DO OBJECTIONS TO CAPITAL VALUE INFLUENCE HOUSE PRICES?

OLGA FILIPPOVA
The University of Auckland Business School

ABSTRACT
The bigger the capital value (CV) of your house the bigger the rates bill. In New Zealand CVs provide a basis for levying rates at the local government level. At the time of a general revaluation, some property owners object to their CV. Property sellers sometimes use the current CV in marketing efforts for their properties and CV becomes a reference point in buyers' decision making. The aim of this study is to understand if successful CV objections affect prices of objectors who subsequently sell their property. To test price impacts, properties whose owners objected to the 2008 revaluation were identified and analysed within the residential sales transactions for Auckland City between Q4 2008 and Q4 2009. Contrary to anecdotal evidence, the empirical results indicate that increasing CV does not have a statistically significant effect on sales prices.

Keywords: capital value, property tax, house price, New Zealand, hedonic price model

INTRODUCTION
One of the first things to consider when selling your house is setting a list price that will most effectively bring acceptable offers. The list price will be a factor of pricing considerations and market conditions. Just as buyers will be comparing list prices, a seller would have to reflect other sellers' price expectations when setting their own list price. This process would generally be well understood in the US, for example. In New Zealand, however, only a fraction of houses are advertised with price indication (see Table 1). It is common for sellers, real estate agents and prospective buyers to make reference to the rating (taxable) value of properties, commonly known as capital value (CV). CVs are generated for every property and can be accessed by the public online. Reliance on CVs as a proxy for market value has been evidenced anecdotally with real estate agents advising sellers to contest their property's value if it has been set too low (Garratt 2010).

Sale Method	Number of listings	Percent
Auction	370	49
Tender	10	1
Negotiation	196	26
Asking price	184	22
Total	**760**	**100**

Distribution of Sale Methods of Houses Listed in Auckland City
Source: TradeMe Property; data collected on 18 September, 2013
Table 1

The focus of this study is on the objection to the capital value (value of land plus buildings and other improvements) of residential properties. Combining residential sales transactions and data on revaluation objections, this study determines if transaction prices are impacted when homeowners object to the capital values of their property and then subsequently put the property on the market.

It is not surprising that, in the absence of listing prices, buyers and sellers perceive CVs as a valid proxy of market value. Although CV is indicative of market value at the date of general revaluation, their primary purpose is for apportioning property taxes. Increasingly, however, CVs are being used as a value guide in other areas such as government compensation for earthquake damaged buildings and for insurance and loan purposes (Scally-Irvine et al 2013).

In New Zealand, capital values are used for rating purposes and taxation is administered at the local government level (territorial authorities). All properties must be revalued at least once every three years (Ratings Valuations Act 1998). Property owners receive valuation notices of their revised values approximately two months after the general revaluation. Any mass valuation is prone to a significant level of error (Rating Valuations Rules 2008), therefore local councils allow owners to lodge an objection to any information on the notice of general revaluation, from incorrect property details to the assessed value. Some of these objections are to low valuations, when a property owner believes their property has been under-valued (see Table 2).

CV movement	Single Dwellings*
Increase CV	738 (35%)
Lower CV	1,370 (65%)

* Excludes apartments and flats

Capital Value Movement Request After the 2008 General Revaluation in Auckland City
Source: Auckland Council Valuation Department
Table 2

Since listing price information is scarce in New Zealand, potential buyers have limited options to form their opinion about the property's market value: registered valuation report, recent comparable sales and rating values. The first two require financial investment and some 'know how' (e.g. which professional to instruct or, if they act alone, an ability to source residential transaction data and effectively analyse it). Tversky and Kahneman (1974) demonstrated that people rely on a limited number of heuristics or 'rules of thumb' to perform complex tasks. Even in the presence of rich information required to evaluate a piece of residential property, non-real estate professionals have been shown to significantly bias their value estimates and anchor on 'uninformative' listing price (low, moderately low, moderately high and high prices) (Northcraft and Neale 1987). Therefore, since the general public is familiar with CV and have ready access to rating value information for every property, it is plausible that buyers would gravitate towards CVs as a price anchor.

