies from Queensland, New South Wales, South Australia and West Australia (2004). They concluded that the case for tenure mix was inconclusive, with 'little clear evidence that social networks between tenants and new owners had developed' (Randolph, Wood et al. 2004).

'Threshold effects', with respect to social mix, refer to the theory that changes in a neighbourhood can reach a 'tipping point' at a specific level of concentration of particular social groups. Beyond the tipping point, or 'threshold', a more rapid decline (or improvement) takes place (Atkinson 2008: v). Galster has written extensively on thresholds in terms of poverty concentrations, for example in Galster and Zobel (1998), and Galster et al. (2000), which examine the levels of poverty concentration whereby area effects start to have an impact. Meen (2009), refers to Galster's body of work in a study of local spatial poverty traps in England. In their 2007 study of mixed tenure communities and neighbourhood quality in the UK, Kearns and Mason found that at ward level¹, there was no 'critical' proportion of social housing or owner occupation that increased or reduced neighbourhood problems. Instead, neighbourhood problems increased in a linear pattern as the proportion of social housing increased (Kearns and Mason 2007: 687). However, they did find that better outcomes were reported where neighbourhoods had less than 20 per

¹ An administrative geographical unit in the UK, with an average population of 5,500 people.

cent social renting (Kearns and Mason 2007: 688). Atkinson (2008) summarised the international research evidence on threshold levels beyond which negative social problems increased. Thresholds included poverty, social housing, and unemployment. Atkinson concluded that the evidence does not allow a simple reading of what levels of these characteristics create social problems, and that the effects found in international studies are difficult to translate into the Australian context (2008: 13).

Tenure mix in practice

There is a growing emphasis on removing concentrations of social housing through policies of social or tenure mix; in the US, through HOPE VI (Keating 2000: 385), the UK, example through the National Strategy for Neighbourhood Renewal (Atkinson and Kintrea 2001: 2277; Doherty, Boyle et al. 2006: 6; Meen 2009: 129; Robson 2009: 6), as well as in Australia.

From the 1980s until the present, State Housing Associations (SHAs) across Australia have undertaken renewal projects on the social housing estates that they built in the previous decades (see Parry and Strommen 2001; Hughes 2004; Randolph and Judd 2006). These have included a wide spectrum of renewal activity, from physical redevelopment and housing stock sales, to community renewal initiatives that aim to improve social and economic outcomes for residents (Randolph and Judd 2006). Much of this renewal activity, particularly with reference to physical interventions, has had a focus on social mix, by diversifying tenure on social housing estates (Arthurson 2004). In New South Wales, Housing NSW does not currently have a single explicit 'tenure mix' policy. However, a number of recent interventions by HNSW have been infused with tenure mix objectives. These are now supplemented by the Commonwealth Government's support for increased social mix on housing estates.

Before reviewing recent tenure mix interventions, it is important to emphasise that tenure mix has been far more aggressively pursued in NSW, and other states and territories, in the past. The 1956 Commonwealth State Housing Agreement (CSHA) included a relaxation of conditions governing the sale of social housing units, through which social housing became another way to promote owner occupation. Under this CSHA, SHAs undertook extensive sales programs, and in 1963 the NSW Housing Commission aimed to sell 80 per cent of its CSHA funded housing stock (Howe 1988). Typically, the best public housing properties were sold (Jacobs, Atkinson et al. 2010), either on the private market or to sitting tenants. This represented a transfer of resources from the social housing sector to low and moderate income home purchasers. Whilst not pursued under the banner of 'tenure mix' or 'social mix', by introducing new owner occupiers, or by turning tenants into owner occupiers, these sales programs brought greater tenure mix to social housing areas.

In contrast to the sales programs which continued from the 1950s to the 1970s, the recent interventions in NSW are modest in scale. Three of the most significant projects are profiled here. The first is Airds Bradbury, an area of around 1,500 social housing dwellings which was built in the 1970s in Campbelltown, in Sydney's south west. The project started in the late 1990s, and the long term objective of the project is to reduce concentrations of social housing in the area to 30 per cent of the housing stock, through demolitions and sales (Housing NSW 2008). The second project, Bonnyrigg Living Communities, is larger in scale than Airds Bradbury. The project, which started in 2004, involves the \$733 million redevelopment of the Bonnyrigg social housing area in Sydney's central western suburbs (Housing NSW 2008). The project includes the replacement of 833 social housing dwellings with 2,330 new dwellings. Only 699 of the new dwellings will be retained as social housing, while the remaining 1,531 dwellings will be sold on the private market. Reducing the concentration of social housing at Bonnyrigg, through moving some social housing stock elsewhere and introducing over 1,500 new private tenure dwellings, is

