

COMMUNITY ADVANTAGE PANEL SURVEY: DATA COLLECTION UPDATE AND ANALYSIS OF PANEL ATTRITION

Technical Report: February 2012

By
Sarah Riley
HongYu Ru
Mark Lindblad
Roberto Quercia

Center for Community Capital
The University of North Carolina at Chapel Hill

Center for Community Capital
Research and analysis on the transformative power of capital



UNC
COLLEGE OF
ARTS & SCIENCES

Community Advantage Panel Survey: Data Collection Update and Analysis of Panel Attrition

February 2012

Sarah Riley, HongYu Ru, Mark Lindblad, and Roberto Quercia

Center for Community Capital

University of North Carolina at Chapel Hill

Overview

We provide an update of the Community Advantage Panel Survey (CAPS) data collection activities that occurred in 2011 and describe our data collection plans for 2012. We first summarize the CAPS sampling strategy and data collection progress and then consider upcoming survey plans, attrition concerns, and the extent to which 2011 survey completers are representative of baseline respondents and other Self-Help Community Advantage Program (CAP) borrowers. As in prior years, we find that males and Hispanics were most likely to attrit from the survey in 2011.

Sampling Strategy and Data Collection Progress

Table 1 provides an overview of CAPS data collection progress for our sample of 3,743 original homeowners and 1,530 original renters.¹ The table displays the number of completed interviews by survey year, module, and mode of administration.

The 2012 row of Table 1 indicates that this year the survey will include a variety of questions about wealth and asset accumulation, stress and economic challenges faced as a result of the economic recession, attitudes toward savings and debt repayment and default, and any home improvements that respondents may have conducted since 2008. As in prior years, these questions are designed to assess financial outcomes, behaviors, and coping strategies, as well as how these items relate to homeownership. As in 2008, the 2012 survey will be administered as a mixed-mode instrument, with approximately half of the owners receiving an in-person interview and the other half receiving a phone interview. In general, those renters and owners who received in-person interviews in prior years will again be selected for in-person interviewing.

¹ Note that many respondents' tenure status of "owner" or "renter" has changed since the study began; thus, original tenure status does not necessarily reflect current tenure status. For example, about 23% of original renters became homeowners between 2004 and 2010.

Table 1: Data Collection Overview

Year	Survey Year	<u>Owners</u>			<u>Renters</u>		
		Module	Mode	Completes	Module	Mode	Completes
2003	0	Home purchasing info; Counseling	SRU phone	3,743	---	--	--
2004	1	Social Capital; Parenting;	SRU phone	2,614	Social Capital; Parenting;	RTI phone	1,530
2005	2	Wealth & Assets; Mortgages; Savings	SRU phone RTI in-home	2,701 1,284	Wealth & Assets; Mortgages; Savings	RTI in-home	1,157
2006	2&3	Wealth & Assets; Mortgages; Savings; Rising Energy Costs; Sense of Community	RTI phone for soft-refusals	262	Wealth & Assets; Mortgages; Savings; Rising Energy Costs; Sense of Community	RTI phone for soft-refusals	77
	3	Rising Energy Costs; Sense of Community	SRU phone	2,118 (total: 2,380)	Rising Energy Costs; Sense of Community	RTI phone	970 (total: 1,047)
2007	4	Social Capital 2; Parenting 2; Medical Costs; Credit Scores	RTI phone	2,079	Social Capital 2; Parenting 2; Medical Costs; Credit Scores	RTI phone	903
2008	5	Wealth & Assets 2; Mortgages 2; Savings 2; Housing Experiences; Home Improvements	RTI phone RTI in-home	1,296 1,080 (total: 2,376)	Wealth & Assets 2; Mortgages 2; Savings 2; Housing Experiences; Home Improvements	RTI phone RTI in-home	55 927 (total: 982)
2009	6	Economic Challenges; Stress	RTI phone	2,229	Economic Challenges; Stress	RTI phone	917
2010	7	Economic Challenges 2; Stress 2	RTI phone	2,088	Economic Challenges 2; Stress 2	RTI phone	875
2011	8	Economic Challenges 3; Moral Hazards; Stress 3	RTI phone	2,018	Economic Challenges 3; Moral Hazards; Stress 3	RTI phone	853
2012	9	Wealth & Assets 3; Mortgages 3; Savings 3; Economic Challenges 4; Moral Hazards 2; Stress 4; Home Improvements 2	RTI phone RTI in-home	~1,129 ~850 (total: ~1,979)	Wealth & Assets 3; Mortgages 3; Savings 3; Economic Challenges 4; Moral Hazards 2; Stress 4; Home Improvements 2	RTI phone RTI in-home	~48 ~770 (total: ~818)

- Note:**
- Universal core questions (demographics, employment, household expenses) asked every year. In addition, owners were administered a movers' module from Year 2 onward. Conversely, renters were asked about their intentions to purchase a home every year.
 - Renters were matched to urban owners by location and income. Renters' Year-1 data originally included 118 additional respondents who were later dropped due to not meeting age or income requirements. Renters' Years 2–5 data include one case that did not complete Year 1.
 - The soft-refusal sample comprises those cases that did not complete the SRU phone interview or the RTI in-home interview in Year 2.