Official sources (e.g. Auckland Council website) tend to warn users that CVs are not intended for marketing purposes. Furthermore, the real estate agent's code of conduct requires agents to provide their client (seller) a written appraisal that reflects current market conditions and is supported by comparable information on sales (Real Estate Agent Act Rules 2012). However, anecdotal evidence points to a vast proliferation of CVs in the home buying process (Helm 2013); frequent benchmarking of recent sales prices against CVs in the media (Eriksen 2013a, 2013b, Matthews 2013, Morris 2013); agents promoting increasing rating values to maximise selling price (Garratt 2010); and a major mass appraisal contractor recommending urgent rating value review to 'add value' before sale (Quotable Value Limited 2013). The last two claims, in particular, suggest that increasing CV has an effect on sale price. If there is a measurable price premium in houses that were sold after a successful CV adjustment, this would provide further evidence to the anchoring-and-adjustment theory (Tversky & Kahneman 1974). In other words, if potential buyers use the CV information of a property

that has had its capital value increased as a result of the owner objecting to the local council, bargaining will theoretically begin at a higher reference point than it would have otherwise. Buyers are likely to make insufficient adjustments and will stop adjusting once a satisfactory estimate is reached.

LITERATURE REVIEW

Houses make up the bulk of the wealth of most New Zealand homeowners (Briggs 2012). Therefore selling a house is one of the most important financial transactions faced by individuals during their lifetime. The seller of a house would want to sell their property for a price that is at least equal to its market value, unless that seller is constrained (for example relocation or financial distress) and is willing to accept a lower price to foster a faster sale (Springer 1996). According to Springer (1996), the listing price is the seller's primary mechanism for selling the property and is an important factor in determining the sale price. The listing price signals information to prospective buyers about the prices that sellers are willing to accept. Previous studies have demonstrated that the choice (e.g. high) as well as design of listing price can have a significant impact on the transaction price (Allen and Carter 2010, Allen and Dare 2004, Thomas, Simon and Kadiyali 2010). Although the rational model assumes that a buyer would be able to obtain full information in order to make decisions, it had been repeatedly shown that potential homebuyers often rely on the listing price as a shortcut to estimate its value. Where assessed values are widely reported, the public often use them as a market value proxy (Cypher and Hansz 2003). Available evidence for anchoring behaviour suggests that listing at higher prices would be beneficial for home sellers. Research on informational asymmetry in residential property markets also shows that sellers can use inflated asking prices to their advantage. When a house is advertised for sale, a buyer can observe house characteristics such as location, size, quality etc. Some information, however, remains unobserved by buyers, for example, capital value adjustments.

A number of researchers have looked at the role of listing price on house transactions. Springer (1996) demonstrated that a motivated seller sets a listing price that is close, or even less, to the estimated value of the house and eventually realises a discount between 2.1% to 3.7% as a trade-off for a faster sale. Similarly, including phrases such as 'below market value' or 'below appraised value' in the listing information suggests that an owner is 'desperate' to sell. Allen and Carter (2010) show that properties suffer a 3% to 7% discount by using such phrases. The design of a listing price is also shown to have a significant impact on transaction prices. The first researchers to consider the impact of design were Allen and Dare (2004). In their study, houses with prices set just below some round number sell for significantly higher prices than houses listed at round prices. More recently, Thomas, Simon and Kadiyali (2010) confirmed that houses advertised with more precise list prices (fewer than three ending zeros) will sell at higher prices. Similarly, Beracha and Seiler (2013) establish round pricing to be inferior to precise pricing but a higher price premium is observed for 'just below' (thousands digit equals 9 or 4) pricing strategy.

The listing price is often viewed as a starting negotiating point, an anchor. First introduced by Tversky and Kahneman (1974), their research has shown that if a value estimate is set in relation to the initial value, adjustments will be biased towards the initially presented value (anchoring). Numerous researchers conducted experiments evaluating anchoring from a valuation perspective. In a field experiment Northcraft and Neale (1987) asked two groups, amateurs (university students) and experts (real estate agents) to estimate the value of a "real world" house. Both groups received a packet of information with all the information necessary to evaluate residential property. The house's listing price was included but varied from low to high among the participants. Value estimates of both experts and amateurs were