a significant intervention into the tenure mix of the area. The third project, the Minto Renewal Project, involves the redevelopment of around 1,000 social housing dwellings in the Minto social housing area in Sydney's south west. Similar to Airds Bradbury, the stated aim of the project is to 'to change the mix of residents from predominantly public housing to a sustainable public / private mix with better integration into the surrounding suburbs' (BBC Consulting Planners, Woods Bagot et al. 2005: 34).

This brief review of current HNSW projects demonstrates that, while there is not currently an official tenure mix policy in NSW, recent interventions have an explicit tenure mix focus.

Developing an evidence base for tenure mix

Method

The macro tenure mix model explores the application of dwelling price data as a proxy for measuring amenity or 'neighbourhood quality' changes from social housing policy interventions. The analysis did not test a particular intervention, but explored techniques that could be used to test future interventions. Hedonic modelling has been widely applied to the valuation of locational attributes through property prices, based on the theory that property prices are a reflection of neighbourhood quality. Assuming that improved 'neighbourhood quality' is an objective of social housing policy interventions; the method aims to establish the relationship between concentrations of social housing and property prices in Sydney. This could be used in the future to evaluate the impact of tenure mix policies that change the proportion of social and private tenure dwellings. There are precedents in the literature for such an approach. For example, Meen used property prices when looking at the relationship between house prices (represented as income) and poverty (2009: 132). The macro level approach in this research will use house prices as a proxy measure of neighbourhood quality. The hypothesis developed for the model draws on Bramley et al.'s 2008 study, which found that increasing the supply of social housing was likely to increase the concentration of poverty, and reduce private markets prices at the neighbourhood level (Bramley, Leishman et al. 2008: 183).

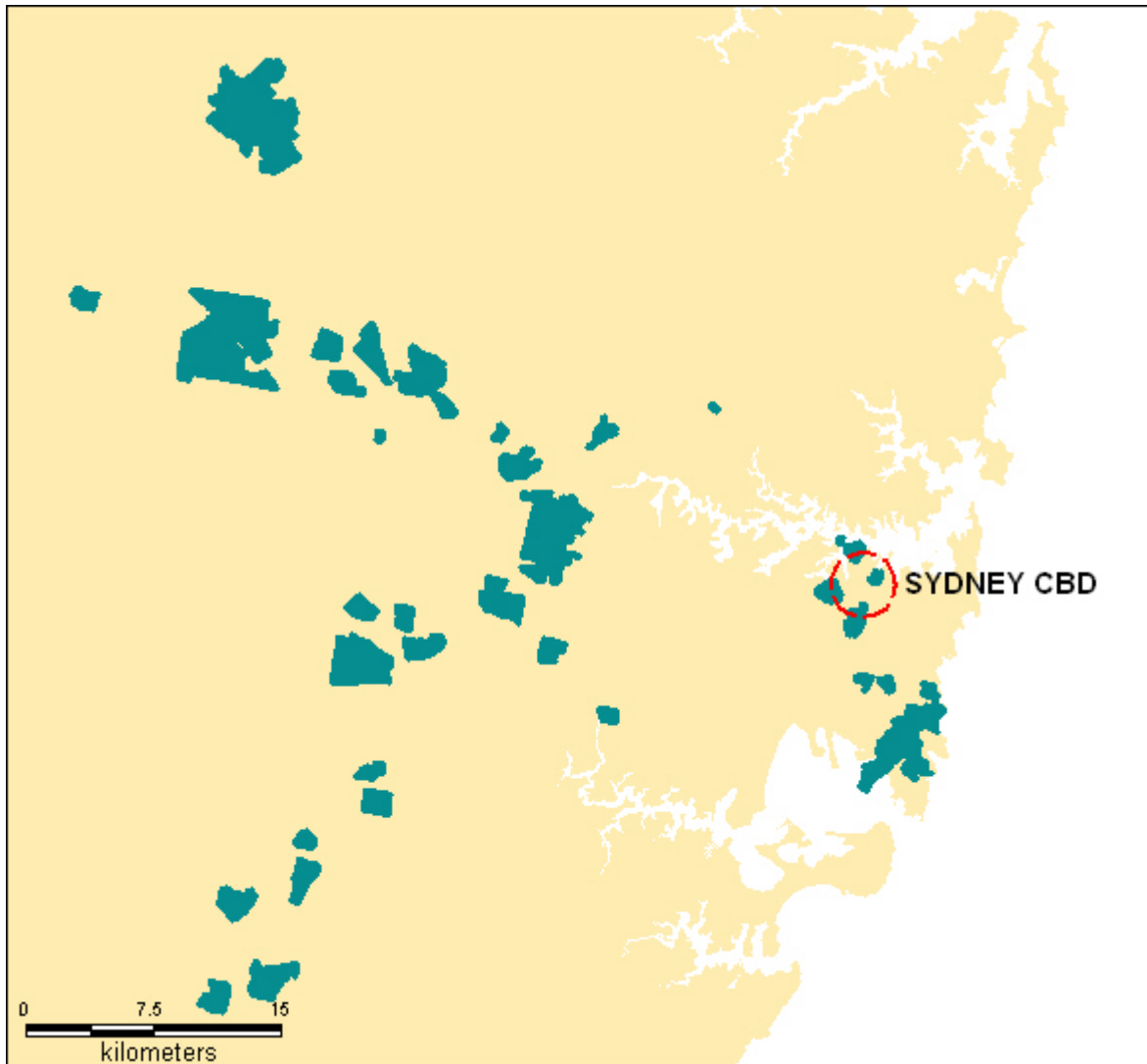
The final factor arising from the literature is the argument that that policies promoting social mix, or in the case of social housing, tenure mix, are state sponsored gentrification. This has major implications for the way the model has been conceptualised, as it uses private market dwelling sales prices as a measure of neighbourhood quality, and suggests that higher prices are a positive indicator of quality improvement. The literature on gentrification (Cameron 2003; Lees, Slater et al. 2008) would instead conceive rising prices as an indicator of gentrification, which has many negative as well as positive impacts.

