The National Housing Survey – Technical Notes

Edits as of March 2018

The National Housing Survey is a monthly attitudinal survey, which polls the adult general population of the United States to assess their attitudes toward owning and renting a home, purchase and rental prices, household finances, and overall confidence in the economy.

Each respondent is asked approximately 100 questions, making the National Housing Survey one of the most detailed attitudinal surveys of its kind, tracking shifts that occur among homeowners and renters in the United States.

Survey Methodology

Each month, beginning in June, 2010, approximately 1,000 live (not automated) telephone interviews with Americans age 18 and older via landline and cell phone are conducted by PSB, in coordination with Fannie Mae. For the sample to accurately represent the U.S. population, 70% of calls are made to cell phones. The margin of error for the total sample is +/- 3.1 percent at the 95 percent confidence level and larger for sub-groups. Most of the data collection occurs during the first two weeks of each month.

National Housing Survey – Monthly Reports and Topic Analysis

On a monthly basis, the Home Purchase Sentiment Index along with additional key indicators of Americans' attitudes from the monthly survey are released publicly. A topic analysis, providing deeper insights into one or more issues based on the compilation of three monthly surveys, is released on a quarterly basis.

The three monthly studies that make up any given topic analysis are identical in wording and placement of questions.

Our most current and previous National Housing Survey topic analyses can be found at: http://www.fanniemae.com/portal/research-insights/surveys/national-housing-survey.html

Sample Design

As the percentage of cell phone only (CPO) households in the United States has grown, it was necessary to increase the number of interviews conducted via cell phone for the National Housing Survey. CPO households are households with only cell phones and no landline. The 2017 National Health Interview Survey conducted by the Center for Disease Control and Prevention determined that 52.5% of American households are CPO. In the past, almost two-thirds of National Housing Survey interviews conducted via cell phone were among CPO households. To make sure the appropriate percentage of CPO households are reached, the percentage of cell phone interviews was increased to 70% in January 2018 (from 60% from October 2015-December 2017 and 25% prior to October 2015). A comparison of results of the National Housing Survey's Key Indicators have shown that increasing the percentage of cell phone interviews has had minimal impact on topline results.

To ensure that a representative audience is polled, Random Digit Dialing (RDD) is used. RDD telephone sampling has been used for decades to create a representative sample of the U.S. population, and it provides a far more complex and layered approach than simply dialing numbers across the country randomly. The RDD system used by PSB works as follows:

Area codes and exchanges are determined for an area based on a range of geographic and demographic criteria, such as state, congressional district, county, and media market. Following determination of area codes and exchanges, the final 4 digits of the phone number are created randomly. The RDD system identifies cell phones and landlines based on area codes and exchanges.

Each telephone exchange is rated based on the number of listed households and the population in a particular location, based on information from the U.S. Census Bureau. The distribution is then weighted to make sure that more numbers are generated where more people reside, so the distribution of phone numbers matches the distribution of people on an exchange-by-exchange basis. This is done to reflect the population distribution across the U.S. The sample is then selected by area codes. However, since cell phone number area codes do not necessarily correspond to where respondents live, all survey respondents are geographically coded based on the zip code they provide to the interviewer as part of the survey. After respondents complete the survey, the sample is updated to ensure remaining interviews are completed among a geographically representative sample of the U.S.

With RDD, any possible number can be generated, and new movers, unlisted numbers, etc., will be included and contacted – as opposed to a sample list, which cannot include every household currently residing in the area. For more specific sub-audiences, RDD's targeting capabilities are limited. In turn, a sample list is generally used for low incidence audiences. The targeted landline dialing is conducted to ensure demographic quotas are reached and the entire month's survey population is representative of the entire U.S. population.

Additionally, on average, 6.3 percent of the interviews are conducted in Spanish each month, using a sample list, for respondents who speak Spanish only.

Financial Decision Maker Screening
To provide a more meaningful indication of Americans' attitudes about the housing market, household finances, and broader economic issues, the National Housing Survey screens respondents to include only those who are sole or joint financial decision-makers in their household. Respondents who reply that they are not the sole or joint financial decision-maker in their household are not permitted to complete the survey. As a result, the audience described in the National Housing Survey is not identical to that of the United States Census.

