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WHAT HAVE THEY BEEN THINKING? HOME BUYER BEHAVIOR IN HOT AND COLD MARKETS

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ABSTRACT

Questionnaire surveys we have undertaken in 1988 and annually 2003–2012 of recent homebuyers in each of four U.S. cities shed light on their expectations and reasons for buying and selling during the recent housing boom and subsequent collapse, and on the reasons for the housing crisis that initiated the current financial malaise. We find that homebuyers were generally well informed, and that their short-run expectations if anything underreacted to the year-to-year change in actual home prices. More of the root causes of the bubble can be seen in their long-term, ten-year, home price expectations, which reached abnormal levels relative to the mortgage rate at the peak of the boom and declined sharply since. The downward turning point around 2005 of the long boom that preceded the crisis was associated with changing public understanding of speculative bubbles.

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I. Introduction

Between the end of World War II and the year 2000, the U.S. housing market contributed much to the strength of the macro economy. It was a major source of jobs, produced consistently rising home equity, and served as perhaps the most significant channel to the real economy for monetary policy.

But starting with a drop in the S&P/Case–Shiller index for Boston in September of 2005 house prices began to fall in city after city. By the time it was over, home prices were down as much as 32% on a national basis, with many cities down by more than 50 percent, wiping nearly $7 trillion in equity off of the household balance sheet. The production of new homes and apartments as measured by housing starts peaked in January of 2006 at 2.27 million annually and began to drop. Starts fell 79% to under 500,000 in just two years. As of July 2012 the figure remained under 800,000, a 50 year low level, for 48 months.

As prices fell, the mortgage industry collapsed and the entire financial system was shaken to its core. Even mortgages and mortgage backed securities that had been well underwritten went into default. Very high levels of default and foreclosure sent Fannie Mae and Freddie Mac into receivership. The failure of Lehman Brothers and Bear Sterns in 2008 sent the payment system to the edge of collapse. The economy went into a severe recession in the 4th Quarter of 2007. A very similar pattern has infected markets around the world including parts of the Eurozone and China.

What do we know and what do we need to know about the forces that led to this huge failure of such a large market? How can such a disaster be prevented in the future? Does it call for new much stricter banking and financial service regulation? Is it the fault of the Congress extolling the virtues of homeownership, pushing Fannie and Freddie to meet unreasonable affordable housing goals?

Certainly the literature on housing bubbles is extensive and it is not our purpose to systematically review it here. What we do know is that what happens in the market depends on the behavior and attitudes of millions of individual participants, foremost among them: buyers.

We believe that one aspect of this episode in the housing market has not received the attention that it deserves: the role of expectations. What were people thinking when they bought a home? At the time of purchase, a buyer of a capital asset is buying a flow of services and benefits that will all come in the future, and the future is always uncertain.

To buy a house an individual (or a household) must make a series of very difficult decisions that will in all likelihood impact their lives forever. In virtually every case, a buyer walks into a closed room and writes a check and signs an offer sheet or a purchase and sale agreement. Anyone who has ever signed an offer sheet, read a building inspector's report, or wondered what would happen if she lost her job, knows that this decision is emotional, personal and difficult. The title of this paper focuses on the process of thinking about the future, calculating subjective costs, risk aversion and preference formation, all difficult topics for economists. It is really about what goes on in the minds of buyers, and we chose to go directly to the source.

The paper will follow the following outline. I. We will begin with a description of the survey, the questionnaire and sample sizes. II. The bulk of the paper will ask and attempt to answer a number of interesting questions that we think will add to our understanding of how the market works:

A. Do respondents know what the trends are in their metropolitan areas at the time of the survey?
B. Do respondents form rational expectations and how are they formed?
C. How did the bubble end?
D. What caused the rebound in 2009-10 and why did it fizzle?

The choice of questions and the methodologies used are, by the nature of the data and the lack of a rigid theoretical frame, simple and somewhat ad hoc. The roughly 5,000 respondents have one thing in common: they bought a house recently. Rather than looking only at actual behavior we chose to ask for perceptions, interpretations and opinions. We are well aware of the potential biases.

II. Our Survey of Homebuyers

To help understand the role of psychology and expectations we decided more than two decades ago to survey a sample of home buyers and ask them specifically about their reasons for buying. We decided on a questionnaire survey of approximately 10 pages and sent it to a random sample of home buyers in four metropolitan areas: Middlesex County, MA (in the Boston-Cambridge-Quincy, MA–NH Metropolitan Statistical Area), Orange County, CA (in the Los Angeles-Long Beach-Santa Ana, CA Metropolitan Statistical Area), Alameda County, CA (in the San

Francisco-Oakland-Fremont, CA Metropolitan Statistical Area), and Milwaukee County, WI (in the Milwaukee-Waukesha-West Allis, WI Metropolitan Statistical Area). These four were chosen to represent two "hot" markets (Los Angeles and San Francisco), a "cold" (post boom) market (Boston), and a relatively stable market (Milwaukee). The questionnaires were sent to 500 homebuyers in each of the four cities each year. A copy of the 2012 questionnaire for Alameda County is included as Appendix 1. Questionnaires are identical across cities and virtually identical across years except for the last few of its questions.

The Case–Shiller home buyer surveys are of people who have actually closed on a house in the spring of the survey year. In a typical year, only about 5 percent of the housing stock transacts. Clearly, those who buy do not represent the universe of homeowners, home seekers or home sellers. Yet these are the people on whom we base our implicit valuation of the entire stock.

During the first year, 1988, the response rate was extraordinary. Of 2,030 surveys mailed in 1988 we ultimately got 886 or 43.6 percent completed and tabulated. In Case and Shiller (1988) we presented the results of that survey and concluded: "While the evidence is circumstantial, and we can only offer conjectures, we see a market largely driven by expectations. People seem to form their expectations from past price movements rather than having any knowledge of fundamentals. This means that housing price booms will persist as home buyers become destabilizing speculators." In addition, we found significant evidence that housing prices were inflexible downward at least in the absence of severe and prolonged economic decline.

In 2003, we decided to replicate the survey in the same cities with the same questionnaire to see if the market conditions and past history had changed the results. The surveys were all sent out during the spring of the respective survey years. We now have completed the process a total of 11 times, and this paper presents a first look at the aggregate results.

In 2003, the response rate was 35.4 percent of 2,000 originally mailed. The high response rate was in part the result of sending the questionnaire with a letter hand signed by both Case and Shiller, sending a post card follow-up to non-respondents, and finally sending a second mailing. When response rates dropped off after 2005, we included a letter signed by a colleague in each state. The response rates remained low in 2007, standing at 15 percent overall. It rebounded somewhat in 2008 to 27.3 percent and then fell back below 20% from 2009 through 2012.

Table 1: Homebuyers Survey Response Rates

	1988	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Surveys Returned	886	705	456	441	271	300	545	370	375	319	328
Response Rate (%)	43.6	35.3	22.8	22.1	13.6	15.0	27.3	18.5	18.8	16.0	16.4

* Total 4,996 returned out of 22,030

III. Questions to Answer

A. Were buyers aware of what was happening to house prices at the time of the survey?

By and large, the answer is yes and you can see the evidence in Table 2 as well as Figures 1–4. Table 2 shows simple correlations between actual price behavior and perceived change. Specifically, we take the actual change in the S&P/Case–Shiller price indices for each location and year and then see what percentage of the respondents in that year's survey said prices were "rising rapidly." We would expect to find that the percentage saying "rising rapidly" to be highly correlated with the year over year price increases for the year of the survey over the previous year.

Similarly if buyers were well informed, you would expect to see a high but negative correlation between the percent who chose "falling rapidly" and the actual price change since the previous year. The simple correlation coefficients are large and all have the right sign. The correlations are strong across all counties indicating that respondents were pretty much on target with their perceptions. The correlations weaken, although slowly at first, when you compare more distant past price changes to current perceptions.

Table 2: Correlation between Perceived and Actual Price Trends

	Alameda	Boston	Milwaukee	Orange	All
Rising Rapidly	0.67	0.86	0.89	0.81	0.76
Falling Rapidly	-0.88	–0.65	–0.80	–0.71	–0.76

On each of the figures we plot the nominal Case–Shiller Index. The colored bars indicate the time of the questionnaire for six of the surveys 1988, 2004, 2006, 2008 and 2011 and 2012. In all of the four cities the responses to the questionnaires reflected a reasonable knowledge of what was happening at the time of the survey. There was not always consensus, but there was an

extraordinary consistency to what we see in the results across time and between cities. These are believable stories.

Consider Figure 1 which shows the results from surveys of buyers done in Orange County. At the time the 1988 survey was done, the *Wall Street Journal* was publishing articles about the "frenzy" in the California market. It was indeed such an article that led us to undertake the survey in the first place. Ninety-one percent of respondents from Orange County when asked to describe the current home price trend in their area said "rising rapidly" while all the rest said "rising slowly." No respondent said "falling" or "falling rapidly." Similarly, in 2004, prices were indeed rising rapidly and respondents knew it. A full 87 percent said prices were rising rapidly in Orange County. Prices doubled between 2000 and 2004. The same pattern is correctly perceived in San Francisco in Figure 2. In both California cities, virtually 100% of respondents thought prices were rising and the vast majority of those thought they were rising rapidly.

