TAKING STOCK OF HOUSING WEALTH: REPORTED HOME VALUES

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ABSTRACT

For most homeowners, the house is not only the most important consumption good but also the dominant asset. A subjective assessment of home value is an inherent component of many household decisions, including portfolio choice, retirement planning and borrowing practices. The US Government, through surveys including the US census, the American Household Survey, Current Population Survey and the Health and Retirement Survey, uses a subjective, self-reported home value as a means of mapping out American wealth. Current research treats the self-reported home price as an objective and uncontested measure of home value, although there has been no evidence concerning its validity. We show that reported home prices do have an effect on home sale behaviors and outcomes in an experimental setting. However, we propose that reported home values vary from market values in a systematic fashion. Survey data show that a higher status, in terms of household income, neighborhood home value, or self-reported health status, is associated with a greater gap between the self-reported home value and one's home worth. This has important implications for understanding existing literature and for future research.

INTRODUCTION

For most homeowners, the house is not only the most important consumption good but also the dominant asset. A subjective assessment of home value is an inherent component of many household decisions, including household savings (Klyev & Mills 2006, Juster et al. 2005), consumption (Agarwal 2007, Tang 2006) and retirement planning (Lusardi & Mitchell 2007, Engen et al. 2005).Yet the market value of a home is not observed outside of a home transaction. A challenge to measure home wealth is therefore to come up with a prediction of the current home value. A subjective, self-reported home value is the main measure currently available, through surveys including the US census, the American Household Survey, Current Population Survey and the Health and Retirement Survey, as a means of mapping out American wealth. Existing literature treats the self-reported home price as an objective and uncontested measure of home value.

Psychological literature, however, suggests that self-reports will be biased. This is due to several theoretical mechanisms, two of which we elaborate on below, and which yield different predictions as to the linearity of the bias.

Endowment effect

Several decades of behavioral economics and psychological studies have shown a higher willingness to accept (WTA) relative to willingness to pay (WTP) for a range of goods and services. A leading explanation for this disparity is known as the “endowment effect”, the tendency for people to overvalue what they own (Thaler, 1980; Knetsch, 1989; Kahneman et al., 1990; Morrison, 1998, but see Plott and Zeiler, 2005). According to Prospect Theory, the endowment effect occurs because of loss aversion – people experience the pain of losing (or foregoing, as when selling) something to be greater than the pleasure of gaining it (Kahneman & Tversky, 1979; but see Morewedge et al., 2009). Consequently, sellers demand more compensation than buyers are willing to provide (Kahneman,

Knetsch, & Thaler, 1991). The endowment effect appears consistent with the intrinsic human trait that pain matters more than pleasure and the trend for organisms to habituate to steady states (Brown & Gregory, 1999). The result is a general reluctance to sell, associated with asking prices that are consistently higher than what buyers are willing to pay. Horowitz and McConnel (2002) reviewed all 45 studies they could find[1] with WTA-WTP ratios and found the mean WTA-WTP ratio to range from 0.74 to 113, with a mean of 7.17. Horowitz and McConnel (2002) report two somewhat surprising findings. The first is that ratios for real experiments do not yield significantly different ratios from hypothetical experiments. This finding goes against the prediction that because hypothetical experiments do not accurately reflect real-world situations, the WTA-WTP discrepancy should be disproportionately higher (Brookshire & Coursey, 1987). It is also inconsistent with the opposing prediction that true ownership should yield a larger WTA-WTP discrepancy than hypothetical ownership (Kahnemann et al., 1990). These findings lend credence to our experiment, in which we assign participants to hypothetical ownership of a home. On the basis of their finding, Horowitz and McConnel (2002) conclude that claims about the suitability of hypothetical surveys must rest on evidence other than the size of the WTA-WTP ratio. A second potentially counterintuitive finding of Horowitz and McConnel (2002) is a larger WTA/WTP ratio when incentives are provided for pricing consistent with the true value of the good (rather than, e.g., an inflated WTA or deflated WTP). This finding is inconsistent with the prediction that incentive-compatible experiments should result in lower ratios relative to incentive-incompatible experiments when "strategizing" by the participants may result in higher ratios.

