The Impact of Auctions on Residential Sale Prices : Australian Evidence

Alex Frino[a]*
Andrew Lepone[b]
Vito Mollica[c]
Anthony Vassallo[d]

Abstract

This study re-examines the variation in selling prices between the auction and private treaty method of sales. Using sales data from five major Australian capital cities over a four year period, we estimate a hedonic pricing model. Results indicate that for house sales, auctions lead to greater selling prices across all cities examined. However, results for unit sales reveal that this auction premium is only evident in two cities where auctions are less prevalent. Further analysis reveals that self-selection (where a particular method of sale is selected to maximise the selling price) is evident across the sample. After controlling for this self-selection bias using a two-stage model, houses sold via auction generally command a higher price. This suggests that the auction method of selling provides a price premium over the private treaty method of sale.

Keywords: Residential real estate; Auctions; Private treaty.

JEL Classification: D44, G10, G14.

[a] University of Sydney, Australia. *andrew.lepone@sydney.edu.au

[b] University of Sydney, Australia.

[c] Rismark International.

[d] University of Sydney, Australia.

Acknowledgement: This research has been funded by the ARC Linkage Grant LP0882983.

1. Introduction

The efficiency of the market for residential real estate is studied widely, mostly drawing on US data. Much of this work concludes that real-estate markets function with suboptimal efficiency (e.g. Case & Shiller 1989, 1990; Ashenfelter & Genesove 1992; Mayer 1998). However, this work is generally unable to fully rule out market efficiency, but instead has pointed to the fact that optimal market efficiency is unlikely, given the large transaction costs in the real-estate market when compared with, for example, those that pertain in equities markets. Another reason for these findings can be attributed to market design. Differences in market design are studied extensively across various types of markets, such as equities, derivatives and foreign exchange. In relation to real-estate markets, the comparison focuses on prices generated at auctions and private negotiations. Much of this work is based on data derived from the US, and it has produced inconsistent results. Several studies find that prices paid at auction tend to be higher, and in one study by Ashenfelter and Genesove (1992), the auction premium is as high as 13%. On the other hand, several studies find that auctions result in lower average property prices (e.g. Mayer 1998).

Previous work is of limited application to the Australian market, even though the structure of the Australian market (especially in major metropolitan areas) is much more conducive to this type of research. In US markets, auctions are used as a last resort, usually when owners are under financial duress and are thus required to sell (Vanderporten 1992); hence, the results of such studies suffer from external validity biases. This contrasts with markets in major Australian cities, in which auctions are seen as a viable method for selling residential property. While private negotiations provide potential buyers time to consider and theoretically have an infinite time period, auctions provide several other benefits. The auction process promotes competitive bidding, ultimately removing any price barriers, which is particularly beneficial for unusual or desirable properties which are difficult to price. A set date of sale also encourages potential buyers to act quickly, possibly reducing the time to sell a property.

There are two studies based on Australian and New Zealand markets (Lusht 1996; Dotzour, Moorhead and Winkler 1998)[1]. Lusht (1996) examines selling prices for 163 properties sold via auction versus 58 properties sold via private treaty in Melbourne, Australia, over the period January 1988 through March 1989. A probit analysis reveals that the choice of marketing depends on the age, condition and date the property is sold, with older and more run-down properties being increasingly likely to be sold via private treaty. After controlling for several qualitative characteristics of the properties sold (using a hedonic pricing model), Lusht (1996) finds that auction sales command a premium of AUD $19,326 (approximately 8%).

Dotzour, Moorhead and Winkler (1998) examine differences between selling prices at auctions and private treaty for 158 housing transactions in Christchurch, New Zealand, over the period September 1991 through December 1992. Initial results of a probit analysis indicate that larger, higher quality and more expensive properties are more likely to be sold via auction. However, the probability of selling a property is cyclical and is also related to the level of interest rates (during the sample period analysed, the level of interest rates was falling). Further analysis, which controls for several factors including the size, age, condition, location and construction of the property, reveals that properties sold via auction have up to a 9.5% price premium compared to sales via private treaty.

[1] See also Lusht (1990) and Newell et al. (1993) for earlier studies of the Australian real-estate market.

Both the studies by Lusht (1996) and Dotzour, Moorhead and Winkler (1998) are based on small samples from one city over relatively short time periods (15-16 months). As with all financial markets, real-estate markets experience particular trends through time. It is thus difficult to draw conclusions based on such small samples over short time periods. The primary motivation for this study is to re-examine the impact that the method of sale has on selling prices. The dataset available for analysis in this study is significantly more comprehensive, covering sales of properties in five Australian capital cities over a four year period (2005-2009). By examining multiple cities in one country, major macro-economic variables are controlled (for example, the level of interest rates), leaving region-specific variations in selling methods and prices open for examination.

Both the studies by Lusht (1996) and Dotzour, Moorhead and Winkler (1998) control for the obvious simultaneity bias in testing whether auction mechanisms impact on the price at which properties are transacted (i.e. the auction mechanism may determine the sales price but the likely sales price may also determine whether an auction mechanism is used). However, they did not control for possible selection biases in transactions. One of the biases is that many properties are passed in at auction because the highest bid is lower than vendor expectations[2]. It is possible that some of these properties are later sold through private treaty, suggesting that a portion of private sales are likely to be failed auction results that may have been sold at lower prices. The dataset available provides information on properties passed in at auction so that any potential influence can be controlled.

Another motivation for the current study is the ability to examine house sales separately from unit sales. While both Lusht (1996) and Dotzour, Moorhead and Winkler (1998) develop hedonic pricing models that attempt to control for differences in properties, there are significant differences between houses and units that may affect the ability of the model to differentiate selling prices. While houses in the same area (or even on the same street) often exhibit significant variation in age, style, quality etc., units exhibit significantly greater homogeneity. Units within the same complex generally share many attributes, and unit complexes within the same area are often viewed as close substitutes. Examining how the method of sale affects the selling price of units thus overcomes (to some extent) the need to control for variations in the attributes of the property.

In addition to these primary motivations, there are other differences between this study and those of Lusht (1996) and Dotzour, Moorhead and Winkler (1998) that warrant further research. During the sample period examined by Lusht (1996), seller or 'dummy' bids were legal and commonly used, generally to promote bidding and inflate prices. More recently, this practice has become illegal. For example, the NSW Office of Fair Trading has recommended legislation to ensure that all bids and bidders are *bona fide* and that transaction prices are not artificially inflated. This led to the passing of the *NSW Property Stock and Business Agents ACT 2002*[3]. Given that Lusht (1996) finds that properties sold at auction command a price premium, the potential for dummy bids to drive these higher prices is a confounding factor not evident in the current study.

