Data Shop

Data Shop, a department of Cityscape, *presents short articles or notes on the uses of data in housing and urban research. Through this department, the Office of Policy Development and Research introduces readers to new and overlooked data sources and to improved techniques in using well-known data. The emphasis is on sources and methods that analysts can use in their own work. Researchers often run into knotty data problems involving data interpretation or manipulation that must be solved before a project can proceed, but they seldom get to focus in detail on the solutions to such problems. If you have an idea for an applied, data-centric note of no more than 3,000 words, please send a one-paragraph abstract to david.a.vandenbroucke@hud.gov for consideration.*

Gauging Confidence in the U.S. Housing Market

Terry Loebs
Pulsenomics LLC

Abstract

Confidence in U.S. housing markets is a prerequisite for stable real estate asset values and a healthy economy. Bold policy actions in recent years by the Obama Administration and the Federal Reserve Board have underscored the profound impact that housing market health can have on consumer sentiment and the macroeconomy, and these actions imply that traditional, lagging indicators of housing market conditions (for example, home price indices, real estate transaction volumes) are incomplete gauges of market risk. Like those of other asset classes, future levels of transaction volume and prices in residential real estate markets depend on the prevailing sentiments and expectations of market stakeholders.

After several years of development, The U.S. Housing Confidence Survey (HCS), inspired by honorary advisers Karl Case and Robert Shiller and sponsored by Zillow Group, was launched by Pulsenomics LLC in January 2014 as the foundation for The Zillow Housing Confidence Index (ZHCI).[1] Pulsenomics now collects more than 10,000

---

[1] Zillow Group, sponsors The U.S. Housing Confidence Survey™ and The U.S. Housing Confidence Index™. Terry Loebs is the author and manager of the survey and the developer of the index. Pulsenomics LLC is the index calculation agent and the owner of all intellectual property related to HCS and (Z)HCI. ZHCI data are freely available via Zillow.com or https://www.pulsenomics.com/Housing_Confidence_Index.html. Zillow® is a registered trademark of Zillow Group. Pulsenomics®, Housing Confidence Index™, and Housing Confidence Survey™ are trademarks of Pulsenomics LLC.

Cityscape: A Journal of Policy Development and Research • Volume 17, Number 2 • 2015
U.S. Department of Housing and Urban Development • Office of Policy Development and Research
Cityscape 309

Abstract (continued)

completed HCS questionnaires from households across 20 of the largest U.S. metropolitan areas every 6 months and synthesizes the more than 350,000 HCS response data points compiled during each field period into freely available, comprehensible housing confidence metrics.[2]

ZHCIs reflect assessments by individual households of prevailing market conditions, their home value expectations, and homeownership aspirations. Via these indices, housing confidence in the United States is quantified; variations in housing confidence and its key indicators can be monitored over time by geography, tenure, and key demographic variables. These data can ultimately contribute to better informed public policy, improvements in real estate market forecasts, and enhanced understanding of changes in macroeconomic activity.

Introduction

The U.S. housing experience of the past decade and its evolved demographics, rapidly changing consumer attitudes, and unpredictable government policies all indicate that, going forward, new and more proactive forms of real estate market information will be necessary to complement traditional, lagging indicators of housing market conditions (for example, home price indices and real estate transaction volumes) so that emergent housing risks can be detected and monitored more effectively.

Housing confidence—a measurement of attitudes among heads of household that can signal future supply and demand changes within residential real estate markets—is one such form of market intelligence that complements legacy indicators of U.S. housing market health.[3] Housing confidence is a prerequisite for stable real estate asset values and a healthy economy, as it can influence home prices, individual behavior and economic consumption.[4] The velocity and volatility of consumer attitude changes in the digital age suggest that housing confidence should be measured and monitored in a systematic fashion. The U.S. Housing Confidence Survey (HCS) and The Zillow Housing Confidence Index (ZHCI) represent the first concerted effort to do exactly that, at the national level and within major metropolitan markets across the United States.[5]

---

[2] One of the most durable of all housing-focused, consumer-attitudinal surveys to date is a research effort led by Karl Case and Robert Shiller. The Case-Shiller homebuyer survey project began in 1988 and has focused on the attitudes and expectations of recent homebuyers in four cities. The survey is administered annually using a questionnaire that is sent to several hundred recipients via U.S. mail. See Case, Shiller, and Thompson (2012).

[3] Contrary to common belief, none of today's headline indices of U.S. consumer sentiment and economic confidence reflect any direct assessment of prevailing conditions in the real estate market, expectations for home values, or other attitudes concerning the housing market.

[4] Residential real estate has powerful, two-way consumer wealth effects and a "confidence multiplier." The confidence multiplier in real estate manifests itself through price-to-price and price-to-GDP-to-price feedback cycles and can be magnified by cultural and institutional forces (Akerlof and Shiller, 2009).

[5] The HCS was developed for the specific purpose of quantifying and monitoring housing confidence over time. The inaugural edition of the survey was conducted in January 2014.

The ZHCI metrics quantify the degrees and dimensions of housing confidence among renters and homeowners within specific metropolitan markets. ZHCI represents the current attitudes of all market stakeholders—not only those of householders who happen to have been involved in a recent real estate transaction.[6]

ZHCI is a weighted combination of three underlying housing sentiment indicators: The Housing Market Conditions Index, The Housing Expectations Index, and The Homeownership Aspirations Index.[7] When the historical database of these index values becomes sufficiently large, the market signals reflected in these data will facilitate progress in related research endeavors (for example, they may prove helpful in analyses of turning points in real estate markets, studies of household economic behavior, forecasts of housing supply, demand, and prices).

Taking the Pulse of Households: The U.S. Housing Confidence Survey

The HCS is the foundation for ZHCI. More than 10,000 HCS questionnaires are completed by heads of household who reside in metropolitan areas across the United States, and more than 350,000 individual responses are electronically recorded each time this survey is fielded. The survey response data enable Pulsenomics to produce an extensive set of indices that quantify housing confidence and track how it changes over time.

Overview

The HCS is developed to facilitate systematic measurement and reporting of consumer confidence in the U.S. housing market. The HCS is unique among all consumer housing and economic confidence surveys because it is the only one that—

- Focuses specifically on the measurement of nationwide housing confidence among the U.S. heads of household.

- Gauges attitudes among homeowners and renters concerning homeownership and prevailing market conditions at the metropolitan area level.

- Measures affordability expectations and home value expectations (for short- and long-term horizons) among homeowners and renters.

- Enables consistent and concise reporting of survey results, via ZHCI, for easy public consumption and comprehension.

The HCS deploys a survey instrument developed to gather repeated measures of consumer attitudes that enable production of ZHCI.[8] The project team designed the content and questions that comprise the HCS instrument to be engaging with, relevant to, and comprehensible to respondents

---

[6] For example, less than 1 percent of all U.S. households are involved in a home purchase or sale contract in a typical month.

[7] Housing Market Conditions Index™, Housing Expectations Index™, and Homeownership Aspirations Index™ are trademarks of Pulsenomics LLC.

[8] The HCS questionnaire is available at https://www.pulsenomics.com.

to encourage accurate responses. The HCS questionnaire was written by subject matter experts and tested in the field before production. The instrument is administered to adult respondents who are the sole or joint decisionmakers concerning their household financial matters.[9]

In addition to gathering response data concerning housing market conditions, expectations, and homeownership aspirations, the questionnaire collects key demographic information from each respondent during the HCS interview to enable post-stratification weighting. The sample balancing weights are calculated and applied at the metropolitan area level so that HCS response data and ZHCI reflect the population attributes of each geographic market.[10]

Sample Size and Data Points; Margin of Error

Within each of the 20 metropolitan areas where Pulsenomics conducts this survey research, interviewers complete a minimum of 500 questionnaires.[11] For each edition of HCS, Pulsenomics compiles a total of more than 350,000 response data points from the completed questionnaires.

At a 95-percent confidence interval—

- The theoretical margin of sampling error for an aggregated, household-weighted sample of 10,000 (composed of 20 metropolitan-level probability samples of 500 each) is +/-1.2 percent and is larger for subgroups (for example, +/-1.5 percent for all homeowner households and +/-2.0 percent for all renter households).

- The theoretical margin of sampling error for a probability sample of 500 drawn from a single U.S. metropolitan area population is +/-4.4 percent (larger for subgroups).

