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Time on Market Indicators for Adelaide, South Australia

Peter Rossini*, Valerie Kupke, and Paul Kershaw
Centre for Regulation and Market Analysis
University of South Australia
&
Stanley McGreal
Centre for Regulation and Market Analysis
University of South Australia
&
Built Environment Research Institute
School of Built Environment
University of Ulster

Abstract

The time that it takes for a property to sell; the time on market or TOM may be considered to be a measure of the buoyancy of the real estate market. The TOM will typically increase in periods of economic hardship when prices are falling and transaction volumes have decreased. This paper examines aspects of TOM for the residential property market in the Adelaide metropolitan area for a period of six months from October 2008 to April 2009.

The study is based on data which results from combining sale transaction records from the South Australian Government, with details of property marketing collected from advertisements in newspapers and websites. This preliminary research investigates the coverage of the data and considers simple relationships between TOM and property types (detached, semi detached and units), location (ten regions) and house size (main rooms).

The study also considers preliminary work in comparing first to last advertised price across the different locations and for each property type. A single stage regression model is developed to test for the significance of location, property type and building size on TOM.

The research shows that within the Adelaide Metropolitan area there are significant variations in TOM in different locations and for different types of housing. An important finding is that smaller properties which are likely to attract first home buyers have a significantly shorter time on market.

Keywords: Time on market, residential property

1. Introduction

The length of time it takes a house to sell has interested vendors, agents and academics probably for as long as any formal market for housing exchange has existed. Vendors are anxious to know when they can begin to plan ahead in terms of another purchase or a change in tenure; agents, while protecting the interests of clients, are impatient for a sale; academics seek to understand the gap

between theory and reality in terms of market outcomes. To date over the past two decades most of the literature on TOM (time on the market in days) has been from the US. In contrast there has been little analysis of TOM from an Australian perspective. This paper reports the initial findings of a preliminary study to investigate a number of aspects of TOM and differences in list and selling prices for residential properties in Adelaide South Australia over a 6 month period. The time on market, or length of time it takes to sell a property, may be a good leading indicator of market activity.

The paper is structured as follows. Section two provides a literature review on TOM drawing mainly upon US studies. The methodology and data sources used in this paper are discussed in Section three. This is followed by a detailed discussion and interpretation of results and findings in Section four, followed by conclusions in Section five.

2. Literature Review

Formal TOM studies began in the US in the 1970s with Cubin (1974) considering the impact of housing quality on selling time, Belkin et al (1976) identifying differences between listing price and selling price and Miller (1978) considering the impact of time on selling price. These themes have continued to dominate the academic literature though sample sizes have increased (Anglin, 2004), modelling has become more rigorous, to include single stage and two stage hedonic studies, linear programming, the application of equilibrium models, and the use of hazard rates (Levin &Pryce 2009). In addition in more recent literature markets outside the US are now being including the UK (McGreal et al, 2009; Levin & Pryce, 2007), Canada (Anglin, 2004) and Europe (Bjorlkund et al, 2004). For the purposes of this paper the themes discussed are restricted to the impact of TOM on selling price, and the factors which influence TOM including the impact of different market conditions.

Most writers agree that TOM does have an impact on selling price (McGreal et al, 2009; Larsen & Park, 1989). In theory the longer a property is on the market, cēterīs paribus, the greater the probability that a buyer with a high reservation price will arrive therefore a longer TOM should produce a higher selling price (Taylor, 1994). Larsen and Park (1989) however find that all things being equal the longer a property is on the market the greater is the concession in terms of price. Sirmans et al (2005) also suggest that in many situations TOM has a negative influence on price. However, Forgey et al (1996) in their two stage model found that higher selling prices were associated with longer expected selling periods. Asabare and Huffman (1993) show that the longer the marketing period the higher the probability that a higher price can be achieved. Taylor (1999) describes 'negative herding' on the part of buyers and suggests that a home which has been on the market for a long time may acquire a stigma with reduced pricing a result. Indeed, Haurin (1988) has shown that atypicality in a property can produce a longer TOM. Jud et al (1996), Levin and Pryce (2009) and McGreal et al (2009) would all tend to suggest that there is an initial price increase associated with TOM but that at some point diminishing returns set in with increasing length of marketing time. Levin and Pryce (2009) identify that a sellers' decision to wait for an extra bid raises expected selling price as there are more potential buyers but that diminishing returns can set in by way of costs including financing and depreciation. They suggest the house seller maximizes gains (net of selling costs) by waiting to the point where any expected incremental gain in waiting is outweighed by the incremental loss in costs.