During the sample period examined by Dotzour, Moorhead and Winkler (1998), the level of interest rates was falling in New Zealand, from 11.8% at the start of the sample period to 8.9% by the end of the sample period. Anecdotal evidence suggests that during periods of falling interest rates, potential buyers are more aggressive to enter the market, potentially making the auction method of sale increasingly popular, and possibly driving the auction price premium documented by Dotzour, Moorhead andWinkler (1998). The four year sample employed in the current study covers periods of both rising and falling interest rates,

[2] Passed in refers to the failure to sell at auction. Most of these properties are later listed for sale by private negotiation.

[3] Office of Fair Trading, 2003.

thus mitigating (at least to some extent) the potential bias introduced by uni-directional interest rate movements.

Results of the analysis indicate that for house sales, auctions lead to greater selling prices across all cities examined. However, results for unit sales reveals that this auction premium is only evident in the two cities where auctions are less prevalent. Further analysis reveals that a self-selection bias is evident across the sample. After controlling for this self-selection bias using a two-stage model, houses sold via auction generally command a higher price.

The remainder of the paper is organised as follows. The following section details the dataset examined and the hedonic pricing model used. Section 3 outlines the methodology used. Section 4 provides details of the empirical results, and Section 5 summarises the paper and details several areas for future research.

2. Data and Descriptive Statistics

The dataset used in this study is provided by RP Data, Australia's largest residential real estate company. This data contains details of property sales in five of Australia's mainland capital cities, which is then matched to proprietary property listings and attributes data. The listing information provides details regarding the list type (i.e. auction or private sale), listing publication date, auction date, listing price, and agent details. The attribute information provides property-characteristic information such as the number of bedrooms, number of bathrooms, land size, air-conditioning, pools, scenic views and location.

The data covers the period January 2005 to June 2009, during which time over 536,000 property transactions are identified as being transacted via either auction or private sale. A potential bias inherent in the data is that many properties are passed in at auction because the highest bid is below the reserve price set by the vendor, and these properties are later sold through private treaty. Alternatively, some properties originally listed for private sale do not sell in an 'acceptable' time period and are subsequently sold via auction[4]. To control for such events a property is deemed to be listed if there is an uninterrupted advertising campaign (of the same type) not exceeding 3 months.

Descriptive statistics are reported in Table 1 (see Appendices for all tables) for house sales and Table 2 for unit sales. Over the period January 2005 to June 2009, there are approximately three times more sales achieved via private treaty than auction. Comparing results across cities, Melbourne has the greatest proportion of auctions, closely followed by Sydney. Conversely, Perth exhibits the lowest proportion of auctions. Across all capital cities, properties that sell via auction achieve higher prices, with both Melbourne and Sydney experiencing the greatest discrepancy in prices, particularly for house sales. The average time on market is similar for both auction and private treaty sales across all capital cities for both houses and units.

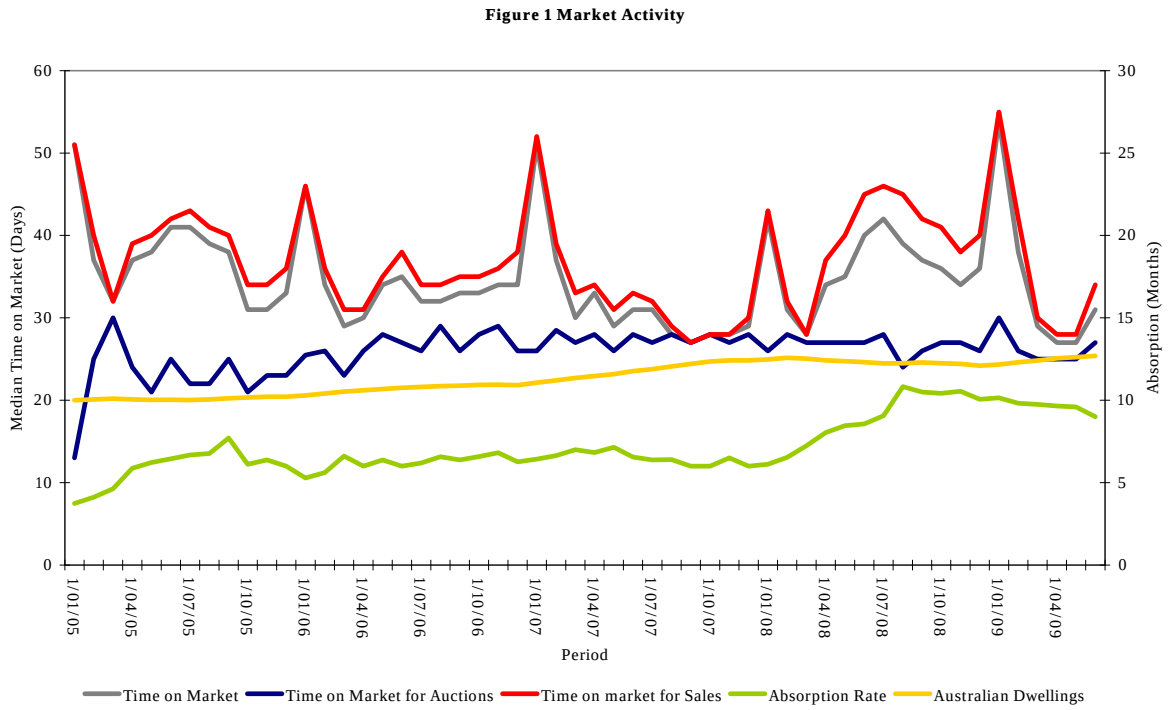
Figure 1 depicts several further descriptive statistics for the entire Australian sample. It shows that auctions are a good mechanism to concentrate liquidity. The median time on the market – the difference between sale date and listing date – is relatively constant at approximately 25 days. Conversely, time on market for private treaty sales is higher at approximately 37 days. Time on the market for private treaty sales also exhibits seasonality, with large increases around the start of each calendar year.

[4] There is no set time period deemed 'acceptable' for a private sale. Each vendor, together with their agent, will normally determine how long a property should remain listed for private sale prior to listing the property for auction.

Figure 1 also depicts the absorption rate. The absorption rate is defined as the ratio of number of property listings to average sales volume; it measures the ability of the market to sell all of the properties for sale in a given amount of time[5]. A declining figure indicates the inventory of stock on the market is decreasing as more properties are being sold than are coming onto the market. A rising absorption rate implies that there are more properties coming onto the market than there are buyers willing to buy at the market prices. Figure 1 provides anecdotal evidence of a relationship between time on the market and absorption rate. During periods where the absorption rate is increasing, the time on the market is also increasing. Conversely as the absorption rate decreases, time on the market decreases. During the period of examination (2005-2009), the Australian property market increased by 26.9%.

Figure 1

Market Activity



This figure presents summary statistics for house and unit sales. The data cover the sale of all houses and units in Melbourne, Sydney, Brisbane, Adelaide and Perth, over the period January 2005 to June 2009. Variables include the total time on the market, the time on the market for auctions and private treaty sales separately, the absorption rate and the total number of Australian dwellings over the sample period.