A translation: For a probability sample design using a random digit dial (RDD) landline sample frame, one can say with 95-percent confidence that survey results do not vary from the true population values by more than the stated margin of sampling error in one direction or the other if the entire universe of respondents with home telephones answers the phone when called and provides accurate responses to all questions in a uniformly administered survey instrument.

Alas, gauging the reliability of survey research in the 21st century is not so simple. For example—

- The number of households that have abandoned their landlines in favor of cell phones and Internet communication in recent years has grown rapidly. For example, in the first 6 months of 2011, fewer than one in every three households (32 percent) did not have a landline telephone but did have at least one wireless telephone; 3 years later, this figure grew to more than two in

---

[9] The HCS instrument includes approximately 40 questions, although the actual number of questions comprising each HCS interview is dependent on the respondent's tenure profile and answer pattern. For example, certain survey questions are specific to owner- or renter-occupants; the respondent's answer pattern can trigger question-branching logic within HCS that determines whether a followup question is necessary and, if so, what version of a followup question is appropriate to administer.

[10] Post-stratification weights for each metropolitan area are derived from the U.S. Census data and applied for key demographic characteristics (that is, age, gender, and race/ethnicity) and household tenure profile (that is, owner- or renter-occupied homes).

[11] Oversampling is employed to ensure that hard-to-reach population segments are not underrepresented. The actual number of completed interviews conducted within each metropolitan area typically exceeds 500 by 10 percent or more.

every five households (44 percent; Blumberg and Luke, 2014). Moreover, the adoption rate of landline alternatives has been nonuniform across key segments of the population (for example, in general, households headed by younger adults are more likely to use a landline alternative).

The universe of landline phone numbers conforms to a fixed structure that is known and finite. Thus, one can sample from this universe with confidence. Cell phones and Internet addresses allow for no such bounded universe; one can sample, but not with confidence, because margin of (sampling) error calculations assume a probability sample design—one in which every member of the population has an equal, known, and nonzero chance of inclusion in a sample. Because databases composed of the universe of cell phone users do not exist, margin of error estimates that are reported with most survey research today (including HCS) might best be described as theoretical.[12]

• Nonsampling errors—such as the accuracy and consistency of the survey questions as read by the interviewer, the inability to contact some members of the population, the difficulty of translating each questionnaire into all possible languages and dialects, the way and extent to which response data are weighted–are also very important, but cannot be so easily quantified.

Although sample size and selection methodology will always be key considerations when evaluating the merit of survey research data, margin of (sampling) error metrics calculated for nonprobability samples warrant scrutiny. The variety and potential impact of nonsampling errors render margin of sampling error an incomplete measure of the overall quality of survey research. The overarching goal of scientific survey research should be minimization of total survey error (TSE). Although no singular or proven approach exists to achieve this goal, HCS strives to minimize TSE via a combination of diligent instrument design, iterative field testing, blended sampling, multimode technology, and methodical weighting.

Mixed-Mode, Blended-Sample

By contrast to traditional survey approaches, HCS is multimodal, with a cell phone user sample augmenting a landline sample frame for each metropolitan area to better reflect communication preferences and tendencies among today's adult population.

The HCS landline sample frame is selected proportionate to each metropolitan area's population through the RDD method, giving all landline telephone numbers, listed and unlisted, an equal chance of being included.[13] An adult age 18 or older who is the sole decisionmaker or a joint

---

[12] Every landline telephone number in the United States is structured according to the 1940s-era North American Numbering Plan (NANP), using a standard combination of a three-digit, territory-specific area code, a three-digit central office code (sometimes referred to as an "exchange"), and a four-digit station code. With a fixed number of preknown area codes, a fixed number of known exchanges per area code, and a finite number of possible station codes available to each valid area code-exchange pairing (a station code must be a four-digit number between 0000 and 9999), the number of landline phone numbers is knowable and finite. Thus, it was possible, historically, to sample from that known, bounded universe of landline numbers with confidence.

[13] The landline samples for the HCS are sourced from Survey Sampling International (SSI), a leading provider of telephone survey sampling solutions for scientific survey research. Pulsenomics' strategic partner, SurveyUSA, uses a real-time connection to the SSI mainframe that permits HCS samples to be drawn quickly from irregularly shaped geographies (for example, metropolitan statistical areas), in volume and with precision.

decisionmaker concerning household financial matters is selected by a systematic procedure to provide a balance of survey respondents by gender, age, race/ethnicity, and household tenure. During the survey field period, the telephone numbers of those landline respondents who are not reachable on a first attempt because of a busy signal, "no-answer," or connection to an answering machine may be redialed at a later time.

HCS landline interviews are conducted using a proprietary interactive voice response technology that uses the recorded voice of a professional announcer. Among other benefits, this technology ensures that every HCS question is articulated to each respondent in precisely the same fashion.[14]

An electronic version of the HCS instrument is administered to a separate frame within each metropolitan area. This frame includes adult respondents who generally do not communicate via a household landline (that is, adults who use their cell phone instead of a landline phone for all or most of their voice communications). Within the HCS questionnaire, "cell phone only" and "cell phone mostly" survey respondents confirm that they use a cell phone as their exclusive or primary telephonic communications device. These cell phone respondents, who comprise approximately 40 percent of each metropolitan area sample, complete the questionnaire via the Internet on their smart phone, tablet or other electronic device.[15]

For each metropolitan area, the respondent universe from the landline and Internet samples are combined and weighted using the most recent U.S. Census estimates for age, gender, ethnic origin, and household tenure to align the sample to the metropolitan area population.

This "mixed-mode, blended-sample" approach attempts to achieve the best possible balance between key survey goals: maximizing geographic coverage and execution efficiency, and mitigating TSE.

Geographic Scope

HCS research currently is conducted in 20 major metropolitan areas throughout the United States.

Atlanta	Detroit	New York City	San Francisco
Boston	Las Vegas	Philadelphia	San Jose
Chicago	Los Angeles	Phoenix	Seattle
Dallas	Miami	St. Louis	Tampa
Denver	Minneapolis	San Diego	Washington, D.C.

---

[14] In certain counties, live telephone operators conduct HCS landline interviews.

[15] The cell phone-landline respondent mix for each metropolitan area is reported by Pulsenomics with each edition of HCS.

Quantifying and Monitoring Real Estate Sentiment: The Zillow Housing Confidence Index

The U.S. Housing Confidence Survey was designed to gather assessments by individual households of prevailing market conditions, their home value expectations, and homeownership aspirations. Via The Zillow Housing Confidence Index, these key components of housing market sentiment are, for the first time, quantified and summarized so that housing confidence in the United States can be effectively monitored over time by geography, tenure, and key demographic variables. These data can ultimately contribute to better informed public policy, improvements in real estate market forecasts, and enhanced understanding of changes in macroeconomic activity.

Definition and Purpose

As forward-looking gauges of housing market health with low data latency, the ZHCI may prove to be timely leading indicators of future home value changes and macroeconomic activity nationally and at individual metropolitan area levels. The indices were designed to summarize and effectively communicate response data collected from HCS (see previous section).

ZHCI reflect a timely and systematic assessment of prevailing sentiment among homeowners and renters concerning the metropolitan area housing market where they reside. These metrics cogently summarize—

• Assessments of current housing market conditions in the locales where respondents live.

• Short- and long-term expectations for future home value changes and home affordability.

• Aspirations for future homeownership (among renters) and for continued homeownership (among existing owners).

For each metropolitan area studied, a variety of indices are published from each wave of HCS—

• Housing confidence indicator indices (that is, The Housing Market Conditions Index, The Housing Expectations Index, and The Homeownership Aspirations Index for each of 20 major metropolitan areas).

• Headline housing confidence indices (that is, The Housing Confidence Index—a summary metric derived from the three housing confidence indicator indices—for each of 20 major metropolitan areas).

• Tenure-specific housing confidence indices (that is, separate housing confidence indices for homeowners and renters).

• U.S. composite housing confidence indices (weighted averages of the 20 metropolitan-level constituent housing confidence indices).

Index Methodology and Scale

ZHCI is computed using a weighted diffusion index methodology.[16] Diffusion indices measure the degree that data are diffused (dispersed) within a sample.[17]

ZHCI is based on a 0-to-100 scale. For any index reporting period—

- An index value exceeding 50 designates a *positive* indicator or degree of confidence.