We did not find any studies to date that report WTA-WTP ratios for home sales. However, one study by Genesove and Mayer (2001) supports the relevance of the WTA-WTP disparity to real estate. In that study, the authors studied the Boston condominium market during a 1990s boom-bust cycle[2] and

[1] See Horowitz and McConnel (2002), pp. 431-432, for further details.
[2] Notably, the homes studied by Genesove and Mayer (2001) were well above the average value for Boston-area single family homes, owners had high incomes, and they were likely more sophisticated than typical United States homeowners. Thus their findings may not be representative of typical U.S. home sales.

proposed that loss aversion[3] may help explain sellers' choice of list price and whether to accept an offer. When house prices fall after a boom, owners aim to reduce their loss by setting an asking price that exceeds a value they would have set in the absence of a loss. The result is houses remaining on the market for longer and being sold for higher amounts, or owners most sensitive to losses being driven out of the market. Indeed Genesove and Mayer (2001) report that sellers subject to a prospective loss set higher asking prices of 25-35 percent of the difference between the expected selling price and their original purchase price, and attain higher selling prices of 3-18 percent of that difference. Thus, if this difference is taken as WTP, the WTA-WTP ratio for the asking price would be 1.25-1.35 and 1.03-1.18 for the actual selling price. Alternatively, based on Genesove and Mayer's (2001) Table 1, if the original asking price is taken as WTP, the ratio relative to the selling price would be 1.10. However, it is important to reiterate that Genesove and Mayer (2001) did not report or describe their findings in terms of WTA-WTP ratios. We replicate this result experimentally, demonstrating that higher asking prices are associated with longer time on the market, a lower probability of selling, but also higher sale prices.

The Status Syndrome

A massive body of work by Michael Marmot investigates the social gradient in health and demonstrates that the lower one's social status, the worse his or her heath. Even in developed, wealthy societies which enjoy high life span averages (he focuses particularly on England), social inequality (in education, access, employment and workplace quality, housing and life skills) results in significant gaps in health among the population. Marmot ascertains that conventional explanations for non-communicable disease—lack of access to medical care, unhealthy lifestyles—at best only partially explain the status syndrome. Rather, the lower individuals are in the social hierarchy, the less likely it is that their fundamental human needs for autonomy and to be integrated into society will be met. Dwelling on the notion of status, he points out that status is a relative, not an absolute, concept. Further, Sen has pointed out that relative position on the scale of incomes may translate into absolute position on the scale of, what

[3] Though, as noted above, Morewedge (2009) showed it to be ownership not loss aversion that seems to cause the endowment effect (but see Johnson et al., (2007) who produce endowment-like effects without ownership).

he calls, “capabilities.” In other words, it is not what a person has that is important, it is what he or she can do with what he or she has. Being of low status, Marmot claims, deprives one of autonomy and social participation. Social participation should not be seen as simply a characteristic that high-status individuals are fortunate enough to have in abundance and of which low-status individuals are deprived. It is fostered by society and removed by it. In this sense, it has resonance with the concept of social capital. Following this emphasis on relative positioning, we decided to treat various variables (household income, home worth, and self reported health) not as linear, but rather as indicative of either low (bottom 25%) or high position (75%). The prediction resulting from this work is that, like other outcomes, a reported-actual price discrepancy, especially such that might benefit the individual, will not be equally distributed in the population. Rather, individuals of high status will be most likely to benefit from it, and, vice versa, those of low status will be least likely to display this discrepancy, and, if such discrepancy occurs for them, it will be in the direction of under-predicting their home price.

Further, Singh-Manoux and Marmot (2005) suggest that future research on the outcomes of the status syndrome should examine, among other things, the association between high status and future time perspective, which is the disposition to ascribe high value to goals in the future and to anticipate, in the present, the long-term consequences of a potential action (Shell & Husman, 2001). If future time perspective is akin to a cognitive style of information processing based on a learned, preferred focus on the future (Zimbardo et al., 1997), and has been found to play a role, among oter things, in educational achievement (Peetsma, 2000; Shell & Husman, 2001), In our experiment this may be linked to the finding that participants with higher status (as defined by income) took longer to sell their homes, but attained higher prices for them.

