

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

Technical Report: May 2009

By
Sarah Riley
Jong-Gyu Paik
Mark Lindblad
Roberto Quercia

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

Prepared with financial support from the Ford Foundation

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

May 2009

Sarah Riley, Jong-Gyu Paik, 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 2008 and describe our data collection plans for 2009. We first summarize the CAPS sampling strategy and data collection progress and then consider upcoming survey plans, attrition concerns, and the extent to which 2008 survey completers are representative of baseline respondents and other Self-Help Community Advantage Program (CAP) borrowers.

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. The table displays the number of completed interviews by survey year, module, and mode of administration.

The 2009 row of Table 1 indicates that data collection for this year will include a variety of questions that concern the economic challenges that the survey respondents may have faced as a result of the financial crisis. These questions also collect information about coping strategies that the respondents may have employed in dealing with these challenges, as well as how these strategies relate to homeownership.

Table 1: Data Collection Overview

<u>Year</u>	<u>Survey Year</u>	<u>Owners</u>			<u>Renters</u>		
		<u>Module</u>	<u>Mode</u>	<u>Completes</u>	<u>Module</u>	<u>Mode</u>	<u>Completes</u>
2003	0	Home purchasing info; Counseling	SRU phone survey	3,743	---	--	--
2004	1	Social Capital; Parenting;	SRU phone survey	2,614	Social Capital; Parenting;	RTI phone survey	1,530
2005	2	Wealth & Assets; Mortgages; Savings;	SRU phone survey RTI in-home interview	2,701 1,284	Wealth & Assets; Mortgages; Savings;	RTI in-home interview	1,157
2006	2&3	Wealth & Assets; Mortgages; Savings; Rising Energy Costs; Financial Literacy; Sense of Community;	RTI phone survey to the soft-refusal sample	262	Wealth & Assets; Mortgages; Savings; Rising Energy Costs; Financial Literacy; Sense of Community;	RTI phone survey to the soft-refusal sample	77
	3	Rising Energy Costs; Financial Literacy; Sense of Community	SRU phone survey	2,118 (total: 2,380)	Rising Energy Costs; Financial Literacy; Sense of Community	RTI phone survey	970 (total: 1,047)
2007	4	Social Capital 2; Parenting 2; Medical Costs; Credit Scores; Collective Efficacy	RTI phone survey	2,079	Social Capital 2; Parenting 2; Medical Costs; Credit Scores; Collective Efficacy	RTI phone survey	903
2008	5	Wealth & Assets 2;	RTI phone survey	1,296	Wealth & Assets 2;	RTI phone survey	55
		Mortgages 2; Savings 2; Housing Experiences	RTI in-home interview	1,079 (total: 2,375)	Mortgages 2; Savings 2; Housing Experiences	RTI in-home interview	927 (total: 982)
2009	6	Economic Challenges	RTI phone survey	~2,253	Economic Challenges	RTI phone survey	~905

- 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 (ZRID=30202046).
 - 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 2008. The 2008 completion rates for *eligible* owners and renters were 85% and 90%, respectively. However, the number of individuals who were eligible for survey in 2008 exceeded the number of respondents who completed the 2007 survey. Considering only those individuals who completed the 2007 survey, 92% of owners and 94% of renters completed the 2008 survey.

Most respondents who were contacted in 2008 were willing to participate in the survey, as less than 9% of the eligible sample resulted in final refusals. About half of those cases that were not completed simply could not be contacted, either because of incorrect contact information or because tracing was unsuccessful.

As panel surveys typically experience a decrease in the number of responses over time, it is noteworthy that the absolute number of completions for 2008 not only exceeded our expectations of an 85% response rate but also exceeded the total number of 2007 survey completions. In the hope of maximizing panel retention, we included 287 cases in the 2008 eligibility pool that we considered to be “borderline” eligibles because they had completed a much lower number of prior surveys than other eligible respondents. Although we considered it unlikely that any of these borderline cases would actually complete the survey, 156 of these hard-to-reach cases did, in fact, complete in 2008.

The exceptional rate of retention in 2008 can be attributed in part to the continued use of field tracing procedures and respondent incentives. In addition, the fact that a majority of the 2008 interviews were conducted in-home, rather than over the phone, likely played a large role in boosting the response rate.