[5] For example, if 100 homes are sold every month and there are 1200 homes for sale, it will take 12 months to sell all of the homes currently for sale. We have measured average volume over the previous six months, three months in arrears.

3. Empirical Methodology

To compare the differences in prices of property sold at auction vis-à-vis those sold via private treaty, the following pricing model is estimated to examine the quality-controlled differences in prices:

$$\ln(SP_i) = B'x_i + \varepsilon_i \quad (1)$$

where *SPi* is the selling price of property *i*, x_i is the vector of property and market variables, *B* is the vector of regression coefficients and ε_i is the disturbance term. The vector of property and market variables (x_i) is described as follows:

- *ListType* is a binary variable which equals 1 when the property is sold via auction
- *LandSize* is the natural logarithm of the property land size
- *Bathroom* is the number of bathrooms in the property
- *Bedroom* is the number of bedrooms in the property
- *CarSpaces* is the number of car spaces in the property
- *BedBath* is the ratio of bedrooms to bathrooms in the property
- *Pool* is a binary variable which equals 1 when the property has a pool
- *Water* is a binary variable which equals 1 when the property is waterfront
- *Air* is a binary variable which equals 1 when the property has air-conditioning
- *Views* is a binary variable which equals 1 when the property has views
- *InterestRates* is a variable that measures the RBA cash rate at the time of sale
- *SSD* is the statistical sub-division in which property *i* is located
- *SSD * ListType* is an interaction variable of statistical sub-division and list type

A potentially confounding factor in estimating Equation 1 is the issue of self-selection. That is, individuals may select the method of sale that is most likely to maximise the selling price. Thus, any differences in selling prices inferred from the hedonic pricing model may be driven by the choice of selling mechanism rather than by any fundamental difference in prices achieved from auction versus private treaty sales. This same issue was addressed in Dotzour et al. (1998) by employing a two-stage model.

We adopt the method used by Luez and Verrecchia (2000) in their study of several German companies that changed from a German to an international reporting regime. Similar to Luez and Verrecchia, we estimate a two-stage cross-sectional regression to control for the possible self-selection bias. The first step specifies a probit regression to model the choice

between auction and private treaty. As previous research suggests that properties sold via auction are generally more unique and of higher quality, variables that relate to the size, quality and attributes of the property are included in the probit model.

The second step of the two-stage technique is to model the link between the property characteristics identified and the differences in selling prices between auction and private treaty sales. This specification takes into account that the selling mechanism variable (*ListType*) is endogenous, and thus measures the marginal effect of an auction versus a private treaty sale.

4. Results

Results from the first-stage probit model are presented in Table 3 (see Appendices for all tables) for house sales and Table 4 for unit sales. Coefficient estimates on the control variables suggest that larger, better quality properties (both houses and units) are more likely to sell via auction, as are properties with views. The likelihood ratio statistics (LR) range from 15,188 to 166,166 for houses and 1,123 to 45,419 for units. These results indicate that the model explains significant variation in the probability of selling properties via auction or private treaty.

Results from the second-stage regression are presented in Table 5 for house sales and Table 6 for unit sales. The adjusted R-Squared values are all in excess of 44% for house sales and in excess of 29% for unit sales, indicating that the model explains significant variation in selling prices after accounting for the possibility of a self-selection bias. All values for Lambda are statistically significant at all conventional levels, for both the house and unit sale regressions. All coefficient estimates for the *ListType* dummy variable are significantly positive for both the house and unit sale regressions. This suggests that, after controlling for self-selection between auction and private treaty, the auction premium still remains.

Results from the generalised hedonic pricing model for the entire period are presented in Table 7 for house sales and Table 8 for unit sales. The hedonic pricing models estimated for each capital city all have adjusted R-Squared in excess of 44% for house sales and 30% for unit sales, highlighting the good explanatory power of the model. Consistent with previous research, the coefficient on *ListType* is positive for each capital city for house sales, indicating that houses sold at auction have higher prices relative to those sold via private treaty. However, for the unit sales regressions, the coefficient on the *ListType* variable is only statistically significantly positive for Perth and Adelaide, with Melbourne, Sydney and Brisbane all exhibiting statistical insignificance. This suggests that the advantage to the auction method of sale previously documented (including in this study) does not extend to the sales of units.

The majority of explanatory variables have coefficients with the expected sign and significance. Larger houses and units with views generally sell for greater amounts. The level of interest rates appears to have a varied effect across capital cities. For house sales, higher interest rates reduce selling prices in Melbourne, Sydney and Adelaide, while they increase selling prices in Brisbane and Perth. For unit sales, higher interest rates reduce selling prices in all capital cities except Perth. There is significant variation across Statistical Sub-Divisions, suggesting that even within capital cities there is a significant variation in selling prices. The interaction between *ListType* and *SSD* also highlights that the preferred method of sale, and the resulting sale price, exhibits significant variation within capital cities.

5. Summary and Conclusion

The efficiency of residential real estate markets is studied extensively in the finance literature. A major conclusion drawn from this research is that real-estate markets function with sub-optimal efficiency, with the method of sale (auction versus private treaty) affecting ultimate selling prices. However, the majority of this literature is based on the US real-estate market in which an overwhelming number of sales are executed via private treaty – auctions are generally used as a last resort. The primary motivation for this study is to re-examine the impact that the method of sale has on selling prices in markets where the auction method of sale is viewed as an equivalent (if not superior) method of selling property. The dataset available for analysis is significantly more comprehensive than that used in previous studies, as it covers sales of properties in five Australian capital cities over a four year period (2005-2009).

Results of the analysis indicate that for house sales, auctions lead to greater selling prices across all cities examined. However, results for unit sales reveals that this auction premium is only evident in the two cities where auctions are less prevalent. Further analysis reveals that self-selection (where a particular method of sale is selected to maximise the selling price) is evident across the sample. After controlling for this self-selection bias using a two-stage model, houses sold via auction generally command a higher price. This suggests that the auction method of selling provides a price premium over the private treaty method of sale. Further research is required to determine how and why this price premium exists.

References

Ashenfelter, O & Genesove, D 1992, 'Testing for price anomalies in real-estate auctions', *The American Economic Review,* vol.82, pp501-505.

Case, K E & Shiller, R J 1989, 'The efficiency of the market for single-family homes', *The American Economic Review,* vol.79, pp125-137.

Case, K E & Shiller, R J 1990, 'Forecasting prices and excess returns in the housing market', *AREUEA Journal,* vol.18, pp253-273.

Dotzour, M G, Moorhead, E & Winkler, D T 1998, 'Auctions on residential sales prices in New Zealand', *Journal of Real Estate Research* 16, p57-70.

Luez, C., and R. Verrecchia, , 2000, The economic consequences of increased disclosure, *Journal of Accounting Research,* vol.38, pp91-124.

Lusht, K M 1990, 'Auctions versus private sales of houses: A description and empirical analysis of Melbourne, Australia market', Working Paper, The Pennsylvania State University.