- An index value equal to 50 indicates a *neutral* indicator or degree of confidence.

- An index value of less than 50 indicates a *negative* indicator or degree of confidence.

The **maximum index value of 100** would indicate maximum confidence (that is, respondents provided uniformly positive answers to relevant questions within HCS); the **minimum index value of 0** would indicate no confidence (that is, respondents provided uniformly negative answers to relevant questions within HCS).

Index Structure

Each ZHCI is a weighted composite measure of the three underlying indicator indices, each of which quantify a unique dimension of confidence in the housing market.

1.   The Housing Market Conditions Index (HMCI)   25 percent weight in the headline index

2.   The Housing Expectations Index (HEI)   50 percent weight in the headline index

3.   The Homeownership Aspirations Index (HAI)   25 percent weight in the headline index

The three indicator indices are calculated from responses to combinations of individual HCS questions formulated to address specific topics relevant to each indicator. For example, current buying conditions and current market direction are two of the topics that are pertinent to HMCI. Thus, response data associated with the following questions from the HCS instrument are used in the calculation of HMCI—

- Where you live, would you say now is a good time to buy a home? Or a bad time to buy a home?

- Right now, would you say the values of homes where you live are… Going up? Going down? Or staying the same?

A complete list of question topics that relate to each housing confidence indicator appears in exhibit 1, preceded by a bullet point.[18]

---

[16] A detailed index methodology document is available online. See https://www.pulsenomics.com/uploads/HCI_Methodology_v1.11.pdf.

[17] Other indices that use this approach include the Wells Fargo Homebuilder Confidence Index; The Institute of Supply Management's (ISM) Purchasing Managers' Index; The Conference Board's Consumer Confidence Index, Present Situations Index, and Expectations Index; and The University of Michigan's Index of Consumer Sentiment, Index of Current Economic Conditions and Index of Consumer Expectations.

[18] The HCS Instrument is available on the Pulsenomics website at https://www.pulsenomics.com/uploads/HCS_Instrument_v1.11.pdf. An illustration of how the levels of a housing confidence indicator are related to household responses to particular questions within the HCS instrument is provided in exhibits 4 and 5.

Exhibit 1

Index Structure, Indicators, and Contributors
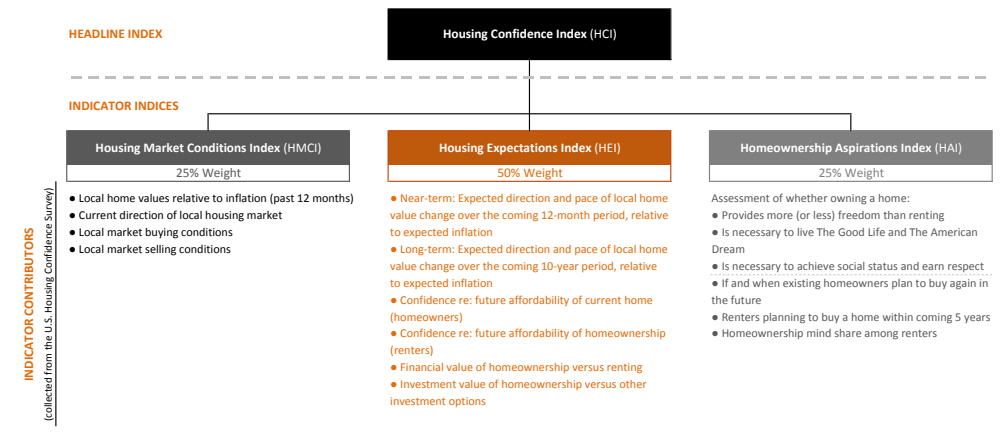
In addition to the four housing confidence indices produced for the total of all surveyed households in each metropolitan market, the data products include tenure-specific subindices for each city, that is, headline and indicator indices for (1) the subset of respondents who are homeowners and (2) the subset of respondents who are renters. Thus, each edition of the ZHCI includes a total of 252 ZHCI values—

Number of markets:	21	(20 metropolitan areas + 1 U.S. composite)
ZHCI types	x 4	(1 headline ZHCI + 3 indicator indices: HMCI, HEI, HAI)
Tenure categories:	x 3	(Homeowners, renters, homeowners + renters)
	252	

Samples of Published Research Data

Publications include biannual reports and research briefs that complement and contextualize raw ZHCI values. The following summary analyses are excerpted from a recent research report.[19]

Indices

ZHCI has already shown that, overall, housing confidence has improved since early 2014 across the United States, and in every city surveyed homeowners have a greater level of confidence in their local housing market than renters do. As the data in exhibit 2 shows, however, significant differences and shifts in housing confidence are common across the metropolitan areas and tenure categories.

• Since January 2014, Chicago's housing confidence has improved the least among homeowners (+1.1), but, among renters, it has increased significantly more (+5.4); in St. Louis, renter confidence surged (+8.3) above near-negative territory but homeowner confidence rose more modestly (+4.0).

---

[19] Pulsenomics LLC (2015).

Exhibit 2

January 2015 Headline ZHCI by Tenure

Sorted by 1-Year Index Point Change

Homeowner Confidence Index					Renter Confidence Index			
	Level	6-month change	1-year change			Level	6-month change	1-year change
U.S. Composite	**70.6**	▲ 2.9	▲ 3.7		U.S. Composite	**62.4**	▲ 3.6	▲ 4.4
New York	**71.0**	▲ 4.1	▲ 6.2		St. Louis	**59.0**	▲ 2.7	▲ 8.3
Detroit	**67.9**	▲ 0.7	▲ 5.6		Philadelphia	**59.1**	▲ 5.1	▲ 8.1
Dallas	**71.1**	▲ 3.9	▲ 5.4		Los Angeles	**64.3**	▲ 4.8	▲ 7.8
Seattle	**72.9**	▲ 0.5	▲ 5.4		Minneapolis	**62.0**	▲ 0.4	▲ 7.1
Denver	**71.3**	▲ 2.2	▲ 5.0		Dallas	**67.4**	▲ 8.2	▲ 6.8
Boston	**70.1**	▲ 0.5	▲ 4.3		Denver	**65.2**	▲ 1.8	▲ 5.7
Tampa	**68.2**	▲ 2.4	▲ 4.3		Chicago	**58.3**	▲ 3.5	▲ 5.4
St. Louis	**65.8**	▲ 3.2	▲ 4.0		San Francisco	**65.4**	▲ 3.6	▲ 5.4
Atlanta	**69.4**	▲ 3.6	▲ 4.0		Miami	**68.3**	▲ 8.5	▲ 5.3
Washington, D.C.	**72.8**	▲ 2.7	▲ 4.0		Detroit	**55.6**	▼ − 0.8	▲ 4.9
San Francisco	**74.7**	▲ 1.1	▲ 3.6		Atlanta	**60.9**	▼ − 3.1	▲ 4.6
Philadelphia	**67.6**	▲ 5.3	▲ 2.7		Las Vegas	**62.2**	▲ 4.0	▲ 3.3
Los Angeles	**74.1**	▲ 0.7	▲ 2.6		Washington, D.C.	**62.7**	▲ 1.6	▲ 3.2
San Jose	**75.7**	▲ 3.1	▲ 2.5		San Jose	**65.5**	▲ 5.3	▲ 2.8
Las Vegas	**69.4**	▲ 2.0	▲ 2.5		San Diego	**62.2**	▲ 4.3	▲ 2.7
Minneapolis	**67.9**	▲ 1.4	▲ 2.4		Phoenix	**63.9**	▲ 4.3	▲ 2.7
Miami	**72.0**	▲ 1.6	▲ 2.4		Seattle	**59.8**	▲ 0.5	▲ 2.0
San Diego	**75.1**	▲ 3.8	▲ 2.3		New York	**62.2**	▲ 4.1	▲ 1.8
Phoenix	**70.8**	▲ 4.2	▲ 1.6		Boston	**60.0**	▲ 1.1	▲ 1.0
Chicago	**68.1**	▲ 5.4	▲ 1.1		Tampa	**59.5**	▲ 1.4	▬ 0.0

ZHCI = Zillow Housing Confidence Index.