Table 2: Final Status of 2008 Eligibles

Final Status – 2008	Owners	Renters
Completed Interview	2,375 (85%)	982 (90%)
Unable to locate or contact	151 (5%)	51 (5%)
Ineligible	41 (1%)	26 (2%)
Refused	228 (8%)	29 (3%)
Total Eligible	2,795	1,088

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 2007 survey.

Panel Completion Rates by Survey Year

Owners

Of the 2,375 owners who completed the Year 5 interview in 2008, approximately 62% (1,466) also completed the interviews for Years 0, 1, 2, 3, and 4. The original baseline sample contained 3,743 home owners, and about 40% have completed all six interviews. Another 18% (680) have completed five interviews, 14% (477) have completed four interviews, 6% (231) have completed three interviews, and 11% (423) have 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

Of the 982 renters who completed the Year 5 interview in 2008, 767 (78%) also completed the interviews for Years 1, 2, 3, and 4. The original baseline renters sample consisted of 1,530 renters, and 50% of these have completed all five interviews, while 16% have completed four survey years. In addition, approximately 6% completed three years, 10% completed two years, and 19% completed only baseline. Note that renters have had one less interview opportunity than 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 2009 Survey

The panel members who are eligible for 2009 interviewing comprise 2,651 owners and 1,065 renters. To derive these numbers, we began with the pool of survey participants who were eligible for the 2008 survey and subtracted those cases for respondents who had refused, were deceased, or were otherwise ineligible.¹ Calling will begin in July.

¹ This last category comprises respondents who were classified as borderline eligibles for the 2008 survey but did not complete the survey that year.

Table 3: Owner Interviews by Year

Years Completed	Eligible in 2009	Number of Owners	Percentage	Cumulative Percentage
All six years	Yes	1,466	39.2%	39.2%
Only five years		680	18.2%	57.4%
<i>Years 0,1,2,3,5</i>	Yes	234	6.3%	
<i>Years 0,1,2,3,4</i>	Yes	79	2.1%	
<i>Years 0,1,2,4,5</i>	Yes	117	3.1%	
<i>Years 0,1,3,4,5</i>	Yes	21	0.6%	
<i>Years 0,2,3,4,5</i>	Yes	229	6.1%	
Only four years		477	12.7%	70.1%
<i>Years 0,1,2,5</i>		144	3.8%	
<i>Years 0,1,2,3</i>	Yes	89	2.4%	
<i>Years 0,1,2,3</i>	No	17	0.5%	
<i>Years 0,1,2,4</i>	Yes	27	0.7%	
<i>Years 0,1,3,4</i>	Yes	9	0.2%	
<i>Years 0,1,3,5</i>	Yes	12	0.3%	
<i>Years 0,1,4,5</i>	Yes	19	0.5%	
<i>Years 0,2,3,4</i>	Yes	26	0.7%	
<i>Years 0,2,3,5</i>	Yes	67	1.8%	
<i>Years 0,2,4,5</i>	Yes	36	1.0%	
<i>Years 0,3,4,5</i>	Yes	31	0.8%	
Only three years		231	6.2%	76.3%
<i>Years 0,1,2</i>	Yes	121	3.2%	
<i>Years 0,1,2</i>	No	38	1.0%	
<i>Years 0,1,3</i>	Yes	14	0.4%	
<i>Years 0,1,4</i>	Yes	8	0.2%	
<i>Years 0,2,3</i>	Yes	35	0.9%	
<i>Years 0,2,3</i>	No	4	0.1%	
<i>Years 0,2,4</i>	Yes	8	0.2%	
<i>Years 0,3,4</i>	Yes	3	0.1%	
Only two years		423	11.3%	87.6%
<i>Years 0,1</i>	No	199	5.3%	
<i>Years 0,2</i>	No	180	4.8%	
<i>Years 0,3</i>	No	44	1.2%	
Only one year (baseline)	No	466	12.5%	100%
Total	2,651	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	Eligible in 2009	Number of Renters	Percentage	Cumulative Percentage
All five years	Yes	767	50.1%	50.1%
Only four years		237	15.5%	65.6%
<i>Years 1,2,3,4</i>	Yes	35	2.3%	
<i>Years 1,2,3,5</i>	Yes	118	7.7%	
<i>Years 1,2,4,5</i>	Yes	41	2.7%	
<i>Years 1,3,4,5</i>	Yes	43	2.8%	
Only three years		77	5.0%	70.6%
<i>Years 1,2,3</i>	Yes	45	2.9%	
<i>Years 1,2,3</i>	No	4	0.2%	
<i>Years 1,2,4</i>	Yes	6	0.4%	
<i>Years 1,3,4</i>	Yes	10	0.7%	
<i>Years 1,3,5</i>	Yes	12	0.8%	
Only three years		152	9.9%	80.5%
<i>Years 1,2</i>	No	140	9.2%	
<i>Years 1,3</i>	Yes	10	0.7%	
<i>Years 1,3</i>	No	2	0.1%	
Only one year (baseline)	No	297	19.4%	100%
Total	1,065	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 Bias