To sum, predictions the endowment effect predicts that people would overestimate their home prices; (optimism bias would yield the same prediction, though linking it to personality traits), and Marmot’s status syndrome hypothesis would have it that those who are better off – in terms of income, home value, or reported health – would demonstrate a larger reported-actual price discrepancy than others.

We aim to understand the validity of self-reported home values as a proxy for market value. While we show that reported home prices do have an effect on home sale behaviors and outcomes in an experimental setting, we propose that reported home values vary from market values in a systematic fashion. We demonstrate that factors other than objective, physical property attributes are associated with the gap between the self-reported home value and one's home worth. This implies that reported home prices are necessary but biased reflections of true market value, and are ultimately subjective.

The main challenge of this exercise lies with its central motivation: market values of homes are not frequently observed and self-reported home values are more often than not the only measure available. In order to determine whether self-reported home values are meaningful and reliable measures, we need to come up with a reasonable benchmark to compare them to. We utilize two separate data sets to study this problem. Merging new survey data (ERM data) that include a self-reported home value for about six hundred women in Franklin County, OH, with the tax records of their homes allows us to create a hedonic-adjusted market value for each respondent. Because we have the exact street addresses, we were able to control for all housing characteristics available through the tax record, such as the time of purchase, zip code and basic home features. In addition, the rich data set contains important control variables including demographic details, time use patterns and personality measures such as optimism.

The main drawback of the OH data set is the limitation of its scope: six hundred women in Franklin County, OH by no means form a perfect representation of the country. Further, from the OH data we demonstrate that age does not correlate significantly with the gap between the self-reported home value and our hedonic-adjusted home value. Therefore we turn to the Health and Retirement Survey (HRS), which contains a question on self-reported home values during each wave as well as information on home sales that took place between the waves. We compare the self-reported home values in a given wave to the actual sale prices reported in the next wave for the respondents who reported a home sale between the waves. While this comparison is more straightforward, it fails to take into account different price trends in different parts of the country over the twenty year period of the survey. Therefore we view the HRS results as supporting evidence of the ERM results with a national perspective.

Using either the hedonic-adjusted historical price or the actual market price from a subsequent sale as the benchmark, we find that on an average respondent overestimates his or her home value by around $26,000 (14%). We also show that a higher status, in terms of household income, relative home value, or a self-reported health status, is associated with a greater deviation from the benchmarks. We are aware that measures of status might correlate with the unobserved quality of housing and contribute to the deviation from the hedonic-adjusted historical price. To investigate this possibility, we predict the amount of home renovation from the AHS data based on demographic variables and use it as a control variable in our analysis. Moreover, the actual market price should reflect any unobserved quality not captured by our hedonic-adjusted historical price. Consistency between the results using the two benchmarks further suggests that unobserved quality is unlikely to explain our findings. In addition, we control for personality measures that reflect optimism, positive disposition, extroversion and neuroticism in the ERM data analysis and conclude that our findings are not merely a result of personalities.

This paper is organized as follows: the next section describes an experiment that demonstrates the relevance of the self-reported home value in a sale context; Section 3 outlines the empirical results and Section 4 concludes.

EXPERIMENT

We model our experimental design after the actual process wherein people sell a house, at which point they have a concrete price reference (historical purchase price) as well as information both general (such as economic growth, GDP, and housing trends) and specific (from developments in the neighborhood to home renovations) that may be relevant to the current house price. We provided all student participants with information on a house, including its basic characteristics (e.g., size, number of bedrooms and bathrooms), purchase date and price, at the Wharton Behavioral Lab. The hypothetical house is an actual house typical of the housing stock around the University. They were made aware of a potential of a home sale at the end of the experiment and were instructed to maximize profits. They were

further motivated by a raffle prize that was proportional to the raffle winner's sale profits. Half of them were assigned an ownership status (through inheritance) and the other half an advisor position for a charity (manipulation #1). After this, we gave participants additional information on the economic environment, including inflation data (manipulation #2) and local home price trends (manipulation #3). We also tested their numeracy and financial literacy and assigned each of them a random status (top or bottom 10% of the distribution, regardless of actual performance; manipulation #4). At each stage they were asked to provide a best price estimate of the market price of the house. During the selling game each participant received a maximum of 4 offers for the house, which they were free to accept or not, without negotiation. Identical offers were given to each participant in a random order. We explicitly stated that there were no execution risks, so they were to assume a sale at the offer price to take place as long as an offer was accepted. We additionally asked participants for demographic information: age, education, household income, marital status and family home ownership status. We also used personality measures including the Mini IPIP scale of the Big Five personality measures (Donnellan, Oswald, Baird, & Lucas, 2006).