A number of studies have sought to identify the factors which influence TOM. TOM has been explained by quantifiable factors such as property characteristics, including age, quality and size (Jud

et al, 1996; McGreal et al 2009; Taylor, 1999), market conditions such as interest rates, employment, exchange rates, and time of sale (Taylor 1999) as well as qualitative factors such as agency performance (Jud et al, 1996), regulation and by the types of buyer operating in different market conditions. McGreal et al (2009) found that age of properties had an impact on TOM with the oldest properties taking longer to sell including those that had sold above listed price and those which sold below. Kalra and Chan (1994) showed that TOM was a function of mortgage rate, employment and price concessions. With price concessions TOM was reduced; with total employment TOM was reduced and with higher interest rates TOM was increased. Jud et al (1996) identified TOM as a function of list price, changes in list price and home atypicality with higher list prices associated with longer TOM. This agrees with Haurin (1988) who identified that the TOM of an atypical house would be longer than that of a standard house.

Studies of TOM under different market conditions have come to a number of conclusions. Miller (1978) proposed that TOM may act as an equilibrator lengthening and shortening according to buyer and seller reactions to different market conditions but also suggested that links between market conditions and individual sellers were imperfectly understood. Kramer (1999) suggests that when housing demand is high sellers do not in fact raise their prices to take full advantage rather they look for greater liquidity so as to complete the sale before the market 'turns on them'. Alternatively in periods when market demand is low, sellers do not drop their prices in order to achieve the same amount of liquidity as in the boom market. Rather Kramer suggests prices are sticky because sellers find it more advantageous to fish for a buyer as their opportunity costs of failure are low.

Levin and Pryce (2009) also identify that a seller's optimal price and TOM combination varies with the state of the market. However they suggest that if the cost of waiting rises as the average waiting time per bid lengthens therefore in a slump the cost of waiting rises. Thus the seller stands to lose more by waiting as the optimal price, and the number of bids through which this might be achieved, is reduced.

3. Methodology

This study is based on residential property transactions in the metropolitan area of the Adelaide, South Australia over a 6 month period from mid October 2008 to mid April 2009. This period is the six months prior to the start of the study and was the most convenient to collect for this preliminary study. It is anticipated that longer time periods will be used in future studies. The Adelaide Statistical Divisions contains over 300 suburbs and over 100 postcodes and to allow for this extensive geography a ten region spatial grouping is used. These regions were established by the Centre for Land Economics and Real Estate Research (CLEARER) in a previous study (Rossini et al, 2005) and are used for indexing and other purposes. They are made up of contiguous postcodes and based on a combination of socio-economic and physical criteria (see Figure 11 in the appendix to the paper). The dataset used in the analysis was compiled by accessing online data from RP Data, the largest commercial provider of real estate data in Australia and cross referencing these against the sales history file complied by the State Government of South Australia. RP Data collect data against each advertised property either when it appears in the newspaper or once weekly from RealEstate.com, a national real estate advertising site which is the most widely used in South Australia. Dates and advertisement details (including indicated prices) are recorded. Most residential detached and semi-detached houses as well as home units (also called strata titled units, condominiums or common hold) appear in the records while vacant sites appear less frequently.

Some locations are also served to a greater degree by local papers enabling a lower level of data capture in those locations.

RP Data define TOM as the number of days between the first and the last advertised date. Once the property has been sold, a final sale price is attached which in the first instance is the price reported by the agent and should be replaced by the contracted price listed on settlement at the lands titles office. The percentage difference between the first and last advertised price as well as the difference between the last indicated advertised price and the actual sale price are recorded. Properties that have settled in the Lands Title Office (LTO) will also appear on the sale history file. These data are sourced from Government (resold by RP Data) and include the sale price and date of sale (which is the data the property settles – changes hands) from the LTO as well as property descriptors, site and capital values from the Valuer General.

The data set used in this research is the result of matching the RP TOM data (TOM, First-Last % Change and Last-Actual % Change) with the Sales History File. Where sale price had not been collected at that point in time or if this was incorrect the LTO recorded prices is then used and the Last-Actual % is recalculated.

4. Results

Prior to analysis all properties were grouped into four land use categories: detached houses; semi-detached houses, home units and vacant land. The preliminary analysis involved breaking the data set into smaller groups and drawing comparison between the matched data set and the LTO sales history file which should include all sales.