Lusht, K M, 1996, 'A comparison of prices brought by English auctions and private negotiations', *Real Estate Economics,* vol.24, pp517-530.

Mayer, C J 1998, 'Assessing the performance of real estate auctions', *Real Estate Economics,* vol.26, pp41-66.

Newell, G, MacFarlane, J, Lusht, K M & Bulloch, S 1993, 'Empirical analysis of real estate auction versus private sale performance', Working Paper, University of Western Sydney.

Office of Fair Trading 2003, *Bidders guide: residential and rural property auctions*.

Vanderporten, B 1992, 'Timing of bids at pooled real estate auctions', *Journal of Real Estate Finance and Economics,* vol.20, pp255-267.

Appendices

Table 1

Summary Statistics – Houses

This table presents summary statistics for house sales. The data cover the sale of all houses in Melbourne, Sydney, Brisbane, Adelaide and Perth, over the period January 2005 to June 2009. Variables include – SP_i is the selling price of property *i*; *TOM* is the time on market for property *i*; *Absorption* is the absorption rate for the suburb during the month of sales; *LandSize* is the natural logarithm of the property land size; *Bathrooms* is the number of bathrooms in the property; *Bedrooms* is the number of bedrooms in the property; *CarSpaces* is the number of car spaces in the property; *BedBath* is the ratio of bedrooms to bathrooms in the property; *Pool* is a binary variable which equals 1 when the property has a pool; *Water* is a binary variable which equals 1 when the property is waterfront; *Air* is a binary variable which equals 1 when the property has air-conditioning; *Views* is a binary variable which equals 1 when the property has views; *InterestRates* is a variable that measures the RBA cash rate at the time of sale. The mean and standard deviation (in parentheses) is presented for each variable.

	Melbourne		Sydney		Brisbane		Perth		Adelaide	
	Auction	Private Treaty	Auction	Private Treaty	Auction	Private Treaty	Auction	Private Treaty	Auction	Private Treaty
Number of Obs.	50,837	81,184	37,564	73,421	7,777	77,930	1,577	74,246	7,549	41,117
Ln (SP)	13.20	12.79	13.54	13.11	13.11	12.90	13.39	12.98	12.97	12.68
	(0.4735)	(0.3649)	(0.5182)	(0.4276)	(0.3819)	(0.3071)	(0.5657)	(0.3952)	(0.3554)	(0.3143)
Ln (TOM)	3.432	3.328	3.416	3.505	3.368	3.248	3.403	3.250	3.440	3.541
	(0.6692)	(1.1381)	(0.6968)	(1.133)	(0.8425)	(1.243)	(0.8596)	(1.297)	(0.7121)	(0.8717)
Ln (Absorption)	2.156	2.025	1.829	1.687	2.071	1.972	1.879	1.752	2.306	2.250
	(0.3522)	(0.3887)	(0.4663)	(0.5096)	(0.5081)	(0.5590)	(0.5911)	(0.6376)	(0.3927)	(0.3752)
Ln (LandSize)	-2.989	-2.722	-3.101	-2.852	-2.676	-2.658	-2.640	-2.672	-2.709	-2.747
	(0.5697)	(0.4840)	(0.6479)	(0.4165)	(0.5943)	(0.5380)	(0.3978)	(0.3581)	(0.3765)	(0.3790)
Ln (Bathrooms)	-0.122	-0.0794	-0.0636	-0.0685	-0.0908	-0.1060	-0.1505	-0.125	-0.1527	-0.1520
	(0.1468)	(0.1496)	(0.1125)	(0.1086)	(0.1643)	(0.1605)	(0.1562)	(0.1486)	(0.1554)	(0.1582)
Ln (Bedrooms)	0.0379	0.0602	0.0403	0.0556	0.1068	0.0953	0.1003	0.1277	0.0448	0.0562
	(0.1290)	(0.1198)	(0.1151)	(0.1040)	(0.1514)	(0.1351)	(0.1556)	(0.1387)	(0.1214)	(0.1170)
Ln (CarSpaces)	-0.1408	-0.1140	-0.1203	-0.1060	-0.1265	-0.1131	-0.1918	-0.1805	-0.1939	-0.1876
	(0.0956)	(0.1022)	(0.0749)	(0.0771)	(0.1015)	(0.1028)	(0.0857)	(0.0936)	(0.0753)	(0.0812)
BedBath	2.240	2.125	2.220	2.360	2.237	2.308	2.317	2.344	2.347	2.441
	(0.7845)	(0.8096)	(0.7995)	(0.8218)	(0.8250)	(0.8210)	(0.7211)	(0.6857)	(0.8407)	(0.8631)

Pool	0.0392	0.0298	0.1125	0.0999	0.1760	0.1023	0.2353	0.2164	0.0476	0.0493
	(0.1942)	(0.1699)	(0.3160)	(0.2999)	(0.3809)	(0.3031)	(0.4243)	(0.4118)	(0.2128)	(0.2164)
Water	0.0011	0.0009	0.0105	0.0073	0.0039	0.0025	0.0025	0.0010	0.0017	0.0010
	(0.0335)	(0.0294)	(0.1020)	(0.0851)	(0.0620)	(0.0502)	(0.0503)	(0.0316)	(0.0415)	(0.0319)
Air	0.1685	0.1525	0.1240	0.1340	0.1278	0.0793	0.2834	0.3623	0.3997	0.3769
	(0.3743)	(0.3595)	(0.3296)	(0.3406)	(0.3339)	(0.2702)	(0.4508)	(0.4807)	(0.4899)	(0.4846)
View	0.0104	0.0100	0.0472	0.0330	0.0350	0.0080	0.0818	0.0330	0.0110	0.0140
	(0.1016)	(0.0996)	(0.2120)	(0.1787)	(0.1837)	(0.0889)	(0.2741)	(0.1787)	(0.1043)	(0.1176)
InterestRates	7.757	7.633	7.659	7.521	7.712	7.626	7.567	7.504	7.914	7.610
	(1.065)	(1.082)	(1.136)	(1.188)	(1.085)	(1.105)	(1.008)	(0.977)	(1.003)	(1.083)

Table 2
Summary Statistics – Units

This table presents summary statistics for unit sales. The data cover the sale of all units in Melbourne, Sydney, Brisbane, Adelaide and Perth, over the period January 2005 to June 2009. Variables include – SP_i is the selling price of property *i*; *TOM* is the time on market for property *i*; *Absorption* is the absorption rate for the suburb during the month of sales; *Bathrooms* is the number of bathrooms in the property; *Bedrooms* is the number of bedrooms in the property; *CarSpaces* is the number of car spaces in the property; *BedBath* is the ratio of bedrooms to bathrooms in the property; *Pool* is a binary variable which equals 1 when the property has a pool; *Water* is a binary variable which equals 1 when the property is waterfront; *Air* is a binary variable which equals 1 when the property has air-conditioning; *Views* is a binary variable which equals 1 when the property has views; *InterestRates* is a variable that measures the RBA cash rate at the time of sale. The mean and standard deviation (in parentheses) is presented for each variable.