Oversamples of Recent Fannie Mae Homebuyers
In Q1 of each year beginning in 2014, interviews are also conducted among an oversample of approximately 1,200 recent homebuyers from Fannie Mae's book of business, to delve deeper into topics on home buying and homeownership. These homebuyers had taken out a purchase loan in the previous year that was acquired by Fannie Mae. Oversample interviews are spread over the three months of Q1, with about 400 interviews conducted each month in addition to the standard monthly

interviews. The interviews conducted as part of the oversample are not included in the monthly data set and are analyzed separately.

Each year's oversample data is weighted to ensure it is representative of all recent homebuyers on Fannie Mae's book of business.

Data Quality Control and Weighting

Each month, the results of the National Housing Survey are carefully compared to the 1-year American Community Survey estimates, released in September of the previous calendar year. Weights are updated each January and are reflective of the American Community Survey from two years prior. For example, the 2018 National Housing Survey will be weighted to the 2016 American Community Survey, which was released in September 2017. Age, gender, race, ethnicity, income, education, and housing status are all examined to ensure that the overall monthly sample does not differ in large or unexpected ways from the American Community Survey 1-year estimates on these important dimensions. Results are also compared against historical results from the National Housing Survey on the same demographic measures to ensure stability over time. Weighting is used to account for known biases resulting from non-response, and to compensate for unexpected divergences from the American Community Survey estimates and historical results from the National Housing Survey.

When weights are applied, PSB uses a post-stratification weighting structure covering the following categories:

- Gender (Male, Female)
- Age (18-20, 21-24, 25-29, 30-34, 35-39, 40-44, 45-49, 50-54, 55-59, 60-64, 65-69, 70-74, 75+)
- Race/Ethnicity (White, African American, Hispanic, Asian, American Indian, Other)
- Household Income (<$10,000, $10,000-$14,999, $15,000-$24,999, $25,000-$34,999, $35,000-$49,999, $50,000-$74,999, $75,000-$99,999, $100,000-$149,999, $150,000-$199,999, $200,000+)
- Education (<High School, High School Degree, Some College/Associates Degree, College Graduate/Post Graduate Degree)
- Housing Status (Mortgage Borrowers, Outright Owners, Renters, Boarders who do not pay rent or own their home)
- Phone Type (Landline only, Cell phone only, Both landline and cell phone)
  - Weights for phone type are based on information from the Center for Disease Control's National Health Interview Survey

The post-stratification weighting uses an iterative proportional fitting technique for simultaneously balancing sample weights across several different population control groups.

The statistics in this release are estimated from sample surveys and are subject to sampling variability as well as non-sampling error, including bias and variance from response, non-reporting, and under-coverage.
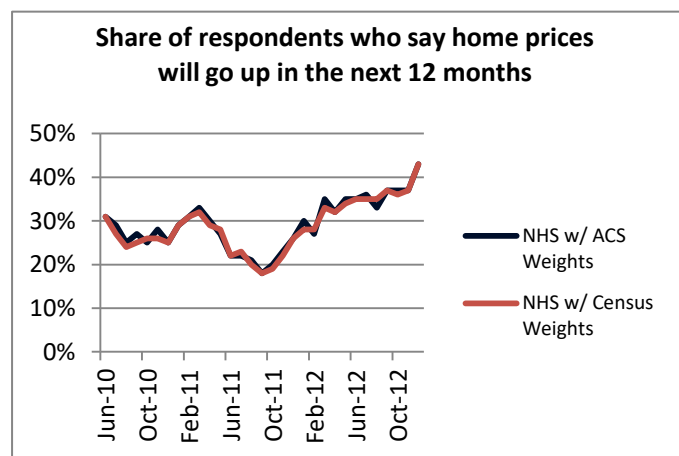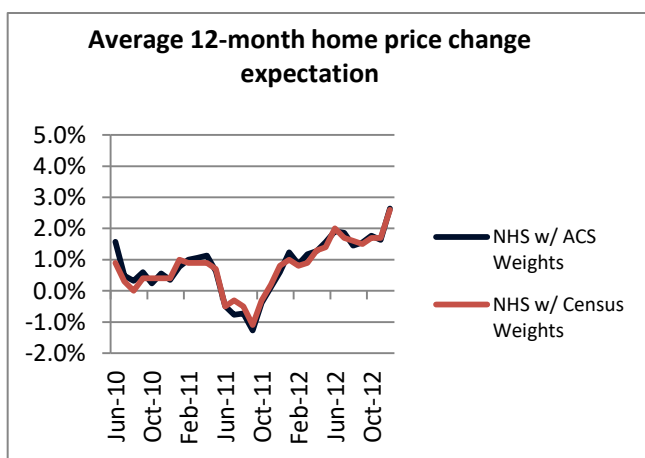
Prior to March 2012, the National Housing Survey was weighted to the 2000 Decennial Census on age, gender, race, ethnicity, housing status, and urbanicity. From March 2012 until January 2013, data from the National Housing Survey were compared to the 2010 Decennial Census on age, gender, race, ethnicity, housing status, and urbanicity, and to the 2011 Current Population Survey on income and education. The data have since been reweighted to the American Community Survey.