Table 1 : Volume of Matched Transactions by Location and Land use

CLEARER Region * General Land Use Crosstabulation

Count of Transactions

CLEARER Region	General Land Use				Total
	Detached House	Semi-Detached House	Home unit	Vacant Land	
Central	257	41	202	3	503
Western	330	32	102	5	469
Coast	198	30	144	9	381
South Western	178	19	82	4	283
South Eastern	172	7	27	3	209
Inner Northern	192	14	36	2	244
North Eastern	418	16	72	4	510
Northern	997	79	54	14	1144
Hills	69	0	0	1	70
Southern	695	1	28	10	734
Total	3506	239	747	55	4547

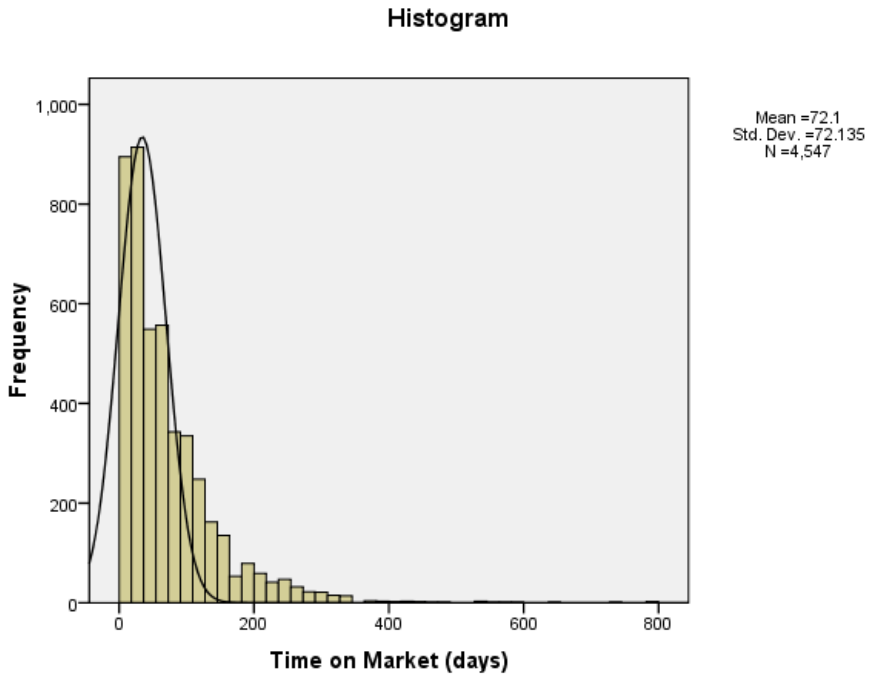
In total 4547 matched transactions were found over the six month period (Table 1). The distribution of these varies widely between the regions, with a strong representation in the northern region. Detached houses clearly predominate over all other property types. The TOM matched data

represents 35% of all sales but higher for detached houses (42%). Vacant land sales are poorly represented with only 3 % of actual transactions being matched. There are several reasons for this poor match rate. Larger greenfield sites are not advertised individually so no advertisement data are captured; new sites are difficult to match since the address is not fixed until later and many vacant sites are not advertised in newspapers or on the internet. The low representation of matched semi-detached properties in the southern and south western regions probably reflects the disposal of some semi-detached public housing through government sale to existing tenants and also reflects the small number of properties in these locations.

4.1 Time on Market in Days

The distribution of TOM is strongly positively skewed (skewness = 2.510). The median is 51 days and the mean, 72 days: 10 percent of properties sell in 9 days or less and 10 percent took over 157 days to sell. This distribution is not substantially different from that discussed by McGreal et al (2009) for the market in Belfast (Northern Ireland). The distributional curve is highly peaked (kurtosis =11.604) emphasising the non-normality of the distribution (Figure 1).

Figure 1 - Time On Market - Distribution and summary statistics



The analysis considered the relationship between TOM and the marketing period, location and land use (Table 2). The latter differentiates between vacant land, home units, semi-detached and detached. TOM for home units is of shorter duration with a median selling period of 42 days and 90% of observations sold between 1 and 197 days. Detached and semi-detached houses are similar both with an overall median of 53 days. The vacant land figures show that the time on market is significantly greater with a median of 93 days.

Spatial differences are apparent, within the detached house market, TOM is greatest in areas further from the city, particularly in the northern and north-eastern suburbs and hills. The central area and adjoining western and south eastern areas have a shorter time on market. Surprisingly, the outer southern area also is characterised by short TOM with a median of 45 days. This may reflect the large number of "speculative built" homes available in the area in greenfield developments. The length of time to sell semi-detached houses is the most variable, but this may reflect the small sample sizes in some locations. Lower values for TOM appear in the western suburbs where semi-detached housing is more numerous. The home unit market is generally characterised by smaller cheaper housing that has a shorter TOM with particularly short periods in the north eastern and south eastern suburbs. In these two areas housing is generally more expensive, and there are very few cheaper houses. Home units in these locations probably represent the only properties available for first home buyers and these appear to be particularly sought-after given the short time on market results.