	Melbourne		Sydney		Brisbane		Perth		Adelaide	
	Auction	Private Treaty	Auction	Private Treaty	Auction	Private Treaty	Auction	Private Treaty	Auction	Private Treaty
Number of Obs.	18,461	27,500	12,803	46,566	931	15,363	114	10,912	1430	12,487
Ln (SP)	12.87	12.64	13.05	12.84	12.80	12.68	12.94	12.70	12.69	12.44
	(0.3442)	(0.3355)	(0.4121)	(0.3305)	(0.3327)	(0.2824)	(0.3870)	(0.3231)	(0.3385)	(0.3447)
Ln (TOM)	3.356	3.369	3.358	3.414	3.316	3.134	3.457	3.067	3.298	3.322
	(0.6557)	(1.077)	(0.6836)	(1.082)	(0.7878)	(1.226)	(0.7769)	(1.331)	(0.6908)	(0.9217)
Ln (Absorption)	2.122	2.006	1.570	1.493	1.561	1.595	1.649	1.521	2.181	2.164
	(0.3984)	(0.4151)	(0.4826)	(0.4862)	(0.6722)	(0.6459)	(0.5574)	(0.6199)	(0.4646)	(0.4942)
Ln (Bathrooms)	-0.2128	-0.2092	-0.1353	-0.1438	-0.1392	-0.1529	-0.2837	-0.2947	-0.2233	-0.2443
	(0.1268)	(0.1298)	(0.1025)	(0.0990)	(0.1553)	(0.1579)	(0.1128)	(0.0983)	(0.1433)	(0.1305)
Ln (Bedrooms)	-0.0708	-0.0712	-0.0472	-0.0530	-0.0588	-0.0538	-0.0767	-0.0833	-0.0523	-0.0518
	(0.1226)	(0.1205)	(0.1229)	(0.1274)	(0.0970)	(0.0891)	(0.1039)	(0.1191)	(0.0830)	(0.0902)
Ln (CarSpaces)	0.0024	0.0075	-0.0100	-0.0007	0.0078	0.0038	-0.0110	-0.0190	-0.0173	-0.0167
	(0.0615)	(0.0638)	(0.0546)	(0.0515)	(0.0638)	(0.0554)	(0.0543)	(0.0479)	(0.0520)	(0.0475)
BedBath	1.803	1.813	1.696	1.713	1.600	1.645	2.170	2.110	1.962	1.977
	(0.6051)	(0.6254)	(0.5790)	(0.5924)	(0.6137)	(0.6102)	(0.5962)	(0.6069)	(0.6548)	(0.6328)
Pool	0.0148	0.0123	0.0631	0.0435	0.1096	0.0812	0.0175	0.0643	0.0042	0.0052
	(0.1209)	(0.1102)	(0.2432)	(0.2040)	(0.3125)	(0.2731)	(0.1319)	(0.2454)	(0.0647)	(0.0720)

Water	0.0027	0.0017	0.0193	0.0100	0.0430	0.0158	0.0263	0.0029	0.0112	0.0056
	(0.0520)	(0.0413)	(0.1376)	(0.0994)	(0.2029)	(0.1245)	(0.1608)	(0.0541)	(0.1052)	(0.0747)
Air	0.1350	0.1022	0.0919	0.0681	0.1139	0.0672	0.1754	0.2407	0.3874	0.3401
	(0.3418)	(0.3029)	(0.2888)	(0.2519)	(0.3178)	(0.2503)	(0.3820)	(0.4275)	(0.4873)	(0.4738)
Views	0.0152	0.0079	0.0693	0.0348	0.0752	0.0151	0.1579	0.0420	0.0084	0.0074
	(0.1224)	(0.0887)	(0.2539)	(0.1832)	(0.2638)	(0.1220)	(0.3663)	(0.2005)	(0.0913)	(0.0860)
InterestRates	7.689	7.586	7.628	7.490	7.692	7.558	7.580	7.541	8.031	7.612
	(1.180)	(1.119)	(1.188)	(1.208)	(1.186)	(1.170)	(1.081)	(1.050)	(1.007)	(1.091)

Table 3
Probit Regression Results – Houses

This table presents results from the probit model for house sales. The data cover the sale of all houses in Melbourne, Sydney, Brisbane, Adelaide and Perth, over the period January 2005 to June 2009. Variables include – SP_i is the selling price of property *i*; *LandSize* is the natural logarithm of the property land size; *Bathrooms* is the number of bathrooms in the property; *Bedrooms* is the number of bedrooms in the property; *CarSpaces* is the number of car spaces in the property; *BedBath* is the ratio of bedrooms to bathrooms in the property; *Pool* is a binary variable which equals 1 when the property has a pool; *Water* is a binary variable which equals 1 when the property is waterfront; *Air* is a binary variable which equals 1 when the property has air-conditioning; *Views* is a binary variable which equals 1 when the property has views; *InterestRates* is a variable that measures the RBA cash rate at the time of sale.

	Melbourne		Sydney		Brisbane		Perth		Adelaide	
	Coefficient	p-value	Coefficient	p-value	Coefficient	p-value	Coefficient	p-value	Coefficient	p-value
Intercept	21.65	<0.0001	18.37	<0.0001	15.15	<0.0001	12.20	<0.0001	22.78	<0.0001
SP	-1.482	<0.0001	-1.222	<0.0001	-1.028	<0.0001	-0.7977	<0.0001	-1.653	<0.0001
LandSize	0.4526	<0.0001	0.3359	<0.0001	0.0306	0.0066	-0.0407	0.1430	-0.0857	<0.0001
Bathrooms	1.906	<0.0001	0.9903	<0.0001	0.6179	<0.0001	1.902	<0.0001	2.856	<0.0001
Bedrooms	0.2415	0.0002	0.6671	<0.0001	0.0446	0.6459	-0.5929	0.0004	0.0951	0.4448
CarSpaces	1.052	<0.0001	1.448	<0.0001	0.8849	<0.0001	0.3619	0.0063	1.146	<0.0001
BedBath	0.0807	<0.0001	0.0073	0.6596	0.0451	0.0729	0.2206	<0.0001	0.4037	<0.0001
Pool	-0.0337	0.1249	-0.0694	<0.0001	-0.2051	<0.0001	0.0264	0.3347	0.0947	0.0080
Water	0.4957	<0.0001	-0.0216	0.6294	-0.1243	0.2579	-0.1660	0.4938	-0.1017	0.6054
Air	-0.1930	<0.0001	-0.0858	<0.0001	-0.1862	<0.0001	0.1040	<0.0001	-0.1724	<0.0001
Views	0.0921	0.0169	0.0088	0.6841	-0.5265	<0.0001	-0.2223	<0.0001	0.1852	0.0064
InterestRates	-0.0907	<0.0001	-0.0674	<0.0001	-0.0366	<0.0001	0.0072	0.5033	-0.1431	<0.0001
Log Likelihood	-68,115		-58,759		-24,250		-6,929		-17,746	
LR-Statistic	166,166	<0.0001	137,366	<0.0001	51,121	<0.0001	15,188	<0.0001	40,824	<0.0001