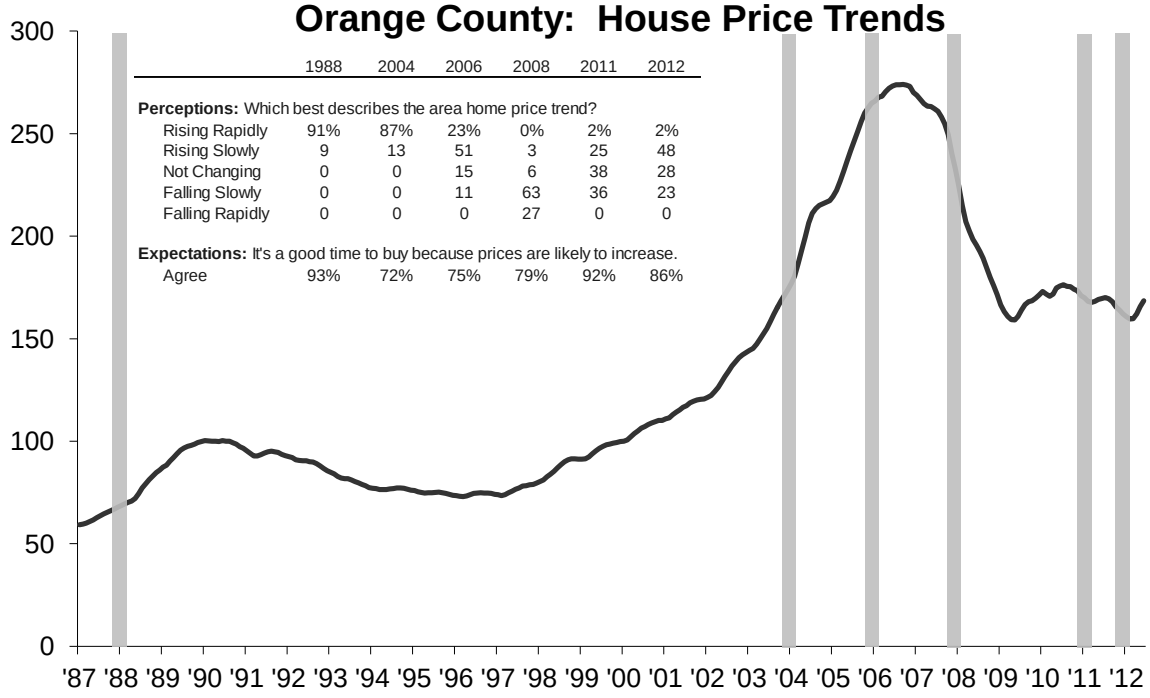
In Boston in 1988, there was a great deal of uncertainty. As one can see in Figure 3 the market was at or approaching a peak. People did not know what to think. A total of 37% of the respondents said price trends were "not changing" while most were split (rising slowly 34% and falling slowly 22%). House prices were sticky, and they were essentially flat, but there was a great deal of debate at the time about the likelihood of a recession and an actual price decline. Home prices in Milwaukee rose more slowly and steadily in the late 1980s and the respondent's perceptions reflect that. Figure 4 shows some ambiguity among respondents about price trends in 1988. As with Boston, few saw price moving rapidly in either direction, but 53% did perceive prices as rising slowly and another 24% said prices were not changing.

The boom ended with home prices in Orange County up about 170 percent above their level in 2000, a nearly tripling of home prices. In San Francisco the increase from 2000 to peak was 118% a bit more than a doubling of prices. Over the same period Boston was up 82% and Milwaukee 67%.

In 2008, Bear Sterns, AIG and Lehman Brothers failed and we found out that the economy had been in recession since the 4th quarter of 2007. Eighty-three percent of all respondents and eighty-eight percent or more of San Francisco, Orange County and Boston respondents in 2008 knew that house prices were falling or falling rapidly. The downturn in home prices was softer in Milwaukee, but still 61% of respondents believed that prices were declining. There was bad

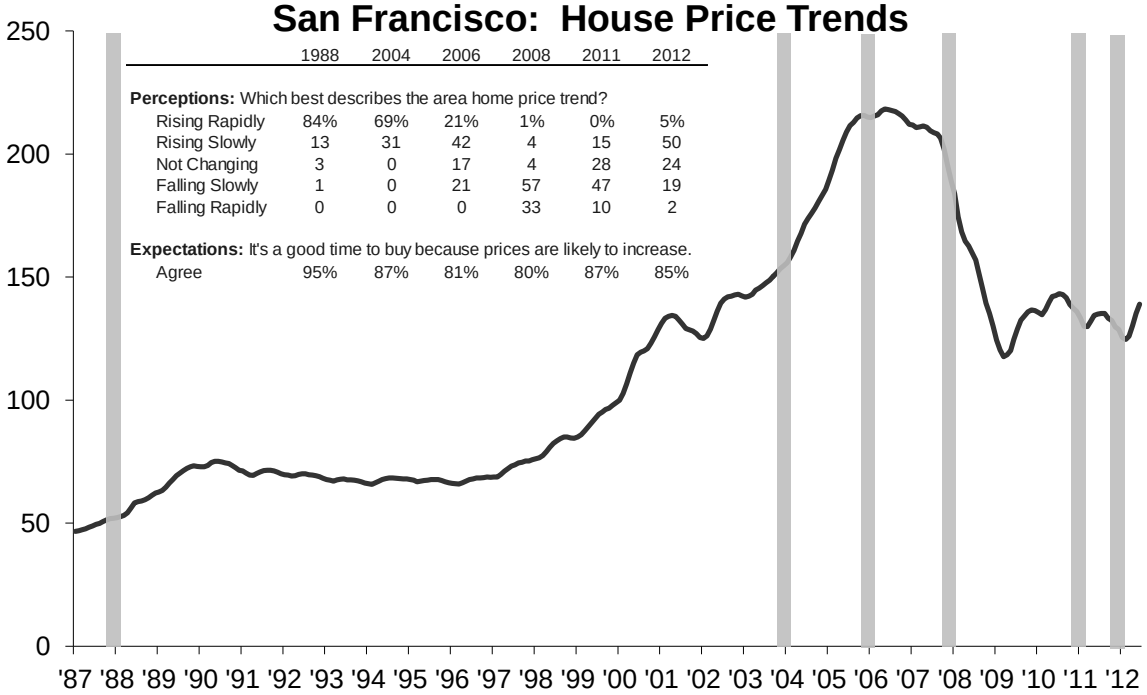
news aplenty. The graphs of virtually all of the actual CS Indexes in 20 cities for the period from 2006 through 2009 show continuous decline.

Figure 1
Orange County: House Price Trends



	1988	2004	2006	2008	2011	2012
Perceptions: Which best describes the area home price trend?						
Rising Rapidly	91%	87%	23%	0%	2%	2%
Rising Slowly	9	13	51	3	25	48
Not Changing	0	0	15	6	38	28
Falling Slowly	0	0	11	63	36	23
Falling Rapidly	0	0	0	27	0	0
Expectations: It's a good time to buy because prices are likely to increase.						
Agree	93%	72%	75%	79%	92%	86%

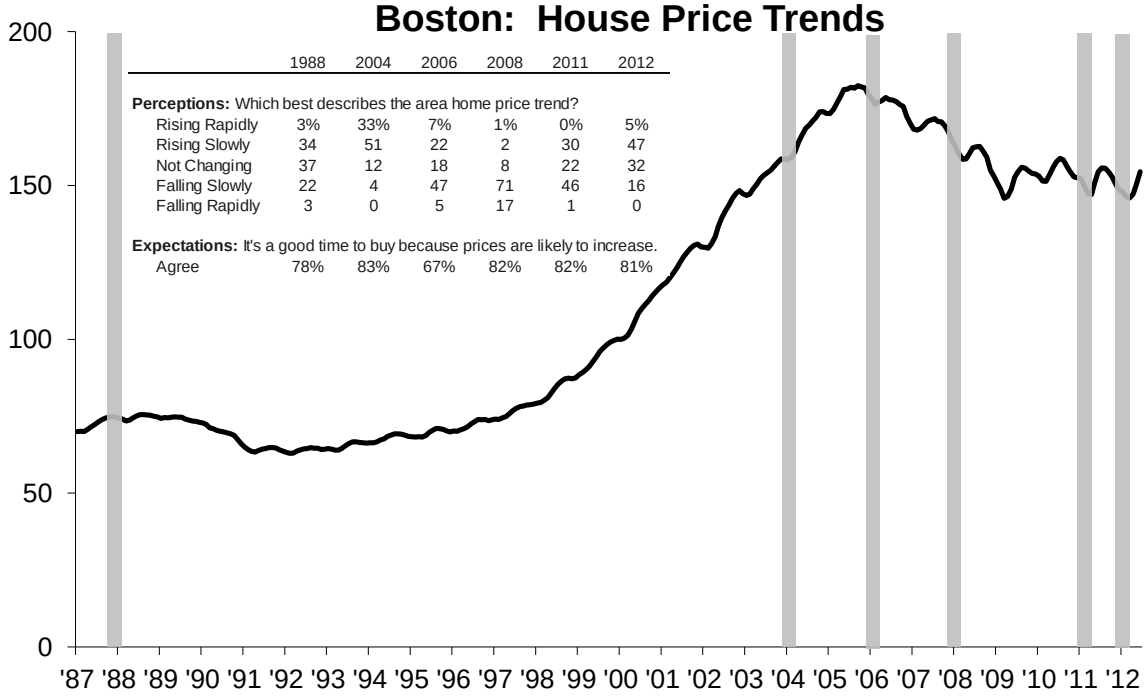
Figure 2
San Francisco: House Price Trends



	1988	2004	2006	2008	2011	2012
Perceptions: Which best describes the area home price trend?						
Rising Rapidly	84%	69%	21%	1%	0%	5%
Rising Slowly	13	31	42	4	15	50
Not Changing	3	0	17	4	28	24
Falling Slowly	1	0	21	57	47	19
Falling Rapidly	0	0	0	33	10	2
Expectations: It's a good time to buy because prices are likely to increase.						
Agree	95%	87%	81%	80%	87%	85%

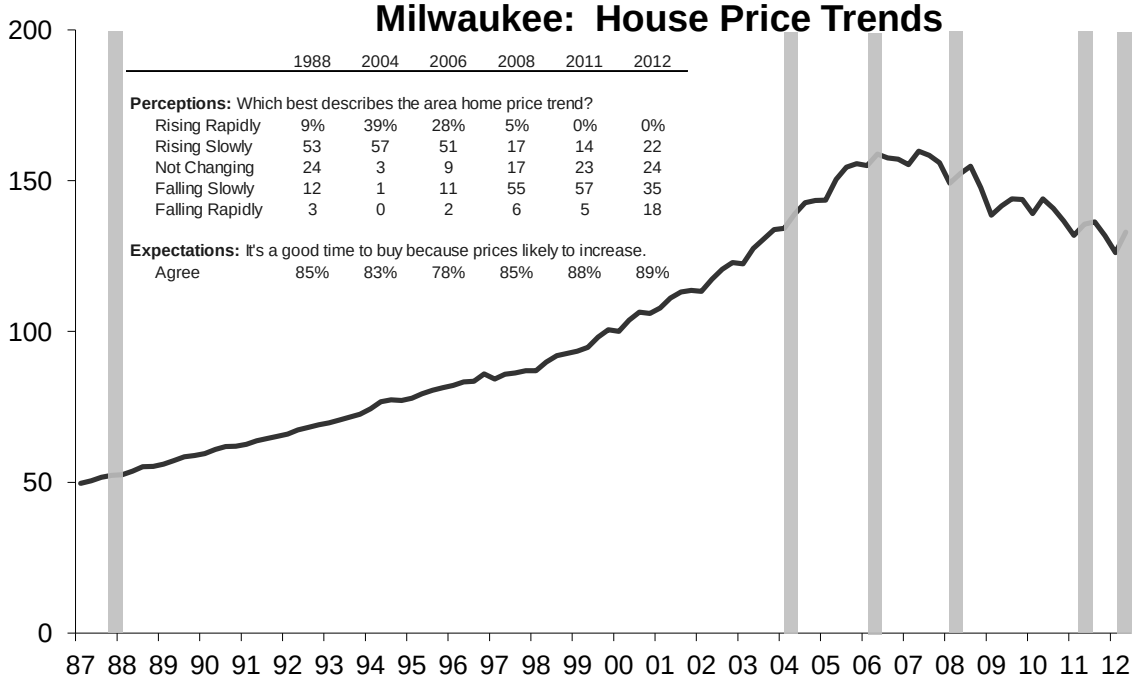
Source: Standard and Poor's Case–Shiller Home Price Index, with our questionnaire survey dates shown by vertical bars.