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 2008 interview represent baseline respondents. Specifically, we compare the baseline characteristics of owners and renters who did not complete Year 5 with those of the renters and owners who did so. To carry out this comparison, we use multivariate logit models to predict Year 5 survey completion.

Second, we examine whether the owners Year 5 panel is representative of the larger sample of CAP loans to which we would like to generalize the findings of our future panel research. For this purpose, we use Chi-square proportion tests to identify differences between those 2,375 owners who completed Year 5 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

As discussed previously, a total of 2,375 owners and 982 renters completed the 2008 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 51 cases due to missing demographic information. Similarly, for renters, we omit 144 cases. Therefore, our final samples comprise 3,692 owners and 1,386 renters.²

Multivariate Analyses of Panel Retention

Specifications

Our multivariate logit specifications predicting the likelihood that owners and renters completed the 2008 interview incorporate 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 100 respondents in the baseline panel. This

² The sample size for owners exceeds that for last year, because we collected data that were previously missing. The sample size for renters is smaller than that for last year, because we also collected better information about proxy respondents. The attrition analysis is limited to primary survey respondents and therefore excludes cases in which data for the primary respondent are missing.

variable construction resulted in owners and renters having a different number of parameters for the state variable.

Year 5 Completion: Owners vs. Renters

In predicting completion, significant findings generally point toward attrition bias. Ideally, then, none of the variables should show significance. However, the results shown in Tables 7 and 8 do suggest some attrition bias: the Chi-square values indicate that both owner and renter specifications partially explain Year 5 survey completion. Appendices A, B, and C respectively provide descriptive statistics for all the variables used in Specifications 1-3.

For owners, Specification 1 of Table 7 indicates that sex, race, education, employment status, and geography jointly predict completion while the insignificant effects of age, marital status, and the number of children in the household are taken into consideration. Specifically, the odds of completing Year 5 for males are .79 times those for females. In addition, Hispanic owners were .78 times as likely to complete the survey as Whites. Education levels also influenced completion: compared to high school graduates, the odds of Year 5 completion for owners with four-year college degrees were nearly 50% greater, while those for owners with some college but no degree were nearly 50% lower. Original geographic location influenced completion for Mississippi, Ohio, and North Carolina owners, with the odds of completion for Mississippi owners being .52 times those of owners in Other states. For owners originally located in Ohio and North Carolina, the odds of completion were approximately 1.3 and 1.6 times those of owners in Other states. Finally, owners who were retired at baseline were only half as likely as employed owners to complete Year 5.

For renters, Specification 2 of Table 7 indicates that age, race, marital status, and the number of children in the household jointly predict completion. Hispanics were .6 times as likely to complete the survey as Whites. Compared to renters aged 25 years or younger, renters aged 36 years and older are about 1.8 times as likely to have completed Year 5, while those 41 or older are nearly twice as likely to have completed. Moreover, respondents reporting two children in the household and those respondents who were married or living with a partner at baseline were only about half as likely to have completed the survey as those who had no children or had never been married.