The urbanicity weight has been removed because it has a subjective component and is not included in the American Community Survey.
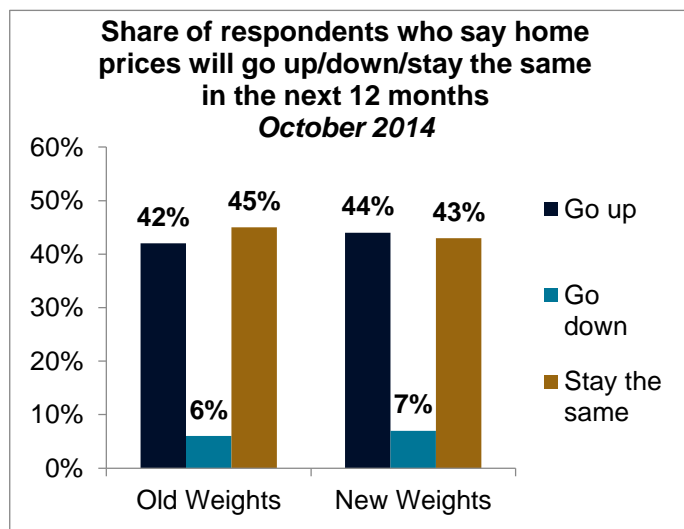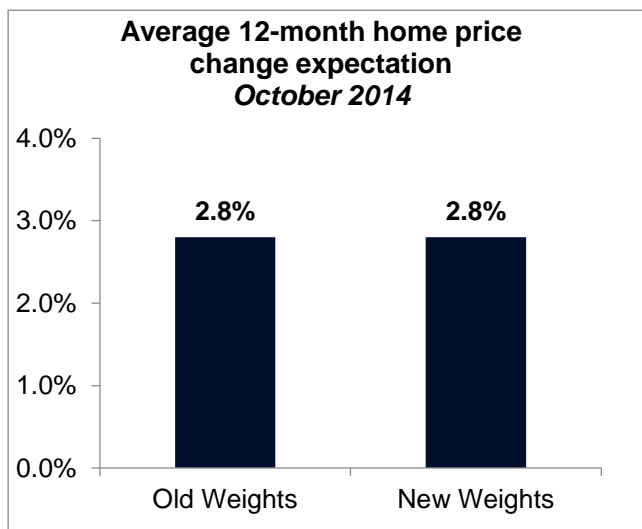
The 1-year estimates from the American Community Survey are used in lieu of the 2010 Decennial Census to provide more accurate and timely demographic measures, as the American Community Survey is updated on an annual basis. In addition, the American Community Survey was chosen over similar data from the Current Population Survey due to its larger sample size, smaller margin of error, and inclusion of housing measures.

To ensure the consistency of the National Housing Survey data when transitioning to the American Community Survey weights, data under both weighting schemes were compared. As evidenced by the examples below, data from both weighting schemes track very closely, and all previous trends were preserved.

To ensure the consistency of the National Housing Survey data in October 2014, when the percentage of cell phone dialing was increased, we compared the results of the Key Indicators among the general population by weighting the results to match the exact proportion of household phone types to September 2014 (old weights). As evidenced by the examples below, the new methodology did not significantly impact the topline results.

Survey Questions

The questions presented in the National Housing Survey Monthly Report as part of the Home Purchase Sentiment Index and additional key indicators are below, and are printed exactly as they are asked in the survey. Please note that in the topic analyses, all of the questions appear in the report exactly as they are asked in the survey.

Expected home price and home rental price changes are calculated by creating an average of all responses, using a 0 percent change for those respondents who say that home prices would stay the same, and excluding outliers beyond two standard deviations.