Figure 3
Boston: House Price Trends



	1988	2004	2006	2008	2011	2012
Perceptions: Which best describes the area home price trend?						
Rising Rapidly	3%	33%	7%	1%	0%	5%
Rising Slowly	34	51	22	2	30	47
Not Changing	37	12	18	8	22	32
Falling Slowly	22	4	47	71	46	16
Falling Rapidly	3	0	5	17	1	0
Expectations: It's a good time to buy because prices are likely to increase.						
Agree	78%	83%	67%	82%	82%	81%

Figure 4
Milwaukee: House Price Trends



	1988	2004	2006	2008	2011	2012
Perceptions: Which best describes the area home price trend?						
Rising Rapidly	9%	39%	28%	5%	0%	0%
Rising Slowly	53	57	51	17	14	22
Not Changing	24	3	9	17	23	24
Falling Slowly	12	1	11	55	57	35
Falling Rapidly	3	0	2	6	5	18
Expectations: It's a good time to buy because prices likely to increase.						
Agree	85%	83%	78%	85%	88%	89%

Source: Standard and Poor's Case–Shiller Home Price Index, with our questionnaire survey dates shown by vertical bars.

But what were respondents saying about the period? Between 2009 and 2010, the percentage of respondents saying that prices were rising more than doubled in all areas save

Milwaukee. For the survey overall 16% believed prices were rising in 2009. By 2010 that number had jumped to 39%, the highest level since 2006.

In 2010 there was a great deal of debate in the press about whether it was a bottom or a "dead cat bounce," a pure result of the $8,000 first time homebuyer credit, which was in effect from the Spring of 2009 to the summer of 2010 and the additional home buyer tax credits available in California. As you can see the perceptions of respondents to the survey of home buyers in 2011 were fairly gloomy. More than 50% of survey respondents thought prices were falling. But while the bulk of buyers thought prices were falling in 2011, the 2012 pattern indicated a bounce with 71% believing that that prices were rising (44%) or not changing (27%). Perceptions in all areas rose to or above where they were in 2010. This was a period where months made a difference, the indexes did not all agree.

We conclude that over the cycle, buyers in boom cities were very much aware of contemporaneous changes in house prices and that they were, if anything, out in front of changes that were occurring. When house prices turn down buyers are cognizant of it. As an aside it is interesting to note that the pattern of responses from San Francisco and Orange County were remarkably similar. In fact they were virtually identical. They showed certainty about direction in 1988, 2004, and 2008 with substantial uncertainty in 2006, 2011, and 2012.

Notice also the answers to the other question on Figures 1 through 4. When asked about whether they agreed with the statement "It is a good time to buy because prices are likely to rise in the future." Virtually everyone said that they agreed. In every single survey at least 67% of respondents agreed and for most the count was over 80%. Buyers are optimists.

B. Have home buyers expectations been rational and how have they been formed?

Many stories of the housing boom in the early years of the 2000s describe it as a bubble driven by irrational expectations. People are alleged to have been excessively optimistic. Our data allow us to refine such notions, as we began to do in our 2003 Brookings paper, and as we can do now even better with the expectations data our survey provides over the full course of the bubble, its peak, and its collapse.

Two questions in our survey help us to assess buyers' rationality. Question 6 of the questionnaire asks that you state how much your house is likely to increase or decrease in value over the next 12-months. Question 7 asks what do you think will happen to the value of your

house each year over the next ten years. Table 3 shows the raw values of trimmed mean calculations for every year from 2003 through 2012. One way to think of them is that they represent the expected value of the average increase in house price over the **next year** — the short run expected annual gain — and the expected value of the average increase in price each year for the **next 10 years** — the long run expected annual gain.

Table 3: Short-Term and Long-Term Expectations

Q6: Expected Increase in Home Value Over the Next 12 months				
	Alameda	**Boston**	**Milwaukee**	**Orange**
Mean - trimmed 10%				
2003	7.6	4.4	5.5	9.4
2004	9.3	7.6	6.4	13.1
2005	9.6	6.3	6.6	8.7
2006	7.4	1.9	5.9	6.0
2007	4.9	2.9	6.1	-0.1
2008	-1.6	-0.7	2.4	-2.6
2009	2.4	2.0	1.5	0.7
2010	4.4	2.2	3.7	3.8
2011	2.3	2.3	1.7	0.3
2012	4.4	2.3	2.3	3.6

Q7: Expected Increase in Home Value in EACH of the Next 10 Years				
	Alameda	**Boston**	**Milwaukee**	**Orange**
Mean - trimmed 10%				
2003	12.3	8.9	7.1	11.5
2004	14.1	10.6	10.4	17.4
2005	11.5	8.3	11.9	15.2
2006	9.4	7.5	9.9	9.5
2007	10.7	5.3	8.1	12.2
2008	7.9	6.4	7.2	9.4
2009	8.5	6.2	8.2	6.9
2010	9.8	5.0	7.3	5.7
2011	7.6	4.1	4.7	7.1
2012	5.4	3.1	3.1	5.0

Source: Authors' surveys

What can be said about the patterns that we observe here? First of all, to some the expectation of price increases in excess of 10 percent per year for 10 years seems absurd. But when you look at what was happening after 2000 one is struck by the data. If you compute the

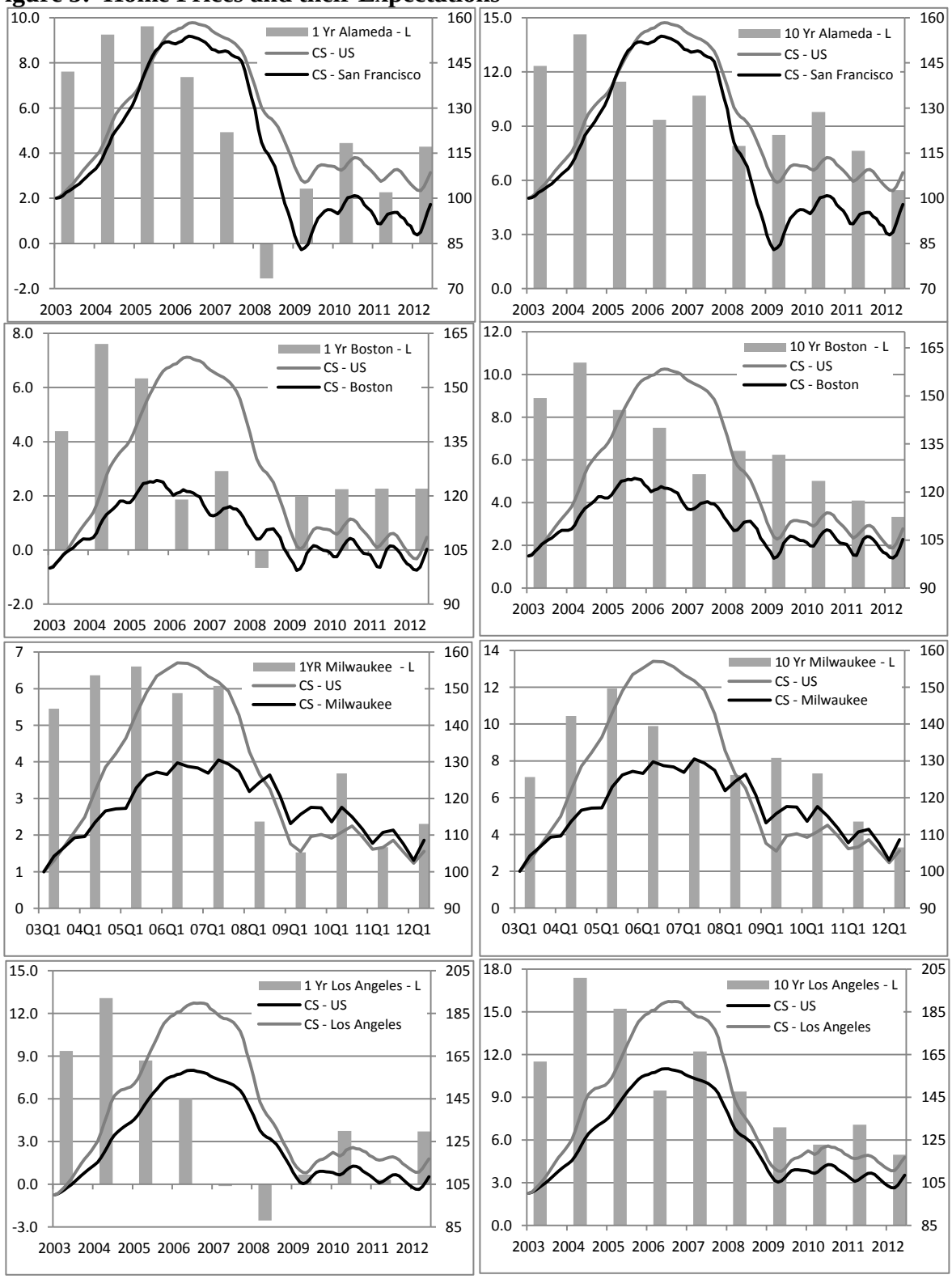
rates of appreciation between 1996 and 2006 just prior to the peak, the data show that the Case–Shiller 10-City composite index appreciated nearly 11% per year for the 10 year period. Indeed more than half of our city specific indexes show 10 years of returns in excess of 10%. This was taking place precisely as the expectations that we are describing in our survey were being formed.