Table 1 shows that reported price variations exist despite identical knowledge (variation in the first valuation), and that variation somewhat decreases with information input. It is somewhat reassuring that economic information (manipulations #2 & #3) is associated with a higher probability of reported price changes than a randomly assigned literacy status (manipulation #4). In a related paper, we explore the evolution of the reported prices in detail.

In the context of this paper, we aim to demonstrate the relationship between the reported prices and various sale outcomes – the probability of a home sale, the sale price and the number of rounds it took to sell the house ("time on market"). The last two outcomes are conditional upon a sale. Table 2 shows the results. The magnitude of the coefficients is difficult to interpret in an experimental setting, but the general picture is clear: a higher reported price leads to a lower probability of sale and a higher sale price. The time on market is also longer. This is consistent with reported prices serving as a reservation price. Interestingly, we find that the impact of all four reported prices to be similar on sale probability and

price, but the impact on time on market is larger for later valuations which are closer to the sale game.

To the best of our knowledge, this is the first evidence that reported prices have market implications. This means reported prices are of relevance beyond the fact that all major surveys and a large body of existing literature rely on this measure.

COMPARING SELF-REPORTED PRICES AND "TRUE" VALUES

As discussed before, it is impossible to observe the true, or market, value of a home outside of a sale transaction. A main contribution of this paper is to suggest two reasonable alternatives for benchmark, thereby allowing for an examination of the reported-actual (benchmark) price discrepancy.

The first data set we explore is the 2006 ERM data set, on 800 randomly chosen women in Franklin County, OH. Among other questions on time use and well-being, participants were asked about the current market value of their homes. To create a benchmark, we merged, by their complete street addresses, tax records on the last property transaction for the 589 owner-occupants of single-family homes in the data set. Using a traditional hedonic method, we predict a log market value for each of the 589 homes in 2006, controlling for housing characteristics, year and quarter dummies and zip code dummies. This is the benchmark we use to compare against reported home values. Summary statistics in Table 3 show that the average woman in our sample overestimated her home value by $26,013, or 14%. A comparison of the absolute differences with the simple differences show that there still exists substantial underestimation, as the mean of the absolute differences is almost twice the mean of the simple differences.

Tables 4 and 5 show the correlates with the reported-predicted price differences. Indicators of a higher socio-economic status – household income, educational level, relative income and neighborhood home values – are all associated with greater levels of deviation from the predicted price (columns 1 and 3). Overall it also leads to a greater extent of overestimation (columns 2 and 4). Interestingly, age does not correlate strongly with the reported-predicted price differences, nor do other demographic and

housing variables including family structure, home size, tenure or reported joy from home, in regressions not shown. Regression (8) shows that neither optimism nor the predicted renovation amount, a proxy for unobserved quality, can account for the findings. In results not shown, we find that indeed personalities play a minimal role in explaining the reported-predicted price differences. Our analysis below using the subsequent sale price, instead of the hedonic-adjusted price, as a benchmark further confirms that unobserved quality cannot explain our findings on higher status. It is also noteworthy to point out that relative income (belonging to the top quartile of household income distribution in the zip code) turns out to have the strongest association with the reported-predicted price differences. Results controlling for other status measures instead of log household income are similar qualitatively and quantitatively.

A somewhat surprising finding is on the self-reported health status. In the ERM survey, participants were asked to rate their satisfaction with their own health (1 being very satisfied). Table 5 shows that those reporting a high level of satisfaction with their health also tend to deviate further from the predicted home values. We control for a number of objective health measures (BMI, medical treatments, sick days) in a variety of functional form but they do not explain the association. We also investigate the role of personalities, since the self-reported health status is a subjective perception of health, but again the finding remains robust. (More detailed findings are available upon request.) Regression (3) shows that the health indicator has an association with the reported-predicted price difference that is independent from the socio-economic status measures.