Table 7: Logit Regression of Year 5 Completion (Demographics)

Variable	Specification 1 - Owners		Specification 2 - Renters	
	B	Odds ratio	B	Odds ratio
Sex				
(Female)				
Male	-.24	.786**	-.26	.769
Age				
(25 years old or less)				
26 – 30 years old	-.05	.949	.28	1.319
31 – 35 years old	-.07	.933	.30	1.344
36 – 40 years old	.08	1.086	.61	1.849*
41 years old or more	.07	1.076	.66	1.941**
Race				
(White)				
Black	-.05	.954	.24	1.274
Hispanic	-.24	.784*	-.51	.603**
Other	-.30	.742	-.44	.647
Marital status				
(Never married)				
Married or living with partner	.11	1.114	-.75	.473**
Widowed, divorced, separated	-.02	.978	-.28	.758
Number of Children				
(No child)				
1	.07	1.07	-.13	.882
2	-.05	.954	-.45	.638*
3 or more	-.12	.887	-.17	.843
Education				
11th grade or less	-.08	.919	-.23	.796
(High school graduate/GED)				
Some 2 year college	.02	1.024	.19	1.21
2 year degree	-.21	.811	.27	1.306
Some 4 year college	-.44	.644**	-.39	.676
Bachelor's degree	.39	1.477**	-.04	.965
Some graduate school or more	.02	1.017	.12	1.124
Employment				
(Employed)				
Unemployed, looking for work	-.14	.871	-.12	.89
Unemployed, not looking for work	.26	1.303	.03	1.029
Retired	-.72	.489**	.44	1.554
State				
(Other states)				
Arizona	.05	1.047	.16	1.17
California	-.25	.775		
Illinois	-.07	.933		
Michigan	.34	1.411		
Mississippi	-.65	.524**		
North Carolina	.25	1.287*	.19	1.21
Ohio	.44	1.55**		
Oklahoma	.69	1.984	.20	1.216
South Carolina	-.08	.921		
Texas	-.09	.918		
Virginia	.36	1.433		
Intercepts	.58		.93	
Model Chi-Square (-2LogL)	154.26		135.48	
Df	33		25	
N	3,692		1,386	

Note: Reference groups are in parentheses; States with less than 100 observations were included in Other states; region and income were not significant and were removed; * = p<.05; ** = p<.01

Across both specifications for owners and renters, only race significantly affected Year 5 completion, with Hispanics being significantly less likely to respond. Overall, these results show that we continue to have difficulty retaining baseline respondents who are Hispanic.

Further Analysis of Owner Retention: Owner-specific Loan Characteristics

The third specification (see Table 8) predicting retention incorporates not only the respondent demographics previously considered but also borrower and loan characteristics, such as first-time homebuyer status, credit score, 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 8 indicates that gender, education, employment, borrower credit score, and geographic location jointly predict completion when the insignificant effects of age, race, marital status, first-time homebuyer status, annual income as a percent of area median income, loan origination year, and original loan-to-value ratio are considered.

More specifically, the odds of male owners completing Year 5 are .78 times those of female owners. With regard to education, owners with a bachelors degree are 1.4 times as likely to have completed the Year 5 survey, while those with some 4-year college but no degree have .6 times the odd of completion of those respondents who had only graduated from high school. In addition, retired respondents have half the odds of completion of those respondents who were employed. From the perspective of geography, owners originally located in Mississippi have .6 times the odds of completion of Other states, while those originally located in North Carolina, Ohio, and Oklahoma have 1.4-1.6 times these odds.

The purpose of Specification 3 of Table 8 was to add loan-characteristic variables to the analysis presented as Specification 1 of Table 7. Of these variables, only borrower credit score at origination influenced Year 5 completion. Compared to owners whose origination credit scores were unavailable, owners with credit scores greater than 720 have about twice the odds of completion and those with scores between 620 and 720 had about 1.4 times the odds of completion. Otherwise, Table 8 indicates that most of our baseline loan characteristics did not bias the sample of 2008 survey respondents. First-time homebuyer status, annual household income as a percent of area median income, loan origination year, and original loan-to-value ratio are all insignificant predictors of completion when the other relevant variables are controlled for. Overall, Specification 3 indicates that attrition bias persists in our owners' panel with regard to gender, education, employment status, geography, and especially credit score.