Table 2 - Relationship between Time on Market, Location and Land Use

CLEARER Region	General Land Use											
	Detached House			Semi-Detached House			Home unit			Vacant Land		
	Time on Market (days)			Time on Market (days)			Time on Market (days)			Time on Market (days)		
	Percentile 05	Median	Percentile 95	Percentile 05	Median	Percentile 95	Percentile 05	Median	Percentile 95	Percentile 05	Median	Percentile 95
Central	4	**42**	217	17	**53**	293	1	**50**	224	85	**135**	428
Western	8	**48**	212	1	**38**	229	1	**36**	179	45	**71**	127
Coast	1	**57**	188	1	**68**	157	6	**49**	215	43	**109**	265
South Western	7	**57**	203	1	**50**	199	1	**43**	158	1	**71**	240
South Eastern	3	**43**	176	21	**119**	135	1	**29**	150	1	**53**	61
Inner Northern	1	**50**	204	1	**84**	201	1	**53**	113	45	**69**	93
North Eastern	6	**57**	215	15	**46**	149	1	**28**	133	29	**130**	257
Northern	4	**60**	253	1	**46**	213	1	**39**	193	4	**85**	141
Hills	8	**64**	196	.	**.**	.	.	**.**	.	112	**112**	112
Southern	2	**45**	209	125	**125**	125	1	**45**	161	4	**93**	223
All Regions	4	**53**	220	1	**53**	201	1	**42**	197	4	**93**	257

Table 3 - Relationship between Time on Market, Land Use and Number of Main Rooms

Rooms	General Land Use											
	Detached House				Semi-Detached House				Home unit			
	Time on Market (days)				Time on Market (days)				Time on Market (days)			
	Percentile 05	Median	Percentile 95	Count	Percentile 05	Median	Percentile 95	Count	Percentile 05	Median	Percentile 95	Count
0 or N/A	1	**56**	253	85	60	**75**	90	2	1	**78**	735	27
1 to 3	1	**71**	161	16	25	**60**	107	5	1	**38**	197	177
4	4	**49**	198	241	1	**36**	244	62	1	**43**	197	419
5	3	**50**	223	1445	1	**51**	189	106	1	**42**	161	99
6	4	**51**	203	876	4	**71**	196	49	15.5	**34.5**	172.5	20
7	5	**57**	223	469	8	**64**	293	13	41	**53**	155	4
8 or more	6	**65**	241	374	57	**107**	157	2	8	**8**	8	1
All Properties	4	**53**	220	3506	1	**53**	201	239	1	**42**	197	747

The analysis by property size, based on number of habitable rooms, indicates that the smaller home units sell particularly quickly (38 days). However, the evidence is variable with the smaller sized houses (3 rooms or less), both detached and semi-detached having longer TOM than 4 roomed houses. In the literature Jud et al (1996, McGreal et al (2009) and Taylor (1999) all recognise that quantifiable factors such as property characteristics do impact on TOM. Small semi-detached houses of 4 rooms sell quickly with a median TOM of 36 days (Table 3). These properties tend to be relatively inexpensive and readily purchased by first home buyers keen to take advantage of the first home owner's grants. Generally as houses become larger TOM increases, this is particularly noticeable for larger semi-detached houses. The shorter TOM for smaller cheaper properties is probably reflective of the general downturn in the economy over this period as a result of the global financial crisis and the resulting stimulus of the economy through fiscal and economic policy and agrees with the findings of Kalra and Chan (1994), Taylor (1999) and Levin and Pryce (2009) who all suggest that market conditions such as interest rates and employment levels have a fundamental impact on TOM . The policy adopted by the Australian Government was to increase grants to first home buyers in an effort to stimulate the housing market and the accompanying drop in the cash rate (resulting in lower mortgage rates) led to an increase in demand from first home buyers. However relative house prices in Australia are among the highest in the world and housing affordability is at an all time low. The result is a demand for the cheapest possible housing which is characterised by having small building and land areas – particularly home units and 4 room semi-detached houses.

Table 4 - Time on Market by Month of Settlement

Month Sold	Time on Market (days)			
	Percentile 05	Median	Percentile 95	Sales Volume (Count)
Nov-08	9	50	186	308
Dec-08	3	42	202	833
Jan-09	2	44	191	897
Feb-09	1	61	212	879
Mar-09	1	57	229	1077
Apr-09	4	51	257	490

Note: November 08 and April 09 cover roughly half of the month only.

The variation in the time on market across the six month study period suggest that properties sold in December and January (these would have been marketed primarily in the spring months of September – November) have the shortest time on market (Table 4). With medians of 42 and 44 days respectively, the marketing periods are noticeably smaller than in other months. Properties that sold in February, have the longest time on market, these would typically have been marketed around the Christmas and New Year period, suggesting that much of this time is inactive in real estate agency in Adelaide. Taylor (1999) has shown that the timing of a sale may impact on TOM with Jud et al (1996) also suggesting that agency performance can have an effect. However, it is noticeable in this Adelaide study that the volumes of sales remained approximately the same for January and February. It is unclear from this small cross section of data if TOM is significantly seasonal and this will be explored in a later paper with a longer data set.