- The U.S. Composite ZHCI for renters increased at a faster rate than that for homeowners during 2014, but, across all surveyed metropolitan areas, housing market sentiment among renters still trails that of homeowners by an average of 8.2 points. This "confidence gap" currently is widest in Seattle (13.1 points) and narrowest in Dallas (3.7 points).

- The January 2015 ZHCI data also revealed a persistent confidence gap between homeowners and renters (see exhibit 3). This gap was consistent across all geographies and index indicators, with only two exceptions: aspirations for homeownership among renters in Atlanta and St. Louis were higher than those of existing homeowners in both cities.[20]

---

[20] At the present time, HCS is conducted biannually, in January and July. At the time of this writing, the January 2015 edition of HCS was the most recent available.

Exhibit 3

Headline and Indicator Index History by Tenure (U.S. composites)
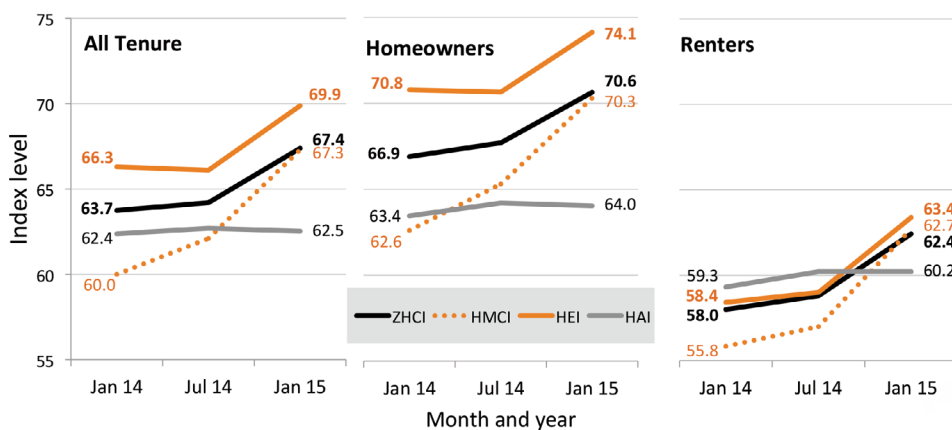
HAI = Homeownership Aspirations Index. HEI = Housing Expectations Index. HMCI = Housing Market Conditions Index. ZHCI = Zillow Housing Confidence Index.

Homeownership Aspirations

The All-Tenure U.S. Composite Homeownership Aspirations Index is presently 62.5, down slightly (by 0.2 points) from its level in July 2014 and up only marginally (also by 0.2 points) year over year. This lackluster 2014 performance contrasts with that of the two other composite indicator indices, but analysis of metropolitan-level HAI data reveals that homeownership aspirations are neither uniform nor static.

• Residents of the Los Angeles metropolitan area presently have the strongest aspirations for homeownership (all-tenure HAI: 66.7), while Boston households have the lowest (56.6) among the 20 metropolitan areas surveyed.

• Between July 2014 and January 2015, the composite index of homeownership aspirations among renters did not change. For a number of individual metropolitan areas, however, the Renter HAI changed substantially: in San Jose and Miami, it surged by more than 7 points; in Detroit, it plummeted by more than 9 points.

• Year-over-year changes in homeownership aspirations were more dramatic among renters than homeowners. In January 2015, the Los Angeles Renter HAI strengthened by more than 9.0 points from its year-earlier level, while the Boston Renter HAI weakened by 6.5 points during the same period. Exhibit 4 illustrates the divergent paths of renter homeownership aspirations since January 2014.

• The year-over-year divergence between these two metropolitan areas for this key indicator of confidence can be traced directly to the decidedly more positive feedback collected from Los Angeles renter households over time. The HCS response data described in exhibit 5 explain the changes in the Boston and Los Angeles Renter HAIs.

Exhibit 4

Renters' Homeownership Aspirations: What a Difference a Year Makes
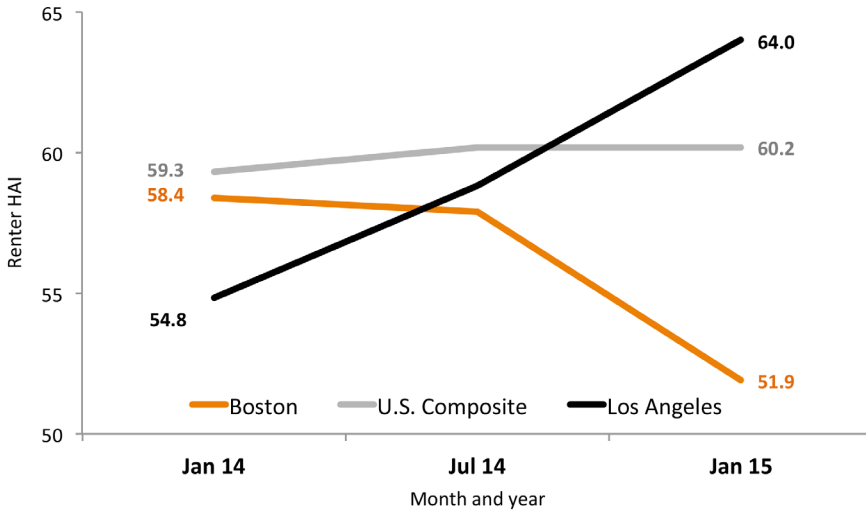
HAI = Homeownership Aspirations Index.
Source: Pulsenomics LLC

Exhibit 5

Boston and Los Angeles: The Tale of Two Cities
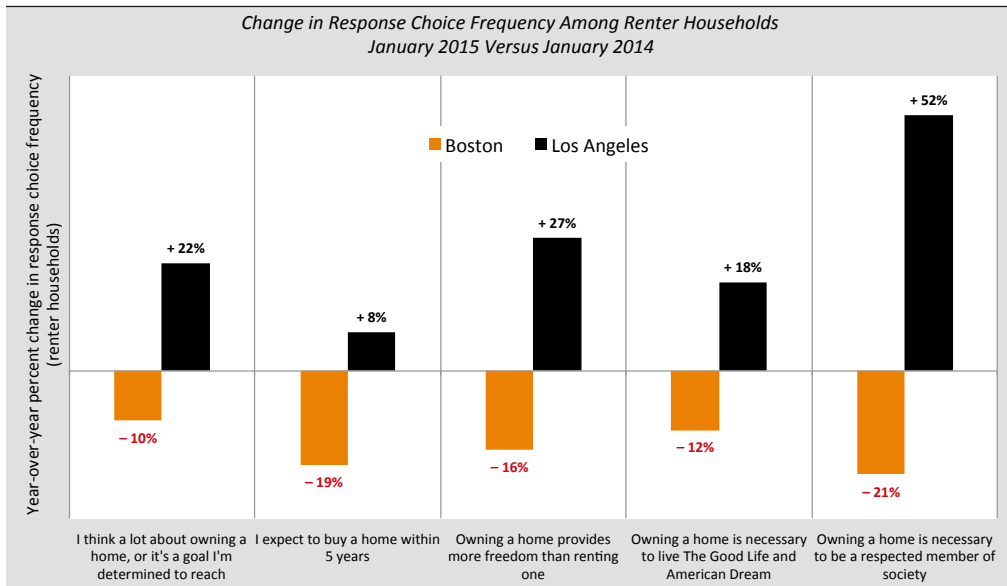
Source: Pulsenomics LLC U.S. Housing Confidence Survey

HCS Response Data

In recent years, researchers have speculated the impact of the past decade's housing bust and how it shaped the attitudes of today's prospective first-time home buyers and their view of home-ownership for years to come. Some observers have suggested that although parent homeowners suffered the financial complications of the foreclosure crisis, their millennial children shared in the emotional toll (or witnessed it among friends). Amidst a significant post-bust decline in the U.S. homeownership rate, predictions of a secular decline in appetite for homeownership among young adults have followed.

The November 2014 American Real Estate Society Newsletter cited a variety of data from the then latest edition of HCS to reveal that the appetite for homeownership among the millennial generation remains strong (Pulsenomics LLC, 2014).[21] A few insights on this topic follow and were gleaned from HCS research and published by ARES.

• Nearly two-thirds (65 percent) of all millennials interviewed believe that owning a home is necessary to live the good life and the American Dream (exhibit 6).