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

Variable	Specification 3 – Owners	
	B	Odds ratio
Sex		
(Female)		
Male	-.26	.772**
Age		
(25 years old or less)		
26 – 30 years old	-.12	.888
31 – 35 years old	-.14	.868
36 – 40 years old	-.01	.991
41 years old or more	.03	1.033
Race		
(White)		
Black	.01	1.013
Hispanic	-.24	.787
Other	-.29	.751
Marital status		
Married or living with partner	.12	1.125
Widowed, divorced, separated (Never married)	-.01	.986
Education		
11th grade or less (High school graduate/GED)	-.01	.986
Some 2 year college	.06	1.06
2 year degree	-.20	.823
Some 4 year college	-.42	.657**
Bachelor's degree	.28	1.323*
Some graduate school or more	-.05	.95
Employment		
(Employed)		
Unemployed, looking for work	-.16	.851
Unemployed, not looking for work	.35	1.415
Retired	-.76	.469**
Identified as First-time homebuyer		
(Not a first-time home buyer)		
Identified as First-time homebuyer	.13	1.141
Income as percentage of AMI		
(0-50% AMI)		
51%-80% AMI	.09	1.099
>81% of AMI	-.09	.91
Borrower credit score		
(No credit score)		
Less than 580	.23	1.260
581-620	.32	1.383
621-660	.38	1.468*
661-720	.40	1.492*
Greater than 720	.74	2.09**
Origination year		
(1999)		
2000	-.09	.91
2001	-.02	.975
2002	.07	1.074
2003	.59	1.81
Loan to value		
(0-90%)		
91%-95%	-.13	.88
96%-97%	-.12	.883
>97%	.05	1.046

Continued on the next page.

Continued from the previous page.

State

(Other states)		
Arizona	.07	1.076
California	-.21	.807
Illinois	.05	1.054
Michigan	.44	1.548
Mississippi	-.48	.622*
North Carolina	.31	1.363**
Ohio	.36	1.431**
Oklahoma	.47	1.594**
South Carolina	.01	1.006
Texas	-.09	.915
Virginia	.25	1.286

Intercepts

.11

Model Chi-Square (-2LogL)

195.40

Df

45

N

3,572

Note: Reference groups are in parentheses; states with less than 100 observations were included in the 'Other states' category. Region variables were not significant and were removed; * = $p < .05$; ** = $p < .01$

Comparison of the 2008 CAPS Owners with Other Self-Help CAP Borrowers

This section compares the characteristics of those owners who completed the Year 5 survey with those of a selected sample of other CAP borrowers. Table 9 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 5 panel survey completers comprises 2,375 cases. Due to missing data, we exclude 4,224 borrowers, including 192 Year 5 completers. Thus, the final sample sizes for this analysis are 24,460 for the Self-Help Generalization Sample and 2,183 for the Year 5 survey completers.

We used Chi-square tests to compare these two groups, and Table 9 presents our results. The middle column of Table 9 provides percentages for all 24,460 CAP borrowers, including those who responded to the Year 5 survey. The right column instead provides percentages for the subset of owners who responded in Year 5. The percentages shown are column percentages. For example, 53% of Year 5 survey respondents are male, compared with 57% of CAP borrowers.

Table 9 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 5 survey completers under-represents males, Hispanics, and higher-income (as a percentage of area median income) borrowers. With respect to race, Hispanics represent 19% of the portfolio but only 12% of the panel. Whites represent 56% of CAP borrowers yet 66% of the current survey panel. Thus, the 2008 owners panel over-represents Whites, females, and low-income borrowers. With respect to borrower and loan characteristics, our set of Year 5 survey completers over-represents first-time homebuyers and borrowers with high origination loan-to-value ratios but under-represents borrowers with low or missing credit scores.

These results indicate that our 2008 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 non-Black minorities, especially Hispanics. We will employ sample weights to correct for these biases.