significantly biased by listing prices: the lower the listing price, the lower the assessments of the house. Later studies confirmed that anchoring behaviour is widespread among experts, namely valuers, (Diaz and Hansz 1997, 2001, Diaz and Wolverton, 1998, Gallimore 1994, 1996, Hansz, 2004, Havard, 1999) as well as potential homebuyers (Cypher and Hansz 2003, Kristensen and Garling 2000, Levy and Frethey-Bentham 2010, Levy et al 2013, Scott and Lizieri 2012). Strong evidence of anchoring-and-adjustment effect among first time homebuyers was observed by Levy et al (2013). In their experiment, the researchers tested if the initial offer prices are skewed towards an influenced capital value. Anchoring effect, however, was found to be insignificant when professionals were making valuations in a familiar area (Cypher and Hansz 2003, Diaz 1997). Although most anchoring-related research is experimental, a recent study by Bucchianeri and Minson (2013) tested anchoring empirically using a comprehensive dataset of over 14,000 residential transactions. Consistent with past research, overpricing was found to have a significant positive impact on the selling price. Research on anchoring indicates that listing price is an attractive and valid price indicator for consumers, even in a familiar setting, and a higher listing price is associated with a higher sale price.

In New Zealand, most houses are advertised without an indicative price. Capital value of every residential property, however, is freely available and can potentially serve as an anchor. If some sellers adjust capital values prior to sale, this would be unobservable to the buyers. If buyers anchor on the adjusted capital value, the transaction price would likely be higher than if the original CV was used. It's been shown that real estate agents are better informed about the value of houses and local market conditions and use this knowledge to obtain a higher selling price for their own houses than similar client owned houses (Levitt and Syverson 2008, Rutherford, Springer and Yavas 2005). There is also evidence of asymmetric information in the residential property assessments area. Firoozi et al (2006) found assessed values of property tax consultants' own homes were up to 6.2% lower than the typical homeowner.

With the evidence on listing price strategies, anchoring and asymmetric information, this study tests whether sellers of houses that objected and successfully increased their capital values are able to sell their houses at an above market price. Past research on anchoring is mainly conducted in a contrived setting. To the contrary, this research will use residential transactions to test anchoring effects in order to determine if the strategy of objecting to low valuations provides significant benefit to the sellers.

DATA AND METHODOLOGY

The 2008 general revaluation objection data of residential properties within the former Auckland City area was obtained from the Auckland Council's Valuation Services Department. The council received 2,834 objections from owners of residential properties, including apartments, flats and single houses. Given that three-quarters of objections are for the latter category, the focus of the analysis is on this dwelling type. The dataset included the address of the property, property category, initial general revaluation values, contended values and settled values.

As mentioned earlier, general revaluations take place at least every three years and the assessed value is intended to represent the market value on the date of revaluation. In Auckland City, the 2008 revaluation was on 1 July. In September, the homeowners received the general revaluation notice with the updated value. During a 20-day window, if a homeowner feels the assessed value is too low or too high, that individual can object at no cost and propose a revised capital value. The owner's suggested valuation will be reviewed

by a registered valuer with several possible outcomes: 'No change' and 'Withdrawn' result in no change to the original revaluation amount, whereas 'Complete' indicates that a registered valuer has approved a change in the final value. The majority of objections to the 2008 revaluation – 88% - were at least partially successful (less than the requested adjustment).

Variable Name	Variable Description
LN(SP)	Natural log of net sale price
Object_up	Dummy variable for whether the property's CV was adjusted up.
Floor_area, Floor_area_2	Floor area (in square metres), floor area squared.
Storeys_2, Storeys_3	Dummy variable indicating the number of storeys. The default condition is a one-storey (level) house.
V1910, V1920,…, V1990	A series of dummy variables corresponding to the vintage (decade) in which the house was built. The default condition is built in the 2000s.
Exterior_Poor, Exterior_Good	Variable for whether the property's exterior walls were coded by the valuer as being in 'Poor/Fair', 'Average' or 'Good' condition. The default condition is 'Average'.
Interior_Poor, Interior_Good	Variable for whether the property's interior fixtures and finishes were coded by the valuer as being in 'Poor', 'Average' or 'Good' condition. The default is 'Average'.
Water_view	Variable for whether the property has appreciable water view. The default category is no appreciable water view.
Steep_Contour	Dummy variable for whether the property's land plot is steeply sloped or not. The default category is not steep, which includes properties coded in the dataset as featuring either a 'Level' contour or having an 'Easy to Moderate' fall or rise.
Garage	Dummy variable indicating if there is a free standing garage on the property.
au514401, au515410, etc	A series of dummy variables indicating the area unit in which a property is located. The area unit containing the most observations serves as the default category.
Q1_2009,.. Q4_2009	A series of dummy variables for each quarter of when the property was sold. The default condition is the 4th quarter of 2008.