• Nearly three-fourths (74 percent) of millennials believe that owning a home provides a person more freedom than renting a home (exhibit 7).

• Notwithstanding their uncertain income growth prospects, increasing student debt loads, and consensus expectations that mortgage rates are likely to increase in the near future, 82 percent of millennial renters are confident, or somewhat confident, that they will be able to afford to own a home some day (exhibit 8).

Exhibit 6

Adults Who Say That Owning a Home Is Necessary To Live The Good Life and The American Dream
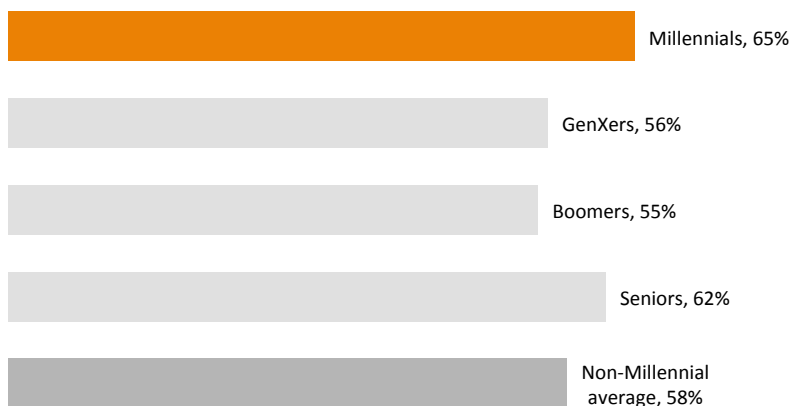
Notes: Sample size is 500 adults in each of 20 metropolitan statistical areas. The margin of sampling error is +/- 1.2 percent.
Source: Pulsenomics U.S. Housing Confidence Survey, July 2014

---

[21] These and other data were initially reported in a September 2014 research brief by Pulsenomics LLC. This brief and other Pulsenomics housing research briefs are available upon request: e-mail info@pulsenomics.com.

Exhibit 7

Adults Who Say That Owning a Home Provides a Person More Freedom Than Renting a Home
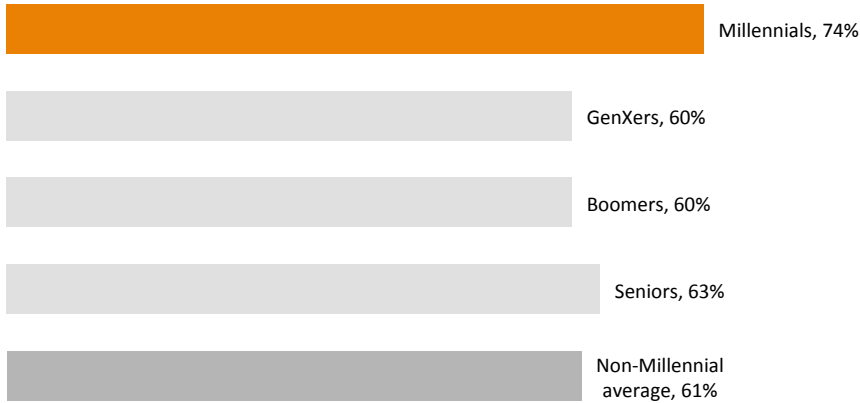
Millennials, 74%

GenXers, 60%

Boomers, 60%

Seniors, 63%

Non-Millennial
average, 61%

Notes: Sample size is 500 adults in each of 20 metropolitan statistical areas. The margin of sampling error is +/- 1.2 percent.
Source: Pulsenomics U.S. Housing Confidence Survey, July 2014

Exhibit 8

Renters Who Say That They Are Confident or Somewhat Confident They Will Be Able To Afford a Home Some Day

Millennials, 82%

GenXers, 64%

Boomers, 48%

Seniors, 31%

Non-Millennial
average, 48%
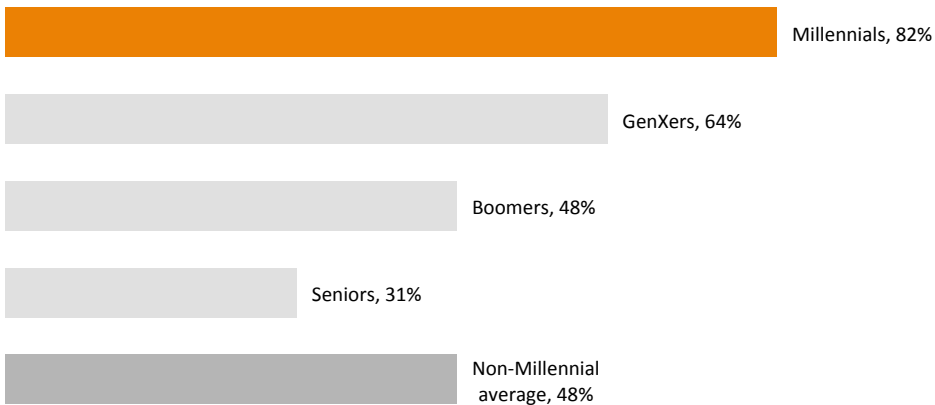
Notes: Sample size is 3,764 renter households. The margin of sampling error is +/- 2.0 percent.
Source: Pulsenomics U.S. Housing Confidence Survey, July 2014

Home Value Expectations

The HCS questionnaire includes several questions regarding expectations for short- and long-term changes in home values within the local market where each respondent resides.

Among the generation cohorts, millennials and seniors tend to be the most and least optimistic, respectively, about future home value appreciation (in the short term as well as over the long run).

In January, in every city except Los Angeles and St. Louis, households headed by millennials were more optimistic about 2015 home value appreciation than the overall metropolitan area population.

Of course, the relative strength of expectations for short- and long-term future home value changes for any population segment can vary considerably by metropolitan area. The data presented in exhibit 9 illustrate this variation. For example, millennials and seniors in St. Louis expect that home values will increase an average of about 1.0 percent in 2015, while members of these age groups who reside in San Jose expect home value appreciation of 6.4 and 3.8 percent, respectively.

Exhibit 9

Rankings of Home Value Change Expectations for 2015

All Respondents			Millennials			Seniors		
Rank	Metropolitan Area	Mean (%)	Rank	Metropolitan Area	Mean (%)	Rank	Metropolitan Area	Mean (%)
1	San Jose	4.60	1	San Jose	6.41	1	San Jose	3.75
2	San Francisco	4.06	2	Miami	5.35	2	Las Vegas	3.14
3	Miami	3.93	3	Tampa	5.22	3	San Francisco	3.06
4	Tampa	3.27	4	San Francisco	4.62	4	Seattle	2.69
5	Las Vegas	3.20	5	Washington, D.C.	4.09	5	San Diego	2.57
6	San Diego	3.18	6	Detroit	4.03	6	Tampa	2.50
7	Denver	3.06	7	New York	3.75	7	Los Angeles	2.42
8	Seattle	2.98	8	Las Vegas	3.68	8	Miami	2.14
9	Detroit	2.97	9	Denver	3.57	9	Denver	2.04
10	Washington, D.C.	2.84	10	Phoenix	3.50	10	Detroit	2.01
11	New York	2.81	11	San Diego	3.33	11	Washington, D.C.	1.99
12	Los Angeles	2.76	12	Chicago	3.23	12	Phoenix	1.99
13	Phoenix	2.63	13	Boston	3.19	13	Minneapolis	1.74
14	Dallas	2.59	14	Seattle	3.17	14	Atlanta	1.71
15	Boston	2.55	15	Minneapolis	2.92	15	Boston	1.64
16	Atlanta	2.51	16	Dallas	2.77	16	New York	1.59
17	Minneapolis	2.35	17	Atlanta	2.64	17	Dallas	1.56
18	Chicago	2.29	18	Philadelphia	2.32	18	Chicago	1.56
19	Philadelphia	1.90	19	Los Angeles	2.23	19	Philadelphia	1.20
20	St Louis	1.47	20	St Louis	1.21	20	St Louis	1.06
20-metropolitan area average		**2.90**	20-metropolitan area average		**3.56**	20-metropolitan area average		**2.12**

Source: Pulsenomics U.S. Housing Confidence Survey, January 2015

Accessing ZHCI Values and HCS Response Data

Index values, and cross-tab analyses pertaining to individual survey questions, are available in familiar electronic formats.