Table 9: CAPS Owners Compared to Self-Help Generalization Sample

Variable	Self-Help Generalization Sample	Community Advantage Panel Survey Year 5 Completers
Sex*		
Male	56.7	53.0
Female	43.3	47.0
Race*		
White	55.8	66.1
Black	18.5	18.5
Hispanic	18.7	12.3
Other	7.0	3.1
Identified as First-time*		
Yes	42.7	55.2
No	57.3	44.8
Age*		
25 or less	21.0	21.2
26-30	20.3	17.9
31-35	20.5	31.9
36-40	12.5	9.3
41 or older	25.7	19.7
Income as Percentage of AMI*		
0-50% AMI	30.4	33.1
51%-80% AMI	59.5	59.0
>80% AMI	10.1	7.9
Loan to Value*		
0-90%	16.3	10.2
91-95%	9.0	6.9
96-97%	40.7	40.7
>97%	34.0	49.2
Borrower credit score*		
No Credit Score or Missing	4.3	2.8
Less than 580	4.7	4.3
581- 620	10.7	11.9
621-660	21.7	23.4
661-720	31.8	32.1
Greater than 720	26.8	25.5
Borrower credit score (mean)*	680.24	677.50
LTV at origination (mean)*	94.6	96.1
N	24,460	2,183

Note: Percentages shown are column percentages.

* = p<.05

Conclusions

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

Such attrition biases are not unusual in panel data collection, and methods to deal with these problems include weighting and multiple imputation. We are currently in the process of constructing sampling weights to minimize the impact of biases resulting from higher attrition across various demographic groups. The sample weights will be incorporated into the final panel data set.

Appendices A – C

- A Owners Attrition: Demographics by Year 5 Completion Status
- B Renters Attrition: Demographics by Year 5 Completion Status
- C Owners Attrition: Demographics and Loan characteristics by Year 5 Completion Status

Appendix A
Owners Attrition: Demographics by Year 5 Completion Status

Variable	All		Dropped-out		Completed	
Sex **						
Male	1,991	53.9%	765	57.8%	1,226	51.8%
Female	1,701	46.1%	558	42.2%	1,143	48.2%
Age						
25 years old or less	716	19.4%	242	33.8%	474	66.2%
26 – 30 years old	862	23.4%	308	35.7%	554	64.3%
31 – 35 years old	644	17.4%	247	38.4%	397	61.6%
36 – 40 years old	487	13.2%	176	36.1%	311	63.9%
41 years old or more	983	26.6%	350	35.6%	633	64.4%
Race **						
White	2,271	61.5%	751	33.1%	1,520	66.9%
Black	719	19.5%	226	37.0%	453	63.0%
Hispanic	576	15.6%	256	44.8%	318	55.2%
Other	126	3.4%	48	38.1%	78	61.9%
Marital status						
Married or living with partner	2,104	57.0%	766	36.4%	1,338	63.6%
Widowed, divorced, separated	725	19.6%	251	34.6%	474	65.4%
Never married	863	23.4%	306	35.5%	557	64.5%
Number of Children**						
No child	1,750	47.4%	605	34.6%	1,145	65.4%
1	845	22.9%	281	33.3%	564	66.7%
2	679	18.4%	259	38.1%	420	61.9%
3 or more	418	11.3%	178	42.6%	240	57.4%
Education **						
11 th grade or less	365	9.9%	156	42.7%	209	57.3%
High school graduate/GED	894	24.2%	319	35.7%	575	64.3%
Some 2 year college	652	17.6%	222	34.1%	430	65.9%
2 year degree	508	13.8%	196	38.6%	312	61.4%
Some 4 year college	387	10.5%	175	45.2%	212	54.8%
Bachelor's degree	549	14.9%	142	25.9%	407	74.1%
Some graduate school or more	337	9.1%	113	33.5%	224	66.5%
Income						
Less than \$10,000	33	0.9%	11	33.3%	22	66.7%
\$10,000-\$14,999	84	2.3%	35	41.7%	49	58.3%
\$15,000-19,999	255	6.9%	90	35.3%	165	64.7%
\$20,000-\$24,999	527	14.3%	208	39.5%	319	60.5%
\$25,000-\$34,999	1,034	28.0%	373	36.1%	661	63.9%
\$35,000-\$49,999	1,266	34.3%	451	35.6%	815	64.4%
\$50,000-\$74,999	392	10.6%	120	30.6%	272	69.4%
\$75,000 or greater	101	2.7%	35	34.6%	66	65.3%
Employment						
Employed	3,412	92.4%	1,212	35.5%	2,200	64.5%
Unemployed, looking for work	117	3.2%	48	41.0%	69	59.0%
Unemployed, not looking for work	61	1.6%	31	31.4%	30	68.6%
Retired	102	2.8%	32	50.8%	70	49.2%

Continued on the next page.

Continued from the previous page.