Next we turn to the HRS data, which have a much wider geographical representation. It includes only households with at least one member at pension age, but results from Table 5 suggest that age does not play an important role in explaining the variations in reported prices. Table 6 is a replication of our ERM findings as closely as possible. The dependent variables are defined using the actual sale price (in 2006 dollars) recorded in a subsequent wave instead. There are several additional differences. There are limited age variations in the HRS data set, and there are not personality indicators available. On the other hand, we observe the actual amount of renovations, which is used as a control instead of a predicted amount. Generally speaking, results are consistent across the two data sets.

CONCLUSION

Reported home value is the most prevalent indicator used in measuring home worth in the US. We demonstrate that this indicator has a significant association with sale outcomes in an experimental setting. On the other hand, we show systematic deviations of the reported home value from two benchmarks based on market values. This is the first time, to the best of our knowledge, that the validity of the reported home value is investigated and it has important implication for both interpreting existing research and for future research.

Table 1 - Summary Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Reported Prices					
First valuation ($ '000)	727	208.649	115.748	2.000	900.000
Second valuation ($ '000)	727	186.757	80.326	2.000	750.000
Third valuation ($ '000)	727	217.241	86.901	2.000	800.000
Fourth valuation ($ '000)	582	215.832	82.849	2.000	800.000
Dummy: valuation changed from t 1 to 2	727	0.834	0.373	0.000	1.000
Dummy: valuation changed from t 2 to 3	727	0.824	0.381	0.000	1.000
Dummy: valuation changed from t 3 to 4	582	0.474	0.500	0.000	1.000
Sale outcomes					
Dummy: respondent sold the house	727	0.706	0.456	0.000	1.000
Selling price of house	513	186.772	23.262	120.000	200.000
Round house sold	513	2.573	1.111	1.000	4.000
Demographics					
Has taken marketing or opim	727	0.360	0.480	0.000	1.000
Dummy: female participant	718	0.597	0.491	0.000	1.000
Parents' total household income ($ '000)	576	71.563	34.841	0.000	100.000
Self-reported health (1 being very satisfied)	707	1.525	0.680	1.000	5.000
Parents ownership status	692	1.679	0.982	1.000	4.000
Father's completed education	687	5.716	2.212	1.000	8.000
Mother's completed education	690	5.365	1.928	1.000	8.000
Grade-point average	623	3.326	0.368	1.500	3.750
Finance major	358	0.131	0.338	0.000	1.000
Wharton major (including Finance)	338	0.678	0.468	0.000	1.000
Wharton major (excluding Finance)	338	0.538	0.499	0.000	1.000
Has taken finance classes	387	0.233	0.423	0.000	1.000
Has taken math classes	387	0.773	0.420	0.000	1.000
Has taken real estate classes	387	0.023	0.151	0.000	1.000
Has taken investment classes	387	0.052	0.222	0.000	1.000
Number of all math & financial literacy questions correct	727	13.187	2.546	5.000	18.000
Percentage of mathematic literacy questions correct	727	0.903	0.177	0.000	1.000
Percentage of basic financial literacy questions correct	727	0.902	0.156	0.250	1.000
Percentage of advanced financial literacy questions correct	727	0.703	0.217	0.000	1.000
Percentage of cognitive reflection questions correct	727	0.414	0.365	0.000	1.000
self-reported level of finanicial literacy	375	3.557	1.533	1.000	7.000
Dummy: generally optimistic	494	0.808	0.395	0.000	1.000
Dummy: generally confident	490	0.822	0.383	0.000	1.000

Table 2 - Reported Home Values and Sale Outcomes

	Dependent Variables		
	Home sale dummy (1)	Selling price of house (2)	No. of rounds for sale (3)
(1) First reported price	**-0.001*** **	**0.029*** **	**0.002*** **
	(0.000)	**(0.011)**	**(0.001)**
Observations	727	513	513
Adj. R-squared	0.083	0.011	0.031
(2) Second reported price	**-0.002*** **	0.025	**0.004*** **
	(0.000)	(0.020)	**(0.001)**
Observations	727	513	513
Adj. R-squared	0.112	0.001	0.025
(3) Third reported price	**-0.002*** **	**0.032***	**0.005*** **
	(0.000)	**(0.016)**	**(0.001)**
Observations	727	513	513
Adj. R-squared	0.133	0.006	0.067
(4) Fourth reported price	**-0.002*** **	**0.035***	**0.006*** **
	(0.000)	**(0.021)**	**(0.001)**
Observations	582	407	407
Adj. R-squared	0.186	0.004	0.094