Table 4
Probit Regression Results – Units

This table presents results from the probit model for unit sales. The data cover the sale of all units in Melbourne, Sydney, Brisbane, Adelaide and Perth, over the period January 2005 to June 2009. Variables include – SP_i is the selling price of property *i*; *Bathrooms* is the number of bathrooms in the property; *Bedrooms* is the number of bedrooms in the property; *CarSpaces* is the number of car spaces in the property; *BedBath* is the ratio of bedrooms to bathrooms in the property; *Pool* is a binary variable which equals 1 when the property has a pool; *Water* is a binary variable which equals 1 when the property is waterfront; *Air* is a binary variable which equals 1 when the property has air-conditioning; *Views* is a binary variable which equals 1 when the property has views; *InterestRates* is a variable that measures the RBA cash rate at the time of sale.

	Melbourne		Sydney		Brisbane		Perth		Adelaide	
	Coefficient	p-value	Coefficient	p-value	Coefficient	p-value	Coefficient	p-value	Coefficient	p-value
Intercept	20.82	<0.0001	14.69	<0.0001	10.87	<0.0001	12.69	<0.0001	17.36	<0.0001
SP	-1.559	<0.0001	-1.026	<0.0001	-0.6919	<0.0001	-0.8134	<0.0001	-1.161	<0.0001
Bathrooms	1.927	<0.0001	0.2168	0.0520	0.4885	0.0037	0.3887	0.3708	0.1522	0.3468
Bedrooms	0.1484	0.0157	-0.0758	0.3208	0.1820	0.3133	-0.057	0.8691	-0.2571	0.1609
CarSpaces	1.820	<0.0001	3.335	<0.0001	0.0771	0.7892	-0.1419	0.8489	2.111	<0.0001
BedBath	0.1807	<0.0001	-0.0348	0.0783	0.0319	0.4280	0.0163	0.8180	0.0223	0.5109
Pool	0.2061	0.0001	-0.1040	0.0001	-0.1284	0.0208	0.4950	0.0428	0.1760	0.4293
Water	0.1005	0.4497	-0.0318	0.5350	-0.2248	0.0239	-0.6263	0.0558	-0.2432	0.1416
Air	-0.1963	<0.0001	-0.1837	<0.0001	-0.1823	0.0014	0.2397	0.0130	-0.1068	0.0009
Views	-0.125	0.0344	-0.2386	<0.0001	-0.6976	<0.0001	-0.5598	<0.0001	0.0809	0.6379
InterestRates	-0.0781	<0.0001	-0.0693	<0.0001	-0.0533	<0.0001	0.0098	0.7727	-0.1900	<0.0001
Log Likelihood	-27,586		-28,663		-3,427		-587		-4,163	
LR-Statistic	45,362	<0.0001	45,419	<0.0001	6,220	<0.0001	1,123	<0.0001	8,154	<0.0001

Table 5
Sample Selection Regressions – Houses

This table presents results from the second stage regression for house sales. The data cover the sale of all houses in Melbourne, Sydney, Brisbane, Adelaide and Perth, over the period January 2005 to June 2009. Variables include – *ListType* is a binary variable which equals 1 when the property is sold via auction; *LandSize* is the natural logarithm of the property land size; *Bathrooms* is the number of bathrooms in the property; *Bedrooms* is the number of bedrooms in the property; *CarSpaces* is the number of car spaces in the property; *BedBath* is the ratio of bedrooms to bathrooms in the property; *Pool* is a binary variable which equals 1 when the property has a pool; *Water* is a binary variable which equals 1 when the property is waterfront; *Air* is a binary variable which equals 1 when the property has air-conditioning; *Views* is a binary variable which equals 1 when the property has views; *InterestRates* is a variable that measures the RBA cash rate at the time of sale.

	Melbourne		Sydney		Brisbane		Perth		Adelaide	
	Coefficient	t-statistic	Coefficient	t-statistic	Coefficient	t-statistic	Coefficient	t-statistic	Coefficient	t-statistic
Intercept	13.20	1,527	13.20	1,539	13.32	1,646	13.28	945.5	12.94	920.1
ListType	0.1457	82.35	0.0973	59.36	0.0551	22.17	0.1881	24.27	0.1313	39.33
LandSize	0.0781	46.02	0.1060	54.49	0.1311	85.62	0.1629	49.43	0.0279	9.060
Bathrooms	0.0138	0.8000	0.5778	23.85	0.2367	13.22	-0.0443	-1.710	0.1784	6.560
Bedrooms	0.6700	58.45	0.5984	38.36	0.5544	49.66	0.3517	19.81	0.6326	33.52
CarSpaces	0.2017	26.78	0.2663	27.41	0.2862	40.54	0.3293	26.38	0.3461	24.93
BedBath	-0.0632	-21.88	-0.0158	-5.810	-0.0368	-12.60	-0.1107	-25.71	-0.0239	-5.020
Pool	0.1146	28.08	0.0432	18.59	0.0583	25.59	0.0990	36.09	0.0652	12.49
Water	0.1408	6.080	0.2258	30.04	0.0678	5.050	0.1484	4.340	0.1095	3.320
Air	-0.0041	-2.050	0.0136	6.580	0.0402	15.93	0.0405	17.29	-0.0530	-22.90
Views	0.1124	15.66	0.0290	8.050	0.0966	14.15	0.1978	32.35	0.0416	4.320
InterestRates	-0.0063	-9.430	-0.0083	-14.22	0.0053	8.460	0.0311	27.71	-0.0071	-6.800
Lambda	1.000	1,366	1.334	1,064	2.706	317.2	5.543	102.1	1.239	324.1
Adjusted R-Squared	0.6752		0.7981		0.6053		0.4423		0.4801	

Table 6
Sample Selection Regressions – Units

This table presents results from the second stage regression for unit sales. The data cover the sale of all units in Melbourne, Sydney, Brisbane, Adelaide and Perth, over the period January 2005 to June 2009. Variables include – *ListType* is a binary variable which equals 1 when the property is sold via auction; *Bathrooms* is the number of bathrooms in the property; *Bedrooms* is the number of bedrooms in the property; *CarSpaces* is the number of car spaces in the property; *BedBath* is the ratio of bedrooms to bathrooms in the property; *Pool* is a binary variable which equals 1 when the property has a pool; *Water* is a binary variable which equals 1 when the property is waterfront; *Air* is a binary variable which equals 1 when the property has air-conditioning; *Views* is a binary variable which equals 1 when the property has views; *InterestRates* is a variable that measures the RBA cash rate at the time of sale.