The macro modelling work tests three hypotheses. Firstly, that tenure mix and property prices have a statistically significant correlation at a macro level. Secondly, that the nature of this correlation will be negative, so as the concentration of social housing decreases, property sales prices increase. Thirdly, that there may be a threshold of tenure mix concentration below which social tenure properties ceases to significantly affect property prices.

A quantitative model was constructed to test the hypotheses set out above. The model was built using the Statistical Package for the Social Sciences ('SPSS')² with each Census Collection District (CD) in the Sydney Greater Metropolitan Region ('GMR') as a case. A number of variables were then attached to each case.

Figure 1 shows the boundary of the Sydney GMR with the location of HNSW estates marked in blue. CDs have around 200 - 300 dwellings each (Australian Bureau of Statistics 2006). They were selected as the geographical unit of analysis because they are the smallest area that the ABS reported data in both 2001 and 2006, and they can be aggregated into larger areas to enable subregional comparisons. The same model was replicated for 2001 and 2006, with 2006 CD boundaries used for the 2006 model and 2001 CD boundaries used for the 2001 model. This was problematic, as there were some changes to CD boundaries between 2001 and 2006.

Figure 1 Sydney GMR 2006 with HNSW Estates



Source: Author, using ABS Census 2006 and HNSW data.

Variables

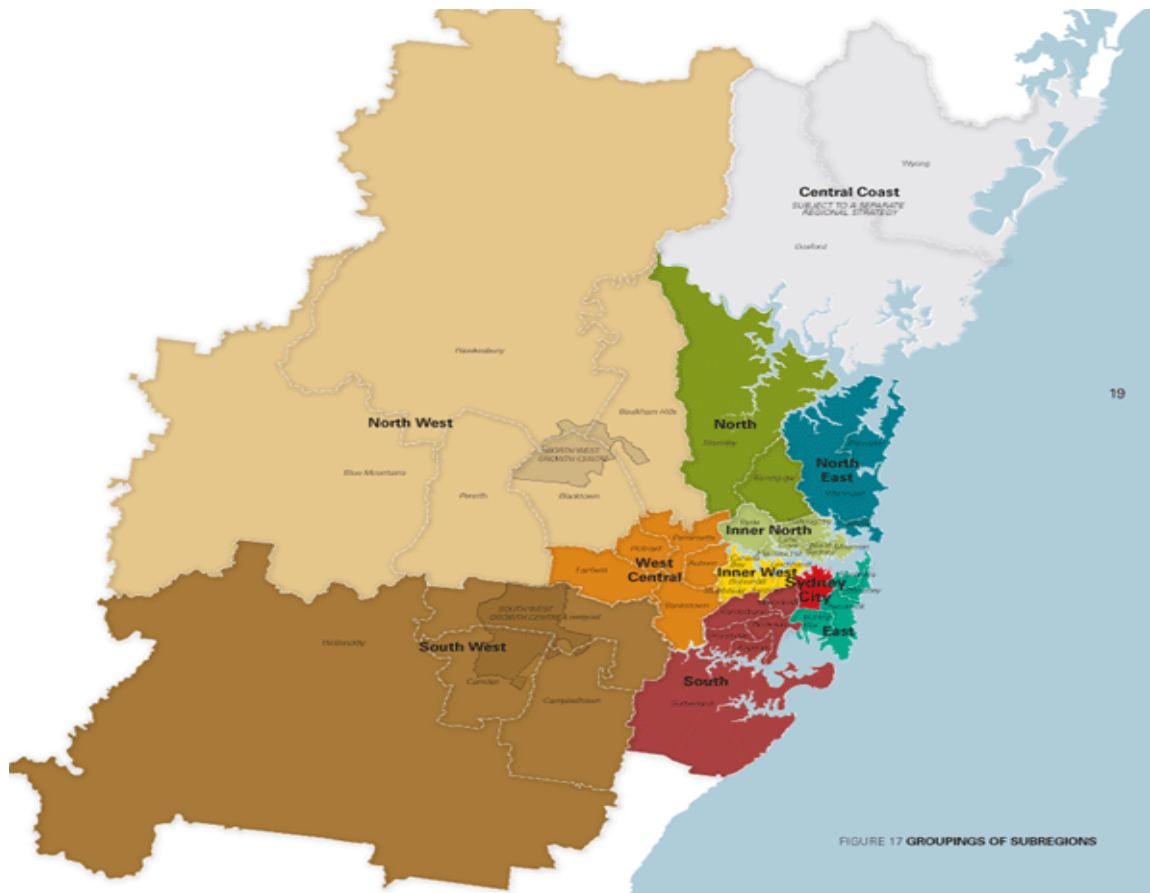
Each CD in the Sydney GMR is a case in the model. For each case, four key groups of variables were derived. Property Price variables were sourced from the NSW Valuer General's Data ('VG Data'). This data records property sales information for transactions in NSW. For the 2001 model, all properties with sales dates between July 1st 2001 and June 30th 2002 were selected for locations within the Sydney GMR. For the 2006 model, all properties with sales dates between July 1st 2006 and June 30th 2007 were selected for CDs for locations within the Sydney GMR. These date ranges were chosen because they span the financial years in which the ABS censuses was undertaken, in 2001 and 2006.

The data was then manipulated in SPSS to make it suitable for inclusion in the model. The sales were first sorted by Price. The median, mean, maximum, minimum, and quartiles for Price were calculated. SPSS