ZHCI Data

The comprehensive ZHCI dataset is freely available via the Zillow Research and Pulsenomics websites. This collection of 252 individual time series is available in Microsoft Excel format, as are a variety of preformatted index lists and rankings (exhibit 10 is one example). Related research briefs also are available.

Exhibit 10

Sample ZHCI Ranking (All-Tenure, ranked by 1-year change in index points)

Zillow®
Housing Confidence Index™
January 2015

Powered by **pulsenomics®** Pulsenomics LLC

INDEX LEVELS: 1 Year Change Sort

ALL-TENURE

Headline Index Levels — Housing Confidence

Metro Area	HCI	6 mo Change	1 yr Change
Dallas	69.7	▲ 5.5	▲ 5.3
Detroit	64.4	▲ 0.4	▲ 5.0
St. Louis	63.8	▲ 3.0	▲ 4.9
Los Angeles	69.2	▲ 2.7	▲ 4.8
Denver	69.1	▲ 2.0	▲ 4.7
San Francisco	70.5	▲ 2.3	▲ 4.1
Philadelphia	64.8	▲ 5.1	▲ 4.1
New York	66.7	▲ 4.1	▲ 3.8
Seattle	67.9	▲ 0.4	▲ 3.7
Atlanta	66.5	▲ 1.3	▲ 3.6
Minneapolis	66.2	▲ 1.1	▲ 3.5
Washington DC	69.2	▲ 2.3	▲ 3.4
Miami	70.6	▲ 4.1	▲ 3.2
Boston	66.2	▲ 0.7	▲ 2.8
Tampa	65.3	▲ 2.0	▲ 2.7
Las Vegas	66.3	▲ 2.8	▲ 2.2
Chicago	64.8	▲ 4.8	▲ 2.2
San Jose	71.5	▲ 4.1	▲ 2.0
San Diego	69.2	▲ 4.1	▲ 2.0
Phoenix	68.4	▲ 4.2	▲ 1.7
US Composite	67.4	▲ 3.2	▲ 3.6

Indicator Index Levels

Housing Market Conditions

Metro Area	HMCI	6 mo Change	1 yr Change
Dallas	73.5	▲ 9.6	▲ 12.1
Detroit	66.1	▲ 5.1	▲ 11.7
St. Louis	60.2	▲ 5.0	▲ 10.6
Atlanta	64.3	▲ 2.7	▲ 10.1
Chicago	62.1	▲ 8.1	▲ 9.4
Philadelphia	61.5	▲ 7.4	▲ 9.3
Miami	72.4	▲ 7.6	▲ 9.3
Denver	73.7	▲ 2.1	▲ 8.3
Boston	69.3	▲ 2.8	▲ 8.2
Las Vegas	68.7	▲ 6.5	▲ 8.1
Seattle	71.1	▲ 3.1	▲ 7.5
Tampa	64.7	▲ 4.5	▲ 6.8
Minneapolis	68.7	▲ 1.3	▲ 6.5
New York	65.1	▲ 6.7	▲ 6.4
Washington DC	69.4	▲ 4.2	▲ 6.2
Los Angeles	67.6	▲ 3.1	▲ 3.9
San Diego	69.3	▲ 4.1	▲ 3.8
San Francisco	72.8	▲ 1.3	▲ 3.1
San Jose	72.9	▲ 3.7	▲ 2.3
Phoenix	67.6	▲ 4.6	▲ 0.6
US Composite	67.3	▲ 5.2	▲ 7.3

Housing Expectations

Metro Area	HEI	6 mo Change	1 yr Change
Denver	70.7	▲ 2.1	▲ 5.2
Detroit	66.0	▲ 0.5	▲ 5.2
Los Angeles	71.3	▲ 2.8	▲ 4.9
New York	70.1	▲ 6.5	▲ 4.8
San Francisco	73.2	▲ 2.8	▲ 4.4
St. Louis	67.0	▲ 3.3	▲ 4.4
Dallas	70.0	▲ 5.3	▲ 4.1
Miami	72.3	▲ 3.3	▲ 3.8
Boston	69.5	▲ 2.1	▲ 3.7
Minneapolis	68.4	▲ 1.2	▲ 3.6
Seattle	70.4	— 0.0	▲ 3.6
San Diego	73.1	▲ 6.2	▲ 3.3
Philadelphia	67.8	▲ 5.9	▲ 3.2
Washington DC	71.8	▲ 2.2	▲ 3.0
Atlanta	69.1	▲ 1.7	▲ 2.4
Phoenix	71.1	▲ 6.0	▲ 2.3
San Jose	73.5	▲ 4.2	▲ 1.9
Tampa	68.1	▲ 1.4	▲ 1.7
Chicago	67.4	▲ 5.4	▲ 0.8
Las Vegas	66.5	▲ 1.4	▲ 0.1
US Composite	69.9	▲ 3.8	▲ 3.6

Homeownership Aspirations

Metro Area	HAI	6 mo Change	1 yr Change
Los Angeles	66.7	▲ 2.3	▲ 5.4
San Francisco	62.6	▲ 2.2	▲ 4.5
San Jose	65.9	▲ 4.3	▲ 2.2
Phoenix	63.8	▲ 0.2	▲ 1.7
Washington DC	63.9	▲ 0.5	▲ 1.4
Dallas	65.3	▲ 2.1	▲ 1.0
Tampa	60.3	▲ 0.8	▲ 0.9
Las Vegas	63.5	▲ 2.1	▲ 0.6
Philadelphia	62.2	▲ 1.4	▲ 0.6
Minneapolis	59.1	▲ 0.6	▲ 0.4
St. Louis	61.1	▲ 0.6	▲ 0.3
Denver	61.1	▲ 1.6	▲ 0.2
Seattle	59.7	▼ -1.3	— 0.0
New York	61.5	▼ -3.3	▼ -1.0
Detroit	59.4	▼ -4.5	▼ -2.0
Chicago	62.3	▲ 0.3	▼ -2.1
San Diego	61.2	▼ -0.4	▼ -2.5
Miami	65.5	▲ 2.2	▼ -4.2
Boston	56.6	▼ -4.1	▼ -4.4
US Composite	62.5	▼ -0.2	▲ 0.2

HAI = Homeownership Aspirations Index. HCI = Housing Confidence Index. HEI = Housing Expectations Index.
HMCI = Housing Market Conditions Index. ZHCI = Zillow Housing Confidence Index.
Source: Reproduced from http://www.pulsenomics.com

HCS Response Data

An extensive volume of HCS data is available. These data are compiled in the form of cross-tab analysis reports for each metropolitan area (or any combination of metropolitan areas) surveyed in a given field period. For any question(s) within the HCS instrument, these reports provide an easy-to-read summary analysis of weighted respondent-level data. The reports are available in Microsoft Excel format.

Basic Cross-Tab Analysis Reports

The basic cross-tab analysis report format summarizes respondent-level survey data for any HCS question(s) according to key demographic variables: tenure, gender, age, income, race/ethnicity, and phone type. Exhibit 11 is an excerpt from a basic cross-tab report produced by Pulsenomics; it reflects response data aggregated from the 20 individual metropolitan areas for five HCS questions.

Exhibit 11

Basic HCS Cross-Tab Analysis Report (sample)

U.S. Housing Confidence Survey™   20 Metros   July 2014   Field Period: 7/6/2014 - 7/13/2014

Powered by **pulsenomics**
Pulsenomics LLC
www.pulsenomics.com

Question 1

Do you own your home? Rent? Live with someone else? Or have some other living arrangement?