If you look at Figure 5, you can observe the patterns. The graphs show, in the left column, the S&P/ Case–Shiller price indices for each of the four cities, along with the S&P/Case–Shiller ten-city index (the same for all four cities) and the respondents' trimmed-mean expected future 12-month expectation for the same city. Figures 5 also show, in the right column, the same indices, but here with the respondents' trimmed-mean expected future annualized *ten-year* expectation for the same city.

We see that there is a large difference between the one-year and ten-year expectations data. The one-year expectations are much more volatile, and at times have shown negative expected growth over the next year. Ten-year expectations, on the other hand, have a simpler pattern, peaking around 2004 and then gradually, but only slowly, declining. Buyers are also more optimistic about long-term price changes, thus ten-year expectations exceed one-year expectations across all years and counties.

Both kinds of expectations are important. Home sellers will have an incentive to wait another year to sell if one-year expectations are high, while buyers have an incentive to buy now rather than next year. But, in making a general decision whether to buy at all or not, and for judging the overall long-term investment return compared with the mortgage rate, the longer-term expectations are likely to be more important.

Figure 5: Home Prices and their Expectations



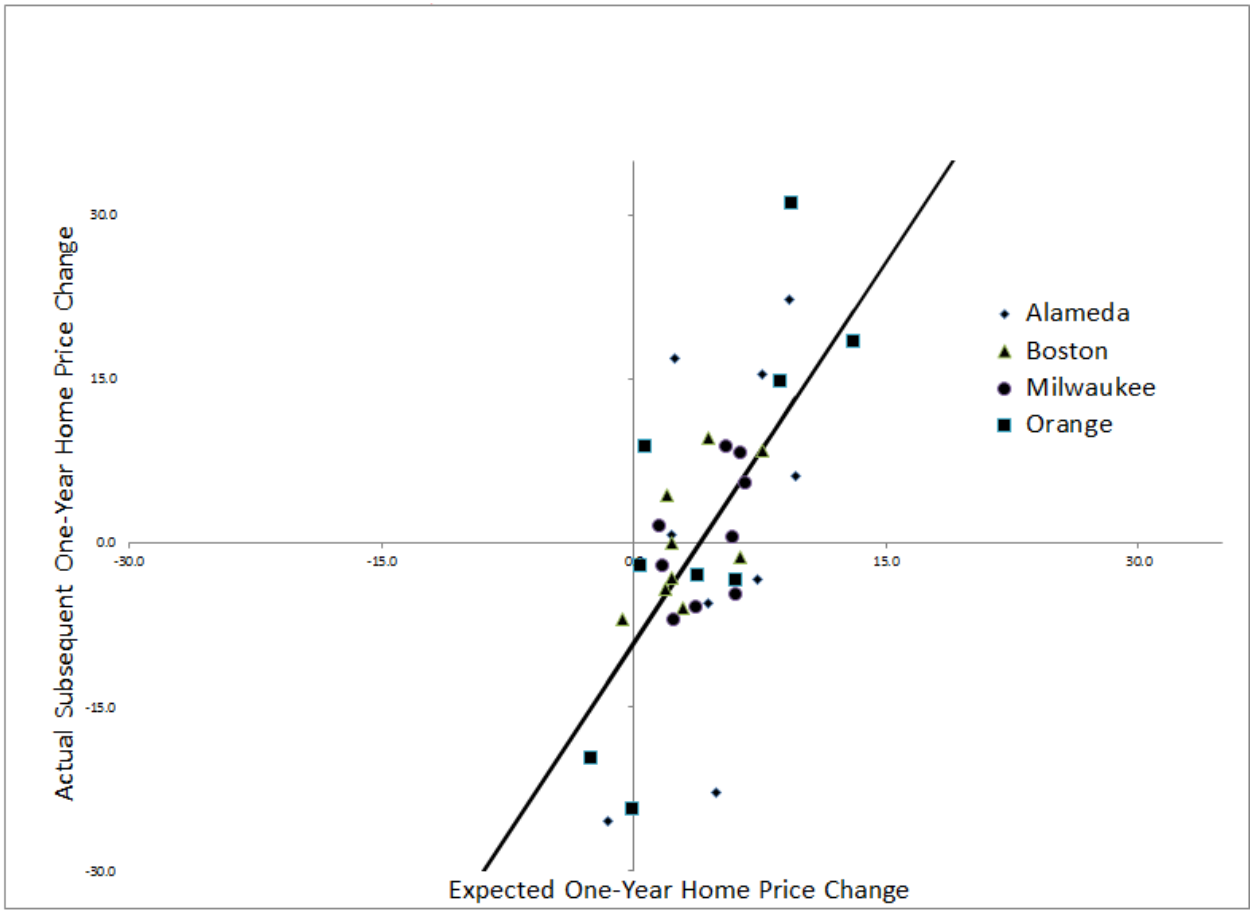
Source: S&P/Case–Shiller Home Price Indices for all but Milwaukee, for which a Fiserv (Case–Shiller) Home Price Index is used, and authors' calculations from survey results.

We can test whether the expectations are rational by regressing the actual future home price change onto the expected change, though with our data we can do this only for the one-year expectations, since we do not have ten-years' subsequent price data to do this with the ten-year expectations. Under traditional rational expectations theory, the constant term should be zero and the slope coefficient equal to a positive one. We find, Table 1a, that for the one-year expectations data in all cities the slope coefficients are significant, and have the right sign, but are always much greater than one. (The constant term is always negative, reflecting a necessary correction for the mean when the slope coefficient is greater than one.) This may be interpreted as implying that homeowners had information that is relevant to the forecast, but that they were not aggressive enough in their forecasts of twelve-month changes. Scatter diagrams of actual and forecasted price changes for the four cities, Figure 3, convey how much individuals underestimated the absolute magnitude of home price movements.

Contrary to what one might expect from popular stories about bubble mentality, the one-year expectations are not *overreacting* to information, but *under-reacting* to information. But, this is not necessarily inconsistent with the presence of a bubble. Certainly, the longer-term expectations, whose rationality is harder to judge, seem likely to have been overreacting to information in the early years of our sample when they were predicting over ten-percent a year appreciation for the next ten years.

The results are not specific to the S&P/Case–Shiller indices, for when we substitute the Federal Housing Finance Agency (FHFA, formerly OFHEO) Home Price Indices (which include appraised values as well as actual sales in the construction of the indices) we get rather similar results, Table 1b.

Figure 6: Scatter of Actual Future Price Change against Expectations



Source: Authors' calculations using the authors' survey data and the S&P/Case–Shiller Home Price Index (Fiserv Case–Shiller Home Price Index for Milwaukee). The scatter shows for individual cities on the horizontal axis the trimmed mean reported expectation of home price change for the following year (question 6), and on the vertical axis the actual future home price change for the year following the survey date. There are 36 observations, nine for each of the four cities, representing the years 2003 to 2011, omitting the 2012 survey since we do not yet have data on the price change through 2013.

Much of this apparent underreaction of expectations to information about future home prices is confined to certain cities and episodes. Note that in the tamer cities Milwaukee and Boston, the coefficients in Table 4a (using the S&P/Case–Shiller data) are 1.50 or less and not significantly different from 1.00, and while the coefficients are slightly higher in Table 4b (using the FHFA data), they still are not significantly different from one. Moreover, if we delete observations with actual price changes above +10% and below –7%, reducing the number of observations from 36 to 26, the slope coefficient for all four cities together falls to 0.71, with a standard error of .41, significantly *less* than one. Note that all ten of the removed observations are located in the more volatile California counties.

We can also test rational expectations further by adding to the Table 1a regression other information variables, available to home buyers when the expectation was made, and expecting to see that these other variables should have a coefficient of zero if the expectations are rational. These regressions are reported in Table 5. We try two other information variables: the actual lagged 12-month price change in the same city and the actual lagged 12-month price change for the U.S., as measured by the S&P/Case–Shiller 10-City Home Price Index. Both of these variables' coefficients do come out insignificant.

Table 4a: Regressions Testing Hypothesis of Rational Expectations of Future 12-Month Home Price Change 2003–2011

	Regression				
Independent Variable	**Alameda (San Fran)**	**Boston**	**Milwaukee**	**Orange**	**All Cities**
Constant	–12.79	–4.75	–5.67	–9.48	–9.13
	(8.84)	(2.85)	(4.52)	(5.16)	(2.52)
Trimmed-Mean Own-City	2.57	1.50	1.43	2.71	2.34
Expected 12-Month Change (Q6)	(1.42)	(0.71)	(0.94)	(0.78)	(0.46)
Nobs	9	9	9	9	36
R Squared	0.32	0.39	.025	0.63	0.43

Source: Authors' regressions using S&P/Case–Shiller Home Price Index 2003–2012 and data from our surveys 2003–11. The dependent variable is the percentage home price change in the city from the second quarter of the year to the second quarter of the following (future) year. Standard errors are shown in parentheses.

Table 4b: Same as Table 1a Except Using FHFA Home Price Data

	Regression				
Independent Variable	**Alameda (San Fran)**	**Boston**	**Milwaukee**	**Orange**	**All Cities**
Constant	–8.60	–4.82	–6.96	–8.75	–8.11
	(4.12)	(2.50)	(3.45)	(2.88)	(1.48)
Trimmed-Mean Own-City	2.03	1.73	1.86	2.81	2.32
Expected 12-Month Change (Q6)	(0.66)	(0.62)	(0.72)	(0.44)	(0.27)
Nobs	9	9	9	9	36
R Squared	0.57	0.52	0.49	0.86	0.69

Source: Authors' regressions using S&P/Case–Shiller Home Price Index 2003–2012 and data from our surveys 2003–11. The dependent variable is the percentage home price change in the city from the second quarter of the year to the second quarter of the following (future) year. Standard errors are shown in parentheses.

Table 5: Regressions Testing Hypothesis of Rational Expectations of Future 12-Month Home Price Change 2003–2011 with Additional Information Variables

Independent Variables	All Cities
Constant	–12.91
	3.82
Trimmed-Mean Own-City	3.28
Expected 12-Month Change (Q6)	0.93
Lagged Actual Own-City 12-Month	–0.25
Home Price Change (%)	0.29
Lagged Actual U.S. (10-City)	–0.03
12-Month Home Price Change	0.26
Nobs	36
R squared	0.48

Source: Authors' regressions using S&P/Case–Shiller Home Price Index 2003–2012 and data from our surveys 2003–11. The dependent variable is the percentage home price change in the city from the second quarter of the year to the second quarter of the following (future) year. The first independent variable is the expected future 12-month price change from our surveys, the second is past annual price change from the same city, and the third is the past annual U.S. national home price change (S&P/Case–Shiller 10-City Index). Standard errors are in parentheses.