Borrower credit score**

Credit score=0 or missing score	234	6.3%	104	44.4%	130	55.6%
Less than 580	169	4.6%	77	45.6%	92	54.4%
580- 619	424	11.5%	163	38.4%	261	61.6%
620-659	859	23.3%	326	37.9%	533	62.1%
660-719	1,163	31.5%	422	36.3%	741	63.7%
720 or greater	843	22.8%	231	27.4%	612	72.6%
Age (mean)	35.1		35.3		34.9	
Borrower credit score (mean)*	674.5		667.3		678.4	
N^	3,692		1,323		2,369	

Note: Percentages shown are in columns 2 and 3 are row percentages.

* = p<.05; ** = p<.01

Appendix B
Renters Attrition: Demographics by Year 5 Completion Status

Variable	All		Dropped-out		Completed	
Sex**						
Male	391	28.2%	145	37.1%	246	62.9%
Female	995	71.8%	285	28.6%	710	71.4%
Age**						
25 years old or less	260	18.8%	107	41.2%	153	58.8%
26 – 30 years old	195	14.1%	70	35.9%	125	64.1%
31 – 35 years old	162	11.7%	61	37.6%	101	62.4%
36 – 40 years old	147	10.6%	42	28.6%	105	71.4%
41 years old or more	622	44.9%	150	24.1%	472	75.9%
Race**						
White	606	43.7%	168	27.7%	438	72.3%
Black	454	32.8%	105	23.1%	349	76.9%
Hispanic	262	18.9%	132	50.4%	130	49.6%
Other	64	4.6%	25	39.1%	39	60.9%
Marital status**						
Married or living with partner	523	37.7%	227	43.4%	296	56.6%
Widowed, divorced, separated	448	32.3%	104	23.2%	344	76.8%
Never married	415	30.0%	99	23.9%	316	76.1%
Number of Children**						
No child	718	51.8%	195	27.2%	523	72.8%
1	300	21.7%	90	30.0%	210	70.0%
2	218	15.7%	91	41.7%	127	58.3%
3 or more	150	10.8%	54	36.0%	96	64.0%
Education**						
11 th grade or less	281	20.3%	114	40.6%	167	59.4%
High school graduate/GED	468	33.7%	141	30.1%	327	69.9%
Some 2 year college	221	15.9%	54	24.4%	167	75.6%
2 year degree	108	7.8%	27	25.0%	81	75.0%
Some 4 year college	87	6.3%	33	37.9%	54	62.1%
Bachelor's degree	159	11.5%	44	27.7%	115	72.3%
Some graduate school or more	62	4.5%	17	27.4%	45	72.6%
Income[^]						
Less than \$10,000	306	22.4%	89	29.1%	217	70.9%
\$10,000-\$14,999	199	14.5%	66	33.2%	133	66.8%
\$15,000-19,999	205	15.0%	61	29.8%	144	70.2%
\$20,000-\$24,999	164	12.0%	44	26.8%	120	73.2%
\$25,000-\$34,999	303	22.1%	95	31.4%	208	68.6%
\$35,000-\$49,999	150	10.9%	44	29.3%	106	70.7%
\$50,000-\$74,999	34	2.5%	12	35.3%	22	64.7%
\$75,000 or greater	8	0.6%	4	50.0%	4	50.0%
Employment**						
Employed	868	62.6%	274	31.6%	594	68.4%
Unemployed, looking for work	166	12.1%	61	36.3%	107	63.7%
Unemployed, not looking for work	70	5.1%	12	17.1%	58	82.9%
Retired	280	20.2%	83	29.6%	197	70.4%
Age (mean)**		39.0		35.8		40.5
N[^]		1,386		430		956

Note: Percentages shown are in columns 2 and 3 are row percentages. [^] Due to missing data, income has a smaller sample size for drop-outs (415) and retainees (954). * = p<.05; ** = p<.01

Appendix C
Owners Attrition: Demographics and Loan characteristics by Year 5 Completion Status