Definition of Variables Used in the Hedonic Equation
Source: Author
Table 3

Since the main objective of this study was to test if the property owners who objected to low valuations were able to obtain higher sales prices, data was collected and analysed to identify objection properties that were subsequently sold. As the objection data obtained is for 2008 Auckland City revaluation cycle, the timeframe chosen for this study is between Q4 2008 and Q4 2009 which would capture sales transactions that would have potentially benefited from owners' objections to value. The source of the residential sales transactions within Auckland City was PropertyIQ Limited. Descriptions of variables used in this study are defined in Table 3. As with the objections data, transactions are limited to single residential dwellings. The total number of transactions recorded in this time period was 4,886. Merging the objection data with the sales transactions, there were 82 properties with successfully increased CVs. The study area contains 103 area units – New Zealand Census enumeration units. Successfully increased objections originate from 48 of these units, indicating a fairly disperse geographic distribution of objections. During the study's timeframe, there were 29 properties whose owners objected to a low valuation but were unsuccessful. Characteristics of the objection properties with successful and unsuccessful outcomes are compared with the remaining transactions in the dataset. As shown in Table 4, there is substantial difference

between properties with objections and the rest of the transactions. Properties with objections tend to be more expensive, larger and of better quality.

Variable	Transactions with successful objections to raise CV		Transactions with unsuccessful objections to raise CV		All other transactions	
	Mean	SD	Mean	SD	Mean	SD
Sale price	1,014,001	922,297	912,397	604,252	698,471	469,892
CV Original	908,415	725,278	890,345	635,145	693,908	462,730
CV Adjusted	1,092,439	1,029,874				
Floor_area	210	95	191	67	162	70
Vintage	1958	35	1961	33	1956	31
Exterior_Good	0.68	0.468	0.69	0.471	0.53	0.499
Interior_Good	0.20	0.399	0.17	0.384	0.03	0.175
Water_View	0.23	0.424	0.17	0.384	0.10	0.296
N	*82*		*29*		*4,775*	

Summary Statistics of the Sales Subsamples
Source: Author and Property IQ
Table 4

A hedonic pricing model is employed which is a common method for estimating marginal contribution of various house characteristics on its price (Sirmans, Macpherson and Zietz 2005). Including a dummy variable indicating a successful objection to raise CV in the model allows for the observation of price effects associated with upward CV adjustments. Employing log-linear specification, the model takes the following form:

$$\begin{aligned} ln(SP) = {} & \beta_0 + \beta_1 object\_up + \beta_2 floor\_area + \beta_3 floor\_area\_2 + \\ & \beta_4 storeys\_2 + \beta_5 storeys\_3 + \beta_6 exterior\_cond + \\ & \beta_7 interior\_cond + \beta_8 water\_view + \beta_9 vintage + \\ & \beta_{10} steep\_contour + \beta_{11} garage + \beta_{12} sale\_qtr + \\ & \beta_{13} area\_unit + \varepsilon \end{aligned} \qquad \text{Equation 1}$$

The dependent variable (SP) is the net sales price of each house in the dataset. The *object_up* is a dummy variable that indicates the successful objection outcome of the transactions whose owners lodged an appeal and is set to 1 if the change in value was successful. The remaining variables include the physical characteristics of the residential property as well as quarterly time dummy variables. In addition, 103 area unit dummy variables serve as proxies for suburb and control for variation in neighbourhood-specific characteristics. It has been recognised that hedonic price models can potentially suffer from heteroscedasticity where the variances of the error term are unequal. Therefore, to correct for it, the heteroscedasticity-consistent standard errors are reported in this paper.