Table 6: Regression of 12-Month Expectation on Lagged 12-Month Price Change 2003–2012

	Regression				
Independent Variable	Alameda (San Fran)	Boston	Milwaukee	Orange	All Cities
Constant	4.87	2.79	3.76	3.25	3.72
	(0.64)	(0.49)	(0.30)	(0.61)	(0.28)
Lagged Actual Own-City 12-Month Home Price Change (%)	0.18	0.29	0.30	0.26	0.23
	(0.04)	(0.07)	(0.05)	(0.04)	(0.02)
Nobs	10	10	10	10	40
R Squared	0.70	0.64	0.82	0.87	0.73

Source: Authors' regressions using S&P/Case–Shiller Home Price Index 2002–2011and data from our surveys 2003–12. The dependent variable is expected 12-month price change. Standard errors are in parentheses.

The coefficients havthe opposite of the positive sign we might have expected, but are insignificant. This confirms the rational expectations for the 12-month forecasts. Respondents do appear to incorporate this other information in making the 12-month forecasts.

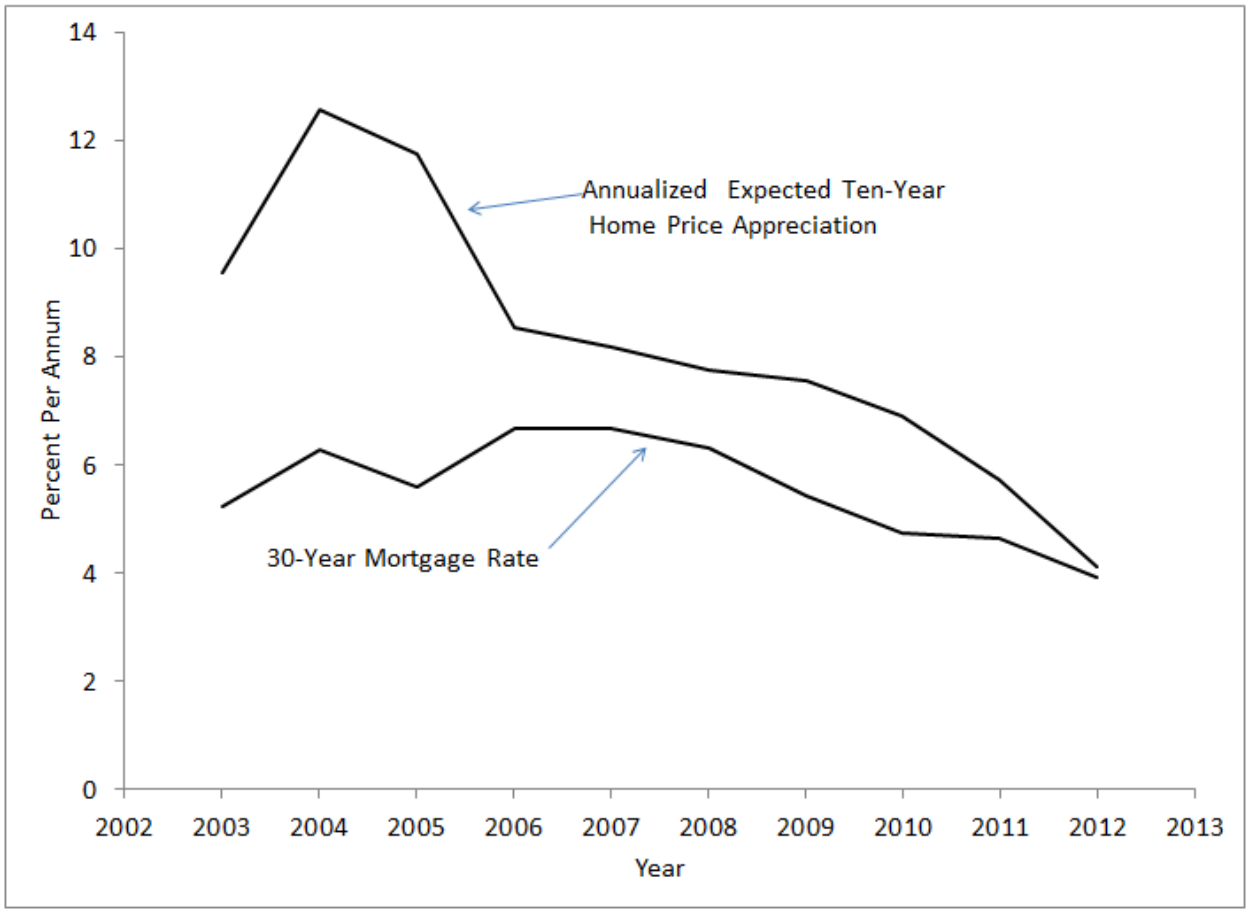
In Table 6 we reverse the sides of the regression and reverse the time lag, and regress the 12-month expectation on the lagged actual 12-month price change, to see if there is a simple structure to expectations. The R squared in the regression is substantial, ranging between 0.64 and 0.87. Of course, the slope coefficient is far less than one, for, as we have noted, expectations are much less volatile than actual price changes.

Thus, the 12-month expectations are fairly well described as attenuated versions of lagged actual 12-month price changes, and yet we know from Table 2 that they also contain significant additional information about future price changes beyond what is contained in the lagged actual price change.

This conclusion does not mean, however, that we should deduce that any story of feedback in determining price should be modeled in rational terms. The long-term expectation also matters importantly for demand for housing, and the long-term expectation is important to the way that people judge whether to buy a home.

It is, as was suggested by Keynes in his 1936 *General Theory of Employment Interest and Money*, the long-term expectations that may be the real driver of the speculative boom, and the long-term expectations are not normally the focal point of economic forecasters. It is the general expectation for the vague and distant future that helps explain why people behaved as if they thought that home price can never fall: perhaps they thought so only about the long run, as our 10-year expectations data seem to confirm.

Figure 7: Ten-Year Home Price Expectations and Thirty-Year Mortgage Rate



Source: Ten-year expectation is trimmed mean responses to question 7 in authors' questionnaire, mortgage rate from Board of Governors of the Federal Reserve.

The plot shows the annualized ten-year expectation for home price appreciation from our survey, along with the 30-year mortgage rate. These two are roughly matched in term since the average actual duration of a mortgage in the United States, before a move or a refinancing or the like, is about seven and a half years, not the contractual 30 years. As one sees from the figure, these expectations, if they could have been trusted, would imply enormous profit opportunities in buying a home around 2004, a profit opportunity that helps us understand the bubble enthusiasm then. If one leveraged one's investment ten to one (by taking out a standard conventional mortgage) one would multiply a 6% return spread by 10 (though of course one would have to take account of other expenses).

After 2004, however, long-term expectations fell faster than mortgage rates, so this expected profit opportunity gradually narrowed. The effect of all the monetary stimulus: lower interest rates, the Federal conservatorship of Fannie Mae and Freddie Mac, the Public-Private

Investment Program, quantitative easing and operation twist, did not succeed in lowering mortgage interest rates by anything like the decline in expectations.

As of 2012, long-term expectations are practically equal to the mortgage rate, suggesting that there is now no perceived long-term profit opportunity in investing in homes. Since home buyers are likely an upward-biased sample of the population, in terms of their expectations, the perceived investment opportunity may be even lower for the general population. A survey of professional forecasters run by Pulsenomics LLC suggests that the professionals may have lower long-term expectations for home prices. The average annual U.S. home price appreciation expectation for 2012–16 in their June 2012 survey was only 1.95% a year, about half the ten-year expectation of the homebuyers in our 2012 survey.

Why were expectations for price increase so high relative to interest rates around 2004? Some simple stories come to mind, that cannot be proven or disproven with any data that we know of. One is that expectations of long-term home price increases were formed over many decades, over times when home prices pretty consistently increased. Money illusion may play a role: people may forget to consider that with lower overall inflation now home price increases ought to be smaller than in the past.

Notably, the peak in expectations occurs two years before price began to fall, three years before the beginnings of the subprime crisis and four years before the most intense crisis, in 2008, with the simultaneous failures of Lehman Brothers, Merrill Lynch and AIG. The decline in expectations is fairly steadily downward after 2004 –a period of eight years of declining long-term expectations, as if the crisis had nothing to do with expectations. Perhaps that should not be altogether surprising, for the crisis was presented to the public as just that: something short-term, associated with an economic recession, and so perhaps it was not so much the crisis itself as the surprising duration of the crisis that gradually contributed to bring expectations further down.

Of particular interest in understanding turning points in expectations are the answers to a pair of open-ended questions:

16. Was there any event or events in the last two years that you think changed the trend in home prices?

17. What do you think explains recent changes in housing prices in [fill in local city name]? What, ultimately is behind what is going on?

These questions are of particular interest because they help us understand turning points in expectations: they are questions about changing thinking.

Most respondents wrote in an answer to these questions: only a few left them blank. The questionnaires left space for writing twenty or so words, and many filled the space. Only a few wrote one-word answers.

C. How did the bubble end?

There is one major turning point in our sample period, a sudden historic end of the housing bubble. Although we have only one observation of this turning point, understanding it is central to our objectives.

Comparing the responses to questions 16 and 17 between the years 2004 and 2006 seems likely to be fruitful for understanding turning points, for long-term expectations dropped a full four percentage points over that interval, roughly half of the total drop in expectations since the peak in expectations, and over a relatively short interval of time. The answers cannot be clouded by any references to the financial crisis, which was still entirely in the future.