To analyze the movements of the average home price expectation each month, we have calculated the standard error between the means based on responses to the following questions:

- Question 15: During the next 12 months, do you think home prices in general will go up, go down, or stay the same as where they are now?
- Question 16, 17: IF DOWN/UP: By about what percent do you think home prices in general will go (down)/(up) on the average over the next 12 months?

Based upon this data, the standard error between the means in any given month to date is +/- 0.4 or less. Any movement in home price change expectations outside this range can be considered a statistically significant change.

The Home Purchase Sentiment Index Components

Question: In general, do you think it is a very good time to buy a house, a somewhat good time, a somewhat bad time, or a very bad time to buy a house?
1) Very good time
2) Somewhat good time
3) Somewhat bad time
4) Very bad time
5) Don't know **VOLUNTEERED**

Question: In general, do you think it is a very good time to sell a house, a somewhat good time, a somewhat bad time, or a very bad time to sell a house?
1) Very good time
2) Somewhat good time
3) Somewhat bad time
4) Very bad time
5) Don't know **VOLUNTEERED**

Question: During the next 12 months, do you think home prices in general will go up, go down, or stay the same as where they are now?
1) Prices will go up
2) Prices will go down
3) Prices will remain about the same
4) Don't know **VOLUNTEERED**

Question: During the next 12 months, do you think home mortgage interest rates will go up, go down, or stay the same as where they are now?
1) Rates will go up
2) Rates will go down
3) Rates will remain about the same
4) Don't know **VOLUNTEERED**

Question: How concerned are you that you will lose your job in the next twelve months? Are you very concerned, somewhat concerned, not very concerned, or not at all concerned that you will lose your job in the next twelve months?
1) Very concerned
2) Somewhat concerned
3) Not very concerned
4) Not at all concerned
5) Don't know **VOLUNTEERED**

Question: How does your current monthly household income compare to what it was twelve months ago? Would you say it is: **READ CHOICES**
1) Significantly higher now
2) About the same vs. twelve months ago
3) Significantly lower now
4) Don't know **VOLUNTEERED**

Additional Key Indicators

Question: During the next 12 months, do you think home prices in general will go up, go down, or stay the same as where they are now?
1) Prices will go up
2) Prices will go down
3) Prices will remain about the same
4) Don't know **VOLUNTEERED**

Question: IF SELECT HOME PRICES WILL GO DOWN: By about what percent do you think home prices in general will go down on the average over the next 12 months? **OPEN END NUMERIC**

Question: IF SELECT HOME PRICES WILL GO UP: By about what percent do you think home prices in general will go up on the average over the next 12 months? **OPEN END NUMERIC**

Question: During the next 12 months, do you think home rental prices in general will go up, go down, or stay the same as where they are now?
1) Prices will go up
2) Prices will go down
3) Prices will remain about the same
4) Don't know **VOLUNTEERED**

Question: IF SELECT HOME RENTAL PRICES WILL GO DOWN: By about what percent do you think home rental prices in general will go down on the average over the next 12 months? **OPEN END NUMERIC**

Question: IF SELECT HOME RENTAL PRICES WILL GO UP: By about what percent do you think home prices rental in general will go up on the average over the next 12 months? **OPEN END NUMERIC**

Question: If you were going to move, would you be more likely to: **READ CHOICES, RANDOM ROTATE CHOICES**
1) Rent
2) Buy
3) Don't know **VOLUNTEERED**

Question: Do you think it would be very difficult, somewhat difficult, somewhat easy, or very easy for you to get a home mortgage today?
1) Very difficult
2) Somewhat difficult
3) Somewhat easy
4) Very easy
5) Don't know **VOLUNTEERED**

Question: Looking ahead one year, do you expect your personal financial situation to get much better, somewhat better, stay about the same, get somewhat worse, or get much worse?
1) Much better
2) Somewhat better
3) Stay about the same
4) Somewhat worse
5) Much worse
6) Don't know **VOLUNTEERED**

Question: In general do you think our economy is on the right track or is it off on the wrong track?
1) Right track
2) Wrong track
3) Don't know **VOLUNTEERED**

Release Date
The National Housing Survey Monthly Report will be released on or around the 7th day of every month.

For more information about the National Housing Survey monthly reports and topic analyses, please visit: http://www.fanniemae.com/portal/research-insights/surveys/national-housing-survey.html