was then used to calculate the median sales price for each CD, and the percentage of sales in each CD over and under the upper and lower quartiles of the entire data set. This was repeated for the 2001/2 data set.

Tenure Mix variables were derived from the 2001 and 2006 ABS Census (Australian Bureau of Statistics 2001, 2006). This generated tenure mix percent, which was the percent of social tenure properties as a proportion of total properties. Demographic variables for each CD were added to the model to enable other factors that might influence property prices to be identified. A geographic variable was introduced by categorising each CD based on the City of Cities Sydney Metropolitan Strategy subregion it was located within (NSW Department of Planning 2005). The 10 subregions of Sydney, as shown in Figure 2, reflect the location of major geographic features in Sydney, including centres of employment and transport networks. This has advantages over using a linear ‘distance to CBD’ method, as it reflects Sydney’s polycentric urban structure. Analysing the other variables by subregion allows spatial differences to be understood at a macro-scale within the Sydney GMR.

Figure 2 Map: Sydney Metropolitan Strategy Subregions



Source: NSW Department of Planning (2005).

Results

The modelling was undertaken in a stepped experimental approach, which means that one modelling technique was tried, and the findings, strengths and weaknesses of the modelling technique then informed the next modelling technique. This was designed to test alternative methods of monitoring tenure mix and dwelling prices. It does not represent linear progress from one modelling technique to the next. Instead,

the stepped experimental approach enables a number of different ways to interrogate the same data to be tested. The results are set out in the order in which the modelling took place. The same analysis was undertaken for each data set as follows. Descriptive statistics were derived for the ten subregions in the data set. These were the number of CDs, the mean median sales price, and the mean tenure mix. Pearson's Correlation was then calculated between Median sales price and Tenure mix for each of the subregions. Finally, the Coefficient of Determination was calculated between Median sales price and Tenure mix for each of the subregions.