Table 2 provides additional details about the final status of the data collection efforts for 2011. The 2011 completion rates for *eligible*² owners and renters were 81% and 84%, respectively. However, the number of individuals who were eligible to be surveyed in 2011 exceeded the number of respondents who completed the 2010 survey. Considering only those individuals who completed the 2010 survey, 97% of owners and 97% of renters completed the 2011 survey.

Table 2: Final Status of 2011 Eligibles

Final Status – 2011	Owners	Renters	All
Completed Interview	2,018 (81%)	853 (84%)	2,871 (82%)
Unable to locate or contact	392 (16%)	138 (14%)	530 (15%)
Ineligible	13 (<1%)	14 (1%)	27 (<1%)
Refused	65 (3%)	12 (1%)	77 (2%)
Total Eligible	2,488	1,017	3,505

Notes: (1) Percentages shown are column percentages. (2) The completion rates presented are calculated relative to all *eligible* cases, rather than simply those that completed the 2010 survey.

Most respondents who were contacted in 2011 were willing to participate in the survey, as only 2% of the eligible sample resulted in final refusals. About 84% of those cases that were not completed simply could not be contacted, either because of incorrect contact information or because tracing was unsuccessful. Although the overall level of noncontact in 2011 was consistent with those observed in prior years of the survey, the number of hard refusals (i.e., respondents who asked to be removed permanently from the survey panel) was less than half the number of hard refusals in 2010 (47 vs. 101). The reason for this decrease in hard refusals is not clear, but it is possible that the incentive-based survey experiment conducted this past year, which offered a higher incentive to those respondents who were most likely to attrit from the survey, may have contributed to better retention.

As previously described in the attrition analysis from the 2010 data collection, the goal of the 2011 experiment was to determine which of those respondents who were most likely to attrit from the survey also were most likely to respond to a higher incentive. The National Institutes of Health provided the additional funding required for this experiment, which involved the evaluation of response propensities during the course of data collection and aimed to minimize non-

² The 2011 eligibility criteria are described in the 2011 version of this document, dated March 2011.

response bias. While the data collected via the experiment are still being analyzed, the preliminary results do indicate that the increased incentive was effective in raising response rates among high attrition groups within the survey sample. These preliminary results, combined with the reduced rate of hard refusals this past year, suggest that offering substantial incentives continues to be a vital means of retaining survey respondents. Once the analysis has been completed, a comprehensive discussion of the experiment and its final results will be published elsewhere.

Panel Completion Rates by Survey Year

Owners

Approximately 60% (1,203) of the 2,018 owners who completed the Year 8 interview in 2011 also completed interviews in Years 0 through 7. Therefore, more than half of the 2011 respondents have consistently provided data since baseline. With respect to the original baseline sample, which contained 3,743 homeowners, about 32% completed all nine interviews to date. Another 14% (527) of the baseline sample completed eight interviews; 11% (403) completed seven interviews; 6% (204) completed six interviews; 5% (170) completed five interviews; 4% (153) completed four interviews; 5% (194) completed three interviews; and 11% (423) completed just two interviews. Thirteen percent of the original sample completed only baseline. Table 3 presents the number and percentage of completed owner interviews by year.

Renters

Approximately 74% (631) of the 853 renters who completed the Year 8 interview in 2011 also completed interviews in Years 1 through 7. Therefore, about three-quarters of the 2011 respondents have consistently provided data since baseline. With respect to the original baseline renters sample, which consisted of 1,530 renters, 41% completed all eight interviews to date, while 13% completed seven survey years. In addition, approximately 6% of the baseline sample completed six years; 4% completed five years, 4% completed four years; 3% completed three years; 10% completed two years, and 19% completed only baseline. Note that the renters have had one less interview opportunity than the owners because the first renters survey was administered concurrently with the second owners survey. Table 4 presents the number and percentage of completed renter interviews by year.

Eligibility for the 2012 Survey

The panel members who are eligible for 2012 interviewing comprise 2,327 owners and 961 renters. To derive these numbers, we began with the pool of survey participants who were eligible for the 2011 survey and subtracted those cases for respondents who had asked to be permanently removed from the survey or who were deceased or incapacitated and who did not have a spouse in the household who could serve as a proxy respondent. We also removed 163 respondents who had not completed a survey interview for the past three years and who had not been located for the past two years, as it is extremely unlikely that these cases would be located or completed in the future.