4.2 Percentage change First Advertised Price to Last Advertised price and Last Advertised Price to Actual Sale Price

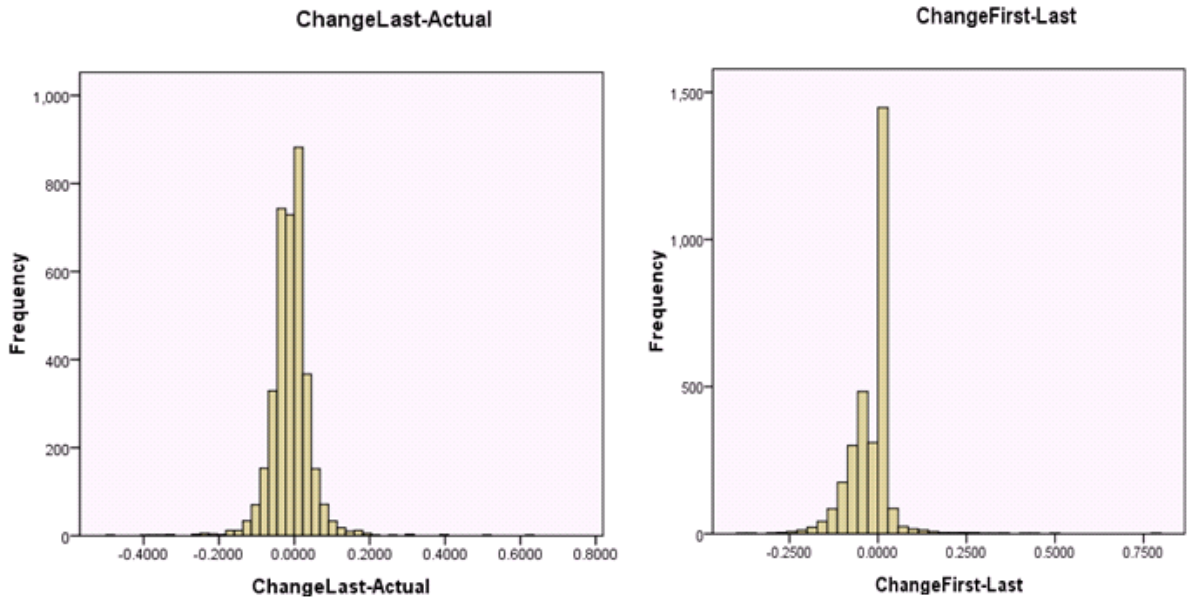
This section discusses the changes that occur to advertised prices over the marketing period. Two measures are used; the difference between the first to last marketed prices and the difference between the final advertised price and the actual sale price. The distribution of these two measures is shown in Table 5.

Table 5 - Percentage Change in advertised and actual prices - Distribution and summary statistics

		Change First-Last	Change Last-Actual
N	Valid	3059	3661
	Missing	1517	915
Mean		-2.43%	-1.08%
Median		0.00%	-1.23%
Mode		0.00%	0.00%
Std. Deviation		5.81%	5.26%
Skewness		1.25	0.56
Std. Error of Skewness		0.04	0.04
Kurtosis		22.198	17.33
Std. Error of Kurtosis		0.09	0.08
Percentiles	5	-11.76%	-8.57%
	10	-9.09%	-6.13%
	90	0.00%	4.00%

95	3.08%	6.25%

Figure 2 - Distribution curve: differences between advertised prices and actual



On average, the final advertised price is around 2½% lower than the first advertised price. However, the result is heavily skewed (Figure 2). When comparing the last advertised price to the actual sale price the result is more normally distributed. The mean and median values, both suggest that the final price is around 1% lower than the last advertised price. However some 10% of properties sell at more than 6% below the final advertised price and a further 10% of properties sell at more than 4% above the final advertised price. These figures appear to indicate that real estate agents in Adelaide typically sell properties very close to the advertised price. However, it should be noted that the practice of auctioning properties is widespread in Adelaide for high priced properties where the agent is less certain of the value and in these situations no price is listed. So that in those circumstances where the difference between advertised and actual price is likely to be the greatest, there is a paucity of data.

Of the 4547 matched transactions in this study only 3661, had a final advertised price and nearly one third of the sample (1517) did not have both a first and the last advertised price. An important factor reflected in this study is a change to legislation regarding real estate activities that occurred several months prior to the study period. Following an extended period of self-regulation, real estate agents faced a series of tough regulatory changes including the accuracy of advertised prices. A practice of dramatically under quoting prices was effectively stamped out following these new regulations, and the evidence of this study seems to be that most real estate agents are now advertising at a price close to the final sale price.