RESULTS

Table 5 shows the results of Equation 1, the hedonic model of the selling price on physical housing attributes and the primary variables of interest indicating the objection outcome. As the estimates of a hedonic model are prone to multicollinearity, variance inflation factors (VIF) were calculated for all independent variables included in the model. With the exception of floor_area and floor_area_2, all of the factors were well below the level of concern with the maximum VIF of 3.1 and an average VIF of 1.7. VIF of floor area variables fall between 12 and 15. High factors are expected for these two variables as one of them is the quadratic

term of the floor area variable. Collinearity between these two variables will not affect the interpretation of the variable of interest, *object_up*.

The model has a high explanatory power with the adjusted R^2 of 0.877. All the independent physical attribute variables have expected signs and most are statistically significant at least at the 5% level. Consistent with prior expectations, the coefficient of *floor are*a variable is positive and highly significant and the *floor area_2* variable is negative and significant, suggesting that the contribution of per square metre of floor area is rising at a decreasing rate. Similarly to the findings of Rehm et al (2006), a non-linear relationship between period of construction and house prices was confirmed over this sample period. The coefficients of the sale quarter variables show that the New Zealand housing market was affected by the 2007-2009 recession but appeared to turn a corner in the first half of 2009 when house prices began to rise again.

Variable	**Coeff.**	**t-stats**		**Variable**	**Coeff.**	**t-stats**
Constant	12.466	480.56 ***		*V1910*	0.130	9.88***
Floor_area	0.004	31.81 ***		*V1920*	0.095	8.43***
Floor_area_2	-5.95E-07	-2.46 **		*V1930*	0.054	4.03***
Storeys_2	-0.062	-9.44 ***		*V1940*	0.020	1.63*
Storeys_3	-0.140	-12.27 ***		*V1950*	0.003	0.27
Exterior_Good	0.037	6.36 ***		*V1960*	-.003	-0.27
Exterior_Poor	-0.011	-0.76		*V1970*	-0.080	-6.04***
Interior_Good	0.201	13.53 ***		*V1980*	-0.086	-7.81***
Interior_Poor	-0.055	-1.55 *		*V1990*	-0.083	-8.31***
Deck	0.026	4.70 ***		*Q1_2009*	0.021	2.44**
Steep_contour	-0.047	-4.73 ***		*Q2_2009*	0.047	5.95***
Garage	0.083	17.95 ***		*Q3_2009*	0.102	13.02***
Water_View	0.086	9.07 ***		*Q4_2009*	0.115	14.71***
Object_UP	0.003	0.15				
Adj. R^2	0.877	SE 0.164				
F-stat	273.84					

Note: *Ln(SP)* is the dependent variable; regressions include dummy variables for area units to control for location, their coefficients are not reported for brevity; N = 4,886.
Significant at *0.1, **0.05, and ***0.01 levels

Hedonic Model Results of Impact of Increased CV on Single House Prices
Source: Author
Table 5

Turning to the variable of interest, the coefficient for the *object_up* variable is found to be statistically insignificant. This implies that the act of increasing capital value does not influence transaction price. In other words properties whose capital values were increased through the objections process were sold at their market value. Despite the lack of a price premium, it could be suggested that successfully raising the CV was beneficial as otherwise the seller may have been unable to obtain a market price. This of course assumes that buyers are widely utilising CV as an anchor. Further qualitative research such as interviewing home buyers would provide a more definitive answer on whether or not there is anchoring on CV.

CONCLUSIONS

This study examines if successfully increased CVs influence house prices by using a hedonic pricing model. The results suggest that properties with upward-adjusted assessments did not enjoy a price premium. It appears that buyers are not likely to incorporate CV information in

their purchasing decision. Otherwise, if CV was indeed used as an anchor, the adjusted CV was set close to the actual market value of the property, indicating that the original CV was misrepresentative. Therefore, the seller could not obtain a higher than market price since the adjusted CV was not overinflated.

To test if the valuations process is working as intended, two median value price ratios were calculated. The first produced the ratio of original CVs to sales price while the second compared the adjusted CVs (after successful objection) to sales price. The population of sales transactions that did not have their CV increased by means of the objection process had a median value price ratio of 0.990 which is well within the permitted range of 0.9 to 1.1 as stipulated by the Valuer General (Rating Valuations Rules 2008). However, the ratio of original CVs to sales prices for those properties who successfully raised their CV through objection was 0.899, which is at the threshold of the minimum acceptable median price ratio of 0.9. As may be expected, when adjusted CVs are compared to sales prices the resulting median value price ratio is significantly improved to 1.046. This essentially lies on the target median ratio of 1.0.