Table 3: Owner Interviews by Year

Years Completed	Number of Owners	Percentage	Cumulative Percentage
All nine years	1,203	32.1%	32.1%
Eight years	527	14.1%	46.2%
Seven years	403	10.8%	57.0%
Six years	204	5.5%	60.5%
Five years	170	4.5%	67.0%
Four years	153	4.1%	71.1%
Three years	194	5.2%	76.3%
Two years	423	11.3%	87.5%
One year (baseline)	466	12.5%	100.0%
Total	3,743	100%	100%

Note: Numbers are based on the raw data set prior to data cleaning; Year 2 refers either to the SRU phone survey or to the RTI in-home interview; Year 3 includes soft refusals.

Table 4: Renter Interviews by Year

Years Completed	Number of Renters	Percentage	Cumulative Percentage
All eight years	631	41.2%	41.2%
Seven years	199	13.0%	54.2%
Six years	95	6.2%	60.4%
Five years	62	4.1%	64.5%
Four years	57	3.7%	68.2%
Three years	38	2.5%	70.7%
Two years	152	9.9%	80.6%
One year (baseline)	297	19.4%	100.0%
Total	1,531	100%	100%

Note: Numbers are based on the raw data set prior to data cleaning. Year 2 refers to the RTI in-home interview. Year 3 includes soft refusals. Total number includes one renter who did not complete the first year survey. The case was not used in the calculation of years of completion.

Panel Attrition

In this section, we consider in two ways whether the sample of most recent panel respondents is representative of our target research populations. First, we examine the extent to which those individuals who completed the 2011 interview represent baseline respondents. Specifically, we compare the baseline characteristics of owners and renters who did not complete Year 8 with those of the renters and owners who did so. To carry out this comparison, we use multivariate logit models to predict Year 8 survey completion.

Second, we examine whether the owners Year 8 panel is representative of the larger sample of CAP loans to which we would like to generalize the findings of our panel research. For this purpose, we use Chi-square proportion tests to identify observable differences between those 2,018 owners who completed Year 8 and the set of all 28,491 owners in our target generalization sample who received CAP loans. The appendices provide descriptive statistics for all the variables in these models (Owners: Appendices A and C; Renters: Appendix B).

Samples

A total of 2,018 owners and 853 renters completed the 2011 survey. In analyzing attrition, we consider as a reference point the subsets of the baseline samples of 3,743 owners and 1,530 renters for which the demographics data are complete.

For owners, we remove 83 cases due to missing demographic information. Similarly, for renters, we omit 144 cases. Therefore, our final samples comprise 3,660 owners and 1,386 renters.

Multivariate Analyses of Panel Attrition

Specifications

Our multivariate logit specifications predicting the likelihood that owners and renters completed the 2011 interview incorporate baseline demographic characteristics. So that the findings for owners and renters can be compared, the first two specifications contain only those variables common to both the owner and renter panels. The third specification also includes loan characteristics that are available only from our Self-Help data set of CAP homeowners.

For all three specifications, income was trimmed due to insignificance and a higher rate of missing data. U.S. region was also trimmed due to insignificance and the testing of geographic effects through state rather than region. States were compared to the reference category of “Other states,” which was created by combining states with less than 90 respondents.³ This variable construction resulted in owners and renters having a different number of state-level controls.

³ Previous versions of this analysis have grouped states with less than 100 respondents, but we have retained the same categories to facilitate comparison of point estimates across survey years.

Year 8 Completion: Owners vs. Renters

In predicting completion, significant findings generally point toward potential attrition, or non-response, bias. Thus, the results shown in Tables 5 and 6 do suggest that some bias may be present, as the Chi-square values indicate that both owner and renter specifications partially explain Year 8 survey completion. In practice, the extent and direction of bias will vary across individual survey questions and will depend on the extent to which the factors that drive the response propensity are actually correlated with substantive survey response values. Any given response rate may thus involve more or less bias, and the extent of bias cannot be determined based solely on the response rate or the response propensity. Nevertheless, we consider the relationship of various demographic factors to panel attrition in an effort to assess the extent to which the panel has remained demographically representative of our initial population of interest. Appendices A, B, and C respectively provide descriptive statistics for all the variables used in Specifications 1-3.

For owners, Specification 1 of Table 5 indicates that gender, race, education, and geography jointly predict completion while the insignificant effects of age, marital status, employment status, and the number of children in the household are taken into consideration. Specifically, the odds of completing Year 8 for men were .77 times those for women. In addition, Hispanic owners were .73 times as likely to complete the survey as Whites. Education levels also influenced completion: compared to high school graduates, those with some four-year college but no degree were .76 times as likely to complete the survey. Moreover, the odds of Year 8 completion for owners with four-year college degrees but no graduate school were nearly 30% greater than those of high school graduates, while those for owners in the other educational categories were not significantly different. Original geographic location influenced completion for Mississippi, Ohio, Oklahoma, and North Carolina owners, with the odds of completion for Mississippi owners being .58 times those of owners in Other states. For owners originally located in Ohio, Oklahoma, and North Carolina, the odds of completion were approximately 1.4, 1.6, and 1.3 times those of owners in Other states, respectively.