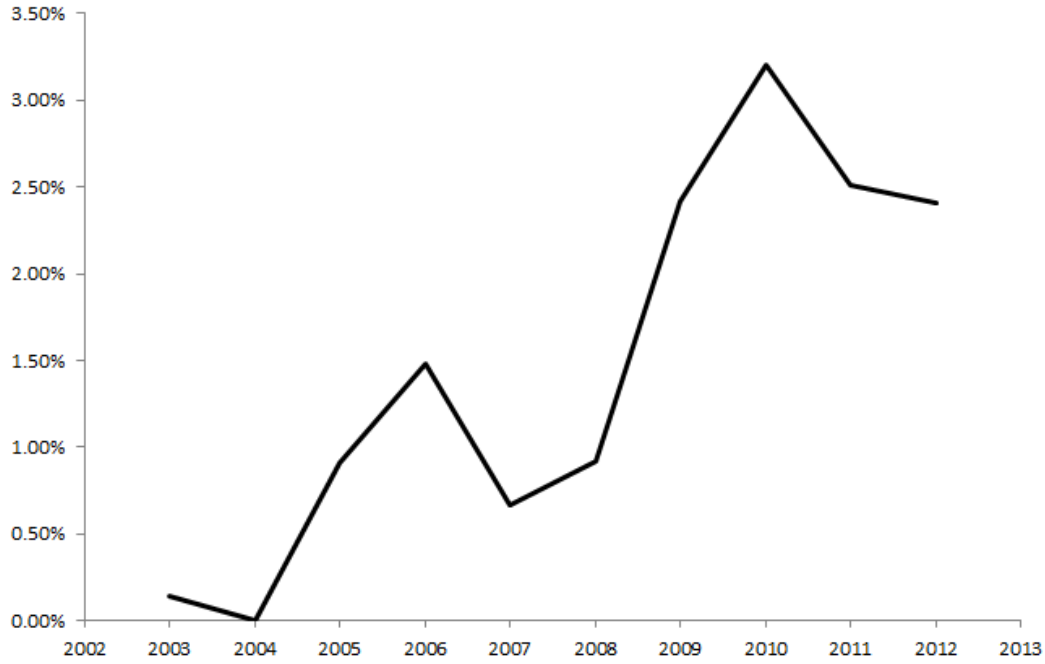
Between these two years, there was a striking change in the tenor of the answers. The common themes in 2004 were strongly emphasizing a "shortage of houses," a large number of "immigrants," "scarcity of land," "lack of building space," "too many people," "the desire to have it all," that the city "is expensive and always will be." Only occasionally did they mention in 2004 that affordability might be an issue. By 2006, the optimistic themes of 2004 were still in evidence, but less prevalent. The most common theme in 2006 was "rising interest rates." Also common were the words "high prices" and "no equivalent increase in wages," "overvalued homes" and "Numerous newspaper & media articles speculating on/or reporting on slowing sales" and "Astronomical price spikes of previous 2 years simply cannot be sustained."

In 2004, 14% of respondents volunteered the word "supply" in answering these two questions, almost always with a suggestion of short supply, limited supply, no supply or demand exceeding supply. In 2006, only 5% of respondents used this word.

The phrase "housing bubble" did not appear in a single handwritten response in 2004, though one respondent used the term in 2003. By 2006, the word was volunteered by a few respondents. As time went after the crisis, the percent rose, until by 2010, over three percent of the respondents used the term.

As of 2004, there were professional economists who were responding to the claims of some that the housing market was in a bubble. Our own 2003 paper in this journal strongly suggested that housing was in a bubble, but others took a different view.

Figure 8: Percent of Home Buyers Volunteering Phrase "Housing Bubble"



Source: Authors' survey.

The questionnaire itself did not use the word bubble, except at the end of the 2010 questionnaire, the last question (among the special questions that we stick on at the end of the questionnaire, without changing the questions above it in the questionnaire):

38. Do you think the home price boom and bust in first decade of the 2000s was basically a speculative bubble and burst (prices driven up by greed and excessive speculation and then inevitably collapsing down)?
    1. Yes 2. No

In 2010, 85.0% of respondents answered yes to this question. It is too bad that we did not think to ask this question until 2010. We probably did not in 2003 or 2004 because we couldn't imagine that many people would even recognize the term "speculative bubble" in this context.

This result could have many interpretations: their choosing this interpretation certainly kept some confusion alive about the theory that a bubble was going on. Their theory could not explain the rising price to rent ratios that we had documented, for the increased quality should

increase rent too. Clearly, though, the arguments that homeowners would have to sift through to understand these issues are beyond most of them.

Thus, there was a clear change in public perceptions in the two years between 2004 and 2006. Ideas (speculative bubbles, overpriced homes) that were "in the air" in 2004 actually weren't much talked about then, and their frequency increased dramatically.

Why was there such a dramatic increase in these notions? There seems to have been, between 2004 and 2006, an emergence of an idea, in media accounts, that there are such things as bubbles and that the bubble might be expected to burst. Over this two year period, there were a number of analyses of bubble arguments, at such a level that few homeowners could grasp the issues. They must have viewed the news accounts of these debates as a sporting event, whose outcome is very uncertain.

In December 2004 Joseph McCarthy and Richard Peach wrote an article in the FRBNY Economic Policy Review "Are Home Prices the Next Bubble?" in which they answered their title question in the negative. They tried to argue in fact that home prices may not have even increased, if one adjusts for quality change. They argued that a repeat-sales index, like the OFHEO index (or the Case–Shiller index) may not effectively control for quality if their homeowners improve their homes between sales. The only evidence that they offered for this theory is that the overall increase in the OFHEO index in recent years was approximately the same as that of an ordinary median price (which does not attempt to hold quality constant).

In February 2005 David Lereah published his book *Are You Missing the Real Estate Boom? The Boom Will Not Bust and Why Property Values will continue to Climb Through the End of the Decade — And How to Profit From Them.* The book recognizes the talk that was forming about real estate bubbles, but strongly rejected it. He argued that lower interest rates meant that housing was much more affordable than it was in the previous couple decades, and that the baby boom was still going strong for years to come. He was right about these points, though it was still a leap of judgment to conclude, as he did, that the current market offered a "once-in-every-other generation opportunity" for investors.

In March 2005 one of us, Shiller, published the second edition of his book *Irrational Exuberance* which included a new data set on real home prices since 1890. No such long data set of U.S. home prices had ever been published before, and the chart revealed that by historical standards the real estate boom was highly abnormal, "like a rocket taking off." The chart was reprinted in a number of places, including the *New York Times*.

On June 16, 2005, *The Economist* published a cover story entitled "After the Fall," illustrated on the cover by a painting of a falling brick inscribed with the words "house prices." In that story it said:

> PERHAPS the best evidence that America's house prices have reached dangerous levels is the fact that house-buying mania has been plastered on the front of virtually every American newspaper and magazine over the past month. Such bubble-talk hardly comes as a surprise to our readers. We have been warning for some time that the price of housing was rising at an alarming rate all around the globe, including in America. Now that others have noticed as well, the day of reckoning is closer at hand. It is not going to be pretty. How the current housing boom ends could decide the course of the entire world economy over the next few years.

Indeed, it does appear that the news media had flocked to the notion that the housing boom was really a bubble. *Time Magazine* published a cover story "Why We're Going Gaga over Real Estate" with a painting of a man lovingly hugging a house on June 13. *Barron's* ran a cover story by Jonathan Laing entitled "The Bubble's New Home" on June 20.

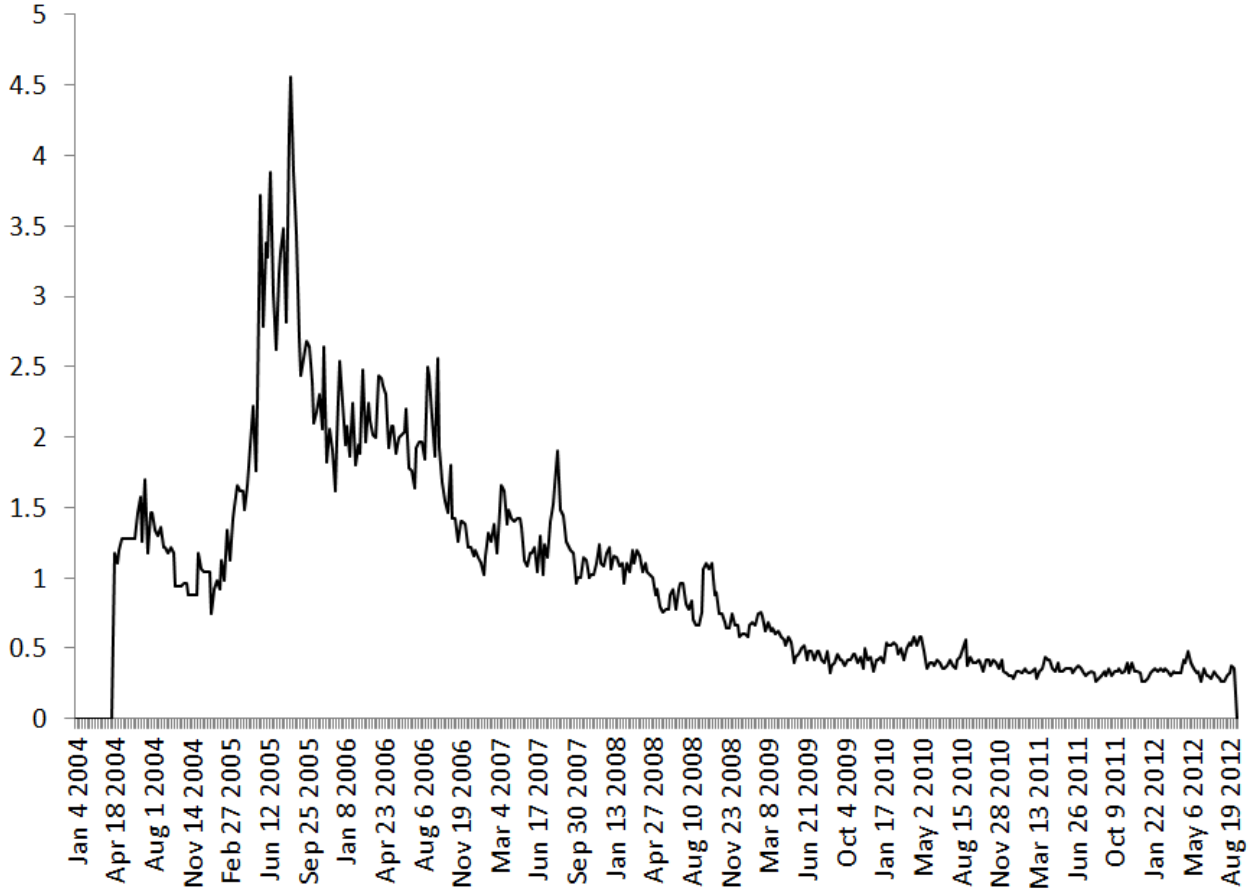
And why did this media event happen so suddenly? It must have something to do with the behavior of news media, who are always looking to resonant stories, stories that readers will want to follow, and hence they follow each other in discovering such stories. Somehow the bubble story became such a story around that time, and it ushered in a turning point in public thinking.