There is evidence that some real estate agents advise their clients to increase their CV prior to sale in an effort to maximise sale price. However, the present findings suggest that sale price cannot be maximised beyond market value through a CV adjustment. Given that the median value price ratio of properties with successfully adjusted CVs is close to 1, the local council did not overstate the value of these properties. However, if anchoring on CVs is present in the market, then the agents' advice is valid. This is because if the property's CV was below its market value, it is possible that the property would be sold for less than what it's worth.

To further understand the nature of capital value appeals it is necessary to conduct a detailed analysis of the socio-economic background of areas where objections tend to take place. Some social-economic differences between properties with and without objections are already apparent. As can be seen in Table 4, average values and condition of sold properties with objections are significantly better than properties of homeowners that did not object. This will, however, be the subject of a further study.

REFERENCES

Allen, MT and Carter, CC 2010, 'Do the phrases "below market value" or "below appraised value" in MLS listings convey useful information to the market?', *Journal of Housing Research*, Vol. 19, No. 2, pp. 185-194.

Allen, MT and Dare, WH 2004, 'The effects of charm listing prices on house transaction prices' *Real Estate Economics*, Vol. 32, No. 4, pp. 695-713.

Beracha, E and Seiler, MJ 2013, 'The effect of listing price strategy on transaction selling prices', *The Journal of Real Estate Finance and Economics*, Vol. 47, pp. 1-19.

Briggs, P 2012, 'Financial accounts and flow of funds', *Reserve Bank of New Zealand: Bulletin*, Vol. 75, No. 4.

Bucchianeri, GW and Minson, JA 2013, 'A homeowner's dilemma: Anchoring in residential real estate transactions', *Journal of Economic Behaviour & Organization*, Vol. 89, pp. 76-92.

Cypher, M and Hansz, JA 2002, 'Does assessed value influence market value judgements', *Journal of Property Research*, Vol. 20, No. 4, pp.305-318.

Diaz III, J and Hansz, JA 1997, 'How valuers use the value opinions of others', *Journal of Property Valuation and Investment*, Vol. 15, No. 3, pp. 256-260.

Diaz III, J and Hansz, JA 2001, 'The use of reference points in valuation judgment', *Journal of Property Research*, Vol. 18, No. 2, pp. 141-148.

Diaz, J and Wolverton, ML 1998, 'A longitudinal examination of the appraisal smoothing hypothesis', *Real Estate Economics*, Vol. 26, No. 2, pp. 349-358.

Eriksen, A 2013a, 'State house duo fetch $1.9m', *The New Zealand Herald*, 1 March, viewed 28 August 2013, <http://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=10868433>.

Eriksen, A 2013b, 'Sold - for $1m over valuation', *The New Zealand Herald*, 19 August, viewed 15 September, <http://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=10914144>.

Firoozi, F, Hollas, DR, Rutherford, RC and Thomson TA 2006, 'Property assessments and information asymmetry in residential real estate', *Journal of Real Estate Research*, Vol.28, No. 3, pp. 275-292.

Gallimore, P 1994, 'Aspects of information processing in valuation judgement and choice', *Journal of Property Research*, Vol. 11, No. 2, pp. 97-110.

Gallimore, P 1996, 'Confirmation bias in the valuation process: A test for corroborating evidence', *Journal of Property Research*, Vol. 13, No. 4, pp. 261-273.

Garratt, D 2010, *'Does QV represent market value?'*, North Wellington Real Estate, 30 March, viewed 15 September 2013, <http://northernsuburbs.co.nz/2010/03/does-qv-represent-market-value/>.

Havard, T 1999, 'Do valuers have a greater tendency to adjust a previous valuation upwards or downwards?', *Journal of Property Investment & Finance*, Vol. 17, No. 4, pp. 365-373.

Hansz, AJ 2004, 'Prior transaction price induced smoothing: testing and calibrating the Quan–Quigley model at the disaggregate level', *Journal of Property Research*, Vol. 21, No. 4, pp. 321-336.