For renters, Specification 2 of Table 5 indicates that gender, age, race, marital status, and the number of children in the household jointly predict completion. Men were .74 times as likely to complete the survey as women, while Hispanics were .58 times as likely to complete the survey as Whites. Compared to renters aged 25 years or younger, renters who were at least 36 years old at baseline were about twice as likely to complete the survey. Moreover, respondents who had at some point been married or who reported being partnered were .61 times as likely to have completed as those who had never been married, while respondents reporting two children in the household were only about .67 times as likely to have completed the survey as those who had no children.

Across both specifications for owners and renters, gender and race significantly affected Year 8 completion, with Hispanics and men being significantly less likely to respond. Overall, these results are consistent with those from previous years and show that we continue to have difficulty retaining baseline respondents who are Hispanic and male.

Table 5: Logit Regression of Year 8 Completion (Demographics)

Variable	Specification 1 - Owners		Specification 2 - Renters	
	B	Odds ratio	B	Odds ratio
Gender				
(Female)				
Male	-.26	.770**	-.30	.738*
Age at baseline				
(25 years old or less)				
26 – 30 years old	-.18	.838	.28	1.327
31 – 35 years old	-.10	.908	.26	1.294
36 – 40 years old	-.09	0.912	.69	2.003**
41 years old or more	-.05	0.955	.63	1.880**
Race				
(White)				
Black	.02	1.017	.10	1.106
Hispanic	-.31	0.734**	-.54	.584**
Other	-.22	.806	-.43	.647
Marital status at baseline				
(Never married)				
Married or living with partner	.06	1.058	-.49	.612**
Widowed, divorced, separated	.03	1.036	-.28	.757
Number of children at baseline				
(No child)				
1	.08	1.081	.13	1.143
2	-.03	0.971	-.40	.670*
3 or more	-.11	.892	-.24	.786
Education at baseline				
11th grade or less (High school graduate/GED)	-.25	.777	-.15	.862
Some 2 year college	-.04	.961	.25	1.285
2 year degree	-.13	.877	.30	1.352
Some 4 year college	-.28	.759*	.01	1.011
Bachelor's degree	.26	1.294*	.17	1.188
Some graduate school or more	.09	1.099	.53	1.693
Employment at baseline				
(Employed)				
Unemployed, looking for work	-.01	.993	-.32	.728
Unemployed, not looking for work	.01	1.013	-.17	.842
Retired	-.21	.808	-.14	.873
State at baseline				
(Other states)				
Arizona	.27	1.312	.08	1.085
California	.21	1.233		
Illinois	-.12	.883		
Michigan	.40	1.496		
Mississippi	-.54	.583*		
North Carolina	.28	1.322**	.23	1.259
Ohio	.37	1.442**		
Oklahoma	.49	1.630**	.23	1.259
South Carolina	-.10	.907		
Texas	-.11	.900		
Virginia	.15	1.157		
Intercepts	.27		.38	
Model Chi-Square (-2LogL)		121.59		114.24
Df		33		25
N		3,660		1,386

Note: Reference groups are in parentheses; States with less than 90 observations were included in Other states; region and income were not significant and were removed; * = p<.05; ** = p<.01

Further Analysis of Owner Retention: Owner-specific Loan Characteristics

The third specification (see Table 6) predicting retention incorporates not only the respondent demographics previously considered but also borrower and loan characteristics, such as first-time homebuyer status, credit score at mortgage origination, and the origination loan-to-value ratio, that we have obtained from Self-Help. Clearly, these loan characteristics do not exist for our renters. Descriptive statistics for this specification are provided in Appendix C.

In predicting owner retention, the more comprehensive specification displayed in Table 6 indicates that gender, race, education, borrower credit score, origination loan-to-value ratio, and geographic location jointly predict completion when the insignificant effects of age, employment status, marital status, first-time homebuyer status, annual income as a percent of area median income, and loan origination year are considered.

More specifically, the odds of male owners completing Year 8 are .80 times those of female owners. With regard to race, Hispanic owners were .74 times as likely to have completed the Year 8 survey. Those owners with some four-year college but no degree were .75 times as likely to have completed as those with only a high school diploma. From the perspective of geography, owners originally located in Michigan and North Carolina had about 60% and 40% greater odds of completion, respectively, than those located in Other states.

Of the additional loan characteristic variables that were not included in Specification 1, both borrower credit score at origination and the origination loan-to-value ratio influenced Year 8 completion. Compared to owners whose origination credit scores were unavailable, owners with credit scores greater than 720 had about 1.6 times the odds of completion. Moreover, those owners with an origination loan-to-value ratio of 96-97% had .77 times the completion odds of owners with origination loan-to-value ratios below 91%.