That people were changing their thinking about housing bubbles in mid-2005 can also be measured by a Google Trends count of web searches for the term "housing bubble." As can be seen from Figure 9, there was in 2005 a sudden dramatic burst in web searches for this term, peaking in August.

Even many months after public opinion had begun to turn so decisively towards a view that the recent boom in home prices was a bubble, some economists continued to argue that all price increases were justified by fundamentals and that there was no bubble. Margaret Hwang Smith and Gary Smith presented a paper at the Brookings Panel on Economic Activity in March 2006 that argued, among other things, that the downtrend in nominal interest rates since 2000 fully justified the increase in home prices. One of us argued, in the discussion then of their paper, that there are many different ways to ask whether speculative price changes are "justified," and that the issues in financial theory are sufficiently complex that it is hard to be definitive, and yet that

there are reasons to suspect that the price changes we actually see are related to public swings in opinions rather than fundamentals (Shiller 2006)

Figure 9: Google Trends Count of Web Searches for "Housing Bubble" January 4, 2004 to September 9, 2012



Source: http://www.google.com/trends/?q=housing+bubble

The Smith and Smith paper is, to our knowledge, the last major paper to argue that there never was a bubble. By 2006 a substantial segment of the population had concluded that it was a bubble, and professional economists as apologists largely disappeared.

D. What caused the rebound in 2009–10 and why did it fizzle?

The rebound in home prices from 2009 to 2010 is quite striking. In some cities it was strong: San Francisco home prices rose almost twenty percent in one year. But this rebound did not last, and home prices resumed their falling in 2011. Note that expectations for long-term home price

increases did not increase between 2009 and 2010. So, what might have explained the temporary uptick in home prices?

In perusing the answers given to questions 16 and 17 in 2010, it is at first striking that very few of the respondents even mention the "usual suspects" that economists would consider. In all of the over 4000 questionnaires, in all time periods, there is never a mention of Home Affordable Modification Program (HAMP, created by the Emergency Economic Stabilization Act of 2008 and amended by the American Recovery and Reinvestment Act of 2009), the Home Affordable Refinancing Program (HARP) or the Homeowners Affordability and Stability Plan (HASP announced by President Obama in February 2009, using funds from the Housing and Economic Recovery Act of 2008 (HERA)). Nor did anyone mention Fannie Mae's refinance program Refi Plus or DURP (for DU Refi Plus). All this alphabet soup of relatively ineffective programs to help homeowners appear to be totally missed by our respondents, though there may have been vague, hard-to-interpret, references to them or their effects.

The home buyer tax credit, created by the American Recovery and Reinvestment Act, in the second month of President Obama's tenure, in February 2009, was much more salient, perhaps because it was in the form of substantial outright gift to certain eligible parties, initially first-time home buyers for whom the credit was $8000, later including other home buyers, for whom the credit was $6,500, and had an expiration date, originally November 30, 2009, later extended to April 30 2010 (closing by June 30) when non-first-time buyers were also allowed.[1] The total cost of the program was estimated to be $22 billion.[2]

The tax credits came at the beginning of a new presidency, when other stimulus programs were announced, which may have amplified the sense of hope that they offered. A search through our questionnaires (filled out around the middle of the year) for the words "tax credit" produced 3 hits in 2009, 37 hits in 2010, 10 hits in 2011, and 2 hits in 2012. In 2010, all but one of the 37 hits came from first-time homebuyers. The questionnaire for 2010 differed from all

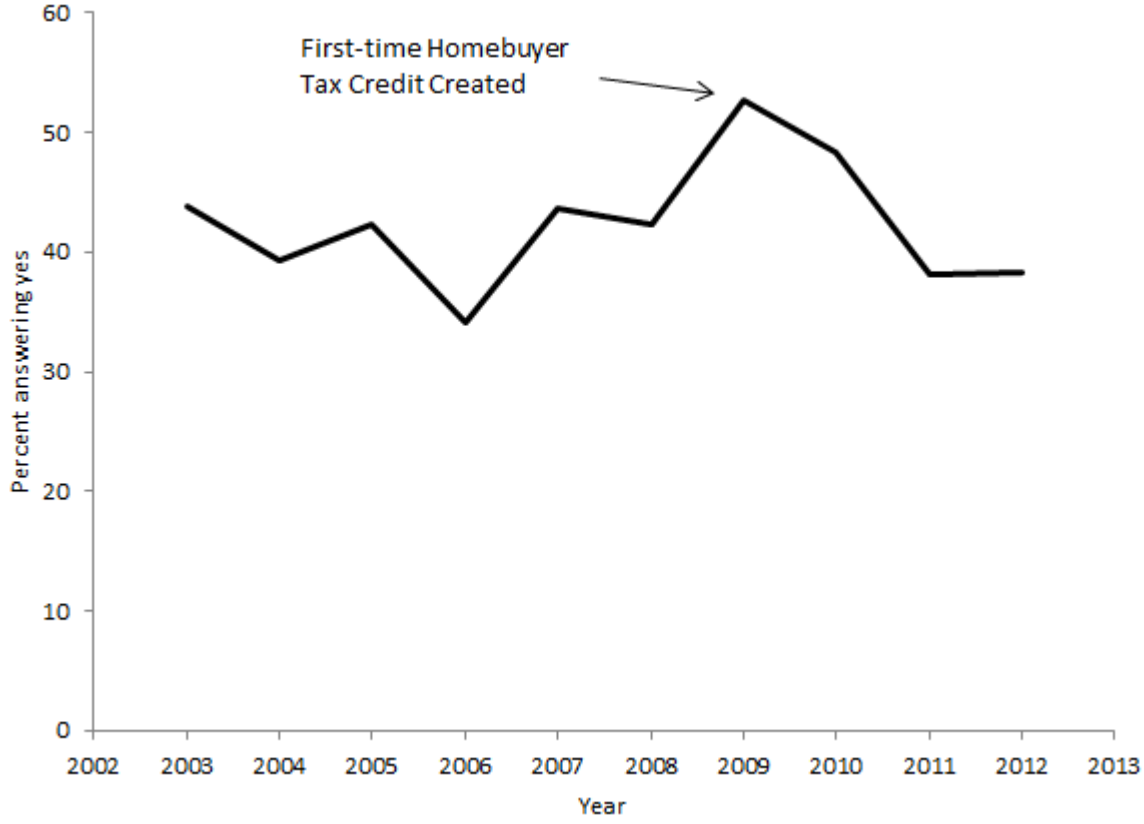
[1] There was also a $7,500 tax credit with the Housing and Economic Recovery Act of 2008, but that credit had to be repaid, and so was really a loan rather than a subsidy.

[2] U.S. General Accountability Office 2010. http://www.gao.gov/new.items/d101025r.pdf. Since two of our four cities are in California, it is worth noting that California had its own $10,000 home buyer tax credits. The first was in effect from Mar 1, 2009 and February 28, 2010. It was not limited to first-time buyers but was limited to newly built homes. The second California credit went to home buyers between May 1, 2010 and December 31, 2010. It allocated $100 million to first-time home buyers and an additional $100 million to purchasers of new homes. Both were distributed on a first come first-served basis. In per capita terms, the California program is less than a tenth the size of the federal program.

other years' questionnaires in that it asked (question 22b, well after questions 16 and 17) "Are you getting the home buyer tax credit for this home purchase?" and so may have reminded respondents, those who did not answer all questions in order, of this fact.

A remarkably high fraction of respondents answered in 2010 that they would get a home buyer tax credit: 80% of our respondents in Orange County, 65% in Boston and Milwaukee, and 64% in Alameda County. (The fraction of our respondents who are first time is shown in figure 10: those who were first-time homebuyers was 48% in 2010, compared with 53% in 2009, 42% in 2008, and 34% in 2006. Note that by 2010 one did not need to be a first-time homebuyer to receive the tax credit.)

Figure 10: "Are you a first-time home buyer?



Source: Authors' survey.

These results suggest that the homebuyer tax credit was an important factor in the temporary turnaround in the housing market: not only were home buyers aware of it, they also bought hurriedly, and with its support, thereby setting the stage for a decline in home prices in 2011, possibly unrelated to expectations of future price increases.

A couple of theories come to mind to explain why homebuyers suddenly came into the market then, bought hurriedly then. One theory is that they were convinced by the decisive government action in the tax credit and thought then that home prices would quickly go up. But, this theory is belied by our expectations data, seen in Figure 2. Short-term expectations generally improved between 2008 and 2009 or 2010, but not by much, so these expectations remain low by historical standards. Long-term does not change much between 2008 and 2009 or 2010.

Another theory of the effects of the tax credit relies on the psychological theory of regret. The homebuyer tax credit was a reason for home buyers to act here and now to buy a house. Missing the homebuyer tax credit, and perhaps buying soon after it expired, would generate a pang of regret. Regret theory, advanced by Loomis and Sugden (1982), argues that people are especially motivated to avoid the feeling of regret for having missed an opportunity or made a mistake, and that the regret itself looms large in their mind, sometimes out of proportion to the actual loss [Loomis, Graham, and Robert Sugden (1982) "Regret Theory: An Alternative Theory of Rational Choice Under Uncertainty," *Economic Journal*, 92:805-24, December."]

To the extent that regret theory explains the market impact of the homebuyers tax credit on home prices, we have a theory that might help explain why the 2009–2010 rally fizzled. These dates do not mark a substantial upward turning point as did 2004–2006 because there was no fundamental change in expectations.

IV. Conclusion

The rise and fall of the housing market during the past decade has been one of the most important events in modern economic history. This paper focuses on a factor that has received little formal analysis: The role of expectations. The paper is an attempt to draw some conclusions out of a set of nearly 5,000 completed mail surveys collected over the past 25 years from actual home buyers in 4 cities. The descriptions of the data and the questions that we ask may seem somewhat ad hoc and arbitrary, but no theoretical frame exists to guide us.

We can say a few things in conclusion. First, the data suggest that home buyers were very much aware of trends in house prices at the time they make a purchase. There is a strong correlation between the descriptions that the respondents give to their perceptions of price trends and actual movements in prices. The data also show that the opinions of buyers vary over time.

When trends are strong, there is little disagreement among respondents. Where there is ambiguity, respondents naturally seem to have a much less clear picture of trends.