Helm, A 2013, 'Let's get rid of property CVs', *The New Zealand Herald*, 20 May, viewed 20 May, <http://www.nzherald.co.nz/business/news/article.cfm?c_id=3&objectid=10884817>.

Kristensen, H and Gärling, T 2000, 'Anchoring induced biases in consumer price negotiations', *Journal of Consumer Policy*, Vol. 23, No. 4, pp. 445-460.

Levitt, SD and Syverson, C 2008, 'Market distortions when agents are better informed: The value of information in real estate transactions', *The Review of Economics and Statistics*, Vol. 90, No. 4, pp. 599-611.

Levy, DS, Dong, Z, Filippova, O, Frethey-Bentham, C and Narayan, S 2013, *The influence of property tax assessments on housing market behaviour*, 2013 AREUEA International Conference, Jerusalem, 24 – 26 June 2013.

Levy, DS and Frethey-Bentham, C 2010, 'The effect of context and the level of decision maker training on the perception of a property's probable sale price', *Journal of Property Research*, Vol. 27, No. 3, pp. 247-267.

Matthews, J 2013, 'Auckland property price madness', 8 June, viewed 15 September 2013, <http://www.stuff.co.nz/business/money/8768266/Auckland-property-price-madness>.

Morris, B 2013, 'Property Report: Mixed messages in a room of waving hands and legs', *The New Zealand Herald*, 2 September, viewed 17 September 2013, <http://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=11118281>.

Northcraft, G and Neale, MA 1987, 'Experts, amateurs, and real estate: An anchoring-and-adjustment perspective on property pricing decisions', *Organizational Behaviour and Human Decision Processes*, Vol. 39, No. 1, pp. 84-97.

Quotable Value Limited 2013, *Urgent Rating Value Review*, Quotable Value Limited, viewed 15 September 2013, <http://qvgroup.qv.co.nz/urgent-rating-value-review>.

Rating Valuations Act 1998, s.9, reprint 5 August 2013, New Zealand Government, Wellington.

Rating Valuations Rules 2008, Land Information New Zealand, Wellington.
Real Estate Agents Act Rules 2012, Real Estate Agents Authority, Wellington.
Rehm, M, Filippova, O and Stone, J 2006, 'The influence of vintage on house value', *Pacific Rim Property Research Journal*, Vol. 12, No. 3, pp. 232-253.
Rutherford, RC, Springer, TM and Yavas, A 2005, 'Conflicts between principals and agents: Evidence from residential brokerage', *Journal of Financial Economics,* Vol.76, No. 3, 627-665.
Scally-Irvine, K, Souness, C, Renwick, J, Averill, K and Stroombergen, A 2013, '*Evaluation of the rating valuations regulatory framework',* Land Information New Zealand, Wellington.
Scott, PJ and Lizieri, C 2012, 'Consumer house price judgements: new evidence of anchoring and arbitrary coherence', *Journal of Property Research,* Vol. 29, No.1, pp. 49-68.
Sirmans, SG, Macpherson, DA and Zietz, EN 2005, 'The composition of hedonic price models', *Journal of Real Estate Literature*, Vol. 13, No.1, pp. 1-44.
Springer, TM 1996, 'Single-family housing transactions: Seller motivations, price, and marketing time', *The Journal of Real Estate Finance and Economics,* Vol. 13, No. 3, pp. 237-254.
Thomas, M, Simon, DH and Kadiyali, V 2010, 'The price precision effect: Evidence from laboratory and market data', *Marketing Science*, Vol. 29, No. 1, pp. 175-190.
Tversky, A and Kahneman, D 1974, 'Judgment under uncertainty: Heuristics and biases', *Science*, Vol. 185, No. 4157, pp. 1124-1131.

ACKNOWLEDGEMENTS
The author wishes to thank Associate Professor Deborah Levy from the Department of Property at the University of Auckland for her original idea that potential homebuyers may be influenced by the knowledge of capital values. Her idea helped stimulate this research. The author would also like to thank her for sharing valuable insights on anchoring-and-adjustment. The present work also benefited from the efforts of Brent Schmitt, a postgraduate student, who collected the property title information that was used in this study. The author is grateful to the two anonymous reviewers whose comments helped improve this manuscript.

Email contact: o.filippova@auckland.ac.nz