Table 6 - Relationship between Percentage Change in First to Last Advertised Price, Location and Land Use

	General Land Use											
	Detached			Semi-detached			Home units			Vacant Land		
	Change First-Last			Change First-Last			Change First-Last			Change First-Last		
CLEARER Region	Percentile 05	Median	Percentile 95	Percentile 05	Median	Percentile 95	Percentile 05	Median	Percentile 95	Percentile 05	Median	Percentile 95
Central	-13.5%	**0.0%**	6.3%	-8.0%	**0.0%**	13.8%	-12.2%	**-4.3%**	9.8%	10.0%	**10.0%**	10.0%
Western	-14.7%	**0.0%**	5.4%	-5.5%	**-0.7%**	5.9%	-10.3%	**-3.7%**	5.0%	-13.8%	**-9.0%**	-4.3%
Coast	-17.3%	**0.0%**	3.2%	-13.2%	**-0.6%**	15.2%	-12.5%	**-3.3%**	10.0%	0.0%	**0.7%**	1.4%
South Western	-11.7%	**-1.3%**	0.0%	-10.2%	**0.0%**	4.0%	-17.0%	**-4.5%**	8.3%	-11.7%	**-11.7%**	-11.7%
South Eastern	-13.5%	**0.0%**	0.0%	-2.0%	**0.0%**	0.0%	-7.8%	**-2.3%**	3.6%	-10.3%	**-10.3%**	-10.3%
Inner Northern	-14.6%	**0.0%**	0.0%	-18.3%	**0.0%**	41.3%	-9.1%	**-4.3%**	3.6%	-18.8%	**-9.4%**	0.0%
North Eastern	-12.2%	**0.0%**	2.8%	-9.7%	**-1.7%**	0.0%	-10.9%	**-5.0%**	7.6%	-11.9%	**-3.1%**	0.0%
Northern	-9.8%	**0.0%**	2.2%	-11.4%	**0.0%**	0.0%	-13.1%	**-3.2%**	5.0%	-5.1%	**-0.5%**	0.0%
Hills	-15.3%	**0.0%**	5.1%	.	**.**	.	.	**.**	.	-4.3%	**-4.3%**	-4.3%
Southern	-9.4%	**0.0%**	2.6%	0.0%	**0.0%**	0.0%	-6.5%	**-4.6%**	49.8%	-14.7%	**-2.8%**	1.2%

Detached houses are most often advertised without a change in price, with only the south western region showing a negative percentage for the median (Table 6). The 5 and 95 percentiles suggest that for detached houses at least 5% of properties have at least a 9.4% reduction in the final advertised price compared to the first advertised price, although increases to the advertised price occur in a small number of cases in most locations. Semi-detached houses show a similar pattern to detached houses with small negative changes occurring in the north eastern, coast and western regions. There appears to be a greater number of properties that have a final advertised price well in excess (over 10%) of the first advertised price.

Home unit sales have a significantly different pattern, with all regions showing that typically the last advertised price is between 2% and 5% below the first advertised prices. Vacant land results are variable, probably due to the low sample size, but are typically negative except in the central region, where there is a large positive result. Overall, the results suggest that detached and semi-detached houses have had little variation in advertised prices, in contrast home units and vacant land, have shown significant decreases in advertised prices over the life of the marketing campaign.

Table 7 - Relationship between Percentage Change in Last Advertised Price to Actual Price, Location and Land Use

	General Land Use											
	Detached			Semi-detached			Home units			Vacant Land		
	Change Last-Actual			Change Last-Actual			Change Last-Actual			Change Last-Actual		
CLEARER Region	Percentile 05	Median	Percentile 95	Percentile 05	Median	Percentile 95	Percentile 05	Median	Percentile 95	Percentile 05	Median	Percentile 95
Central	-12.6%	-1.8%	6.4%	-11.4%	-0.6%	16.7%	-10.0%	-1.9%	10.7%	-3.5%	-2.1%	-0.7%
Western	-8.4%	-1.1%	6.2%	-6.5%	1.2%	8.3%	-4.9%	-1.7%	9.3%	-5.6%	-4.4%	-2.0%
Coast	-10.1%	-1.3%	8.4%	-4.6%	-1.1%	2.6%	-7.0%	-0.7%	15.0%	-7.2%	-2.5%	5.5%
South Western	-7.3%	-1.1%	7.4%	-6.9%	-1.6%	6.7%	-12.3%	-1.1%	8.0%	-4.4%	-1.9%	0.8%
South Eastern	-10.1%	0.0%	9.7%	-8.9%	-5.2%	0.0%	-4.8%	-0.3%	7.3%	2.3%	3.3%	4.3%
Inner Northern	-8.2%	-0.6%	5.6%	-40.2%	-1.7%	1.9%	-4.0%	-1.2%	10.0%	-10.4%	-7.8%	-5.1%
North Eastern	-9.1%	-1.4%	5.1%	-5.5%	-1.1%	8.8%	-4.7%	-0.1%	6.8%	-8.3%	-3.4%	0.4%
Northern	-8.0%	-1.8%	3.7%	-9.1%	-1.2%	3.2%	-5.9%	-1.9%	3.6%	-26.4%	-5.5%	2.8%
Hills	-9.8%	-2.7%	3.2%	.	.	.	.	.	.	.	.	.
Southern	-6.5%	0.0%	6.3%	-14.7%	-14.7%	-14.7%	-16.8%	0.9%	12.8%	-7.8%	-3.6%	11.6%