Subregions – Outliers Removed

The results of the analysis for the Subregions – Outliers Removed data set are shown in Table i and Figure 3.

Table i Descriptive Statistics and Correlation, 2006, Outliers Removed, Subregion

Subregion	Number of CDs	Median Sales Price 06-07 Mean	Tenure Mix % Mean	Pearson's Correlation	Coefficient of Determination
North	79	\$ 522,558	4.05%	-0.194	3.750%
North East	68	\$ 602,048	6.98%	0.047	0.220%
South	472	\$ 454,453	7.27%	-0.062	0.387%
Inner North	145	\$ 532,305	7.50%	-0.065	0.419%
Inner West	153	\$ 558,647	7.46%	-0.035	0.122%
East	154	\$ 562,063	10.75%	0.079	0.631%
West Central	586	\$ 366,125	11.68%	-0.016	0.025%
North West	345	\$ 337,820	10.10%	-0.247	6.092%
Sydney City	129	\$ 496,503	12.80%	0.067	0.443%
South West	248	\$ 310,927	14.09%	-0.447	19.945%

The Coefficient of Determination was between 0.025 percent and 19.95 percent, which suggests that tenure mix plays a small role in explaining variations in sales prices in some subregions, but a larger role in others.

Figure 3 Map: Correlation by Subregion, Tenure Mix CDs 2006, Outliers Removed

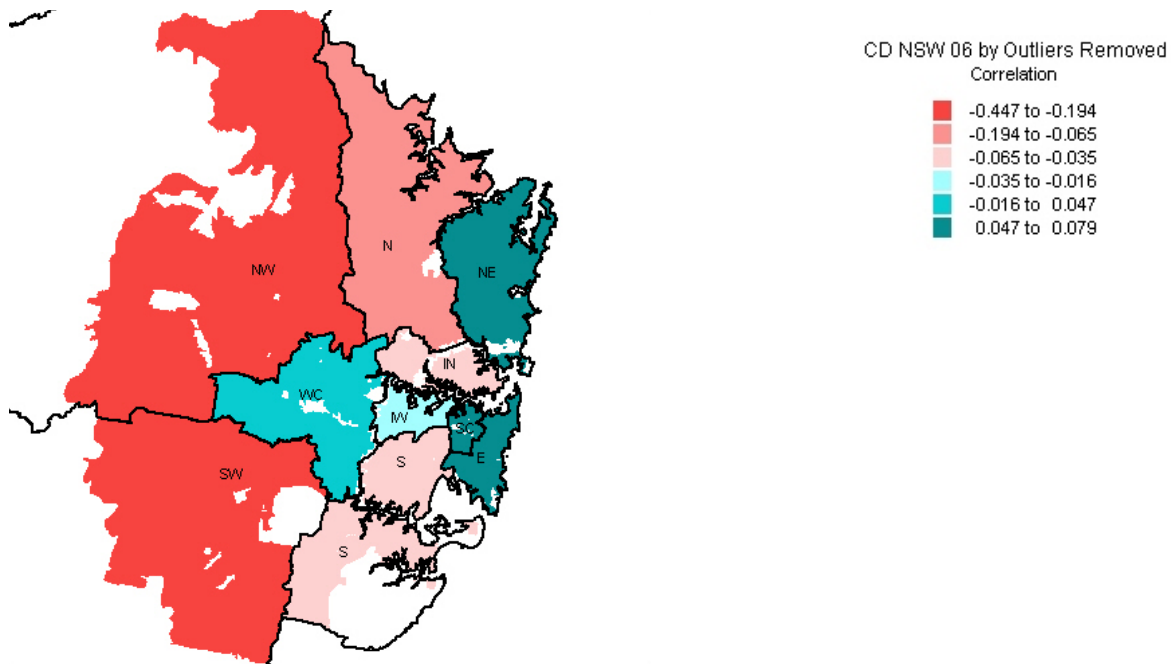


Figure 3 shows different correlations in the subregions. The North, North West and South West subregions have the strongest negative correlations. The South, Inner North, Inner West, and West Central have weaker negative correlations. The North East, East and Sydney City have weak positive correlations. This seems to show that further from central city, tenure mix and property prices have the strongest negative correlation. This is not the case in the North East, but social housing in this subregion is concentrated in the south, which is relatively close to the city and a higher amenity area.