Standard errors shown in parentheses

***=Significant at 1%; **=Significant at 5%; *=Significant at 10%

Table 3 - ERM Data Summary Statistics

Variable	Mean [s.d.]
Reported home value	203,088.6
	[185,860.5]
Predicted home value	179,169.3
	[76,446.8]
Difference between reported and predicted home values	26,012.8
	[162,625.0]
Absolute difference between reported and predicted home values	43,278.0
	[158,897.6]
% difference between reported and predicted home values	14.157
	[55.866]
% absolute difference between reported and predicted home values	23.950
	[52.413]
Household Income	83,031.5
	[44,064.2]
Log Household Income	11.154
	[0.649]
Age	45.220
	[10.003]
Years of education	15.793
	[2.665]
Cohabitation (dummy)	0.775
	[0.418]
Living with children (dummy)	0.441
	[0.497]
predicted ln(renovations) from 2002 AHS Microdata	5.241
	[1.533]
Median home price in zip code ($ thousands)	132.440
	[43.367]
Median household income in zip code	50,641.3
	[15,098.6]
Dummy: very satisfied with own health	0.158
	[0.365]
BMI: kilo/m2	28.104
	[7.071]
Are you currently on any medical treatment?	0.461
	[0.499]
Positive disposition score	0.998
	[0.662]
optimistic	0.931
	[0.970]

Table 4 - Differences in Reported and Predicted Home Values

All single-family home owner-occupants

	Absolute difference between reported and predicted home values	Difference between reported and predicted home values	% absolute difference between reported and predicted home values	% difference between reported and predicted home values
	(1)	(2)	(3)	(4)
(1) Household Income ($ thousands)	**532.007*** **	**541.763*** **	0.082	**0.138*** **
	(151.305)	**(154.858)**	(0.050)	**(0.053)**
Observations	569	569	569	569
Adj. R-squared	0.020	0.019	0.003	0.010
(2) Log Household Income	**31,320.0*** **	**32,673.3*** **	3.113	**8.605** *
	(10883.450)	**(11134.670)**	(3.612)	**(3.835)**
Observations	569	569	569	569
Adj. R-squared	0.013	0.013	-0.001	0.007
(3) Years of education	**5,004.2***	**5,146.1** *	0.640	1.369
	(2562.419)	**(2622.443)**	(0.848)	(0.902)
Observations	570	570	570	570
Adj. R-squared	0.005	0.005	-0.001	0.002
(4) Age	7611.563	7931.300	**3.393***	3.261
	(5810.163)	(5946.065)	**(1.914)**	(2.042)
Age ^ 2	-82.286	-85.762	**-0.038***	-0.036
	(67.125)	(68.695)	**(0.022)**	(0.024)
Observations	570	570	570	570
Adj. R-squared	0.000	0.000	0.003	0.001
(5) Above sample 75%tile hhd income	**59,604.8*** **	**61,750.7*** **	6.505	**15.566** *
	(21825.020)	**(22325.160)**	(7.244)	**(7.698)**
Above sample 25%tile and below median hhd income	885.403	3221.149	-6.075	0.023
	(21232.140)	(21718.690)	(7.047)	(7.489)
Above sample median and below 75%tile hhd income	7588.137	3704.116	-6.974	-2.351
	(21473.510)	(21965.600)	(7.127)	(7.574)
Observations	569	569	569	569
Adj. R-squared	0.019	0.020	0.006	0.012
(6) Median home price in zip code ($ thousands)	**536.888*** **	**481.499*** **	0.013	0.047
	(156.319)	**(160.363)**	(0.052)	(0.055)
Observations	565	565	565	565
Adj. R-squared	0.019	0.014	-0.002	-0.001
(7) Log median home price in zip code	**58,970.5*** **	**51,730.5** *	-2.907	1.740
	(19964.080)	**(20472.860)**	(6.633)	(7.070)
Observations	565	565	565	565
Adj. R-squared	0.014	0.010	-0.001	-0.002
(8) Log Household Income	3216.371	4135.663	-4.537	1.047
	(24840.280)	(25329.020)	(7.975)	(8.366)
Above sample 75%tile hhd income	**52,924.6***	**53,020.4***	**17.479***	15.718
	(30610.780)	**(31213.060)**	**(9.827)**	(10.309)
Education	3319.248	3714.700	0.761	1.330
	(3589.828)	(3660.460)	(1.152)	(1.209)
Age	7255.613	6580.200	3.809	2.696
	(7868.294)	(8023.106)	(2.526)	(2.650)
Age ^ 2	-83.758	-77.909	-0.045	-0.033
	(91.583)	(93.385)	(0.029)	(0.031)
Predicted ln(renovations)	-97.912	373.028	0.560	0.801
	(5696.087)	(5808.159)	(1.829)	(1.918)
Dummy: optimistic	-7331.997	-6101.864	-2.507	-1.880
	(9062.469)	(9240.776)	(2.909)	(3.052)
Observations	427	427	427	427
Adj. R-squared	0.011	0.011	0.004	0.008