The observation that final price is only about 1% below last advertised price is relatively consistent for detached and semi-detached houses, although the hills region stands out with final prices being around 2.7% below the final advertised price (Table 7). There is very little difference in home unit properties. However, the south and north eastern regions show that demand for home units is probably greater in these areas, with final prices being only very slightly below the final advertised price. This is consistent with these areas having the shortest time on market for unit sales. This finding agrees with Larsen and Park (1989) and Sirmans (2005) who would suggest that all things being equal the longer a property is on the market the greater is the concession in terms of price. Typically vacant land is sold at a greater reduction from the final advertised price than improved properties.

4.3 Regression Analysis

To test the relationship between the TOM and a number of property characteristics a single stage log-linear regression model is defined. Because the number of vacant land sales was small and the TOM was significantly different, it was decided to use only improved residential properties for this model to remove any question of heterogeneity. The model is specified as

$$TOM = e^{b_0 + b_1\theta + b_2 X_1 .... b_n X_n} \varepsilon$$

Where

TOM	=	Time on Market in Days
b_0	=	a constant
$b_{1...}b_n$	=	market determined parameters
θ	=	a vector of regional dummies
$X_{1...}X_n$	=	a vector of property characteristics as dummy variables
ε	=	stochastic errors

The resulting model is shown in the appendix indicates a weak but significant relationship between TOM and a number of regional dummy variables and property characteristics with an R-squared of .015 but this relationship is significant at better than a 99% level of confidence. The regression coefficients ($b_{0...}b_{n)}$ and the corresponding exponent values are shown in Table 8.

Table 8 - Regression Coefficients - Log-Linear regression including exponential transformations

Model	Unstandardized Coefficients		t	Sig.	EXP
	B	Std. Error			
(Constant)	3.596	.068	52.940	.000	36.439
Region - NORTHERN	.164	.044	3.716	.000	1.178
Region - HILLS	.311	.151	2.058	.040	1.365
Rooms4	-.131	.076	-1.733	.083	.877
Rooms5	-.203	.071	-2.874	.004	.816
Rooms6	-.138	.076	-1.814	.070	.871
Rooms7	-.032	.086	-.367	.714	.969
Rooms8ormore	-.034	.103	-.328	.743	.967
Detached	.272	.063	4.295	.000	1.312
SemiDetached	.272	.097	2.794	.005	1.312
Timber Frame wall	.298	.254	1.171	.242	1.347
Stone wall	-.125	.065	-1.932	.053	.882

The model infers that compared to all other regions the northern and hills regions have a statistically significant greater TOM: respectively 18% and 37% higher, holding other variables constant. Home unit properties have the shortest TOM with detached and semi detached houses being roughly 31% longer holding all other variables constant.

The relationship between TOM and the building size is parabolic. Holding all other variables constant the shortest TOM is for 5 roomed properties, 18.4% lower than for 3 roomed houses and 15.1% below dwellings with 8 or more rooms. Dwellings of 4 or 6 rooms sell on average in about 12.5% less days than dwellings with 3 rooms or less and in roughly 9% less days than dwelling of 8 rooms or more rooms. Those dwellings with 7 or more rooms sell in roughly the same TOM as those with 8 rooms or more but in about 3% less days then those very small 3 roomed properties.

Holding the region, type and number of rooms constant, houses with stone walls sell around 12% quicker than standard masonry properties which take around 35% longer to sell. These findings concur with the large body of literature which suggests that TOM can be explained by a number of property characteristics and that atypicality (7 rooms or more) tends to longer TOM (Haurin, 1988; Jud et al, 1996).

5. Conclusions

This paper presents preliminary results from the analysis of time on the market, changes between first and last advertised prices, and between last advertised prices and actual sale prices for residential property in Adelaide over a six-month period. The analysis shows that ample data are available to draw conclusions about the length of time that properties are on the market and that sufficient data are available to stratify the data into spatial and dwelling type groups. It is also evident that typically properties are on the market for around 50 days in the case of detached and semi-detached houses, and for a shorter period (roughly 42 days) in the case of home unit properties. Vacant land is on the market for considerably longer typically, around 90 days. The analysis shows that properties in the hills and northern region will typically have slightly longer time on market than other regions and that smaller houses, particularly those of less than six rooms will have will have significantly shorter marketing periods than large ones. Properties with timber frame walls (generally considered to be inferior in Adelaide), have significantly greater marketing periods than properties with masonry walls, and those with stone walls are significantly shorter.