The data also show that buyers were, if anything, out in front of short-term changes that were occurring and that homebuyers short-run expectations under-reacted to the year-to-year changes in actual home prices. We cannot test the rationality of long-term expectations as we can with short-term expectations, and yet, since most home buyers own their homes for many years, these are arguably the more important determinants of housing demand. It is from these nebulous and relatively slow-moving expectations that the bubble took much of its impetus, and that future home price movements will as well.

Long-term expectations have been consistently more optimistic than short-term expectations across both time and location, but the magnitude of the differences fell from a high of 8.3% in 2008 to just 0.8% in 2012.

Perceptions of where prices are headed turned more positive and expected short term appreciation in home prices improved in 2012. But, at the same time, long-term expectations continue weaken. Thus, while a recovery may be plausible, and home prices have been rising fairly strongly in recent months, we do not see any unambiguous indication in our expectations data of sharp upward turning point in demand for housing that some observers, and media accounts, have suggested.

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Appendix: The 2012 Questionnaire for Alameda County

Bay Area (Alameda County) Questionnaire 2012

PLEASE ANSWER ALL OF THE QUESTIONS

FEEL FREE TO WRITE COMMENTS ANYWHERE ON THE QUESTIONNAIRE

Thank you very much for your help with our research

1. What type of property did you purchase? [Circle one number]
   1. Single family home 3. Condominium or cooperative
   2. Duplex 4. Other:_____

   B. What type of mortgage did you get? [Circle one number]
   1. Conventional fixed rate for _____ years
   2. Adjustable rate (ARM), initial fixed rate period _____year(s)
   3. Other_____ 4. No mortgage

2. Why did you buy the home that you did?
   [Circle one number]
   1. To live in as a primary residence
   2. To live in part of the time as a second residence without renting it to others
   3. As a second residence that you will also rent out
   4. Only to rent out to others
   5. For some other reason:_____

3. Check the box (or boxes) that describes your reason (or reasons) for buying a home at this time:
   [Circle one number]
   1. Changing residence because of a job change
   2. Moving due to a change in family circumstances such as a marriage, divorce, birth of a child, etc.
   3. Trading up (buying a better property than I lived in before)
   4. Buying strictly for investments purposes
   5. Other:_____

4. Are you a first time home buyer?

[Circle one number]

1. YES 2. NO

5. Do you think that housing prices in the Bay Area will increase or decrease over the next several years?

[Circle one number]

1. INCREASE 2. DECREASE

6. How much of a change do you expect there to be in the value of your home over the next 12 months?

_____% (Percent Change) 1. INCREASE 2. DECREASE

7. On average over the next ten years how much do you expect the value of your property to change each year?

_____% (Percent Change) 1. INCREASE 2. DECREASE

8. In deciding how much you were willing to pay for this house to what extent did you rely on information obtained from the following sources:

1. Heavily	2. Somewhat	3. Not at all	
			A. Advice from or appraisals by real estate agents
			B. First or second hand knowledge of comparable sales prices
			C. Stories about the real estate market in newspapers, magazines, on TV or the radio
			D. Newspaper want-ad, Internet, or MLS listings of other properties for sale
			E. Listings of other properties that had sold
			F. Knowledge of recent changes in your state's economy

9. Was your first offer on the property that you purchased:
   [Circle one number]
   1.Above the asking price? 3. Equal to the asking price?
   2. Below the asking price?

10. Did you finally settle on a price that was:
   1. Above the asking price? 3. Equal to the asking price?
   2. Below the asking price?

11. If you initially offered more or less than the asking price, give a rough estimate of the difference between your offer and the asking price:
   _____%(percent above or below)

12. How many offers did you make that were rejected by the seller on this property or on other properties in the last year:
   _____Number of offers

13. In deciding to buy your property, did you think of the purchase as an investment:
   1. Not at all 2. In part 3. It was a major consideration

14. Which of the following best describes the trend in home prices in the Bay Area in recent months:
   1. Rising rapidly 4. Falling rapidly
   2. Rising slowly 5. Falling slowly
   3. Not changing

Comments:

15. Roughly how long has the trend you have observed in recent months been going on:

    Since (month)_____ (year)_____

16. Was there any event or events in the last two years that you think changed the trend in home prices?

17. What do you think explains recent changes in housing prices in the Bay Area? What, ultimately is behind what is going on?

18. Which of the following better describes your theory about recent trends in Bay Area home prices?

    1. It is a theory about the psychology of home buyers and sellers
    2. It is a theory about economic or demographic conditions such as population changes, changes in interest rates or employment growth (decline)

19. How long do you think that present housing price trends will continue?

    _____Months

20. If you think that present trends will not continue forever, what do you think will stop them?

21. In conversations with friends and associates over the last few months, conditions in the housing market were discussed (circle the one which best applies):

    1. Frequently 2. Sometimes 3. Seldom 4. Never

22. Buying a home in the Bay Area today involves (circle the one which best applies):

1. A great deal of risk
2. Some risk
3. Little or no risk

22. Does the following describe your feelings?
"I bought now because I felt that I had to even though I might have done better financially if I had waited"

1. YES 2. NO

23. Immediately prior to buying this home did you sell or try to sell another home?

1. YES 2. NO

IF YOU ANSWERED YES TO QUESTION 23 PLEASE ANSWER THE FOLLOWING QUESTIONS, OTHERWISE SKIP TO QUESTION 25

23b. What is the current status of that property (you can check more than one)?

1. It was sold
2. It is still for sale
3. It has been withdrawn from the market indefinitely
4. I will attempt to sell it at a later date
5. Hoping to get a better price
6. It is currently vacant
7. I am currently renting it out
8. Other: _____

23g. Did you raise or lower your asking price at any time after your property was listed?

1. YES, Raised 2. YES, Lowered 3. NO

23k. How many offers did you receive below your asking price on your former property that you turned down?

_____(Number)

23l. When you set the initial asking price did you set it above what you thought the property was realistically worth?

1. YES 2. NO

23m. If you answered yes, how much above what you thought the property was realistically worth did you set the asking price?

_____% (Percent)

23n. If your property did not sell, presumably it might have if you had lowered the asking price more. If you considered doing so but decided not to, can you say why?

1. My house is worth more than people seem to be willing to pay right now
2. I can't afford to sell at a lower price
3. By holding out, I will be able to get more later
4. I didn’t want to pay off my low rate mortgage
5. Other:_____

Comments:

24. IF YOU ACTUALLY SOLD YOUR FORMER PROPERTY, PLEASE ANSWER THE FOLLOWING QUESTIONS, OTHERWISE SKIP TO QUESTION 25:

24a. If you had not been able to sell your property for the price that you received, what would you have done?

1. Left the price the same and waited for a buyer knowing full well that it might take a long time
2. Lowered the price step by step hoping to find a buyer
3. Lowered the price until I found a buyer
4. Taken the house off the market
5. Other:_____

24b. If you responded that you would have lowered the price, is there a limit to how far you would have gone if the property still hadn't sold?

1. YES 2. NO

24c. If you answered yes to question 24b, can you say how you arrived at that limit?

24d. If your property had not sold for an acceptable price, what would you have done about your now house?

1. Bought the new one anyway
2. Stopped the process of buying the new one
3. Continued to search for a buyer with purchase plans on hold
4. Other:_____

25. For each of the following indicate whether you have heard the statement recently and whether or not you agree with it:

[Check first column if heard it and also whether agree or disagree]

1. I have heard it	2. Agree	3. Disagree	
			A. Since housing prices are unlikely to drop very much, the best strategy in a slow market is to hold on until you get what you want for a property
			B. Housing prices have boomed in the Bay Area because lots of people want to live here
			C. The real problem in the Bay Area is that there is just not enough land available
			D. When there is simply not enough housing available, price becomes unimportant
			E. Housing prices are booming, unless I buy now, I won't be able to afford a home later
			F. It's a good time to buy a home because housing prices are likely to rise in the future
			G. It's a good time to buy a home because interest rates are relatively low and they are likely to rise in the future
			H. It's not a good time to buy a home because housing prices are likely to decline In the future
			I. It's not a good time to buy a home because interest rates are likely to fall in the future

26. There has been a good deal of excitement surrounding recent housing price changes. I sometimes think that I may have been influenced by it.

    1. YES 2. NO

27. In a "hot" real estate market, sellers often get more than one offer on the day they list their properties. Some are even over the asking price. There are also stories about people waiting in line to make offers. Which is the better explanation?

    1. There is panic buying, and price becomes irrelevant
    2. Asking prices have adjusted slowly or sluggishly to increasing demand

28. Do you agree with the following statement: "Real estate is the best investment for long-term holders, who can just buy and hold through the ups and downs of the market."

[Please circle one number on scale from 1 to 5]

Strongly Agree	Agree Somewhat	Neutral	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

29. [M. (17)] Do you agree with the following statement: "The stock market is the best investment for long-term holders, who can just buy and hold through the ups and downs of the market."

[Please circle one number on scale from 1 to 5]

Strongly Agree	Agree Somewhat	Neutral	Disagree Somewhat	Strongly Disagree
1	2	3	4	5

Comments:

30. The experience with the stock market in the past few years
[Please circle one number]
1. Much encouraged me to buy my house
2. Somewhat encouraged me to buy my house
3. Had no effect on my decision to buy my house
4. Somewhat discouraged me from buying my house
5. Much discouraged me from buying my house

31. Please explain your thinking here:

32. Before you bought this house, did you actively think of not buying any house at all, staying out of real estate ownership?

1. Yes 2. No

33. If you answered yes, what factors were on your mind when you thought about not buying, and what made you finally buy?

34. Have you been thinking of buying yet another house, keeping the one you just bought and owning two (or more) houses?

1. Yes 2. No

35. What factors were on your mind when you have thought about buying yet another house?

36s. I think that people are becoming [1. more, 2. Less 3. unchanged] favorable to buying a house in the suburbs for the long term

36t. I think that people are becoming [1. more, 2. Less 3. unchanged] favorable to buying a condo downtown in a city for the long term.

36u. I think that people are become [1. more, 2. Less 3. unchanged] favorable to renting, instead of buying, their homes for the long term.

Comments:

Date Questionnaire filled out (MM/DD/YYYY): /___/___/_____/

Use this space for general comments:

Thank you very much. Please return this questionnaire in the stamped, self-addressed envelope provided. If the envelope has been lost, please mail the questionnaire to:

Homebuyer Survey
University of California, Berkeley
C/O Compumail
P.O. Box 162
Southington, CT 06489

Thank you very much for your participation in this study.

Office Control Number_____