Otherwise, Table 6 indicates that the 2011 survey respondents do not differ significantly from non-respondents with regard to baseline lending-related characteristics. First-time homebuyer status, annual household income as a percent of area median income, and loan origination year are all insignificant predictors of completion when the other relevant variables are controlled for. Overall, Specification 3 indicates that sample selection persists in our owners panel with regard to gender, race, education, geography, origination loan-to-value ratio, and origination credit score.

Table 6: Logit Regression of Year 8 Completion (Demographics and Loans)

Variable	Specification 3 – Owners	
	B	Odds ratio
Gender		
(Female)		
Male	-.22	.802**
Age at baseline		
(25 years old or less)		
26 – 30 years old	-.19	.830
31 – 35 years old	-.17	.845
36 – 40 years old	-.18	.838
41 years old or more	-.11	.896
Race		
(White)		
Black	.09	1.095
Hispanic	-.30	.739*
Other	-.18	.839
Marital status at baseline		
Married or living with partner	.11	1.113
Widowed, divorced, separated (Never married)	.10	1.106
Education at baseline		
11th grade or less (High school graduate/GED)	-.20	.820
Some 2 year college	-.02	0.976
2 year degree	-.13	.881
Some 4 year college	-.29	.750*
Bachelor's degree	.19	1.211
Some graduate school or more	.03	1.030
Employment at baseline		
(Employed)		
Unemployed, looking for work	-.09	.914
Unemployed, not looking for work	.06	1.065
Retired	-.31	.734
Identified as first-time homebuyer		
(Not a first-time home buyer)		
Identified as First-time homebuyer	.10	1.109
Income as percentage of AMI		
(0-50% AMI)		
51%-80% AMI	-.09	.916
>81% of AMI	-.26	0.775
Borrower credit score at origination		
(No credit score)		
Less than 580	.03	1.033
581-620	.19	1.206
621-660	.11	1.118
661-720	.21	1.240
Greater than 720	.47	1.595*
Origination year		
(1999)		
2000	-.15	.858
2001	-.17	.848
2002	-.06	.937
2003	.12	1.132
Loan to value ratio at origination		
(0-90%)		
91%-95%	-.16	.853
96%-97%	-.25	.773*
>97%	-.13	.879

Continued on the next page.

Continued from the previous page.

State at baseline

(Other states)

Arizona	.18	1.198
California	.25	1.279
Illinois	-.01	.997
Michigan	.49	1.640*
Mississippi	-.38	.683
North Carolina	.31	1.364**
Ohio	.34	1.399
Oklahoma	.32	1.379
South Carolina	-.03	.970
Texas	-.15	.862
Virginia	.12	1.123

Intercepts .33

Model Chi-Square (-2LogL) 138.41

Df 45

N 3,553

Note: Reference groups are in parentheses; states with less than 90 observations were included in the 'Other states' category. Region variables were not significant and were removed;
* = $p < .05$; ** = $p < .01$

Comparison of the 2011 CAPS Owners with Other Self-Help CAP Borrowers

This section compares the characteristics of those owners who completed the Year 8 survey with those of a selected sample of other CAP borrowers. Table 7 presents frequencies for demographic and homebuyer variables provided by Self-Help. The CAP sample (Self-Help Generalization Sample) to which we direct our findings consists of 28,491 homeowners, while the sample of Year 8 panel survey completers comprises 2,018 cases. Due to missing data, we exclude 4,038 borrowers, including 71 Year 8 completers. Thus, the final sample sizes for this analysis are 24,453 for the Self-Help Generalization Sample and 1,947 for the Year 8 survey completers.

We used Chi-square tests to compare these two groups, and Table 7 presents our results. The middle column of Table 7 provides percentages for all 24,453 CAP borrowers, including those who responded to the Year 8 survey. The right column instead provides percentages for the subset of owners who responded in Year 8. The percentages shown are column percentages. For example, 50% of Year 8 survey respondents are male, compared with 57% of CAP borrowers.

Table 7 indicates that there are significant differences between these two groups with respect to all of the variables considered. Compared to the larger profile of CAP borrowers, our set of Year 8 survey completers under-represents males and Hispanics. With respect to race, Hispanics represent 19% of the portfolio but only 12% of the panel. Whites represent 56% of CAP borrowers yet 65% of the current survey panel. With respect to borrower and loan characteristics, our set of Year 8 survey completers over-represents first-time homebuyers (54% vs. 43%) and borrowers with high origination loan-to-value ratios. Similarly, those with incomes less than 51% of area median income comprise 30% of CAP borrowers but 34% of the panel.