10,000 Adults — Margin of Sampling Error ± 1.2%

10,000 Adults	All	Tenure		Gender		Age				Income				Race/Ethnicity				Phone Type	
		Own	Rent	Male	Female	18-34	35-49	50-64	65+	<$25K	$25K	$50K-$	>$90K	White	Black	Hispanic	Asian /	Cell	Landline
Own	62.4%	100.0%	0.0%	64.4%	60.5%	48.2%	65.0%	68.7%	75.8%	32.2%	50.2%	70.0%	86.2%	69.4%	43.6%	56.3%	55.5%	58.6%	64.9%
Rent	33.5%	0.0%	89.1%	31.7%	35.3%	42.8%	33.2%	29.5%	22.4%	61.1%	44.4%	26.3%	12.2%	26.7%	51.4%	40.1%	39.6%	34.7%	32.8%
Live With Someone Else	3.1%	0.0%	8.2%	2.9%	3.1%	7.6%	1.1%	1.2%	0.7%	5.2%	4.1%	2.5%	1.3%	2.8%	4.0%	3.1%	3.3%	5.4%	1.5%
Other	1.0%	0.0%	2.7%	1.0%	1.0%	1.4%	0.8%	0.7%	0.9%	1.6%	1.2%	1.1%	0.2%	1.2%	0.9%	0.5%	1.0%	1.4%	0.8%
Total (# counts)	10,000	6,236	3,764	4,846	5,154	3,119	2,760	2,546	1,573	1,747	2,691	2,816	2,579	5,922	1,233	1,756	1,091	3,967	6,033
Composition of Adults	100.0%	62.3%	37.7%	48.6%	51.5%	31.3%	27.7%	25.4%	15.7%	17.8%	27.4%	28.5%	26.3%	59.2%	12.3%	17.6%	11.0%	39.8%	60.3%

Question 2

Is this the first home you have owned?

6,225 Homeowners — Margin of Sampling Error ± 1.5%

6,225 Homeowners	All	Tenure		Gender		Age				Income				Race/Ethnicity				Phone Type	
		Own	Rent	Male	Female	18-34	35-49	50-64	65+	<$25K	$25K	$50K-$	>$90K	White	Black	Hispanic	Asian /	Cell	Landline
Yes	49.3%	49.3%	N/A	50.8%	47.7%	78.8%	54.0%	36.2%	24.2%	53.1%	57.3%	56.1%	38.8%	42.6%	57.4%	67.3%	57.6%	69.0%	37.5%
No	50.5%	50.5%	N/A	49.0%	52.1%	20.6%	45.9%	63.9%	75.6%	45.5%	42.1%	44.0%	61.3%	57.1%	42.4%	32.9%	42.4%	30.8%	62.2%
Not Sure	0.2%	0.2%	N/A	0.2%	0.2%	0.4%	0.1%	0.0%	0.4%	0.5%	0.4%	0.1%	0.0%	0.3%	0.2%	0.0%	0.2%	0.3%	0.2%
Total (# counts)	6,236	6,236	N/A	3,121	3,116	1,502	1,794	1,749	1,193	563	1,350	1,972	2,224	4,107	538	988	606	2,323	3,914
Composition of Homeowners	100.0%	100.0%	0.0%	50.2%	49.9%	24.2%	28.8%	28.0%	19.0%	9.1%	22.1%	32.2%	36.7%	64.9%	8.4%	16.5%	10.1%	37.4%	62.7%

Question 7

Think about how much you owe on your home, from your mortgage and any home equity loans. Would you say that your home is worth more than you owe? Less than you owe? Or about what you owe?

4,320 Homeowners With Mortgages — Margin of Sampling Error ± 1.9%

4,320 Homeowners With Mortgages	All	Tenure		Gender		Age				Income				Race/Ethnicity				Phone Type	
		Own	Rent	Male	Female	18-34	35-49	50-64	65+	<$25K	$25K	$50K-$	>$90K	White	Black	Hispanic	Asian /	Cell	Landline
More Than You Owe	64.4%	64.4%	N/A	65.2%	63.6%	56.8%	62.6%	72.4%	67.4%	46.9%	55.4%	61.9%	73.3%	68.0%	50.0%	58.0%	63.7%	61.5%	66.5%
Less Than You Owe	19.8%	19.8%	N/A	19.9%	19.9%	19.6%	20.1%	18.6%	22.1%	30.9%	23.8%	21.2%	15.1%	17.4%	30.3%	22.8%	21.9%	19.4%	20.1%
About What You Owe	13.9%	13.9%	N/A	13.5%	14.1%	20.2%	15.3%	8.3%	8.2%	16.8%	17.4%	15.4%	10.6%	12.8%	17.0%	16.4%	13.5%	16.9%	11.7%
Not Sure	1.9%	1.9%	N/A	1.4%	2.5%	3.6%	1.6%	0.9%	1.2%	6.3%	3.5%	1.2%	1.1%	1.7%	3.0%	2.7%	0.9%	2.2%	1.7%
Total (# counts)	4,237	4,237	N/A	2,061	2,176	1,084	1,489	1,165	497	256	822	1,394	1,711	2,751	370	676	443	1,744	2,491
Composition of Homeowners With Mortgages	100.0%	100.0%	0.0%	49.0%	51.1%	25.5%	35.0%	27.6%	11.8%	6.2%	19.9%	33.2%	40.7%	63.9%	8.8%	16.8%	10.9%	41.1%	58.9%

Question 11

How confident are you that you will be able to afford to own a home someday? Confident? Somewhat confident? Somewhat unconfident? Or not confident?

3,775 Renters — Margin of Sampling Error ± 2.0%

3,775 Renters	All	Tenure		Gender		Age				Income				Race/Ethnicity				Phone Type	
		Own	Rent	Male	Female	18-34	35-49	50-64	65+	<$25K	$25K	$50K-$	>$90K	White	Black	Hispanic	Asian /	Cell	Landline
Confident	35.4%	N/A	35.4%	37.3%	33.9%	44.5%	38.1%	22.2%	18.4%	23.9%	37.4%	41.7%	52.4%	31.0%	47.8%	33.8%	37.5%	46.3%	27.0%
Somewhat Confident	29.6%	N/A	29.6%	29.2%	30.1%	37.7%	26.1%	25.9%	12.6%	26.7%	31.5%	33.1%	25.4%	29.0%	28.1%	34.2%	27.4%	36.1%	24.6%
Somewhat Unconfident	14.7%	N/A	14.7%	13.4%	16.0%	10.7%	17.0%	18.5%	18.1%	17.8%	14.4%	12.8%	9.9%	16.1%	12.1%	17.3%	9.9%	8.6%	19.6%
Not Confident	17.5%	N/A	17.5%	16.3%	18.5%	5.7%	15.5%	29.4%	46.7%	28.2%	14.1%	9.9%	10.1%	21.4%	10.8%	11.8%	21.2%	7.0%	25.4%
Not Sure	2.6%	N/A	2.6%	3.6%	1.7%	1.2%	3.1%	4.4%	3.7%	3.1%	2.8%	1.9%	2.0%	2.5%	1.4%	3.0%	3.5%	1.9%	3.1%
Total (# counts)	3,764	N/A	3,764	1,727	2,032	1,619	965	798	381	1,183	1,338	841	355	1,815	695	769	485	1,642	2,120
Composition of Renters	100.0%	0.0%	100.0%	46.0%	54.0%	43.4%	25.5%	21.2%	9.9%	32.1%	36.3%	22.3%	9.2%	49.3%	19.6%	19.1%	11.9%	44.3%	55.7%

Question 24

What would you say provides a person more freedom ... (Question options and answer choices rotated) owning a home? Or renting?

10,000 Adults — Margin of Sampling Error ± 1.2%

10,000 Adults	All	Tenure		Gender		Age				Income				Race/Ethnicity				Phone Type	
		Own	Rent	Male	Female	18-34	35-49	50-64	65+	<$25K	$25K	$50K-$	>$90K	White	Black	Hispanic	Asian /	Cell	Landline
Owning	64.8%	68.2%	59.2%	66.2%	63.4%	73.8%	60.4%	59.4%	63.4%	61.9%	69.7%	66.5%	60.1%	61.9%	68.0%	71.2%	66.2%	72.2%	59.9%
Renting	29.4%	26.6%	33.8%	27.9%	30.7%	21.8%	32.7%	33.7%	31.3%	30.3%	24.9%	27.8%	34.3%	31.8%	26.8%	24.5%	26.8%	22.5%	33.9%
Not Sure	5.9%	5.2%	7.0%	5.9%	5.8%	4.5%	7.0%	6.7%	5.0%	7.8%	5.3%	5.6%	5.6%	6.2%	5.2%	4.6%	6.7%	5.3%	6.3%
Total (# counts)	10,000	6,236	3,764	4,846	5,154	3,119	2,760	2,546	1,573	1,747	2,691	2,816	2,579	5,922	1,233	1,756	1,091	3,967	6,033
Composition of Adults	100.0%	62.3%	37.7%	48.6%	51.5%	31.3%	27.7%	25.4%	15.7%	17.8%	27.4%	28.5%	26.3%	59.2%	12.3%	17.6%	11.0%	39.8%	60.3%

Source: Reproduced from http://www.pulsenomics.com

Custom Cross-Tab Analysis Reports

Custom cross-tab analyses are also available. For every metropolitan area surveyed in any edition of the survey, for each individual HCS question, Pulsenomics can provide response data that is cross-tabbed to responses to any number of other HCS survey questions. An example appears as exhibit 12. It was generated from responses to the same five HCS questions featured within the preceding report excerpt, but in this case, it reflects data collected from only Los Angeles respondents. Also, instead of summarizing response data for each HCS question according to the same, standard set of demographic variables, the report "crosses" response data collected in connection with HCS question numbers 1, 2, 7, and 11 with responses to question number 24.