Subregions - Dwelling Type

The variety of correlations between median sale price and tenure mix in the subregions evident in the previous analysis led to the identification of dwelling type as a potential differentiating factor. To investigate the influence of dwelling type on the correlation between median sales price and tenure mix, the individual sales records in the Valuer General’s 2006/7 data file was split into houses and units. This distinction was made by using the ‘strata unit number’ variable. If a case had one, it was classified as a unit; if not, it was classified as a house. The results of the analysis for the Houses and Units data set are shown in Table ii,

Table iii. These show no strong overall correlation between median sales price and tenure mix for houses or units by subregion.

Table ii Descriptive Statistics and Correlation, 2006, Houses, Outliers Removed, Subregion

Subregion	Number of CDs	Median Sales Price 06-07 Mean	Tenure Mix % Mean	Pearson's Correlation	Coefficient of Determination
North	80	\$ 678,412	3.80%	0.022	0.049%
North East	71	\$ 822,225	6.19%	-0.244	5.951%
Inner North	120	\$ 772,033	6.41%	-0.134	1.805%
Inner West	159	\$ 739,431	7.00%	-0.059	0.346%
South	443	\$ 556,009	7.13%	-0.138	1.907%
North West	323	\$ 381,160	8.34%	-0.112	1.248%
South West	223	\$ 346,667	10.25%	-0.184	3.388%
West Central	588	\$ 408,327	11.61%	-0.129	1.667%
East	138	\$ 842,820	11.72%	-0.241	5.817%
Sydney City	111	\$ 648,768	13.45%	-0.035	0.123%

Table iii Descriptive Statistics and Correlation, 2006, Units, Outliers Removed, Subregion

Subregion	Number of CDs	Median Sales Price 06-07 Mean	Tenure Mix % Mean	Pearson's Correlation	Coefficient of Determination
North	57	\$ 428,579	4.49%	-0.207	4.281%
Inner North	104	\$ 449,247	6.06%	-0.066	0.439%
South	338	\$ 355,215	6.40%	-0.036	0.129%
North East	37	\$ 445,466	6.71%	0.120	1.435%
Inner West	125	\$ 399,536	6.75%	0.014	0.020%
East	129	\$ 435,816	7.52%	-0.037	0.138%
North West	160	\$ 306,218	8.96%	-0.080	0.636%
South West	112	\$ 255,433	9.91%	-0.196	3.855%
Sydney City	92	\$ 394,070	9.97%	-0.058	0.336%
West Central	357	\$ 310,066	10.54%	0.108	1.160%

Table iv Descriptive Statistics and Correlation, 2006, Houses and Units, Outliers Removed

CD Set	Number of CDs	Median Sales Price 06-07 Mean	Tenure Mix % Mean	Pearson's Correlation	Coefficient of Determination
Houses (excl. outliers)	2257	\$ 531,087	9.17%	-0.134	1.801%
Units (excl. outliers)	1511	\$ 356,326	8.16%	-0.086	0.743%

Table iv sets out descriptive statistics and correlation results for the Houses and Units data set as a whole (not by subregion). This shows that houses had a much higher mean median sales price than units (\$531,000 versus \$356,000), while the mean tenure mix was similar (9 percent for houses versus 10 percent for units). Overall, Pearson's r for the Houses data set indicated a slightly stronger negative correlation than for the Units data set (-0.134 versus -0.086). The Coefficient of Determination was 1.801 percent for Houses 0.743 percent for Units, which suggests that tenure mix plays only a small role in explaining variations in sales prices.

Figure 4 compares Pearson's r for Houses and Units by subregion. In some subregions, both Houses and Units had a negative correlation between median sales price and tenure mix, namely Inner North, South, North West, South West, East and Sydney City. In other subregions, a negative correlation was only evident for houses, namely North East, Inner West and West Central. North was the only subregion to have a negative correlation for Units only. The results also suggest that house sales prices tend to have a stronger negative correlation with tenure mix than unit sales prices. The exception to this is in the North and South West, and to a lesser extent Sydney City. There is no clear pattern, although units tend to be less negatively correlated with tenure mix than houses. It suggests that further from central city, tenure mix and property prices have the strongest negative correlation, but units are more likely to be negatively correlated with social tenure in urban fringe areas than in inner and middle areas.