These results indicate that our 2011 survey panel is mostly but not completely representative of our target generalization sample of CAP borrowers. The most worrisome difference lies in race: our panel over-represents Whites and under-represents Hispanics. As was done for previous survey years, sample weights for the 2011 survey will be constructed to enable data users to correct for these sample differences.

Table 7: CAPS Owners Compared to Self-Help Generalization Sample

Variable	Self-Help Generalization Sample	Community Advantage Panel Survey Year 8 Completers
Gender*		
Male	56.7	50.4
Female	43.3	49.6
Race*		
White	55.8	64.9
Black	18.5	19.7
Hispanic	18.7	12.1
Other	7.0	3.3
Identified as First-time Homebuyer*		
Yes	42.7	53.8
No	57.3	46.2
Age at baseline*		
25 or less	21.0	20.8
26-30	20.3	23.0
31-35	20.4	16.9
36-40	12.5	12.6
41 or older	25.8	26.8
Income as percentage of AMI at baseline*		
0-50% AMI	30.4	34.4
51%-80%AMI	59.5	57.8
>80% AMI	10.1	7.8
Loan to value ratio at origination*		
0-90%	16.3	11.0
91-95%	9.0	7.2
96-97%	40.7	39.4
>97%	34.0	42.4
Borrower credit score at origination*		
No Credit Score or Missing	4.4	2.9
Less than 580	4.7	4.4
581- 620	10.7	11.8
621-660	21.7	22.4
661-720	31.8	32.2
Greater than 720	26.7	26.2
Borrower credit score (mean)^	680.26	678.61
LTV at origination (mean)*	94.6	96.1
N^	24,453	1,947

Note: Percentages shown are column percentages. ^For Borrower credit score(mean), N=23,378 and 1,890, respectively. * = p<.05

Conclusions

Our analyses of attrition and sample representation do raise some concerns that data users need to address analytically. Even with continued retention efforts, including field tracing and incentives for respondents, we do anticipate that some attrition will persist through subsequent years of data collection. Given current trends, we expect higher attrition among respondents who are male or Hispanic.

Such attrition is not unusual in panel data collection, and methods to deal with this problem include weighting and multiple imputation. We have constructed sampling and non-response weights for each year of data collection to minimize the potential impact of biases resulting from higher attrition across various demographic groups. These weights will be incorporated into the final panel data set. In addition, we are actively conducting research to evaluate which panel members are most likely to attrit in the future, as well as incentive-based ways to minimize the non-response bias that may be present as a result of panel attrition.

Appendices A – C

- A Owners Attrition: Baseline Demographics by Year 8 Completion Status
- B Renters Attrition: Baseline Demographics by Year 8 Completion Status
- C Owners Attrition:
Baseline Demographics and Loan characteristics by Year 8 Completion Status

Appendix A
Owners Attrition: Baseline Demographics by Year 8 Completion Status

Variable	All		Dropped out		Completed	
Gender**						
Male	1,966	53.7%	966	49.1%	1,000	50.9%
Female	1,694	46.3%	703	41.5%	991	58.5%
Age at baseline						
25 years old or less	712	19.5%	303	42.6%	409	57.4%
26 - 30years old	854	23.3%	401	47.0%	453	53.0%
31 - 35 years old	639	17.5%	299	46.8%	340	53.2%
36 - 40 years old	481	13.1%	228	47.4%	253	52.6%
41 years old or more	974	26.6%	438	45.0%	536	55.0%
Race**						
White	2,247	61.4%	967	43.0%	1,280	57.0%
Black	717	19.6%	322	44.9%	395	55.1%
Hispanic	573	15.7%	322	56.2%	251	43.8%
Other	123	3.4%	58	47.2%	65	52.8%
Marital status at baseline						
Married or living with partner	2,082	56.9%	984	47.3%	1,098	52.7%
Widowed, divorced, separated	723	19.8%	308	42.6%	415	57.4%
Never Married	855	23.4%	377	44.1%	478	55.9%
Number of children at baseline**						
No child	1,733	47.4%	762	44.0%	971	56.0%
1	839	22.9%	361	43.0%	478	57.0%
2	675	18.4%	326	48.3%	349	51.7%
3 or more	413	11.3%	220	53.3%	193	46.7%
Education at baseline**						
11th grade or less	365	10.0%	206	56.4%	159	43.7%
High school graduate/GED	886	24.2%	399	45.0%	487	55.0%
Some 2 year college	649	17.7%	291	44.8%	358	55.2%
2 year degree	508	13.9%	237	46.7%	271	53.3%
Some 4 year college	385	10.5%	197	51.2%	188	48.8%
Bachelor's degree	540	14.8%	203	37.6%	337	62.4%
Some graduate school or more	327	8.9%	136	41.6%	191	58.4%
Income at baseline						
Less than \$10,000	32	0.9%	13	40.6%	19	59.4%
\$10,000-\$14,999	84	2.3%	45	53.6%	39	46.4%
\$15,000-\$19,999	255	7.0%	112	43.9%	143	56.1%
\$20,000-\$24,999	526	14.4%	249	47.3%	277	52.7%
\$25,000-\$34,999	1,032	28.2%	471	45.6%	561	54.4%
\$35,000-\$49,999	1,259	34.4%	569	45.2%	690	54.8%
\$50,000-\$74,999	379	10.4%	167	44.1%	212	55.9%
\$75,000 or greater	93	2.5%	43	46.2%	50	53.8%
Employment at baseline						
Employed	3,380	92.4%	1,536	45.4%	1,844	54.6%
Unemployed, looking for work	118	3.2%	56	47.5%	62	52.5%
Unemployed, not looking for work	101	2.8%	47	46.5%	54	53.5%
Retired	61	1.7%	30	49.2%	31	50.8%