Although preliminary this paper has makes a contribution to the understanding of TOM in that it is one of the few studies conducted in Australia and the findings support those in other countries. Also the data set is of considerable size, has been rigorously examined and represents close to the full population of sales within a 6 month period. Further research would look to extending the time period under study, considering the relationship between the ratios of first and last advertised price and TOM as well as how TOM impacts on the ratio between list price and sale price. Given adequate data both these relationships could be examined within the context of the market cycle as well as analysing the viability of TOM as a leading market indicator.

*Contact Author

Email peter.rossini@unisa.edu.au

School of Commerce
University of South Australia
City West Campus
GPO Box 2471
Adelaide SA 5001
Australia

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Appendix

Figure 3 - Adelaide Regions

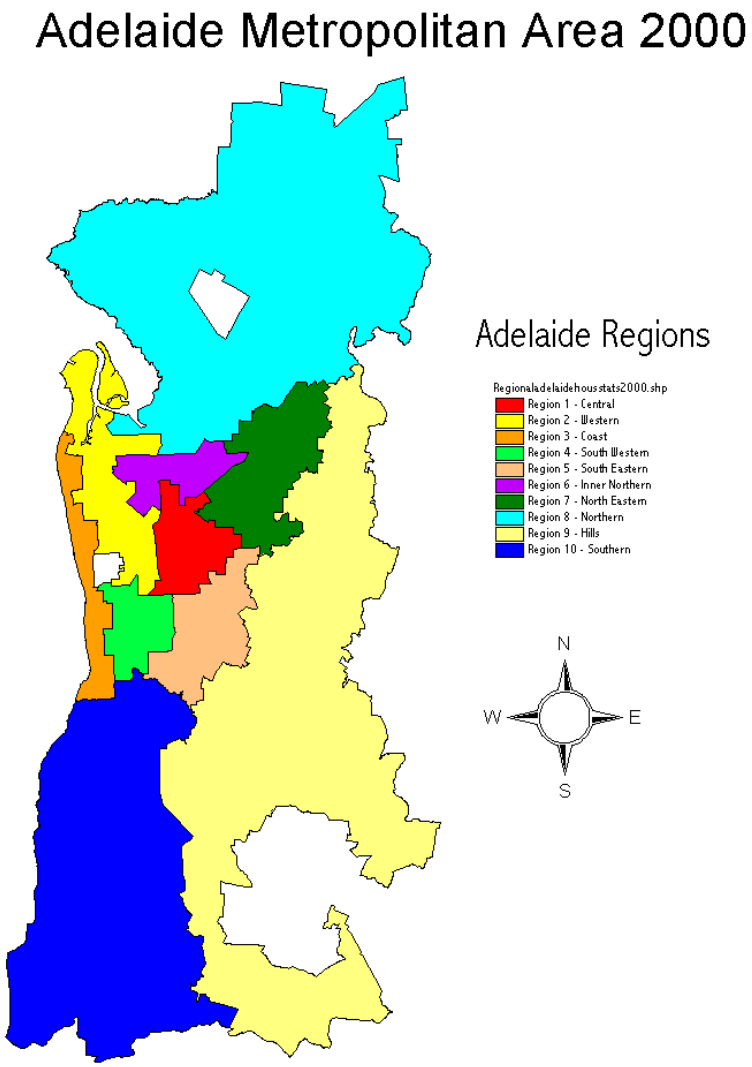

Table 9 - Regression Coefficients - Log-Linear regression including exponential transformations

Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.121	.015	.012	1.23716

ANOVA[l]

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	102.608	11	9.328	6.094	5.361E-10
Residual	6856.920	4480	1.531		
Total	6959.527	4491			

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	3.596	.068		52.940	.000		
Region8	.164	.044	.057	3.716	.000	.932	1.073
Region9	.311	.151	.031	2.058	.040	.985	1.015
Rooms4	-.131	.076	-.039	-1.733	.083	.442	2.261
Rooms5	-.203	.071	-.079	-2.874	.004	.294	3.406
Rooms6	-.138	.076	-.045	-1.814	.070	.353	2.830
Rooms7	-.032	.086	-.008	-.367	.714	.478	2.090
Rooms8ormore	-.034	.103	-.006	-.328	.743	.627	1.594
Detached	.272	.063	.090	4.295	.000	.496	2.015
SemiDetached	.272	.097	.049	2.794	.005	.716	1.397
tfwall	.298	.254	.017	1.171	.242	.990	1.010
stwall	-.125	.065	-.029	-1.932	.053	.973	1.028