	Melbourne		Sydney		Brisbane		Perth		Adelaide	
	Coefficient	t-statistic	Coefficient	t-statistic	Coefficient	t-statistic	Coefficient	t-statistic	Coefficient	t-statistic
Intercept	12.61	1,189	12.50	1,481	12.55	876.7	12.51	562.3	12.44	653.0
ListType	0.1201	52.58	0.0895	39.91	0.0395	5.940	0.1862	7.230	0.1527	19.59
Bathrooms	1.2590	110.5	1.909	120.1	1.159	74.61	1.302	41.29	0.9348	39.34
Bedrooms	0.2618	25.14	-0.0856	-7.810	-0.0690	-3.890	0.1636	7.200	-0.1192	-4.580
CarSpaces	0.6726	37.53	0.6009	33.63	0.7493	26.80	0.9045	15.13	1.2792	26.35
BedBath	0.1748	68.87	0.2154	74.41	0.1629	39.54	0.2032	41.38	0.1796	36.17
Pool	0.0444	4.830	0.0120	2.980	-0.0450	-7.970	-0.0166	-1.550	0.0253	0.7800
Water	0.1025	4.510	0.2356	29.97	0.2176	18.45	0.2158	4.650	0.1506	5.080
Air	0.0533	15.96	0.0555	16.70	0.0556	9.180	0.0505	8.190	-0.0108	-2.150
Views	0.0786	7.780	0.0469	10.97	0.0790	6.900	0.0735	5.680	0.1606	5.990
InterestRates	-0.0208	-22.83	-0.0190	-26.91	-0.0064	-4.910	0.0202	8.120	-0.0085	-3.970
Lambda	1.046	1,012	2.077	581.9	5.203	74.21	5.920	14.96	2.414	135.9
Adjusted R-Squared	0.6112		0.6732		0.5432		0.2975		0.4012	

Table 7
House Regression Results

This table presents results from the hedonic pricing model for house sales. The data cover the sale of all houses in Melbourne, Sydney, Brisbane, Adelaide and Perth, over the period January 2005 to June 2009. The following model is estimated for each capital city –

$$\ln(SP_i) = B'x_i + \varepsilon_i$$

where SP_i is the selling price of property i, x_i is the vector of property and market variables, B is the vector of regression coefficients and ε_i is the disturbance term. The vector of property and market variables (x_i) include – *ListType* is a binary variable which equals 1 when the property is sold via auction; *LandSize* is the natural logarithm of the property land size; *Bathrooms* is the number of bathrooms in the property; *Bedrooms* is the number of bedrooms in the property; *CarSpaces* is the number of car spaces in the property; *BedBath* is the ratio of bedrooms to bathrooms in the property; *Pool* is a binary variable which equals 1 when the property has a pool; *Water* is a binary variable which equals 1 when the property is waterfront; *Air* is a binary variable which equals 1 when the property has air-conditioning; *Views* is a binary variable which equals 1 when the property has views; *InterestRates* is a variable that measures the RBA cash rate at the time of sale; *SSD* is the statistical sub-division that property *i* is located; *SSD* * *ListType* is an interaction variable of statistical sub-division and list type. Coefficient estimates and t-statistics are reported separately for each capital city.

	Melbourne		Sydney		Brisbane		Perth		Adelaide	
	Coefficient	t-statistic	Coefficient	t-statistic	Coefficient	t-statistic	Coefficient	t-statistic	Coefficient	t-statistic
Intercept	13.20	1,533	13.20	1561	13.31	1,639	13.28	945.2	12.93	924.3
ListType	0.1223	12.37	0.0153	2.39	0.0678	7.16	0.1778	9.15	0.2425	37.31
LandSize	0.0814	48.34	0.1041	54.41	0.1316	86.08	0.1629	49.43	0.0315	10.26
Bathrooms	0.0335	1.96	0.5735	24.15	0.2362	13.21	-0.0433	-1.67	0.1878	6.96
Bedrooms	0.6670	58.75	0.6048	39.55	0.5536	49.67	0.3514	19.8	0.6317	33.7
CarSpaces	0.2017	27.06	0.2651	27.84	0.2853	40.47	0.3290	26.36	0.3440	24.95
BedBath	-0.0608	-21.25	-0.0153	-5.75	-0.0365	-12.55	-0.1106	-25.69	-0.0221	-4.67
Pool	0.1137	28.11	0.0416	18.27	0.0580	25.51	0.0989	36.06	0.0658	12.7
Water	0.1457	6.35	0.2267	30.76	0.0696	5.19	0.1472	4.3	0.1098	3.36
Air	-0.0032	-1.57	0.0155	7.62	0.0401	15.9	0.0405	17.29	-0.0527	-22.94
Views	0.1117	15.7	0.0300	8.48	0.0922	13.52	0.1973	32.28	0.0428	4.48
InterestRates	-0.0065	-9.81	-0.0081	-14.21	0.0052	8.29	0.0311	27.63	-0.0069	-6.7

SSD1	0.8348	92.53	0.8500	157.03	0.5121	83.67	1.0465	192.34	-0.1372	-49.66
SSD2	-0.0563	-13.06	1.2497	173.82	0.3399	89.9	-0.0038	-1.04	0.1732	41.13
SSD3	-0.3621	-80.55	0.5246	153.64	-0.0219	-6.89	0.1530	50.68	0.3892	95.97
SSD4	0.1838	22.52	0.3183	73.31	0.2622	70.28	0.0767	23.01		
SSD5	0.1172	21.37	0.0799	20.77	0.0278	8.28				
SSD6	-0.3048	-55.29	-0.0636	-16.67	-0.2989	-45.2				
SSD7	-0.0789	-15.28	0.8833	128.23	-0.2229	-56.85				
SSD8	0.8245	101.66	0.2604	65.37	-0.3308	-93.7				
SSD9	0.2726	63.71	-0.0035	-0.99	-0.2333	-66.22				
SSD10	-0.0338	-8.07	0.0265	7.46	-0.0761	-20.97				
SSD11	-0.1542	-32.92	0.9631	203.27	-0.0989	-20.72				
SSD12	0.4780	95.97	0.4945	154.82						
SSD13	-0.1512	-27.73	0.8542	225.04						
SSD14	-0.2604	-67.93								
SSD15	-0.2158	-46.21								
ListType*SSD1	-0.0394	-2.97	0.0537	6.52	-0.0030	-0.24	-0.0101	-0.41	-0.2279	-20.14
ListType*SSD2	0.1499	14.02	0.1113	11.42	0.0584	5.31	-0.0443	-1.49	-0.1951	-22.04
ListType*SSD3	-0.1515	-9.56	0.1001	13.03	-0.0239	-2.1	0.0853	3.51	-0.0769	-8.82
ListType*SSD4	-0.0113	-0.86	0.0382	4.36	0.0124	1.04	-0.0312	-1.19		
ListType*SSD5	0.0553	4.83	-0.0453	-5.16	-0.0342	-2.76				
ListType*SSD6	-0.0227	-1.81	-0.0960	-8.31	-0.1014	-5.12				
ListType*SSD7	-0.1565	-12.68	0.0100	1	-0.1104	-7.62				
ListType*SSD8	0.0053	0.41	-0.0116	-1.28	-0.0713	-4.3				
ListType*SSD9	0.0047	0.43	-0.0821	-6.81	-0.0451	-3.68				
ListType*SSD10	-0.0596	-4.82	-0.1207	-11.37	-0.0361	-2.3				
ListType*SSD11	-0.0845	-4.78	0.1501	18.24	-0.0429	-2.97				
ListType*SSD12	0.1158	10.52	0.2645	34.63						
ListType*SSD13	-0.0544	-4.04	0.1826	21.38						
ListType*SSD14	-0.0956	-6.85								
ListType*SSD15	-0.0432	-2.72								
Adjusted R-Squared	0.6818		0.8061		0.6069		0.4426		0.4872	