Variable	All		Dropped-out		Completed	
Sex **						
Male	1,924	53.9%	743	38.6%	1,181	61.4%
Female	1,648	46.1%	539	32.7%	1,109	67.3%
Age						
25 years old or less	694	19.4%	233	33.6%	461	66.4%
26 – 30 years old	832	23.3%	299	35.9%	533	64.1%
31 – 35 years old	625	17.5%	241	38.6%	384	61.4%
36 – 40 years old	473	13.2%	173	36.6%	300	63.4%
41 years old or more	948	25.6%	336	35.4%	612	64.6%
Race **						
White	2,196	61.5%	725	33.0%	1,471	66.9%
Black	693	19.4%	265	37.2%	435	62.8%
Hispanic	567	15.9%	254	44.8%	313	55.2%
Other	116	3.2%	45	38.8%	71	61.2%
Marital status						
Married or living with partner	2,039	57.1%	748	36.6%	1,293	63.4%
Widowed, divorced, separated	702	19.6%	244	34.8%	458	65.2%
Never married	831	23.3%	292	35.1%	539	64.9%
Education **						
11th grade or less	353	9.9%	150	42.5%	203	57.5%
High school graduate/GED	860	24.1%	312	36.3%	548	63.7%
Some 2 year college	636	17.8%	215	33.8%	421	66.2%
2 year degree	503	14.1%	193	38.4%	310	61.6%
Some 4 year college	377	10.6%	169	44.8%	208	55.2%
Bachelor's degree	523	14.6%	137	26.2%	386	73.8%
Some graduate school or more	320	8.9%	106	33.1%	214	66.9%
Employment						
Employed	3,297	92.3%	1,173	35.6%	2,124	64.4%
Unemployed, looking for work	115	3.2%	48	41.7%	67	58.3%
Unemployed, not looking for work	61	1.7%	31	50.8%	30	49.2%
Retired	99	2.8%	30	30.3%	69	69.7%
First-time homebuyer						
Not a first-time homebuyer	1,627	45.6%	600	36.9%	1,027	63.1%
First-time homebuyer	1,945	54.4%	682	35.1%	1,263	64.9%
Income as percentage of AMI**						
0 – 50 % AMI	1,221	34.2%	460	37.7%	761	62.3%
51 – 80% AMI	2,058	57.6%	698	33.9%	1,360	66.1%
> 80% of AMI	293	8.2%	124	42.3%	169	57.7%
Borrower credit score**						
No credit score	151	4.2%	78	51.7%	73	48.3%
Less than 580	192	5.4%	85	44.3%	107	55.7%
581- 620	406	11.4%	159	39.2%	247	60.8%
621-660	840	23.5%	317	37.7%	523	62.3%
661-720	1,151	32.2%	414	36.0%	737	64.0%
> 720	832	23.3%	229	27.5%	603	72.5%

Continued on the next page.

Continued from the previous page.

Origination year**

1999	85	2.4%	32	37.6%	53	62.4%
2000	871	24.3%	340	39.0%	531	61.0%
2001	1,099	30.8%	433	39.4%	666	60.6%
2002	1,397	39.1%	451	32.3%	946	67.7%
2003	120	3.4%	26	21.7%	94	78.3%

Loan to value**

0 – 90%	387	10.8%	139	35.9%	248	64.1%
91 - 95%	306	8.6%	111	36.3%	195	63.7%
96 - 97%	1,653	46.3%	677	41.0%	976	59.0%
> 97%	1,226	34.3%	355	29.0%	871	71.0%

State**

Other states	821	23.0%	329	40.1%	492	59.9%
Arizona	115	3.2%	49	42.6%	66	57.4%
California	158	4.4%	76	48.1%	82	51.9%
Illinois	179	5.0%	75	41.9%	104	58.1%
Michigan	108	3.0%	36	33.3%	72	66.7%
Mississippi	105	2.9%	59	56.2%	46	43.8%
North Carolina	927	26.0%	307	33.1%	620	66.9%
Ohio	428	12.0%	129	30.1%	299	69.9%
Oklahoma	419	11.7%	102	24.3%	317	75.7%
South Carolina	97	2.7%	38	39.2%	59	60.8%
Texas	102	2.9%	46	45.1%	56	54.9%
Virginia	113	3.2%	36	31.9%	77	68.1%

N^	3,572		1,282		2,290	
-----------	--------------	--	--------------	--	--------------	--

Note: Percentages shown are in columns 2 and 3 are row percentages.

* = p <.05; ** = p<.01