Standard errors shown in parentheses

***=Significant at 1%; **=Significant at 5%; *=Significant at 10%

Table 5 - Health

All single-family home owner-occupants

	Difference between reported and predicted home values (1)	Absolute difference between reported and predicted home values (2)	% difference between reported and predicted home values (3)	% absolute difference between reported and predicted home values (4)
(1) Dummy: very satisfied with own health	**44,939.2****	**45,713.1****	**11.865***	**11.458***
	(18274.250)	**(17847.430)**	**(6.291)**	**(5.901)**
Observations	570	570	570	570
Adj. R-squared	0.009	0.010	0.005	0.005
(2) Dummy: very satisfied with own health	**46,161.5****	**47,083.7****	**12.149***	**12.400****
	(19002.950)	**(18565.620)**	**(6.548)**	**(6.143)**
BMI: kilo/m2	-1203.976	-1232.419	-0.320	-0.200
	(985.770)	(963.084)	(0.340)	(0.319)
Are you currently on any medical treatment?	**25,702.9***	**23,770.4***	7.271	6.004
	(13988.770)	**(13666.840)**	(4.820)	(4.522)
Dummy: optimistic	-9551.988	-8220.483	-3.654	-4.326
	(9870.339)	(9643.185)	(3.401)	(3.191)
Positive disposition score	12951.440	8978.792	5.945	5.199
	(14559.500)	(14224.430)	(5.017)	(4.707)
Observations	568	568	568	568
Adj. R-squared	0.011	0.012	0.005	0.005
(3) Log Household Income	-10953.570	-13261.990	-1.616	-6.587
	(26003.960)	(25481.790)	(8.624)	(8.230)
Above sample 75%tile hhd income	**56,352.3***	**56,199.0***	16.638	**18.405***
	(31134.520)	**(30509.320)**	(10.326)	**(9.854)**
Dummy: very satisfied with own health	**54,444.9****	**54,670.5****	**15.165***	**15.996****
	(24747.450)	**(24250.510)**	**(8.207)**	**(7.833)**
BMI: kilo/m2	-102.238	-100.797	-0.171	-0.173
	(1429.598)	(1400.891)	(0.474)	(0.452)
Education	1775.287	1126.035	1.062	0.477
	(3738.456)	(3663.386)	(1.240)	(1.183)
Age	-15275.390	-19963.250	-6.765	-10.008
	(31940.020)	(31298.650)	(10.593)	(10.109)
Age^2	-19211.580	-18090.030	-7.605	-7.851
	(20540.860)	(20128.390)	(6.812)	(6.501)
Predicted ln(renovations)	1.340	0.872	0.001	0.000
	(1.964)	(1.925)	(0.001)	(0.001)
Observations	422	422	422	422
Adj. R-squared	0.026	0.028	0.015	0.009