Table 8
Unit Regression Results

This table presents results from the hedonic pricing model for unit sales. The data cover the sale of all units in Melbourne, Sydney, Brisbane, Adelaide and Perth, over the period January 2005 to June 2009. The following model is estimated for each capital city –

$$\ln(SP_i) = B'x_i + \varepsilon_i$$

where SP_i is the selling price of property i, x_i is the vector of property and market variables, B is the vector of regression coefficients and ε_i is the disturbance term. The vector of property and market variables (x_i) include – *ListType* is a binary variable which equals 1 when the property is sold via auction; *Bathrooms* is the number of bathrooms in the property; *Bedrooms* is the number of bedrooms in the property; *CarSpaces* is the number of car spaces in the property; *BedBath* is the ratio of bedrooms to bathrooms in the property; *Pool* is a binary variable which equals 1 when the property has a pool; *Water* is a binary variable which equals 1 when the property is waterfront; *Air* is a binary variable which equals 1 when the property has air-conditioning; *Views* is a binary variable which equals 1 when the property has views; *InterestRates* is a variable that measures the RBA cash rate at the time of sale; *SSD* is the statistical sub-division that property *i* is located; *SSD* * *ListType* is an interaction variable of statistical sub-division and list type. Coefficient estimates and t-statistics are reported separately for each capital city.

	Melbourne		Sydney		Brisbane		Perth		Adelaide	
	Coefficient	t-statistic	Coefficient	t-statistic	Coefficient	t-statistic	Coefficient	t-statistic	Coefficient	t-statistic
Intercept	12.61	1182	12.51	1,471	12.55	872.5	12.51	563.3	12.43	652.8
ListType	0.0584	1.96	-0.0084	-0.55	0.0387	0.9	0.1055	2.34	0.1780	9.16
Bathrooms	1.257	110.83	1.909	121.8	1.158	74.57	1.303	41.4	0.9349	39.44
Bedrooms	0.2602	25.11	-0.0963	-8.91	-0.0712	-4.02	0.1608	7.08	-0.1222	-4.71
CarSpaces	0.6685	37.51	0.5811	33.01	0.7479	26.77	0.9012	15.1	1.2740	26.3
BedBath	0.1746	69.18	0.2155	75.56	0.1628	39.52	0.2032	41.44	0.1799	36.32
Pool	0.0447	4.9	0.0130	3.26	-0.0442	-7.83	-0.0156	-1.46	0.0246	0.76
Water	0.1087	4.81	0.2236	28.85	0.2172	18.43	0.2090	4.5	0.1507	5.1
Air	0.0519	15.64	0.0575	17.55	0.0558	9.23	0.0507	8.25	-0.0108	-2.17
Views	0.0784	7.81	0.0425	10.1	0.0761	6.65	0.0728	5.64	0.1601	5.98
InterestRates	-0.0208	-22.95	-0.0189	-27.17	-0.0063	-4.86	0.0199	8.01	-0.0082	-3.86

SSD1	0.4480	57.14	0.5221	86.57	0.2892	31.21	0.1273	14.83	-0.3698	-49.72
SSD2	0.0122	1.42	0.6615	101.88	0.1172	13.17	-0.1416	-15.05	-0.0373	-5.31
SSD3	-0.3000	-25.01	0.3151	55.69	0.0132	1.34	-0.0040	-0.57	0.1432	21.92
SSD4	0.1002	9.83	0.0328	4.95	0.0991	10.84	0.0031	0.36		
SSD5	0.0985	10.88	-0.1794	-23.35	-0.0360	-3.56				
SSD6	-0.1954	-13.88	-0.2145	-20.85	-0.2474	-5.99				
SSD7	-0.0366	-3.11	0.4175	62.8	-0.1362	-10.72				
SSD8	0.4114	42.15	0.0844	13.77	-0.2172	-15.51				
SSD9	0.2284	27.67	-0.1907	-21.81	-0.2887	-27.72				
SSD10	-0.0168	-2.01	-0.1197	-13.18	-0.1004	-7.1				
SSD11	-0.0855	-6.44	0.5773	100.25	0.0091	0.82				
SSD12	0.2417	30.19	0.3263	51.11						
SSD13	-0.2202	-24.09	0.5912	99.88						
SSD14	-0.2008	-19.53								
SSD15	-0.1696	-17.86								
ListType*SSD1	0.0523	1.74	0.1597	9.77	0.0494	1.11	0.4383	5.95	-0.2684	-7.05
ListType*SSD2	0.0922	3.02	0.1443	8.93	0.0021	0.05	0.1045	0.87	-0.0593	-2.47
ListType*SSD3	-0.1396	-2.95	0.0648	3.86	-0.0688	-1.3	-0.0381	-0.56	0.0144	0.64
ListType*SSD4	0.0280	0.89	-0.0511	-2.81	-0.0669	-1.42	0.0037	0.05		
ListType*SSD5	0.0307	1	-0.0472	-2.44	0.0205	0.4				
ListType*SSD6	-0.0118	-0.31	-0.0728	-2.27	-0.1312	-1.97				
ListType*SSD7	-0.1278	-3.7	-0.0094	-0.54	0.1206	1.13				
ListType*SSD8	0.0692	2.24	-0.0330	-1.85	-0.0447	-0.85				
ListType*SSD9	0.0473	1.55	-0.0964	-3.29	-0.0554	-0.52				
ListType*SSD10	-0.0195	-0.56	-0.1223	-5.47	-0.0520	-1.05				
ListType*SSD11	-0.1179	-1.96	0.1962	12.06						
ListType*SSD12	0.1410	4.67	0.0438	2.24						
ListType*SSD13	-0.0458	-1.4	0.2202	12.3						
ListType*SSD14	-0.0324	-0.71								
ListType*SSD15	-0.0261	-0.61								
Adjusted R-Squared	0.6159		0.6833		0.5448		0.3006		0.4044	