Continued on the next page.

Continued from the previous page.

Borrower origination credit score**

Credit score=0 or missing score	203	5.6%	114	56.2%	89	43.8%
less than 580	179	4.9%	92	51.4%	87	48.6%
580 - 619	435	11.9%	204	46.9%	231	53.1%
620 - 659	861	23.5%	424	49.3%	437	50.8%
660 - 719	1,155	31.6%	524	45.4%	631	54.6%
720 or greater	827	22.6%	311	37.6%	516	62.4%
Age (mean)	35.1		35.2		34.9	
Borrower credit score (mean)^	674.4		669.2		678.6	
N^	3,660		1,669		1,991	

Note: Percentage shown in columns 2 and 3 are row percentages. ^For borrower credit score(mean),

N=3,458; 1,555; and 1,903 respectively. * = p<.05; ** = p<.01

Appendix B
Renters Attrition: Baseline Demographics by Year 8 Completion Status

Variable	All		Dropped out		Completed	
Gender*						
Male	392	28.3%	181	46.2%	211	53.8%
Female	994	71.7%	369	37.1%	625	62.9%
Age at baseline**						
25 years old or less	216	15.6%	107	49.5%	109	50.5%
26 - 30years old	212	15.3%	92	43.4%	120	56.6%
31 - 35 years old	164	11.8%	76	46.3%	88	53.7%
36 - 40 years old	152	11.0%	55	36.2%	97	63.8%
41 years old or more	642	46.4%	220	34.3%	422	65.7%
Race**						
White	606	43.7%	217	35.8%	389	64.2%
Black	453	32.7%	149	32.9%	304	67.1%
Hispanic	263	19.0%	154	58.6%	109	41.4%
Other	64	4.6%	30	46.9%	34	53.1%
Marital status at baseline**						
Married or living with partner	524	37.8%	260	49.6%	264	50.4%
Widowed, divorced, separated	447	32.3%	151	33.8%	296	66.2%
Never Married	415	29.9%	139	33.5%	276	66.5%
Number of children at baseline**						
No child	719	51.9%	266	37.0%	453	63.0%
1	300	21.6%	103	34.3%	197	65.7%
2	217	15.7%	110	50.7%	107	49.3%
3 or more	150	10.8%	71	47.3%	79	52.7%
Education at baseline**						
11th grade or less	281	20.3%	144	51.3%	137	48.8%
High school graduate/GED	468	33.8%	191	40.8%	277	59.2%
Some 2 year college	221	16.0%	73	33.0%	148	67.0%
2 year degree	108	7.8%	36	33.3%	72	66.7%
Some 4 year college	87	6.3%	34	39.1%	53	60.9%
Bachelor's degree	159	11.4%	54	34.0%	105	66.0%
Some graduate school or more	62	4.5%	18	29.0%	44	71.0%
Income at baseline						
Less than \$10,000	305	22.3%	116	38.0%	189	62.0%
\$10,000-\$14,999	199	14.5%	81	40.7%	118	59.3%
\$15,000-\$19,999	205	15.0%	83	40.5%	122	59.5%
\$20,000-\$24,999	164	12.0%	56	34.2%	108	65.8%
\$25,000-\$34,999	304	22.2%	118	38.8%	186	61.2%
\$35,000-\$49,999	150	11.0%	60	40.0%	90	60.0%
\$50,000-\$74,999	34	2.5%	16	47.1%	18	52.9%
\$75,000 or greater	8	0.6%	5	62.5%	3	37.5%
Employment at baseline						
Employed	869	62.7%	331	38.1%	538	61.9%
Unemployed, looking for work	167	12.0%	80	47.9%	87	52.1%
Unemployed, not looking for work	280	20.2%	114	40.7%	166	59.3%
Retired	70	5.1%	25	35.7%	45	64.3%
Age (mean) at baseline	39.7		37.8		41.0	
N^	1,386		550		836	

Note: Percentage shown in columns 2 and 3 are row percentages. * = p<.05; ** = p<.01

For Income, N=1369, 535, and 834 respectively.