Standard errors shown in parentheses

***=Significant at 1%; **=Significant at 5%; *=Significant at 10%

Table 6 - Difference in Reported Home Values and Subsequent Sale Prices

All respondents

	Absolute difference between reported and sale home values ('06 $)	Difference between reported and sale home values ('06 $)	% absolute difference between reported and sale home values ('06 $)	% difference between reported and sale home values ('06 $)
	(3)	(1)	(4)	(2)
(1) Total household income ('06 $)	**0.381*** **	**0.173*** **	-0.016	-0.016
	(0.015)	**(0.018)**	(0.040)	(0.040)
Observations	2,109	2,109	2,105	2,105
Adj. R-squared	0.226	0.041	0.000	0.000
(2) Years of education	**4,561.6*** **	1116.476	-2372.797	-2372.274
	(1072.054)	(1151.550)	(2454.444)	(2454.447)
Observations	2,106	2,106	2,102	2,102
Adj. R-squared	0.008	0.000	0.000	0.000
(3) Age	4200.145	-1995.411	-89.924	-90.431
	(3083.837)	(3298.539)	(7023.321)	(7023.333)
Age^2	-31.159	10.357	6.798	6.800
	(21.967)	(23.497)	(50.028)	(50.029)
Observations	2,109	2,109	2,105	2,105
Adj. R-squared	0.000	0.001	0.000	0.000
(4) Above sample 75%tile household income	**36,437.7*** **	12849.920	-6259.375	-6255.869
	(9890.388)	(10651.740)	(22742.160)	(22742.190)
Above sample median and below 75%tile household income	5001.990	1035.948	265.051	268.034
	(10409.010)	(11210.290)	(23933.300)	(23933.340)
Above sample 25%tile and below median household income	972.335	-3340.154	22351.050	22351.680
	(10663.080)	(11483.920)	(24515.960)	(24516.000)
Observations	2,109	2,109	2,105	2,105
Adj. R-squared	0.014	0.001	0.000	0.000
(5) Log household income ('06 $)	**9,464.4*** **	**7,032.5** **	1767.205	1768.543
	(2610.096)	**(2820.787)**	(6016.076)	(6016.086)
Above sample 75%tile household income	**18,602.0** **	739.269	-9460.777	-9463.607
	(7661.249)	(8279.677)	(17664.260)	(17664.290)
Years of education	**2,072.6***	-307.276	-1472.781	-1472.485
	(1166.478)	(1260.638)	(2693.092)	(2693.096)
Age (in years) at time of interview	**5,248.7***	-1445.998	-151.453	-151.943
	(3061.399)	(3308.520)	(7059.530)	(7059.542)
Age^2 (in years) at time of interview	-33.932	7.934	6.090	6.092
	(21.781)	(23.539)	(50.225)	(50.225)
Observations	2,106	2,106	2,102	2,102
Adj. R-squared	0.024	0.004	-0.001	-0.001
(6) Log household income ('06 $)	**8,748.1*** **	**7,048.1** **	724.101	725.537
	(2630.691)	**(2844.624)**	(6117.953)	(6117.962)
Above sample 75%tile household income	**13,572.3***	414.164	-8446.042	-8447.423
	(7632.982)	(8253.713)	(17757.370)	(17757.400)
Self-reported health = excellent	**29,369.3*** **	13514.680	-8812.676	-8813.314
	(8515.866)	(9208.395)	(19838.240)	(19838.270)
BMI	323.446	717.234	**-4593.129*** **	**-4593.098*** **
	(591.503)	(639.606)	**(1376.253)**	**(1376.255)**
Years of education	1529.439	-487.254	-1903.251	-1902.863
	(1186.929)	(1283.452)	(2764.085)	(2764.089)
Age >= 50	24589.440	-1821.066	-7519.614	-7521.495
	(27153.190)	(29361.350)	(63137.830)	(63137.920)
Renovation cost ('06 $)	0.019	-0.011	-0.013	-0.013
	(0.025)	(0.027)	(0.058)	(0.058)
Observations	2,050	2,050	2,046	2,046
Adj. R-squared	0.026	0.005	0.003	0.003

Standard errors shown in parentheses

***=Significant at 1%; **=Significant at 5%; *=Significant at 10%