

# What Do Consumers Know About The Mortgage Qualification Criteria?

**Economic & Strategic Research Group  
December 2015**



## Disclaimer

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## Research Background and Objectives

Despite easing credit standards,<sup>1</sup> improving labor markets, and consumers' continued strong aspiration to own, the homeownership rate remains at a low level.<sup>2</sup> This situation has prompted policymakers, regulators, and industry participants to examine challenges facing consumers in getting a mortgage. In prior surveys, renters have told us that saving for a down payment and their credit score are the leading obstacles to obtaining a mortgage.<sup>3</sup> To the extent that consumers may have misunderstandings about the requirements for qualifying for a mortgage, there may be an opportunity to expand access responsibly by addressing such misperceptions.

Specific objectives of this research include:

- Uncover consumer comprehension pertaining to the mortgage qualification process, including the underwriting basics, such as:
  - Credit score
  - Down payment or Loan-to-Value (LTV) ratio
  - Debt-to-Income (DTI) ratio
- Reveal which, if any, groups of consumers have a poor understanding of mortgage qualifications
- Understand consumers' financial attitudes and behaviors, including housing attitudes, perceived barriers to obtaining a mortgage, sources of information used for getting a mortgage, steps taken when shopping for a home and a mortgage, and future use of mobile technologies for mortgage shopping and managing personal finances

<sup>1</sup> Mortgage Lender Sentiment Survey, Q3 2015, Fannie Mae, <http://www.fanniemae.com/portal/research-and-analysis/mortgage-lender-survey.html>

The July 2015 Senior Loan Officer Opinion Survey on Bank Lending Practices, <http://www.federalreserve.gov/boarddocs/snloansurvey/201508/default.htm>

<sup>2</sup> The U.S. Homeownership rate was 63.7% and 63.4%, respectively, in the 3rd quarter and 2nd quarter of 2015, compared to the lowest homeownership rate of 62.9% observed in 1965, according to the U.S. Census. The 50-year average is 65.3%. Homeownership peaked at 69.2% at the end of 2004 and then has gradually declined.

<sup>3</sup> "What Younger Renters Want and the Financial Constraints They Face," Fannie Mae, <http://www.fanniemae.com/portal/about-us/media/commentary/050514-shahdad.html>

## Executive Summary – Key Findings

- ✓ When asked to identify accurate key mortgage qualification criteria (down payment, credit score, and DTI ratio), about one half of consumers were unable to provide an answer.
  - The lack of understanding is more pronounced among those with less education and lower income as well as among renters (as opposed to homeowners with mortgages), African-Americans, and Hispanics.
  - Regression analysis shows that education, income, and age are most highly associated with mortgage qualification understanding. Lower-income consumers, less-educated consumers, and seniors are more likely to say “don’t know.” Ethnicity accounts for 2 to 9 percent of model explanation.
  - Only 23 percent are aware of the 3 percent and 5 percent down payment programs.
  - Although more than eight in 10 consumers (81 percent) indicate that they have seen their credit score, when asked what their score is, nearly half consumers (49 percent) say “don’t know” or provide a number outside of the score range (300-850).
- ✓ And, only 5 to 16 percent of them chose an answer with the correct range.
  - The “over-estimate” is more pronounced among less-educated and lower-income consumers, African-Americans, and Hispanics. When asked about the maximum DTI ratio, these consumer groups are more likely to “under-estimate” the ratio.
  - Their mean responses about the minimum down payment and credit score requirements are higher than Fannie Mae requirements.

	What Consumers Say	Fannie Mae Requirements
Minimum Credit Score Required	Mean = 652 / Median = 650 / Don’t Know/Wrong = 54%	620 (minimum)
Minimum % Down Payment Required	Mean = 12% / Median = 10% / Don’t Know = 40%	3% (minimum)
Maximum Back-End DTI Ratio	Mean = 44% / Median = 45% / Don’t Know = 59%	45% (maximum for most circumstances)

- ✓ Lenders are cited as the most influential source of information for getting mortgage advice (33 percent most influential; 64 percent top three most influential), followed by family and friends (20 percent most influential; 47 percent top three most influential). Regression analysis shows that ethnicity and age are most highly associated with differences in the influence of various information sources. For example:
  - Older and Caucasian consumers are more likely to cite lenders as the most influential source of information.
  - African-Americans and Hispanics are more likely to cite real estate agents, government agencies, and non-profit housing counselors.
  - Younger consumers and Asian-Americans are more likely to cite family and friends as the most influential source of information.

## *Implications*

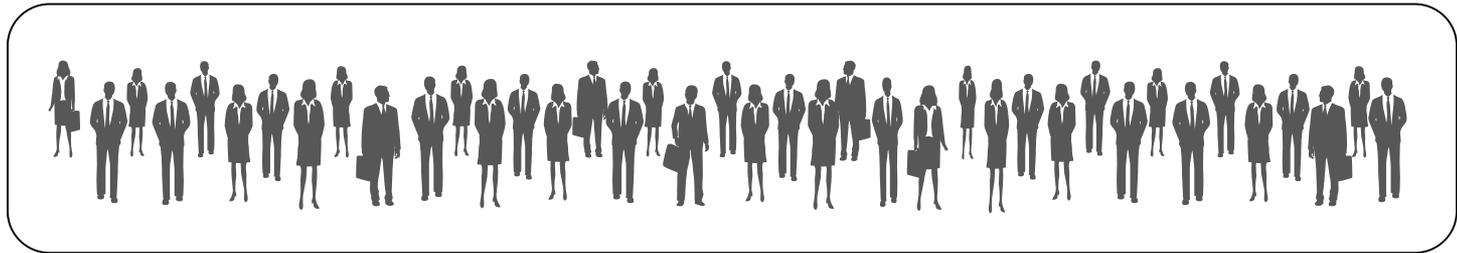
- ✓ Do not take consumer confidence at face value – there is a need and opening for educational efforts surrounding primary underwriting principles (credit score, down payment/LTV, DTI ratios, and low down payment mortgage programs).
- ✓ Focus educational efforts on consumers with less education and lower income as well as on African-Americans, Hispanics, and renters. Statistics indicate that these consumer groups would benefit from additional education and the perceived obstacles to qualifying for mortgages are greater for these consumer groups.
- ✓ Partner with industry consumer advocacy groups such as government agencies or trusted, well-known public figures who appeal to target consumer groups to help consumers build knowledge in the early stage of buying a home. With such knowledge, consumers will be more capable of tackling parts of the mortgage purchase journey that are most often seen as a barrier, including navigating the approval process, researching loan options, and getting pre-qualified/pre-approved.
- ✓ Partner with lenders and real estate agents in educating consumers about the qualification process, as lenders are viewed as the most visible source of information.
- ✓ Since the home search often comes before the mortgage shopping process for many consumers, partner with those who help consumers to find a home, such as online home search providers (e.g., Zillow), real estate agents, and mass media (e.g., HGTV).
- ✓ Leverage mobile technologies in educational efforts, particularly among racial/ethnic minorities, as consumers show growing interest in using mobile technologies to help them shop for a home and obtain a mortgage.

## Research Methodology

- An online survey of a total of 3,868 American adults, age 18+, nationwide using GfK’s KnowledgePanel® who are either the sole financial decision-maker or who share in the financial decision-making in their household (henceforth referred to as consumers).
- Of the total sample of 3,868 consumers, 3,030 interviews were among the general population of consumers screened to be either sole or joint financial decision-makers. In addition, oversamples of respondents with a self-reported “good” credit score<sup>1</sup>, African-Americans, Hispanics, and Asian-Americans were added to ensure robust sample sizes for analysis of these subgroups.
  - The size of these oversampled subgroups when combined with their natural fallout from the general population sample total:
    - 1,311 respondents with self-reported “good” credit
    - 503 Hispanics
    - 223 Asian-Americans
    - 538 African-Americans
- The survey was made available in both English and Spanish. The survey was conducted June 29 – July 15, 2015.
- These data were weighted to reflect Current Population Survey benchmarks.
- The margin of error for the total sample is +/-1.6 percentage points, and is larger for subgroups.
- The response rate for this survey is 34 percent.
- Many questions included an “other (specify)” response option, where respondents could enter their own response option. GfK reviewed responses and coded like responses. These volunteered responses are noted as “(vol.)” throughout the report.

<sup>1</sup> Q4. A credit score is a number lenders use to help them decide how likely it is that they will be repaid on time if they give a borrower a loan or a credit card. Your personal credit score is based on your credit history. As far as you are aware, using a scale of 1 to 5 where 1 is “Very Poor” and 5 is “Excellent”, where do you think your credit score falls?

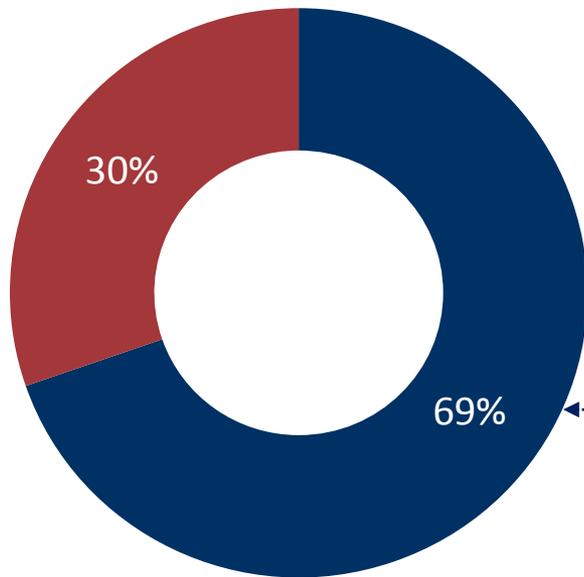
# Housing Attitudes and Ease of Getting a Mortgage



## Buy or Rent for Their Next move

Roughly seven in 10 consumers plan to buy a home when they move next. Lower-income, less-educated, and younger consumers as well as African-Americans, Hispanics, and renters say they are less likely than the average consumer to buy on their next move.

**Planning to Buy a Home at Time of Next Move**



**Buy**      **Rent**

	% Buy
African Americans	57%
Hispanics	64%
Asian-Americans	74%
Household income: <\$50K	53%
HH Income: \$50K-\$99K	77%
HH income: \$100K+	83%
Education: H.S. or less	64%
Education: some college	68%
Education: college/post-graduate	77%
Age 18-34	56%
Age 35-44	76%
Age 45-64	74%
Age 65+	70%
Renters	37%
1 <sup>st</sup> -time homeowners with mortgages	86%
Repeat homeowners with mortgages	88%
Planning to move in 5 years and would buy	100%
Renters planning to move in 5 years and would buy	100%
Homeowners planning to move in 5 years and would buy	100%

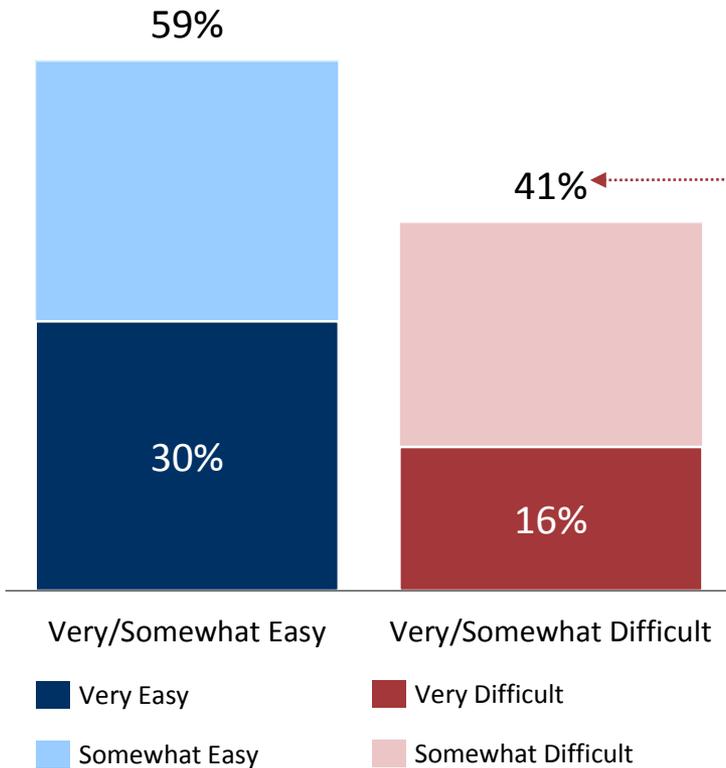
Base: Total sample, N=3,868  
 Q15. If you were going to move, would you be more likely to: rent, buy. (Not showing "refused to answer", which equals 1%.)

Note: Green shading indicates subgroup is significantly higher than total; red shading indicates subgroup is significantly lower than total

## Perceived Difficulty of Obtaining a Mortgage

Four in 10 respondents (41 percent) believe it would be difficult for them to obtain a mortgage. Younger, less-educated, and lower-income consumers as well as African-Americans, Hispanics, and renters are more likely to think obtaining a mortgage would be more difficult.

### Perceived Difficulty of Getting a Mortgage Today



	% Very/Somewhat Difficult
African Americans	60%
Hispanics	59%
Asian-Americans	34%
Household income: <\$50K	59%
HH Income: \$50K-\$99K	33%
HH income: \$100K+	22%
Education: H.S. or less	50%
Education: some college	45%
Education: college/post-graduate	25%
Age 18-34	57%
Age 35-44	42%
Age 45-64	38%
Age 65+	24%
Renters	69%
1 <sup>st</sup> -time homeowners with mortgages	32%
Repeat homeowners with mortgages	19%
Planning to move in 5 years and would buy	39%
Renters planning to move in 5 years and would buy	56%
Homeowners planning to move in 5 years and would buy	22%

Base: Total sample, N=3,868

Q17. How easy or difficult do you think it would be for you to get a mortgage to purchase or refinance a home today? (Darker colors used to indicate intensity. Not showing "refused to answer," which equals 1%.)

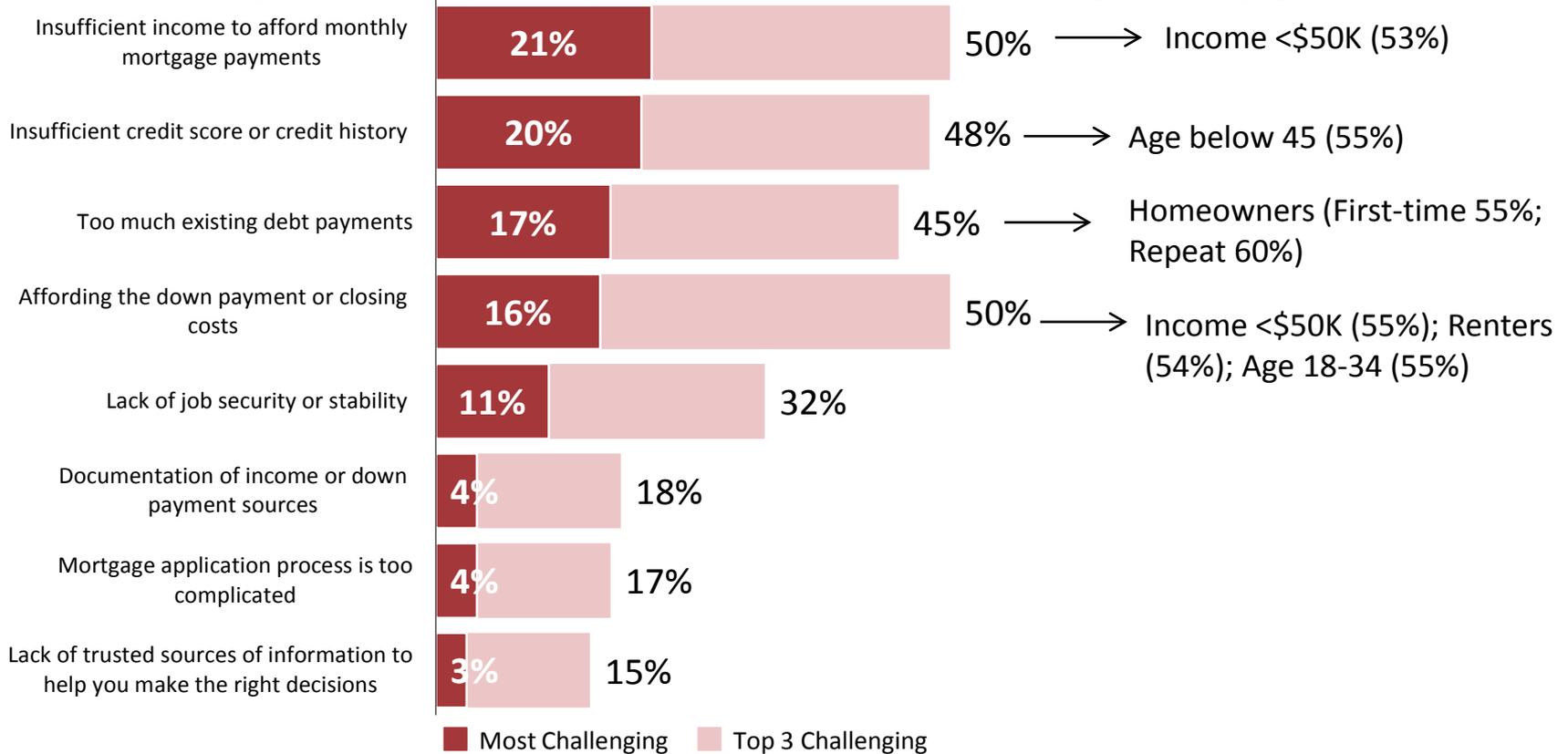
Note: Green shading indicates subgroup is significantly higher than total; red shading indicates subgroup is significantly lower than total

## Key Reasons for Perceived Difficulty of Obtaining a Mortgage

Among those who believe it would be difficult to get a mortgage, the most popular reasons cited include insufficient income, insufficient credit score, too much existing debt, and affording the down payment or closing costs.

### Top 3 Reasons It Is Difficult to Get a Mortgage

(among those who say it is very or somewhat difficult for them to get a mortgage)



Base: Total sample, N=3,868/Believe it is difficult to get a mortgage, N=1,567

Q17. How easy or difficult do you think it would be for you to get a mortgage to purchase or refinance a home today?

Q21. Earlier you mentioned that you think it would be [very/somewhat] difficult for you to get a mortgage today to purchase or refinance a home. Listed below are some common reasons. Please select up to three reasons that best apply to you. Please select only one item per column. (Showing response options that amount to greater than 1%.)

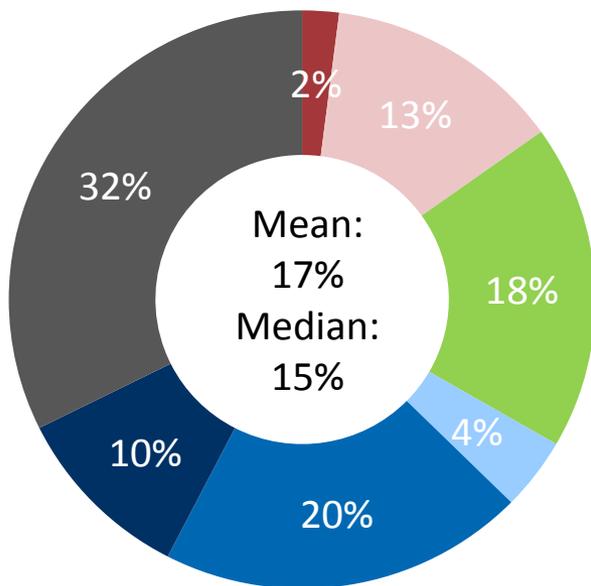
# Consumer Understanding of the Mortgage Qualification Criteria



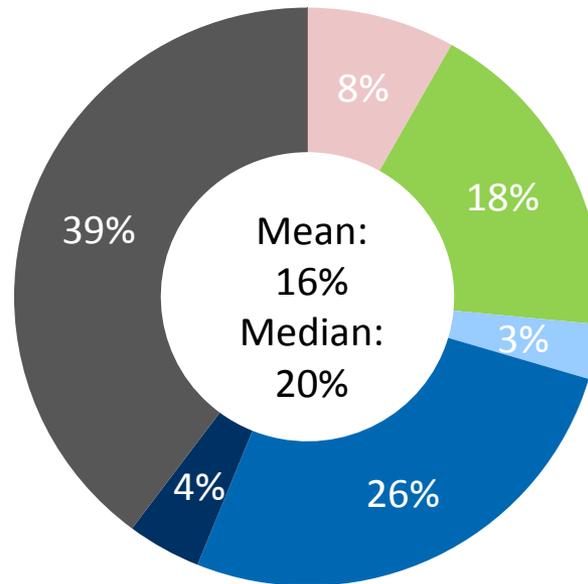
## Down Payment – Consumer Preferences, Lender Expectations, and Requirements

Roughly four in 10 respondents are uncertain what down payment lenders either expect or require. When consumers consider a down payment, the threshold they set for themselves is, on average, more stringent than what they believe lenders both expect and require.

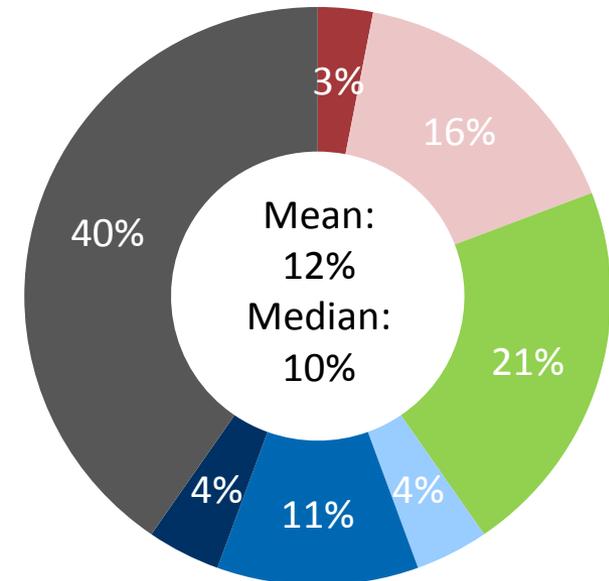
### Minimum for Your Comfort



### Expected by Lenders



### Minimum Required by Lenders



Overall, less-educated and lower-income consumers, African-Americans, Hispanics, and current renters are more likely to say “Don’t Know” across these down payment questions.



Base: Total sample, N=3,868

Q31. Imagine that you are planning to purchase a new home. What is the minimum percentage of the home’s sale price or appraised value that you would feel comfortable paying as a down payment in order to proceed with applying for a mortgage loan?

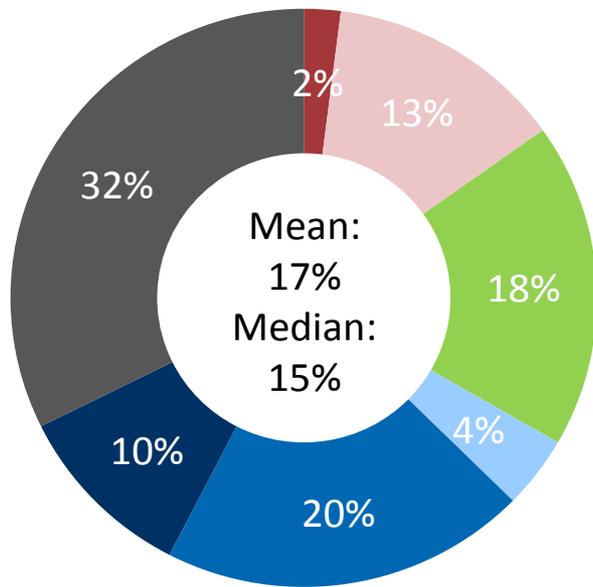
Q32. Based on what you have heard, what is the percentage of a home’s sale price or appraised value that lenders expect borrowers pay as a down payment for a typical mortgage today?

Q33. Regardless of what lenders expect, what do you think is the minimum down payment that lenders actually require?

## Minimum Down Payment With Which Consumers Are Comfortable

The average response provided by younger consumers, first-time homebuyers, and Hispanics about the amount of down payment they would feel comfortable paying tends to be lower than the total average.

Minimum for Your Comfort



	% Don't Know	Mean
African Americans	45%	18%
Hispanics	45%	14%
Asian-Americans	34%	20%
Household income: <\$50K	46%	16%
HH Income: \$50K-\$99K	27%	17%
HH income: \$100K+	17%	17%
Education: H.S. or less	46%	17%
Education: some college	27%	16%
Education: college/post-graduate	19%	18%
Age 18-34	35%	14%
Age 35-44	29%	15%
Age 45-64	29%	16%
Age 65+	35%	23%
Renters	43%	16%
1 <sup>st</sup> -time homeowners with mortgages	28%	13%
Repeat homeowners with mortgages	19%	16%
Planning to move in 5 years and would buy	25%	18%
Renters planning to move in 5 years and would buy	33%	15%
Homeowners planning to move in 5 years and would buy	16%	20%

Note: Green shading indicates subgroup is significantly higher than total; red shading indicates subgroup is significantly lower than total

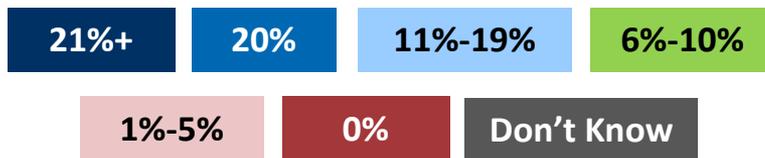
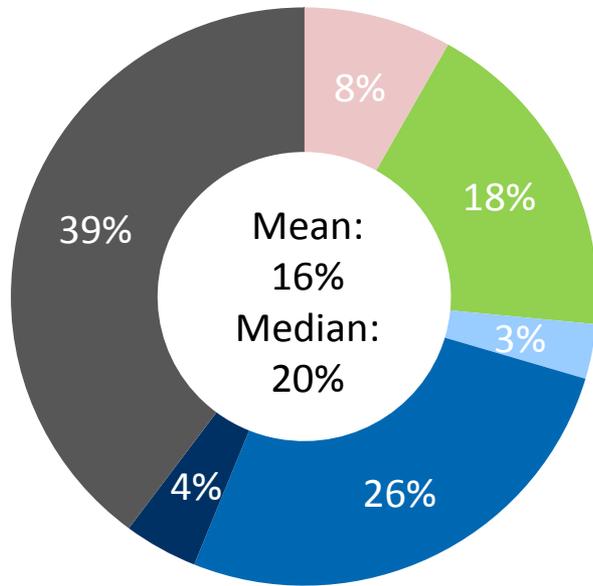
Base: Total sample, N=3,868

Q31. Imagine that you are planning to purchase a new home. What is the minimum percentage of the home's sale price or appraised value that you would feel comfortable paying as a down payment in order to proceed with applying for a mortgage loan?

## Perceived Minimum Down Payment – Lender Expectations

On average, consumers think that lenders expect borrowers to put down 16 percent. Less-educated and lower-income consumers as well as African-Americans, renters, and seniors are more likely to provide a higher estimate.

Expected by Lenders



	% Don't Know	Mean
African Americans	50%	20%
Hispanics	47%	15%
Asian-Americans	36%	17%
Household income: <\$50K	54%	17%
HH Income: \$50K-\$99K	33%	15%
HH income: \$100K+	25%	15%
Education: H.S. or less	53%	17%
Education: some college	36%	15%
Education: college/post-graduate	26%	15%
Age 18-34	42%	16%
Age 35-44	33%	15%
Age 45-64	37%	16%
Age 65+	47%	17%
Renters	48%	18%
1 <sup>st</sup> -time homeowners with mortgages	32%	14%
Repeat homeowners with mortgages	25%	15%
Planning to move in 5 years and would buy	30%	16%
Renters planning to move in 5 years and would buy	39%	17%
Homeowners planning to move in 5 years and would buy	22%	15%

Note: Green shading indicates subgroup is significantly higher than total; red shading indicates subgroup is significantly lower than total

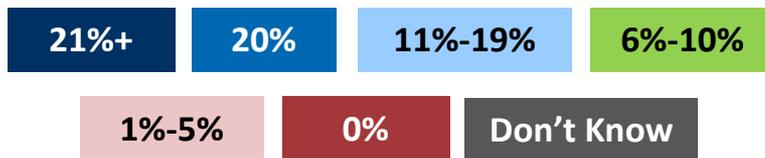
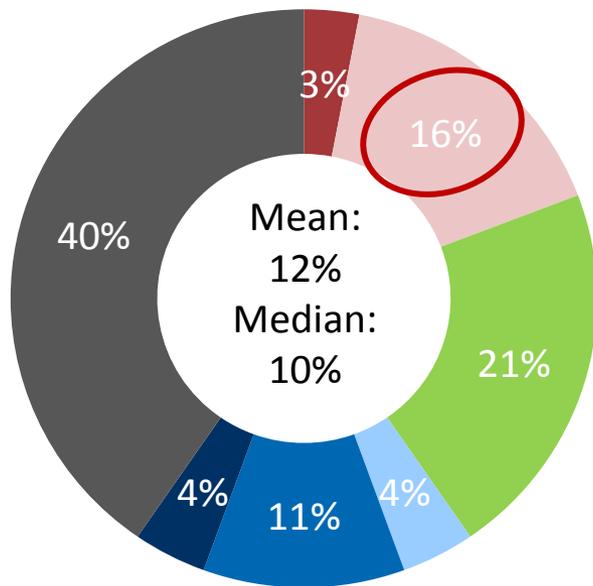
Base: Total sample, N=3,868

Q32. Based on what you have heard, what is the percentage of a home's sale price or appraised value that lenders expect borrowers pay as a down payment for a typical mortgage today?

## Perceived Minimum Down Payment Required by Lenders

On average, consumers think that lenders require 12 percent down, while Fannie Mae’s minimum requirement is 3 percent down. Only 16 percent pick the “1% - 5%” choice bucket. The difference is more pronounced among less-educated and lower-income consumers, African-Americans, Asian-Americans, seniors, and renters.

Required by Lenders



	% Don't Know	Mean
African Americans	47%	17%
Hispanics	48%	12%
Asian-Americans	32%	14%
Household income: <\$50K	53%	14%
HH Income: \$50K-\$99K	36%	11%
HH income: \$100K+	27%	11%
Education: H.S. or less	53%	14%
Education: some college	38%	12%
Education: college/post-graduate	28%	10%
Age 18-34	44%	11%
Age 35-44	33%	11%
Age 45-64	38%	12%
Age 65+	48%	14%
Renters	48%	14%
1 <sup>st</sup> -time homeowners with mortgages	35%	10%
Repeat homeowners with mortgages	28%	10%
Planning to move in 5 years and would buy	30%	12%
Renters planning to move in 5 years and would buy	38%	13%
Homeowners planning to move in 5 years and would buy	23%	11%

Base: Total sample, N=3,868

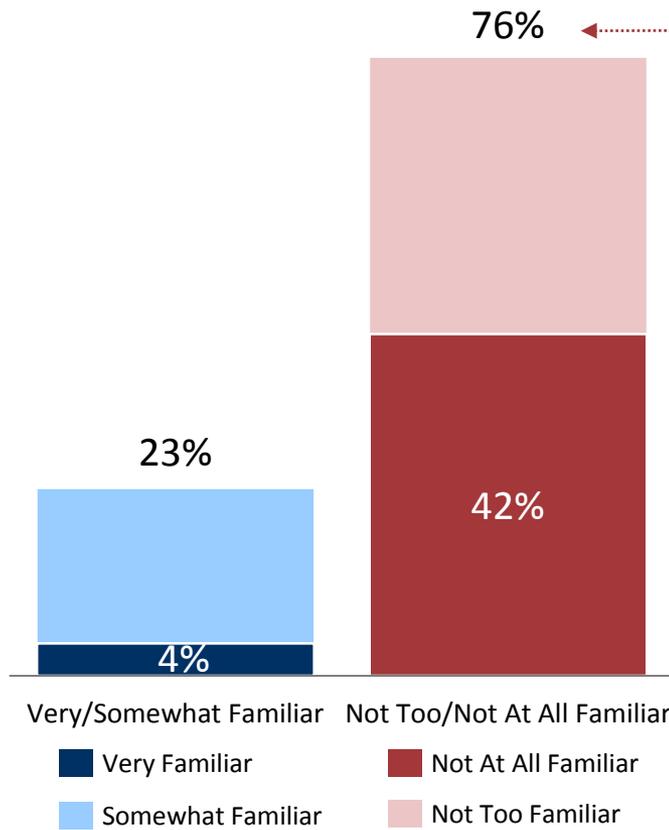
Q33. Regardless of what lenders expect, what do you think is the minimum down payment that lenders actually require?

Note: Green shading indicates subgroup is significantly higher than total; red shading indicates subgroup is significantly lower than total

## Awareness of the 3 to 5 Percent Down Payment Programs

Three-quarters of consumers are not aware of low down payment programs. The awareness level is lower among less-educated consumers, lower-income consumers, and seniors.

### Awareness of the 3% to 5% Down Payment Programs



Base: Total sample, N=3,868

Q38. As you may know, there are housing programs that allow some people to pay 3% to 5% of the sale price or the appraised value of the home as a down payment. Generally speaking, how familiar are you with these programs? (Darker colors used to indicate intensity.)

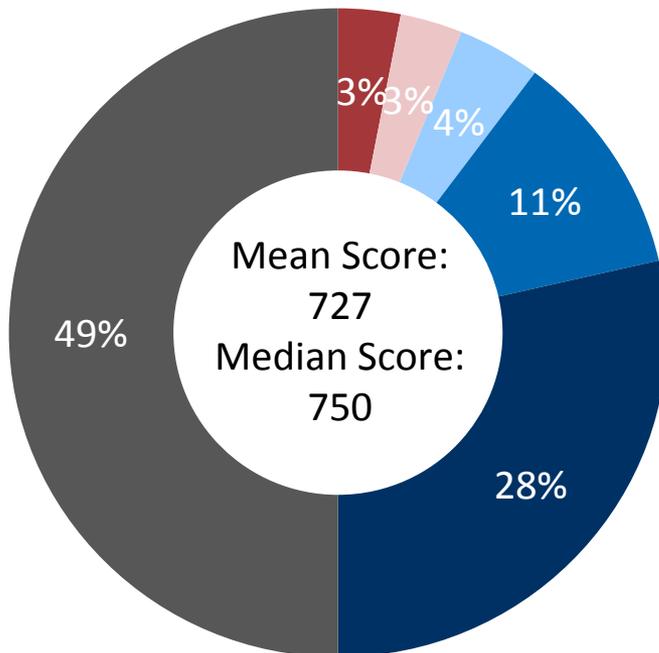
	% Not Too/Not At All Familiar
African Americans	68%
Hispanics	78%
Asian-Americans	75%
Household income: <\$50K	81%
HH Income: \$50K-\$99K	74%
HH income: \$100K+	73%
Education: H.S. or less	81%
Education: some college	77%
Education: college/post-graduate	71%
Age 18-34	73%
Age 35-44	74%
Age 45-64	75%
Age 65+	87%
Renters	79%
1 <sup>st</sup> -time homeowners with mortgages	69%
Repeat homeowners with mortgages	70%
Planning to move in 5 years and would buy	69%
Renters planning to move in 5 years and would buy	70%
Homeowners planning to move in 5 years and would buy	68%

Note: Green shading indicates subgroup is significantly higher than total; red shading indicates subgroup is significantly lower than total

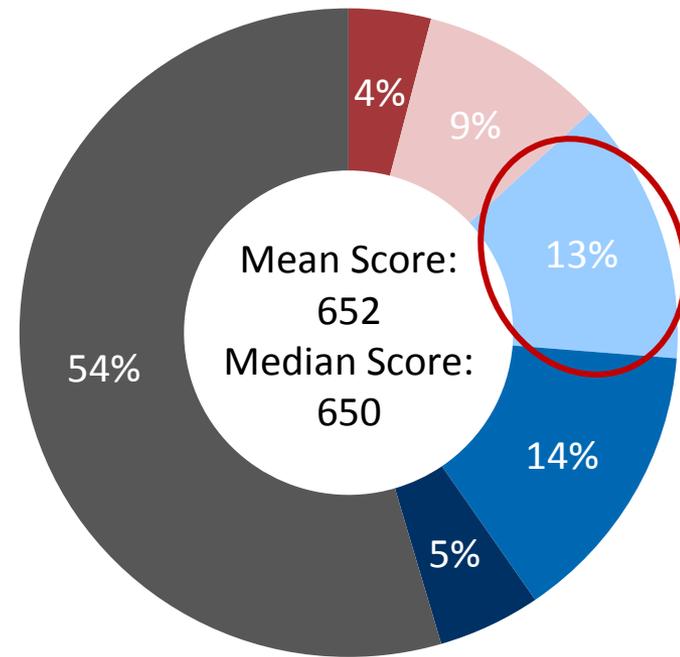
## Credit Score

Roughly half of respondents do not know what their credit score is or volunteer a number outside of the score range. The mean score consumers posit as the minimum credit score required is 652, higher than Fannie Mae’s requirement of 620. Only 13 percent pick the “620 - 679” choice bucket.

### Consumers’ Self-Reported Credit Score



### Minimum Credit Score Lenders Require



740-850

680-739

620-679

550-619

300-549

Don't Know/Outside Range

Base: Total sample, N=3,868

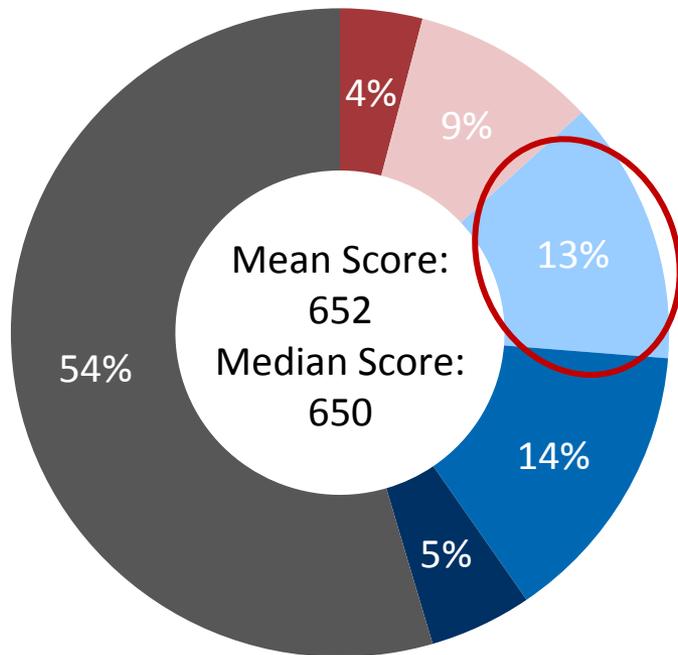
Q30. To the best of your knowledge, what do you think your FICO® score is?

Q29. In order for borrowers to get a mortgage today, what do you think is the minimum FICO® score lenders would require?

## Perceived Minimum Credit Score Lenders Require for a Mortgage

Less-educated and lower-income consumers, Hispanics, and seniors are less certain about the minimum credit score lenders require. Additionally, they are more likely to provide a higher estimate for the minimum credit score they think lenders require.

**Minimum Credit Score Lenders Require**



740-850

680-739

620-679

550-619

300-549

Don't Know/Outside Range

	% Don't Know/Wrong	Mean
African Americans	54%	664
Hispanics	62%	671
Asian-Americans	55%	664
Household income: <\$50K	64%	667
HH Income: \$50K-\$99K	50%	652
HH income: \$100K+	44%	639
Education: H.S. or less	64%	666
Education: some college	49%	658
Education: college/post-graduate	46%	637
Age 18-34	49%	644
Age 35-44	46%	637
Age 45-64	53%	661
Age 65+	68%	667
Renters	54%	661
1 <sup>st</sup> -time homeowners with mortgages	49%	646
Repeat homeowners with mortgages	44%	646
Planning to move in 5 years and would buy	45%	641
Renters planning to move in 5 years and would buy	45%	646
Homeowners planning to move in 5 years and would buy	45%	636

Note: Green shading indicates subgroup is significantly higher than total; red shading indicates subgroup is significantly lower than total

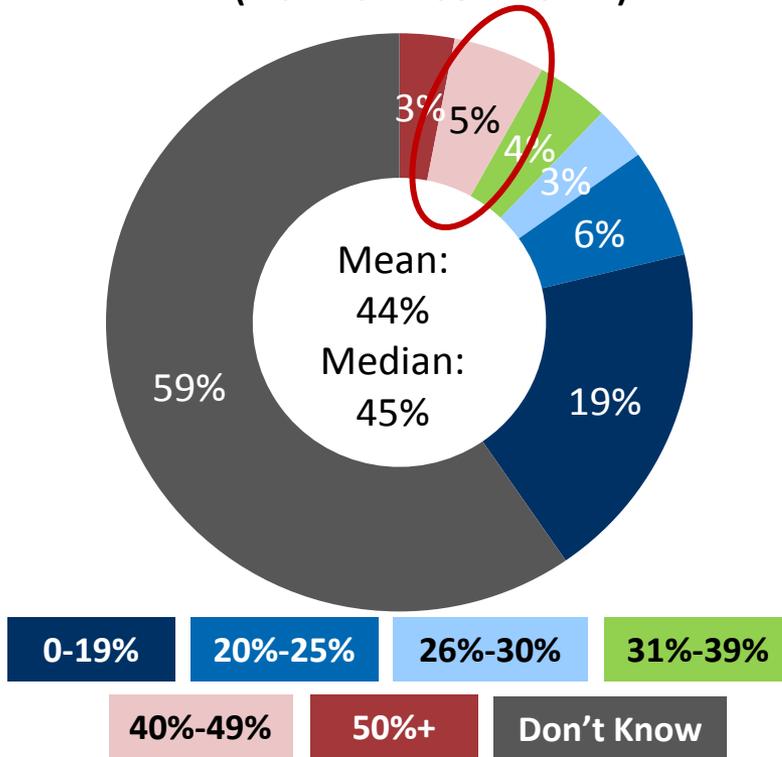
Base: Total sample, N=3,868

Q29. In order for borrowers to get a mortgage today, what do you think is the minimum FICO® score lenders would require?

## Perceived Maximum Back-End Debt-to-Income (DTI) Ratio

Nearly 60 percent of respondents do not know the maximum back-end DTI ratio that lenders use. Only 5 percent pick the “40% - 49%” choice bucket. Younger, less-educated, and lower-income consumers and Hispanics are more likely to provide a lower DTI estimate.

**Total Debt Payments as a % of Monthly Income (Maximum Back-End DTI)**



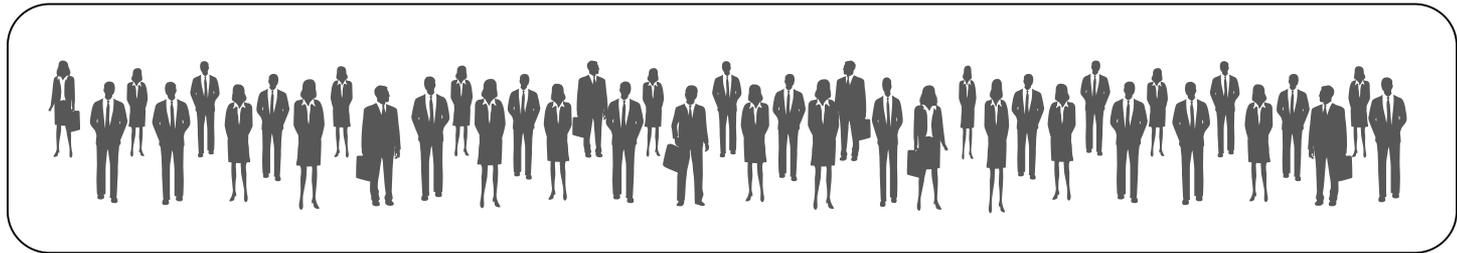
	% Don't Know	Mean DTI %
African Americans	63%	42%
Hispanics	68%	41%
Asian-Americans	54%	44%
Household income: <\$50K	69%	41%
HH Income: \$50K-\$99K	56%	45%
HH income: \$100K+	49%	47%
Education: H.S. or less	69%	42%
Education: some college	60%	45%
Education: college/post-graduate	46%	46%
Age 18-34	60%	42%
Age 35-44	54%	45%
Age 45-64	56%	45%
Age 65+	68%	47%
Renters	65%	41%
1 <sup>st</sup> -time homeowners with mortgages	56%	42%
Repeat homeowners with mortgages	50%	48%
Planning to move in 5 years and would buy	49%	45%
Renters planning to move in 5 years and would buy	58%	42%
Homeowners planning to move in 5 years and would buy	40%	47%

Note: Green shading indicates subgroup is significantly higher than total; red shading indicates subgroup is significantly lower than total

Base: Total sample, N=3868

Q35. And what is the percentage of a borrower's household monthly income that lenders do not want borrowers to exceed when paying the total amount of a borrower's recurring monthly debt payments, including expected housing costs such as mortgage, homeowner's insurance and property tax; and other payments such as credit cards and auto loan?

# Mortgage Journey and Influencers



## Mortgage Purchase Journey

Consumers often begin the process with self-directed searches. Then, real estate agents get involved. Engagement with lenders occurs in a later stage.

### Mortgage Purchase Journey – Of Those Who Would Do This When Buying a Home, The Order In Which They Would Do It

	Step 1	Step 2	Step 3	Step 4	Step 5	Step 6	Step 7	Step 8	Step 9	Step 10	Step 11	Step 12
Research the area where you want to buy	52%	14%	7%	4%	4%	4%	3%	3%	3%	2%	2%	1%
Look at homes (online and open houses)	12%	29%	9%	12%	6%	4%	5%	5%	4%	4%	4%	4%
Meet with a real estate agent	11%	25%	51%	31%	18%	16%	13%	11%	11%	10%	7%	4%
Research different mortgage loan options (e.g., interest rate, points, length of term, fixed or floating rate)	12%	14%	15%	12%	14%	11%	8%	5%	4%	3%	2%	1%
Get together the financial documentation and paperwork necessary (e.g., bank statements, pay stubs, tax returns) to get a loan	9%	7%	9%	9%	12%	11%	8%	7%	7%	6%	6%	6%
Get pre-qualified/pre-approved for a mortgage	8%	8%	9%	10%	11%	10%	10%	10%	8%	6%	6%	3%
<b>Meet with lender/lenders</b>	4%	6%	7%	10%	12%	13%	14%	10%	9%	6%	4%	3%
Get and compare different mortgage quotes	2%	7%	9%	12%	11%	13%	14%	10%	9%	6%	4%	2%
Come to a final decision on the lender you will use	1%	2%	5%	6%	9%	10%	10%	13%	13%	11%	9%	6%

Note: Percentages reflect the base size for each step (e.g., among consumers who would research the area they want to buy, 52% say that this is the first step they would take when buying a home).

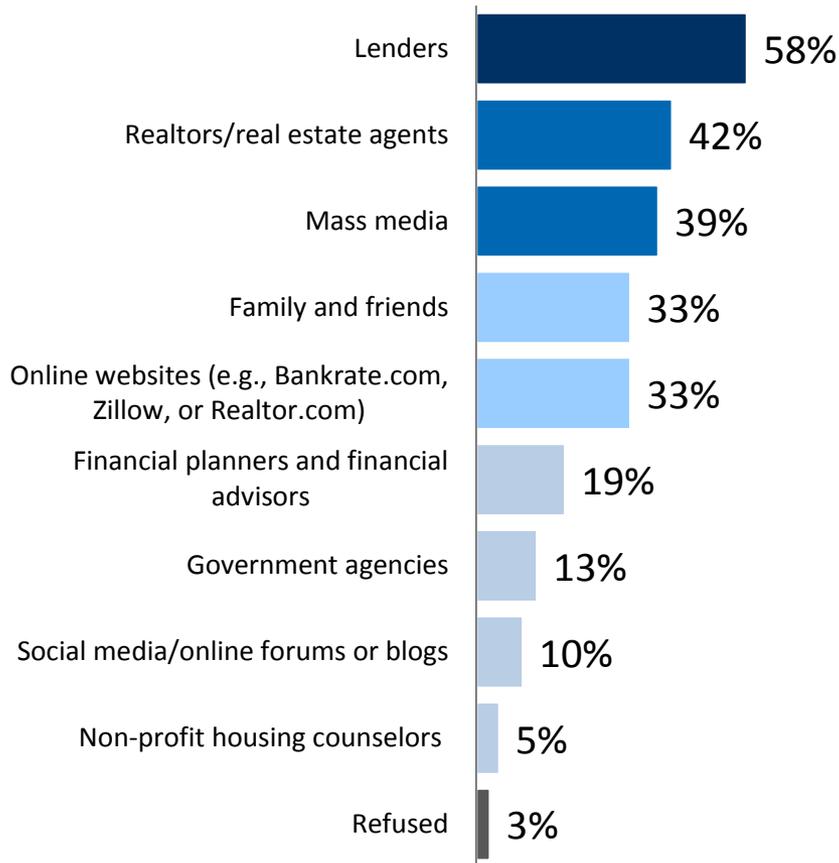
Base: Asked of total sample, N=3,868; base size varies by response option

Q42. Now for a little something different. Imagine that you are planning to purchase a home today. Below you will see a variety of steps that some people have said are involved in buying a home. Please arrange the steps in the order you would follow them. You do not need to use all of the steps included below.

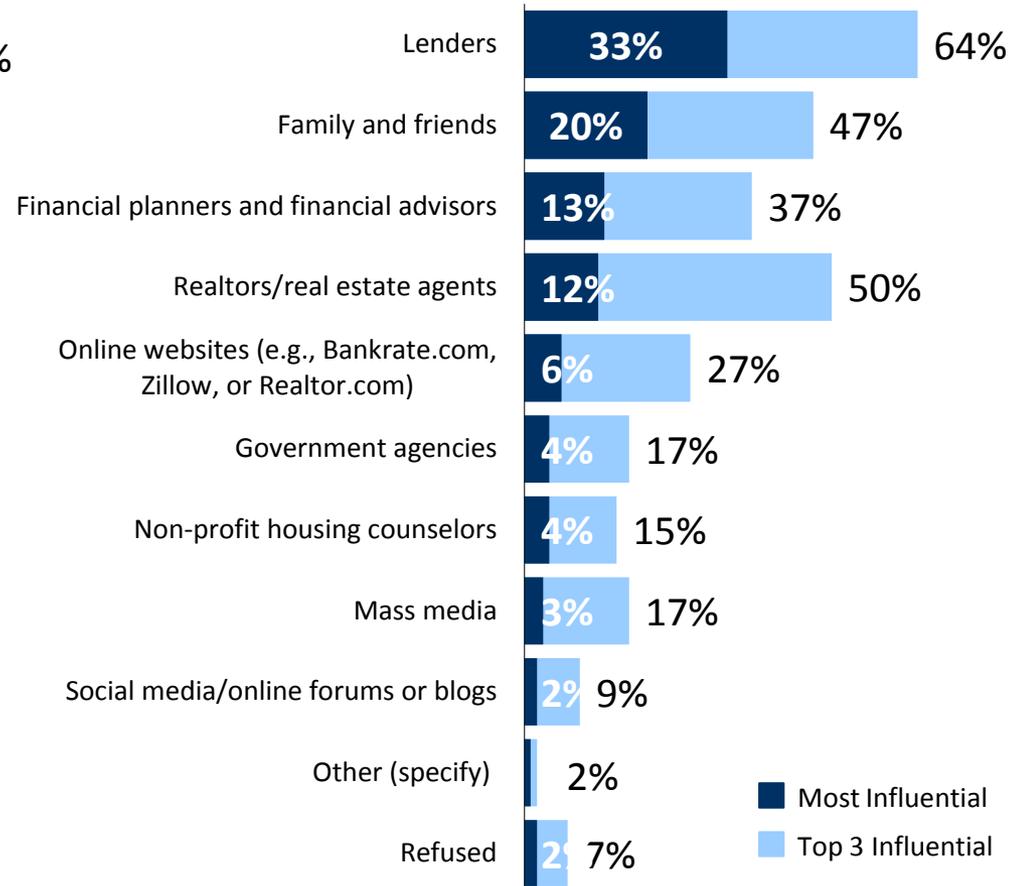
## Lenders Are Most Visible Source of Information and Most Influential

Roughly six in 10 respondents view lenders not only as the most prominent source of information on the topic of getting a mortgage but also the most personally influential source of mortgage advice.

### Sources of Information



### Most Influential to You When Getting a Mortgage



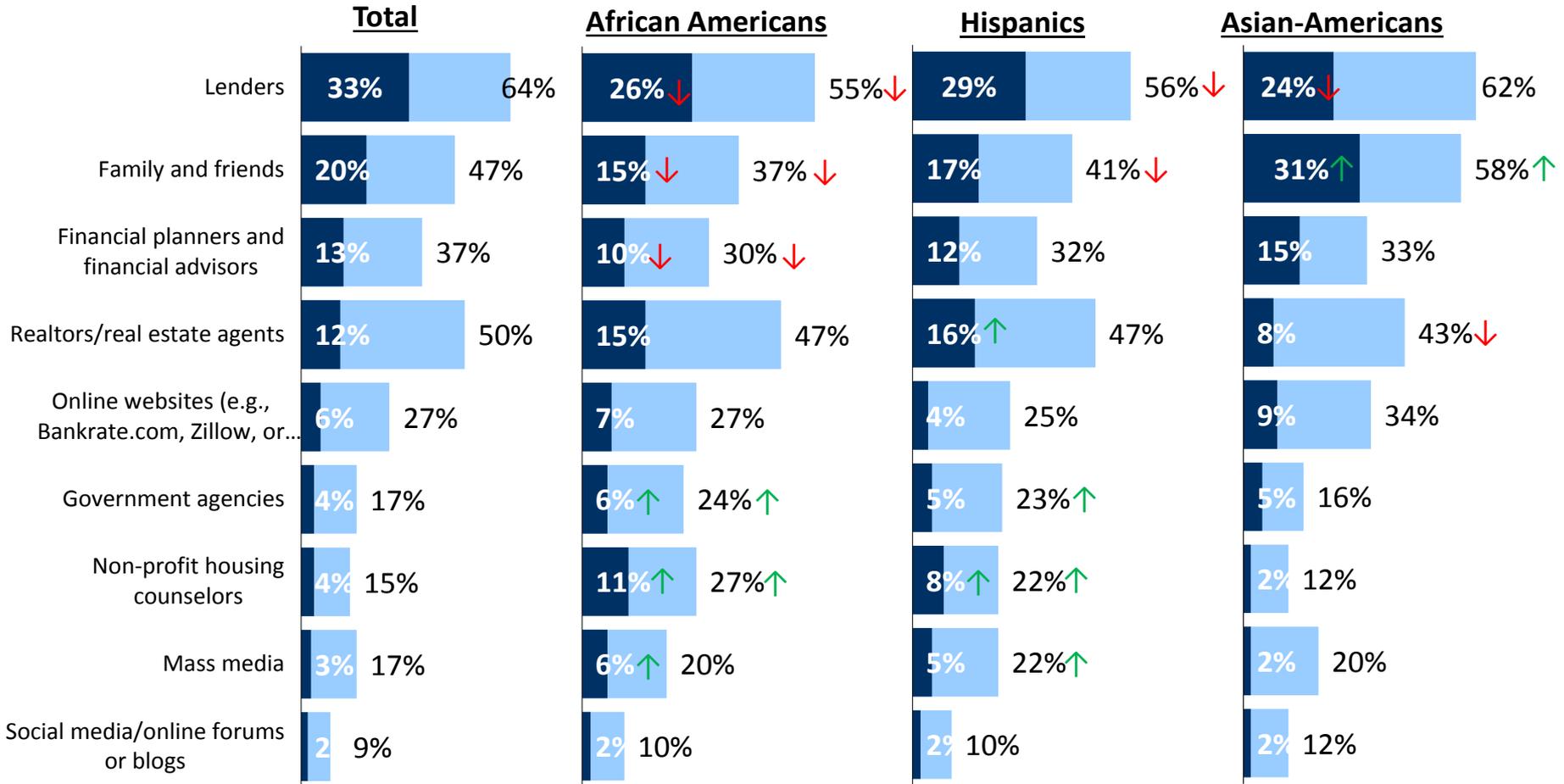
Base: Total sample, N=3,868

Q40. From which THREE of the following information sources do you read, see, or hear the most often about getting mortgages for home purchase or refinance? Please select up to three sources.

Q41. Generally speaking, which of the following are most influential to you personally when it comes to getting advice about getting a mortgage for home purchase or refinance?

## Most Influential Source of Mortgage Advice by Minority Groups

African-Americans and Hispanics are more likely to cite government agencies, non-profit housing counselors, and mass media, while Asian-Americans are more likely to cite family and friends as the most influential source of information.



Base: Total sample N=3,868; African Americans N = 456; Hispanics N = 528; Asian-Americans = 206.

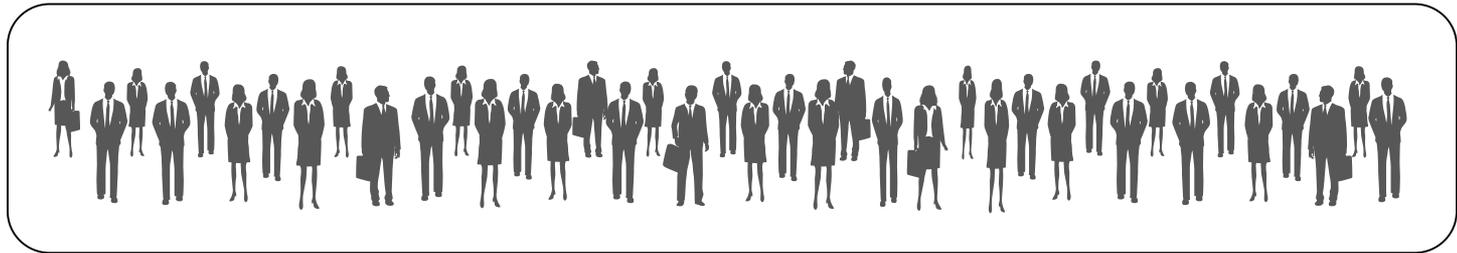
↓ ↑ indicates subgroup % is significantly lower or higher than the Total average at 95% confidence level.

Q41. Generally speaking, which of the following are most influential to you personally when it comes to getting advice about getting a mortgage for home purchase or refinance?

■ Most Influential

■ Top 3 Influential

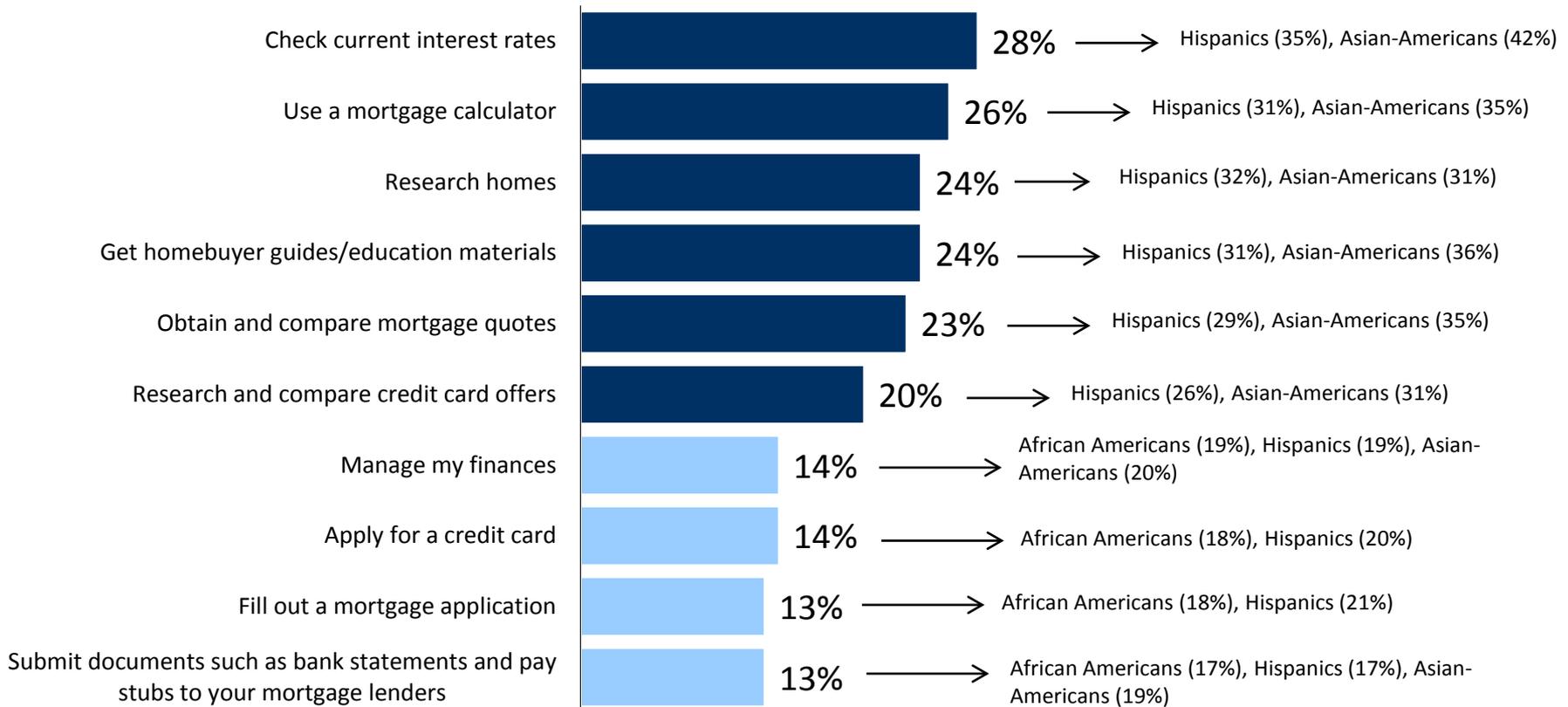
## Future Mobile Technology Use



## Future Mobile Technology Use

Fewer than three in 10 respondents indicate that they would like the ability to complete any one financial or mortgage shopping behavior from a mobile device. However, there is greater interest among African-Americans, Hispanics, and Asian-Americans.

### Future Mobile Device Use for Financial Matters and Mortgage Shopping



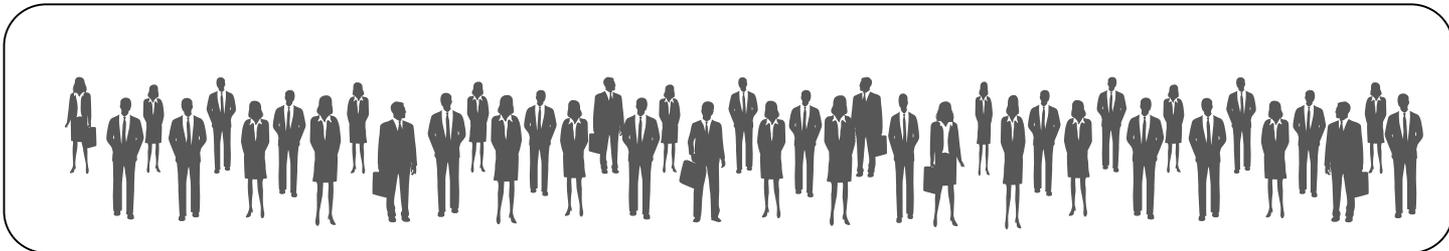
Base: Total sample, N=3,868

Q53. Now, for the same list of tasks, please indicate whether you would like to do this on a mobile device in the future?

# Appendices



## Appendix A: Regression Analysis: Top Drivers of Mortgage Qualification Understanding



## Regression Analysis: Top Drivers of Mortgage Qualification Understanding

Education, income, and age are the top drivers of mortgage qualification understanding. Lower-income and less-educated consumers and seniors are more likely to say “don’t know.” Ethnicity accounts for 2 to 9 percent of model explanation.

Percentage in ( ) indicates the percentage of model explanation power the variable contributes to.

**Minimum FICO requirement?**  
- “Don’t Know”



Education  
(20%)



Income  
(27%)



Age  
(44%)

**Minimum down payment requirement?**  
- “Don’t Know”



Education  
(39%)



Income  
(29%)



Age  
(18%)

**Maximum Backend DTI requirement?**  
- “Don’t Know”



Education  
(44%)



Income  
(17%)



Age  
(26%)

**Count of “Don’t Know” out of the above three questions**



Education  
(32%)



Income  
(27%)



Age  
(29%)

## Regression Analysis Overview

- Logistic regression models are conducted to study relationships between selected target survey responses and key demographic characteristics (income, education, age, ethnicity, and housing tenure).
- Goodness of fit tests are used to ensure that models fit data well.
- Contributions<sup>1</sup> of the demographic variables are calculated to identify key drivers
- The table below shows low to moderate correlations among these demographic variables. The effect of multicollinearity should be minimal.

### List of Key Demographic Variables

Name	Values
Income	Under \$50,000 \$50,000 - \$100,000 Above \$100,000
Ethnicity	Caucasian African American Hispanic Asian-American
Education	High school or less Some College College Degree or Higher
Age	18 - 34 35 – 44 45 - 64 65 or older
Housing Tenure	Rent (= 0) Own (= 1)

### Correlations Matrix<sup>2</sup>

	Income	Education	Age	Housing Tenure	African American	Hispanic	Asian-American
Income	1						
Education	0.42	1					
Age	0.04	-0.07	1				
Housing Tenure	0.29	0.13	0.42	1			
African-American	-0.12	-0.05	-0.05	-0.17	1		
Hispanic	-0.09	-0.19	-0.13	-0.12	N/A	1	
Asian-American	0.1	0.11	-0.05	-0.01	N/A	N/A	1

1. Calculation based on Wald chi-square statistics, reference "Ranking Predictors in Logistic Regression" by Doug Thompson, 2009.

2. To calculate correlation coefficients, the variables are re-coded as ordinal variables such as age 18-34 is coded as 1, age 35-44 is coded as 2.

For minority groups, the coding is a specific minority group vs. all other, so for Hispanic variable, all other ethnic groups are coded as 0 and Hispanic is coded as 1.

## “Don’t know” on Minimum Credit Score Lenders Require

- **Age** and **Income** are the two main drivers associated with the lack of knowledge on minimum credit score lenders require, contributing to over 70 percent of model explanation power.
- **Lower income, less education, older age,** and **being Asian-American or Hispanic** are associated with higher likelihood of saying “Don’t Know.”
- **Housing Tenure Status** have NO significant effect on responses.

### Summary of regression results on response of “Don’t Know” to Q29 (Overall = 54%)

Variable	Contribution <sup>1</sup>	Comparison Pairs	Odds Ratio <sup>2</sup>
Income	27%	Under 50K vs 100K+	1.9
		50-100K vs 100K+	1.2
Ethnicity	9%	Asian-American vs Caucasian	1.4
		Hispanic vs Caucasian	1.5
		African-American vs Caucasian	1.0
Education	20%	Some college vs College degree+	0.9
		HS/less vs College degree+	1.5
Age	44%	65+ vs 18-34	2.4
		45-64 vs 18-34	1.3
		35-44 vs 18-34	1.0
Housing Tenure	1%	Renter vs Owner	1.1

Base: N=3653

Q29. In order for borrowers to get a mortgage today, what do you think is the minimum FICO® score lenders would require?

1. Percentages show explanatory power of total model attributable to individual predictor variables, calculation based on Wald chi-square statistics

2. Odds ratio greater than 1 indicates higher probability of event happening in the primary group (left side) than the reference group (right side), and vice versa

Highlighted cells indicate odds ratio is significantly different from 1 at 95% confidence level

## “Don’t know” on Minimum Down Payment Lenders Require

- **Income** and **Education** are the two main drivers associated with the lack of knowledge on minimum down payment lenders require, contributing to about 70 percent of model explanation power.
- **Lower income, less education, older age, and being a renter** are associated with higher likelihood of saying “Don’t Know.”
- **Ethnicity** has NO significant effect on responses.

### Summary of regression results on responses of “Don’t Know” to Q33 (Overall = 40%)

Variable	Contribution <sup>1</sup>	Comparison Pairs	Odds Ratio <sup>2</sup>
Income	29%	Under 50K vs 100K+	2.0
		50-100K vs 100K+	1.3
Ethnicity	2%	Asian-American vs Caucasian	0.9
		Hispanic vs Caucasian	1.2
		African-American vs Caucasian	1.2
Education	39%	Some college vs College degree+	1.3
		HS/less vs College degree+	2.1
Age	18%	65+ vs 18-34	1.4
		45-64 vs 18-34	0.9
		35-44 vs 18-34	0.8
Housing Tenure	12%	Renter vs Owner	1.5

Base: N=3669  
 Q33. Regardless of what lenders expect, what do you think is the minimum down payment that lenders actually require?  
 1. Percentages show explanatory power of total model attributable to individual predictor variables, calculation based on Wald chi-square statistics  
 2. Odds ratio greater than 1 indicates higher probability of event happening in the primary group (left side) than the reference group (right side), and vice versa  
 Highlighted cells indicate odds ratio is significantly different from 1 at 95% confidence level

## “Don’t know” on Maximum Back-End Debt-to-Income (DTI) Ratio

- **Education** and **Age** are the two main drivers associated with the lack of knowledge on maximum back-end DTI requirement, contributing to 70 percent of model explanation power.
- **Lower income, less education, older age, renting, and being Hispanic** are associated with higher likelihood of saying “Don’t Know.”

### Summary of regression results on responses of “Don’t Know” to Q35 (Overall = 59%)

Variable	Contribution <sup>1</sup>	Comparison Pairs	Odds Ratio <sup>2</sup>
Income	17%	Under 50K vs 100K+	1.6
		50-100K vs 100K+	1.1
Ethnicity	7%	Asian-American vs Caucasian	1.1
		Hispanic vs Caucasian	1.4
		African-American vs Caucasian	1.1
Education	44%	Some college vs College degree+	1.5
		HS/less vs College degree+	2.1
Age	26%	65+ vs 18-34	1.7
		45-64 vs 18-34	1.0
		35-44 vs 18-34	1.0
Housing Tenure	7%	Renter vs Owner	1.3

Base: N=3656

Q35. And what is the percentage of a borrower’s household monthly income that lenders do not want borrowers to exceed when paying the total amount of a borrower’s recurring monthly debt payments, including expected housing costs such as mortgage, homeowner’s insurance and property tax; and other payments such as credit cards and auto loan?

1. Percentages show explanatory power of total model attributable to individual predictor variables, calculation based on Wald chi-square statistics

2. Odds ratio greater than 1 indicates higher probability of event happening in the primary group (left side) than the reference group (right side), and vice versa

Highlighted cells indicate odds ratio is significantly different from 1 at 95% confidence level

## “Don’t know” Across Credit Score, Down Payment, and DTI requirement

- Around 28 percent of consumers say “don’t know” to all the three mortgage qualification questions.
- **Income, Education, and Age** are the three main drivers associated with the lack of knowledge on mortgage requirements overall, contributing to about 90 percent of model explanation power.
- **Lower income, less education, older age, renting, and being Hispanic** are associated with higher likelihood of saying “Don’t Know” to all the three questions.

### Summary of regression results on responses of “Don’t Know” to all the three questions (Q29, Q33, & Q35)

( Frequency of “Don’t Know” to all three questions - 0: 25%; 1: 23%; 2: 23%; 3: 28%)

Variable	Contribution <sup>1</sup>	Comparison Pairs	Odds Ratio <sup>2</sup>
Income	27%	Under 50K vs 100K+	1.7
		50-100K vs 100K+	1.2
Ethnicity	6%	Asian-American vs Caucasian	1.1
		Hispanic vs Caucasian	1.3
		African-American vs Caucasian	1.1
Education	32%	Some college vs College degree+	1.2
		HS/less vs College degree+	1.8
Age	29%	65+ vs 18-34	1.8
		45-64 vs 18-34	1.1
		35-44 vs 18-34	0.9
Housing Tenure	5%	Renter vs Owner	1.3

Base: N=3683

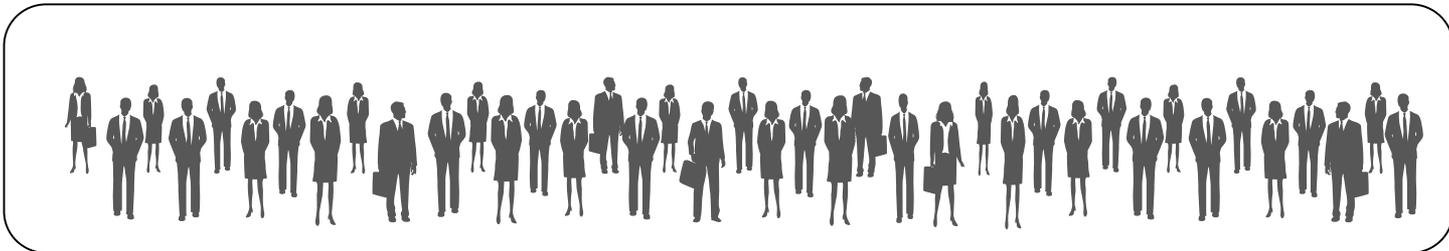
Variable of interest is: out of the three mortgage requirement questions (Q29,Q33,Q35), how many “don’t know” responses we get?

1. Percentages show explanatory power of total model attributable to individual predictor variables, calculation based on Wald chi-square statistics

2. Odds ratio greater than 1 indicates higher probability of event happening in the primary group (left side) than the reference group (right side), and vice versa

Highlighted cells indicate odds ratio is significantly different from 1 at 95% confidence level

## Appendix B: Regression Analysis: Drivers of Most Influential Sources of Information Used



## Regression Analysis: Drivers of Most Influential Sources of Information Used

Ethnicity and income are the main drivers associated with using government agencies and non-profit housing counselors. Ethnicity is the main driver for using real estate agents as the most influential source of information.

**Question: Which of the following are most influential to you when it comes to getting advice about getting a mortgage?**  
**- Consumers are more likely to choose each of the following sources, if they are ...**

**“Lenders”**



**Caucasians or Hispanics**  
(20%)<sup>1</sup>



**Owning**  
(20%)



**Older**  
(57%)

**“Realtors/Real Estate Agents”**



**African-Americans or Hispanics**  
(50%)

**“Family and Friends”**



**Asian-Americans**  
(26%)



**Renting**  
(8%)



**Younger**  
(61%)

**“Government Agencies”<sup>2</sup>**



**African-Americans or Hispanics**  
(51%)



**Lower income**  
(21%)



**Older**  
(16%)

**“Non-profit Housing Counselors”<sup>2</sup>**



**African-Americans or Hispanics**  
(42%)



**Lower income**  
(33%)



**Renting**  
(11%)

1. Percentage in ( ) indicates the percentage of model explanation power the variable contributes to.

2. Only 4% of respondents choose Government Agencies or non-profit housing counselors as most influential, so we relaxed the criteria to **top 3 most influential sources**

## “Lenders” as the Most Influential Source of Information Consumers Use

- **Age** is the main driver associated with choosing lenders as the most influential source of information on getting a mortgage, contributing to 57 percent of model explanation power, followed by **Housing Tenure** and **Ethnicity**.
- **Older age** is associated with higher likelihood of choosing lenders as the most influential source.
- **Being Asian-American or African-American** and **Renting** are associated with lower likelihood of choosing lenders as the most influential source of information.
- **Income** and **Education** have NO significant effect on responses.

Summary of regression results on choosing “Lenders” to Q41 (Overall = 33%)

Variable	Contribution <sup>1</sup>	Comparison Pairs	Odds Ratio <sup>2</sup>
Income	4%	Under 50K vs 100K+	0.9
		50-100K vs 100K+	0.9
Ethnicity	20%	Asian-Americans vs Caucasian	0.6
		Hispanic vs Caucasian	0.9
		African-American vs Caucasian	0.8
Education <sup>3</sup>	NA	NA	NA
Age	57%	65+ vs 18-34	2.2
		45-64 vs 18-34	1.8
		35-44 vs 18-34	1.4
Housing Tenure	20%	Renter vs Owner	0.7

Base: N=3624

Q41. Generally speaking, which of the following are most influential to you personally when it comes to getting advice about getting a mortgage for home purchase or refinance?

1. Percentages show explanatory power of total model attributable to individual predictor variables, calculation based on Wald chi-square statistics.

2. Odds ratio greater than 1 indicates higher probability of event happening in the primary group (left side) than the reference group (right side), and vice versa.

Highlighted cells indicate odds ratio is significantly different from 1 at 95% confidence level.

3. Education was removed for better model fit.

## “Real Estate Agents” as the Most Influential Source of Information Consumers Use

- **Ethnicity** is the main driver associated with choosing real estate agents as most influential source of information on getting a mortgage, contributing to 50 percent of model explanation power.
- **Being Hispanic or African-American** is associated with higher likelihood of choosing real estate agents as the most influential source of information.
- **Income, Education, Age, and Housing Tenure** have NO significant effect on responses.

### Summary of regression results on choosing “real estate agents” to Q41 (Overall = 12%)

Variable	Contribution <sup>1</sup>	Comparison Pairs	Odds Ratio <sup>2</sup>
Income	4%	Under 50K vs 100K+	1.1
		50-100K vs 100K+	1.0
Ethnicity	50%	Asian-American vs Caucasian	0.8
		Hispanic vs Caucasian	1.6
		African-American vs Caucasian	1.4
Education	14%	Some college vs College degree+	1.2
		HS/less vs College degree+	1.3
Age	29%	65+ vs 18-34	1.2
		45-64 vs 18-34	1.0
		35-44 vs 18-34	0.8
Housing Tenure	4%	Renter vs Owner	0.9

Base: N=3624

Q41. Generally speaking, which of the following are most influential to you personally when it comes to getting advice about getting a mortgage for home purchase or refinance?

1. Percentages show explanatory power of total model attributable to individual predictor variables, calculation based on Wald chi-square statistics.

2. Odds ratio greater than 1 indicates higher probability of event happening in the primary group (left side) than the reference group (right side), and vice versa.

Highlighted cells indicate odds ratio is significantly different from 1 at 95% confidence level.

## “Family/Friends” as the Most Influential Source of Information Consumers Use

- **Age** is the main driver associated with choosing family and friends as the most influential source of information on getting a mortgage, contributing to 61 percent of model explanation power, followed by **Ethnicity**.
- **Renting** and **being Asian-American** are associated with higher likelihood of choosing family and friends as the most influential source of information. **Being Hispanic or African-American** and **Older** are associated with lower likelihood of choosing family and friends as the most influential source of information.
- **Income** and **Education** have NO significant effect on responses.

### Summary of regression results on choosing “Family and Friends” to Q41 (Overall = 20%)

Variable	Contribution <sup>1</sup>	Comparison Pairs	Odds Ratio <sup>2</sup>
Income	0%	Under 50K vs 100K+	1.0
		50-100K vs 100K+	1.0
Ethnicity	26%	Asian-American vs Caucasian	1.6
		Hispanic vs Caucasian	0.6
		African-American vs Caucasian	0.6
Education	5%	Some college vs College degree+	0.8
		HS/less vs College degree+	0.9
Age	61%	65+ vs 18-34	0.3
		45-64 vs 18-34	0.6
		35-44 vs 18-34	0.9
Housing Tenure	8%	Renter vs Owner	1.4

Base: N=3624

Q41. Generally speaking, which of the following are most influential to you personally when it comes to getting advice about getting a mortgage for home purchase or refinance?

1. Percentages show explanatory power of total model attributable to individual predictor variables, calculation based on Wald chi-square statistics.

2. Odds ratio greater than 1 indicates higher probability of event happening in the primary group (left side) than the reference group (right side), and vice versa.

Highlighted cells indicate odds ratio is significantly different from 1 at 95% confidence level.

## “Government Agencies” as One of Top Three Most Influential Sources of Info<sup>1</sup>

- **Ethnicity** is the main driver associated with choosing government agencies as one of the top three most influential sources of information on getting a mortgage, contributing to 51 percent of model explanation power, followed by **income**.
- **Lower Income, older, and being Hispanic or African-American** are associated with higher likelihood of choosing government agencies as one of top three most influential sources of information.
- **Housing Tenure** and **Education** have NO significant effect on responses.

Summary of regression results on choosing “Government Agencies” to Q41 (Overall = 17%)

Variable	Contributio <sup>2</sup>	Comparison Pairs	Odds Ratio <sup>3</sup>
Income	21%	Under 50K vs 100K+	1.6
		50-100K vs 100K+	1.2
Ethnicity	51%	Asian-American vs Caucasian	1.0
		Hispanic vs Caucasian	1.7
		African-American vs Caucasian	1.7
Education	10%	Some college vs College degree+	0.8
		HS/less vs College degree+	0.8
Age	16%	65+ vs 18-34	1.4
		45-64 vs 18-34	1.5
		35-44 vs 18-34	1.4
Housing Tenure	2%	Renter vs Owner	1.1

Base: N=3624

Q41. Generally speaking, which of the following are most influential to you personally when it comes to getting advice about getting a mortgage for home purchase or refinance?

1. Only 4% of respondents choose Government Agencies as the most influential source of information, so we relaxed the criteria to **top 3 most influential** sources of information.

2. Percentages show explanatory power of total model attributable to individual predictor variables, calculation based on Wald chi-square statistics.

3. Odds ratio greater than 1 indicates higher probability of event happening in the primary group (left side) than the reference group (right side), and vice versa.

Highlighted cells indicate odds ratio is significantly different from 1 at 95% confidence level.

## “Non-Profit Counselors” as One of Top Three Most Influential Sources of Info<sup>1</sup>

- **Ethnicity** and **Income** are the main drivers associated with choosing non-profit housing counselors as one of the top three most influential sources of information on getting a mortgage, contributing to 75 percent of model explanation power.
- **Lower Income, Renting** and **being Hispanic or African-American** are associated with higher likelihood of choosing non-profit housing counselors as one of the top three most influential sources of information.
- **Education** has NO significant effect on responses.

Summary of regression results on choosing “Non-profit housing counselors” to Q41 (Overall = 14%)

Variable	Contributio <sup>2</sup>	Comparison Pairs	Odds Ratio <sup>3</sup>
Income	33%	Under 50K vs 100K+	2.3
		50-100K vs 100K+	1.6
Ethnicity	42%	Asian-American vs Caucasian	0.9
		Hispanic vs Caucasian	1.6
		African-American vs Caucasian	2.2
Education	3%	Some college vs College degree+	1.2
		HS/less vs College degree+	1.1
Age	11%	65+ vs 18-34	1.2
		45-64 vs 18-34	1.0
		35-44 vs 18-34	1.6
Housing Tenure	11%	Renter vs Owner	1.4

Base: N=3624

Q41. Generally speaking, which of the following are most influential to you personally when it comes to getting advice about getting a mortgage for home purchase or refinance?

1. Only 4% of respondents choose non-profit housing counselors as the most influential source of information, so we relaxed the criteria to **top 3 most** influential sources of information.

2. Percentages show explanatory power of total model attributable to individual predictor variables, calculation based on Wald chi-square statistics

3. Odds ratio greater than 1 indicates higher probability of event happening in the primary group (left side) than the reference group (right side), and vice versa

Highlighted cells indicate odds ratio is significantly different from 1 at 95% confidence level

## Appendix C: Demographics



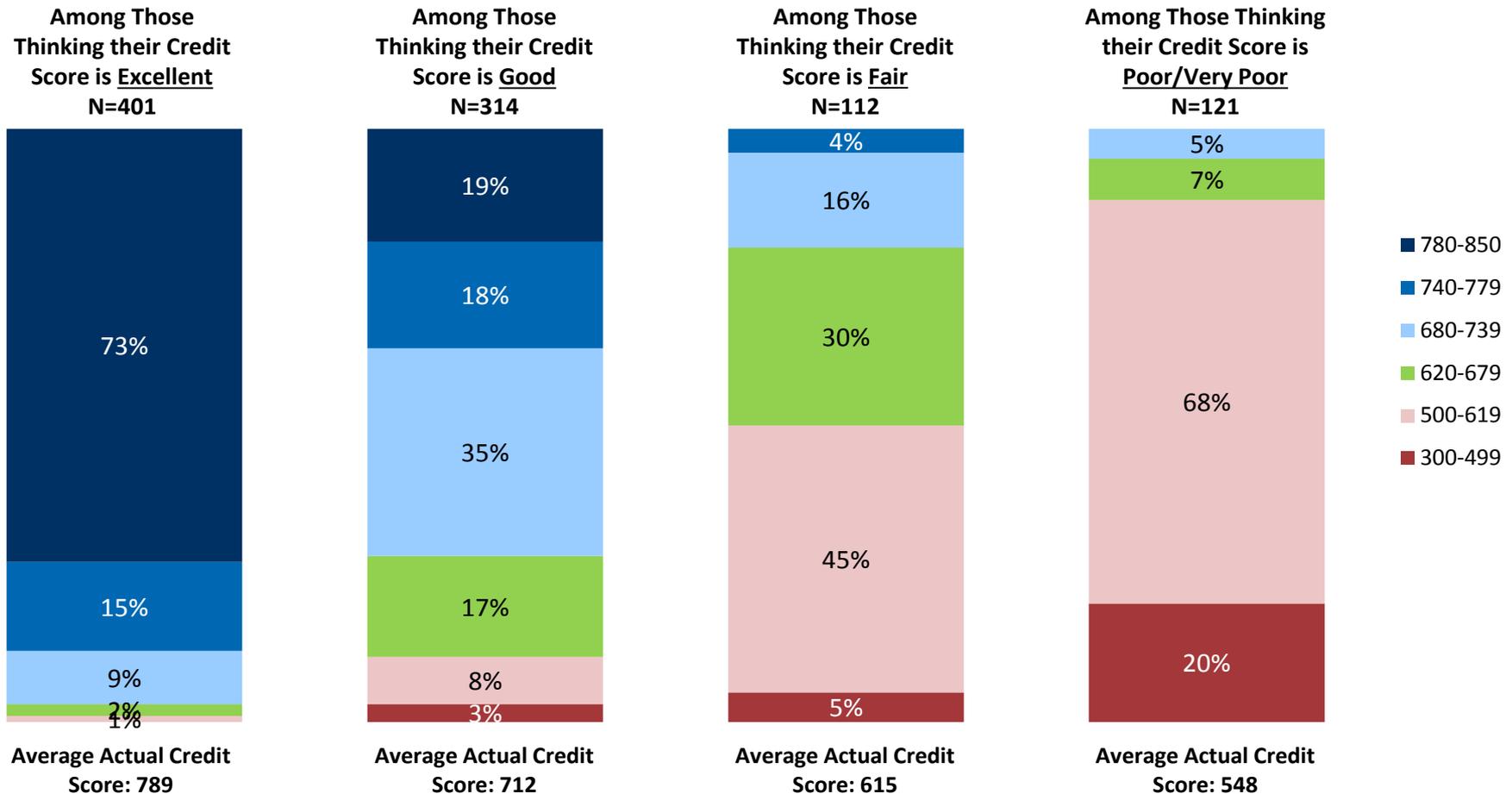
## Sample: Demographic Composition

	Total	Self-Reported "Good" Credit	African Americans	Hispanics	Asian- Americans	Renters	Own Home with Mortgage	Own Home Outright	Do Not Pay for Housing
Men	49%	49%	43%	53%	52%	47%	51%	49%	46%
Women	51%	51%	57%	47%	48%	53%	49%	51%	54%
18-34	25%	30%	31%	35%	29%	45%	15%	6%	66%
35-49	24%	26%	24%	30%	32%	25%	32%	11%	16%
50-64	32%	29%	33%	26%	27%	22%	38%	38%	14%
65+	19%	15%	14%	9%	12%	8%	16%	46%	4%
Caucasian, non-Hispanic	68%	63%	0%	0%	0%	54%	73%	79%	54%
African American, non-Hispanic	11%	12%	96%	0%	0%	19%	8%	6%	17%
Other, non-Hispanic	5%	7%	0%	100%	96%	6%	6%	5%	5%
Hispanic	14%	16%	4%	0%	4%	19%	11%	9%	21%
2+ races, non-Hispanic	2%	2%	0%	0%	0%	3%	2%	1%	3%
H.S. Less	39%	36%	42%	62%	25%	44%	30%	46%	46%
Some College	29%	31%	36%	23%	19%	31%	29%	22%	39%
College Grad+	32%	33%	22%	15%	56%	25%	41%	31%	15%
HH Income: <\$50K	40%	39%	55%	48%	24%	64%	23%	41%	41%
HH Income: \$50K-\$100K	34%	38%	29%	37%	34%	25%	40%	33%	38%
HH Income: \$100K+	26%	23%	15%	16%	42%	11%	37%	26%	22%
Rent Primary Residence	27%	28%	45%	37%	28%	100%	0%	0%	0%
Own Primary Residence	64%	62%	41%	50%	64%	0%	100%	100%	0%
Don't Pay for Housing	7%	9%	11%	11%	8%	0%	0%	0%	100%
Married	57%	54%	36%	57%	65%	36%	75%	65%	13%
Unmarried	43%	46%	64%	43%	35%	64%	25%	35%	87%
Children under 18 in Household	30%	32%	30%	47%	38%	34%	35%	12%	32%
No Children under 18 in Household	70%	68%	70%	53%	62%	66%	65%	88%	68%
Investable Assets <\$10K	13%	18%	17%	14%	11%	18%	15%	7%	7%
Investable Assets \$10K-\$49K	13%	17%	10%	8%	10%	11%	16%	12%	9%
Investable Assets \$50K-\$99K	10%	9%	7%	9%	15%	5%	13%	11%	6%
Investable Assets \$100K-\$249K	9%	9%	5%	3%	11%	3%	12%	12%	4%
Investable Assets \$250K-\$499K	6%	4%	3%	2%	10%	2%	9%	11%	2%
Investable Assets \$500K-\$999K	7%	3%	3%	2%	8%	1%	7%	18%	0%
Investable Assets Not Asked/Refused/ Missing	41%	41%	56%	62%	35%	59%	29%	30%	71%
Northeast	18%	19%	17%	16%	23%	20%	19%	15%	22%
Midwest	22%	20%	16%	7%	10%	21%	21%	27%	16%
South	37%	38%	57%	37%	23%	33%	36%	41%	41%
West	23%	23%	10%	39%	44%	26%	24%	17%	21%

## Actual VantageScore® 3.0 Range within Self-Reported Qualitative Creditworthiness

Those who think their creditworthiness is at either end of the creditworthiness spectrum (“excellent” or “poor/very poor”) have a more accurate assessment. Those who think they have a “good” or “fair” score are less accurate.

### Actual VantageScore within Each Category of Self-Reported Qualitative Creditworthiness



Base: Consented to append credit and had complete VantageScore data, N=992

## Appendix D: Information about GfK's KnowledgePanel<sup>®</sup>



## GfK KnowledgePanel®

GfK describes its panel methodology, sampling, and services as follows (source “KnowledgePanel Design Summary Description” at [http://www.knowledgenetworks.com/knpanel/docs/knowledgepanel\(R\)-design-summary-description.pdf](http://www.knowledgenetworks.com/knpanel/docs/knowledgepanel(R)-design-summary-description.pdf)):

*“GfK’s KnowledgePanel® is the largest national probability-based panel that provides the highest level of accuracy and sample representativeness available in online research for measurement of public opinion, attitudes, and behaviors. The panel was first developed in 1999 by Knowledge Networks, a GfK company, with panel members who are randomly selected, enabling results from the panel to statistically represent the U.S. population with a consistently higher degree of accuracy than results obtainable from volunteer opt-in panels (for comparisons of results from probability versus non-probability methods, see Yeager et al., 2011).*

*Because every sample unit has a known selection probability, KnowledgePanel is not susceptible to the “professional respondent” problem and other hazards of “opt-in” online panels based on convenience sampling. Unlike opt-in panels, individuals can become panelists only after being randomly selected; no one can just volunteer to be a member. Originally, panelists were selected using random-digit dialing (RDD) but address-based sampling (ABS) has been employed since 2009. ABS provides a statistically-valid sampling method with a published sample frame of residential addresses that covers approximately 97 percent of U.S. households, including households that:*

- *Have unlisted telephone numbers,*
- *Do not have landline telephones,*
- *Are cell phone only,*
- *Do not have current Internet access, and*
- *Do not have devices to access the Internet.”*

## GfK KnowledgePanel® – continued

Now in its 16th year, GfK’s KnowledgePanel® remains the only large-scale online panel based on a representative random sample of the U.S. population. Because of this, KnowledgePanel® has set the standard of accuracy in online surveys for researchers and meets the highest statistical standards for federal research and peer review.

Feature	Opt-in Panels	KnowledgePanel®
Coverage %	76% of US households	97% of US households
Sampling	Self-selected / convenience	Probability-based random
Non-internet Population	Excluded	Included
Latino Households	Excluded	Included without internet access
Sample Representativeness	Over-represents hyper internet users	Comparable to high-quality RDD with cell phone sample supplementation
Survey Frequency	Up to 20 or more per month	2 to 4 per month

- Probability-selected internet panel that is statistically valid and projectable (due to GfK’s address-based sampling recruitment methodology) and truly representative of U.S. population, which means a margin of error can be attached to the data.
- Covers 97 percent of U.S. population and 93 percent of U.S. Hispanic/Latino households, including Spanish-dominant, English-dominant, and bilingual households alike.
- Captures the 25 percent of the U.S. without Internet access as well as the roughly 22 percent of U.S. Latinos who do not have access to the Internet at least occasionally by providing those panelists with a laptop and ISP.

## GfK KnowledgePanel® – continued

KnowledgePanel® respondent incentives include two types: survey specific and non-survey specific. Non-survey incentives are used to maintain a high degree of panel loyalty and to mitigate attrition from the panel.

For households provided laptops and internet connections, their “panel loyalty” incentive is the hardware and internet service that GfK provides for free. For households with their own computers and internet connections, there is a minimal award, in the form of points, given for each 15-minute survey session.

The survey specific incentives are provided to respondents as a result of one of two conditions:

1. The survey is expected to require more than 15 minutes of time to complete, at which time either a sweepstake entry or bonus points will be awarded;
2. There is an unusual request being made of the respondent, such as specimen collection, the viewing of a specific television program, or completion of a daily diary.

Most incentives are in the form of points although, from time to time, other types of award such as cash and sweepstake entries can be offered. Members can redeem their points for cash, merchandise, gift cards, or entries into games to win prizes.

## Appendix E: Weighting Design Based On the Current Population Survey



## Weighting Design

GfK weighted the starting sample of the general population to benchmarks secured from the Current Population Survey for the 18+ population.

1. These weighting benchmarks were created while controlling demos within Caucasians/Hispanics/African-Americans/Asian-Americans/Other on age, gender, education, income, region, metro status and internet access.
  - Within Hispanics, GfK also weighted the data on primary language and origin. Subsequently, GfK created a weighted benchmark for qualified respondents – financial primary decision-makers – from the weights that were computed for the starting main sample.
2. Next, GfK weighted all qualified respondents (N=3,868) back to the resulting benchmarks by controlling demos within ethnicity for Caucasians, Hispanics, and African-Americans and mid-tier credit consumers versus non-mid-tier credit consumers, and on age, gender, education, income, region, metropolitan area, internet and mid-tier credit consumer or not within the Asian-American and Other ethnic groups.
3. Finally, GfK trimmed and scaled the weights to total qualified respondents (N=3,868).

## Current Population Survey – Used For weighting Benchmarks

The Current Population Survey (CPS), sponsored jointly by the U.S. Census Bureau and the U.S. Bureau of Labor Statistics (BLS), is the primary source of labor force statistics for the population of the United States. The full technical report can be found at: <http://www.census.gov/prod/2006pubs/tp-66.pdf>.

Because of its long history and the quality of its data, the CPS has been a model for other household surveys, both in the United States and in other countries. The CPS is a source of information not only for economic and social science research, but also for the study of survey methodology.

The CPS is administered by the Census Bureau using a probability selected sample of about 60,000 occupied households. The fieldwork is conducted monthly during the calendar week that includes the 19th of the month except for in the month of December when the survey is often conducted one week earlier to avoid conflicting with the holiday season.

Households from all 50 states and the District of Columbia are in the survey for 4 consecutive months, out for 8, and then return for another 4 months before leaving the sample permanently. This design ensures a high degree of continuity from one month to the next (as well as over the year). The 4-8-4 sampling scheme has the added benefit of allowing the constant replenishment of the sample without excessive burden to respondents.

The CPS questionnaire is a completely computerized document that is administered by Census Bureau field representatives across the country through both personal and telephone interviews. Additional telephone interviewing is conducted from the Census Bureau's three centralized collection facilities in Hagerstown, Maryland; Jeffersonville, Indiana; and Tucson, Arizona.

The methodology used, frequency with which the survey is conducted, sample size interviewed, and transparency and availability of core demographic data is, in part, why GfK utilizes CPS to inform its weighting benchmarks.