Appendix C
Owners Attrition: Baseline Demographics and Loan characteristics
by Year 8 Completion Status

Variable	All		Dropped out		Completed	
Gender**						
Male	1,905	53.6%	923	48.5%	982	51.5%
Female	1,648	46.4%	683	41.4%	965	58.6%
Age at baseline						
25 years old or less	697	19.6%	293	42.0%	404	58.0%
26 - 30years old	829	23.3%	382	46.1%	447	53.9%
31 - 35 years old	618	17.4%	290	46.9%	328	53.1%
36 - 40 years old	467	13.1%	221	47.3%	246	52.7%
41 years old or more	942	26.5%	420	44.6%	522	55.4%
Race**						
White	2,210	62.2%	947	42.9%	1,263	57.1%
Black	689	19.4%	305	44.3%	384	55.7%
Hispanic	532	15.0%	297	55.8%	235	44.2%
Other	122	3.4%	57	46.7%	65	53.3%
Marital status at baseline						
Married or living with partner	2,014	56.7%	942	46.8%	1,072	53.2%
Widowed, divorced, separated	705	19.8%	297	42.1%	408	57.9%
Never Married	834	23.5%	367	44.0%	467	56.0%
Education at baseline**						
11th grade or less	336	9.5%	184	54.8%	152	45.2%
High school graduate/GED	859	24.2%	383	44.6%	476	55.4%
Some 2 year college	630	17.7%	280	44.4%	350	55.6%
2 year degree	500	14.1%	231	46.2%	269	53.8%
Some 4 year college	377	10.6%	193	51.2%	184	48.8%
Bachelor's degree	528	14.9%	199	37.7%	329	62.3%
Some graduate school or more	323	9.1%	136	42.1%	187	57.9%
Employment at baseline						
Employed	3,294	92.7%	1,484	45.1%	1,810	54.9%
Unemployed, looking for work	107	3.0%	52	48.6%	55	51.4%
Unemployed, not looking for work	93	2.6%	41	44.1%	52	55.9%
Retired	59	1.7%	29	49.2%	30	50.8%
Fist-time homebuyer						
Not a first-time homebuyer	1,649	46.4%	749	45.4%	900	54.6%
Fist-time homebuyer	1,904	53.6%	857	45.0%	1,047	55.0%
Income as percentage of AMI at baseline						
0 - 50% AMI	1,196	33.7%	527	44.1%	669	55.9%
51 -80% AMI	2,047	57.6%	919	44.9%	1,126	55.1%
>80% of AMI	310	8.7%	160	51.3%	152	48.7%
Borrower origination credit score**						
No credit score	124	3.5%	67	54.0%	57	46.0%
Less than 580	178	5.0%	92	51.7%	86	48.3%
581 - 620	430	12.1%	200	46.5%	230	53.5%
621 - 660	855	24.1%	418	48.9%	437	51.1%
661 - 720	1,146	32.3%	519	45.3%	627	54.7%
>720	820	23.1%	310	37.8%	510	62.2%

Continued on the next page.

Continued from the previous page.

Origination year**

1999	102	2.9%	44	43.1%	58	56.9%
2000	880	24.8%	410	46.6%	470	53.4%
2001	1,054	29.7%	5147	48.8%	540	51.2%
2002	1,395	39.3%	593	42.5%	802	57.5%
2003	122	3.4%	45	36.9%	77	63.1%

Loan to value ratio at baseline**

1 - 90%	361	10.2%	147	40.7%	214	59.3%
91 - 95%	256	7.2%	116	45.3%	140	54.7%
96 - 97%	1,545	43.5%	777	50.3%	768	49.7%
> 97%	1,391	39.1%	566	40.7%	825	59.3%

State at baseline**

Other states	797	22.4%	399	50.1%	398	49.9%
Arizona	105	3.0%	55	52.4%	50	47.6%
California	155	4.4%	77	49.7%	78	50.3%
Illinois	178	5.0%	93	52.3%	85	47.7%
Michigan	105	3.0%	42	40.0%	63	60.0%
Mississippi	94	2.7%	57	60.6%	37	39.4%
North Carolina	963	27.1%	403	41.9%	560	58.1%
Ohio	427	12.0%	170	39.8%	257	60.2%
Oklahoma	419	11.8%	154	36.8%	265	63.2%
South Carolina	97	2.7%	48	49.5%	49	50.5%
Texas	98	2.8%	57	58.2%	41	41.8%
Virginia	115	3.2%	51	44.4%	64	55.6%

N	3,553		1,606		1,947	
----------	-------	--	-------	--	-------	--

Note: Percentage shown in columns 2 and 3 are row percentages. * = p<.05; ** = p<.01