

Fannie Mae National Housing Survey™

What is the Mortgage Shopping Experience of Today's Homebuyer?

Lessons from recent Fannie Mae acquisitions

Topic Analysis 4/13/2015

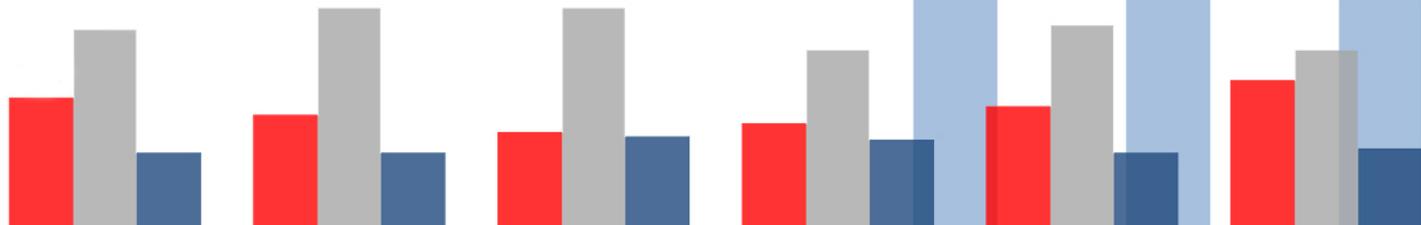


Table of Contents

▪ Research Methodology.....	3
▪ Executive Summary.....	4
▪ Implications.....	5
▪ The Process of Selecting a Mortgage.....	6
▪ Appendix.....	16

Research Methodology

- From January through March 2014, Penn Schoen Berland conducted 1,199 telephone interviews among the following audiences in conjunction with Fannie Mae’s existing National Housing Survey

May-November 2013 Fannie Mae Acquisitions Oversample: First-Time and Repeat Homebuyers	Sample Size	Margin of Error
First-Time Homebuyers Individuals who took out purchase mortgage loans in May-November 2013 and whose loans were acquired by Fannie Mae in May-November 2013; this sample was generated by first identifying potential first-time homebuyers according to Fannie Mae data and then surveying those borrowers to confirm that their current home is the first they’ve ever owned	602	± 3.99%
Repeat Homebuyers Individuals who took out purchase mortgage loans in May-November 2013 and whose loans were acquired by Fannie Mae in May-November 2013; this sample only includes borrowers who have had at least one prior mortgage loan that was also acquired by Fannie Mae	597	± 4.01%

- Based on the samples, responses to a series of questions on mortgage shopping were calculated and tested for statistical significance
- Logistic regression models were used to examine associations between homebuyers’ shopping behavior and demographics and other characteristics (see appendix for further detail)

- A purchase mortgage loan is only used for the purchase of a home, not to refinance an existing mortgage or to take out a new loan on a home the borrower already owns
- In order to be considered a “first-time homebuyer” in this analysis, respondents had to answer “yes” to each of the following survey questions: “Do you own your primary residence?” and “Is this the first home you’ve owned?”
- The repeat homebuyer sample is limited to borrowers who had at least one prior mortgage loan acquired by Fannie Mae to insure that no first-time homebuyers are included in the repeat homebuyer sample
- Note that on each question, respondents had the option to answer “don’t know” (volunteered), which is why in some cases, the total % may not equal 100
- The data from the oversample has been weighted in terms of gender, age, and race/ethnicity to make it reflective of the specified samples from Fannie Mae’s May-November 2013-originated acquisitions

Executive Summary

Our sample of recent Fannie Mae homebuyers' key shopping experiences and behaviors are most highly associated with income, age, level of previous home buying experience, and whether or not the buyer is a member of a racial/ethnic minority group¹

- About one-third of recent homebuyers in our survey did not shop around for a mortgage, often reporting that they were satisfied with their first quote
- Higher income, younger-aged, and minority borrowers are more likely to obtain multiple quotes when shopping for a mortgage
- Previous experience in getting a mortgage did not increase the likelihood of shopping for multiple quotes
- First-time homebuyers and lower-income borrowers are more likely to say that referrals from friends, family, or co-workers had a major influence on their choice of lender
- Only first-time homebuyers are more likely to say that a real estate agent's or mortgage specialist's referral influenced their choice of lender
- When it comes to surprises at the closing table, first-time and minority² homebuyers are more likely to report unexpected changes

1. Minorities here include Asians, Blacks, and Hispanics, and Non-minorities include non-Hispanic Whites as reported in the National Housing Survey; the minority variable requires further examination due to sample size limitations within each underlying racial/ethnic group.

2. While first-time and minority homebuyers are more likely to report unexpected changes at the closing table, differences are seen between underlying racial/ethnic groups in the descriptive results.

Implications

There is an opportunity to help consumers be better informed and improve upon the mortgage shopping process

- As large and infrequent as the mortgage transaction is in most people's financial lives, borrowers who don't shop around may be missing an important opportunity to negotiate for the best terms they can get, perhaps leaving money on the table*
- Encouraging homebuyers to seek multiple sources of information, determine the key criteria that are important to them, and ask detailed questions about the basis for a lender recommendation when shopping for a mortgage may help them find a lender that best meets their individual needs
- Lenders have an opportunity to facilitate the shopping process by providing clear information for consumers about the different mortgage product choices they offer, which may help reduce unexpected changes at closing and increase customer satisfaction and referrals
- Offers that are easier to understand and compare might motivate more borrowers to shop around, particularly if they have a better sense of the financial savings they might achieve by doing so
- Consumers may benefit from better tools to assess the outcomes that lenders provide across multiple variables such as cost, efficiency, and customer service, allowing them to balance these tradeoffs to best meet their needs

* Berndt, Antje., Hollifield, Burton., and Sandås, Patrik. 2010. "The Role of Mortgage Brokers in the Subprime Crisis." National Bureau of Economic Research Working Paper 16175. <http://www.nber.org/papers/w16175.pdf>

Woodward, Susan E., and Robert E. Hall. 2012. "[Diagnosing Consumer Confusion and Sub-optimal Shopping Effort: Theory and Mortgage-Market Evidence.](#)" *American Economic Review*, 102(7): 3249-76.

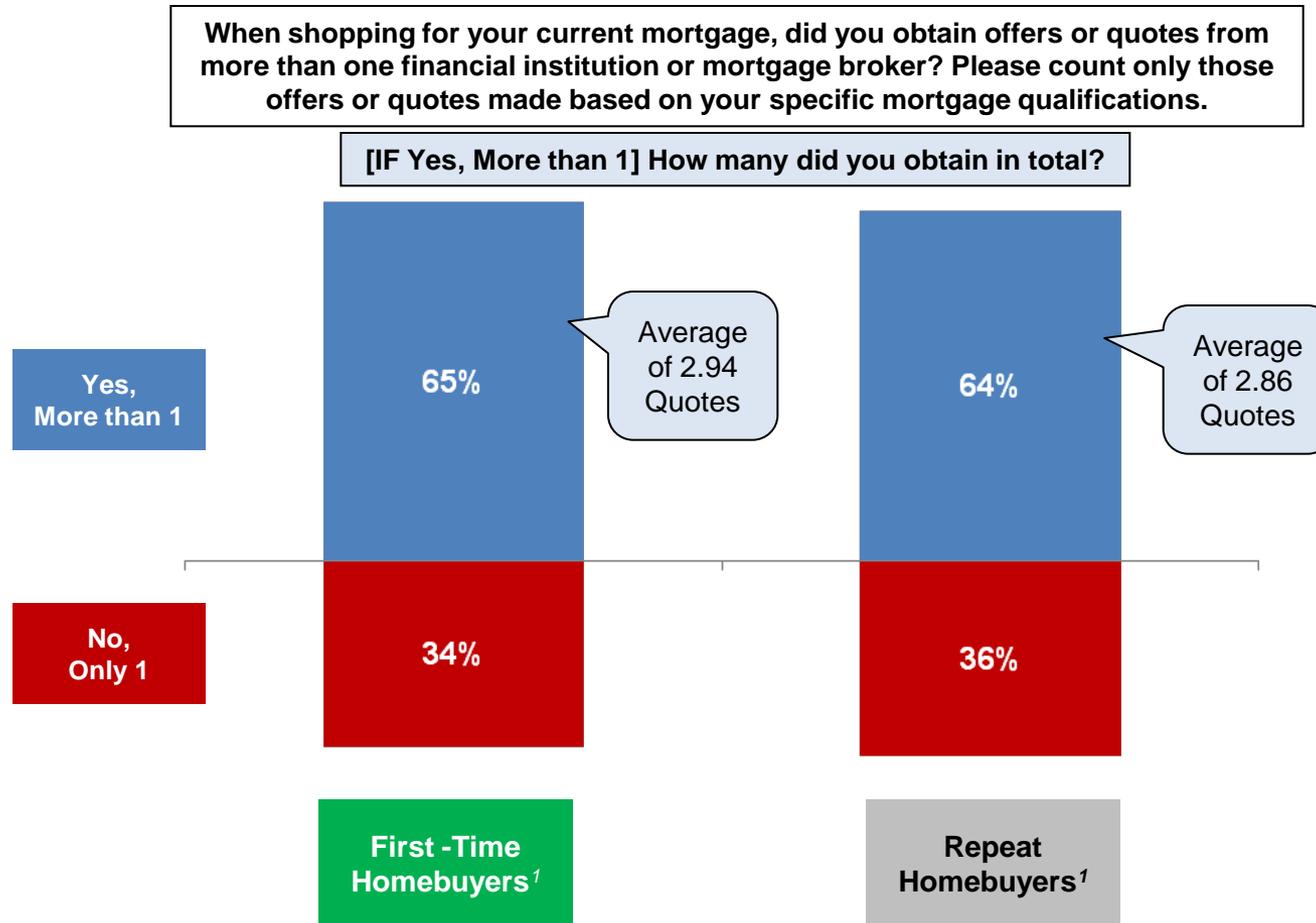
Berndt, Antje., Hollifield, Burton., and Sandås, Patrik. 2013. How Subprime Borrowers and Mortgage Brokers Shared the Pie. *Available at SSRN.*

<http://www.consumer.ftc.gov/articles/0189-shopping-mortgage>

http://www.federalreserve.gov/consumerinfo/fivetips_mortgageshop.htm

The Process of Selecting a Mortgage

Most First-Time and Repeat Homebuyers¹ compared quotes from multiple financial institutions or mortgage brokers

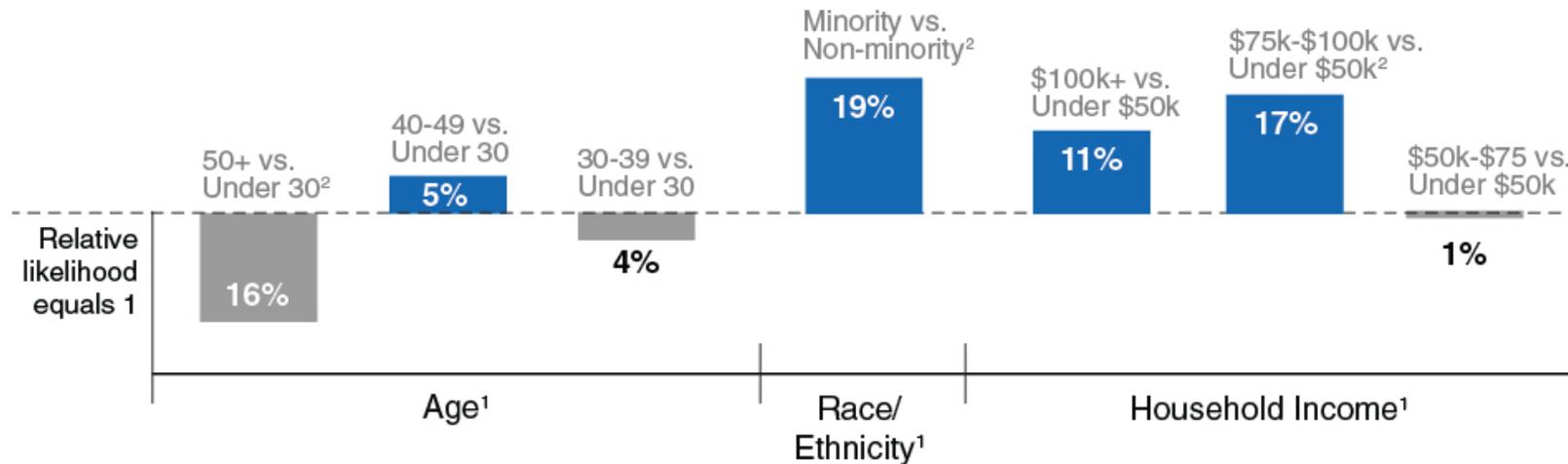


* Denotes Repeat Homebuyers is significantly different from First-Time Homebuyers at the 95% confidence level

¹ Homebuyers analyzed came from a representative sample of purchase loans originated and acquired by Fannie Mae in 2013 (details on slide 3)

The likelihood of obtaining multiple quotes is associated with borrowers' Age, Race/Ethnicity, and Income

- Borrowers age 50 and above are 16 percent less likely to obtain multiple quotes than those under age 30
- Minorities are 19 percent more likely to obtain multiple quotes than non-minorities
- Higher-income groups in general are more likely to obtain multiple quotes; specifically, those with an income of \$75,000-\$100,000 are 17 percent more likely than those with an income under \$50,000 to obtain multiple quotes



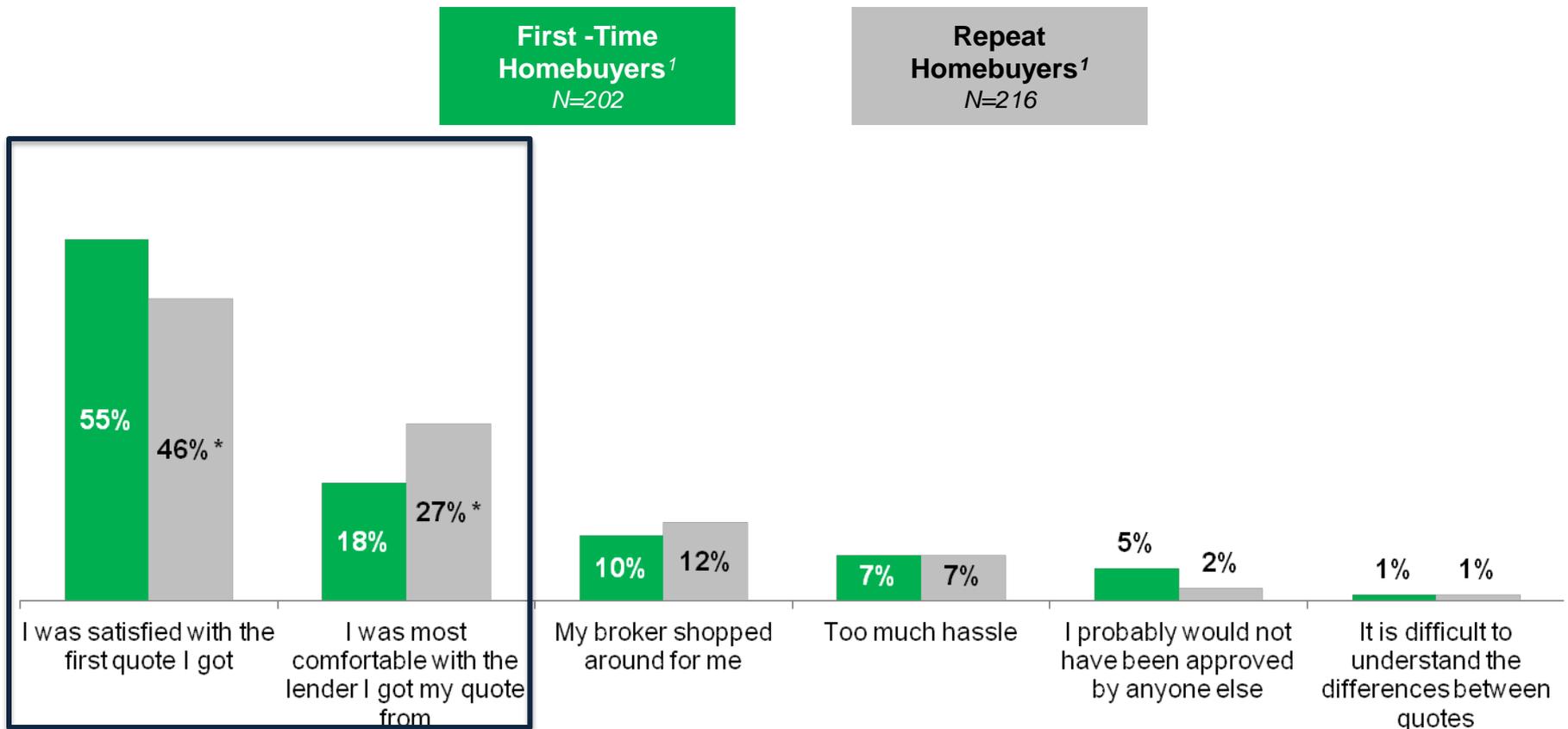
1. The overall association of the explanatory variable with the outcome is significant at 5%
2. The difference between the two groups is significant at 5%

- In the sample, 76% of Asians, 75% of Blacks, and 77% of Hispanics report obtaining multiple quotes, compared with 62% among non-minorities. Although the minority subgroup sample sizes are insufficient to yield statistically significant findings when tested separately from one another (Blacks and Hispanics each comprise 5 percent or less of the sample), directional results suggest that different minority subgroups may have similar likelihoods to one another of obtaining multiple quotes. However, in the multi-variable logistic regression analysis, we combine these minority groups into one category due to limited sample sizes. Further research at the racial/ethnic minority group level is necessary for more conclusive findings.
- The income result is consistent with [previous NHS analysis](#) which shows a similar relationship between income level and the likelihood of mortgage comparison shopping
- For further details on this analysis, please see the appendix

Homebuyers¹ who did not get more than one quote are most likely to attribute this to being satisfied with the first quote they obtained

When shopping for your current mortgage, did you obtain offers or quotes from more than one financial institution or mortgage broker? Please count only those offers or quotes made based on your specific mortgage qualifications.

[IF No, only one] What was the primary reason you did not obtain more than one mortgage quote?



* Denotes Repeat Homebuyers is significantly different from First-Time Homebuyers at the 95% confidence level

¹ Homebuyers analyzed came from a representative sample of purchase loans originated and acquired by Fannie Mae in 2013 (details on slide 3)

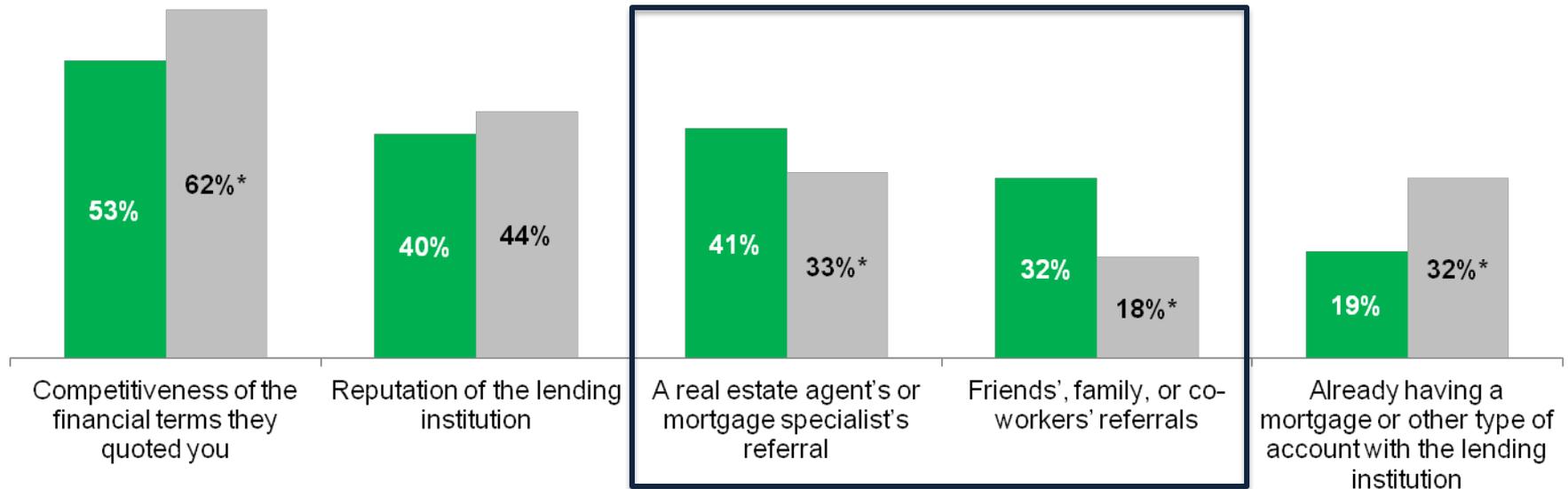
When choosing a lender, First-Time Homebuyers¹ are more likely than Repeat Homebuyers¹ to be influenced by referrals

- Both populations are most likely to say that quote competitiveness followed by lender reputation had a major influence on their lender choice

What level of influence did this factor have on your choice of lender?
Showing "Major Influence"

First-Time Homebuyers¹

Repeat Homebuyers¹

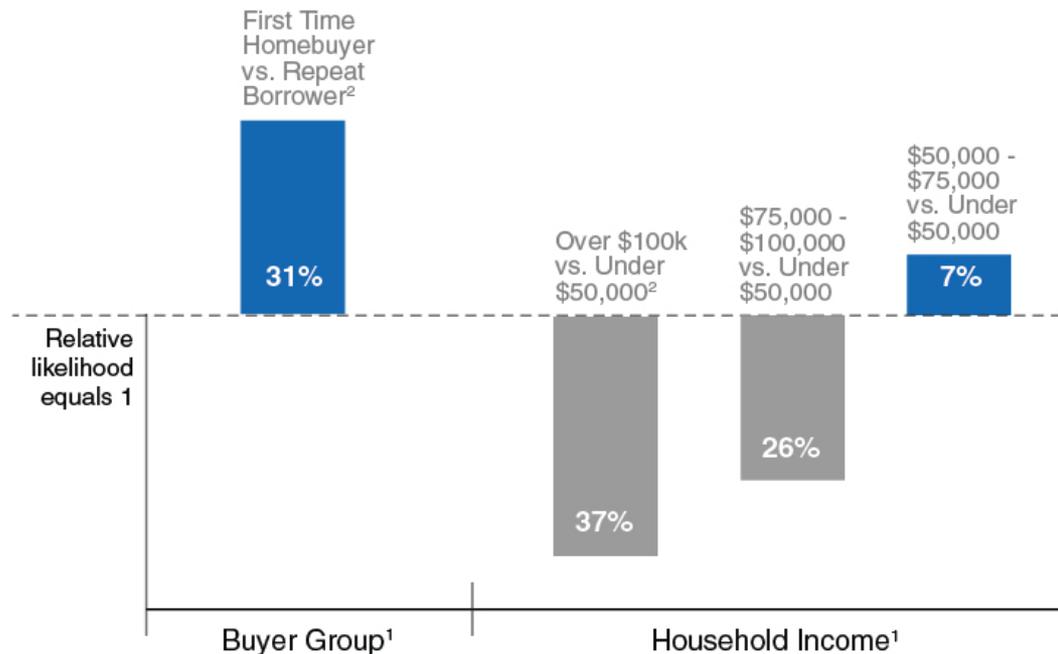


* Denotes Repeat Homebuyers is significantly different from First-Time Homebuyers at the 95% confidence level

¹ Homebuyers analyzed came from a representative sample of purchase loans originated and acquired by Fannie Mae in 2013 (details on slide 3)

The likelihood of being influenced by friends', family, or co-workers' referrals on lender choice is associated with borrowers' Experience and Income

- First-Time Homebuyers are 31 percent more likely to be influenced by friends', family, or co-workers' referrals when choosing a lender than repeat homebuyers; the increased likelihood is 29 percent when it comes to "a real estate agent's or mortgage specialist's referral" (not shown in graph, see appendix)
- Higher-income groups in general are less likely to be influenced by friends', family, or co-workers' referrals when choosing a lender than lower-income homebuyers; specifically those with an income over \$100,000 are 37 percent less likely than those with an income under \$50,000 to be influenced by these referrals



1. The overall association of the explanatory variable with the outcome is significant at 5%
 2. The difference between the two groups is significant at 5%

- The income result is consistent with [previous NHS analysis](#), which shows a similar relationship between income level and the likelihood of being influenced by referrals
- For further details on this analysis, please see the appendix

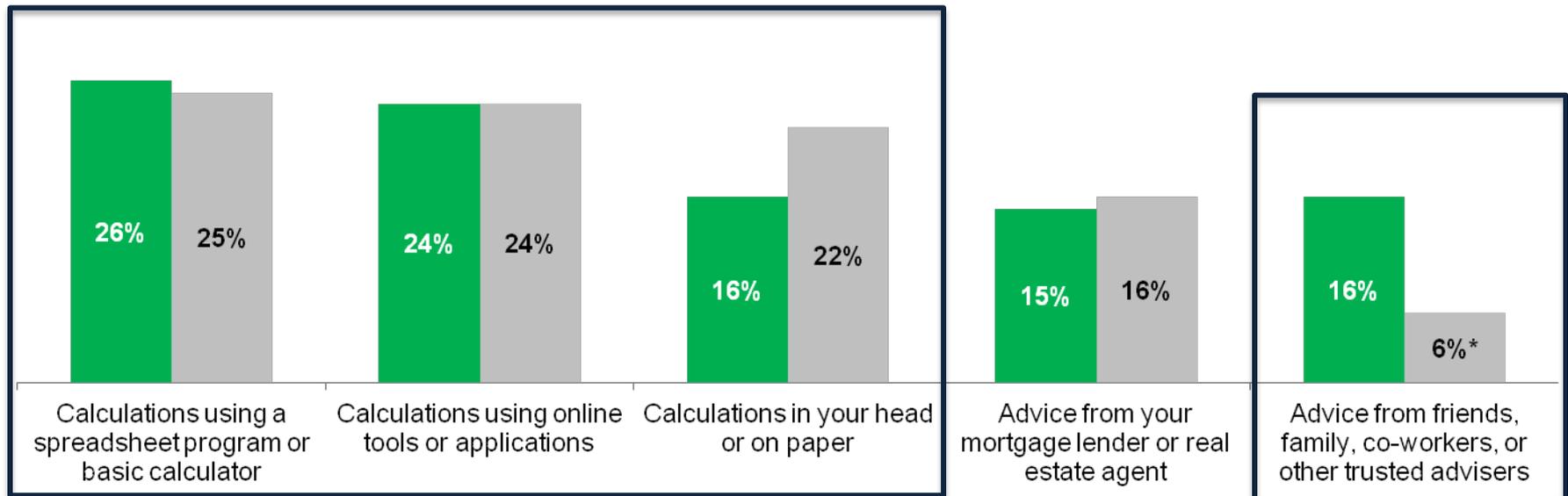
Though most recent homebuyers¹ are budgeting according to their calculations, First-Time Homebuyers¹ are more likely to look to advice from others

Was the amount of money you borrowed through your mortgage loan influenced primarily by *[choices rotated randomly]* The cost of the home you wanted to buy; The amount of money you wanted to spend?

[IF the amount of money you wanted to spend] Which of these factors had the most influence on the amount of money you wanted to spend on your mortgage loan?

First-Time Homebuyers¹
N=278

Repeat Homebuyers¹
N=294

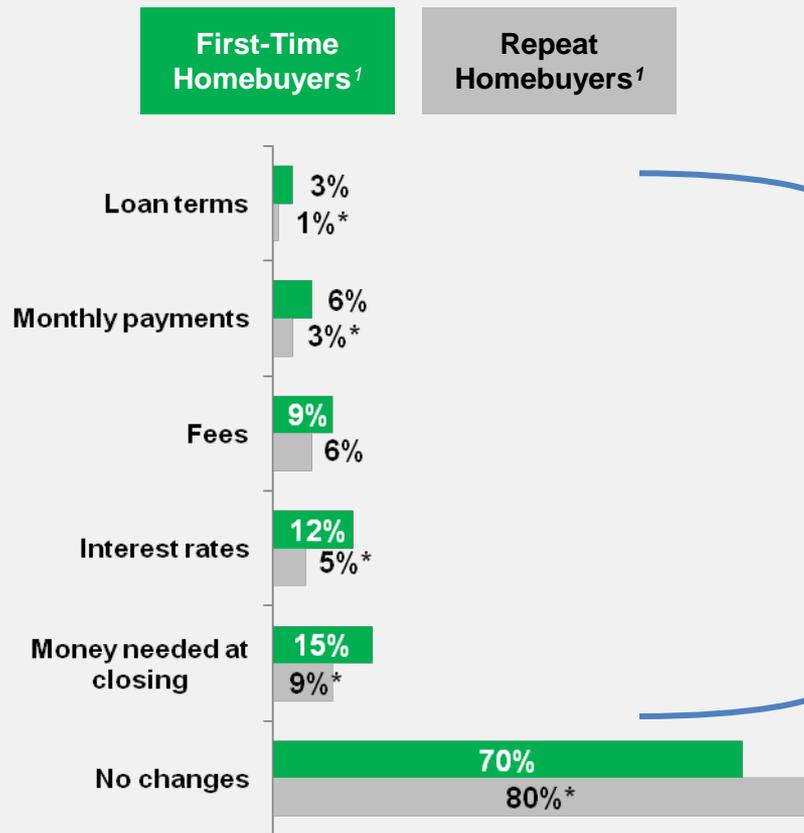


* Denotes Repeat Homebuyers is significantly different from First-Time Homebuyers at the 95% confidence level

¹ Homebuyers analyzed came from a representative sample of purchase loans originated and acquired by Fannie Mae in 2013 (details on slide 3)

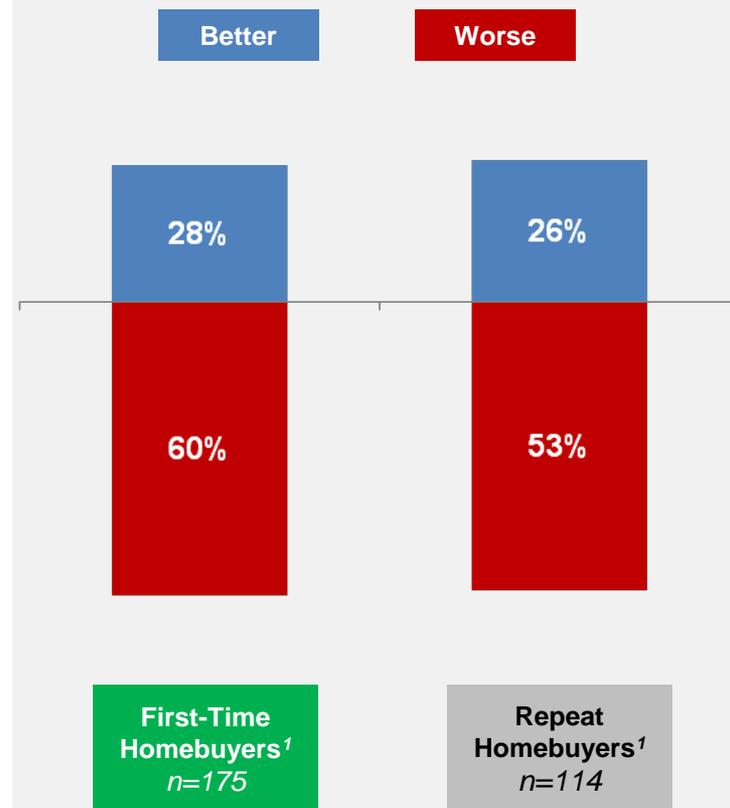
Twenty to thirty percent of recent homebuyers¹ report unexpected changes to their mortgage at closing, and the majority of those who do report unexpected changes believe the changes were for the worse

Did you experience any unexpected changes in any of the following items at your loan closing?



IF experienced unexpected changes at loan closing

Did this/these change(s) make the loan better or worse for you?

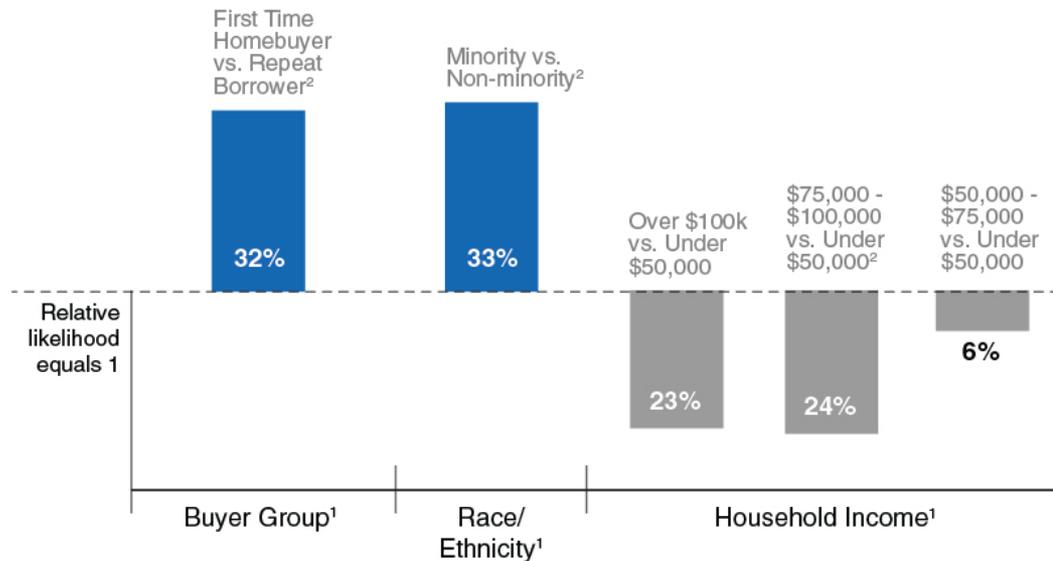


* Denotes Repeat Homebuyers is significantly different from First-Time Homebuyers at the 95% confidence level

¹ Homebuyers analyzed came from a representative sample of purchase loans originated and acquired by Fannie Mae in 2013 (details on slide 3)

The likelihood of reporting unexpected changes at mortgage closing is associated with borrowers' Experience, Race/Ethnicity, and Income

- First-Time Homebuyers are 32 percent more likely to have experienced unexpected changes at mortgage closing than repeat homebuyers
- Minorities are 33 percent more likely to have experienced unexpected changes at mortgage closing than non-minorities
- Higher-income groups in general are less likely to have experienced unexpected changes at mortgage closing; specifically, those with an income of \$75,000-\$100,000 are 24 percent less likely than those with an income under \$50,000 to have experienced unexpected changes at mortgage closing

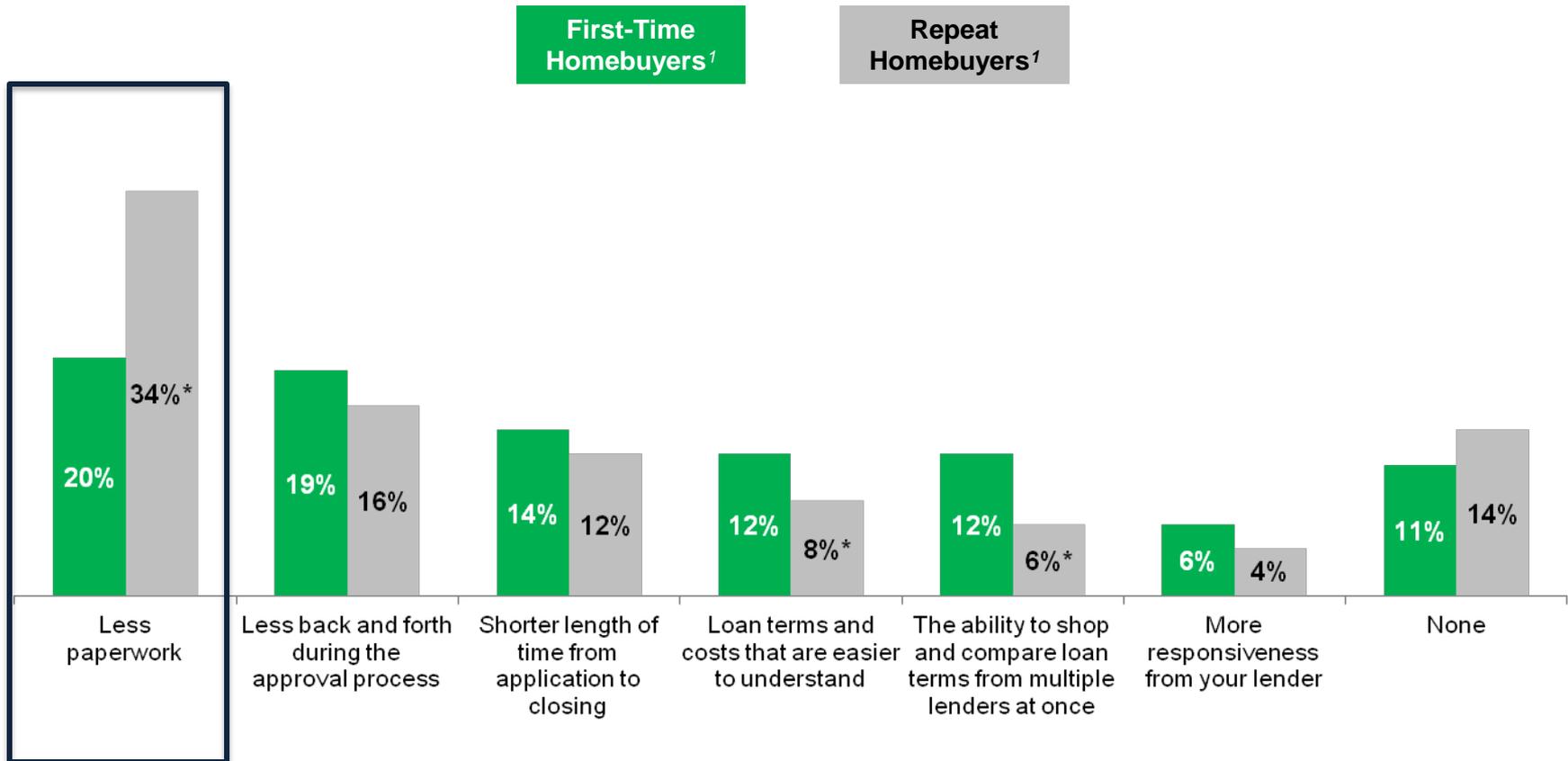


- The overall association of the explanatory variable with the outcome is significant at 5%
- The difference between the two groups is significant at 5%

- In the sample, 37% of Asians, 18% of Blacks, and 25% of Hispanics report unexpected changes, compared with 23% among non-minorities. Although the minority subgroup sample sizes are insufficient to yield statistically significant findings when tested separately from one another (Blacks and Hispanics each comprise 5 percent or less of the sample), directional results suggest that different minority subgroups may have significantly different likelihoods from one another of reporting unexpected changes at mortgage closing. However, in the multi-variable logistic regression analysis, we combine these minority groups into one category due to limited sample sizes. Further research at the racial/ethnic minority group level is necessary for more conclusive findings.
- For further details on this analysis, please see the appendix

More than one-third of Repeat Homebuyers¹ say *less paperwork* would have made the process of getting a mortgage easier

What, if anything, would have made the process of getting a mortgage easier?
Please select the one that would have made the process easiest for you.



* Denotes Repeat Homebuyers is significantly different from First-Time Homebuyers at the 95% confidence level

¹ Homebuyers analyzed came from a representative sample of purchase loans originated and acquired by Fannie Mae in 2013 (details on slide 3)

Appendix

Characteristics of 2013 First-Time and Repeat Homebuyers by Source¹

Variables (Showing medians)	Fannie Mae First-Time Home Buyers	AHS First-Time Home Buyers with Mortgage	Fannie Mae Repeat Home Buyers	AHS Repeat Home Buyers with Mortgage
Age	31	30	45	42
Annual Household Income	\$66,396	\$66,961	\$104,172	\$91,974
% Minority	22%	25%	11%	23%
%Employed Full-Time ²	93%	95%	89%	82%
Monthly Housing Cost	\$1,275	\$1,165	\$1,626	\$1,625
Purchase Price	\$200,000	\$150,000	\$285,000	\$220,000
Loan Amount	\$175,000	\$126,000	\$226,000	\$198,500
FICO Credit Score	762	N/A	779	N/A
Front-End DTI ³	0.25	0.22	0.20	0.21
LTV ⁴	0.90	0.90	0.80	0.82

¹ Sources: Fannie Mae National Housing Survey, samples are weighted to represent the new purchase loan population originated and acquired by Fannie Mae in May – November 2013; U.S. Census 2013 American Housing Survey (AHS)

² AHS employment rate includes both full-time and part-time and can't be separated

³ Calculated as the ratio of monthly housing cost over monthly household income

⁴ Calculated as the ratio of the initial loan amount over purchase price

Regression Analysis Methodology

- A logistic regression model requires the dependent variable to be a 0/1 binary variable; it can take into account multiple explanatory variables simultaneously, estimating their effects, and testing for their significance
- A standard set of explanatory variables were used in the regressions (table below)
- Odds Ratio (OR) and Relative Likelihood (RL) were calculated to help interpreted the results

$$OR = \frac{P_1/(1 - P_1)}{P_2/(1 - P_2)} \qquad RL = \frac{P_1}{P_2}$$

P_i : probability of event happening in Group i

Borrowers' Demographic and Other Characteristics

Variable Name	Value Coding
Buying Experience	<ol style="list-style-type: none"> 1. First-time homebuyer 2. Repeat homebuyer (Baseline)
Age	<ol style="list-style-type: none"> 1. Under 30 (Baseline) 2. 30 – 39 3. 40 – 49 4. 50 and greater
Race/Ethnicity	<ol style="list-style-type: none"> 1. Non-minority (Baseline) 2. Minority
Household Income	<ol style="list-style-type: none"> 1. Under \$50,000 (Baseline) 2. \$50,000 – \$74,999 3. \$75,000 – \$99,999 4. \$100,000 and greater
Education Attainment	<ol style="list-style-type: none"> 1. College degree or higher 2. No college degree (Baseline)
Credit Score	<ol style="list-style-type: none"> 1. Under 725 (Baseline) 2. 725 – 774 3. 775 – 799 4. 800 and greater

Regression Analysis – Obtaining Multiple Mortgage Quotes

- Outcome or Dependent variable is whether a respondent obtained multiple quotes:
 $Y = 1$ if obtained multiple quotes; $Y = 0$ if obtained only one quote
- Odds Ratio and Relative Likelihood greater than 1 means there is a higher probability of the outcome happening in the comparison group vs. the baseline group; statistically significant results are highlighted

Effect of explanatory variables		Odds Ratio	Relative Likelihood
Buyer Group	First-Time Homebuyer vs. Repeat Borrower	1.02	1.01
Age ¹	50 and above vs. Under 30 ²	0.63	0.84
	40 - 49 vs. Under 30	1.17	1.05
	30 - 39 vs. Under 30	0.9	0.96
Race/Ethnicity ¹	Minority vs. Non-minority ²	1.74	1.19
Household Income ¹	Over \$100,000 vs. Under \$50,000	1.34	1.11
	\$75,000 - \$100,000 vs. Under \$50,000 ²	1.57	1.17
	\$50,000 - \$75,000 vs. Under \$50,000	0.97	0.99
Education	College degree vs. No college degree	1.28	1.1
Credit Score	800 or higher vs. Under 725	1.11	1.04
	775 - 799 vs. Under 725	1	1
	725 - 774 vs. Under 725	1.11	1.04

¹ Means the overall association of the explanatory variable with the outcome is significant at 5% (highlighted)

² Means the difference between the two groups is significant at 5% (highlighted)

Regression Analysis – Friends’, Family, Or Co-workers’ Referrals

- Outcome or Dependent variable is whether a respondent says “Friends’, Family, Or Co-workers’ referrals” had a major influence on their lender choice:

Y = 1 if had a “major influence”; Y = 0 if didn’t have a “major influence”

Effect of explanatory variables		Odds Ratio	Relative Likelihood
Buyer Group ¹	First-Time Homebuyer vs. Repeat Borrower ²	1.43	1.31
Age	50 and above vs. Under 30	0.62	0.69
	40 - 49 vs. Under 30	0.74	0.8
	30 - 39 vs. Under 30	0.94	0.96
Race/Ethnicity	Minority vs. Non-minority	0.97	0.98
Household Income ¹	Over \$100,000 vs. Under \$50,000 ²	0.55	0.63
	\$75,000 - \$100,000 vs. Under \$50,000	0.67	0.74
	\$50,000 - \$75,000 vs. Under \$50,000	1.1	1.07
Education	College degree vs. No college degree	1.33	1.25
Credit Score ¹	800 or higher vs. Under 725	1.04	1.03
	775 - 799 vs. Under 725 ²	0.6	0.67
	725 - 774 vs. Under 725	0.95	0.96

¹ Means the overall association of the explanatory variable with the outcome is significant at 5% (highlighted)

² Means the difference between the two groups is significant at 5% (highlighted)

Regression Analysis – A Real Estate Agent’s or Mortgage Specialist’s Referral

- Outcome or Dependent variable is whether a respondent says “A real estate agent’s or mortgage specialist’s referral had a major influence on their lender choice:

Y = 1 if had a “major influence”; Y = 0 if didn’t have a “major influence”

Effect of explanatory variables		Odds Ratio	Relative Likelihood
Buyer Group¹	First-Time Homebuyer vs. Repeat Borrower²	1.5	1.29
Age	50 and above vs. Under 30	1.45	1.26
	40 - 49 vs. Under 30	1.23	1.14
	30 - 39 vs. Under 30	1.12	1.07
Race/Ethnicity	Minority vs. Non-minority	1.18	1.11
Household Income	Over \$100,000 vs. Under \$50,000	0.91	0.94
	\$75,000 - \$100,000 vs. Under \$50,000	0.85	0.9
	\$50,000 - \$75,000 vs. Under \$50,000	1.01	1.01
Education	College degree vs. No college degree	0.86	0.91
Credit Score	800 or higher vs. Under 725	1.36	1.2
	775 - 799 vs. Under 725	0.95	0.97
	725 - 774 vs. Under 725	1.1	1.06

¹ Means the overall association of the explanatory variable with the outcome is significant at 5% (highlighted)

² Means the difference between the two groups is significant at 5% (highlighted)

Regression Analysis – Reporting Unexpected Changes at Mortgage Closing

- Outcome or Dependent variable is whether a respondent experienced unexpected changes at mortgage closing:

Y = 1 if experienced unexpected changes; Y = 0 if didn't experience unexpected changes

Effect of explanatory variables		Odds Ratio	Relative Likelihood
Buyer Group ¹	First-Time Homebuyer vs. Repeat Borrower ²	1.43	1.32
Age	50 and above vs. Under 30	0.69	0.75
	40 - 49 vs. Under 30	0.92	0.94
	30 - 39 vs. Under 30	0.82	0.86
Race/Ethnicity ¹	Minority vs. Non-minority ²	1.45	1.33
Household Income ¹	Over \$100,000 vs. Under \$50,000	0.71	0.77
	\$75,000 - \$100,000 vs. Under \$50,000 ²	0.7	0.76
	\$50,000 - \$75,000 vs. Under \$50,000	1.09	1.06
Education	College degree vs. No college degree	1.33	1.25
Credit Score	800 or higher vs. Under 725	1.05	1.03
	775 - 799 vs. Under 725	0.72	0.78
	725 - 774 vs. Under 725	0.74	0.79

¹ Means the overall association of the explanatory variable with the outcome is significant at 5% (highlighted)

² Means the difference between the two groups is significant at 5% (highlighted)