Exhibit 12

Custom HCS Cross-Tab Analysis Report (sample)

U.S. Housing Confidence Survey™ **Los Angeles** July 2014 Field Period: 7/6/2014 - 7/13/2014 *Powered by* pulsenomics Pulsenomics LLC www.pulsenomics.com

Question 24		What would you say provides a person more freedom … (Question options and answer choices rotated) owning a home? Or renting?															
500 Adults		Question 1				Question 2			Question 7				Question 11				
		Own or Rent				First Home?			Home value more or less than mortgage(s)?				Confident you will be able to afford to own a home someday?				
Margin of Sampling Error: ± 4.3%	All	Own	Rent	Live Wit	Other	Yes	No	Not Sure	More	Less	About Same	Not Sure	Confiden	Somewh Con	SomewhUnc	Not Conf	Not Sure
Owning	64%	71%	56%	95%	73%	75%	65%	100%	64%	70%	90%	42%	61%	66%	58%	37%	29%
Renting	29%	23%	36%	5%	27%	19%	28%	0%	30%	29%	10%	0%	33%	30%	26%	51%	56%
Not Sure	7%	6%	9%	0%	0%	5%	7%	0%	6%	1%	0%	58%	6%	4%	16%	12%	15%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Composition of Adults	100%	50%	48%	1%	1%	63%	37%	0%	64%	18%	17%	1%	35%	26%	19%	17%	2%

Source: Reproduced from http://www.pulsenomics.com

Home Value Change Assessment and Expectations Reports

The HCS instrument includes several questions concerning home value changes in the respondents' respective local markets. These pertain to households' assessments of recent home value changes (that is, perceptions of actual change for the preceding 12-month period) and expectations for short- and long-term future changes (that is, expected changes for the coming 12-month and 10-year periods, respectively).[22] Because assessments of and expectations for home value changes vary considerably according to geography and population cohort, Pulsenomics compiles related summary statistics to facilitate analysis and study. Exhibit 13 illustrates sample report content and format.

---

[22] Regarding long-term home value expectations, respondents are asked to indicate the annual percentage change in value expected (for homes in the market where the respondent resides) in an average year for the coming 10-year period.

Exhibit 13

Home Value Change Assessment and Expectations Report (sample)

U.S. Housing Confidence Survey™
January 2015
Las Vegas
Home Value Change Assessments & Expectations (Mean of Responses, %*)

Powered by
pulsenomics
Pulsenomics LLC

Selected Population Cohorts, Grouped | *Rankings of Selected Population Cohorts*

Mean of Responses (%)	Assessment Past 12 mos	Expectations Next 12 mos	Expectations Avg Ann Next 10 Yrs
All Households	4.92	3.20	3.07
TENURE			
All Homeowners	4.65	4.05	3.50
All Renters	4.18	0.72	2.77
BUYER PROFILE			
Recent Buyers	5.10	7.50	4.05
Non-Recent Buyers	4.31	2.89	3.43
First-Time Buyers	6.23	5.05	4.55
Not First-Time Buyers	3.72	3.24	2.93
HOME EQUITY			
Underwater Owners	4.44	3.70	4.73
Above-water Owners	5.92	4.67	3.12
AGE			
College Age	1.38	5.60	0.50
Early Career	7.31	3.24	4.83
All Millennials	6.35	3.68	3.65
Generation X	4.06	1.25	2.90
Younger Boomers	2.38	2.73	2.33
Older Boomers	4.24	3.05	2.60
Seniors	3.89	3.14	2.56

Assessment — Past 12 mos

All Households 4.92

Rank	Population Cohort	Mean (%)
1	Early Career	7.31
2	All Millennials	6.35
3	First-Time Buyers	6.23
4	Above-water Owners	5.92
5	Recent Buyers	5.10
6	Home Owners	4.65
7	Underwater Owners	4.44
8	Non-Recent Buyers	4.31
9	Older Boomers	4.24
10	Renters	4.18
11	Generation X	4.06
12	Seniors	3.89
13	Not First-Time Buyers	3.72
14	Younger Boomers	2.38
15	College Age	1.38

Expectations — Next 12 mos

All Households 3.20

Rank	Population Cohort	Mean (%)
1	Recent Buyers	7.50
2	College Age	5.60
3	First-Time Buyers	5.05
4	Above-water Owners	4.67
5	Home Owners	4.05
6	Underwater Owners	3.70
7	All Millennials	3.68
8	Early Career	3.24
9	Not First-Time Buyers	3.24
10	Seniors	3.14
11	Older Boomers	3.05
12	Non-Recent Buyers	2.89
13	Younger Boomers	2.73
14	Generation X	1.25
15	Renters	0.72

Expectations — Avg Ann Next 10 Yrs

All Households 3.07

Rank	Population Cohort	Mean (%)
1	Early Career	4.83
2	Underwater Owners	4.73
3	First-Time Buyers	4.55
4	Recent Buyers	4.05
5	All Millennials	3.65
6	Home Owners	3.50
7	Non-Recent Buyers	3.43
8	Above-water Owners	3.12
9	Not First-Time Buyers	2.93
10	Generation X	2.90
11	Renters	2.77
12	Older Boomers	2.60
13	Seniors	2.56
14	Younger Boomers	2.33
15	College Age	0.50

*10% trimmed mean
The U.S. Housing Confidence Survey is sponsored by Zillow, Inc.
www.pulsenomics.com

Source: Reproduced from http://www.pulsenomics.com

HCS Response Data Access

For commercial uses, these data are furnished by Pulsenomics to subscribers for modest license fees, which help to defray research and production costs. For certain noncommercial uses (for example, institutional research and public policy development), Pulsenomics can license these data for no charge.

Conclusion

The increasingly speculative and volatile nature of our real estate markets, the powerful wealth effects of actual and expected home values, and the profound impact that changing consumer attitudes and impending demographic shifts will have on economic performance underscore the imperative to explore new types of housing market data that can help address blind spots exposed in the aftermath of the historic bust. Timely, authoritative measurements of housing confidence by geographic market, tenure, and key demographic variables can enhance our ability to anticipate and better manage real estate risk in the 21st century. For researchers, policymakers, and market stakeholders, HCS and ZHCI are unique and valuable complements to legacy indicators of economic confidence and housing market health.

Acknowledgments

Author

Terry Loebs is the Founder and Managing Member of Pulsenomics LLC.

References

Akerlof, George A., and Robert J. Shiller. 2009. *Animal Spirits: How Human Psychology Drives the Economy, and Why It Matters for Global Capitalism*. Princeton, NJ; Oxford, United Kingdom: Princeton University Press.

Case, Karl E., Robert J. Shiller, and Anne Thompson. 2012. "What Have They Been Thinking? Home Buyer Behavior in Hot and Cold Markets." *Brookings Papers on Economic Activity, Fall 2012*. Cambridge, MA: National Bureau of Economic Research: 265–298.

Pulsenomics LLC. 2015. *Housing Confidence Report*. Acton, MA: Pulsenomics LLC.

———. 2014. *U.S. Housing Confidence at Mid-Year*. Acton, MA: Pulsenomics LLC.

Blumberg, Stephen J., and Julian V. Luke. 2014. *Wireless Substitution: Early Release of Estimates From the National Health Interview Survey, January–June 2014*. National Health Interview Survey Early Release Program. Washington, DC: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention.