Long-Term Impact Report

The HUD First-Time Homebuyer Education and Counseling Demonstration

U.S. Department of Housing and Urban Development | Office of Policy Development and Research

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Long-Term Impact Report
The HUD First-Time Homebuyer Education and Counseling Demonstration

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Foreword

HUD's Office of Policy Development and Research (PD&R) has as one of its core responsibilities the task of testing out big ideas through research demonstrations.

HUD's First-Time Homebuyer Education and Counseling Demonstration (FTHB Demonstration) is not a study of HUD's current housing counseling programs as they are run. HUD's current housing counseling programs are targeted at specific homebuyers who are most often getting counseling early in the homebuying process in order to be eligible for down payment assistance.

Rather, the big idea of the FTHB Demonstration comes out of the foreclosure crisis of 2007–10 and a theory that more education and counseling for prospective homebuyers would reduce future delinquency and foreclosure risk. As such, this demonstration was testing this big idea: what if we were to offer education and counseling to all individuals asking lenders about getting a home loan? How many would be interested? Which method—in person or remote—would be more effective? How many would complete the education and counseling? Does education and counseling reduce mortgage delinquencies? Does education and counseling have other impacts on the homebuyer and homeowner experience?

This is not the first study on the impact of pre-purchase counseling. The U.S. Department of Housing and Urban Development (HUD) has sought to measure the impact of pre-purchase counseling for almost forty years. While several recent studies have shown positive or neutral results of homebuyer education or counseling, Congress and researchers have long recognized the importance of a true randomized experimental research demonstration to isolate the effects of housing education and counseling on first-time homebuyers.

In 2014, HUD successfully launched this demonstration as a large-scale, randomized experiment to evaluate the effectiveness of *offering* free homebuyer education and counseling using a diverse sample of over 5,800 low-to-moderate and middle-income (up to 120 percent of area median income) prospective first-time homebuyers in 28 U.S. metropolitan areas. The participants of the sample were recruited through three large, national lenders from 2014 through 2016. The Demonstration focused on outcomes such as personal budgeting, credit scores, debt accumulation, mortgage delinquency, and foreclosure avoidance.

This demonstration also evaluates the effects of homebuyer education and counseling that is delivered both remotely (through the Internet and telephone) and in-person. This report provides findings based on long-term followup survey data and administrative data through December 2019, 4 to 6 years after random assignment.

This report comes with three important caveats, some of which are inherent to the general design of randomized studies and others that relate to the conditions of the economy during the time of the study:

- As noted earlier, the sample was not representative of the typical housing counseling client. The study recruited participants from the broader universe of prospective first-time homebuyers who had inquired about a loan.
- Second, this study did not evaluate the effectiveness of any organization's program or the HUD Housing Counseling program. The service providers were HUD-approved and followed national standards at the time, but the services were provided later in the homebuying process and the remote services were administered differently than is typical for HUD's housing education and counseling program. As noted above, this study sample differed from the housing counseling population that HUD typically serves. HUD-approved housing counseling agencies usually serve clients who participate in downpayment assistance programs. This study excluded anyone participating in a downpayment assistance programs. Moreover, the study sample was more male, more educated, and had higher incomes than the population of pre-purchase housing counseling clients that were served by national housing counseling service providers at the time services were administered in 2014–16. As such, the results of this study should not be interpreted as representing housing counseling programs writ-large.
- Third, many key outcomes considered in this study—60-day delinquency rates and credit scores—are sensitive to prevailing economic and market conditions. At the time of enrollment (2013–16) credit conditions were tight and the timing of the study followup (2019–20) was when the economy had very low unemployment.

The long-term findings—4 to 6 years after random assignment—on the impact of homebuyer education and counseling were mixed but yielded multiple areas for additional research and analysis. There were two positive outcomes and three negative or "no impact" findings.

Specifically, the report detects the following impacts:

- Those that were offered homebuyer education and counseling services were more confident in the ability to find needed information about the homebuying process.
- Overall, there was no detectable impact on average credit scores between the treatment and control groups (other than for the subgroup impacts noted below).
- Younger adults (29 years old or younger at baseline) and women were more likely to have higher average credit scores if they were offered homebuyer education and counseling.
- Offering homebuyer education and counseling had no detectable impact on 60-day delinquency or any other measure of loan performance.
- Treatment group members were more likely to have higher levels of nonhousing debt ($1,496 more student loan debt for treatment group members) that was balanced with higher levels of savings and investments ($4,799 for treatment group members) and lower levels of credit card debt ($492 less for treatment group members).

The Demonstration yielded concrete learnings that can advance equity in the homeownership realm. The benefits of homebuyer education and counseling conveyed to women and young adults show that these services may be particularly effective for those two subgroups, who are not typically represented as the average housing counseling client.

While the study found that student loan debt increased for treatment group members, it occurred in the context of increased savings and investments and reduced credit card debt. That coupling of higher student loan debt with higher levels of total savings and investments and lower levels of credit card debt indicates that young adults are actively engaged in their financial decisionmaking to afford homeownership. Expanding homebuyer education and counseling services to a broader group of young adults could have significant impacts on their financial futures.

The study showed no difference on impacts in terms of delivery method (i.e., in-person or remote), which could be a cost-effective way of expanding homebuyer education and counseling and homeownership opportunities to reach a broader set of people at a relatively low cost.

The study also found that prospective African-American and Hispanic first-time homebuyers did not specifically benefit from the homebuyer education and counseling services provided. This finding indicates the need for holistic policy and programmatic interventions to address the longstanding and complex structural barriers that exist for African-Americans and Hispanics; something that a light touch intervention is unable to accomplish.

The education and counseling for this study were provided between 2014 and 2017. Since that time, pre-purchase counseling, coaching methodologies, and financial education tools used by HUD-approved housing counseling agencies have evolved. Recent accomplishments include:

1) Achieved full certification of housing counseling professionals as mandated by Congress.
2) Implemented innovative pre- and post-purchase counseling programs focused on providing culturally sensitive and linguistically appropriate services to reach demographic groups who are underserved.
3) Launched a new set of grants to partner with Historically Black Colleges and Universities (HBCUs) and Minority Serving Institutions (MSIs).
4) Implemented a social media and outreach campaign to reach the next generation of homeowners.
5) Embraced new modalities and technologies for providing high impact counseling services.

There is one more long-term impact analysis that is anticipated in 2023 which will analyze study outcomes for this study sample during the COVID-19 pandemic (from January 2020, before the COVID-19 pandemic started, through July 2021).

This forthcoming final report will provide a descriptive analysis of the effect of the COVID-19 pandemic on financial indicators and mortgage performance for the study's sample and an impact analysis of the impacts of homebuyer education and counseling on financial indicators and mortgage performance for the study's sample in the context of COVID-19.

Todd Richardson
General Deputy Assistant Secretary
HUD Office of Policy Development and Research

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Preface

In 2011, the U.S. Department of Housing and Urban Development (HUD) launched the **First-Time Homebuyer Education and Counseling Demonstration** under a contract with Abt Associates. The objective of the demonstration was to strengthen foundational knowledge on the impact of broadly offering free homebuyer education and counseling services on prospective homebuyers' outcomes across three domains: (1) *preparedness and search*; (2) *financial capability*; and (3) *sustainable homeownership*.

The launch of the demonstration took place shortly after the rise and fall of the subprime mortgage market, which caused a global economic recession and the worst foreclosure crisis in the United States since the Great Depression.[1] Although technically the recession had ended by the time the demonstration began in 2011, unemployment still hovered around 10 percent, and mortgage delinquency rates—historically less than 3 percent—were in double digits (Mortgage Bankers Association, 2011).[2] Millions of families were losing their homes to foreclosure and millions more watched as their main source of wealth—their home equity—evaporated due to home value depreciation. By the time the demonstration began enrolling participants in the fall of 2013, the economic environment was dramatically different. By then, the federal government had enacted the Dodd-Frank Wall Street Reform Act of 2010, which banned many of the riskiest mortgage products and unsound lending practices. Unemployment was less than 6 percent. Housing prices had stabilized—and were appreciating—throughout the country. These favorable economic trends continued for the majority of the study's timeframe.

As we present the long-term findings of the demonstration, the country is slowly emerging from another economic crisis. The COVID-19 pandemic, which began in the United States in spring 2020, resulted in the sharpest short-term increase in unemployment in U.S. history, from 4.4 percent in March 2020 to 14.8 percent in April 2020 (U.S. BLS, 2021). Gross domestic product—the broadest measure of economic activity—contracted at an annualized rate of 32.9 percent in the second quarter of 2020, resulting in a negative annual growth rate of -3.5 percent for 2021 (U.S. BEA, 2021). Millions of renters have been spared from eviction only by virtue of emergency rental assistance and a federal eviction moratorium. At the same time, home prices in January 2021 were up 12 percent from a year earlier (FHFA, 2021), fueled by low interest rates and the new reality of working and schooling from home. Furthermore, while the latest jobs report—over 900,000 new jobs in the month of March 2021—suggests we are in the midst of a strong economic recovery, the long-term impact of the crisis on the housing market is yet to be determined.

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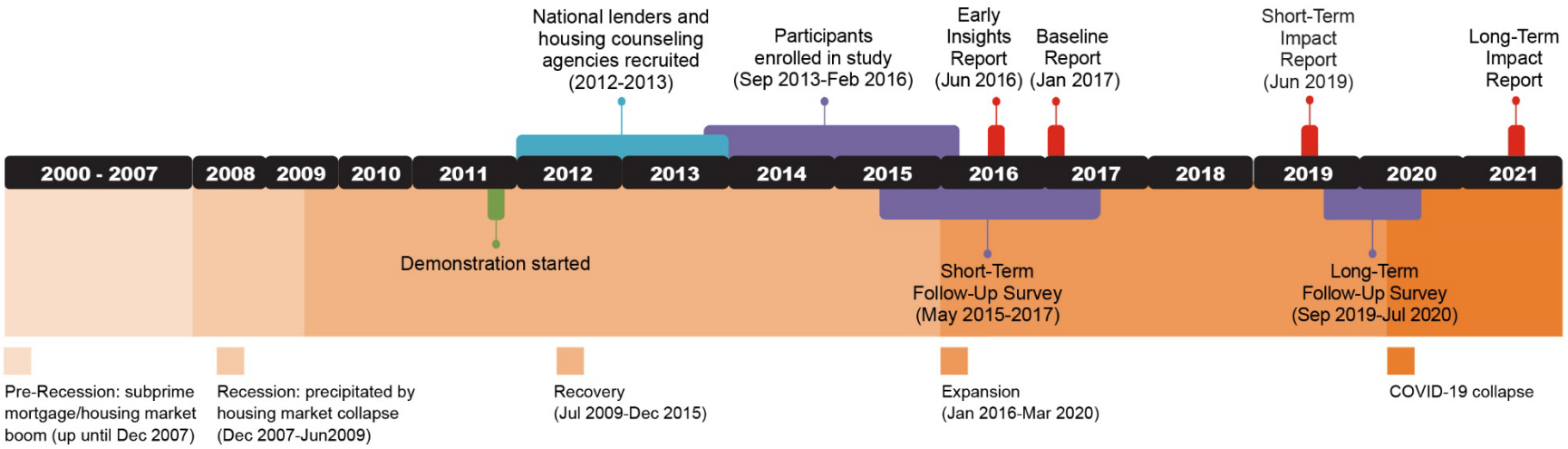
[1] The share of the mortgage market that subprime loans made up grew from 8.3 percent in 2003 to 23.5 percent in 2006 before falling to 9.2 percent in 2007 and to 1.7 percent in 2008 (FCIC, 2011).

[2] Between 1991 and 2007, quarterly delinquency rates averaged 2.2 percent. These rates rose precipitously in the aftermath of the subprime market collapse, reaching a high of 11.5 percent in the first quarter of 2010.

Project Timeline in Historical Context



It is within this historical context that this report presents long-term findings from the demonstration. Understanding this context is important. Although the economic challenges of the COVID-19 crisis are immense, and its onset occurred within the study's timeframe, most of the data collection for the evaluation occurred *before* the pandemic. That is, the backdrop for the study was largely that of a strong housing market and growing economy, and its findings should be viewed with that lens. The study's estimates may not generalize to a different set of market conditions.

Our methods provide rigorous estimates of the impacts of offering homebuyer education and counseling to a specific sample population—prospective homebuyers who had already approached a major, national lender when they were recruited into the study. The extent to which the study's estimates generalize to other populations—for example, people who are required to complete homebuyer education and counseling as part of a lending program, or those who actively seek out education and counseling by enrolling in those serves directly with a counseling agency—is unknowable.

The demonstration also tests two modes of delivery of homebuyer education and counseling: in-person and remote. With the COVID-19 pandemic likely accelerating a shift away from in-person financial capability interventions toward remote ones, the findings of this study can help policymakers assess the relative effectiveness of these two modes of delivering the same service.

Finally, the events of the past year have shined a spotlight on racial inequalities generations in the making, bringing them to the forefront of the national consciousness. Although this study was not designed with a primary focus on racial or ethnic variation in the impact of homebuyer education and counseling, it does provide a perspective on what more needs to be done to provide equitable access to homeownership.

The changes we have witnessed in the housing and economic environment over the last decade have highlighted the importance of financial skills for individuals and families who must navigate a complex and rapidly evolving financial marketplace. Enhancing the ability of households to make good financial decisions is key to their long-term well-being. One such intervention is homebuyer education and counseling, designed to help people think critically about the benefits and risks of homeownership; understand how to select affordable homes and appropriate mortgage products; and build the knowledge, resources, and behaviors needed for sustainable homeownership and long-term financial health.

We hope the findings of this demonstration will provide policymakers and practitioners with useful insights for improving opportunities for Americans of all backgrounds to build wealth through homeownership.

Laura R. Peck and Debbie Gruenstein Bocian
April 27, 2021

Executive Summary

This report presents the findings of the **First-Time Homebuyer Education and Counseling Demonstration** (hereafter, the "demonstration"). The demonstration uses a rigorous experimental design to measure the extent to which broadly offering voluntary, free homebuyer education and counseling services affects outcomes for low-, moderate-, and middle-income prospective first-time homebuyers.

The demonstration began enrollment in September 2013 and completed data collection in July 2020. Study participants—a diverse group of prospective homebuyers who approached one of three major national lenders about a mortgage—were randomly assigned into control or treatment groups, with treatment group participants offered free homebuyer education and counseling services.

The demonstration seeks to answer the following primary research question: ***What are the impacts of offering homebuyer education and counseling on low-, moderate-, and middle-income prospective first-time homebuyers?*** It answers this question by estimating the overall impact of offering voluntary, free homebuyer education and counseling services on outcomes across three outcome domains.

- ***Preparedness and search*** outcomes relate to the decision of whether to purchase a home, the process of searching for homes, and the selection of appropriate mortgages.
- ***Financial capability*** outcomes relate to participants' general financial knowledge, skills, behavior, and objective financial indicators such as levels of debt and savings, access to affordable credit, and credit profile.
- ***Sustainable homeownership*** outcomes relate to homebuyers' mortgage payment behaviors, including behaviors that can play a role in avoiding foreclosure and accruing and protecting home equity.

The demonstration also examines whether the impact of offering homebuyer education and counseling services varies by the **mode of service delivery** (i.e., in-person or remote delivery) and the extent to which impacts vary by participant **subgroups (**defined by demographic and socio-economic characteristics, by baseline debt and savings levels, stage in the homebuying process at baseline, and by area housing affordability).

In brief, this evaluation provides strong evidence on the impacts of offering access to homebuyer education and counseling services to a broad population of people who had inquired about a mortgage through one of three major national lenders instead of direct participation in a specific education and counseling program. As such, the findings should not be construed as an evaluation of HUD's Office of Housing Counseling programs directly.

Study Design and Methods

The First-Time Homebuyer Education and Counseling Demonstration uses a **randomized experimental design** to evaluate the effectiveness of offering voluntary, free homebuyer education and counseling services, a "light-touch" financial education intervention meant to help expand access to and sustainability of homeownership. The randomized experimental design allows us to conclude that the offer of homebuyer education and counseling services *causes* differences in outcomes observed between the treatment group and the control group.

Between September 2013 and February 2016, the study randomized **5,854 prospective first-time homebuyers from 28 large metropolitan areas** either into a control group or into a treatment group, with different treatment groups defined by service delivery modes. Study participants assigned to a treatment group were offered free *in-person* services, free *remote* services, or their *choice* of free in-person or free remote services. Study participants randomly assigned to the control group were not offered any homebuyer education or counseling services.

The difference between treatment and control group outcomes is the estimated impact of homebuyer education and counseling. This study computes impact in two ways:

- The study's **intent-to-treat (ITT) impact estimate** reflects the *impact of the offer of services*. This encompasses both the degree to which treatment

The Intervention

The intervention evaluated in this study consists of the offer of free homebuyer education and counseling. **Homebuyer education** is training about buying a home and financial management; **homebuyer counseling** is one-on-one guidance tailored to the particular needs of the individual homebuyer. The study sample includes people who approached one of three, major lenders about a mortgage, were not otherwise required to receive counseling, agreed to be in the study, and met some other selection criteria. Within the treatment group, 55 percent took up services—that is, they used either some or all of the education curriculum and one-on-one counseling; and 25 percent completed all of the offered services.

The homebuyer education and counseling services in the study were provided through two service modes: **in-person services** provided at a local counseling agency or **remote services** provided through online education and telephone one-on-one counseling. These two modes reflect current practices in the housing counseling industry.

To provide services, the study team partnered with **63 HUD-approved local housing counseling agencies** across 28 large metropolitan areas throughout the United States and **two HUD-approved national agencies providing remote services**. The local agencies delivered in-person homebuyer education in group workshops and in-person homebuyer counseling in one-on-one, face-to-face sessions. For remote services, the study team partnered with eHome America for online homebuyer education and ClearPoint Credit Counseling Solutions for telephone counseling. The services as delivered, regardless of mode, involved about 6 to 8 hours of education and about 1 hour of counseling, for the average participant, and were standard at the time (2014–15).

All agencies participating in the study adhere to the **National Industry Standards for Homeownership Education and Counseling** and are **HUD-approved**. These requirements ensured that the intervention services provided through the study were reasonably consistent in structure and content and were administered by programs reviewed by HUD to meet standards for quality.

group members "take up"[3] those services and the effectiveness of the services.

- The study's **treatment-on-the-treated (TOT) impact estimate** reflects the *impact of "taking up" services* and analyzes the data using the reasonable assumption that those who did not use any services ("no-shows") experienced no impact.

Importantly, the ITT and TOT impact estimates will have different magnitudes but **the same *pattern***—that is, for a given outcome, they will both be positive or negative, and they will both be statistically significant or not.[4] Therefore, it is this pattern that we emphasize in discussing the demonstration's results.

Although the patterns of ITT and TOT estimates are the same, each of their *interpretations may carry relatively greater (or lesser) relevance* for a particular audience. For example, policymakers and lenders interested in the effects of making homebuyer education and counseling widely available to all prospective homebuyers who say they would like these services would be interested in the ITT estimate. Providers of homebuyer education and counseling services looking to know what difference direct program participation makes or lenders who require some borrowers to use services would be interested in the TOT estimate.

Data Sources and Timing

The data on outcomes used to estimate impacts come from a number of sources. The study collected administrative data from the Federal Housing Administration (FHA), a credit bureau, three national mortgage lenders, and service-provider agencies. The study also collected survey data via two followup surveys. The Short-Term Follow-Up Survey collected information from study participants 12 to 18 months after study enrollment and had a 79 percent response rate. The Long-Term Follow-Up Survey collected information from participants 48 to 72 months after study enrollment and had a 72 percent response rate.

This report is based on the Long-Term Follow-Up Survey and administrative data collected roughly 4 to 6 years after study enrollment. The survey data were collected between

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[3] "Taking up" services refers to prospective homebuyers *participating in* the services offered, which they could voluntarily do, at no cost to them. This includes attending a group education workshop and a face-to-face counseling session (in-person mode) or working through online education materials or talking by phone with a counselor (remote mode).

[4] The TOT estimate is computed, essentially, by dividing the ITT estimate by the take-up rate, so the sign of the estimate (positive or negative) will always be the same. Similarly, the TOT estimate's standard error is computed, essentially, by dividing the ITT estimate's standard error by the take-up rate. Because the take-up rate can never be more than one, the TOT impact will always be larger in magnitude than the ITT estimate (or the same as the ITT estimate in the event of complete take-up). Because the TOT impact estimate and the standard error are both scaled up by the same amount, the level of statistical significance remains constant between the two estimates.

October 2019 and July 2020. About one-half of the completions occurred in 2019, and the administrative data are from December 2019.[5]

Key Findings

The demonstration estimated the impact of being offered free homebuyer education and counseling on 40 confirmatory, secondary, and exploratory outcomes across the three outcome domains.[6] Among the key findings, presented in the order in which the study prioritized their importance, are the following:

The offer of homebuyer education and counseling had no overall impact on credit score or 60-day delinquency.

The demonstration's two "confirmatory" outcomes—that is, those outcomes deemed most important by the study team, HUD, and the project's expert panel before the analysis—were credit score and the incidence of one or more 60-day delinquencies (whether a participant was ever at least 60 days delinquent on a mortgage). As confirmatory outcomes, the impacts of homebuyer education and counseling on credit score and the incidence of 60-day delinquencies are key to determining the success of the intervention in its current form. Homebuyer education and counseling is intended to help people prepare for homeownership and manage their finances in a way that improves their ability to buy homes and to routinely make their mortgage payments. *The analysis found no detectable differences between the treatment group and the control group as of the long-term followup on either of these outcomes.* Both treatment and control groups had average credit scores of about 720, up from about 707 4 to 6 years earlier. The rate of ever being 60 days delinquent was about 5 percent across the study sample, with no difference between the treatment and control groups.

These findings are specific to the market conditions during the timeframe of the demonstration. The demonstration took place during a time period characterized by a strong, growing economy and housing market, resulting in relatively low rates of mortgage loan delinquencies and high credit scores overall. These favorable market conditions may have made the intervention less necessary, and therefore less impactful, than it would have been in less favorable conditions.

Homebuyer education and counseling resulted in improved confidence in the ability to find information.

Homebuyer education and counseling led the treatment group to report greater confidence in their ability to find needed information related to the home purchase process.

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[5] We also secured a data supplement from July 2020 in order to conduct sensitivity analyses of the influence of the early months of the COVID-19 pandemic.

[6] These categorizations refer to the level of importance for determining the "success" of the intervention, with confirmatory being the most important, followed by secondary. The study team applied a designated of confirmatory, secondary, or exploratory to each outcome prior to the analysis.

Being better able to find needed information is clearly a favorable impact of being offered homebuyer education and counseling services.

Homebuyer education and counseling resulted in higher levels of student loan debt, a finding that, together with other impacts, implies a change in the composition of debt and savings.

The offer of homebuyer education and counseling resulted, on average, in an increased level of student loan debt. This finding might raise concerns if considered in isolation. However, since there was no detectable difference between treatment and control groups on 60-day mortgage delinquency or credit score, and the treatment group also had lower levels of credit card debt, the higher student debt burden does not appear to have contributed to financial strain. The treatment group also had greater levels of savings and investments.[7] The treatment group's altered composition of debt and greater savings may have improved their home-purchase prospects and success in homeownership.

There is no evidence that either mode of service delivery is more effective than the other.

The analysis revealed no differences in impact by mode of delivery for the confirmatory outcomes and no pattern of differences for any of the other outcomes measured by the study. Neither in-person nor remotely-provided homebuyer education and counseling had an advantage in terms of the later experiences of study participants. The remote mode of delivering services costs less, and a shift to remote learning had begun even before the COVID-19 pandemic, with three-fourths of study participants stating explicitly that they would prefer to engage in remotely-provided services.

Homebuyer education and counseling improved average credit scores for *women* and *young adults*, two subgroups for whom there was systematic evidence of differential impacts.

Although there were no detectable differences between the *overall* treatment and control groups for the confirmatory outcomes, two *subgroups* of participants—from among 17 pre-identified groups the study examined—experienced favorable impacts of the intervention on one of those confirmatory outcomes. *Women* and *younger adults* in the treatment group (i.e., people who were less than age 30 when they entered the study sample) both saw improvements in their credit scores relative to their control group counterparts, about 7 points for women and 11 points for younger adults. These groups may have had less prior knowledge of the topics covered by homebuyer education and counseling than men and somewhat older adults.

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[7] These latter two outcomes are *exploratory* (rather than *confirmatory* or *secondary*), and we use them to help explain the student loan debt finding (which has a *secondary* level of evidence).

There is no systematic evidence that homebuyer education and counseling improved outcomes for African-American or Hispanic prospective homebuyers.

The impact of the intervention for African-American or Hispanic subgroups did not systematically differ from the impact for whites. The intervention did not help these groups overcome the greater challenges to homeownership that they face.

Implications and Next Steps

Overall, the intervention studied in this demonstration—the broad offer of homebuyer education and counseling—did not, *on average*, lower delinquencies or improve credit scores (the two outcomes of greatest interest). It did, however, improve credit scores for women and younger homebuyers. The intervention also improved self-reported ability to find needed information and increased student loan debt (in the context of some other changes in debt composition and savings). Additional subgroup impacts are considered exploratory, are examined in the report and its appendix, and are worth examining further in the future.[8]

What insights might the demonstration provide for policymakers and developers of homebuyer education and education programs as they consider next steps to enhance homeownership opportunities? First, for a policy of broadly offering free homebuyer education and counseling to be worthwhile, its benefits need to outweigh its costs. Given that there is no discernable difference in impacts between remote and in-person services, it may be possible to keep the cost of offering these services relatively low. To ensure a net benefit, however, the intervention itself likely needs to be retooled so that its impacts reach a broader range of outcomes and populations. Fortunately, over the past several years a growing body of research has documented the types and characteristics of effective financial education interventions. This research has highlighted, among other things, the importance of customization of financial education interventions to specific populations and focusing on improving financial skill. Opportunities for homebuyer education and counseling services might be reimagined in a way that will lead to greater impact for more people.

Second, the study did not find evidence that the impact of offering homebuyer education and counseling differed for African-American and Hispanics subgroups, implying that the intervention did not help these groups achieve sustainable homeownership. Rather, the study highlights the structural barriers facing these groups, such as lower credit scores and lower levels of savings, that homebuyer education and counseling did little to overcome. Larger, bolder policies that directly address these structural barriers will likely be needed to make it possible for

[8] Because this evaluation conducted a large number of hypothesis tests, we faced a high likelihood that some of the findings would appear as statistically significant due to chance alone. To protect the integrity of the interpretation of statistical tests presented in this Long-Term Impact Report, we pre-specified the level of evidence of each statistical test as either "confirmatory," "secondary," or "exploratory." "Key Findings" are limited to findings with confirmatory or secondary levels of evidence. Findings with an exploratory level of evidence offer suggestions for what future research might aim to replicate or investigate further, since these findings may be prone to false positives.

Limitations on Generalizing the Findings

The Demonstration provides unbiased estimates of the impact of offering free, voluntary homebuyer education and services to homebuyers who approached a major, national lender to inquire about a mortgage loan during a period of strong economic growth. However, these findings are not necessarily applicable to housing counseling services with different groups of participants or in different market conditions.

This intervention differs from typical counseling services in important ways. First, most recipients of pre-purchase homebuyer education and counseling services receive such services much earlier in their search process than our study participants. Second, many recipients of pre-purchase homebuyer education and counseling services are participating in downpayment assistance programs that required them to complete homebuyer education and counseling. Ours is a test of a broad offer of access to free services for those who are interested. That is, this Demonstration's intervention is an *offer of access* to services to a broad population of people who had inquired about a mortgage through one of three major national lenders, and not direct participation in a specific education and counseling program. As such, the findings should not be construed as an evaluation of HUD's Office of Housing Counseling programs directly. Finally, the specific services studied as part of this Demonstration—while standard in 2014–2015—likely are not identical to current standard practices in the field.

In addition, the Demonstration took place largely during a period of low unemployment, high credit standards, and rising housing prices. The study's findings may be specific to this particular economic and credit context. The impact of the intervention on mortgage delinquencies and credit scores might be greater in an economic environment with increasing unemployment.

more members of these communities to purchase homes and benefit from the wealth-building mechanisms of homeownership.

Third, the experience of women and younger adults provides evidence that homebuyer education and counseling may be particularly effective for these groups. Beyond the women's larger impacts on credit scores and relative to their control group counterparts, treatment group women improved their financial skill score as well as their credit score, increased their savings, and decreased monthly debt and housing payments relative to income. Among those age 29 or younger at baseline, relative to their control group counterparts, treatment group members improved knowledge that they should proactively communicate with lenders in times of financial distress, improved their financial skill, and improved their credit scores (via multiple measures). Although treatment group members who were age 29 or younger at baseline have higher levels of debt at long-term followup relative to their control group counterparts, these higher levels of debt are more than offset by higher levels of total savings and investments. Although these exploratory findings suggest a pattern of favorable impacts for women and younger individuals, they are suggestive and are prime for further exploration in future research.

1. Introduction[9]

Homeownership traditionally has been an important pathway to financial security for U.S. households. Homeownership helps households achieve that security in a variety of ways. First, homeowners are forced to save through regularly scheduled mortgage payments, a portion of each payment reducing the principal owed and building equity. Second, homeownership is a form of investment in which homebuyers commit a fraction of the home's value as downpayment but realize returns on the entire value of the property if it appreciates. Finally, many homeowners take federal deductions for property taxes, mortgage interest, and private mortgage insurance, reducing their tax burden. These benefits have made homeownership a cornerstone of the American Dream for generations.[10]

Homeownership also has risks. Unaffordable mortgage payments, home maintenance responsibilities, and the higher transaction costs of moving to a new housing unit can make homeownership more of a burden than a benefit. Housing price fluctuations can make investment in homeownership precarious, at least within a short time horizon.[11] Unsustainable homeownership can lead to financial distress and, in the worst cases, foreclosure.

In addition to the benefits and risks to homeowners individually, homeownership has benefits and risks to communities. Higher levels of homeownership often are associated with better maintained properties and higher property values (Glaeser and Shapiro, 2003) as well as higher levels of community cohesion and trust among neighbors (Rohe and Lindblad, 2013). When homeownership is broadly unsustainable, however, the negative consequences can extend beyond the individual families affected. This was apparent in the foreclosure crisis of 2007–2009, when high concentrations of abandoned properties increased blight and crime, reduced property values of surrounding properties, and lowered local tax bases, devastating entire communities (Kingsley, Smith, and Price, 2009).

Because homeownership can have significant individual and public consequences, initiatives geared toward increasing and supporting homeownership have been an important part of the national policy agenda for decades. Federal policies to expand homeownership range from tax incentives, to guarantees of home loans through the Federal Housing Administration (FHA) and the U.S. Department of Veterans Affairs (VA), to support for secondary mortgage markets through Fannie Mae and Freddie Mac. These policies are complemented by policies to help

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[9] As the fifth major report from this project, this report draws heavily, sometimes verbatim, from prior reports. The textbox **Prior Demonstration Reports** later in Chapter 1 provides full citations.

[10] Even in the wake of the foreclosure crisis, Americans display a strong desire to own their own home. The MacArthur Foundation's 2014 Housing Matters Survey found that 70 percent of renters aspired to homeownership (Hart Research Associates, 2014).

[11] For a discussion of the costs and benefits of homeownership in the aftermath of the housing crisis, see Herbert et al. (2013).

ensure that homeownership is sustainable, such as regulations banning risky mortgage products and unsound lending practices.

One federal policy designed to both expand access to homeownership and ensure its sustainability is support for first-time homebuyer education and counseling. Homebuyer education and counseling are designed to help individual homebuyers—

- Think critically about the benefits and risks of homeownership.
- Understand how to select affordable homes and appropriate mortgage products.
- Develop the financial knowledge, resources, and behaviors needed for sustainable homeownership and long-term financial health.

In 2011, The U.S. Department of Housing and Urban Development (HUD) launched the ***First-Time Homebuyer Education and Counseling Demonstration***, a large-scale, multi-site experimental study intended to generate strong evidence on the effectiveness of homebuyer education and counseling. The study was designed to estimate the overall impact of homebuyer education and counseling and also to assess the relative effectiveness of remote versus in-person delivery of services.

1.1 Study Overview

The demonstration used a randomized experimental design to assess the impacts of homebuyer education and counseling on low-, moderate-, and middle-income prospective first-time homebuyers.[12] From September 2013 through February 2016, the study recruited and enrolled 5,854 prospective first-time homebuyers across 28 large metropolitan areas.[13] The study sample comprised low- to middle-income first-time potential homebuyers who had approached one of three, major national lenders about a mortgage and were not otherwise required to receive

[12] Low-, moderate-, and middle-income homebuyers are those who have incomes at or below 120 percent of their local area median income (AMI). Specifically, those whose incomes are less than 50 percent of AMI are classified as "low" income; those whose incomes are between 50 and 80 percent of AMI are classified as "moderate" income; and those whose incomes are between 80 and 120 percent of AMI are classified as "middle" income. (Those whose incomes are above 120 percent of AMI are considered "upper" income and are not targets of this study.)

[13] The 28 metropolitan areas covered in the study: Atlanta-Sandy Springs-Marietta, GA; Boston-Cambridge-Quincy, MA-NH; Chicago-Naperville-Joliet, IL-IN-WI; Dallas-Fort Worth-Arlington, TX; Detroit-Warren-Livonia, MI; Houston-Sugar Land-Baytown, TX; Las Vegas, NV; Los Angeles-Long-Beach-Santa Ana, CA; Miami-Fort Lauderdale-Miami Beach, FL; Minneapolis-St. Paul-Bloomington, MN-WI; New York-Northern New Jersey-Long Island, NY-NJ-PA; Orlando-Kissimmee, FL; Philadelphia-Camden-Wilmington, PA-NJ-DE-MD; Phoenix-Mesa-Scottsdale, AZ; Portland-Vancouver-Hillsboro, OR-WA; Raleigh-Cary, NC; Riverside-San Bernardino-Ontario, CA; Sacramento-Arden-Arcade-Roseville, CA; San Antonio-New Braunfels, TX; San Diego-Carlsbad-San Marcos, CA; San Francisco-Oakland-Fremont, CA; San Jose-Sunnyvale-Santa Clara, CA; Seattle-Tacoma-Bellevue, WA; St. Louis, MO-IL; Stockton, CA; Tampa-St. Petersburg-Clearwater, FL; Virginia Beach-Norfolk-Newport News, VA-NC; Washington, DC.

counseling and had not owned a home in the prior 3 years.[14] Once enrolled, study participants were randomly placed either into a control group that was not offered any homebuyer education or counseling services or into one of two treatment groups. One treatment group was offered access to free *remote* homebuyer education and counseling, the other access to free *in-person* homebuyer education and counseling—the two predominant modes of homebuyer education and counseling delivery. In brief, this recruitment and enrollment approach lends itself to understanding how the broad offer of access to homebuyer education and counseling leads to change among those who do and do not take up the offer and among those at various stages of the homebuying process. Because of the demonstration's design, the findings can be best interpreted as providing rigorous evidence of the long-term impact of offering access to this intervention on individuals who approached a major, national lender to inquire about a mortgage. As such, they are not an evaluation of HUD's current housing counseling programs or of the direct participation in a specific program.

The evaluation's randomization of households to treatment and control groups is a strong research design for establishing a causal connection between an intervention and its impacts. Because of the randomization, we can infer that any observed differences in outcomes between the treatment group and control group are caused by the offer of homebuyer education and counseling.

Having two treatment groups supports analyzing not only the *overall impact* of being offered homebuyer education and counseling but also the *differences in the impacts* of being offered in-person services versus remote services. Estimates for the overall impact of the intervention result from comparing outcomes for all treatment group members versus outcomes for the control group. Estimates for the impacts of the different service delivery modes (in-person versus remote) result from comparing outcomes for treatment group members offered each mode versus outcomes for the control group.

1.2 Research Question and Outcome Domains

The overarching question guiding this evaluation is: *What are the impacts of offering homebuyer education and counseling on low-, moderate-, and middle-income prospective first-time homebuyers?*

The study seeks to answer this question by estimating impacts on outcomes in three domains:

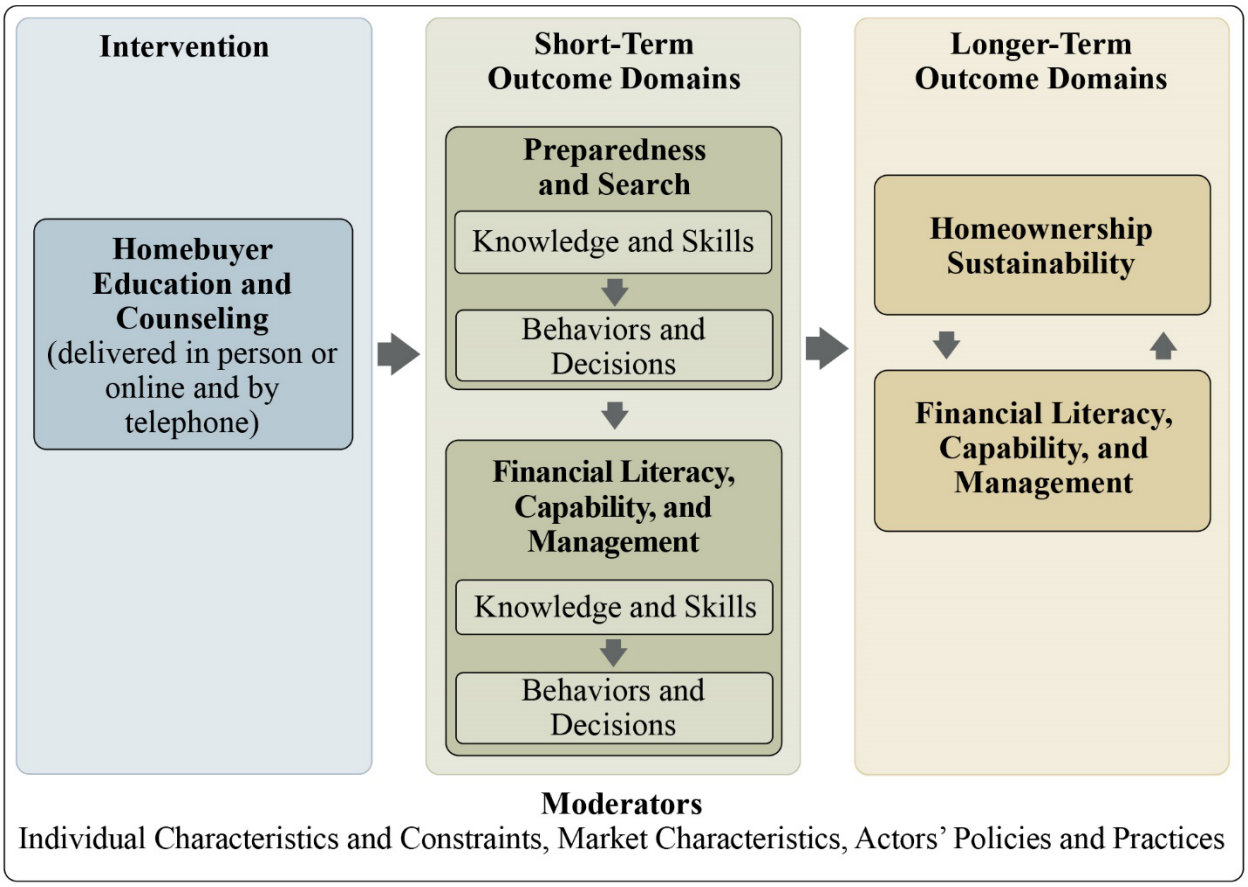
- ***Preparedness and search*** outcomes relate to the decision of whether to purchase a home, the process of searching for homes, and selection of an appropriate mortgage.

[14] For more on these and additional selection criteria, see DeMarco et al. (2017).

- ***Financial capability*** outcomes relate to participants' general financial literacy, behavior, and objective financial indicators such as levels of debt and savings, access to affordable credit, and credit profile.
- ***Sustainable homeownership*** outcomes relate to homebuyers' mortgage payment behaviors, including behaviors that can play a role in avoiding foreclosure and accruing and protecting home equity.

Exhibit 1.1 depicts the mechanisms through which the offer of homebuyer education and counseling are expected to affect outcomes in these domains.

Exhibit 1.1: Logic of the Intervention's Influence on Outcomes



Within the domain of preparedness and search, homebuyer education and counseling should increase service recipients' knowledge and skills in the short term. This includes recipients' awareness and knowledge of the pros and cons of homeownership, the responsibilities of homeownership, mortgages and terms, and underwriting criteria. In addition, education and counseling should enhance a recipient's ability to determine the affordability of homes and the appropriateness of financing options. The added knowledge and skills are expected to inform a host of behaviors and decisions, starting with whether to purchase a home. For service recipients who decide to purchase a home, the intervention should help them search for and select affordable homes and select and qualify for appropriate mortgages.

Within the domain of financial capability, homebuyer education and counseling should, in the short term, improve recipients' knowledge of financial terminology and the importance of good credit. It also should improve recipients' ability to create budgets, track expenses, and correct credit reports. These skills and knowledge are expected to translate into better financial behaviors such as improved budgeting practices and better money and debt management. In turn, these favorable behaviors should lead to a better financial situation, as proxied by such markers as savings.

In the longer term, the central goal of homebuyer education and counseling is sustainable homeownership—helping people who purchase homes avoid foreclosure and build wealth. There are several ways that homebuyer education and counseling can increase sustainable homeownership: (1) by helping people make good tenure decisions (i.e., whether and when to purchase a home); (2) by helping people choose homes and financing options that are appropriate given their financial situation, goals, and priorities; and (3) by promoting behaviors that lead to timely mortgage payments.

If homebuyer education and counseling services improve recipients' home preparedness and search capabilities (including a better understanding of the risks, benefits, and responsibilities of homeownership and being better able to navigate the homebuying process), then recipients should be better equipped to make good tenure, purchase, and financing decisions. In addition, for those people who do choose to become homeowners, the homebuyer education and counseling should improve their financial capability (e.g., budgeting and money management), thereby enhancing their ability to make timely mortgage payments, avoid foreclosure, and build home equity.

The mechanisms through which impacts arise may be moderated by outside factors. That is, there are influences—whether positive or negative—of the outside (moderating) factors on program impacts. For example, individual characteristics (e.g., gender, race/ethnicity, income, credit score) and constraints (e.g., child care, transportation) may influence who takes up (and completes) services as well as how participants in homebuyer education and counseling experience and are affected by those services.[15] In addition, market characteristics—including credit availability, labor market, and local housing market conditions—influence the choices, opportunities, and experiences that people face. These choices, opportunities, and experiences may affect participation in services and the degree to which people use what they learned from those services. Finally, the policies and practices of market actors (e.g., lenders and realtors) may influence whether and how people apply lessons from the intervention and, therefore, the impact it might have.

[15] We examine the influence of a set of individual characteristics via the subgroup analysis reported in later chapters and in more detail in appendix E. These subgroup analyses shed light on how important those characteristics may be to the impact of offering access to homebuyer education and counseling services.

1.3 Report Objectives and Organization

This Long-Term Impact Report is the fifth report from the demonstration and focuses on the impacts of homebuyer education and counseling over a 4-to 6-year time horizon.[16] In addition to presenting impacts for the study sample overall, the report presents impacts for key subgroups defined by demographic and socioeconomic characteristics and by area housing affordability. The report also examines whether impacts over that period differ by service delivery mode.

The first two chapters of this report provide the analytic foundation and descriptive context for reporting the impact findings:

- Chapter 2: *Evaluation Design and Analysis* describes the sample intake process and resulting study sample, the evaluation's experimental design, the intervention that was offered to the treatment groups, the extent to which treatment group members used ("took up") the offered services, the analytic approaches and data sources, the outcomes examined, and the study's limitations. A series of textboxes in chapter 2 provides information on the study's methods essential for understanding and interpreting the results of the impact analysis.
- Chapter 3: *Market Conditions and First-Time Homebuyers' Experiences* describes the market environment in which the demonstration took place and summarizes some related experiences of this study sample.

The next four chapters report the findings on the impacts of homebuyer education and counseling, organized by outcome domain. Because of the large number of outcomes within the financial capability domain, we report those results in two chapters. Chapter 5 focuses on knowledge, behavior, and skills. Chapter 6 focuses on financial indicators that are hypothesized to be the downstream outcomes of improved financial capability, such as savings, debt, credit, and financial well-being.

- Chapter 4: *Impacts on Preparedness and Search*.
- Chapter 5: *Impacts on Financial Knowledge, Behaviors, and Skills.*
- Chapter 6: *Impacts on Financial Indicators.*
- Chapter 7: *Impacts on Sustainable Homeownership.*

The overall impacts reported include impacts both of being *offered* services and of *taking up* those services. We also report on impacts for selected subgroups within those four chapters when differences in subgroup impacts are important for understanding overall impacts.

[16] Because default tends to peak about 4 to 5 years after home purchase (Stein et al. 2010), we would expect to see the greatest program impacts on loan performance outcomes within this timeframe, should they occur.

- Chapter 8: *Impacts by Service Delivery Mode* examines whether the impact of in-person homebuyer education and counseling differs from the impact of remote homebuyer education and counseling.
- Chapter 9: *Selected Subgroup Impacts* returns to subgroup impacts, systematically examining differences in impacts for subgroups defined by age, gender, race, and credit score.

The final chapter—

- Chapter 10: *Conclusion and Implications* summarizes the findings and considers the implications for policy and practice.

Appendix material presents more detail on the study's analytic methods, data sources, and measures; expanded results beyond those presented in chapters 4 through 9; complete subgroup impact results; and the Long-Term Follow-Up Survey instrument.

- Appendix A: *Analytic Methods*.
- Appendix B: *Data Sources and Measures*.
- Appendix C: *Expanded Results for the Overall Impact of Services*.
- Appendix D: *Expanded Results for Impacts by Service Delivery Mode*.
- Appendix E: *Impacts on Subgroups*, including those defined by baseline characteristics and those defined by their likelihood of service participation and likelihood of home purchase.
- Appendix F: *Study Participants' Homebuying and Homeownership Experiences* provides additional descriptive information on the experiences of the study sample.
- Appendix G: *Sensitivity Analysis: Alternative Outcome Specifications* includes supplemental exploratory analyses that consider whether the impact findings presented in the main text are robust to alternative outcome construction and model specifications.

Prior Demonstration Reports

Prior reports from this study are available at https://www.huduser.gov/portal/home.html. They include, chronologically:

The First-Time Homebuyer Education and Counseling Demonstration: Early Insights reported impacts on four outcomes observed 12 to 18 months after study enrollment for early entrants into the study. ("Early Insights Report"; DeMarco et al., 2016)

The First-Time Homebuyer Education and Counseling Demonstration Baseline Report: Study Design and Implementation provided a complete documentation of the Demonstration's implementation, including describing the evaluation design, the intervention's operations, the study participants, and treatment group members' experiences with the intervention and with the study. ("Baseline Report"; DeMarco, et al., 2017)

Who Participates in Homebuyer Education and Counseling Services and Why? Insights from HUD's First-Time Homebuyer Education and Counseling Demonstration, a special topic analysis, reported the characteristics of treatment group members that were most likely to take up and complete the offer of services. (Moulton et al., 2018)

Short-Term Impact Report: The HUD First-Time Homebuyer Education and Counseling Demonstration reported impacts on many outcomes across three domains—homebuyer preparedness and search, financial capability, homeownership sustainability—as of 12 to 18 months after enrollment for the full study sample. ("Short-Term Impact Report"; Peck et al., 2019)

- Appendix H: *How COVID-19 Affected First-Time Homebuyers* includes descriptive and impact analyses related to the onset of the COVID-19 pandemic.
- Appendix I: *Long-Term Follow-Up Survey* contains the survey instrument.

The textbox that follows defines some key terms used throughout the report.

Terminology Used in This Report

Terms Related to the Study's Intervention

Intervention: Access to free homebuyer education and counseling services, either in-person or remote, offered to treatment group members.

Homebuyer education and counseling: These are sometimes called "pre-purchase" services because clients usually participate in them prior to purchasing a home and to differentiate them from "post-purchase" services (e.g., foreclosure prevention counseling). Because this study's participants were at various stages in the homebuying process when they enrolled, and because post-purchase services are not part of the study, the Demonstration uses the broader "homebuyer" modifier.

- *Education:* Homebuyer education provides general information about buying a home either in a classroom workshop format or via an online curriculum, with the duration being about 6 to 8 hours. The content of the homebuyer education in the Demonstration aligns both with the National Industry Standards for Homeownership Education and Counseling and with HUD's standards.
- *Counseling:* Homebuyer counseling provides one-on-one guidance, either in-person or remotely by telephone, tailored to the particular needs of the individual homebuyer, with the duration being about 1 hour or less. The content of the homebuyer counseling in the Demonstration aligns both with the National Industry Standards for Homeownership Education and Counseling and with HUD's standards.

Housing counseling agencies: The HUD-approved agencies that provide the homebuyer education and counseling services.

Modes of service delivery: The two means by which homebuyer education and counseling could be accessed by study participants in one of the treatment groups—that is, either in person at a local housing counseling agency or remotely through the Internet and telephone.

Terms Related to Carrying Out the Study

Study participants: This is the label for all individual prospective first-time homebuyers who are enrolled in the study, regardless of which experimental group (treatment or control) they were randomly assigned to.

- *Treatment group members:* The study participants who were offered the intervention (access to free homebuyer education and counseling) as part of study participation.
- *Control group members:* The study participants who were not offered the intervention (access to homebuyer education and counseling) as part of study participation. They represent the "counterfactual"; that is, what happens in the absence of the intervention.

Service recipients or *recipients*: The members of a treatment group who *took up* the offer of free homebuyer education and counseling (i.e., used those services).

Outcomes: The specific constructs of interest that the intervention aims to influence (e.g., credit score, house purchase, 3 months of savings).

Outcome domain: A category of outcomes. Each specific outcome in the study is part of one of three domains—preparedness and search, financial capability, or sustainable homeownership.

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Terminology Used in This Report (continued)

Terms Related to the Study's Data Collection

Administrative data: This refers to data that come from the study's participating lenders, housing counseling agencies, the Federal Housing Administration, and a national credit bureau.

Baseline Survey: Administered at study enrollment, the survey that captured initial information about the study participants and their households. This survey's response rate was 100 percent: that is, all study participants completed the survey.

Follow-up period: For this Long-Term Impact Report, outcomes analyzed are measured to reflect study participants' experiences as of 4 to 6 years after they enrolled in the study. This time period applies whether from survey or administrative data sources.

Long-Term Follow-Up Survey: The second of the study's two follow-up surveys was fielded from September 2019 through June 2020. It measures outcomes for each study participant between 4 and 6 years after study enrollment. This survey covers a wide variety of topics that are the outcomes of interest to the study; it also collected additional descriptive information. The survey's response rate was 72 percent.

Short-Term Follow-Up Survey: The first of the study's two follow-up surveys was fielded on a rolling basis, beginning 12 months after a study participant enrolled in the study. The average time to completion was 13 months after enrollment. Like the Long-Term Follow-Up Survey, this survey covers a wide variety of topics that are the outcomes of interest to the study. The survey's response rate was 79 percent.

Terms Related to the Study's Analyses

Impact: The change in outcomes that arises *because of* the intervention. Impacts reported in chapters 4 through 9 marked with one or more asterisks are statistically significant, indicating that it is unlikely that the impact is due to chance. Unless noted otherwise, we discuss only impacts that are statistically significant (using a threshold of $p<0.10$).

- *ITT effect:* The "intent-to-treat" (ITT) is the impact of being *offered* access to the intervention. It is computed by comparing the mean outcome for the entire treatment group (regardless of whether they took up services) versus the mean outcome for the entire control group.
- *TOT effect:* The "treatment-on-the-treated" (TOT) is the impact of *taking up* the intervention. It is computed by rescaling the ITT estimate by the take-up rate, and it relies on the assumption that any impact of the intervention on those who were offered services but did not use any services ("no-shows") was zero.

  See the textbox **Calculating Impact Two Ways** (beginning on page 19) for additional detail on the ITT and TOT terms.

Take-up: Treatment group members' *use* of homebuyer education and counseling services. The "take-up rate" is the proportion of each treatment group who used the services they were offered—meaning they visited the online education materials or talked by phone with a counselor (remote mode), or they attended a group education workshop or one-on-one, face-to-face counseling session (in-person mode).

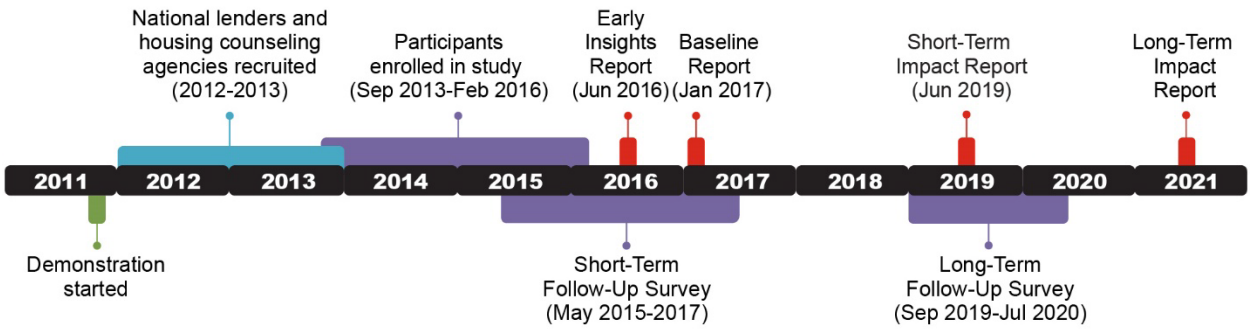
2. Evaluation Design and Analysis

Demonstration Overview

- The Demonstration used an experimental evaluation design that randomized 5,854 prospective first-time homebuyers who had approached one of three national lenders across 28 metropolitan areas into treatment groups offered either in-person or remote services and a control group not offered any services.
- The study sample was diverse along key sociodemographic characteristics, including race, ethnicity, and gender.
- Overall, 55 percent of treatment group members took up the offer of services, with higher take-up among those offered remote services than those offered in-person services.
- Data came from study participant surveys and various administrative sources and represented outcomes about 4 to 6 years after study enrollment.
- To assess overall impacts, we pooled the treatment groups and—using multiple regression—compared treatment group mean values and control group mean values for the outcomes of interest.
- Analysis considered the impact both for those offered treatment and for those offered treatment who took up that offer.
- The Demonstration's most important outcomes of interest at this long-term follow-up were credit scores and the 60-day delinquency rate. The study examined many other outcomes, as well.

This chapter describes how participants were recruited into the study and their baseline characteristics. It provides brief descriptions of the random assignment design, the intervention offered to treatment group members, and their take-up of the intervention. The chapter then summarizes the analytic approaches and data sources we used to estimate impacts, and the outcomes for which we estimated impacts. The chapter concludes with a discussion of the study's limitations. A timeline of the demonstration is presented in exhibit 2.1.

Exhibit 2.1: Timeline of the HUD First-Time Homebuyer Education and Counseling Demonstration



2.1 Participant Recruitment and Baseline Characteristics

The demonstration recruited participants into the study via three major national mortgage lenders. As fully detailed in the study's Baseline Report (DeMarco et al., 2017), those lenders identified potential participants by screening their home loan databases of prospective

homebuyers for low- to middle-income, first-time homebuyers (that is, people who had not owned a home in the prior 3 years) who were living in one of the study's 28 metropolitan areas. The lenders contacted these prospective homebuyers and, if they agreed, referred them to the study team. The lenders contacted 136,874 customers and referred 18,279 to the study team. We conducted an additional eligibility assessment of each prospective homebuyer and, if all criteria were met, reviewed the consent agreement with them.[17] From among those prospective homebuyers who were referred, 5,854 were ultimately eligible and consented to be in the study. Of them, 95 withdrew from the study at some point, leaving the full sample at 5,759 study participants.

Exhibit 2.2 summarizes the sample's baseline characteristics. The study sample was racially and ethnically diverse, with 12.1 percent identifying as Asian; 20.5 percent as African-American, non-Hispanic; 25.1 percent as Hispanic; and 38.5 percent as White, non-Hispanic. Approximately three-fifths (60.2 percent) of study participants were men, and two-fifths (39.8 percent) were women.

The study participants reflected a wide range of educational attainment, with a slight majority of participants holding bachelor's degrees (53.4 percent). Most participants (89.9 percent) were working full-time (at least 30 hours per week) as of the study's baseline survey. The median income for study participants and their co-borrowers was $54,000 in the 12 months prior to study enrollment, with 10.6 percent making more than $100,000 and 8.1 percent making less than $25,000. The average credit score of study participants at the time of study enrollment was 706.

No published source cites nationally representative characteristics of low- to middle-income prospective first-time homebuyers. The study's Baseline Report (DeMarco et al., 2017) considered how this study's sample compares to other relevant segments of the population, including renters, first-time homeowners, and the population of homebuyer education and counseling clients. The Baseline Report found that the study sample is more educated and has a higher income than the typical population of pre-purchase homebuyer education and counseling clients. Further discussion of the generalizability of study findings appears in this report, in section 2.8.1.

[17] For example, prospective homebuyers who were required to attend a homebuyer education and counseling program as part of a downpayment assistance program were ineligible for the demonstration, among other eligibility criteria.

Exhibit 2.2: Study Sample Characteristics at Baseline

Baseline Variable	Study Sample
Race/Ethnicity of Study Participant (%)	
Hispanic	25.1
White, non-Hispanic	38.5
African-American, non-Hispanic	20.5
Asian, non-Hispanic	12.1
Other	3.9
Male (%)	60.2
Age greater than or equal to 30 (%)	68.3
Marital Status of Study Participant (%)	
Married	38.2
Divorced, widowed, or separated	14.8
Single and never married	47.1
Plans to purchase the home with a co-borrower (%)	26.3
Household Size (%)	
One	22.7
Two	32.0
Three	19.8
Four or more	25.5
Education of Study Participant (%)	
Bachelor's degree or higher	53.4
Associate's degree	12.9
Some college, but no degree	16.1
High school diploma or less	17.6
Employment (%)	
Full-time employment (30+ hours per week)	89.9
Part-time employment (1-29 hours per week)	4.1
Unemployed and looking for work	0.5
Not working, homemaker, retired, student, or other	5.5
Income Received by Study Participant and Any Co-Borrowers in Last 12 Months	
$24,999 or less (%)	8.1
$25,000 to $49,999 (%)	34.0
$50,000 to $74,999 (%)	32.7
$75,000 to $99,999 (%)	14.6
$100,000 or more (%)	10.6
Mean income ($)	59,527
Median income ($)	54,000
Credit Score (range is 300-850)	
Mean	706
Median	711
Stage in the Homebuying Process (%)	
Not yet started home search	11.2
Started home search, but no offer	37.0
Made an offer on a home or signed a purchase agreement, but no purchase	38.5
Purchased a home	13.2

Notes: All measures are shown for the full sample of 5,759 study participants (after excluding study participants who withdrew from the study). Measure-specific sample sizes may vary due to item nonresponse. Due to rounding, not all reported percentages precisely equal 100.0 percent.
Sources: Baseline survey of study participants; credit bureau data

Despite targeting customers early in the homebuying process, the study enrolled participants at every stage. Some 13 percent of study participants had already purchased a home at the time of enrollment, and another 39 percent had either made an offer on a home or signed a

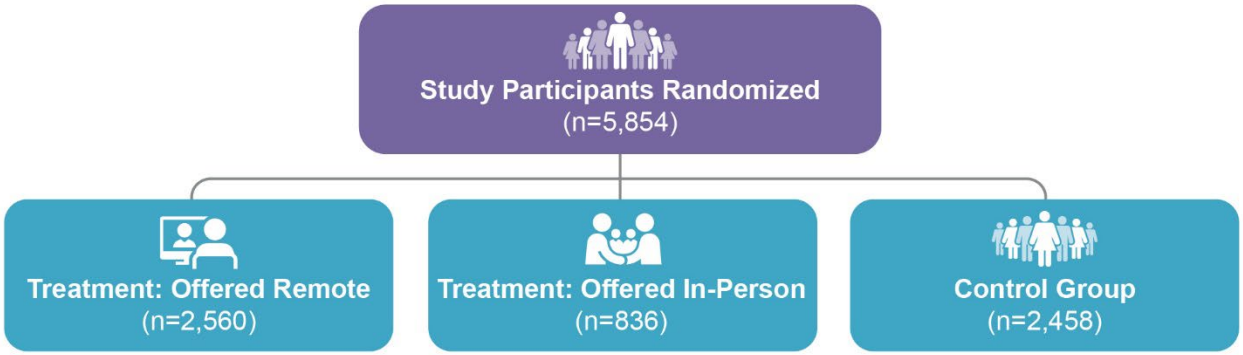
purchase agreement. The fact that participants entered the study through referrals by lenders likely explains why many participants were fairly far along at enrollment.

As this summary indicates, the sample was large and diverse and represented many varied characteristics that might matter to first-time homebuying experiences. That said, the study sample may not necessarily reflect the typical client of housing counseling agencies because the study sample came via referrals from three major national lenders. For many people in the study sample, this study was the first time they had learned about homebuyer education and counseling services. By contrast, housing counseling agencies typically attract people who might already know about those services and have decided to use them or who have been encouraged or required to participate in the services as a condition of their mortgage lender or a homeownership subsidy program. This study provides a rigorous test of *making services available* to a general group of interested potential homebuyers who may or may not take up the offer to engage in services.

2.2 The Experimental Evaluation Design

The First-Time Homebuyer Education and Counseling Demonstration used a randomized experimental design.[18] As illustrated in exhibit 2.3, eligible prospective first-time homebuyers were randomly assigned to a control group or to a treatment group: 2,560 treatment group members were offered free remote homebuyer education and counseling services; 836 treatment group members were offered free in-person homebuyer education and counseling services; and the 2,458 members of the control group were not offered services through the study.

Exhibit 2.3: Study Participants, by Group



[18] Prior reports have documented the evaluation's implementation in detail. This chapter summarizes only what is essential to understanding this Long-Term Impact Report. Additional technical detail on analytic methods and data sources and measures appears in appendixes A and B and in the study's prior reports (DeMarco et al., 2017; Moulton et al., 2019; Peck et al., 2019).

The randomization process ensures that there are no systematic differences between the treatment and control groups.[19] Therefore, differences in the mean outcomes between the groups can be attributed to the intervention as its "impact," as elaborated in section 2.5.

2.3 The Intervention

The demonstration evaluated the offer of free homebuyer education and counseling. **Homebuyer education** is instruction in buying a home and financial management; **homebuyer counseling** is one-on-one guidance tailored to the particular needs of the individual homebuyer.

To provide services, the study team partnered with **63 HUD-approved local housing counseling agencies** across 28 large metropolitan areas throughout the United States. These local agencies delivered in-person homebuyer education in group workshops and in-person homebuyer counseling in one-on-one, face-to-face sessions. The study team partnered with **two HUD-approved national agencies** to provide remote services—that is, online education and telephone-based counseling.[20]

All agencies participating in the study—whether they provided in-person or remote services—adhered to the **National Industry Standards (NIS) for Homeownership Education and Counseling**.[21] For homebuyer education, the NIS do not dictate a specific curriculum; rather they provide core topic areas to be covered. Exhibit 2.4 displays these five topic areas and elaborates on their content. The NIS suggest that 8 hours of education are required to adequately cover the content, though the minimum is 4 hours. The topics suggested are extensive, and whether they can be adequately taught in 4 or even 8 hours may be open to question.

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[19] DeMarco et al. (2017) report a baseline balance test, confirming that this is indeed the case. Additionally, appendix section A.7 reports on the balance between treatment group and control group members who responded to the Long-Term Follow-Up Survey, which is the sample used to estimate impacts on outcomes constructed from the survey.

[20] The two national agencies were eHome America, which provided online homebuyer education, and ClearPoint Credit Counseling Solutions, which provided telephone counseling.

[21] The demonstration's selection of HUD-approved agencies that adhere to the NIS and are HUD approved ensured that the intervention services provided through the study were reasonably consistent in structure and content and were administered by programs reviewed by HUD to meet quality standards. The study's Baseline Report (DeMarco et al., 2017) and chapter 3 in its Short-Term Impact Report (Peck et al., 2019) provide additional detail on the intervention's implementation and operations, as well as participants' experiences with services and the housing market conditions in which the demonstration took place.

Exhibit 2.4: National Industry Standards, Homebuyer Education's Core Content

Assessing Readiness to Buy a Home	
• Pros and cons of homeownership	• Housing affordability
• Home purchase process	• "4 Cs" of credit
Financing a Home	
• How a lender decides whether or not to lend	• Steps in the mortgage loan process
• Housing affordability and qualification	• Loan application and approval process
• Sources for mortgage loans	• Common lending documents
• Predatory loans and how to avoid them	• What to do if the loan is denied
• Types of mortgage loans	• Closing process
• Special financing products	
Shopping for a Home	
• The homebuying team	• Negotiating tips
• Real estate professionals	• The purchase contract
• Types of homes and ownership	• Inspections
• How to select a home and neighborhood	• Escrow and closing process
• How to make an offer	
Budgeting and Credit	
• Importance of goal setting	• Understanding credit and how to protect credit ratings
• Tracking expenses	• Credit bureaus, reports, and scores
• Setting up a spending plan	• How to fix credit problems
• Budgeting and saving tips	• Debt management tips
• Importance of good credit	
Maintaining a Home and Finances	
• How to maintain and protect a home after moving in	• Community involvement
• Home safety and security	• Record keeping
• Energy efficiency	• Taxes
• Preventive maintenance	• Insurance
• Home repairs and improvements	• What to do if you can't make a payment
• Working with a contractor	• Predatory lending and other financial pitfalls

Source: National Industry Standards for Homeownership Education and Counseling

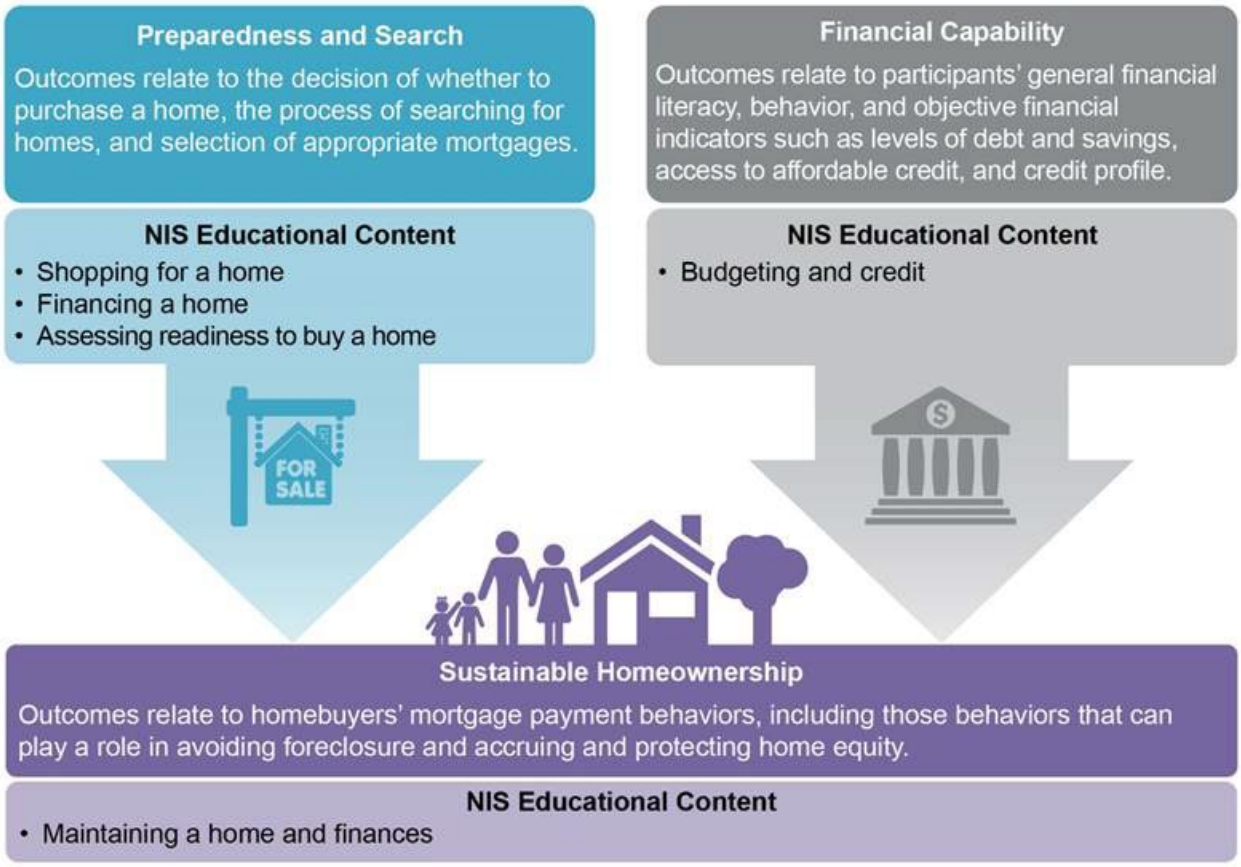
For homebuyer counseling, the NIS suggest 30 to 60 minutes of individualized counseling, including, at a minimum, the following activities: (1) intake; (2) needs assessment; (3) review of income, expenses, debt, credit report, budget, and savings; (4) housing affordability analysis; (5) action plan; (6) referrals as needed; (7) delinquency prevention counseling; and (8) followup. Although initial counseling may take only an hour, customized followup, which seems ideal to helping people navigate their own situation, likely requires more time.

In theory, teaching prospective homebuyers on these topics and counseling them following the NIS should enhance their outcomes related to (1) the decision of whether to purchase a home, the process of searching for homes, and selection of appropriate mortgages; (2) general financial literacy, behavior, and objective financial indicators such as levels of debt and savings, access to affordable credit, and credit profile; and (3) mortgage payment behaviors,

including those behaviors that can play a role in avoiding foreclosure and accruing and protecting home equity.

Exhibit 2.5 shows how the outcome domains align with the NIS and content of the intervention.

Exhibit 2.5: Alignment of Outcome Domains with NIS Educational Content



2.4 Service Take-up and Completion Rates

Treatment group members were offered the study's free homebuyer education and counseling services; of them, 55.1 percent took up services—that is, they used either some or all of the education curriculum and one-on-one counseling (exhibit 2.6). One-fourth (25 percent) completed all of the offered services.

The take-up rates and completion rates differed meaningfully by service mode, with both rates being higher for those offered remote services. Almost two-thirds of those offered remote services (63.8 percent) took up online education and telephone counseling. In contrast, about one-quarter (28.1 percent) of those offered in-person services took up an in-person education workshop and in-person counseling. In both treatment groups, about half of those who took up services completed all services by completing the entire education curriculum and also meeting with a counselor.

Exhibit 2.6: Take-up and Completion Rates, by Offer of In-Person or Remote Services

	Sample Size	Took Up Any Services (%)	Completed All Services (%)
Offered in-person services	804	28.1	14.7
Offered remote services	2,513	63.8	28.5
Full treatment group	**3,317**	**55.1**	**25.2**

Note: Treatment group members who withdrew from the study are excluded (n=79).

Sources: Take-up data from eHome America, ClearPoint, and local housing counseling agencies

Personal Characteristics that Predict Participation

Moulton et al. (2018) explored whether a wide range of measures (including study participants' demographics, attitudes and beliefs, housing arrangements, financial capability and knowledge, and creditworthiness) predict take-up and completion of the homebuyer education and counseling services offered through this study. That report found the following:

- **Women were more likely to participate** in homebuyer education and counseling services.
- **Those with relatively greater education were more likely to participate** in homebuyer education and counseling services.
- Race or ethnicity, age, marital status, and household size were not statistically significant predictors of participation in homebuyer education and counseling services.

2.5 Impact Analyses

This section summarizes the data analysis used to answer the evaluation's questions about the impacts of homebuyer education and counseling overall, by service delivery mode, and for subgroups.

2.5.1 Overall Impacts

To estimate the impact of homebuyer education and counseling services, we compared overall treatment group mean values versus control group mean values. Given the study's experimental research design, if the treatment group members had statistically different outcomes from the control group members, then the *difference* was the *causal impact* of being offered homebuyer education and counseling services.

The study findings reported in the following chapters consider two types of impacts:

- ***Intent-to-treat (ITT) impact*:** The impacts of being *offered* homebuyer education and counseling. The ITT impact is the impact of the offer of services for the entire treatment group, whether or not they took up services.[22]

[22] Additional detail on how ITT estimates are computed appears in the textbox **Calculating Impact Two Ways** and appendix section A.2.

- ***Treatment-on-the-treated (TOT) impact*:** The impacts of *taking up* the offer of homebuyer education and counseling. The TOT impact is the impact of services on those who actually took up services, whether or not they completed them.[23]

As the textbox **Calculating Impact Two Ways** below further details, the statistical significance of a TOT impact is the same as that of an ITT impact; it is just the magnitude that differs between the two. Both estimates are policy-relevant, but perhaps to a slightly different set of stakeholders. National policymakers and lenders likely would be more interested in the ITT impact (*Is referring people to these services an effective strategy?*). Service providers are more likely interested in the TOT impact (*Are our services effective?*). At the end of this section, the textbox **How to Read the Impact Exhibits in This Report** explains how readers should interpret the impact information summarized here and then later presented in exhibits in several later chapters.

[23] Additional detail on how TOT estimates are computed appears in the textbox **Calculating Impact Two Ways** and appendix section A.3.

Calculating Impact Two Ways: Understanding Intent-to-Treat (ITT) versus Treatment-on-the-Treated (TOT)

This study reports two kinds of impact estimates: the "intent-to-treat" (ITT) impact and the "treatment-on-the-treated" (TOT) impact, each of which is relevant to a different question. The ITT provides an estimate of the impact of being *offered* homebuyer education and counseling services, regardless whether those treatment group members did or did not take up services. In contrast, the TOT provides an estimate of the impact of actually *taking up* services. Of those offered services, 55.1 percent of treatment group members took up that offer and used the study's set of services; the other 44.9 percent did not take up the offered services (the no-shows).

Intent-to-Treat (ITT) Impacts

Because the treatment and control group members were assigned to their groups randomly, we can assume that the only systematic difference between the groups is that the treatment group members were offered the opportunity to participate in the study's services. As is standard practice, the study confirmed analytically that the treatment and control groups were otherwise similar. The analysis also used baseline characteristics of the sample members in the multiple regressions that produce the outcome estimates, a technique that increases the precision of the estimates.

Because of the random assignment to treatment and control groups, we can conclude that any difference between the outcomes of the treatment group and the control group that passes a test of statistical significance was *caused* by the offer of services. We calculate the impact of making those services available as the mathematical *difference between the treatment group's mean outcome and the control group's mean outcome*. For example, any difference between the treatment group's average rate of preparing and monitoring a budget and the control group's average rate would be *caused* by the intervention.

This mathematical difference in mean outcomes between *all* the treatment group members (whether they took up the services or not) versus the control group is called the "intent-to-treat" (ITT) impact. ITT analysis is meant to capture the combined impact of both the degree to which individuals decide to use services and the effectiveness of those services for those who actually use them. In this study, we can interpret the ITT estimate as the causal impact of making homebuyer education and counseling services *available* but not mandatory.

Treatment-on-the-Treated (TOT) Impacts

The "treatment-on-the-treated" (TOT) impact describes the impact the intervention had on only those individuals who took up services. Therefore, the TOT estimate could be especially relevant for programs interested in understanding their impacts on clients who use their services. In addition, the TOT impact is relevant to understanding the impact of policies or programs that require prospective homebuyers to participate in homebuyer education and counseling services—for example, as a condition of mortgage loan approval—as opposed to simply making those services available.

One way to compute the TOT estimate is to divide the ITT estimate (i.e., the difference between the average outcome for the treatment and control groups) by the treatment group's take-up rate. To ascertain the TOT estimate's statistical significance, the standard error is also divided by the take-up rate (Bloom, 1984). In practice, we used two-stage least squares regression to compute the TOT estimate, controlling for baseline characteristics.[a] In carrying out this analysis, we assumed that there is no impact on treatment group members who did not take up the intervention's services ("no-shows") and that there are no "crossovers" (control group members who somehow received some of the Demonstration's homebuyer education and counseling services).[b] Given these assumptions, we can interpret the TOT estimate as the causal impact of taking up homebuyer education and counseling services.

Note: Because take-up rates vary by subgroup, TOT analysis is possible only for the full sample.

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Calculating Impact Two Ways (Continued)

What This Means for Interpreting the Study's Impact Findings

Importantly, the *sign* of the ITT and TOT estimates (i.e., whether the impact is positive or negative, or favorable or unfavorable) will always be the same, and the level of *statistical significance* of the ITT and TOT estimates will also generally be the same. What will differ is the *magnitude* of the TOT estimate, because the TOT estimate will always be greater than the ITT estimate. This is because ITT analysis distributes any treatment-control difference in outcomes over *all* treatment group members, whereas the TOT analysis distributes that difference over only the *subset* of treatment group members who take up services.

In this report, the discussion regarding the *pattern* of results for any finding—for example, whether a particular impact is favorable or unfavorable—is based on the sign and statistical significance level of that finding, which are essentially the same for the ITT and the TOT estimate. When reporting *magnitude*, we start with the ITT estimate, because it is purely experimental. Having successfully executed random assignment, the study's ITT estimates reflect *causal* impacts of being offered the intervention's services. TOT results, by contrast, are not purely experimental, in that they require the assumption that there is no effect of the intervention on no-shows and no crossovers. When that assumption is credible (as is the case in this study), we also can have confidence in the quality of the TOT estimates to represent the impacts of the intervention on those who took up services. When reporting the overall impact of the intervention and delivery mode effects, we report both ITT and TOT estimates to let readers decide which magnitude is of greater relevance to them, based on their comfort level with the no-show assumption's plausibility.

Where to Find More Information

Interested readers can find additional information related to the computation and presentation of ITT and TOT estimates in this report:

- Additional detail on how ITT estimates are computed appears in appendix section A.2.
- Additional detail on how TOT estimates are computed appears in appendix section A.3.
- Appendix C reports overall impacts, including ITT and TOT estimates.
- Appendix D reports effects by mode (remote versus in-person service delivery), including ITT and TOT estimates.

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[a] See appendix A (section A.3) for a detailed description of the regression framework used to compute the study's TOT estimates.

[b] We believe it is plausible that the intervention had no effect on those who did not take up services. Additionally, there were multiple barriers to control group members accessing the same homebuyer education and counseling services offered to treatment group members, making crossovers unlikely, as elaborated in appendix A section A.3.

2.5.2 Mode Effects

In addition to estimating the overall impact of housing counseling and education, this report also estimates impacts *by service delivery mode.*

- The impact of *in-person* homebuyer education and counseling services was computed as the difference in mean outcomes between the subset of the treatment group offered in-person services and their control group counterparts.
- The impact of *remote* homebuyer education and counseling services was computed as the difference in mean outcomes between the subset of the treatment group offered remote services and their control group counterparts.

- We assessed whether the difference between the two computed impacts was statistically significantly different from zero.

Chapter 8 reports these mode effect results. Because calculation of the mode-specific impacts used only a portion of the study sample (subsets of the treatment group), those impacts are harder to detect than are the overall impacts of homebuyer education and counseling.

2.5.3 Subgroup Impacts

The analysis also estimated the impacts of homebuyer education and counseling for *subgroups* defined by study participants' *baseline* demographic and socioeconomic characteristics and by area housing affordability.[24] With input from HUD and the study's expert advisors, we identified 17 subgroups before beginning the analysis. Findings related to particular subgroups could help policymakers and practitioners understand how the impacts of homebuyer education and counseling might vary by context and personal characteristics, which could help identify strategies for improving services.

We analyzed the subgroup impacts by pooling all of the sample with the identified subgroup characteristic in either treatment group and then comparing the mean outcome versus those in the control group with that subgroup characteristic. We report only ITT impacts for subgroups with the goal of focusing the presentation and discussion on those impacts where there is a difference in impacts between the subgroups of interest. The same observation about the sample sizes for modes applies to subgroups: it is more difficult to detect statistically significant impacts for groups that are smaller. Where there was systematic evidence of impact differentials between subgroups, we report those results in the main report and executive summary, as appropriate. Complete subgroup results appear in appendix E.

[24] Experimental impact analysis for subgroups requires that subgroups be defined by baseline characteristics observed at the time when study participants were randomly assigned to treatment and control groups.

How to Read the Impact Exhibits in This Report

As an example, the sample table below presents the impact of homebuyer education and counseling services on a measure of whether study participants were confident in their ability to find information needed about the homebuying process. The table reports the mean level of the outcome for both the treatment group and the control group: 72 percent of the treatment group and 68 percent of the control group were confident in their ability to find information needed about the homebuying process.

The *difference* between the two mean outcomes is the detected **impact of being *offered* homebuyer education and counseling services**. The table's "Impact of Being Offered Services" column, reporting the intent-to-treat (ITT) estimate, shows that the treatment group was 3.7 percentage points more likely than the control group to say they were confident in their ability to find information needed about the homebuying process. We also report the detected **impact of *taking up* homebuyer education and counseling services.** The table's "Impact of Taking Up Services" column, reporting the treatment-on-the-treated (TOT) estimate, shows that those in the treatment group who actually participated in homebuyer education and counseling services were 6.0 percentage points more likely than the control group to say they were confident in their ability to find information needed about the homebuying process.[a]

Detected impacts marked with one or more asterisks are statistically significant, indicating that it is unlikely that the impact was due to chance. The number of asterisks indicates whether the impact is statistically significant at the 10 percent (*), 5 percent (**), or 1 percent (***) level. The more asterisks, the less likely the finding was due to chance. In the sample table below, the impact is statistically significant at the 1 percent level.

Sample Table. Overall Impact of the Demonstration's Homebuyer Education and Counseling on Ability to Find Information Needed about the Homebuying Process

Outcome	Treatment Group Mean	Control Group Mean	Impact of Being Offered Services	Impact of Taking Up Services
Study participant was confident in ability to find information needed about the homebuying process (%)	71.9	68.2	3.7***	6.0***

Notes: Due to rounding, reported impacts (T-C differences) may differ from differences between reported regression-adjusted means for the treatment and control groups. Sample includes study participants with nonmissing outcome data.
Statistical significance levels for two-sided tests are indicated with asterisks as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.

Appendix A provides technical details related to the analytic methods used to estimate the impacts reported in chapters 4, 5, 6, 7, 8, and 9. Appendix B provides additional detail on the construction of measures, including outcomes, covariates used to improve the precision of the estimates, and subgroup identifiers.

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[a] Because take-up of services was less than 100 percent, the TOT estimate will always be larger in magnitude than the ITT estimate. The two estimates will always have the same sign and will generally have the same level of statistical significance. Additional detail on how TOT estimates are computed appears in the textbox **Calculating Impact Two Ways** and appendix section A.3.

2.6 Data Sources

The study used the following primary and secondary data sources in its analyses:

- ***Surveys of study participants,*** a baseline survey administered as part of the study's intake process and two followup surveys administered by telephone with in-field followup:
  - The baseline survey captured the characteristics of study participants at the time of study enrollment.
  - The Short-Term Follow-Up Survey captured outcomes observed approximately 12 to 18 months after random assignment.[25]
  - The Long-Term Follow-Up Survey captured outcomes observed approximately 4 to 6 years after random assignment.[26]
- ***Credit data on study participants*** from a national credit bureau. The study team collected credit bureau data every 2 months during the enrollment period to capture study participants' baseline credit attributes 0 to 2 months prior to their enrollment in the study. We then collected credit bureau data every 6 months during the followup period to capture outcome measures for the impact analyses. Similar to the Long-Term Follow-Up Survey data, long-term credit data captured study participants' outcomes between about 48 and 72 months—or approximately 4 to 6 years—after random assignment.[27]
- ***Loan origination and servicing data*** from participating lenders and the Federal Housing Administration. These data were collected on the same schedule as followup credit data, capturing study participants' outcomes 48 to 72 months—or approximately 4 to 6 years—after random assignment.
- ***Treatment group participation data*** from eHome America, ClearPoint, and the 63 local housing counseling agencies. These data captured whether study participants took up and completed homebuyer education and counseling services within 12 months of enrolling in the study. We used this data source to identify participation, which we used to compute the estimated TOT impacts.

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[25] Among the 79 percent of the study sample who replied to the Short-Term Follow-Up Survey, 93 percent replied between 12 and 18 months after the month they were randomly assigned. The average was 13.2 months after random assignment, and the median was 13 months. Exhibit B.1 in the Short-Term Impact Report (Peck et al., 2019) provides more detail on the timing of study participants' responses to the survey.

[26] Among the 72 percent of the study sample who replied to the Long-Term Follow-Up Survey, 95 percent replied between 48 and 72 months after the month they were randomly assigned. The average was 59 months after random assignment, and the median was also 59 months. This report's appendix B (exhibit B.1) provides more detail on the timing of study participants' responses to the long-term survey.

[27] Credit bureau data on housing outcomes and loan performance from these followup extracts cover 92.8 percent of the study sample and provide outcome measures for the impact analyses. We observed study participants' credit bureau data an average of 59 months after random assignment, with a median of 58 months.

2.7 Outcomes

We used the study's data sources to construct the study's outcome measures, which we used to assess the impact of homebuyer education and counseling.

Our assessment of the topics and activities covered in homebuyer education and counseling suggested that homebuyer education and counseling should affect outcomes in three domains. We identified a total of 40 outcomes for analysis across these three domains:

- The *preparedness and search* domain had six outcomes related to the decision of whether to purchase a home, the process of searching for homes, and selection of appropriate mortgages.
- The *financial capability* domain had 21 outcomes: 6 related to participants' general financial literacy (i.e., knowledge and skills) and behaviors, and 15 indicators of objective financial indicators, such as levels of debt and savings, access to affordable credit, and credit profile.
- The *sustainable homeownership* domain had 13 outcomes related to homebuyers' mortgage payment behaviors, including behaviors that can play a role in avoiding foreclosure and accruing and protecting home equity.

A large number of outcomes leads to a high risk of "false positives"—that is, that the impact estimate on at least one outcome will appear as statistically significant purely as a result of chance.[28] To mitigate this problem, we divided outcomes into three categories prior to conducting any analysis. First, in consultation with HUD and the project's expert panel, we identified two outcomes as being particularly critical to the study—these ***confirmatory outcomes*** serve as the most important outcomes of interest for the study:[29]

- Participants' credit score (in the financial capability domain).
- 60-day delinquency rate (in the sustainable homeownership domain).

Next, we identified ***secondary outcomes***. These outcomes are less critical than confirmatory outcomes but are still important for understanding the impact of homebuyer education and counseling. An example of a secondary outcome is whether the study participant purchased a home—an important outcome, but one that does not necessarily unambiguously reflect the "success" of the intervention.[30]

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[28] For example, if 10 hypothesis tests are conducted using a significance level of 0.10, then the probability of detecting at least one statistically significant result due to chance is 65 percent.

[29] Common practice dictates that statistical tests for *multiple* confirmatory outcomes in any given domain should be adjusted to account for that multiplicity. Given that the confirmatory outcomes are in different domains, we do not need to make a statistical adjustment.

[30] If effective, homebuyer education and counseling could enhance the ability of participants to purchase homes, but it might also make some participants rethink whether homeownership is something they want to pursue. As a result, an "effective" intervention could have a positive or a negative impact on purchase rate.

The remaining outcomes are ***exploratory outcomes.*** Exploratory outcomes are of two types: (1) alternative specifications of secondary outcomes; and (2) additional outcomes of interest that are less directly (or more ambiguously) tied to the logic of the intervention but still might be influenced by the program. An example of an exploratory outcome is whether the study participant usually had enough money saved to cover three months of expenses. This outcome was deemed exploratory because the intervention does not necessarily teach this type of "good practice" in financial management and the outcome does not directly affect a credit score.

We conducted an overall impact analysis for all confirmatory, secondary, and exploratory outcomes. However, we conducted *mode-specific* and *subgroup analyses* only for confirmatory and secondary outcomes. By decreasing the number of impact analyses performed, we were able to protect the integrity of the interpretation of statistical tests. We imposed an additional control on how we interpreted the results of the analysis. For both the mode effect and subgroup impacts, the report discusses and interprets impacts only when there is a *pattern* of detectable between-group impact differences.[31]

Findings that we report at the beginning of each chapter as "key findings" include those that have a confirmatory or secondary level of evidence or are essential to interpreting the results of the confirmatory and secondary findings. Exhibit 2.7 lists all of the outcomes examined in this analysis of long-term impacts, along with their outcome classification designation (i.e., confirmatory, secondary, or exploratory).

Exhibit 2.7: Outcomes for Long-Term Impact Analysis, by Outcome Domain

Outcome Label	Data Source(s)	Outcome Classification
Panel A: Preparedness and Search		
Study participant was confident in ability to find information needed about the homebuying process (%)	Long-Term Follow-Up Survey	Secondary
Study participant purchased a home (%)	Long-Term Follow-Up Survey; credit bureau data; lender data; FHA data	Secondary
Study participant was very satisfied with the homebuying process (%)	Long-Term Follow-Up Survey	Secondary
Study participant was satisfied with decision to buy or rent (%)	Long-Term Follow-Up Survey	Secondary
Number of lenders from which the study participant received price quotes	Long-Term Follow-Up Survey	Exploratory
Study participant was satisfied with the process of obtaining a mortgage loan (%)	Long-Term Follow-Up Survey	Exploratory
Panel B: Financial Capacity (Financial Knowledge, Behaviors, and Skills)		
If in financial difficulty, the study participant would contact lender for assistance prior to missing a mortgage payment (%)	Long-Term Follow-Up Survey	Secondary

[31] An example of a pattern would be that 5 or more of 24 possible outcomes show statistically different impacts for different service delivery modes. Appendix section A.8 further describes our approach to hypothesis testing and how we address the multiple comparison challenge.

Outcome Label	Data Source(s)	Outcome Classification
If in financial difficulty, the study participant would contact counseling agency, consumer credit counseling agency, or other nonprofit organization for assistance prior to missing a mortgage payment (%)	Long-Term Follow-Up Survey	Secondary
Financial skill score (ranges from 0 to 100)	Long-Term Follow-Up Survey	Secondary
Study participant knows how to correct inaccurate information in credit report (%)	Long-Term Follow-Up Survey	Exploratory
If study participant started having financial problems and could not pay all of the bills, the study participant would pay mortgage first (%)	Long-Term Follow-Up Survey	Exploratory
Regularly required mortgage payment is automatically deducted from a bank account (%)	Long-Term Follow-Up Survey	Exploratory
Panel C: Financial Capability (Financial Indicators)		
Credit score (range is 300 to 850), as of December 2019	Credit bureau data	**Confirmatory**
Study participant has a credit score greater than or equal to 620, as of December 2019 (%)	Credit bureau data	Secondary
Financial well-being score (ranges from 0 to 100)	Long-Term Follow-Up Survey	Secondary
Total nonhousing debt ($)	Credit bureau data	Secondary
Student loan debt ($)	Credit bureau data	Secondary
Total consumer debt (all debt besides housing and student loan debt) ($)	Credit bureau data	Exploratory
Credit card debt ($)	Credit bureau data	Exploratory
Total monthly debt-to-income ratio (back-end ratio)	Credit bureau data; Long-Term Follow-Up Survey	Secondary
Total monthly debt-to-income ratio exceeds 0.43 (%)	Credit bureau data; Long-Term Follow-Up Survey	Exploratory
Student loan 30-day delinquency indicator (%)	Credit bureau data	Secondary
Bankruptcy or repossession due to nonhousing debt (%)	Credit bureau data	Exploratory
Study participant occasionally does not have enough money to cover all bills at the end of the month (%)	Long-Term Follow-Up Survey	Exploratory
Total savings and investments ($)	Long-Term Follow-Up Survey	Exploratory
Study participant could come up with $2,000 in 30 days if an unexpected need arose within the next month (%)	Long-Term Follow-Up Survey	Exploratory
Study participant usually has enough savings set aside to cover 3 months of expenses (%)	Short-Term Follow-Up Survey	Exploratory
Panel D: Sustainable Homeownership		
Ever 60 days delinquent (%)	Credit bureau data; lender data; FHA data	**Confirmatory**
Ever 30 days delinquent (%)	Credit bureau data; lender data; FHA data	Secondary
Ever 90 days delinquent (%)	Credit bureau data; lender data; FHA data	Secondary
Ratio of monthly housing costs to monthly income	Long-Term Follow-Up Survey	Secondary
Study participant described the condition of current home/apartment as good or excellent (%)	Long-Term Follow-Up Survey	Secondary

Outcome Label	Data Source(s)	Outcome Classification
Study participant is satisfied with current neighborhood (%)	Long-Term Follow-Up Survey	Secondary
Study participant is confident in ability to make housing payments over the next 6 months (%)	Long-Term Follow-Up Survey	Secondary
Monthly housing costs exceed 30 percent of monthly income (%)	Long-Term Follow-Up Survey	Exploratory
Monthly housing costs exceed 40 percent of monthly income (%)	Long-Term Follow-Up Survey	Exploratory
Study participant obtained a mortgage loan and is satisfied that it has the best terms to fit needs (%)	Long-Term Follow-Up Survey	Exploratory
Since purchasing home, study participant has made *additional* payments (beyond scheduled monthly payments) toward mortgage loan balance (%)	Long-Term Follow-Up Survey	Exploratory
Study participant indicated that home needs repairs or maintenance that the study participant cannot afford to make right now (%)	Long-Term Follow-Up Survey	Exploratory
Study participant keeps track of and does regular maintenance needed to prevent larger expenses down the road (%)	Long-Term Follow-Up Survey	Exploratory

FHA is Federal Housing Administration.
Note: Appendix A provides detail on how missing data were handled and on the use of survey nonresponse weights. Appendix B, exhibit B.5 provides additional detail on how each outcome was constructed and each outcome's mean, standard deviation, and the number of nonmissing observations.

2.8 Limitations

Given the experimental design of this study, we are confident that the impacts presented in this report have strong *internal validity*—that is, they are not biased by variation between the characteristics of those study participants offered homebuyer education and counseling and those assigned to the control group. However, the programmatic and policy implications of the findings also are influenced by the study's *external validity*—that is, the degree to which they can be generalized beyond the intervention, population, and setting of this study. First, the findings are limited to the *specific* first-time homebuyer education and counseling programs analyzed in this study. Findings should not be extrapolated to other *types* of housing counseling and education, such as rental assistance or foreclosure prevention, or to prepurchase first-time homebuyer education and counseling programs that are materially different than those studied here.[32] The study population, though diverse along many dimensions, is distinctive, as well: participants came into the study by way of a referral from one of three major national lenders rather than as people seeking out and securing or being required to participate in homebuyer education and counseling services. The study also took place under specific housing and credit market conditions, which we describe in chapter 3.

[32] Testing for HUD's Housing Counseling Certification became available in 2017, after our study participants would have completed their education and counseling. Such testing may have had a material impact on the quality of housing counseling services, for example, by enhancing the knowledge and skills of counselors.

2.8.1 Generalizability of Findings

This study's findings will be most relevant to populations that are similar to the study sample at baseline: low- to moderate-income households that have contacted one of three major national banks about acquiring a mortgage for a first-time home purchase. The findings may not carry over for groups who differ in meaningful ways from this study sample. For example, one key aspect of our sample is that participants were recruited through lenders *after* they reached out for information about a mortgage—as a result, a sizeable number of our participants were fairly far along in the homebuying process when they were enrolled in the study. The impact of the intervention may be different for individuals who seek counseling before reaching out to lenders or who are at earlier stages of the homebuying process.

Still, the study sample includes a large number of participants who vary in their sociodemographic composition and were recruited across 28 large metropolitan areas. Therefore, the study findings provide important evidence on the effectiveness of homebuyer education and counseling for a robust sample with characteristics that reflect a sizeable share of the population of low- to moderate-income prospective first-time homebuyers.[33]

Similarly, the findings presented should be interpreted within the context of the housing, labor, and credit markets in which the demonstration took place. We discuss this in greater detail in chapter 3.

2.8.2 Statistical Power

Although the study is adequately powered to detect *overall* impacts of modest magnitude, there is a higher threshold—that is, the magnitude of the impact has to be bigger—for detecting a statistically significant impact for each subgroup and for each service delivery mode independently, simply because of the smaller sample sizes available for estimating subgroup and service mode effects. It is also more difficult to detect statistically significant impacts for in-person services than for remote services because the sample size available for estimating the impact of in-person services is smaller. Similarly, it is more difficult to detect a statistically significant impact on subgroups because these subgroups are based on a smaller sample than is available for estimating overall impacts.

Two reasons explain why we might not detect an impact on a given outcome. First, the null hypothesis might be true—that is, there might simply not be an impact. Second, there could be an impact but one that is smaller than we can detect given the study design and available data. Understanding the minimum detectable effect (MDE) is helpful for understanding impacts that are not statistically significant (see the textbox **Understanding Null Effects**). Therefore, we do not interpret impacts that are not statistically significantly different from zero as evidence of "no

[33] For further discussion of the external validity of the Demonstration's sample, see chapter 5 of the Demonstration's Baseline Report (DeMarco et al., 2017).

impacts." Rather, we use the interpretation that there are "no detectable impacts" because there might be smaller impacts than this study is powered to detect.

Understanding Null Effects: Minimum Detectable Effects and Why They Matter

There are two reasons why we might not detect an impact on a given outcome. First, the null hypothesis might be true—that is, there might simply not be an impact. Alternatively, there could be an impact that is smaller than we can detect given the study design and available data. Related to the latter, the *minimum detectable effect* (MDE) is helpful for understanding findings that are not statistically significant. MDEs indicate how large an impact needs to be in order to be detected at a given level of confidence.

MDEs are a function of a variety of factors, including:

- ***Statistical Significance Level*:** The statistical significance level is the probability of identifying a "false positive" result (also referred to as "type I error"). The MDE becomes larger as the statistical significance level decreases. In this application, we have set the statistical significance level to 10 percent, meaning that there is a 10 percent chance that we have a false positive for each hypothesis test.
- ***Statistical Power:*** The statistical power is equal to the probability of rejecting the null hypothesis if the alternative hypothesis is true (or, 1 minus the probability of a "false negative" result; "type II error"). The MDE becomes larger as statistical power increases. In this application, we set statistical power to 80 percent, meaning that there is an 80 percent chance of detecting a statistically significant impact when the alternative hypothesis is true.
- ***Variance of the Impact Estimate*:** Variance is essentially a measure of the "noisiness" of the impact estimate. The MDE becomes larger as the variance of the impact estimate increases. Because the variance of the impact estimate is inversely related to sample size, the MDE is also inversely related to sample size. The sample size varies depending on the specific subset of the full study sample used for a given analysis. For instance, the maximum possible sample size for estimating the overall impact of homebuyer education and counseling is 5,854; the sample size is 2,027 for estimating the impact of in-person services; and the sample size is 5,018 for estimating the impact of remote services (ignoring missing outcome data).

As shown in the excerpt from appendix exhibit C.1, the MDE that corresponds to the impact of being offered homebuyer education and counseling on the share of study participants who were ever 30 days delinquent is 1.3 percentage points. That is, the true impact of being offered homebuyer education and counseling on the 60-day delinquency rate needs to be at least ±1.3 percentage points to be detected as statistically significantly different from zero (at the 10-percent significance level 80 percent of the time). However, this study's estimate of the impact of being offered services on the 60-day delinquency rate is -0.5 percentage points and is not statistically significantly different from zero. It is possible that the lack of significance means that there is no real impact; however, it is also possible that there is a real impact, but it is too small to be detected.

Excerpt from Exhibit C.1: Illustration of Minimum Detectable Effects

Outcome	Treatment Group Mean	Control Group Mean	Overall Impact of Being Offered Services	Minimum Detectable Effect
Ever 60 days delinquent (%)	5.0	5.5	-0.5	1.3

Note: See full exhibit notes in appendix C, exhibit C.1.

The MDEs correspond to the impact of offering services, which is the average impact of offering homebuyer education and counseling across those who complete counseling and those who do not. If we assume that the intervention did not have an effect on the 45 percent of treatment group members who did not take-up services (the study's no-show rate), then the impact on 55 percent of study participants who took up services must be proportionally larger than the MDE to be detected as statistically significant. That is, homebuyer education and

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Understanding Null Effects: Minimum Detectable Effects and Why They Matter (Continued)

counseling would have had to reduce the 60-day delinquency rate by 2.4 percentage points for those who took up services for the study to have a reasonable chance of detecting a statistically significant effect. Given the relative infrequency with which we observe 60-day delinquencies, a 2.4 percentage point impact corresponds to a 44 percent reduction relative to the control group mean of 5.5 percent.

Given that MDEs increase as sample size decreases (all else equal), it is more difficult to detect statistically significant impacts for each service delivery mode (as distinct from the overall impact of services) simply by virtue of the smaller sample sizes available for estimating those mode effects. Similarly, it is more difficult to detect statistically significant impacts for in-person services than for remote services because the sample size available for estimating the impact of in-person services is comparatively small. Similarly, it is more difficult to detect statistically significant impacts on subgroups of the study sample (as distinct from the overall impact on the full study sample), given that lower sample sizes are available for estimating impacts on a given subgroup. Further, it is more difficult to detect impacts on subgroups with smaller sample sizes than for those with larger sample sizes.

In this report we are careful to note that for outcomes where the impacts are not statistically significantly different from zero, there are not necessarily “no impacts.” Rather, there are “no detectable impacts,” because there might be impacts that are smaller than this study is powered to detect. Appendix C reports MDEs for the overall impacts of homebuyer education and counseling, and appendix D for the in-person and remote service delivery mode effects.

3. Market Conditions and First-Time Homebuyers' Experiences

Key Findings: Market Conditions and First-Time Homebuyers' Experiences

- For most of the time period of the Demonstration (2013–20), the labor market was strong, with low unemployment and increasing earnings. In the housing market, interest rates were low, but home prices were rising and lenders had high credit standards, making qualifying for a mortgage relatively difficult.
  - These conditions may have encouraged a wide range of families and individuals—including those with low- to middle-incomes—to pursue homeownership while it also helped minimize delinquencies and defaults for those who purchased homes.
  - The Demonstration's unique housing, labor, and credit market conditions shape how we think about the impact findings.
- These conditions were reflected in the experiences of our study sample.
  - More than three out of four study participants purchased a home.
  - Those who did not purchase a home cited credit and affordability as the major obstacles.

Chapters 4 through 9 present findings on the impact of homebuyer education and counseling on a host of outcomes related to preparedness and search, financial capability, and sustainable homeownership. The study design for the demonstration—in particular its randomization of the sample into treatment and control groups—ensures that observed differences in outcomes between these groups can be attributed to the offer of education and counseling. However, those differences in outcomes are also *specific to the timeframe* in which the demonstration took place.

This chapter provides important background for the impact analysis by providing the housing and economic conditions that prevailed during the demonstration in the context of market conditions over the past two decades. We also provide some descriptive statistics for our study participants to illustrate their experiences in this market environment during this time period.

3.1 Why Market Conditions Matter

Many of the outcomes in our study—such as housing purchase decisions and mortgage performance—were dependent, at least partially, on the prevailing labor, housing, and credit market conditions in which they took place. All else equal, low levels of unemployment and rising home values decrease the likelihood of mortgage delinquency. Market conditions such as low mortgage interest rates facilitate home purchases, whereas tight credit markets make purchases more difficult.

Market conditions can also influence which individuals *seek to become* homebuyers. For example, credit markets go through cycles or phases. In tight credit markets, lenders have high

loan qualification standards, making access to mortgages more difficult.[34] When loan qualification standards are high, some people might be discouraged from applying for mortgages and, as a result, not pursue homeownership at all. In such an environment, the pool of individuals engaged in homebuying activities would be relatively highly qualified (i.e., have higher levels of savings, stronger credit).

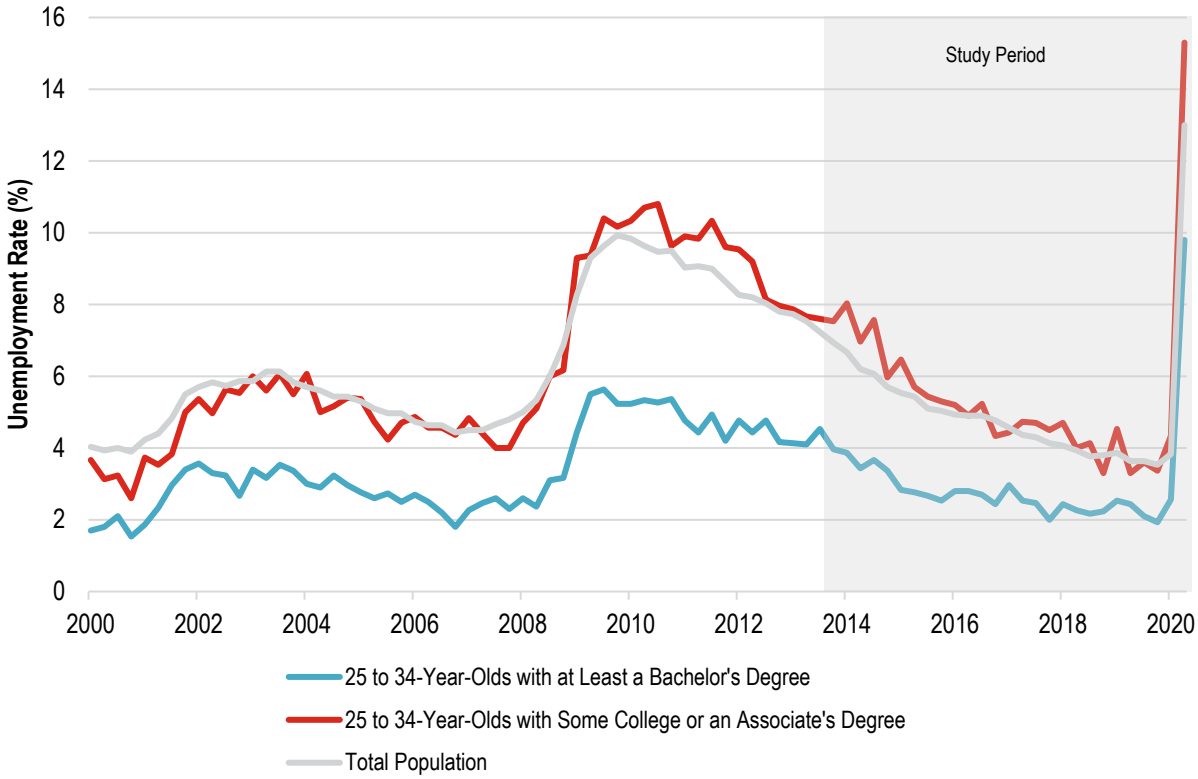
3.2 Labor Market Conditions

People who were 25 to 34 years old who had at least some college education made up the vast majority of the study sample. Exhibit 3.1 shows how the unemployment rate varied before and during the time period of the demonstration, from 2013 through the first half of 2020, for this part of the U.S. population as well as for all adults. For most of the demonstration period, the labor market was expanding, with overall unemployment under 6 percent and falling. Then, in the spring of 2020, the COVID-19 pandemic caused unemployment to skyrocket.[35]

[34] In contrast, in "loose" credit markets, lenders have lower loan qualification standards and mortgages are more readily available.

[35] Between March and April 2020, the unemployment rate increased from 4.4 percent to 14.7 percent, the largest increase on record. Ordinarily, unemployment would be a major trigger of mortgage delinquencies and defaults. However, as part of the March 2020 Coronavirus Aid, Relief, and Economic Security (CARES) Act, Congress provided protections for homeowners who had federally backed mortgages. Approximately 70 percent of all mortgages are backed by a federal agency or a government-sponsored enterprise (Kaul and Goodman, 2020).

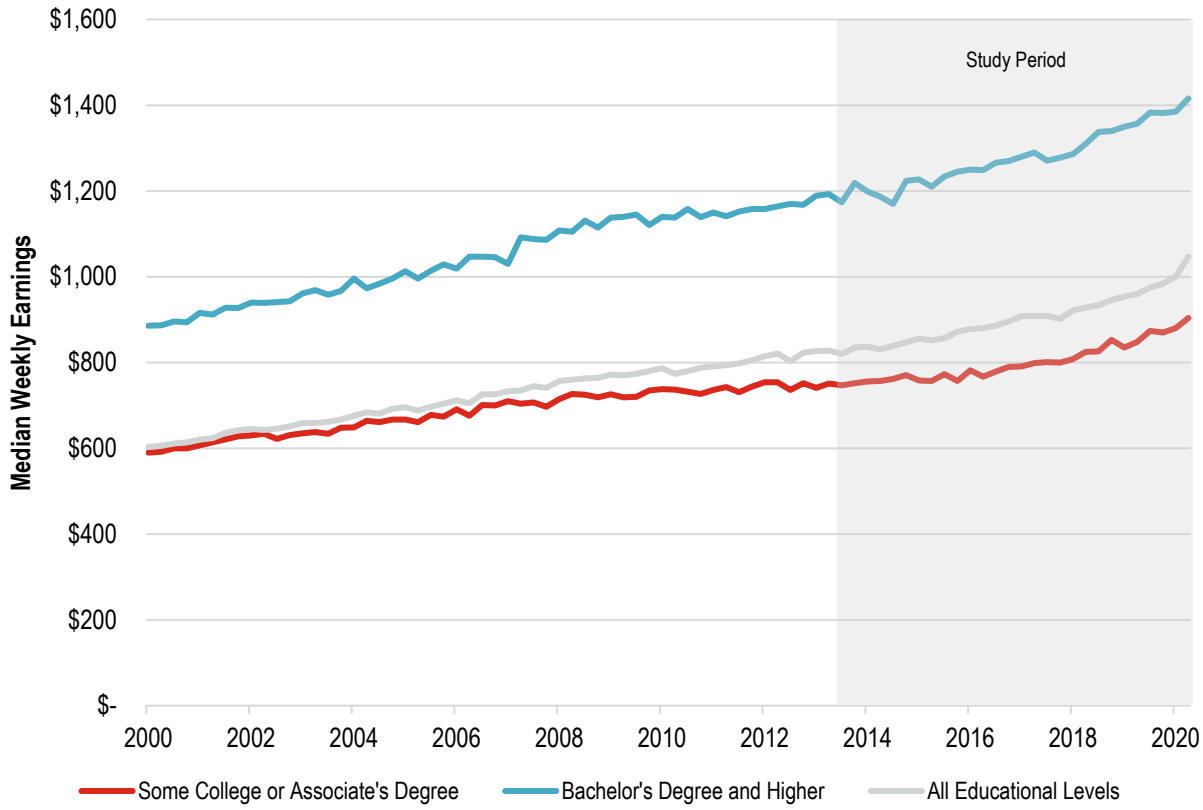
Exhibit 3.1: U.S. Unemployment Rate, 2000–2020



Notes: Quarterly averages reported. Unemployment rate for total population is seasonally adjusted. Unemployment rates for the subpopulations (25- to 34-year-olds with at least a bachelor's degree and with some college or an associate's degree) are not seasonally adjusted.
Sources: U.S. Bureau of Labor Statistics (2020a)

Overall strong and improving labor market conditions may have encouraged a wide range of people—including low-, moderate-, and middle-income households—to pursue homeownership during the demonstration period while it also helped reduce delinquencies and defaults for those who purchased homes. Since the demonstration began recruiting participants in September 2013, median weekly household earnings for all U.S. adults have increased steadily from $837 in January 2014 to $1,047 in April 2020, with similar increases for those with some college education or an associate's degree (exhibit 3.2).

Exhibit 3.2: Median Weekly Earnings of Full-Time Workers (25 years and older), by Educational Attainment, 2000–2020



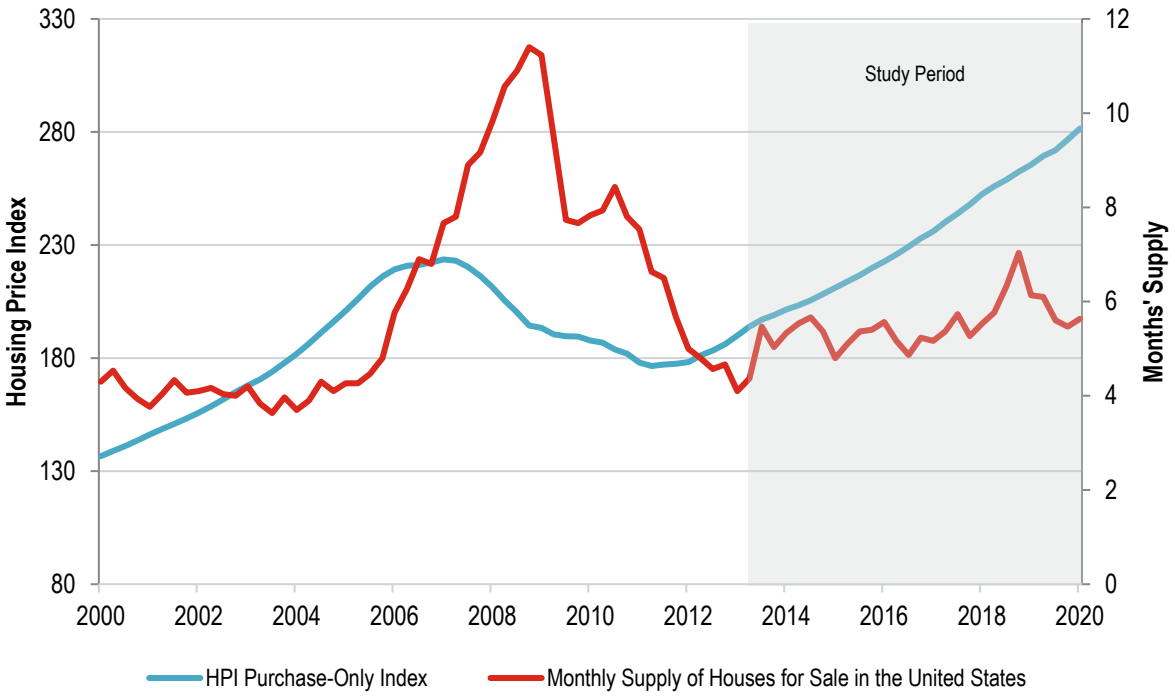
Notes: Median weekly earnings are not seasonally adjusted and are reported using quarterly averages. The Consumer Price Index for All Urban Consumers (CPI-U) was used to convert current dollars to constant (1982–84) dollars.
Source: U.S. Bureau of Labor Statistics (2020b)

3.3 Housing Market Conditions

Since the demonstration began recruiting participants in September 2013, the supply of houses for sale generally remained under the number needed to meet 6 months' worth of demand.[36] Consistent with that constrained supply, housing prices increased over the study's timeframe (exhibit 3.3). This is a similar pattern to the 2000–06 time period.

[36] Months' supply of housing is a combined measure of housing inventory on the market and the pace of home sales. As a general benchmark, a 6-month supply is considered to be a "healthy" balance between buyers and sellers. When the supply is lower, prices tend to increase; conversely, when the supply is higher, prices tend to decrease.

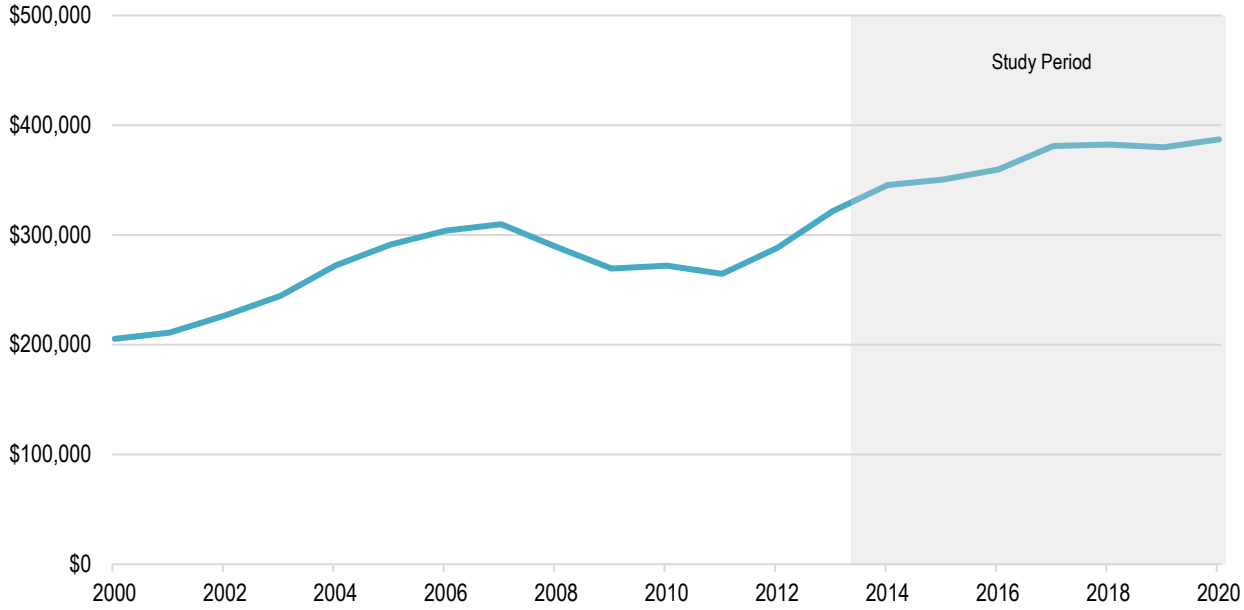
Exhibit 3.3: Federal Housing Finance Agency Housing Price Index (Purchase Only) and Months' Supply of Houses, 2000–2020



Notes: The Federal Housing Finance Agency (FHFA)'s Purchase-Only (Seasonally Adjusted) Housing Price Index (HPI), is a broad measure of the movement of single-family housing prices. It is a weighted, repeat-sales index, meaning that it measures average price changes in repeat sales on the same properties. The index is normalized to 100 in the first quarter of 1991 (FHFA, 2018).
Monthly Supply of Houses is reported in quarterly averages and is seasonally adjusted.
Sources: U.S. Census Bureau and U.S. Department of Housing and Urban Development (2020b); U.S. Federal Housing Finance Agency (2020)

However, that increase is in marked contrast to the housing crash that preceded the study, when housing prices fell precipitously, bottoming out in 2011. Therefore, during the demonstration's recruitment period (late 2013 through early 2014), potential homebuyers might have observed that the market had turned the corner and been encouraged to become homebuyers (though in the later years of the demonstration period, some people might have become discouraged by high home prices). As shown in exhibit 3.4, the average price of new homes for sale was at a historic high during the demonstration period, jumping from $346,000 in 2014 to $380,000 in 2018.

Exhibit 3.4: Average Home Prices (New Single-Family Houses), 2000–2020

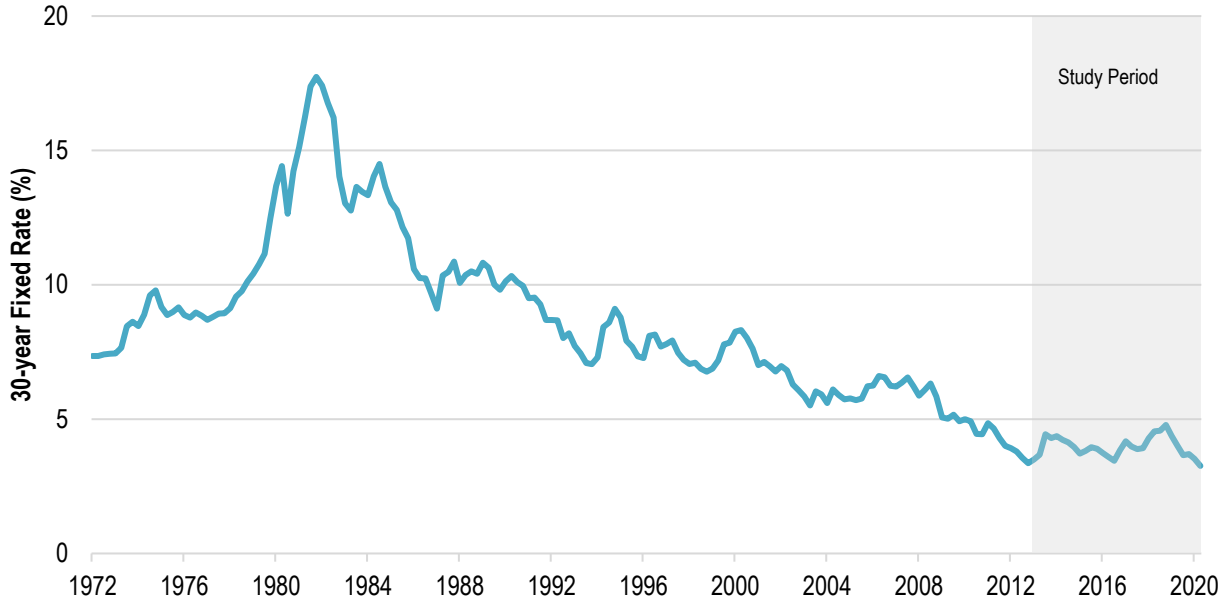


Sources: U.S. Census Bureau and U.S. Department of Housing and Urban Development (2020a)

3.4 Credit Market

During the demonstration's timeframe, interest rates were at historic lows, based on the trend in the 30-year fixed-rate mortgage (exhibit 3.5). With low rates enhancing affordability, many people might have decided to enter the homebuying market during this time.

Exhibit 3.5: Average 30-Year Fixed-Rate Mortgage for Conforming Loans, 1972–2020



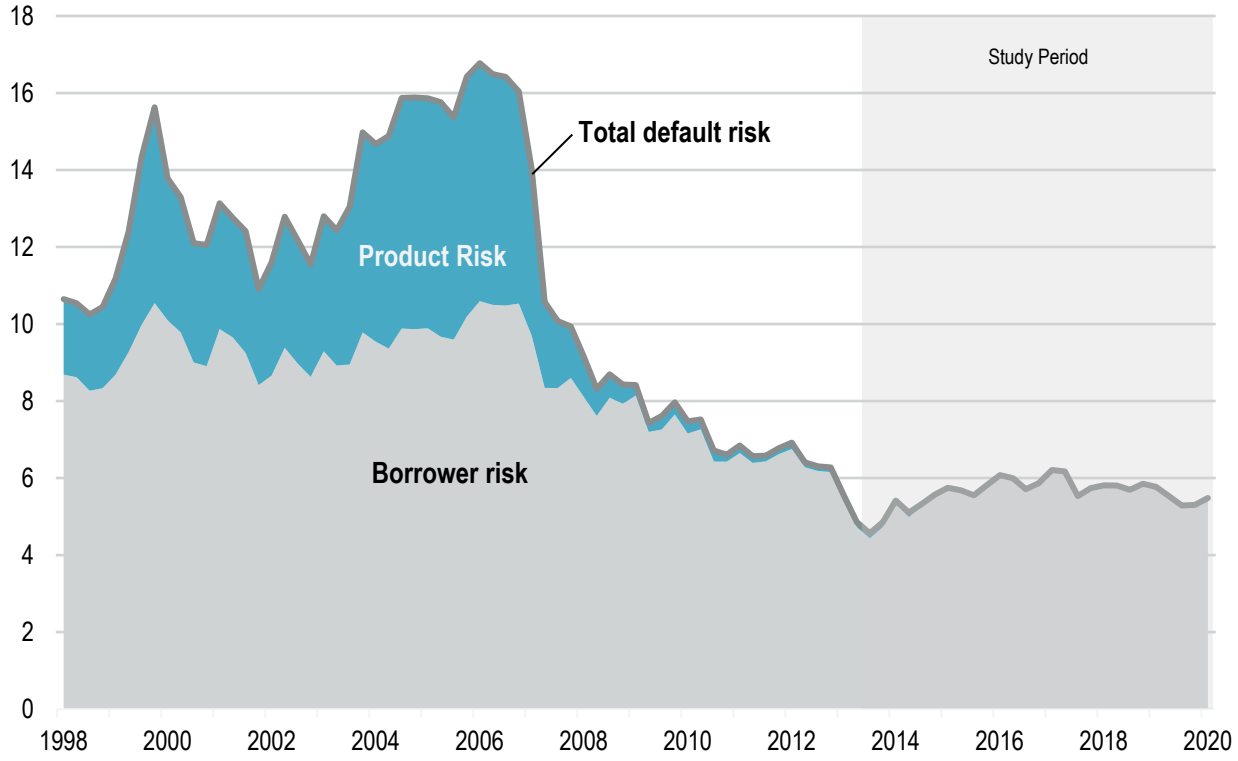
Notes: Data are not seasonally adjusted and reported using quarterly averages.
Sources: Freddie Mac (2020)

However, although low mortgage rates might have encouraged people to become homebuyers, tight loan qualification ("underwriting") standards—that is, the risk standards by which lenders judge potential borrowers—might have discouraged them. When underwriting standards are loose, lenders are willing to take bigger risks and will originate mortgages to borrowers with lower down payments or lower credit scores. Conversely, when underwriting standards are tight, lenders set higher downpayment and credit requirements.

Exhibit 3.6 presents the Urban Institute's housing credit availability index (HCAI), which measures default risk taken by mortgage lenders. Lower HCAI values correspond to tighter loan standards (i.e., lower *default risk* tolerance, as measured by factors such as credit score, loan-to-value ratio, and debt-to-income ratio), whereas higher HCAI values correspond to looser standards.[37] As the exhibit shows, during the timeframe of the demonstration, the level of borrower risk that lenders were willing to tolerate operated within a fairly narrow range and well below earlier levels. Not only were lenders less likely to approve prospective homebuyers for mortgages than during other periods, but some people might have shied away from even applying for fear of being denied. If so, the population of prospective homeowners participating in counseling may have been relatively highly qualified, with higher credit scores and lower debt-to-income ratios, compared with prospective homeowners who might have participated in homebuyer education and counseling programs during periods when credit was looser and loan qualification standards were lower.

[37] The index is decomposed into two components—the default risk comprised by *borrower risk* and the risk posed by *loan product risk*. As the exhibit demonstrates, after the collapse of the subprime market, risk tolerance fell precipitously, bottoming out in 2013. In addition, since the collapse of the subprime mortgage market and imposition of tighter loan product regulations, virtually all of the total default risk is comprised of borrower risk.

Exhibit 3.6: Housing Credit Availability Index, 1998–2020



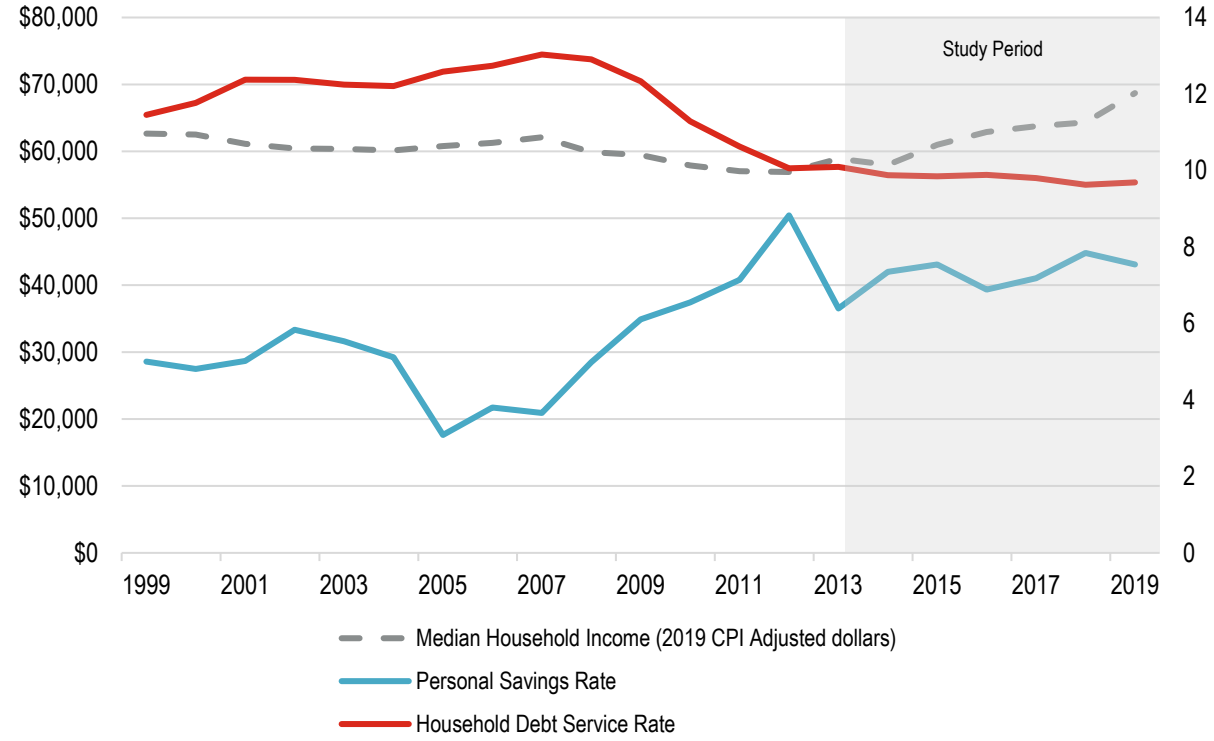
Source: Urban Institute (2020)

3.5 Household Finances

During the timeframe of the demonstration, median household income rose sharply, from $58,904 in 2013 to $68,703 in 2019 (exhibit 3.7). The average annual growth rate of 2.8 percent is in marked contrast to the 0.0-percent average annual growth in median household income between 2000 and 2007 and the -1.7-percent average annual change in median household income between 2007 and 2013.

The personal savings rate (savings as a percentage of disposable personal income) for U.S. households was also strong during the demonstration. The personal savings rate increased gradually, starting at 6.4 percent in 2013 and reaching 7.5 percent in 2019. Though these annual rates are lower overall than the decade's high of 8.8 percent in 2012, they are higher than the annual rates over the prior decade (2000–09) when the personal savings rate ranged from 3.3 to 6.1 percent.

Exhibit 3.7: Median Household Income, Personal Savings Rate, and Household Debt Service Rate, 1999–2019



Source: U.S. Bureau of Economic Analysis (2020); Board of Governors of the Federal Reserve System (2020); U.S. Census Bureau (2020)

The relatively low household debt was consistent with a strong personal savings rate. Over the course of the demonstration, household debt service payments (as a percentage of disposable income) declined slightly, starting at 10.0 percent in 2013 and ending at 9.7 percent in 2019. These lower debt rates represented significantly lower levels than in the prior decade when household debt service as a percentage of disposable income was as high as 13.0 percent.

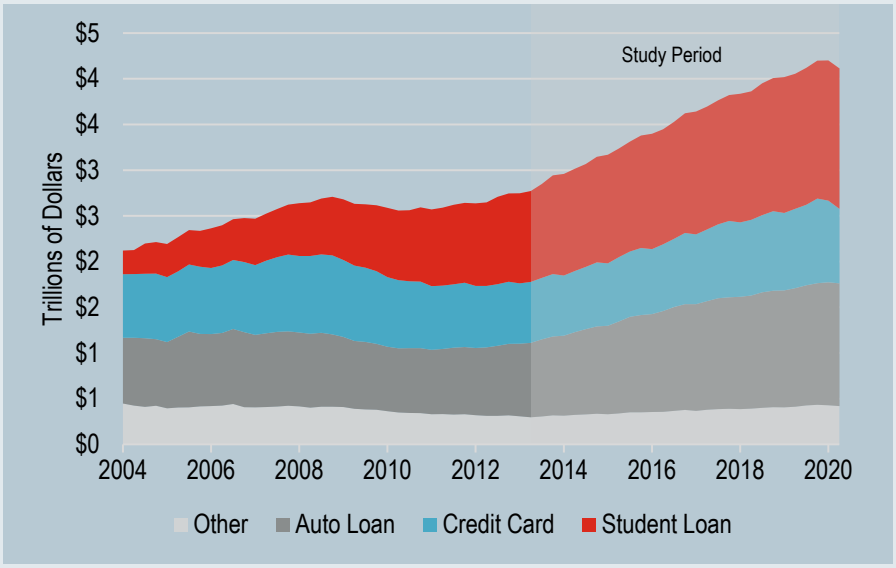
All three of these factors—increased income, higher saving rates, and lower household debt (relative to income)—should have increased the ability of families to purchase homes during the demonstration.

The Rise of Student Loan Debt

The past two decades have seen an explosion in total nonhousing debt, driven primarily by the rise in student loan debt. Over 2004–20, total nonhousing debt more than doubled, increasing from $2.12 to $4.12 trillion. Over the same time period, student loan debt increased more than 492 percent, from $0.26 to $1.54 trillion. The average debt for graduating seniors also rose from $18,750 in 2004 to approximately $28,950 in 2019, a 54-percent increase. From 2013 to 2020—the timeframe of the Demonstration—total nonmortgage debt and student loan debt increased by 39 percent and 56 percent, respectively.

In theory, nonhousing debt might affect not only a prospective homebuyer's ability to qualify for a mortgage, but also the pool of prospective homebuyers, by decreasing the willingness of people to enter the market. The high share of nonhousing debt comprised of student loan debt during the timeframe of the Demonstration might have particularly affected younger adults' demand for homeownership.

Nonhousing Debt Balance, 2004–20



Sources: Federal Reserve Bank of New York (2020), Institute of College Access & Success (2020)

3.6 Experience of Study Participants

Overall, the indicators discussed above suggest that, during most of the demonstration period, conditions were generally favorable for potential homeowners. However, other conditions might have discouraged homebuyers. Using the study's Long-Term Follow-Up Survey data, we explored the experiences of the demonstration's study participants (including both treatment and control group members) to understand how these conditions played out for this particular group of low-, moderate-, and middle-income prospective borrowers for outcomes that relate to these market indicators:

- **More than three-quarters (77 percent) of study participants purchased a home within the study's timeframe of four to six years.** Furthermore, more than half (51 percent) of those who had not purchased at the time of the Long-Term Follow-Up Survey were still

actively looking. This suggests that, on balance, the economic environment was conducive to home purchases.

- **Credit and affordability were obstacles to purchase for some study participants.** Of the 11 percent of the study sample who had not purchased and were no longer looking, 39 percent cited affordability and 24 percent cited a need to repair credit as reasons for suspending their search.

- **Housing supply also appeared to be a barrier to purchase.** Among those who took at least 18 months to purchase, two of the top three reasons for waiting were related to housing supply: 41 percent said they had trouble finding homes, and 29 percent lost out on bids in a competitive market. The only more commonly cited barrier was "needing to save before purchasing," cited by 48 percent.

- **Those who purchased took advantage of historically low interest rates.** More than 93 percent of study participants who bought homes used a fixed-rate loan, and 87 percent were 30-year fixed-rate loans. The average interest rates for those who purchased using 30-year and 15-year fixed-rate loans was 4.08 and 3.44 percent, respectively.

- **The average price of a home purchased by study participants was $231,675,** well below the average purchase price for new homes over the study's time period, which ranged from $345,000 to $385,000 (exhibit 3.4). This lower-than-average purchase price likely reflects the study sample's low to middle income levels and that they were first-time homebuyers.

- **Study participants median household income was $91,837 as of long-term followup, notably higher than U.S. median household income of $68,703** (exhibit 3.7). The higher income levels for study participants likely reflect the study sample's relatively high levels of education (more than half of study participants have a bachelor's degree) and the fact that the study sample is drawn from the population interested in purchasing homes in large metropolitan areas.

- **As of long-term followup, study participants had an average of $68,596 in total savings, an increase of 30 percent from the baseline survey conducted four to six years earlier ($52,825).**[38] **At the same time, participants' average total nonhousing debt increased by 59 percent from $18,937 at baseline to $30,032 at followup**.

[38] When making comparisons between baseline and long-term follow-up measures in this section, we restrict the sample to study participants with non-missing data at both time points. This ensures that any observed differences in the measures are not a result of differences in the sample used to produce an estimate of that measure. As a result, some of the estimate of long-term followup measures reported in this section may differ slightly from similar estimates reported elsewhere in the report, including exhibit B.5.

- **Average student debt increased from $9,159 to $10,926 between the Baseline and Long-Term Follow-Up Surveys, but student loan debt decreased as a share of total nonhousing debt (48 percent versus 36 percent) at the same time.**
  - About one-third of study participants (32.7 percent) had student loan debt when they enrolled in the study. Among this subset of study participants, the average student loan balance remained roughly constant over time: $27,896 at baseline and $28,366 at long-term followup.
  - An additional 12.2 percent of study participants did not have student loan debt when they enrolled in the study but did have a student loan balance at long-term followup. Among these study participants, the average student loan balance at long-term followup was $13,279.

The textbox **First-Time Homebuyer Experiences: Lessons and Challenges** provides some insights from study participants reflecting on their homebuying experiences. For additional descriptive information on the experiences of study participants, see appendix F.

First-Time Homebuyer Experiences: Lessons and Challenges

In addition to permitting an analysis of the impact of homebuyer education and counseling, the Demonstration provides an opportunity to better understand the experiences of low-, moderate-, and middle-income prospective first-time homebuyers. In particular, the Demonstration's survey data offer insight into lessons learned and challenges that our study sample faced during the homebuying process.

***Lessons**:* When asked what the most valuable thing they learned during the home purchase or homeownership process was, study participants who purchased a home most frequently listed:

- Personal finance best practices (19.8 percent).
- All the costs of homeownership (15.7 percent).
- The process and costs of getting a mortgage (13.9 percent).

Challenges:

- When asked about challenges or obstacles *during* the home search or purchase process, study participants who purchased a home were most likely to list:
  - Lack of affordable housing (18.1 percent of purchasers).
  - Lack of a downpayment (11.2 percent of purchasers).
  - The complicated mortgage process (11.0 percent).
- When asked about challenges or obstacles *after* a home purchase, study participants who purchased a home were most likely to list home repairs (26.6 percent) as their main challenge; but the majority of purchasers (56.6 percent) responded that they faced "no obstacles" after purchase.

Appendix F provides additional information on the experiences of the study sample, including comparisons of purchasers with nonpurchasers.

3.7 Summary

The time period during which this study took place—2013 to 2020—was characterized by a distinct set of market conditions. For most of this period, interest rates and unemployment were low, and real earnings were rising. These factors should have encouraged potential borrowers into the market. However, tight underwriting standards, which make it difficult to obtain mortgages, combined with low levels of housing supply and high home prices, could have discouraged homebuying.

The time series data presented in this chapter also show that there is no "normal" for market conditions. The pre-recession period, the recession period, the recovery, the expansion, and the current COVID period each has a combination of economic, housing, and credit conditions that is distinct in its own right. Each set of market conditions influences who enters the housing market, who participates in homebuyer education and counseling, who purchases a home, and who succeeds in homeownership. Therefore, though the study's findings represent important experimental evidence on homebuyer education and counseling impacts, care should be taken before extrapolating any findings beyond the study's specific period, especially to periods with markedly different market settings.

Chapters 4, 5, 6, and 7 describe the impacts across the key study domains. Chapter 8 presents the impacts by service delivery mode, and chapter 9 shows the impacts for selected subgroups. The textbox **How to Read the Impact Exhibits in This Report** in chapter 2 explains how to read the impact exhibits in these chapters and how to interpret the results.

4. Impacts on Preparedness and Search

Key Findings: Impacts on Preparedness and Search

Homebuyer education and counseling services—

- ***Increased confidence*** **in the ability to find needed information** related to the home purchase process at long-term followup.
- ***Did not detectably change*** **home purchase rates** (about 77 percent of both the treatment and control groups had done so as of the long-term followup).
- ***Did not detectably change satisfaction*** either with the **homebuying process** or with the **decision to buy or rent.**

This chapter presents the impacts that fall within the domain of *preparedness and search*, which includes measures that relate directly to the homebuying process. This domain's outcomes might be less salient to study participants 4 to 6 years after they had approached lenders and were recruited into the study (at long-term followup) than the outcomes were in the shorter term (at 12- to 18-month followup). For the small subset of study participants who purchased between the short- and long-term followup, these outcomes might seem more important than for the rest of the sample.

Exhibit 4.1 displays the findings discussed in this chapter for the full sample of prospective first-time homebuyers. Chapter 9 describes a small number of impacts for certain subgroups, with appendix E providing all subgroup impacts.

- **Homebuyer education and counseling services increased the treatment group's confidence in their ability to find needed information related to the homebuying process.**

By providing a base of knowledge and access to additional resources, homebuyer education and counseling should, in theory, increase participants' confidence in their ability to find needed information. Such confidence could help prospective homebuyers actually seek out and access information when making decisions, leading to better decisions about whether or not to purchase a home, how much to spend on a home, and how to finance it.

Members of the treatment group were more likely to be confident in their ability to find needed information related to the homebuying process than were their control group counterparts. Based on responses to the Long-Term Follow-Up Survey, 71.9 percent of those *offered* homebuyer education and counseling services were confident they could find the information they needed about the homebuying process, 3.7 percentage points higher than the control group were. The corresponding impact for those treatment group members who *took up* homebuyer education and counseling services (TOT impact) was 6.0 percentage points.

The Short-Term Follow-Up Survey, administered 12 to 18 months after study enrollment, had a stronger finding: 74.7 percent of treatment group members had been confident they could find the information they needed, 4.9 percentage points more confident than the control group.

The impact for those who took up homebuyer education and counseling services, the impact was 8.1 percentage points.

Exhibit 4.1: Overall Impact of the Demonstration's Homebuyer Education and Counseling on Preparedness and Search

Outcome	Treatment Group Mean	Control Group Mean	Impact of Being Offered Services	Impact of Taking Up Services
Study participant was confident in ability to find information needed about the homebuying process (%)[a]	71.9	68.2	3.7***	6.0***
Study participant purchased a home (%)[b]	77.1	76.8	0.3	0.6
Study participant was very satisfied with the homebuying process (%)[a]	39.8	40.3	– 0.6	– 1.0
Study participant was satisfied with decision to buy or rent (%)[a]	87.6	87.0	0.6	0.9
Number of lenders from which the study participant received price quotes[a]	1.84	1.79	0.05	0.08
Study participant was satisfied with the process of obtaining a mortgage loan (%)[a] ~	62.1	63.4	– 1.3	– 2.1

Notes: Due to rounding, reported impacts (T-C differences) could differ from differences between reported means for the treatment and control groups. Appendix A details the analytic methods and appendix B provides additional detail on the construction of measures. Appendix exhibit C.1 provides additional detail related to these findings, including sample sizes.

Statistical significance levels for two-sided tests are indicated with asterisks as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.

~ Denotes outcomes that are coded as 0 for study participants who did not purchase a home.

Sources:

[a] Long-Term Follow-Up Survey

[b] Long-Term Follow-Up Survey; credit bureau; study lenders; Federal Housing Administration

- **Homebuyer education and counseling services did not detectably affect rates of home purchase.**

Homebuyer education and counseling services are designed to help prospective homebuyers determine whether homes are affordable and financing options are appropriate for the homebuyer's individual circumstances. This can help qualified homebuyers purchase a home, meanwhile dissuading underqualified prospective homebuyers from purchasing or causing them to postpone their purchase until conditions are right. However, the control and treatment groups purchased homes at similar rates (about 77 percent) as of the long-term followup.[39,40]

This overall impact on the home purchase rate does not reveal whether homebuyer education and counseling influenced the *composition* of treatment group purchasers or the affordability of purchased homes. For example, the intervention may have increased the number of "better suited" treatment group members who bought homes and decreased the "less suited" ones or influenced the price or loan terms of homes they purchased. Such shifts could occur even when there was no detectable impact on home purchase rates overall.

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[39] About 62 percent of the study sample had purchased a home at short-term followup. At that time as well, there was no difference between treatment and control groups.

[40] More narrowly, about 25 percent of study participants received an FHA loan, with no detectable difference between the treatment and control groups.

Our subgroup analysis sheds some light on the issue of whether homebuyer education and counseling influenced the composition of treatment group purchasers (exhibit E.4). Among study participants who had $10,000 or more in consumer debt (all debt excluding housing and student loans), 74.9 percent of those offered homebuyer education and counseling services purchased a home, 2.5 percentage points lower than the rate of their control group counterparts. That finding indicates that the offer of services decreased the home purchase rate among treatment group members with high levels of consumer debt at baseline, which could be a favorable outcome for them.[41]

As to whether the intervention influenced affordability of purchased homes or loan terms, descriptive analyses does not show evidence of this. Treatment group and control group members who purchased homes were similar in terms of home purchase price (about $232,000 in both groups), loan terms (about 88 percent had a 30-year fixed rate mortgage in both groups), down payment amounts (about $30,000), and the proportion with loan-to-values greater than 0.95 (about 41 percent).

- **Homebuyer education and counseling services did not detectably affect satisfaction with the homebuying process, or satisfaction with the decision to buy or rent.**

Homebuyer education and counseling should, in theory, help people determine whether home purchase is the "right" decision for them, and if so, support them in identifying how much to spend and choosing appropriate financial products for their circumstances. As a result, we would expect homebuyer education and counseling to be associated with a higher level of satisfaction. About 40 percent of both treatment and control group members reported that they were very satisfied with the homebuying process at long-term followup. Relatedly, about 87 percent of treatment and control group members reported that they were satisfied with their decision to buy or rent. These findings indicate that the offer of homebuyer education and counseling services did not detectably increase satisfaction with the homebuying process or its result of the search.

- **Homebuyer education and counseling services did not detectably affect the intensity of search for financing, or satisfaction with the process of obtaining a mortgage loan.**

Homebuyer education and counseling provide prospective homebuyers with information on the array of mortgage products and terms, as well as on how different lenders might price mortgages differently. As a result, we would expect homebuyer education and counseling to increase comparison shopping. However, both treatment and control group members received price quotes from an average of 1.8 lenders, indicating that homebuyer education and counseling services did not detectably lead to a more exhaustive search for the best financing. Relatedly, homebuyer education and counseling did not detectably change satisfaction with the process of obtaining a mortgage loan.

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[41] The decrease in the home purchase rate for the treatment subgroup with $10,000 or more in consumer debt at baseline is statistically different from the positively signed (though not statistically significant) impact for the treatment subgroup with less than $10,000 in consumer debt (exhibit E.4).

In summary, the evidence that homebuyer education and counseling services affect outcomes related to preparedness and search at long-term followup is somewhat more limited than it was in the short term. The analysis of impacts based on the Short-Term Follow-Up Survey found additional favorable impacts of homebuyer education and counseling within the domain of preparedness and search. For instance, at short-term followup, treatment group members were more satisfied than control group members with the homebuying process, an impact no longer found when measured after 4 to 6 years.

5. Impacts on Financial Knowledge, Behaviors, and Skills

Key Findings: Impacts on Financial Knowledge, Behaviors, and Skills

On these outcomes within the financial capability domain, homebuyer education and counseling services—

- ***Did not detectably increase*** **reports of proactively communicating with lenders, counseling agencies, or other nonprofits** in times of financial distress.
- ***Did not detectably improve*** financial skill levels.

This chapter presents the first of two subsets of impacts within the domain of *financial capability*—the impacts on *financial knowledge, behavior, and skills*; the second subset (the impacts on *financial indicators*) is presented in chapter 6. Exhibit 5.1 displays the findings discussed in this chapter for the full sample of prospective first-time homebuyers. In this chapter, we discuss some subgroup impacts, notably those for women and younger study participants, for whom there is systematic evidence of impact differentials including, specifically on credit scores. Findings for subgroups are further elaborated in chapter 9 and appendix E.

- **Overall, homebuyer education and counseling services had no detectable impact on treatment group members' reports that they would proactively communicate with lenders in times of financial distress.**

The longer borrowers wait to reach out for help when they face difficulties meeting their mortgage obligations, the less likely they are to recover from a delinquency (Cutts and Merrill, 2008). In theory, recipients of homeownership education and counseling services should receive information regarding the benefits of reaching out to lenders if they are in financial distress. However, the study did not detect an overall impact on treatment group members' reports at long-term followup that they would proactively communicate with lenders in times of financial distress. About 56 percent of both the treatment and control group members reported that they would contact their lender for assistance prior to missing a mortgage payment.

That said, an age-related differential existed: the intervention did have a favorable impact for those who were younger. Among those age 29 or younger at baseline, treatment group members were 5.1 percentage points more likely to report that they would contact their lender for assistance prior to missing a mortgage payment if in financial difficulty. This impact is 8.1 percentage points higher than the estimated impact on the older segment of the study sample (exhibit E.2). When homeowners are in financial distress and at risk of missing a mortgage payment, proactive contact with a lender can mean that the borrower has more options for using forbearance, repayment plans, or other strategies (such as loan modifications) to avoid default. This finding provides suggestive evidence that homebuyer education and counseling encouraged such intentions among younger homeowners.

Exhibit 5.1: Overall Impact of the Demonstration's Homebuyer Education and Counseling on Financial Knowledge, Behaviors, and Skills

Outcome	Treatment Group Mean	Control Group Mean	Impact of Being Offered Services	Impact of Taking Up Services
If in financial difficulty, the study participant would contact lender for assistance prior to missing a mortgage payment (%) ~	55.7	55.7	0.0	0.1
If in financial difficulty, the study participant would contact counseling agency, consumer credit counseling agency, or other nonprofit organization for assistance prior to missing a mortgage payment (%) ~	26.3	23.5	2.8	4.5
Financial skill score (ranges from 0 to 100)	63.5	63.1	0.4	0.7
Study participant knows how to correct inaccurate information in credit report (%)	77.5	75.1	2.3**	3.8**
If study participant started having financial problems and could not pay all of the bills, the study participant would pay mortgage first (%)	78.4	78.4	0.1	0.1
Regularly required mortgage payment is automatically deducted from a bank account (%) ~	41.2	40.9	0.3	0.5

Notes: Due to rounding, reported impacts (T-C differences) could differ from differences between reported means for the treatment and control groups. Appendix A details the analytic methods and appendix B provides additional detail on the construction of measures. Appendix exhibit C.1 provides additional detail related to these findings, including sample sizes. Details of subgroup findings are provided in appendix E.
Statistical significance levels for two-sided tests are indicated with asterisks as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.
~ Denotes outcomes that are coded as 0 for study participants who did not purchase a home.
Source: Long-Term Follow-up Survey

- **Overall, homebuyer education and counseling services had no detectable impact on treatment group members' reports that they would proactively communicate with a counseling agency or other nonprofit organization in times of financial distress.**

Contacting a counseling agency or other nonprofit organization is also a productive strategy for homeowners in financial distress, as such organizations can help borrowers assess their financial circumstances, establish budgets, and navigate loss mitigation options with lenders. Recipients of homeownership education and counseling services should be more likely to have this knowledge. There is no detectable overall impact on this indicator in the long term.[42]

The intervention did, however, have a favorable impact on this outcome for those with higher credit scores. Among those with a credit score of 680 or above at baseline, treatment group members were 4.8 percentage points more likely to report that they would contact a counseling agency or other nonprofit organization for assistance prior to missing a mortgage payment. This impact is 6.0 percentage points higher than the estimated impact on those with lower credit scores (exhibit E.3).

[42] In the short-term, we observed that about 17 percent of the control group and about 21 percent of the treatment group reported that they would contact their counseling agency, consumer credit counseling agency, or other nonprofit organization for assistance prior to missing a mortgage. That 4-percentage point impact represented a 26 percent increase in the treatment over the control group. In the long-term, however, the levels increased slightly on this indicator, for the control group more than for the treatment group, so that about one-quarter of both groups reported that they would contact one of these agencies for assistance in times of financial distress.

- **Overall, homebuyer education and counseling services had no detectable impact on financial skill, as measured by CFPB (Consumer Financial Protection Bureau)'s Financial Skill Scale score.**

Financial skill refers to the ability to "find, process, and act on financial information" and is a key element of financial capability (CFPB, 2018). In theory, homeownership education and counseling should improve the ability of recipients to know where to find needed information, understand that information, and make decisions based on that information. The average Financial Skill Scale score for participants in the demonstration was about 63, with no detectable difference between the treatment and control groups.[43]

Among some subgroup populations, there is evidence of favorable impacts on financial skill. For example, among women and younger people, treatment group members had higher, more favorable, levels of financial skill than their control group counterparts.

- **Homebuyer education and counseling services improved treatment group members' self-reported ability to correct inaccurate information in their credit reports.**

Inaccurate information on a credit report can have unfavorable effects on credit scores and, consequently, serve as a barrier to accessing credit.[44] In theory, homebuyer education and counseling should enhance their recipients' ability to repair their credit reports. As hypothesized, 77.5 percent of the treatment group reported knowing how to correct inaccurate information in their credit report, a rate 2.3 percentage points higher than the control group.[45] For those who took up the offer of services, the impact was 3.8 percentage points.[46]

- **Overall, homebuyer education and counseling services had no detectable impact on the share of the treatment group who said that they would pay their mortgage first in times of financial distress.**

Sustainable homeownership depends, in part, on prioritizing mortgage payments over other financial obligations (such as credit card debt) in the event of financial distress.[47] Although we would expect recipients of homeownership education and counseling to have been given this

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43 CFPB's Financial Skill Scale scores range from 0 to 100, with high scores reflecting higher levels of one's self-assessment of financial skill; most of the time, the scale is self-administered as described in its users guide (CFPB, 2018). For this study, the language was modified to make it possible to administer the scale over the phone during follow-up surveys, and this could have resulted in higher scores overall. Therefore, this average score might not be directly comparable to the scores reported in other publications.

44 Prospective employers and owners of rental housing also sometimes use credit scores as a screening device.

45 At short-term followup, treatment group members were 2.9 percentage points more likely to report knowing how to correct inaccurate information in their credit report than were their control group counterparts.

46 The impact of taking up services presented in this chapter was computed under the assumption that there was no effect of the intervention on no-shows and there were no crossovers. See appendix section A.3 for details.

47 Homeowners should pay their mortgage first when in financial distress for several reasons. First, unlike credit card companies, mortgage lenders do not accept partial payments. Second, mortgages are "secured" loans, meaning that they are backed by an asset (the home) that the homeowner can lose. Third, missed mortgage payments have larger impacts on credit scores than do other missed debt payments.

information, homebuyer education and counseling did not have a detectable impact on reports of prioritizing mortgage payments in this way. About four out of five members of both the treatment and the control group (78 percent) responded that they would pay their mortgage first in times of financial distress.[48] Other bills that study participants reported that they would prioritize in times of financial distress included utilities (9.7 percent of study participants) and health insurance (4.8 percent of study participants).

Homebuyer education and counseling services had no detectable impact on the likelihood that treatment group members set up their mortgage payments to be automatically deducted from their bank accounts. When homeowners set up their mortgage payments to be deducted from their bank account automatically, they decrease the likelihood that they will forget to make a payment and, therefore, become delinquent on their mortgage. As a result, homeownership education and counseling recipients who own a home should be more likely to have their mortgage payments automatically deducted. Roughly 41 percent of both the treatment and control group homeowners reported that their mortgage payments were automatically deducted from a bank account.

[48] The long-term ITT and TOT impacts are qualitatively similar in magnitude to what we observed at short-term follow-up.

6. Impacts on Financial Indicators

Key Findings: Impacts on Financial Indicators

On these outcomes within the financial capability domain, homebuyer education and counseling—

- ***Did not detectably increase*** **credit scores overall,** one of the study's two confirmatory outcomes, but ***did increase credit scores*** for two subgroups:
  - Among women, treatment group members had a credit score 6.4 points higher than their control group counterparts.
  - Among those age 29 or younger at baseline, treatment group members had a credit score 7.0 points higher than their control group counterparts.
- ***Did not detectably change*** **nonhousing debt** or **debt-to income ratio.**
- ***Increased*** **student debt**, a change that reflects a larger change in the composition of debt and savings both overall and for some subgroups.
- ***Did not detectably affect*** **student loan delinquency.**
- ***Did not detectably affect*** **financial well-being.**

This chapter presents the second of two subsets of outcomes within the domain of *financial capability*; the first subset (financial knowledge, behaviors, and skills) is presented in chapter 5. Exhibit 6.1 displays the findings discussed in this chapter for the full sample of prospective first-time homebuyers. We also present some subgroup impacts in this chapter, specifically for some subgroups that experienced systematic evidence of impact differentials. Findings for subgroups are further elaborated in chapter 9 and appendix E.

- **Homebuyer education and counseling services had no detectable impact on credit scores overall, but it did have a favorable impact for women and for those age 29 or younger at baseline.**

Homebuyer education and counseling services should, in theory, help people understand (1) the importance of their credit scores in qualifying for a mortgage; (2) how to fix mistakes in their credit report; and (3) how to repair their credit through improved financial management. At baseline, the study participants' average credit score was about 707. As of December 2019, the average credit scores for the control and treatment groups were not detectably different from each other, both roughly 720. This did not change when we looked at credit scores over time for earlier time periods following study enrollment.[49] In addition, there was no detectable impact of

[49] Additional exploratory analyses estimated the overall impact on credit score over time in 6-month increments, starting with 6 to 12 months after study enrollment and continuing to 42 to 48 months after study enrollment, the longest followup period for which we captured credit bureau data for the entire sample (appendix exhibit C.2). The overall impacts on study participants' credit scores measured at various time periods following study enrollment are either not statistically different from zero (as is the case for five of the seven 6-month periods measured) or are negative and small in magnitude (as is the case for two of the seven 6-month periods measured). Taken as a whole, we conclude that homebuyer education and counseling did not meaningfully change credit scores over time.

homebuyer education and counseling on the likelihood that participants had credit scores above 620—an important underwriting threshold.

Although homebuyer education and counseling had no detectable impact on credit scores overall, those services did have a favorable impact on the credit scores of some subgroup populations. Homebuyer education and counseling improved the credit scores of women. Women in the treatment group had an average credit score 6.4 points higher than their control group counterparts (exhibit E.1).[50] There was no detectable impact on the share of women who had a credit score above 620. Rather, the favorable impact on women's credit scores reflects a small increase in credit scores for women at all levels of the credit score distribution.

Homebuyer education and counseling also improved credit scores for those who were age 29 or younger when they were recruited into the study. These younger treatment group members had an average credit score 7.0 points higher than their control group counterparts and were 4.1 percentage points more likely to have a credit score of 620 or greater than their control group counterparts (exhibit E.2).[51] These findings were driven by improved credit scores for younger treatment group members at the lower end of the credit score distribution. For example, the 10th percentile credit score was 613 for younger treatment group members, 50 points higher than the 10th percentile credit score of 563 for younger control group members. Younger people may still be establishing their credit records. Their credit scores could be more affected by behavior following homebuyer education and counseling than the credit scores of somewhat older people.

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[50] This increase on the continuous measure of credit score for women was statistically different from the impact on men, for whom we did not detect an impact.

[51] These favorable impacts among the younger subgroup—on the continuous measure of credit score and binary measure of credit score (i.e., whether credit score is greater than or equal to 620)—are statistically different from the corresponding impacts for the age 30 or older subgroup, for whom we did not detect an impact.

Exhibit 6.1: Overall Impact of the Demonstration's Homebuyer Education and Counseling on Financial Indicators

Outcome	Treatment Group Mean	Control Group Mean	Impact of Being Offered Services	Impact of Taking Up Services
Credit score as of December 2019 (range is 300-850)[c]	**720.7**	**719.1**	**1.6**	**2.9**
Study participant has credit score greater than or equal to 620 (%)[c]	82.8	82.2	0.6	1.1
Financial well-being score (ranges from 0 to 100)[a]	63.4	63.2	0.1	0.2
Total nonhousing debt($)[c]	30,613	29,572	1,042	1,906
Student loan debt($)[c]	11,681	10,185	1,496***	2,737***
Total consumer debt (all debt besides housing and student; $)[c]	18,933	19,387	– 454	– 831
Credit card debt ($)[c]	5,797	6,289	– 492*	– 900*
Total monthly debt-to-income ratio (back-end ratio)[d]	28.1	28.5	-0.4	-0.6
Total monthly debt-to-income ratio exceeds 0.43 (%)[d]	16.8	16.0	0.8	1.2
Student loan 30-day delinquency indicator (%)[c]	4.5	3.9	0.6	1.1
Bankruptcy or repossession due to nonhousing debt(%)[c]	11.9	11.3	0.6	1.0
Study participant occasionally does not have enough money to cover all bills at the end of the month (%)[a]	14.8	14.7	0.1	0.2
Total savings and investments ($)[a]	71,231	66,492	4,739**	7,678**
Study participant could come up with $2,000 in 30 days if an unexpected need arose within the next month (%)[a]	70.0	68.7	1.3	2.1
Study participant usually has enough savings set aside to cover 3 months of expenses (%)[a]	68.3	65.0	3.3***	5.3***

Notes: The confirmatory outcome appears in bold. A one-sided test was used to determine the statistical significance of the impact on the confirmatory outcome. All other tests were two-sided. Due to rounding, reported impacts (T-C differences) could differ from differences between reported means for the treatment and control groups. Appendix A details the analytic methods and appendix B provides additional detail on the construction of measures. Appendix exhibit C.1 provides additional detail related to these findings, including sample sizes. Details of subgroup findings are provided in appendix E.
Statistical significance levels for one-sided tests are indicated with hashtags as follows: ### = 1 percent; ## = 5 percent; # = 10 percent.
Statistical significance levels for two-sided tests are indicated with asterisks as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.
Sources: [a] Long-Term Follow-Up Survey; [c] Credit bureau; [d] Long-Term Follow-Up Survey; credit bureau

- **Homebuyer education and counseling services did not have a detectable impact on financial well-being overall, as measured by CFPB's Financial Well-Being Scale score.**

Financial well-being is "a state of being wherein a person can fully meet current and ongoing financial obligations, can feel secure in their financial future, and can make choices that allow enjoyment of life" (CFPB, 2015). The average Financial Well-Being Scale score for the study sample was about 63, with no detectable difference between the treatment and control groups.[52]

Although homebuyer education and counseling services did not detectably change financial well-being, we did find evidence of a small, favorable impact among study participants

[52] CFPB's Financial Well-Being Scale scores range from 0 to 100, with high scores reflecting higher levels of one's self-assessment of financial well-being. Most of the time, the scale is self-administered as described in its users guide (CFPB, 2015). However, for this study the language was modified to administer the scale over the phone for our follow-up surveys, which may have resulted in higher scores overall. Therefore, this average score might not be directly comparable to the scores reported in other publications.

who had student loan debt at baseline. Among them, treatment group members had a financial well-being score 1.3 points higher than their control group counterparts (exhibit E.5).

- **Homebuyer education and counseling did not have a detectable overall impact on total nonhousing debt or the monthly debt-to-income ratio.**

A major part of mortgage underwriting is assessing how much additional debt a potential borrower can take on. As a result, homebuyer education and counseling are expected to influence how participants manage their nonhousing debt, which includes student loan debt and consumer debt (e.g., automobile and credit card debt). Our impact analysis showed no detectable difference between the average amount of nonhousing debt for study participants in the treatment and control groups at long-term followup. Additionally, homebuyer education and counseling had no detectable impact on the total monthly debt-to-income ratio or the share of the sample with a debt-to-income ratio higher than 0.43.

Although homebuyer education and counseling did not have a detectable impact on any of these debt measures for the overall study sample, there was an observable impact on one of these measures for women. Treatment group women had a total monthly debt-to-income ratio 3.3 points *lower* than control group women, a favorable impact (exhibit E.1). This represents a 10.6 percent reduction relative to control group women, who spent an average of 31.1 percent of their income on debt payments.[53]

- **Relative to the control group, the treatment group had a higher level of student loan debt at long-term followup.**
  - **This finding is part of a broader change in the *composition* of nonhousing debt, including that the treatment group had a lower level of credit card debt than the control group.**[54]
  - **Impacts on student loan debt vary for three subgroups: those with student loan debt at baseline; those with a lower credit score (less than 680) at baseline; and those with less consumer debt (less than $10,000) at baseline are three groups in which there is a higher level of student loan debt in the treatment group, relative to the control group.**

Homebuyer education and counseling services *increased* student loan debt, a finding that exists alongside a *decrease* in credit card debt. Both student loan debt and credit card debt are components of nonhousing debt. The treatment group had $1,496 greater student loan debt than the control group and $492 less credit card debt than the control group at long-term followup.

What may explain the increased student loan debt but lower credit card debt of the treatment group? It is possible that counseling agencies help their clients understand how their

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[53] Although homebuyer education and counseling did not have a detectable impact on women's nonhousing debt, treatment group women had $5,824 more in household income relative to their control group counterparts (not shown). This increase in income explains the favorable impact on the debt-to-income ratio.

[54] This finding compelled a special analysis in an attempt to learn more about the change in debt composition and savings. That analysis did not reveal any deeper explanations of this finding: no particular subgroup or cross-outcome pattern emerged, leading us to the conclusion that the changing composition exists only in the aggregate across the study sample (see Bocian et al., forthcoming).

student debt affects their overall household budgets and think critically about how alternative repayment options might alleviate pressure points in those budgets.[55] When asked in the Long-Term Follow-up Survey what changes, if any, they made to their student loans or to their repayment of those loans in preparation to purchase a home, 15.8 percent of control group members reported that they started making extra student loan payments or paid more than the minimum due, compared with 12.4 percent in the treatment group.[56] It could be that treatment group members were advised during homebuyer education and counseling to focus on paying down (likely higher-cost) credit card debt rather than devoting additional financial resources to paying off student debt. This would explain the differences between the treatment and control groups in the composition of nonhousing debt.

This overall impact on student loan debt level was driven by the impact on participants who entered the study with student loan debt. Among those *with* student loan debt at baseline, treatment group members had $3,595 more in student loan debt at long-term followup than did their control group counterparts (top panel of exhibit 6.2). Importantly, among study participants *without* student loan debt at baseline, treatment group members had similar levels of student loan debt at long-term followup and were no more likely to take on new debt relative to their control group counterparts.[57]

In addition to being driven by those with student debt at baseline, the overall impact on student loan debt was also driven by individuals with lower credit scores and lower levels of consumer debt at baseline (as shown in the middle and bottom panels of exhibit 6.2). Those are groups for which the level of student loan debt is higher in the treatment group.

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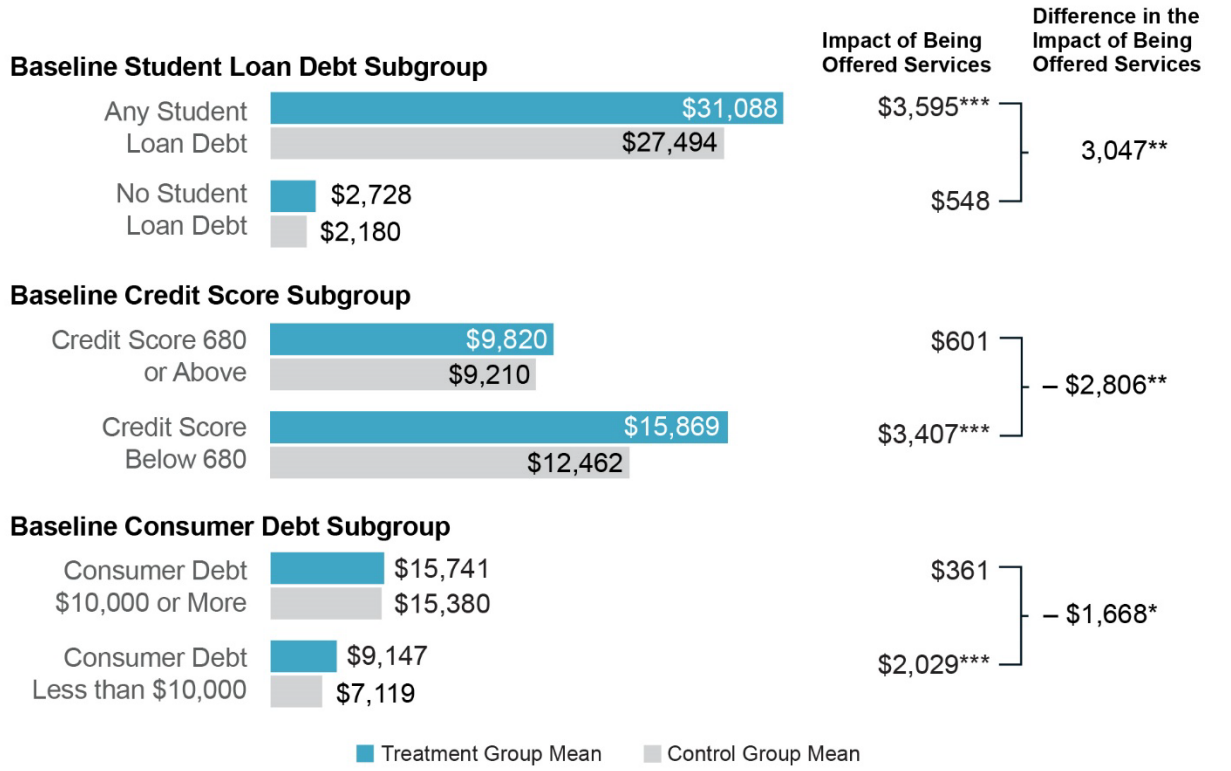
[55] In fact, in a 2015 HUD newsletter, one counseling agency highlighted the need for an increasing number of borrowers to "take advantage of various alternative repayment options such as Graduated Repayment or Income Based Repayment, to be able to sustain their monthly payments" (HUD, 2015).

[56] Treatment and control group members were equally likely to report that they put their student loans into deferral, refinanced their student loans to lower the payments, or skip payments.

[57] Among those *without* student loan debt at baseline, about 18 percent took on student loan debt after enrolling in the study (not shown in exhibit), with no difference between the treatment and control groups. In addition, for the (*non-experimental*) subsample of study participants who took on student loan debt *after* enrolling in the study, we observed no difference in the amount of debt they took on.

Exhibit 6.2: Student Loan Debt Outcomes and Impact at Long-Term Followup, by Subgroup



Notes: Details of subgroup findings are provided in appendix E.

Source: Credit bureau

- **Homebuyer education and counseling increased total savings and investments, an impact driven by larger increases in total savings and investments for women and younger treatment group members, relative to their control group counterparts.**

Homebuyer education and counseling are expected to help participants understand the savings required to purchase a home, as well as to support them in establishing the positive financial management behaviors necessary to build those savings. The study found that the treatment group had $4,739 more in total savings and investments than the control group.[58] This favorable impact on total savings and investments appears to more than offset the increase in student loan debt.[59] The positive impact of homebuyer education and counseling on total savings

[58] Total savings and investment did not include home equity for those who had purchased a home. Although we do not measure home equity directly, homebuyer education and counseling did not detectably change the share of study participants who made additional payments (beyond scheduled monthly payments) toward mortgage loan balance. Further, homebuyer education and counseling did not detectably change the share of the sample that had borrowed against their home equity either through a home equity line of credit or home equity loan. At long-term follow-up, 5.6 percent of study participants had borrowed against home equity.

[59] Given that the impact on savings and investments more than offsets the increases in debt we observed, one might think this results in higher levels of nonhousing wealth for the treatment group. To examine this possibility, we created a nonhousing wealth variable, measured as total savings and investments minus total nonhousing debt. Analyzing that variable, we learned that homebuyer education and counseling did not have a

and investment reflects substantial increases for women and those who were age 29 or younger at baseline. Women in the treatment group had $9,662 more in total savings and investments than their control group counterparts at long-term followup. This increase in total savings and investments represented a meaningful 17.7 percent increase in savings relative to the $54,530 in savings for the average control group woman (exhibit E.1). Among those age 29 or younger, treatment group members had $12,050 more in total savings and investments than their control group counterparts. This higher level of savings and investments for younger treatment group members more than offset the higher debt levels for this group. We did not detect an impact on total savings and investments for those age 30 or older at baseline (exhibit E.2).

- **Homebuyer education and counseling did not change study participants' reported ability to meet unexpected needs; but it did increase the share of the treatment group that reported having savings to cover 3 months of expenses, more so still for younger treatment group members.**

We find some evidence that homebuyer education and counseling increased emergency savings across two measures that we examined. About 70 percent of both the treatment and control groups reported that they could come up with $2,000 in 30 days if an unexpected need arose within the next month. A greater share of the treatment group reported having enough savings set aside to cover 3 months of expenses: 68.3 percent of the treatment group versus 65.0 percent of the control group. This favorable 3.3 percentage point impact reflects increased savings by younger study participants. Among those age 29 or younger, 77.1 percent of treatment group members reported that they usually have enough savings set aside to cover 3 months expenses, a rate 6.8 percentage points higher than their control group counterparts. We do not detect an impact on this outcome for older study participants.

- **Homebuyer education and counseling did not have a detectable impact on student loan delinquency, bankruptcy or repossession, or ability to cover all bills.**

Homebuyer education and counseling had no detectable impact overall on being 30 days delinquent on a student loan payment; on bankruptcy or repossession; or on reports by study participants that they did not have enough money to cover all bills at the end of the month.[60] Incurring additional student loan debt might reflect a larger money management strategy that did not increase overall financial risk. Treatment group members may have concluded (or even been counseled) that shifting to a type of debt with better terms was financially prudent. It is

detectable impact on nonhousing wealth. The average amount of nonhousing wealth for the study sample at long-term follow-up was $37,135. Although we do not detect an overall treatment-control difference on nonhousing wealth, the subgroup of women in the treatment group had $9,828 more in nonhousing wealth relative to their control group counterparts. This is an increase of more than 42 percent relative to women's control group mean nonhousing wealth of $23,385.

[60] Among study participants with a credit score below 680 at baseline, treatment group members were 2.2 percentage points more likely to be 30 days delinquent on their student loan payments than their control group counterparts (exhibit E.3).

reassuring that these changes in the composition of debt did not lead to higher delinquency rates in nonhousing debt.

7. Impacts on Sustainable Homeownership

Key Findings: Impacts on Sustainable Homeownership

Homebuyer education and counseling services—

- ***Did not detectably improve*** **mortgage performance**, including the 60-day delinquency rate, which is one of the study's two confirmatory outcomes.
- ***Did not detectably change*** **most measures of sustainable homeownership**, including the monthly housing-costs-to-income ratio, home condition, neighborhood satisfaction, and confidence in their ability to make housing payments over the next 6 months.

In the longer term, the central goal of homebuyer education and counseling is *sustainable homeownership*—that is, helping prospective homebuyers make good decisions about whether to purchase a home, and if they do purchase, helping prepare them to make timely mortgage payments, avoid foreclosure, and build wealth. If homebuyer education and counseling services result in better preparedness for homeownership and better financial literacy and behaviors, then service recipients should be more likely to meet their monthly payments and accrue home equity. Homebuyer education and counseling recipients should also be more likely to avoid mortgage delinquency. Among those who choose not to purchase a home, the hope is that it is an educated and deliberate choice, based on the education and counseling provided. From there, even those who rent their homes have the potential to have strengthened their financial well-being.

All outcomes analyzed in this chapter (as in the rest of the report) are defined for the full study sample, ensuring that we do not drop study participants from the analytic sample as a result of their post-randomization experiences.[61] For example, the three loan performance measures, which capture whether the study participant was ever 30, 60, or 90 days delinquent on a mortgage loan, are coded as 0 if the study participant did not purchase a home and therefore was never delinquent on its mortgage loan. In brief, the "non-experience" of any outcome is coded as "0" in order to retain the full sample of treatment and control group members, as necessary to maintain the integrity of the experimental design.

Exhibit 7.1 displays the findings discussed for the full sample of participants in the study. We also present subgroup impacts in this chapter, specifically for some subgroups that experienced systematic evidence of impact differentials. Findings for subgroups are further elaborated in chapter 9 and appendix E.

[61] Appendix exhibit B.5 provides more detail related to the operationalization of outcome measures, which is especially relevant for measures in this chapter where readers might be interested to know now the "non-experience" dimension of measures is captured.

- **Homebuyer education and counseling did not have a detectable overall impact on mortgage performance.**

Compared to the control group, the treatment group was not detectably different on any of the mortgage performance measures, including the 60-day delinquency rate, which is the study's confirmatory outcome in this domain. Both the treatment and control group were ever 60 days delinquent at a rate of about 5 percent.[62,63]

As for the 30-day delinquency rate, that rate was about 10 percent, on average, with no detectable difference between the treatment and control groups. However, the offer of homebuyer education and counseling led to a larger reduction in 30-day delinquencies among those who entered the study with more than $10,000 in debt relative to those who enrolled in the study with less debt; exhibit E.4).

- **Homebuyer education and counseling resulted in a smaller share of the treatment group having a housing cost burden.**

Within the control group, 23.4 percent reported having a housing cost burden (defined as housing costs that exceeded 30 percent of their monthly income), compared to 20.2 percent of the treatment group. This 3.1 percentage point decrease among those offered homebuyer education and counseling services implies that the treatment group might experience greater housing affordability (and, therefore, be more financially stable).[64] However, homebuyer education and counseling did not have a detectable impact on the percentage of study participants who spend more than 40 percent of their monthly income on housing, nor on the continuous housing-costs-to-income ratio.[65]

Study participants in both the treatment and control groups were spending about 25 percent of their monthly income on housing as of the long-term followup. Although the treatment and control groups spent a similar share of their income on housing, homebuyer education and counseling reduced the monthly housing-cost-to-income ratio for some subgroup populations, including women and those with a credit score of 680 or above at baseline. For

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62 As of the short-term followup, we had observed that about 0.6 percent of treatment and control group members were ever 60 days delinquent. As noted in chapter 2's textbox on **Understanding Null Effects**, for statistical reasons it is especially difficult to detect impacts on a low-probability event such as this.

63 When we limit the sample to the non-experimental subgroup of study participants with an FHA loan, we do not detect a difference on loan performance: the delinquency rates were no different between the selected set of treatment group members with an FHA loan and the selected set of control group members with an FHA loan.

64 This finding reverses what we observed as of the short-term followup: at that point, a greater share of the treatment group had housing costs that exceeded 30 percent of their monthly income (although there was no detectable impact either on the continuous housing-cost-to-income ratio or on other housing cost thresholds). This combination of findings suggests that the treatment group, on average, might have stretched to purchase a home in the short term, but in the longer term, their financial decisions led them to have more affordable housing.

65 In addition, homebuyer education and counseling did not detectably change monthly household income, indicating that the effect on housing cost burden is due to differences in housing costs between the treatment and control groups rather than differences in income.

women, the decrease was 2.5 percentage points; for those with higher credit scores, the decrease was 1.7 percentage points (exhibits E.1 and E.3).

Exhibit 7.1: Overall Impact of the Demonstration's Homebuyer Education and Counseling on Sustainable Homeownership

Outcome	Treatment Group Mean	Control Group Mean	Impact of Being Offered Services	Impact of Taking Up Services
Ever 60 days delinquent (%)[e] ~	**5.0**	**5.5**	**– 0.5**	**– 0.9**
Ever 30 days delinquent (%)[e] ~	10.1	10.6	– 0.6	– 1.1
Ever 90 days delinquent (%)[e] ~	3.6	4.0	– 0.4	– 0.7
Ratio of monthly housing costs to monthly income[a]	24.6	25.2	– 0.5	– 0.9
Study participant described the condition of current home/apartment as good or excellent (%)[a]	86.5	86.3	0.2	0.4
Study participant is satisfied with current neighborhood (%)[a]	93.7	93.2	0.5	0.8
Study participant is confident in ability to make housing payments over the next 6 months (%)[a]	87.3	86.4	0.9	1.5
Monthly housing costs exceed 30 percent of monthly income (%)[a]	20.2	23.4	– 3.1*	– 5.0*
Monthly housing costs exceed 40 percent of monthly income (%)[a]	10.5	11.4	– 0.9	– 1.5
Study participant obtained a mortgage loan and is satisfied that it has the best terms to fit needs (%)[a] ~	66.7	66.4	0.3	0.4
Since purchasing home, study participant has made additional payments (beyond scheduled monthly payments) toward mortgage loan balance (%)[a] ~	31.8	31.5	0.3	0.5
Study participant indicated that home needs repairs or maintenance that the study participant cannot afford to make right now (%)[a] ~	17.2	19.3	– 2.1	– 3.4
Study participant keeps track of and does regular maintenance needed to prevent larger expenses down the road (%)[a] ~	68.8	69.4	– 0.6	– 0.9

Notes: The confirmatory outcome appears in bold. A one-sided test was used to determine the statistical significance of the impact on the confirmatory outcome. All other tests were two-sided. Due to rounding, reported impacts (T-C differences) could differ from differences between reported means for the treatment and control groups. Appendix A details the analytic methods and appendix B provides additional detail on the construction of measures. Appendix exhibit C.1 provides additional detail related to these findings, including sample sizes. Details of subgroup findings are provided in appendix E.
Statistical significance levels for one-sided tests are indicated with hashtags as follows: ### = 1 percent; ## = 5 percent; # = 10 percent.
Statistical significance levels for two-sided tests are indicated with asterisks as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.
~ Denotes outcomes that are coded as 0 for study participants who did not purchase a home.
Sources: [a] Long-Term Follow-Up Survey; [e] Credit bureau; study lenders Federal Housing Administration

- **Homebuyer education and counseling did not detectably change neighborhood satisfaction, overall.**

Study participants were generally satisfied with their neighborhood at long-term followup; about 93 percent of both treatment and control group members reported being satisfied with their current neighborhood. Although homebuyer education and counseling did not have an overall impact on neighborhood satisfaction, it had a small favorable impact for those with higher credit scores (exhibit E.3).

- **Homebuyer education and counseling did not have a detectable overall impact on study participants' confidence in their ability to make housing payments over the next 6 months.**

Overall, about 87 percent of study participants reported being confident in their ability to make housing payments over the next 6 months. Although we did not detect an impact on this

measure overall, there was evidence of impacts in select debt-defined subgroup populations: those (1) with less than $10,000 in consumer debt (exhibit E.4), and (2) with student debt at baseline (exhibit E.5) experienced favorable impacts.

- **Homebuyer education and counseling did not have a detectable overall impact on any other measures of sustainable homeownership.**

Overall, the treatment group was no better or worse off than the control group on other measures of sustainable homeownership, including study participant reports of whether the condition of their current housing unit was good or excellent; reports of whether the study participant obtained a mortgage loan and was satisfied that it had the best terms to fit their needs; reports of whether, since purchasing a home, the study participant had made additional payments (beyond scheduled monthly payments) toward their mortgage loan balance; or on measures related to conducting regular maintenance on the home.

8. Impacts by Service Delivery Mode

Key Findings: Impacts by Service Delivery Mode

- Across the outcomes examined, there is no evidence that the impact of offering in-person homebuyer education and counseling detectably differed from the impact of offering remote homebuyer education and counseling.
- Statistically significant impact differentials by mode appear for only two of the study's 24 confirmatory and secondary outcomes, no more than would be expected by random chance.

This chapter discusses findings related to the impact of offering in-person services as compared to offering remote services (i.e., through the internet and telephone) across all outcome domains. An important feature of this study's evaluation design is that study participants were randomly assigned either to the control group or to one of multiple treatment groups. The treatment group to which study participants were assigned determined whether they were offered in-person services or remote services. This design enabled the study to produce experimental evidence of the impact of in-person services, the impact of remote services, and the relative effectiveness of these two service delivery modes.

As chapter 2 summarized, both remote and in-person homebuyer education and counseling followed the National Industry Standards for topics, duration, and activities. Both provided up to about 8 hours of homebuyer education and up to about 1 hour of individualized counseling. Service delivery by the two modes differed in other ways, however:

- ***Homebuyer education*** in person provided group instruction by an in-person trainer, who, if they were more responsive to participants present in the room, might have emphasized one topic area over another. Group instruction also allowed participants to learn from one another and to hear about other's experiences in the homebuying process. Remote homebuyer education required participants to complete pre-specified online modules without the ability to expand on topics that might be of interest or to ask questions and learn from others.
- As for ***homebuyer counseling***, participants could vary in their level of comfort in working with a housing counselor in-person versus over the telephone, and this could have affected what they discussed and shared (DeMarco et al., 2017).

The costs of the two modes of homebuyer education and counseling differ, as well. Providing in-person services is generally more costly than providing remote services. Even if the services are offered free of charge, participants could incur more of their own costs if they attend in person—for example, transportation and childcare costs and time away from work or other activities. However, the benefits of the two modes also can differ. For example, though the remote mode might be in theory more convenient for participants assigned to that mode, the nature of the remote, self-directed intervention could result in increased procrastination in engaging in services or greater distractions once engaged.

Exhibit 8.1: Comparison of Impact of Being Offered In-Person Services versus the Impact of Being Offered Remote Services

Outcome	Impact of Being Offered In-Person Services	Impact of Being Offered Remote Services	Difference Between In-Person and Remote Impacts
Preparedness and Search			
Study participant was confident in ability to find information needed about the homebuying process (%)[a]	4.0	3.1**	0.9
Study participant purchased a home (%)[b]	2.0	-0.2	2.1
Study participant was very satisfied with the homebuying process (%)[a]	2.5	-1.7	4.2
Study participant was satisfied with decision to buy or rent (%)[a]	1.5	-0.0	1.5
Financial Knowledge, Behaviors, and Skills			
If in financial difficulty, the study participant would contact lender for assistance prior to missing a mortgage payment (%)[a] ~	3.6	-0.9	4.5
If in financial difficulty, the study participant would contact counseling agency, consumer credit counseling agency, or other nonprofit organization for assistance prior to missing a mortgage payment (%)[a] ~	6.4***	1.7	4.7
Financial Skill Scale score (ranges from 0 to 100)[a]	0.5	0.4	0.1
Financial Indicators			
Credit score as of December 2019 (range is 300-850)[c]	5.2	0.8	4.4
Study participant has a credit score greater than or equal to 620 (%)[c]	1.6	0.4	1.2
Financial Well-Being Scale score (ranges from 0 to 100)[a]	0.2	0.1	0.1
Total nonhousing debt($)[c]	– 1,199	1,407	– 2,605
Student loan debt($)[c]	– 853	2,058***	– 2,911***
Total consumer debt (all debt besides housing and student) ($)[c]	– 346	– -652	306
Credit card debt ($)[c]	– 243	– 549*	305
Total monthly debt-to-income ratio (back-end ratio)[d]	1.4	-0.8	2.3
Student loan 30-day delinquency indicator (%)[c]	0.6	0.5	0.1
Total savings and investments ($)[a]	7,813	3,583	4,231
Sustainable Homeownership			
Ever 60 days delinquent (%)[e] ~	– 1.1	– 0.4	– 0.7
Ever 30 days delinquent (%)[e] ~	– 1.8	– 0.6	– 1.2
Ever 90 days delinquent (%)[e] ~	– 0.6	– 0.4	– 0.2
Ratio of monthly housing costs to monthly income[a]	2.2	– 1.4*	3.6**
Study participant described the condition of current home/apartment as good or excellent (%)[a]	1.0	– 0.3	1.3
Study participant was satisfied with current neighborhood (%)[a]	0.2	0.4	– 0.2
Study participant was confident in ability to make housing payments over the next 6 months (%)[a]	– 0.8	1.2	– 2.0

Notes: Appendix A details the analytic methods and sample composition and appendix B provides additional detail on the construction of measures. Appendix exhibits D.1 and D.2 provide additional detail related to the impact of in-person and remote services, including sample sizes.
Statistical significance levels for two-sided tests are indicated with asterisks as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.
~ Denotes outcomes that are coded as 0 for study participants who did not purchase a home.
Sources: [a] Long-Term Follow-Up Survey; [b] Long-Term Follow-Up Survey; credit bureau; study lenders; Federal Housing Administration; [c] Credit bureau; [d] Long-Term Follow-Up Survey; credit bureau; [e] Credit bureau; study lenders; Federal Housing Administration

Exhibit 8.1 compares the impact of *being offered* the in-person services versus the impact of *being offered* remote services. For 2 out of 24 outcomes, we observed a statistically significant difference (at the 10-percent significance level) in impacts. This is no more than the number of

differences in outcomes we would expect due to random chance.[66] We conclude that the impact of in-person services is no different from the impact of remote services.

If the impacts are statistically the same between in-person and remote services, then preference, accessibility, cost, and necessity might be the drivers of which mode to prioritize from the standpoint of policy and practice.

Preference. At the outset of this demonstration's intake, when we asked study participants whether they would prefer to participate in in-person or remote services, about three-fourths expressed a preference for remote.[67] Furthermore, our Short-Term Follow-Up Survey provided evidence that convenience was a likely reason for higher participation rates for those offered remote services.

Accessibility. For this study, we engaged people who lived in one of 28 major metropolitan areas, but people in rural areas also buy homes. From that perspective, remotely provided services have the potential to have much greater reach than location-based, in-person services. Indeed, the development of online homebuyer education and counseling services was with the express objective of expanding access.[68]

Cost. Although not a focus of this study, another consideration is cost—both for the participant and for the service provider. For participants, the cost to engage in remote services is lower: for example, they do not need transportation or childcare, and they can engage in the education module when convenient for them. For service providers, remote services likely reduce costs, particularly those associated with maintaining a brick-and-mortar location.[69]

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66 As described in appendix section A.8.2, we would conclude that there is systematic evidence of between-mode differences in impacts if there were five or more statistically significant differences in impacts, using a significance level of 0.10). If there were four or fewer between-mode differences (out of 24 total tests conducted), then we conclude that there is not sufficient evidence of between-mode differences in impacts.

67 When the study design was modified, as is described further in appendix section A.1, the baseline survey was amended to add a question asking *all* study participants whether they would prefer to receive services remotely or in person, should they be randomized to a treatment group. Their response did not influence how they were assigned to the control and treatment groups That is, regardless of their stated preference, study participants were assigned into one of the three groups randomly.

68 For example, eHome's website states that the eHome Network "was developed beginning in 2008 to help clients who needed homebuyer education to access high quality content without having to travel to a homeownership counseling agency for classes." See www.ehomeamerica.org/about for more information.

69 According to a 2005 study, the cost per person of providing an in-person education module ranges from $583 to $1,564 (NeighborWorks America, 2005). In addition, according to the same study, "[fixed costs for in-person services] generally remain the same for a wide activity range, and then jump to a new higher cost for the next activity range as new staff or more space is needed to support the increased activity. Within each relevant range of fixed costs, the cost per customer is reduced as volume increases until maximum capacity is reached with the current scale of operations. Thus, the cost per customer will peak at program start-up, because of the need for additional staff and more space, and will continue to decrease until the organization's maximum capacity is reached (NeighborWorks America, 2005). While remote services may involve high costs during the design and

Necessity. Finally, remotely provided services are more practical in the current, pandemic-affected environment, in which people worldwide are restricted from coming together in groups—as would be needed for in-person education—or even in pairs with people outside of one's family—as is needed for in-person counseling. At this writing, it is unclear when in-person homebuyer education and counseling meetings will resume. Until then, remote services are really the only choice.

Therefore, it is reassuring that—according to our evidence—there is no reason to think remote services are any less effective than in-person services, which some people might assume.

development of the technology, once developed, a near limitless number of people can receive the education, with the service provider incurring only marginal additional costs.

9. Impacts by Age-, Gender-, Race-, and Ethnicity-Defined Subgroups

Key Findings: Select Subgroup Impacts

Homebuyer education and counseling services—

- Helped prospective homebuyers **younger than age 30** increase their credit scores and their total savings and investments.
- Helped **women** identified as the primary borrower increase their credit scores and their total savings and investments.
- Did not help **African American** or **Hispanic** prospective homebuyers or prospective homebuyers with **lower baseline credit scores** overcome disadvantages in achieving sustainable homeownership.

In Chapters 4 through 7, we reported on a limited number of findings for subgroups of participants in the demonstration within the context of describing the overall impact of homebuyer education and counseling. We highlighted those instances where a subgroup (or subgroups) had experienced impacts on an outcome even when there was no detectable impact for the sample overall. In this chapter, we focus specifically on the findings for four subgroup populations—two where there was a pattern of favorable impacts and two where there was no pattern of favorable impacts despite subgroups having entered the demonstration with disadvantages that might have been overcome by the services offered.[70]

First, we report on subgroups defined by **age** and **gender.** For these two groups, there was a systematic pattern of favorable impacts: participants younger than age 30 had more favorable impacts than those age 30 and older, and women had more favorable impacts than men.

Next, we report on subgroups defined by **race** and **ethnicity** because homebuyer education and counseling might help overcome historic and current disadvantages that African Americans and Hispanics face in access to homeownership. Finally, we report on a fifth subgroup, that defined by **credit score** to test the hypothesis that the impact of homebuyer education and counseling differs between people who start the homebuying process in more challenging financial positions and who face greater barriers to homeownership.

The analysis of impacts for subgroups used the same methods as analysis of estimates for the full study sample and also determined whether a difference between impacts for two subgroup populations (e.g., younger versus older prospective homebuyers) was statistically

[70] Experimental impact analysis requires that subgroups be defined by characteristics observed at baseline, at the time when study participants were randomly assigned to treatment and control groups. For the subgroups examined in this chapter, the "baseline" constraint matters only for the subgroup defined by credit score. Credit score after random assignment is an outcome—something that could change as a result of the assignment to the treatment or control group. In comparison, age, gender, and race are reasonably assumed to be fixed, not likely to be affected by homebuyer education and counseling.

significant and occurred for a large enough number of outcomes not to have appeared by random chance.[71]

To provide context for findings on the subgroups highlighted in this chapter, we describe how the subgroups compare on baseline measures of savings, credit score, and debt. These factors indicate whether—and the degree to which—each subgroup started at a relative disadvantage when it came to purchasing and sustaining homeownership.

9.1 Younger and Older Prospective Homebuyers

"Younger" study participants were defined as those 29 or under, and "older" as those 30 or older. Younger participants were just under one-third of the study sample (31.7 percent), and older participants slightly more than two-thirds (68.3 percent). Engagement in services did not differ between the two groups: the younger and older participants took up services and completed all services at similar rates.

9.1.1 Baseline Characteristics of Younger and Older Prospective Homebuyers

Overall, neither of the age-defined subgroup populations was at a clear financial advantage relative to the other at the time they became part of the demonstration (exhibit 9.1). Younger participants, on average, had significantly less savings than their older counterparts ($40,500 versus $56,600), but they had higher average credit scores (716 versus 702; and were more likely to have credit scores greater than 620). Younger participants also had a slightly lower debt-to-income ratio (0.08 versus 0.09).

Exhibit 9.1: Select Baseline Characteristics by Age

	Age 30 or Older (N = 3,622)	Age 29 or Younger (N = 1,684)	Statistically Significant Difference
Income received by study participant and any co-borrowers in last 12 months ($)	59,794	59,707	
Level of total savings and investments ($)	56,607	40,584	**
Credit score (range is 300-850)	702	716	**
Credit score greater than or equal to 620 (%)	87.5	93.1	**
Amount of nonhousing debt ($)	18,797	19,366	
Debt-to-income ratio	0.09	0.08	**

** Group means are statistically significantly different at the $p<.05$ level.

Sources: Baseline survey of study participants; credit bureau data

[71] As described in more detail in appendix section A.8, we operationalize the concept of systematic between-subgroup differences in impacts as follows: For a given subgroup comparison of interest, we must find a statistically significant between-subgroup difference in impacts (at the 10-percent significance level) for 5 or more of the 24 outcomes analyzed. If there are 4 or fewer between-subgroup differences (out of 24 total tests for each subgroup), then we conclude that there is not sufficient evidence of between-subgroup differences in impacts.

How to Read the Exhibits in This Chapter

Exhibits in this chapter showing the impacts by subgroup include the following:

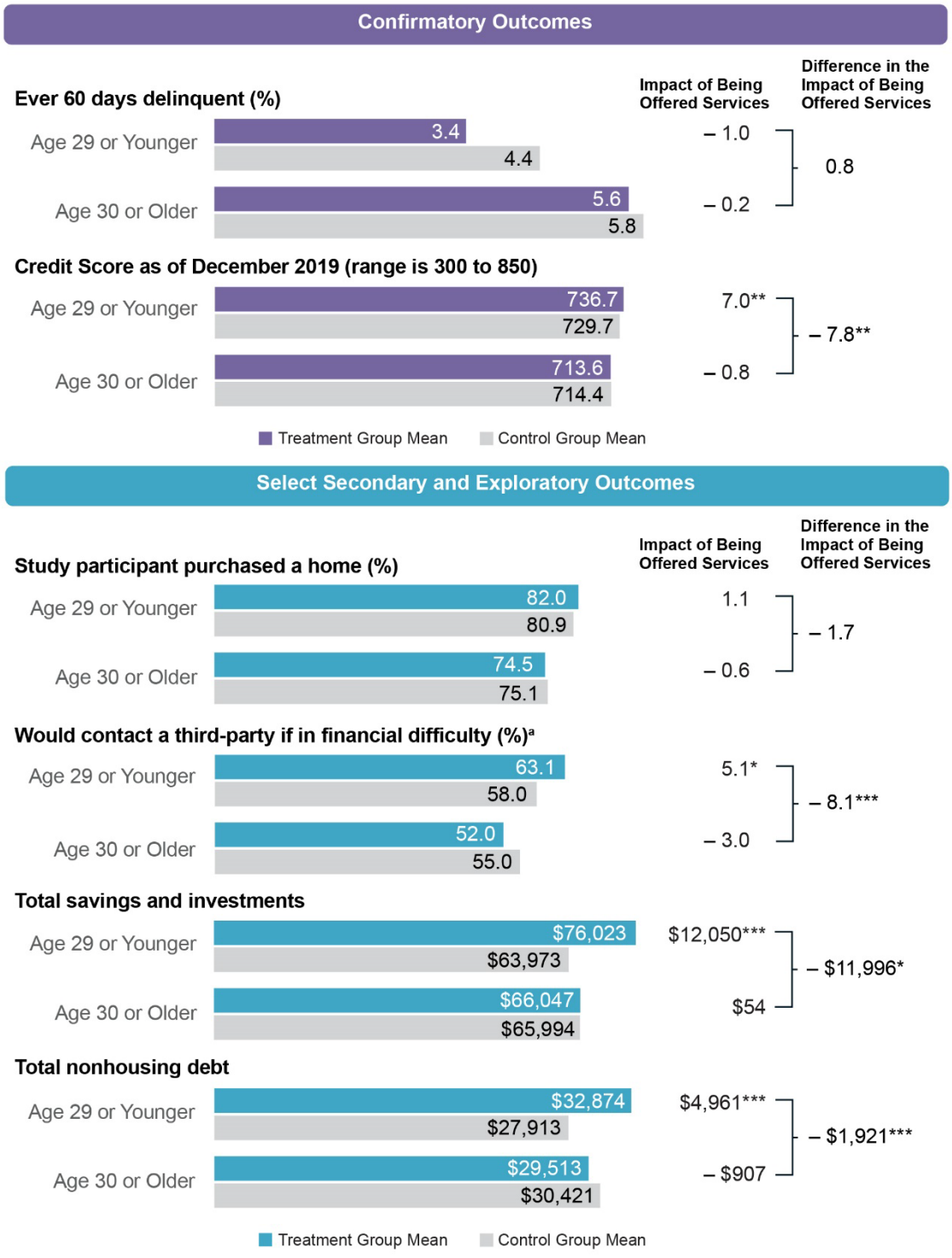
- **Mean outcome levels** for the treatment and control groups are represented by the length of the bars, with each outcome's units noted.
- **Impacts** (treatment-control differences) for each subgroup appear to the right of each subgroup's treatment-control bars.
- The **differential impact**—that is, the difference in the impacts between each subgroup—appears to the right of the bracket.
- **Asterisks** flag statistically significant differences at the 1 percent, 5 percent, and 10 percent levels.

9.1.2 Impacts for Younger and Older Prospective Homebuyers

Overall, homebuyer education and counseling appear to have helped younger participants' financial position—across multiple outcomes (exhibit 9.2). Homebuyer education and counseling added to the relative baseline advantage that the younger subgroup had with respect to credit score, increasing credit scores by 7 points for those offered the services. Second, homebuyer education and counseling helped younger participants increase their savings and investments. Among those age 29 or younger, treatment group members had $12,050 more in total savings and investments than their control group counterparts. Younger treatment group members also reported that they would be more likely than their control group counterparts to contact their lender if in financial difficulty.

However, for one outcome—total nonhousing debt—the intervention did have a seemingly unfavorable impact on prospective homebuyers younger than age 30. For younger participants, the intervention resulted in the treatment group having $4,961 more in total nonhousing debt than the control group.

Exhibit 9.2: Selected Outcomes and Impacts by Age



Notes: Appendix A details the analytic methods and appendix B provides additional detail on the construction of measures. Details of subgroup findings are provided in appendix E.

Statistical significance levels for two-sided tests are indicated with asterisks as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.

[a] Study participants indicated that if in financial difficulty they would contact their lender for assistance prior to missing a mortgage payment.

Sources: Long-Term Follow-Up Survey; credit bureau; study lenders; Federal Housing Administration

9.2 Male and Female Prospective Homebuyers

The study sample was about 60 percent men and 40 percent women. Participation in services varied by gender, with women both taking up and completing services at a higher rate than men.[72]

9.2.1 Baseline Characteristics of Male and Female Prospective Homebuyers

At the time they were seeking to become homeowners and joined the study, women primary borrowers were disadvantaged relative to men across many financial characteristics (exhibit 9.3). Women had lower levels of savings ($48,105 versus $54,470 for men) as well as higher levels of nonhousing debt ($21,762 versus $17,095 for men). Women also had higher debt-to-income ratios (0.09 versus 0.08) and an average credit score of 701 compared with 710 for men, although they were no more likely to have a credit score under 620 than their male counterparts.

Exhibit 9.3: Baseline Characteristics by Gender (Males versus Females)

	Males (N = 3,459)	Females (N = 2,286)	Statistically Significant Difference
Income received by study participant and any co-borrowers in last 12 months ($)	61,861	56,056	**
Level of total savings and investments ($)	54,470	48,105	**
Credit score (range is 300–850)	710	701	**
Credit score greater than or equal to 620 (%)	90.0	88.2	
Amount of nonhousing debt ($)	17,095	21,762	**
Debt-to-income ratio	0.08	0.09	**

** Group means are statistically significantly different at the $p<.05$ level.

Sources: Baseline survey of study participants; credit bureau data

9.2.2 Impacts for Male and Female Prospective Homebuyers

On the confirmatory outcome of credit score, homebuyer education and counseling had an impact on credit scores for women but not for men (exhibit 9.4). Though a gap between women and men in credit scores persisted as of the long-term followup, the gap was half as large as it was at baseline. Women benefited from homebuyer education and counseling in total savings and investments, as well. Women in the treatment group reported $9,662 more savings and investments than their control group counterparts.[73]

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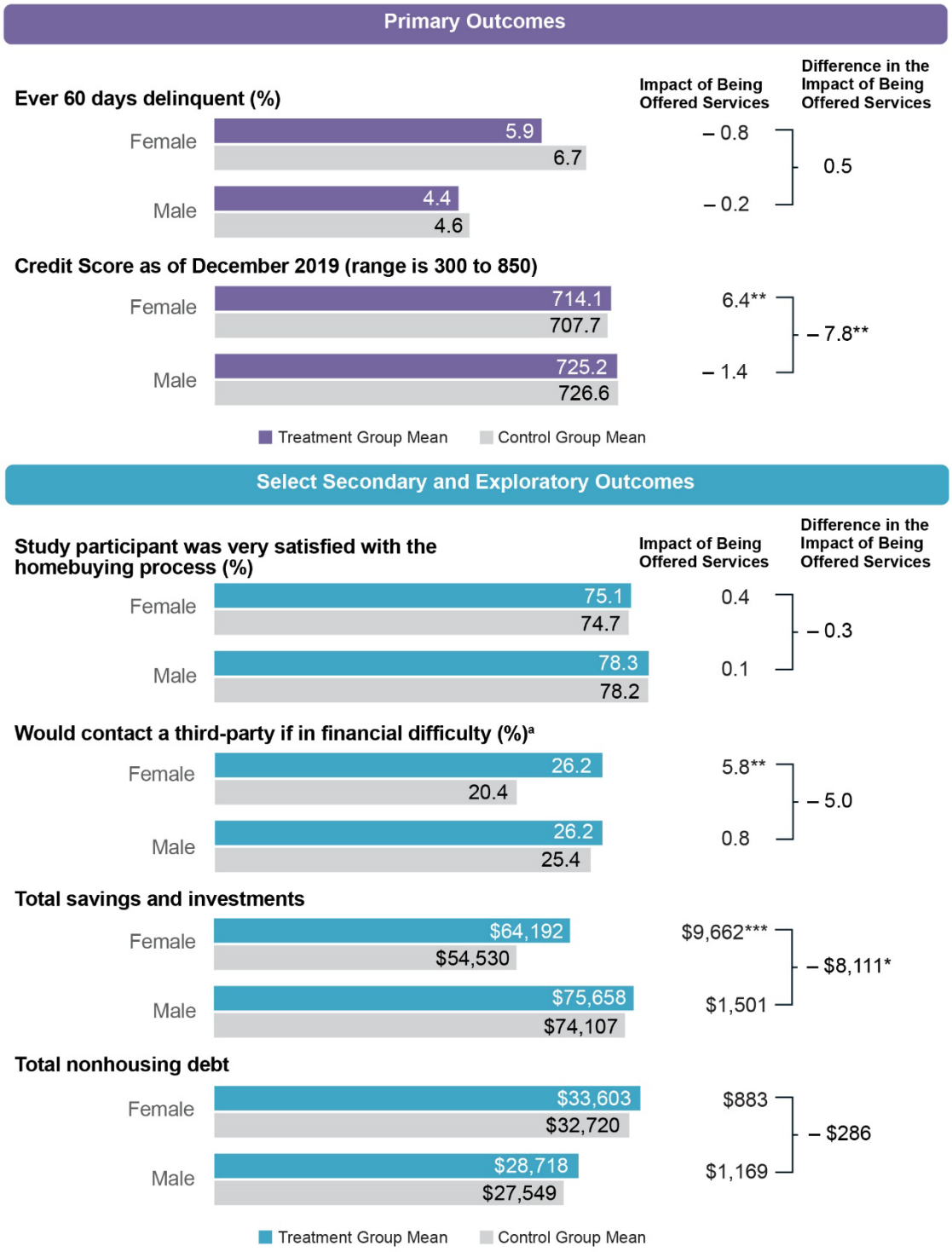
[72] Though the TOT impact estimates for both women and men would always be greater than the corresponding ITT impact estimates for each gender, the higher take-up rate for women implies that the TOT impact estimates for women would be scaled up to a lesser degree than would the corresponding TOT impact estimates for men.

[73] This favorable impact on total savings and investments is concentrated among women who did not have children living with them when they enrolled in the study (not shown in exhibit). Among women without children at baseline, treatment group members had $17,799 more in total savings and investments at long-term follow-up than did the control group (not shown in exhibit). In contrast, among women with children at baseline, there is no detectable impact on total savings and investments.

Exhibit 9.4: Selected Outcomes and Impacts for by Gender



Notes: Appendix A details the analytic methods and appendix B provides additional detail on the construction of measures. Details of subgroup findings are provided in appendix E.

Statistical significance levels for two-sided tests are indicated with asterisks as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.

[a] Study participants indicated that if in financial difficulty they would contact their lender for assistance prior to missing a mortgage payment.

Sources: Long-Term Follow-Up Survey; credit bureau; study lenders; Federal Housing Administration

For men, homebuyer education and counseling had no detectable impact on savings and investments. Despite the advances that women in the treatment group made, a gender gap persisted, with men still having substantially more savings and investments than women, a finding that could be driven by the higher household incomes of men in this study sample ($98,580 at long-term followup) relative to women in the study sample ($85,297 at long-term followup).

9.3 African-American, Hispanic, and White Prospective Homebuyers

About one-fifth of the study participants identified themselves as being African American and non-Hispanic (20.5 percent). Another 38.5 percent of study participants are White non-Hispanic, and 25.1 percent are Hispanic, with the remainder identifying as Asian non-Hispanic or some other race/ethnicity (16.0 percent). In this section, we compare the African-American, Hispanic, and White subpopulations of the study sample.[74]

African-American and Hispanic people face disproportionate barriers to homeownership, including discrimination in mortgage lending and real estate interactions (Quillian, Lee, and Honoré, 2020).[75] By helping them navigate the home purchase process and supporting enhanced financial capability, homebuyer education and counseling offer the opportunity to lessen the impact of some of these barriers and improve access to homeownership.

9.3.1 Baseline Characteristics of African-American, Hispanic, and White Prospective Homebuyers

At the time they were recruited into the demonstration, African-American and Hispanic study participants were at clear financial disadvantages relative to White study participants. African-American and Hispanic study participants had much lower levels of savings ($29,056 and $30,666 versus $65,029 for White participants). African-American and Hispanic study participants also had lower credit scores. African Americans had an average credit score of 668, and Hispanics had an average credit score of 694, while the average scores for White study participants was 724. While 93.9 percent of White study participants had credit scores over 620, only 79.1 percent of African Americans and 86.8 percent of Hispanics had credit scores above this threshold. African Americans had much higher levels of nonhousing debt than Whites

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[74] After completing the initial draft of this report in line with our research protocol, based on reviewer input we added findings from the comparison of outcome levels and impacts for Asians to those of Whites. As described in appendix section E.7, Asian study participants were performing well on a variety of measures compared to other race/ethnicities in the sample and did not have much room for improvement on outcomes like credit score and loan performance. The intervention did improve some outcomes for Asian non-Hispanics, including their satisfaction with their decision to buy or rent and financial skill score. However, homebuyer education and counseling did not improve any of the Asian participants' measures of financial indicators or sustainable homeownership.

[75] In addition, a legacy of structural inequities in employment and housing opportunities have resulted in lower levels of income and wealth for African-American prospective homebuyers (Solomon, Maxwell, and Castro, 2019a; Solomon, Maxwell, and Castro, 2019b)

($27,379 versus $19,414), although the level of nonhousing debt for Hispanic participants was the lowest of the three groups, at $14,132. Both African-American and Hispanic study participants had higher baseline debt-to-income ratios than their White counterparts (11 percent of income for African Americans, 9 percent of income for Hispanics, and 7 percent of income for Whites.

Exhibit 9.5: Baseline Characteristics by Race/Ethnicity

	African-American Non-Hispanic (N = 1,165)	Hispanic (1,426)	White Non-Hispanic (N = 2,187)	Statistically Significant Difference Between African-American and White	Statistically Significant Difference Between Hispanic and White
Income received by study participant and any co-borrowers in last 12 months ($)	52,225	50,367	64,500	**	**
Level of total savings and investments ($)	29,056	30,666	65,021	**	**
Credit score (range is 300-850)	668	694	724	**	**
Credit score greater than or equal to 620 (%)	79.1	86.8	93.9	**	**
Amount of nonhousing debt ($)	27,379	14,132	19,414	**	**
Debt-to-income ratio	0.11	0.09	0.07	**	**

** Group means are statistically significantly different at the $p<.05$ level.

Sources: Baseline survey of study participants; credit bureau data

9.3.2 Impacts for African-American, Hispanic, and White Prospective Homebuyers

We found no evidence that the impact of homebuyer education and counseling differed between African-American and White study participants or between Hispanic and White study participants.[76,] It appears that homebuyer education and counseling, as currently practiced, does not narrow the disadvantages that African-American and Hispanic prospective homebuyers face when they start the homebuying process.[77] To have a material impact on racial and ethnic disparate access to homeownership, efforts will need to address more directly the consequences of the structural barriers that have been built over generations (e.g., Federal Reserve Bank, 2021).

9.3.3 Summary and Interpretation

Analysis of three demographic subgroups—based on age, gender, and race/ethnicity—tells three distinct stories. Younger study participants, who faced neither clear advantages nor clear disadvantages to sustainable homeownership relative to older participants, benefited more from homebuyer education and counseling than their older counterparts. Women were at a clear

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[76] Across the 24 outcomes analyzed, between-group impact differences appear no more often than would be expected due to random chance.

[77] We do not find that homebuyer education helped narrow disadvantages faced by other important subgroups, including study participants who entered the study with a credit score less than 680 (exhibit E.3) or those who entered the study with income lower than 80 percent of the area median income (exhibit E.10).

homebuying disadvantage at baseline relative to men. Homebuyer education and counseling had many favorable impacts for women. Men did not experience these same favorable impacts, and some of the favorable impacts for women enabled them to "catch up" somewhat—though not entirely—with men. In contrast, African-American and Hispanic study participants did not experience a pattern of favorable impacts. The failure of homebuyer education and counseling to help level the playing field for achieving sustainable homeownership represents a missed opportunity.

One possible insight for why homebuyer education and counseling failed to improve the position of African-American and Hispanic prospective homebuyers relates to the size of their disadvantages at the time they entered the study and were randomly assigned to receive an offer of homebuyer education and counseling or placed in a control group. Although younger participants and women had, on average, more than $40,000 in savings, total debt around $20,000, and credit scores of more than 700 (and only about 1 in 10 had credit scores of less than 620), the baseline characteristics for African-American and Hispanic study participants indicated far greater barriers. On average, African-American and Hispanic study participants had savings of about $30,000. African-American study participants, in particular, faced greater barriers, with total debt of more than $27,000, and an average credit score of 668. African-American study participants were about twice as likely as younger participants and women to have credit scores of less than 620.

It could be that homebuyer education and counseling services can provide marginal help for people who start in a relatively strong financial position. However, those facing larger barriers may need more intensive interventions to overcome their challenges. To explore this hypothesis, we divided the sample into subgroups defined by a characteristic that has a powerful effect on access to homeownership, baseline credit score. The subgroup with lower credit scores has other barriers to homeownership, including

Impacts for Asian Americans

On his inauguration day, President Joe Biden issued a presidential action titled, "Executive Order on Advancing Racial Equity and Support for Underserved Communities Through the Federal Government." Five days later, he issued the action "Memorandum on Redressing Our Nation's and the Federal Government's History of Discriminatory Housing Practices and Policies." To support these specific presidential directives, as well as other public policy objectives of advancing equity that emerged over the last year, we added an evaluation of the impact of homebuyer education and counseling on Asian Americans to our subgroup analyses. Appendix E section 7 reports those results in full, which we summarize below:

- At baseline, Asian-American study participants had higher incomes, savings, and credit scores than White study participants. They had lower debt levels than White study participants. These characteristics imply that Asian Americans were relatively well positioned for homeownership from a financial standpoint.
- As of the long-term followup, Asian Americans' credit scores had increased further, from an average of 744 to an average of 777. Their 60-day delinquency rate was extremely low at 0.6 percent.
- Homebuyer education and counseling had a differential impact on these two groups, with Whites benefiting more than Asian Americans. The most likely explanation for this is a "ceiling" and "floor" effect. That is, because of Asian Americans' very high credit scores and very low delinquency rates, there was little the intervention could do to improve these values. As a result, the intervention helped White study participants close the gap between themselves and Asian-American study participants.

markedly lower incomes and savings and investment levels, along with higher levels of nonhousing debt and correspondingly greater debt-to-income ratios (exhibit 9.6).

Exhibit 9.6: Baseline Characteristics by Baseline Credit Score

	Credit Score 680 or Above (N = 3,239)	Credit Score Below 680 (N = 1,751)	Statistically Significant Difference
Income received by study participant and any co-borrowers in last 12 months ($)	63,716	51,844	**
Level of total savings and investments ($)	65,953	25,907	**
Credit score (range is 300-850)	748	630	**
Credit score greater than or equal to 620 (%)	100.0	69.3	**
Amount of nonhousing debt ($)	17,179	22,931	**
Debt-to-income ratio	0.07	0.10	**

** Group means are statistically significantly different at the $p<.05$ level.

Sources: Baseline survey of study participants; credit bureau data

As for the impacts of homebuyer education and counseling, the subgroup population with lower credit scores when they joined the study had credit scores no higher than corresponding members of the control group 4 to 6 years later. The impacts imply mostly unfavorable or ambiguous impacts of homebuyer education and counseling for those with lower credit scores (exhibit E.3). This offers support for the hypothesis that homebuyer education and counseling are not powerful enough to overcome barriers to sustainable homeownership for people with substantial challenges.

We use these subgroup impact findings—along with the rest of the study's findings—to inform our conclusions in the next and final chapter of this report.

10. Conclusion and Implications

This report documents the long-term impacts of offering voluntary, free homebuyer education and counseling—a "light-touch" financial education intervention—on outcomes measured 4 to 6 years after prospective first-time homebuyers enrolled in the study. Because of the rigorous experimental study design, we can conclude that any impacts observed on the study's overall treatment group were *caused by* the intervention. This concluding chapter summarizes the key findings, considers implications, and suggests next steps.

10.1 Summary of Key Findings

On the demonstration's two confirmatory outcomes:

- Neither **credit score** nor the **60-day delinquency rate** was detectably different for the entire treatment group sample offered homebuyer education and counseling compared with the control group.

Beyond these confirmatory outcomes, the evaluation observed some impacts of offering homebuyer education and counseling, both on the sample as a whole and on some subgroups.

- The offer of services improved one of the two confirmatory outcomes, **credit score**, for women and younger study participants.
- For the full sample, the offer of homebuyer education and counseling increased **confidence** in the ability to find needed information related to the home purchase process. Being able to find information is a key first step to success in the home purchase process.
- The treatment group had higher levels of **student loan debt** than their control group counterparts. In conjunction with this finding, the treatment group also had lower **credit card debt** and greater **savings** relative to the control group. This evidence about the changing composition of debt suggests that treatment group members may have managed various types of debt differently in efforts to improve their homebuying prospects and success in homeownership. That said, additional analyses did not reveal further insight on this topic (Bocian et al., forthcoming) beyond the overall impacts that we observed.

The study does not find evidence that one **mode of service delivery** produces more favorable impacts than the other. That is, neither in-person nor remotely provided homebuyer education and counseling consistently demonstrated more favorable impacts than the other.

The report and its appendix describe a host of additional findings, including the impact (or lack of impact) of homebuyer education and counseling on additional outcomes for our entire sample and for subgroups. Those insights—about the types of participants for whom the intervention was effective (e.g., women, younger people) and for whom favorable impacts were not evident (e.g., African Americans, Hispanics, people starting with low credit scores)—provide a context for the implications that we discuss.

10.2 Limitations of Findings

Because of the rigorous experimental study design, we have great confidence in the study's *internal validity* and can conclude that any impacts observed on the study's overall treatment group were caused by *the specific intervention studied,* that is, the offer of homebuyer education and counseling to low-, moderate-, and middle-income prospective first-time homebuyers who initiated contact with one of three national lenders from mid-2013 to early 2016.

However, the programmatic and policy implications of the findings, which we discuss below, also depend on the study's *external validity*—that is, the degree to which they are generalizable beyond the specific intervention. It is therefore critical that we state the limitations with respect to external validity.

- *Findings may not be applicable to HUD's current housing counseling program*: The demonstration's purpose was to understand the potential impact of offering voluntary, free homebuyer education and services broadly—for example, to inform whether HUD should do so for all FHA borrowers. This is materially different from assessing the specific programs that HUD's Office of Housing Counseling oversees.

- *Voluntary versus Mandatory*: the intervention we studied *offered* services to the treatment group, but they were not *required* to participate in services. HUD's current housing counseling program supports agencies that, for the most part, serve clients that are *required* to attend and *complete* counseling (e.g., typically required by their lenders or as part of a state finance agency program to receive downpayment assistance or a particular loan product). Although our treatment-on-treated (TOT) estimates approximate the effect of counseling on those who voluntarily took up services, it is possible that the impact of services is different for those who are required to attend and complete them.

- *Downpayment Assistance*: Prospective homebuyers who received downpayment assistance were ineligible to participate in the demonstration but are typical of clients that HUD-supported agencies commonly serve. The combination of what is, essentially, a direct cash transfer *plus* counseling services may result in different outcomes than what we observed.

- *Evolution in Services*: We evaluated services provided in 2014–15 that were the industry standards at the time. Since then, many agencies that HUD supports have likely updated and enhanced their programming to reflect new research and updated understanding of the latest practices in financial education (see Section 10.4).

- *Findings may not be applicable in a different market environment*: Our findings are specific to the time period in which the demonstration was conducted. For most of the demonstration, mortgage rates and unemployment were low and real earnings were rising, which should have encouraged people to consider homeownership. However, tight underwriting standards (making it difficult to obtain a mortgage), could have acted as countervailing influences and discouraged people from pursuing homeownership. Therefore, the specific mix of low-,

moderate-, and middle-income potential homebuyers who self-selected into the study may not be representative of similar individuals who would pursue homeownership in other times. Perhaps more importantly, the tight underwriting and relatively benign market conditions created a testing environment in which participants were generally financially unstressed, leading to low levels of delinquencies and defaults for those who purchased homes. Such an environment may have lessened the benefit of services and likely made it more difficult to detect impacts than might be the case under different market conditions.

- Findings also should not be generalized to other *types* of housing education and counseling, such as exclusively pre-purchase education and counseling, post-purchase counseling, counseling on the successful use of rental assistance, or foreclosure prevention counseling.

10.3 Discussion and Further Research

With those limitations in mind, it is worth thinking carefully about how the demonstration can provide lessons for policymakers and program developers as they consider next steps to enhance homeownership opportunities.

Reimagining Services

While the fact that the intervention had limited or no effect on the study's two confirmatory outcomes—credit score and ever-60 days delinquent—may be disappointing to those who supported the idea of broadly offering services to potential homebuyers, our findings do not *necessarily* suggest that such a policy should be abandoned.

Whether a policy is worthwhile depends not just on the magnitude of the benefits but on the costs of achieving those benefits. Given that the intervention studied in the demonstration did provide some real benefits (particularly for women and younger borrowers), a policy of broadly providing free services is justified if the costs are low enough. The finding of no detectable difference in the impacts between service modes suggests that a policy of offering remote services could be cost-effective.

That said, even if the intervention as studied is cost effective, it seems advisable to examine ways to expand its benefits to a wider range of outcomes and individuals. Fortunately, since the start of the demonstration, a growing body of research has occurred on the types and characteristics of effective financial education interventions. This research provides insights into how a "reimagined" set of services might result in more favorable impacts for a wider range of people. Among the key insights that have emerged related to financial education are the following:[78]

[78] It is possible—even likely—that many homebuyer education and counseling agencies have already adopted approaches to reflect these and other lessons that have emerged from the field. Any efforts to develop a policy to offer free homebuyer education and counseling should build on current best practices.

- *Focus on Financial Skill*. Research suggests that financial education is more likely to be effective if it enhances financial *skill*—that is, the ability to know when and how to find reliable information to make financial decisions, how to process that information, and how to execute financial decisions based on that information (CFPB, 2017b). The homebuyer education evaluated by this demonstration is primarily a *knowledge transferring* intervention rather than a skill-building intervention. There are ways that skill-building approaches could be integrated into the next generation of homebuyer education and counseling services, such as through case studies, simulated decision-making, or experiential learning.

- *Customize Services*. Financial education is more effective when it is tailored to people's specific circumstances, challenges, and goals (FLEC, 2016).[79,80] Although the *counseling* component of the intervention we evaluated was customized to the particular circumstances and needs of participants, the education component, which constitutes the vast majority of the overall intervention, is essentially a "one size fits all." The next incarnation of homebuyer education and counseling should consider shifting the balance of "education" versus "counseling," and/or evaluated to look for opportunities to make the education component more interactive and tailored to the specific experiences of different participants.

- *Consider Timing*. Financial education is more likely to be effective if it is (1) directly connected to an upcoming decision; (2) provided at the time when recipients can put it to use; and (3) includes specific action steps to facilitate follow-through (CFPB, 2017b). While the homebuyer education and counseling we evaluated is, to some extent, a "just-in-time" intervention (i.e., it was offered in the time leading up to the decisions around the purchase of a home), people confront a myriad of decisions during the homebuying process and throughout their time as homeowners. This suggests that a homebuyer education and counseling might consider moving away from their current "one-time" structure toward a longer-term, more sustained intervention.[81]

Pursuing Policies to Reduce the Influence of Structural Barriers

Although there is no evidence of a difference in the impact of the intervention for African Americans or Hispanics, there is also no evidence that that the intervention helped these groups

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79 Evidence supporting the effectiveness of customized financial education includes a randomized control trial of financial coaching programs—which provide one-on-one financial education in which coaches adapt their approaches to meet clients' needs, strengths, and goals (Theodos et al., 2015).

80 In a survey of 282 financial educators, more than 95 percent believed that it was important to "approach teaching by taking into account differences among learners." In addition, when asked to evaluate how effective different teaching strategies were, "drawing on learner's experiences" was ranked highest (Taylor, Tisdell, & Sprow, 2010).

81 In the same way that standard medical practice suggests an annual physical check-up, future financial well-being practice might suggest an annual financial check-up, at which continuing education on changing trends would help inform people's decisions about their changing circumstances.

overcome the barriers they face when it comes to homeownership. Importantly, the study sheds light on the structural barriers that disproportionately face communities of color. The study revealed racial and ethnic disparities in savings and credit scores that impede homeownership and wealth-building opportunities more broadly.[82,83] These disparities have resulted from generations of structural and systemic barriers to education, employment, and wealth-building opportunities (Federal Reserve Bank, 2021).

Given these barriers, it might not be surprising that a "light-touch" intervention like the offer of homebuyer education and counseling had no discernable impact on outcomes for these groups. And while "reimagined" homebuyer education and counseling services may prove to be more effective for African- American and Hispanic potential homebuyers than the intervention we studied; larger, bolder policies are needed to overcome the structural barriers to homeownership faced by these groups. Among the policies that have been proposed to help address these barriers are restorative housing reparations, expanding housing affordability through changes in zoning, and reforming credit and appraisal practices to eliminate discriminatory impacts.

Exploratory Findings and Future Research

This report has emphasized the confirmatory and secondary findings as "key." Indeed, our research protocol determined that doing so would protect the integrity of the evidence. Beyond those findings, however, the study's exploratory findings point to future research that may advance our understanding of how to improve homeownership opportunities for varied populations. Findings with an exploratory level of evidence include the following:

- *Favorable impacts for women.* Relative to their control group counterparts, treatment group women improved their financial skill score and credit score; increased their savings; and decreased monthly debt and housing payments relative to income.

- *Favorable impacts for younger study participants.* Relative to their control group counterparts, treatment group members age 29 or younger at baseline improved knowledge that they should proactively communicate with lenders in times of financial distress; improved their financial skill; and improved their credit scores (measured in several ways). Although treatment group members who were age 29 or younger at baseline have higher levels of debt at long-term followup relative to their control group counterparts, these higher levels of debt are more than offset by higher levels of total savings and investments.

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[82] Although more than 83 percent of study participants who were White had purchased homes at the time of the long-term follow-up, the rate falls to 71.0 percent of Hispanic participants and 67.8 percent of African American participants.

[83] See Kochhar and Fry (2014) for a more general discussion of how inequality in wealth has widened between groups defined by race and ethnicity.

These findings offer suggestions for what future research might aim to replicate or investigate further.

10.4 Summary

This demonstration provides evidence that offering free homebuyer education and counseling provides modest benefits for some individuals. Overall, the intervention does not detectably impact the study's two confirmatory outcomes—credit scores or delinquencies—for the study's large, diverse sample. However, there is evidence that the intervention led to improvements for women and younger potential homebuyers. On average, the treatment group experienced a higher level of student loan debt, and this was coupled with favorable changes in the composition of debt and savings, with the treatment group having lower levels of credit card debt and higher levels of savings. The subgroup analysis results—recognizing for whom the intervention is and is not especially effective—imply that greater customization of homebuyer education and counseling could make it more effective. Finally, the study did not find differential impacts between in-person and remote services, which suggests that there may be cost-effective ways to offer services broadly in the future.

Appendix A: Analytic Methods

This appendix provides additional detail related to the analytic methods used to produce the impact estimates presented throughout this report.

- Section A.1 describes the evaluation design.
- Section A.2 presents the model used to estimate the impact of being *offered* homebuyer education and counseling services.
- Section A.3 presents the models used to estimate the impact of *taking up* homebuyer education and counseling services.
- Section A.4 provides additional detail related to the samples used to answer each evaluation question.
- Section A.5 describes the methods used to address missing data.
- Section A.6 describes the method used to produce Long-Term Follow-Up Survey nonresponse weights.
- Section A.7 presents baseline balance tests for the subset of study participants who responded to the Long-Term Follow-Up Survey.
- Section A.8 describes the study's approach to hypothesis testing and strategy for addressing the multiple comparisons problem.

A.1 Evaluation Design

The study used a randomized experimental design to answer the study's research questions. Eligible prospective first-time homebuyers were randomly assigned to a control group or to a treatment group. Members of the treatment group were offered free homebuyer education and counseling services ("the intervention"). Additional details on the intervention can be found in chapter 3 of Peck et al. (2019). Members of the control group were not offered services through the study.

The randomization process ensures that there are no systematic differences between the treatment group and the control group,[84] except for the treatment offer. This means that the differences in the mean outcomes between the groups can be attributed to the intervention as its "impact."

The study had two phases that affected the intervention for treatment group members—the Initial Study Design and the Modified Study Design, as elaborated next.

[84] DeMarco et al. (2017) reports a baseline balance test, confirming that this is indeed the case.

A.1.1. Initial Study Design: Control Group Plus Remote and In-Person Treatment Groups

Starting in September 2013, the study began enrolling eligible prospective first-time homebuyers and randomly assigning them into one of three groups:

- ***Control group***—Not offered homebuyer education or counseling services through the study.
- ***Remote treatment group***—Offered the study's free online homebuyer education and telephone counseling.
- ***In-person treatment group***—Offered the study's free in-person homebuyer education and counseling.

Those eligible had a 42-percent chance of being randomized into the control group and a 29-percent chance of being randomized into one of the two treatment groups. [85]

Study participants assigned to a treatment group were referred to one of the study's participating housing counseling agencies that provided the assigned mode of services (in-person or remote). Overall, 55.1 percent took up that offer of services. The study did not refer control group members to homebuyer education and counseling services, but members were not prevented from accessing similar services on their own. Some control group members reported accessing homebuyer education and counseling. That said, we concluded that those services that control group members report accessing were not obviously comparable to the demonstration's homebuyer education and counseling services. We elaborate on this point in appendix A of Peck et al. (2019).

In the first year of the demonstration's implementation, the study team monitored the rate at which treatment group members took up the free homebuyer education and counseling services offered to them (their "take-up rate"). The team found that a relatively small proportion (about one-quarter) of treatment group members offered *in-person* services took up services. Having such a large share of no-shows in this treatment group implied low power to detect the effect of being offered in-person services. In response, HUD and the study team decided to modify the study design.

A.1.2. Modified Study Design: Control Group Plus Remote and Choice Treatment Groups

In September 2014, the protocol for assignment to the treatment groups was modified, replacing the in-person treatment group with a "choice" treatment group. As its name implies, study participants assigned to the choice treatment group would be able to choose between accessing services *remotely* through online education and telephone counseling or accessing them *in person* at one of the study's local housing counseling agencies.

Study participants enrolled in the study on or after September 16, 2014, were randomly assigned to one of these three groups:

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[85] This ratio was chosen to balance the study's ability to detect differences (1) between the pooled treatment group and the control group and (2) between each treatment group and the control group.

- ***Control group***—Not offered homebuyer education or counseling services through the study.
- ***Remote treatment group***—Offered the study's free online homebuyer education and telephone counseling.
- ***Choice treatment group***—Offered either the study's free remote homebuyer education and counseling services or its free in-person services.

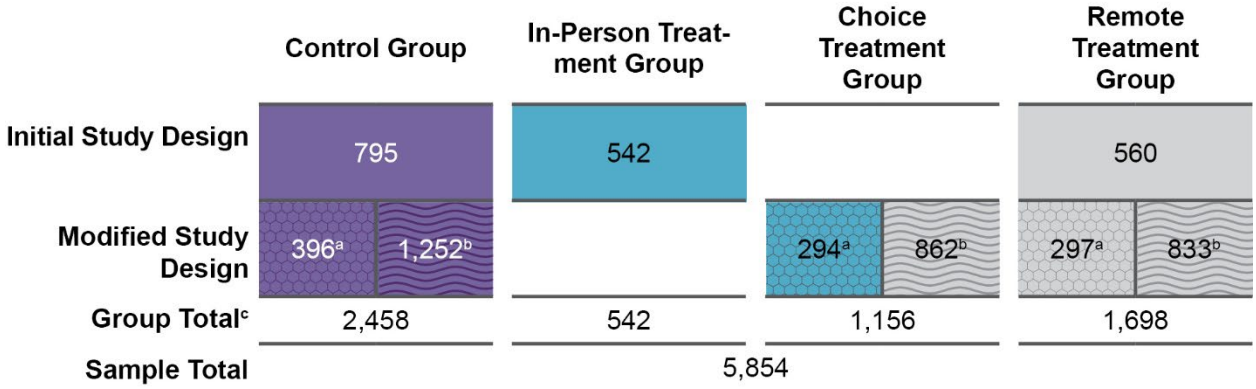
In addition, the baseline survey was amended to add a question asking *all* study participants whether they would prefer to receive services remotely or in person, should they be randomized into treatment. Their response did not influence how they were assigned to the control and treatment groups. That is, *regardless of their stated preference*, study participants were assigned into one of the three groups randomly. Among those randomized into the choice treatment group, we used stated baseline preference data to determine which mode of services to offer them: choice treatment group members who indicated on the survey that they would prefer to receive services remotely were offered free online homebuyer education and telephone counseling. Choice group members who indicated on the survey that they would prefer to receive services in person were offered in-person education and counseling. Thus, the choice treatment group represents a service provision world in which people are offered services in line with their stated baseline preference.[86]

Exhibit A.1 displays the study's sample according to the timing of randomization to the experimental groups and shows how the control group was matched to the segmentation of the groups according to stated baseline preference. Under the Modified Study Design, we have baseline preference data for all study participants, including those in the control and remote treatment groups, as well as the choice treatment group. Having these preference data for all study participants allows us to conduct an experimental comparison between participants in the choice treatment group with a preference for in-person services and participants in the control group with a preference for in-person services. The same comparison was possible for those with a preference for remote services.

Section A.4 provides additional detail related to the samples used to answer each evaluation question.

[86] Choice treatment group members were permitted to enroll in their choice of service mode, regardless of their originally stated preference. In total, 39 choice treatment group members enrolled in remote services after random assignment having previously expressed a preference for in-person services; and one choice treatment group member enrolled in in-person after random assignment having previously stated a preference for remote services.

Exhibit A.1: Study Sample, by Group and Time Period



[a] Study participants whose stated baseline preference on the amended survey was for in-person services.
[b] Study participants whose stated baseline preference on the amended survey was for remote services.
[c] Group total includes all study participants, including those for whom a stated baseline preference is missing.
Notes: Purple shading indicates "no services offered"; teal shading indicates "in-person services offered"; and grey shading indicates "remote services offered."
Source: Study's random assignment and service tracking system

A.2 Estimating the Impact of Being Offered Services

The unbiased estimated impact of being in a treatment group (that is, of being offered homebuyer education and counseling services) is the difference between treatment group and control group mean outcomes. That is, if we find that study participants in the treatment group, for example, have a higher average homeownership rate than do those in the control group, then the difference in these two homeownership rates represents the causal impact of the intervention. To operationalize this concept, the study follows common practice and uses multiple regression, which uses baseline variables as covariates to increase the precision with which the intervention's impact is estimated.

In addition to controlling for a set of baseline characteristics, the impact model includes a single binary variable for whether the study participant was randomly assigned before or after the September 2014 study redesign. This variable serves to control for any possible differences across the time periods that could influence the outcome. The impact model also includes a set of site fixed effects, which control for both observable and unobservable differences across the 28 metropolitan areas from which study participants were recruited.

The regression model for estimating the impact of being offered homebuyer education and counseling services is:

$$Y_{is} = \alpha + \delta T_{is} + \beta X_{is} + \theta Time_{is} + \mu_s + \varepsilon_{is} \qquad \text{(eq. A.1)}$$

where:

Y_{is} is the outcome of interest for study participant i in site s.

T_{is} is a dummy variable that equals 1 if study participant i in site s was assigned to a treatment group; T_{is} equals 0 if the study participant was assigned to the control group.

X_{is} is a vector of individual background characteristics for study participant i in site s.[87]

$Time_{is}$ is a dummy variable that equals 1 if study participant i in site s was randomly assigned prior to September 16, 2014; T_{is} equals 0 if the study participant was randomly assigned on or after this date.

μ_s is a set of site fixed effects.[88]

ε_{is} is a random error term.

The coefficient, δ, provides an "intent-to-treat" (ITT) estimate of the impact of *being offered* free homebuyer education and counseling services, and it is the parameter of central interest. This coefficient provides a regression-adjusted estimate of the difference in mean outcomes between treatment group members, including both those who took up intervention services and those who did not, and control group members. We estimated the equation (A.1) mode,l using weighted least squares regression for both continuous and binary outcomes, so that the coefficient δ, has the same interpretation for different types of outcomes. To account for the possibility that study participants from the same site (that is, MSA) may have correlated error terms, following standard practice, we cluster standard errors at the site level. [89]

Equation (A.1) depicts the model specification used to estimate the overall ITT impact of homebuyer education and counseling services and mode-specific effects. To produce subgroup impacts, we add an "interaction term" to the model: the treatment indicator is interacted with a subgroup identifier (as defined by baseline traits), and the coefficient on this interaction term provides an estimate of the difference in impacts between subgroups. Exhibit B.4 describes the operationalization of the specific subgroup identifiers, and the impacts on subgroups are presented in appendix E.

A.3 Estimating the Impact of Taking Up Services

The ITT estimate provides the impact of being assigned to a treatment group regardless of whether services are actually received, but we are also interested in estimating the impact of actually taking up the services that were offered, which is referred to as the "treatment-on-the-treated" (or TOT) impact.

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87 Exhibit B.3 describes the set of baseline covariates included in the impact analysis model. The baseline covariates capture demographic characteristics, stage in the homebuying process, employment and income, financial responsibility, credit worthiness, and whether the study participant reported a baseline preference for remote services.

88 Here, "site" refers to the 28 large metropolitan areas where study participants enrolled.

89 As described by Cameron and Miller (2015), failure to control for within-site error correlation can lead to misleading standard errors, confidence intervals, and *p*-values.

The textbox **Calculating Impact Two Ways** in section 2.3 offers a general introduction to the concept of the TOT impact. For this study, we estimate the impact of taking up services by two-stage least squares (for example, Angrist and Imbens, 1995; Angrist, Imbens, and Rubin, 1996), which is functionally the same as using the division-based Bloom (1984) approach.[90] In the first stage, we estimate a linear regression model that predicts the probability that a given study participant takes up homebuyer education and counseling services. As depicted by equation (A.2), the dependent variable in the model, *P*, is an indicator for whether the study participant *took up any* homebuyer education and counseling services. The model includes the same set of regressors included in the equation (A.1) model used to estimate the impact of being offered services: a treatment group indicator, a vector of baseline characteristics, a binary time variable, and a set of site fixed effects.

$$P_{is} = \pi_1 + \pi_2 T_{is} + \pi_3 X_{is} + \pi_4 Time_{is} + \mu_s + \varepsilon_{1is} \qquad \text{(eq. A.2)}$$

In the second stage, we model the outcome of interest as a function of the predicted probability of taking up services from the first stage regression and a similar set of observed covariates. The second stage model embeds the predicted take-up indicator within it, as follows:

$$Y_{is} = \gamma_1 + \gamma_2 \widehat{P_{is}} + \gamma_3 X_{is} + \gamma_4 Time_{is} + \mu_s + \varepsilon_{2is} \qquad \text{(eq. A.3)}$$

In equation (A.3), $\widehat{P_{is}}$ is the predicted probability that study participant *i* in site *s* takes up any of the offered homebuyer education and counseling services, as estimated from equation (A.2), and the other terms remain the same, as defined in section A.1. In this model, the coefficient γ_2 is the estimate of the impact of taking up homebuyer education and counseling services and is the parameter of central interest.[91]

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[90] The conventional Bloom adjustment, which computes the impact of taking up services by dividing the ITT estimate (and corresponding standard error) by the take-up rate, assumes that the take-up rate has no sampling variability (that is, that the take-up rate would be constant across different samples from the universe of potential study participants). This assumption could lead to a biased TOT variance estimate. In contrast, the two-stage least squares model used to compute the TOT estimate accounts for the sampling variability of the take-up rate when computing the TOT variance estimate, allowing us to produce an asymptotically unbiased estimate of the TOT variance (Schochet and Chiang, 2009; Litwok and Peck, 2018). That said, the magnitude of the TOT impact estimate is the same whether one uses the Bloom (simple division) approach or the regression-based approach. Because the Bloom approach is more intuitive and easier to describe, we use it as a means to explain the analysis but execute the analysis with the regression-based approach.

[91] Following the work of Angrist, Imbens, and Rubin (1996), Schochet and Chiang (2009) provide a detailed description of the assumptions required to identify the Complier Average Causal Effect (CACE), which is defined as the average impact of intervention services on those who comply with their treatment assignments. Following their terminology, *compliers* are those who would take up services only if they were assigned to the treatment group; *never-takers* are those who would never take up services; *always-takers* are those who would always take up services; and *defiers* are those who would take up services only if assigned to the control group. Under standard assumptions, we can identify the average causal effect of the treatment for compliers if there are no defiers and the intervention has no impact on never-takers and always-takers (Schochet and Chiang, 2009).

A.3.1. Capturing Service Take-Up: Administrative Data Versus Long-Term Follow-Up Survey Data

The study collected two sources of data about whether participants took up services—administrative data from service providers and survey data from the Long-Term Follow-Up Survey. For the estimates of the impact of taking up services presented throughout this report, the indicator for whether the study participant took up services, *P*, is defined using administrative data from eHome America, ClearPoint, and local housing counseling agencies.[92] This subsection explains why we chose to use administrative data rather than survey data to measure take-up when estimating the impact of taking up services.

The administrative measure of take-up is available only for the treatment group. Because the administrative data are not available for the control group, the analysis assumes no control group crossovers. Crossovers are those members within the control group who receive any of the demonstration's homebuyer education and counseling services offered to the treatment group. It is possible that some members of the control group found a way to participate in some form of homebuyer education and counseling from some outside source. Control group members were not referred to services through the study, but they were not prohibited from participating in services on their own, and they certainly could have accessed any other services available in their communities or online. However, it is conventional in applied program evaluation to adjust only for pure crossovers in computing the effect of taking up services, under the assumption that whatever outside services the control receives represent the counterfactual conditions, even if those conditions include participation in some comparable services.

In this study, we expect crossovers—control group members who received the same homebuyer education and counseling services offered to treatment group members—are either unlikely or relatively small in number for a few reasons. First, individuals were ineligible to participate in the study, whether as treatment or control group members, if they previously had used homebuyer education or counseling services or if prior to enrolling in the study they applied for a mortgage or downpayment assistance program that required them to complete a homebuyer education course. Second, many focus group participants said they either did not even know that homebuyer education and counseling services existed, and, unlike the study's treatment group members, control group members were not referred to the study's HUD-approved homebuyer education and counseling services and did not receive any study incentive payments for participating in homebuyer education and counseling services. This implies little knowledge or incentive that would compel control group members to seek out services on their own. Finally, in the situation that control group members did find the same homebuyer education services that the study offered to treatment group members, then the control group members would typically be required to pay for those services, and this fee might be an additional deterrent to their

[92] Administrative data from eHome America, ClearPoint, and local housing counseling agencies were also used to compute the estimates of homebuyer education and counseling services initiation and completion described in chapter 2.

participation. It seems more likely that control group members who sought services would end up participating in freely available services, such as a through a buyer's agent, friend or relative, or local community center or library.

However, according to the Long-Term Follow-Up Survey, we know that some control group members reported accessing some kind of homebuyer education and counseling services from some source. Further, it is possible that some control group members pursued a mortgage that required participation in homebuyer education and counseling services through a lender other than the lenders who participated in the study and referred prospective first-time homebuyers to the study. Among the 21.3 percent of control group members who reported receiving some form of homebuyer education and counseling services, 32.3 percent reported that completion of homebuyer education and counseling services were required by their lender. This implies that 6.9 percent of control group members took up services to meet a lender requirement, services that are likely to be similar to those offered to treatment group members.

If some control group members were indeed crossovers into this study's services, then the administrative measure underestimates control group take-up, and the associated TOT estimate understates the actual TOT impact as discussed in detail in Peck et al. (2019). Although 21.3 percent of the control group self-reported that they accessed some sort of homebuyer education and counseling services, we expect that, given their different experiences in the study, control group members might have had a broader view of what it meant to participate in services related to homebuying. Some control group members who responded to the Short-Term Follow-Up Survey reported they received homebuyer education through "someone at work" or "through a bank," or they reported that they completed counseling "by mail," "online," or "at a bank." These responses imply a less formal definition of service receipt, calling into question the comparability of the services control group members received to those offered to the treatment group.

Throughout this report, we focus on the impact of taking up services based on the administrative measure of take-up because we believe it provides a more reliable measure of whether treatment group members took up services and is the more conservative estimate.

Exhibit A.2: Control Group Take-Up of Services Based on Long-Term Follow-Up Survey Responses

	Control Group
Completed any one-on-one counseling (%)	10.8
Among control group members who completed homebuyer counseling:	
Completed counseling over the telephone (%)	28.9
Completed counseling in-person (%)	51.3
Completed counseling some other way (%)	19.8
Participated in any homebuyer education (%)	15.7
Among control group members who completed homebuyer education:	
Completed education online (using the internet) (%)	45.0
Completed education in-person (%)	46.0
Completed education some other way (%)	9.1
Participated in any homebuyer education or counseling services (%)	21.3
Homebuyer education or counseling was required by lender (%)	24.3

A.4 Samples Used to Answer Evaluation Questions

This subsection provides additional detail on the samples used to estimate the impact of homebuyer education and counseling services presented throughout this report. We assigned study participants to mutually exclusive subsamples based on whether they enrolled in the study before or after the September 2014 study redesign (the study redesign is described in section A.1), their stated preference for in-person or remote services, and their randomly assigned treatment group.

Appendix exhibit A.3 defines each of these subsamples based on these characteristics and provides a sample identifier that we use to refer to subsamples throughout this section. (Exhibit A.1 provides a visual depiction of these subsamples. Exhibit A.4 provides additional detail related to the samples used to produce experimental estimates of the overall impact, subgroup impacts, and mode effects. The sample sizes reported in exhibit A.4 exclude study participants who withdrew from the study and, therefore, reflect the total sample that would be available for impact analysis if there were no missing outcome data.

The samples used for the impact analysis and the covariates included in the impact model are chosen to ensure that all of the impact estimates described in exhibit A.4 are based on experimental comparisons. To ensure that each of these comparisons maintains the integrity of the experimental design, the impact model includes controls for whether study participants enrolled in the study before or after the September 2014 study redesign, their stated preference for in-person or remote services, and their randomly assigned treatment group.

For example, when estimating the impact of remote services, we compare outcomes for remote treatment group and choice treatment group members who selected remote services with outcomes for the control group. For this comparison, these controls ensure that our estimated impact of remote services is based on the following two experimental comparisons: (1) remote treatment group members are compared to the full set of control groups members, and (2) choice treatment group members with stated baseline preference for remote services are compared to their control group counterparts, which are Modified Study Design control group members with stated baseline preference for remote services.

Exhibit A.3: Defining Samples Used to Answer Evaluation Questions

Sample Identifiers	Period of the Study	Random Assignment Treatment Group	Mode Preference	Mode of Services Offered	Sample Size excluding withdraws	Withdraws
C	Before redesign	Control	Not observed	None	789	6
T_I	Before redesign	In-Person	Not observed	In-Person	514	28
T_R	Before redesign	Remote	Not observed	Remote	545	15
CP_I	After redesign	Control	In-Person	None	394	2
CP_R	After redesign	Control	Remote	None	1,244	8
CP_M	After redesign	Control	Missing Data	None	15	0
T_CP_I	After redesign	Choice	In-Person	In-Person	290	4
T_CP_R	After redesign	Choice	Remote	Remote	851	11
T_RP_I	After redesign	Remote	In-Person	Remote	295	2
T_RP_R	After redesign	Remote	Remote	Remote	814	19
T_RP_M	After redesign	Remote	Missing Data	Remote	8	0
Total	-	-	-	-	5,795	95

Exhibit A.4: Detail on Samples Used to Answer Evaluation Questions

Evaluation Question Addressed	Contrast	Control Group Samples Included	Treatment Group Samples Included	Control Group Sample Size	Treatment Group Sample Size	Total Sample Size
Overall Impact	Compares full treatment group versus full control group	C; CP_I; CP_R; CP_M	T_I; T_R; T_CP_I; T_CP_R; T_RP_I; T_RP_R; T_RP_M	2,442	3,317	5,759
Impact of in-person services	Combination of the following two experimental contrasts: • Comparison of in-person treatment group versus Initial Study Design control group • Comparison of choice treatment group members with stated baseline preference for in-person services versus Modified Study Design control group members with stated baseline preference for in-person services	C; CP_I	T_I; T_CP_I	1,183	804	1,987
Impact of remote services	Combination of the following two experimental contrasts: • Comparison of remote treatment group versus full control group • Comparison of choice treatment group members with stated baseline preference for remote services versus Modified Study Design control group members with stated baseline preference for remote services	C; CP_I; CP_R; CP_M	T_R; T_CP_R; T_RP_I; T_RP_R; T_RP_M	2,442	2,513	4,955
Impact of choice of service modes	Compares choice treatment group versus Modified Study Design control group	CP_I; CP_R; CP_M	T_CP_I; T_CP_R	1,653	1,141	2,794
Subgroup impacts	Compares full treatment group versus full control group within each subgroup of interest[a]	C; CP_I; CP_R; CP_M	T_I; T_R; T_CP_I; T_CP_R; T_RP_I; T_RP_R; T_RP_M	2,442	3,317	5,759

Notes: Sample sizes reported in this table exclude study participants who withdrew from the study.

[a] Each set of subgroup impacts is estimated in a separate "interaction model" using the full study sample. See exhibit B.4 for operationalization of subgroup identifiers.

A.5 Methods for Handling Missing Baseline and Outcome Data

Baseline covariates are included in the model used to produce impact estimates to control for any observed, chance differences in these baseline measures. To avoid dropping observations from the impact analysis due to missing baseline data, we use the "dummy variable adjustment" approach. This strategy sets missing cases to a constant and includes a set of "missing data flags" in the impact model. As detailed by Puma et al. (2009), this method is appropriate for handling missing baseline data from experimentally designed evaluations, and it is straightforward to implement and is easily replicated. The method involves the following three steps for each baseline covariate, *X*, with missing data:

- ***Step 1:*** Create a new variable, *Z*, that is set equal to *X* for all cases where *X* is nonmissing, and is set to a constant value, *C*=the mean of *X*, for those cases when *X* is missing.
- ***Step 2:*** Create a new variable, *D*, that is set equal to 1 for cases where *X* is missing, and is set equal to 0 for cases when *X* is not missing.
- ***Step 3:*** Replace the baseline covariate, *X*, in the impact analysis model with *Z* and *D*. This will allow the impact model to estimate the relationship between *Y* and *X* when *X* is not missing, and to estimate the relationship between *Y* and *D* when *X* is missing.

When outcome data are missing for a given sample member, we follow the recommendation of Puma et al. (2009) to conduct a "full-case" analysis. When estimating the impact on a given outcome, this method excludes (or "case-deletes") any observations with missing data for that outcome rather than imputing the value of the missing observation. This method has the benefit of ease of implementation and interpretation. Similarly, we conduct a full-case subgroup analysis, excluding observations with missing subgroup identifiers.

A.6 Survey Nonresponse Weighting Methods

The study had a Long-Term Follow-Up Survey response rate of 72.0 percent, which means that 28.0 percent of the study sample did not respond to the survey.[93] We find evidence that study participants who responded to the Long-Term Follow-Up Survey are different from those who did not on a wide variety of baseline measures (exhibits A.5 and A.6). As noted by Hsueh et al. (2012), if survey respondents and nonrespondents differ, then the impact results for the sample of respondents might not be generalizable to the full sample.

[93] Study participants who withdrew from the study are not included in these computations.

Exhibit A.5: Comparison of Long-Term Follow-Up Survey Respondents and Nonrespondents, Demographic Characteristics of Study Participants

Baseline Variable	Full Sample	Long-Term Survey Respondents	Long-Term Survey Nonrespondents	Statistically Significant Difference
Race/Ethnicity of Household Head				
Hispanic	25.1	23.4	29.5	*
White non-Hispanic	38.5	40.0	34.5	*
African-American non-Hispanic	20.5	21.3	18.3	*
Asian non-Hispanic	12.1	11.6	13.3	
Other race	3.9	3.7	4.4	
Male	60.2	58.4	64.9	*
Age greater than or equal to 30	68.3	67.6	70.0	
Marital Status of Household Head				
Married	38.2	36.7	42.0	*
Divorced, widowed, or separated	14.8	14.7	15.0	
Single and never married	47.1	48.6	43.0	*
Plans to purchase the home with a co-borrower	26.3	25.9	27.3	
Household Size				
One	22.7	23.5	20.6	*
Two	32.0	32.7	30.3	
Three	19.8	19.8	19.6	
Four	15.2	14.5	17.1	*
Five	6.7	6.2	7.9	*
Six or more	3.6	3.2	4.4	*
Education of Household Head				
Bachelor's degree or higher	53.4	56.5	45.7	*
Associate's degree	12.9	12.9	12.9	
Some college, but no degree	16.1	15.4	17.9	*
High school diploma or less	17.6	15.2	23.6	*
Employment				
Full-time employment (30+ hours per week)	89.9	90.0	89.7	
Part-time employment (1-29 hours per week)	4.1	4.3	3.5	
Unemployed and looking for work	0.5	0.5	0.3	
Not working, homemaker, retired, student, or other	5.5	5.2	6.5	
Income received by household head and any co-borrowers in last 12 months				
$24,999 or less	8.1	7.7	9.3	
$25,000 to $49,999	34.0	33.5	35.1	
$50,000 to $74,999	32.7	33.1	31.6	
$75,000 to $99,999	14.6	15.0	13.6	
$100,000 or more	10.6	10.8	10.3	

Notes: Appendix B provides additional detail on the construction of measures.
* Long-Term Follow-Up Survey respondents are statistically different from nonrespondents at the $p<.05$ level.
Sources: Baseline survey of study participants; credit bureau data

Exhibit A.6: Comparison of Long-Term Follow-Up Survey Respondents and Nonrespondents, Measures of Homebuying Stage, Financial Capability, and Creditworthiness of Study Participants

Baseline Variable	Full Sample	Long-Term Survey Respondents	Long-Term Survey Nonrespondents	Statistically Significant Difference
Stage in the Homebuyer Process (%)				
Not yet started home search	11.2	9.8	14.9	*
Started home search, but no visits	13.2	12.9	14.0	
Visited homes, but no offer	23.8	24.1	23.0	
Made an offer on a home, but no purchase	13.2	13.7	12.0	
Signed a purchase agreement	25.3	26.1	23.5	*
Purchased a home	13.2	13.5	12.5	
Uses a written budget (%)	74.7	74.4	75.5	
Usually pays credit card balance in full to avoid interest charges (%)	77.4	77.6	76.9	
Over the past year, was short on money sometimes or often (%)	16.4	16.2	16.8	
Sets aside extra money for retirement, education, or to build a financial cushion sometimes or often (%)	91.1	90.9	91.5	
Everyone in Household has health insurance (%)	88.3	88.9	86.9	*
Level of total savings and investments ($)	51,965	53,965	46,801	*
Credit Score (%)				
Less than 580	4.0	3.6	5.1	*
580 to 619	6.8	6.3	8.0	*
620 to 659	15.4	14.9	16.7	
660 to 699	17.6	16.8	19.5	*
700 to 739	19.9	19.5	20.9	
740 or more	36.4	38.9	29.8	*
Cash on hand for down payment and closing costs ($)	32,229	33,076	30,037	*
Amount of nonhousing debt ($)	18,942	19,876	16,551	*
Monthly payment nonhousing debt ($)	339	343	328	

Notes: Appendix B provides additional detail on the construction of measures.

* Long-Term Follow-Up Survey respondents are statistically different from nonrespondents at the $p<.05$ level.

Sources: Baseline survey of study participants; credit bureau data

Recall from section A.5 that we exclude observations with missing data for a given outcome. For outcomes constructed using only Long-Term Follow-Up Survey data, this implies that all study participants who did not respond to the survey are dropped from the analysis. To ensure that our impact results are generalizable to the full study sample, we apply sample weights that adjust for Long-Term Follow-Up Survey nonresponse for analyses of outcomes collected from the survey. We generated nonresponse weights as follows.[94]

[94] Described by Hsueh et al. (2012), for example, this method is commonly used in applied evaluation research.

- ***Step 1:*** We calculated the predicted probability that a sample member responded to the Long-Term Follow-Up Survey by modeling response to the survey as a function of a treatment group indicator and the same set of covariates included in the impact model described in section A.2. For missing baseline covariate data, we used the dummy variable adjustment approach.
- ***Step 2:*** To guard against reduced precision that could result from inclusion of small or large weights, in this step we conduct weight trimming, which bounds the calculated predicted probabilities of Follow-Up Survey response.[95] In practice, predicted probabilities less than 0.4 were set equal to 0.4, resulting in predicted probabilities of survey response bounded between 0.4 and 1.0.
- ***Step 3:*** We calculated each survey respondent's weight by dividing the overall survey response rate by the predicted probability of response as calculated in Steps 1 and 2. This ensures that higher weights are assigned to individuals with characteristics that were under-represented (relative to the baseline survey sample) among the survey respondent sample.
- ***Step 4:*** Finally, we calculated adjusted nonresponse weights by dividing each sample member's nonresponse weight (as calculated in Step 3) by the overall mean value of the nonresponse weights. Scaling the nonresponse weights by the mean ensures that the mean of the adjusted nonresponse weights is equal to 1 and that the sum of all adjusted nonresponse weights is equal to the sample size.

A.7 Baseline Balance Testing for Sample of Survey Respondents

We know that the study sample was successfully randomized and that no systematic differences in treatment-control characteristics exist.[96] This is the case for the full sample. It is also important to consider this question for the sample of treatment and control group members who responded to the Long-Term Follow-Up Survey because this is the sample used to estimate impacts on survey-based outcomes. Treatment and control group members responded to the survey at slightly different rates: 75.1 percent of the control group and 69.8 percent of the treatment group. The concern is that this difference in response rates between the groups could imply that the sample of control group responders differs somehow from the sample of treatment group responders. As a result, we test whether systematic differences in baseline characteristics exist between the pooled treatment group and control group after taking into account the attrition of the sample that resulted from survey nonresponse.

Exhibits A.7 and A.8 present baseline characteristics for those study participants who responded to the Long-Term Follow-Up Survey within the pooled treatment group and the control

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[95] As Izrael, Battaglia, and Frankel (2009) describe, *weight trimming* refers to increasing the value of low weights and decreasing the value of high weights to reduce their impact on the variance of the estimates. Trimming low- and high-weight values, one generally lowers sampling variability, but could incur bias. The mean squared error will be lower if the reduction in variance is large relative to the increase in bias arising from weight trimming.

[96] DeMarco et al. (2017), section 5.2, presents baseline balance testing for the full study sample.

group. Means and differences were calculated using survey nonresponse weights.[97] These exhibits also report results of a statistical test of whether baseline characteristics differ between the treatment and control groups, where an asterisk (*) in the last column indicates a difference at the 5-percent significance level. Statistically significant differences in individual characteristics do not indicate systematic imbalance. Differences between groups at the 5-percent significance level would be expected in about 5 percent of the variables due to random chance.

Overall, 7 out of 51 (13.7 percent) of the tests for group differences were statistically significant at the 5 percent level. Although this is slightly more than we would expect due to random chance, we do not take this as evidence that there are *systematic* differences between treatment group members who replied to the Long-Term Follow-Up Survey and control group members who replied to the Long-Term Follow-Up Survey. The two groups have similar demographic characteristics, were at a similar stage in the homebuying process at baseline, and have similar credit scores (exhibits A.7 and A.8). We observe some differences in terms of the levels of savings-related measures, but one group is not consistently better off than the other. For instance, although the control group survey respondents had a higher level of savings at baseline than treatment group survey respondents, the treatment group was more likely to report that they "set aside extra money for retirement, education, or to build a financial cushion," and the treatment group was less likely to report that they were "short on money."

When analyzing the impact of homebuyer education and counseling services on outcomes constructed using only the Long-Term Follow-Up Survey (which necessitates limiting the sample to survey respondents), this observed balance across experimental groups provides reassurance that the reported impact estimates isolate the unbiased experimental impact of homebuyer education and counseling. Beyond this assurance, and as detailed in section A.2, we also include baseline covariates in our impact analysis to control for variation in these baseline measures across the groups. Although we cannot test whether unobservable characteristics are different across the treatment groups (because they are, by definition, unobservable), we are comforted that this is not a serious concern by the lack of systematic differences in a wide range of baseline characteristics that are observable.

[97] Findings were similar when weights were omitted from the analysis.

Exhibit A.7: Baseline Balance Testing for Long-Term Follow-Up Survey Respondents, Demographic Characteristics of Study Participants

Baseline Variable	Pooled Treatment Group	Control Group	Statistically Significant Difference
Race/Ethnicity of Household Head (%)			
Hispanic	24.5	25.8	
White non-Hispanic	38.5	38.3	
African-American non-Hispanic	21.1	19.7	
Asian non-Hispanic	11.6	12.7	
Other race	4.2	3.6	
Male (%)	59.2	61.4	
Age greater than or equal to 30 (%)	67.0	70.0	*
Marital Status of Household Head (%)			
Married	37.3	39.0	
Divorced, widowed, or separated	15.0	14.5	
Single and never married	47.7	46.6	
Plans to purchase the home with a co-borrower (%)	24.8	28.1	*
Household Size (%)			
One	23.7	21.6	
Two	31.5	32.6	
Three	20.3	19.1	
Four	14.5	16.2	
Five	6.4	7.2	
Six or more	3.7	3.2	
Education of Household Head (%)			
Bachelor's degree or higher	54.2	52.3	
Associate's degree	12.8	13.1	
Some college, but no degree	16.5	15.6	
High school diploma or less	16.5	19.0	*
Employment (%)			
Full-time employment (30+ hours per week)	90.0	89.7	
Part-time employment (1–29 hours per week)	3.9	4.4	
Unemployed and looking for work	0.5	0.4	
Not working, homemaker, retired, student, or other	5.6	5.5	
Income received by household head and any co-borrowers in last 12 months (%)			
$24,999 or less	8.9	7.3	
$25,000 to $49,999	34.1	33.4	
$50,000 to $74,999	31.9	33.8	
$75,000 to $99,999	14.9	14.3	
$100,000 or more	10.2	11.3	

Notes: The sample comprises study participants who responded to the Long-Term Follow-Up Survey. Appendix B provides additional detail on the construction of measures. Means and differences were calculated using survey nonresponse weights.
* Pooled treatment group is statistically significantly different from control group at the $p<.05$ level.
Sources: Baseline survey of study participants; credit bureau data

Exhibit A.8: Baseline Balance Testing for Long-Term Follow-Up Survey Respondents, Measures of Homebuying Stage, Financial Capability, and Creditworthiness of Study Participants

Baseline Variable	Pooled Treatment Group	Control Group	Statistically Significant Difference
Stage in the Homebuyer Process (%)			
Not yet started home search	11.5	10.6	
Started home search, but no visits	13.3	13.3	
Visited homes, but no offer	23.8	23.9	
Made an offer on a home, but no purchase	13.3	13.0	
Signed a purchase agreement	25.7	25.0	
Purchased a home	12.4	14.2	
Uses a written budget (%)	74.2	75.2	
Usually pays credit card balance in full to avoid interest charges (%)	78.2	76.2	
Over the past year, was short on money sometimes or often (%)	15.3	17.8	*
Sets aside extra money for retirement, education, or to build a financial cushion sometimes or often (%)	92.1	89.8	*
Everyone in Household has health insurance (%)	88.4	88.3	
Level of total savings and investments ($)	48,430	56,902	*
Credit Score (%)			
Less than 580	4.0	3.9	
580 to 619	6.8	6.9	
620 to 659	15.3	15.4	
660 to 699	17.2	18.0	
700 to 739	19.6	20.3	
740 or more	37.0	35.5	
Cash on hand for down payment and closing costs ($)	30,479	34,643	*
Amount of nonhousing debt ($)	19,008	18,895	
Monthly payment nonhousing debt ($)	340	338	

Notes: The sample comprises study participants who responded to the Long-Term Follow-Up Survey. Appendix B provides additional detail on the construction of measures. Means and differences were calculated using survey nonresponse weights.
* Pooled treatment group is statistically significantly different from control group at the p<.05 level.
Sources: Baseline survey of study participants; credit bureau data

A.8 Approach to Hypothesis Testing

A study conducting multiple hypothesis tests increases the risk of a type I "false positive" error. That is, it increases the potential for statistically significant "impacts" (or differences in impacts) to appear solely due to chance rather than indicating real and true impacts (or differences in impacts). This likelihood can be calculated. For example, if 10 hypothesis tests are conducted using a significance level of 0.10, then the probability of detecting at least one statistically significant result due to chance is 65 percent.

This evaluation conducted a large number of hypothesis tests, meaning we faced a high likelihood that some of the findings would appear as statistically significant due to chance alone. The tests we conducted fall into three categories:

- *Overall impact*: Tests to determine whether the *overall* impact of homebuyer education and counseling is statistically significant (meaning that the impact is different from zero).
- *Delivery mode impact:* Tests to determine whether the impact of delivering services *in-person* is statistically different from the impact of delivering services *remotely*.
- *Subgroup impact:* Tests to determine whether the impact of homebuyer education and counseling is statistically different between *subgroups* (i.e., sets of subgroups defined by baseline characteristics, such as gender, race, or geographic location).[98]

We took several steps to protect the integrity of the interpretation of statistical tests presented in this Long-Term Impact Report, as follows:

- *Limiting the number of outcomes.* Within each of the study's three outcome domains, we pre-specified no more than one outcome to reflect the success of the intervention in that domain (see section A.8.1).
- *Limiting the number of tests*. We limited the number of hypothesis tests that we conducted by pre-specifying them, as documented in the study's Long-Term Impact Report Analysis Plan (Moulton et al., 2019).
- *Prioritizing outcomes and tests.* Within the study's Long-Term Impact Report Analysis Plan, we also prioritized each outcome and the priority of each type of test. This combination of the outcome priority and analysis priority is used to determine whether each finding warrants mention in the report's Executive Summary.
- *Setting thresholds for "systematic evidence" of between-group impacts.* We discussed impacts by subgroups, for example, only if there is evidence of "systematic" between-group differences (see section A.8.2).

The next section elaborates on how we implemented these steps in practice and also discusses the implications for where and how we discuss the findings in the report.

A.8.1 Level of Evidence of Long-Term Impact Analysis Hypothesis Tests

We classify outcomes as being *confirmatory, secondary,* or *exploratory.* This classification aligns with the priority of the outcomes in informing judgements about the "success" of the intervention (see section 2.5). The two pre-specified *confirmatory* outcomes—one in each of two domains—are those we place the greatest weight on as potential indicators that the intervention met its desired objectives. By limiting the number of "confirmatory" outcomes, we limit the risk of mistakenly reporting the intervention's success (that is, type I error, or "false positives"), at least for tests among this subset of outcomes.

[98] Exhibit B.4 describes the subgroups of interest for this report.

Exhibit A.9 describes how each combination of the type of test (overall impact, delivery mode impact, or subgroup impact) and outcome classification (confirmatory, secondary, or exploratory) determines the *level of evidence* of the corresponding hypothesis test. For example, tests of whether the overall impact of homebuyer education and counseling on each confirmatory outcome is statistically significant to provide a "confirmatory" level of evidence.

Within each domain, we established a limit of no more than one confirmatory hypothesis test. Following standard practice, we do not adjust our statistical tests for these confirmatory hypotheses because there is a single test in a given domain. Also, following standard practice, we do not perform statistical adjustments for secondary or exploratory hypothesis tests. Rather, we limit their number and present the results with appropriate caveats regarding the exploratory nature of those analyses and the increased risk of type I error.[99]

[99] For example, Schochet (2008) recommends that non-confirmatory hypotheses need not be subject to multiple comparisons corrections, provided the appropriate caveats to interpretation are provided. Similarly, the What Works Clearinghouse, an initiative of the U.S. Department of Education's Institute of Education Sciences, states in its *Procedures Handbook, Version 4.1* that it does not adjust supplementary findings for multiple comparisons.

Exhibit A.9: Level of Evidence of Long-Term Impact Analysis Hypothesis Tests

Impact Evaluation Question	Analysis	If the outcome classification is:	Then the level of evidence of the hypothesis test is:
What are the overall impacts of homebuyer education and counseling?	Overall impact	Confirmatory	Confirmatory
		Secondary	Secondary
		Exploratory	Exploratory
Does the impact of in-person services differ from the impact of remote services?	Impacts by delivery mode	Confirmatory	Secondary
		Secondary	Exploratory
		Exploratory	Exploratory
What are the impacts of offering homebuyer education and counseling on select subgroups?	Subgroup impacts	Confirmatory	Secondary
		Secondary	Exploratory
What is the between subgroup difference in the impact of homebuyer education?		Exploratory	Exploratory

Notes: Exhibit 2.4 indicates which outcomes are classified as confirmatory, secondary, or exploratory. Although generally we analyze mode and subgroup effects on only the confirmatory and secondary outcomes, we do so for a small number of exploratory outcomes (specifically, total consumer debt (all debt besides housing and student), credit card debt, and total savings and investments), selected specifically to help explain the observed impacts on student loan debt and total savings and investments.

This Long-Term Impact Report—which comprises a main report and multiple appendices—includes all of the hypothesis tests detailed in the study's Long-Term Impact Analysis Plan. In the report's Executive Summary, we discuss findings with a confirmatory or secondary level of evidence—overall impacts on confirmatory and secondary outcomes— as well as delivery mode effects and subgroup effects on the confirmatory outcomes. We do not generally report results of exploratory tests in the Executive Summary unless if they help explain the findings with a confirmatory or secondary level of evidence.

A.8.2 Determining Whether There Is Systematic Evidence of Delivery Mode and Subgroup Impact Differentials

In addition to reporting the overall impact of homebuyer education and counseling services, this study examines impacts separately by service delivery mode and for a relatively large number of subgroups:

- Impacts by Delivery Mode. For each of 24 outcomes, we estimate the impact of in-person and remote homebuyer education and counseling services and test whether there is a difference in impacts between the two service delivery modes.
- Subgroup Impacts. For 17 sets of pre-specified subgroups—12 defined by baseline characteristics (e.g., gender, race, geographic location) and 5 defined by their subsequent program-related experiences (i.e., likelihood of service participation or likelihood of

purchasing a home)—we report impacts for each subgroup of interest and test whether there is a difference in impacts between subgroups for each of 24 outcomes.

Given the large number of tests, we impose an additional restraint to prevent over-interpreting results that might arise by chance alone. Specifically, we discuss a subgroup's impacts only if there is a statistically significant impact *differential* (using a significance level of 0.10) for 5 or more of the 24 outcomes analyzed. We contend that the five-or-more threshold indicates "systematic evidence" of between-group differences, thereby warranting the discussion of those subgroups as having experienced different impacts of the intervention. If there are four or fewer between-group differences (out of 24 total tests for each group), then we conclude that there is not sufficient evidence of between-group differences in impacts to warrant discussion of differences in impacts of the intervention between those subgroups. We only plan to report impact findings for a given subgroup comparison in the main text if there is systematic evidence of between-subgroup differences. If we do not find systematic evidence of between-subgroup differences for a given subgroup comparison, then the findings will be reported in appendix E, but not described in the main text as there being differential subgroup impacts. Instead, for subgroups in which there is not systematic evidence of between-subgroup impact differentials, those will be characterized as the groups having statistically comparable impacts. Exhibit A.10 provides a flow chart that depicts the process for determining whether there is systematic evidence of between-subgroup differences and the implications for reporting.

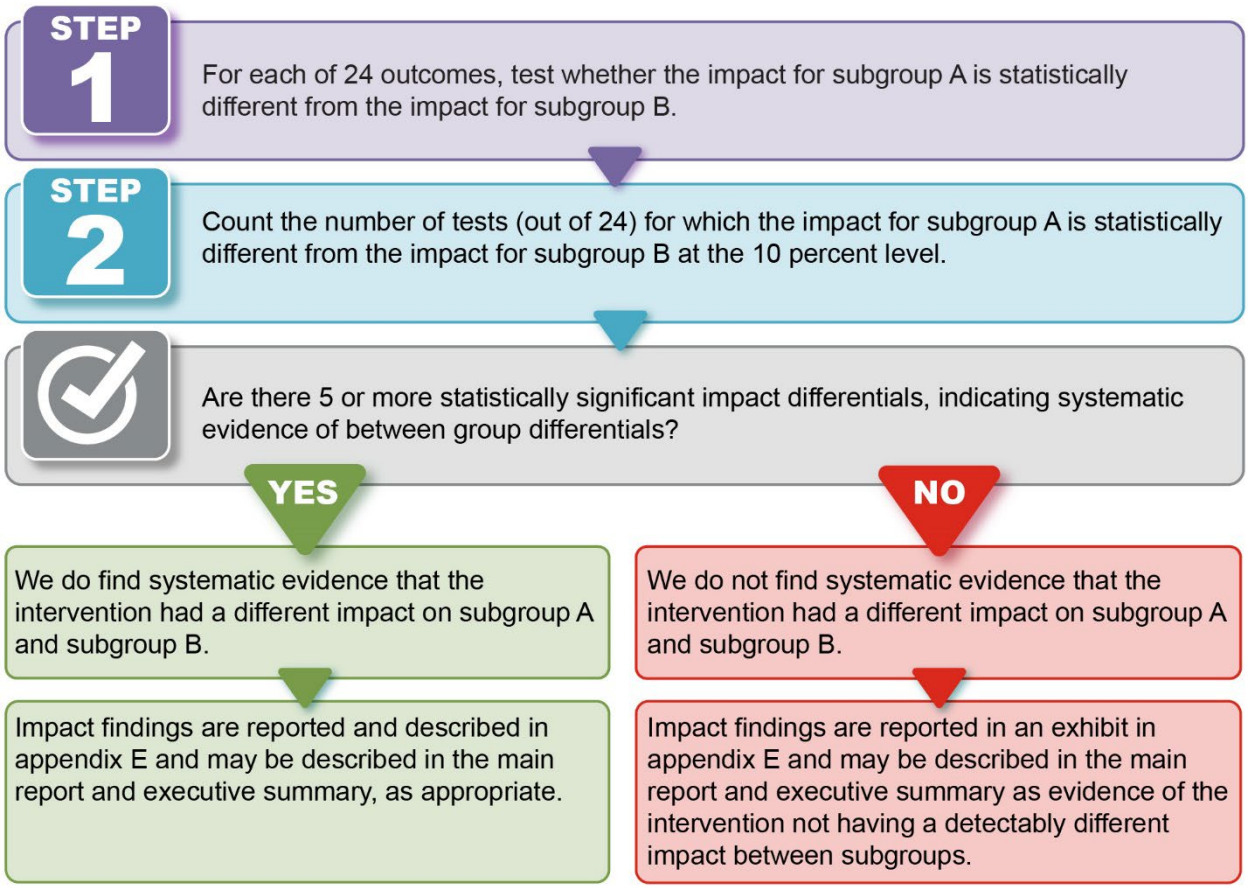
We use the same practice of requiring five or more between-group differences to identify whether impacts differ by service delivery mode. That said, we report on delivery mode in the main text of the report regardless of whether there is systematic evidence of between-mode differences. This is because the study was designed to compare the relative impacts of service delivery mode; whether there is or is not a difference demands reporting.

The decision to use a threshold of five was informed by the likelihood that a given number of differentials might arise by chance alone. When the null hypotheses of 24 independent tests are exactly true (that is, when there are zero real differences among the 24 tests), then it is expected that 5 or more tests will be statistically significant by chance 8.5 percent of the time (using a 10 percent significance level for each test). The threshold of five or more statistically significant tests is used as a criterion to interpret results as it provides a relatively strong guard against falsely concluding that there are systematic between-mode or between-subgroup differences.[100]

[100] This threshold represents an absolute increase from the Short-Term Impact Report, where we used a threshold of three statistically significant impact differentials to determine whether there is evidence of systematic between-group differences that would warrant discussion. When the null hypotheses of 24 independent tests are exactly true (that is, when there are zero real differences among the 24 tests), then it is expected that four or more tests will be statistically significant by chance 21.4 percent of the time (using a 10 percent significance level for each test). This bar seems too low. The rationale for increasing the threshold to five differentials for

As a result, we can be more comfortable discussing the mode and subgroup results as meaningful when there is this systematic evidence of impact differentials.

Exhibit A.10: Process for Determining Whether There is Systematic Evidence of Between-Subgroup Differences and Implications for Reporting



the long-term report is based on the larger number of outcomes we analyze in the long term and, therefore, the associated greater likelihood that these differentials might arise by chance alone.

Appendix B: Data Sources and Measures

This appendix details the study's data sources and measures. Section B.1 describes the data sources used throughout this report. Section B.2 provides additional details on the construction of baseline covariates, subgroup identifiers, and outcome measures used for the study's impact analyses.

B.1 Data Sources and Timing

This report uses data from a variety of sources, all described below.

- ***Three surveys of study participants:*** a Baseline Survey, a Short-Term Follow-Up Survey, and a Long-Term Follow-Up Survey.
  - The baseline survey captured the characteristics of study participants at the time of study enrollment.
  - The Short-Term Follow-Up Survey captured outcomes observed approximately 12 to 18 months after study enrollment.[101]
  - The Long-Term Follow-Up Survey capture outcomes observed between 48 and 72 months (4 to 6 years) after study enrollment for 94.6 percent of study participants who responded to the survey (exhibit B.1). Study participants replied to the Long-Term Follow-Up Survey an average of 59.2 months after study enrollment (the median time is 59 months). The overall response rate to the Long-Term Follow-Up Survey was 72.0 percent; 75.1 percent of the control group responded to the Long-Term Follow-Up Survey, and 69.8 percent of the treatment group responded.
- ***Data on services that treatment group members received*** from eHome America, ClearPoint, and the 63 local housing counseling agencies. These data capture whether study participants participated in homebuyer education and counseling services within 12 months of enrolling in the study.
- ***Credit data on study participants*** from one of the three major credit bureaus: The study team collected credit bureau data every 2 months during the enrollment period to capture study participants' baseline credit attributes 0 to 2 months prior to their enrollment in the study. We then routinely collected credit bureau data during the followup period to capture outcome measures for the impact analyses. Credit bureau data on housing outcomes and loan performance from these followup extracts cover 92.8 percent of the study sample and provide outcome measures for the impact analyses. As presented in exhibit B.2, December 2019 Credit bureau data used for the long-term impact analysis capture outcomes observed between 48 and 72 months (4 to 6 years) after study enrollment for 98.0 percent of study participants with nonmissing credit bureau data. We observe study participants' credit bureau

[101] Among the 79 percent of the study sample who replied to the Short-Term Follow-Up Survey, 93 percent replied between 12 and 18 months after the month they were randomly assigned. The average was 13.2 months after random assignment, and the median was 13 months.

data an average of 59.2 months after they enrolled in the study (the median time is 58 months).[102]

- ***Loan origination and servicing data*** from participating lenders and the Federal Housing Administration (FHA): These data were collected on the same schedule as followup credit data.

Exhibit B.1: Timing of Long-Term Follow-Up Survey Response

Followup Month[a]	Number of Survey Respondents	Percentage of Survey Respondents	Cumulative Percentage of Survey Respondents
45	15	0.36	0.36
46	46	1.11	1.47
47	69	1.66	3.13
48	89	2.15	5.28
49	92	2.22	7.50
50	134	3.23	10.73
51	180	4.34	15.07
52	204	4.92	19.99
53	179	4.32	24.31
54	183	4.41	28.72
55	224	5.40	34.12
56	187	4.51	38.63
57	187	4.51	43.14
58	155	3.74	46.88
59	190	4.58	51.46
60	186	4.49	55.94
61	184	4.44	60.38
62	246	5.93	66.31
63	203	4.90	71.21
64	237	5.71	76.92
65	173	4.17	81.09
66	135	3.26	84.35
67	121	2.92	87.27
68	102	2.46	89.73
69	122	2.94	92.67
70	78	1.88	94.55
71	80	1.93	96.48
72	52	1.25	97.73
73	41	0.99	98.72
74	31	0.75	99.47
75	6	0.14	99.61
76	8	0.19	99.81
77	6	0.14	99.95
78	2	0.05	100.00
Summary Information			
Median followup month			59.0
Mean followup month			59.2
Number of study participants who responded to Long-Term Follow-Up Survey			4,147

[102] All credit bureau data extracts are "soft" inquiries, meaning they are not recorded as a credit inquiry and do not otherwise affect a study participant's credit record/score.

Followup Month[a]	Number of Survey Respondents	Percentage of Survey Respondents	Cumulative Percentage of Survey Respondents
Number of study participants who did not respond to Long-Term Follow-Up Survey (not counting study withdraws)			1,612
Number of withdraws			95

[a] Followup month is calculated by subtracting the month that the study participant completed the Long-Term Follow-Up Survey from the month of random assignment.

Exhibit B.2: Timing of Followup Credit Data

Followup Month[a]	Number of Study Participants	Percentage of Study Participants	Cumulative Percentage of Study Participants
46	1	0.02	0. 02
47	41	0.77	0. 79
48	215	4.02	4. 81
49	182	3.41	8. 22
50	255	4.77	12. 99
51	229	4.29	17. 27
52	150	2.81	20. 08
53	284	5.32	25. 40
54	294	5.50	30. 90
55	203	3.80	34. 70
56	277	5.18	39. 88
57	280	5.24	45. 12
58	312	5.84	50. 96
59	159	2.98	53. 94
60	165	3.09	57. 03
61	193	3.61	60. 64
62	202	3.78	64. 42
63	189	3.54	67. 96
64	189	3.54	71. 50
65	257	4.81	76. 31
66	387	7.24	83. 55
67	389	7.28	90. 83
68	235	4.40	95. 23
69	97	1.82	97. 04
70	79	1.48	98. 52
71	3	0.06	98. 58
72	10	0.19	98. 76
73	44	0.82	99. 59
74	22	0.41	100. 00
Summary Information			
Median followup month			58.0
Mean followup month			59.0
Number of study participants who have followup credit data			5,343
Number of study participants who are missing followup credit data (not counting study withdraws)			416
Number of withdraws			95

[a] Followup month is calculated by subtracting the month that credit data is observed for the study participant from the month of random assignment.

The December 2019 administrative data and the Long-Term Follow-Up Survey Data used for the long-term impact analysis generally capture outcomes observed 4 to 6 years after

study participants enrolled in the study. Because the timing of outcome measurement will be the same, on average, between the treatment and control groups, this variation in timing does not pose a risk of bias for impact estimates.[103]

The study combines data from multiple sources to construct some of the key outcomes used in the impact analysis. This strategy helps to address the fact that each individual data source has incomplete coverage. The implication of using multiple data sources to construct our outcome measures is that we have a high coverage rate for outcomes constructed using data that are available from all of these sources. For the long-term impact analysis, outcomes constructed using data available from all of these sources cover 98.6 percent of the study sample. The next section details which data sources we plan to use to construct each long-term outcome. Some outcomes will be constructed using data available from all data sources, while others will be constructed using data available from only a subset of data sources.

B.2 Measure Construction

This section provides additional details on the construction of baseline covariates (exhibit B.3), subgroup identifiers (exhibit B.4), and outcome measures used for the study's impact analyses (exhibit B.5).

Exhibit B.3: Operationalization of Baseline Covariates

Domain	Variable Description	Operationalization	Data Source(s)
Demographic Characteristics	Race/ethnicity of study participant	Series of mutually exclusive binary variables: • Hispanic • White non-Hispanic • African-American non-Hispanic • Asian non-Hispanic • Other race	Baseline survey
Demographic Characteristics	Gender of study participant	Binary variable that takes on value: • 0 if woman • 1 if man	Baseline survey
Demographic Characteristics	Age 30 or older at baseline	Binary variable that takes on value: • 0 if age 29 or younger at baseline • 1 if age 30 or older at baseline	Credit bureau data
Demographic Characteristics	Marital status of study participant	Series of mutually exclusive binary variables: • Married • Divorced, widowed, or separated • Single and never married	Baseline survey
Demographic Characteristics	Plans to purchase the home with a co-borrower	Binary variable that takes on value: • 0 if does not plan to purchase the home with a co-borrower • 1 if plans to purchase the home with a co-borrower	Baseline survey

[103] In comparison, The Moving to Opportunity for Fair Housing Demonstration Program: Final Impacts Evaluation reported impacts on interim outcomes measured 4 to 7 years after baseline and long-term outcomes measured 10 to 15 years after baseline (Sanbonmatsu et al., 2011).

Domain	Variable Description	Operationalization	Data Source(s)
Demographic Characteristics	Household size	Series of mutually exclusive binary variables: • One • Two • Three • Four • Five • Six or more	Baseline survey
Demographic Characteristics	Education of study participant	Series of mutually exclusive binary variables that capture educational attainment: • Bachelor's degree or higher • Associate's degree • Some college, but no degree • High school diploma or less	Baseline survey
Stage in the Homebuying Process	Stage in the homebuying process	Series of mutually exclusive binary variables that capture the stage in the homebuying process: • Not yet started home search • Started home search, but no visits • Visited homes, but no offer • Made an offer on a home, but no purchase • Signed a purchase agreement • Purchased a home	Baseline survey
Employment and Income	Employment	Series of mutually exclusive binary variables for employment status of the study participant: • Full-time employment (30+ hours per week) • Part-time employment (1–29 hours per week) • Unemployed and looking for work • Not working, homemaker, retired, student, or other	Baseline survey
Employment and Income	Income received by study participant and any co-borrowers in last 12 months	Series of mutually exclusive binary variables defined based on the reported income received by study participant and any co-borrowers in last 12 months: • $24,999 or less • $25,000 to $49,999 • $50,000 to $74,999 • $75,000 to $99,999 • $100,000 or more *Note:* If the study participant reported an income range rather than a specific value (for example, $40,000 to less than $55,000), we used the midpoint of the reported range to determine the appropriate income category. If neither a value nor a range was reported, then the variable was set to missing	Baseline survey
Financial Responsibility	Uses a written budget	Binary variable that takes on value: • 0 if does not have a budget of monthly household expenses • 1 if has a budget of monthly household expenses	Baseline survey
Financial Responsibility	Usually pays credit card balance in full to avoid interest charges	Binary variable that takes on value: • 0 if does not usually pay credit card balance in full to avoid interest charges • 1 if does usually pay credit card balance in full to avoid interest charges	Baseline survey
Financial Responsibility	Over the past year, was short on money sometimes or often	Binary variable that takes on value: • 0 if reports being short on money rarely or never • 1 if reports being short on money sometimes or often	Baseline survey

Domain	Variable Description	Operationalization	Data Source(s)
Financial Responsibility	Sets aside extra money for retirement, education, or to build a financial cushion sometimes or often	Binary variable that takes on value: • 0 if reports setting aside extra money rarely or never • 1 if reports setting aside extra money sometimes or often	Baseline survey
Financial Responsibility	Everyone in household has health insurance	Binary variable that takes on value: • 0 if at least one household member does not have health insurance • 1 if everyone in the household has health insurance	Baseline survey
Financial Responsibility	Level of total savings and investments	Sum of reported values for checking accounts, savings accounts, retirement accounts, and other savings and investment accounts. This measure does not include home equity. (continuous variable) *Note:* The responses were capped at $999,999 for each of these separate categories, and the level of total savings and investments was top coded at its 99th percentile	Baseline survey
Credit Worthiness	Credit score	Series of mutually exclusive binary variables defined based on credit score of the study participant at baseline: • Less than 580 • 580 to 619 • 620 to 659 • 660 to 699 • 700 to 739 • 740 or more *Note:* For each study participant, we capture the person's baseline credit bureau data within 2 months prior to their enrollment	Credit bureau data
Credit Worthiness	Cash on hand for downpayment and closing costs	Total cash on hand for downpayment and closing costs (continuous variable) *Note:* If study participant did not provide an exact amount but reported a range, we used the midpoint of the range and included this value in the continuous measure. Cash on hand for downpayment and closing costs was top coded at its 99th percentile	Baseline survey
Credit Worthiness	Total nonhousing debt	Total nonhousing debt equals the total balance on open installment accounts plus open revolving accounts minus the balance on open mortgage accounts. This measure is set equal to 0 if the study participant was included in the credit file but there were no open debt accounts on file *Note:* Total nonhousing debt was top coded at its 99th percentile	Credit bureau data
Credit Worthiness	Monthly payment nonhousing debt	Monthly scheduled payments for nonhousing debt equals the total scheduled monthly payments for all open accounts besides mortgage accounts. This measure is set equal to 0 if the study member was included in the credit file but there were no open debt accounts on file *Note:* Monthly payment nonhousing debt was top coded at its 99th percentile	Credit bureau data

Domain	Variable Description	Operationalization	Data Source(s)
Service Mode Preference	Baseline preference for remote services	Binary variable that takes on value: • 0 if enrolled prior to study redesign or if baseline preference for in-person services • 1 if enrolled after study redesign and baseline preference for remote services	Baseline eligibility assessment

Exhibit B.4: Operationalization of Subgroups

Subgroup Category	Subgroup Comparison	Operationalization	Data Source(s)
Demographic Characteristics	White non-Hispanic compared with African-American non-Hispanic	Binary variable that takes on value: • 0 if African-American non-Hispanic • 1 if White non-Hispanic	Baseline survey
	White non-Hispanic compared with Hispanic	Binary variable that takes on value: • 0 if Hispanic • 1 if White non-Hispanic	Baseline survey
	Bachelor's degree or higher compared with less than a bachelor's degree	Binary variable that takes on value: • 0 if associate's degree; some college, but no degree; or high school diploma or less • 1 if bachelor's degree or higher	Baseline survey
	Men compared with women	Binary variable that takes on value: • 0 if woman • 1 if man	Baseline survey
	Age 30 or older at baseline compared with age 29 or younger at baseline	Binary variable that takes on value: • 0 if age 29 or younger at baseline • 1 if age 30 or older at baseline	Credit bureau data
Stage in the Homebuying Process	Made an offer on a home, signed a purchase agreement, or purchased a home compared with early stage in the homebuying process	Binary variable that takes on value: • 0 if not yet started home search; started home search, but no visits; or visited homes, but no offer • 1 if made an offer on a home but no purchase; signed a purchase agreement; or purchased a home	Baseline survey
Financial Characteristics	Credit score 680 or higher compared with credit score less than 680	Binary variable that takes on value: • 0 if baseline credit score less than 680 • 1 if baseline credit score greater than or equal to 680	Credit bureau data
	Borrower income 80 percent of area median income or higher compared with borrower income less than 80 percent of area median income	Binary variable that takes on value: • 0 if borrower income less than 80 percent of area median family income • 1 if borrower income 80 percent of area median family income or higher	Baseline survey and FFIEC (2020)[a]
	Consumer debt (credit cards, auto, medical, other) $10,000 or higher compared with consumer debt less than $10,000	Binary variable that takes on value: • 0 if baseline consumer debt less than $10,000 • 1 if baseline consumer debt greater than or equal to $10,000	Credit bureau data
	Has any student loan debt compared with no student loan debt	Binary variable that takes on value: • 0 if no baseline student loan debt • 1 if any baseline student loan debt	Credit bureau data
	Savings $20,000 or higher compared with savings less than $20,000	Binary variable that takes on value: • 0 if baseline savings less than $20,000 • 1 if baseline savings greater than or equal to $20,000	Baseline survey

Subgroup Category	Subgroup Comparison	Operationalization	Data Source(s)
Housing Market	Relatively expensive housing compared to relatively affordable housing	Binary variable that takes on value: • Relatively affordable housing subgroup equals 0 if ratio of area median value of owner-occupied unit to area median family income is less than ratio of national median value of owner-occupied unit to national median family income • Relatively expensive housing subgroup equals 1 if ratio of area median value of owner-occupied unit to area median family income is greater than or equal to ratio of national median value of owner occupied unit to national median family income	Baseline survey, FFIEC (2020), and U.S. Census Bureau, American Community Survey (2020)[a]
Subgroups Defined by Likelihood of Post-Random Assignment Event	Most likely to take up services compared to least likely to take up services	We consider four different measures of homebuyer education and counseling service participation: 1. Take-up of any homebuyer education and counseling services. 2. Completion of the education curriculum. 3. Completion of one-on-one counseling. 4. Completion of all homebuyer education and counseling services. For each of these measures of service participation, we create a binary variable that takes on value: • 0 if least likely to participate based on baseline characteristics • 1 if most likely to participate based on baseline characteristics See Peck et al. (2019), appendix F for a detailed description of how these subgroup identifiers were constructed.	Baseline survey, credit bureau data, eHome America, ClearPoint, and housing counseling agencies
	Most likely to purchase a home compared to least likely to purchase a home	Binary variable that takes on value: • 0 if least Likely to purchase a home at long-term followup based on baseline characteristics • 1 if most likely to purchase a home at long-term followup based on baseline characteristics See Peck et al. (2019), appendix G for a detailed description of how this subgroup identifier was constructed.	Baseline survey and credit bureau data

[a] The area median family incomes are from the *2013 FFIEC Median Family Income Report* (FFIEC, 2020). The addresses used to determine which area median income is matched to each study participant are from the baseline survey.

Exhibit B.5: Construction of Outcomes

Outcome Label	Coding Outline	Data Source(s)	Outcome Classification	Full Sample Mean (Standard Deviation) [Sample Size]
Panel A: Preparedness and Search				
Study participant was confident in ability to find information needed about the homebuying process (%)	Binary variable that takes on value: • 1 if study participant reports being confident or very confident that they could find information about the homebuying process • 0 if study participant reports being somewhat confident or not confident at all that they could find information about the homebuying process	Long-Term Follow-Up Survey	Secondary	70.0 (45.8) [4,138]
Study participant purchased a home (%)	Binary variable that takes on value: • 1 if purchased a home according to any data source • 0 if did not purchase a home according to any data source	Long-Term Follow-Up Survey; credit bureau data; lender data; FHA data	Secondary	77.1 (42.0) [5,679]
Study participant was very satisfied with the homebuying process (%)	Binary variable that takes on value: • 1 if reports being very satisfied with the homebuying process • 0 if reports being somewhat satisfied, somewhat dissatisfied, or very dissatisfied with the homebuying process	Long-Term Follow-Up Survey	Secondary	40.0 (49.0) [4,105]
Study participant was satisfied with decision to buy or rent (%)	Binary variable that takes on value: • 1 if reports being satisfied or very satisfied with their decision to buy or rent • 0 if reports being somewhat satisfied or somewhat dissatisfied with their decision to buy or rent	Long-Term Follow-Up Survey	Secondary	87.1 (33.6) [4,122]
Number of lenders from which the study participant received price quotes	Total number of lenders from which study participant received price quotes (continuous variable). Variable equals 0 if study participant did not contact any lenders or if study participant contacted lenders but did not receive any quotes *Note:* Top coded at 10	Long-Term Follow-Up Survey	Exploratory	1.82 (1.58) [4,031]
Study participant was satisfied with the process of obtaining a mortgage loan (%)	Binary variable that takes on value: • 1 if reports being satisfied or very satisfied with the process of obtaining a loan • 0 if reports being somewhat satisfied or somewhat dissatisfied with the process of obtaining a loan or did not obtain a mortgage loan	Long-Term Follow-Up Survey	Exploratory	62.6 (48.4) [4,136]

Outcome Label	Coding Outline	Data Source(s)	Outcome Classification	Full Sample Mean (Standard Deviation) [Sample Size]
Panel B: Financial Knowledge, Behaviors, and Skills				
If in financial difficulty, the study participant would contact lender for assistance prior to missing a mortgage payment (%)	Binary variable that takes on value: • 1 if would contact their lender for assistance prior to missing a mortgage payment • 0 if would not contact their lender for assistance regarding missed payments or would wait to contact lender until after missed payment *Note:* The Long-Term Follow-Up Survey questions used to construct this outcome are asked only of study participants who have a mortgage loan. Therefore, to ensure that this outcome is defined for all enrollees (thereby maintaining the integrity of the experimental design), this outcome was set equal to 0 if the study participant does not have a mortgage loan.	Long-Term Follow-Up Survey	Secondary	55.5 (49.7) [4,055]
If in financial difficulty, the study participant would contact counseling agency, consumer credit counseling agency, or other nonprofit organization for assistance prior to missing a mortgage payment (%)	Binary variable that takes on value: • 1 if would contact their housing counseling agency, consumer credit counseling agency, or other nonprofit organization for assistance prior to missing a mortgage payment • 0 if would not contact their housing counseling agency, consumer credit counseling agency, or other nonprofit organization for assistance regarding missed payments or would wait to contact lender until after missed payment *Note:* The Long-Term Follow-Up Survey questions used to construct this outcome are asked only of study participants who have a mortgage loan. Therefore, to ensure that this outcome is defined for all enrollees (thereby maintaining the integrity of the experimental design), this outcome was set equal to 0 if the study participant does not have a mortgage loan.	Long-Term Follow-Up Survey	Secondary	25.0 (43.3) [3,789]

Outcome Label	Coding Outline	Data Source(s)	Outcome Classification	Full Sample Mean (Standard Deviation) [Sample Size]
Financial skill score (ranges from 0 to 100)	Continuous score based on Consumer Financial Protection Bureau's (CFPB) Financial Skill Scale. Higher scores indicate higher levels of financial skill. The long-term survey included CFPB's abbreviated (5-item) version of the Financial Skill Scale, which asks respondents to indicate the extent to which the following statements describe them: • I know how to get myself to follow through on my financial intentions (Long-Term Follow-Up Survey question e4a) • I know how to make complex decisions (Long-Term Follow-Up Survey question e4b) • I know how to make myself save (Long-Term Follow-Up Survey question e4c) Additionally, study participants were asked how often the following statements apply to their situation currently: • I know when I do not have enough information to make a good decision involving my money (Long-Term Follow-Up Survey question e5a) • I struggle to understand financial information (Long-Term Follow-Up Survey question e5b) This measure was constructed using Stata software-based scoring, as described in *Measuring Financial Skill: A guide to using the CFPB Financial Skill Scale*, appendix D.	Long-Term Follow-Up Survey	Secondary	63.47 (14.00) [3,828]
Study participant knows how to correct inaccurate information in credit report (%)	Binary variable that takes on value: • 1 if agrees or strongly agrees • 0 if disagrees or strongly disagrees	Long-Term Follow-Up Survey	Exploratory	76.3 (42.6) [4,112]
If study participant started having financial problems and could not pay all of the bills, the study participant would pay mortgage first (%)	Binary variable that takes on value: • 1 if would pay mortgage first if started having financial problems and could not pay all of bills • 0 otherwise	Long-Term Follow-Up Survey	Exploratory	78.4 (41.2) [4,110]
Regularly required mortgage payment is automatically deducted from a bank account (%)	Binary variable that takes on value: • 1 if regularly required mortgage payment is automatically deducted from a bank account • 0 if regularly required mortgage payment is not automatically deducted from a bank account or no mortgage loan	Long-Term Follow-Up Survey	Exploratory	40.9 (49.2) [4,115]
Panel C: Financial Indicators				
Credit score (range is 300-850), as of December 2019	Credit score (range is 300-850), continuous variable, based on December 2019 credit bureau data.	Credit bureau data	**Confirmatory**	**720.7 (95.9) [5,264]**
Study participant has a credit score greater than or equal to 620, as of December 2019 (%)	Binary variable that takes on value: • 1 if credit score is greater than or equal to 620 • 0 if credit score is less than 620 Based on December 2019 credit bureau data.	Credit bureau data	Secondary	82.7 (37.8) [5,264]

Outcome Label	Coding Outline	Data Source(s)	Outcome Classification	Full Sample Mean (Standard Deviation) [Sample Size]
Financial well-being score (ranges from 0 to 100)	Continuous score based on Consumer Financial Protection Bureau's Financial Well-Being Scale. Higher scores indicate higher levels of financial well-being. The Long-Term Follow-Up Survey included the abbreviated (5-item) version of the Financial Well-Being Scale, which asks respondents to indicate the extent to which the following statements describe them: • Because of my money situation, I feel like I will never have the things I want in life (Long-Term Follow-Up Survey question e1a) • I am just getting by financially (Long-Term Follow-Up Survey question e1b) • I am concerned that the money I have or will save won't last (Long-Term Follow-Up Survey question e1c) Additionally, study participants were asked how often the following statements apply to them: • I have money left over at the end of the month (Long-Term Follow-Up Survey question e2a) • My finances control my life (Long-Term Follow-Up Survey question e2b) This measure was constructed using Stata software-based scoring, as described in *CFPB Financial Well-Being Scale: Scale Development Technical Report*	Long-Term Follow-Up Survey	Secondary	63.34 (13.71) [3,829]
Total nonhousing debt ($)	Total nonhousing debt equals the total balance on open installment accounts plus open revolving accounts minus the balance on open mortgage accounts. This measure is set equal to 0 if the study participant was included in the credit file but there were no open debt accounts on file (top coded at 99th percentile)	Credit bureau data	Secondary	29,753 (37,609) [5,286]
Student loan debt ($)	Student loan balance (top coded at 99th percentile)	Credit bureau data	Secondary	10,817 (27,579) [5,286]
Total consumer debt (all debt besides housing and student debt) ($)	Total consumer debt includes credit card, auto, and medical debt (top coded at 99th percentile)	Credit bureau data	Exploratory	18,937 (23,042) [5,286]
Credit card debt ($)	Credit card balance (top coded at 99th percentile)	Credit bureau data	Exploratory	5,966 (8,735) [5,286]
Total monthly debt-to-income ratio (back-end ratio)	We constructed this measure using data on total monthly debt expense from the credit bureau and household income from the Long-Term Follow-Up Survey. Total monthly debt expense from the credit bureau data was top coded at its 99th percentile. Household income was top coded at its 99th percentile and bottom coded at its 1st percentile (to eliminate incomes of $0 appearing in the denominator).	Credit bureau data; Long-Term Follow-Up Survey	Secondary	28.2 (24.6) [3,307]
Total monthly debt-to-income ratio exceeds 0.43 (%)	Binary variable that takes on value: • 1 if total monthly debt-to-income ratio is greater than 0. 43 • 0 if total monthly debt-to-income ratio is less than or equal to 0. 43	Credit bureau data; Long-Term Follow-Up Survey	Exploratory	16.4 (37.0) [3,307]

Outcome Label	Coding Outline	Data Source(s)	Outcome Classification	Full Sample Mean (Standard Deviation) [Sample Size]
Student loan 30-day delinquency indicator (%)	Binary variable that takes on value: • 1 if 30 or more days past due on student loans in past 6 months • 0 otherwise	Credit bureau data	Secondary	4.2 (20.1) [5,306]
Bankruptcy or repossession due to nonhousing debt (%)	Binary variable that takes on value: • 1 if bankruptcy or repossession due to nonhousing debt • 0 otherwise	Credit bureau data	Exploratory	11.6 (32.0) [5,343]
Study participant occasionally does not have enough money to cover all bills at the end of the month (%)	Binary variable that takes on value: • 1 if agrees or strongly agrees • 0 if disagrees or strongly disagrees	Long-Term Follow-Up Survey	Exploratory	14.4 (35.1) [4,140]
Total savings and investments ($)	Sum of reported values for checking accounts, savings accounts, retirement accounts, and other savings and investment accounts (continuous variable). The responses were capped at $999,999 for each of these separate categories, and the level of total savings and investments was top coded at its 99th percentile	Long-Term Follow-Up Survey	Exploratory	66,464 (110,701) [3,987]
Study participant could come up with $2,000 in 30 days if an unexpected need arose within the next month (%)	Binary variable that takes on value: • 1 if could probably or could certainly come up with $2,000 in 30 days if an unexpected need arose • 0 if could probably not or could certainly not come up with $2,000 in 30 days if an unexpected need arose	Long-Term Follow-Up Survey	Exploratory	69.4 (46.1) [4,107]
Study participant usually has enough savings set aside to cover 3 months of expenses (%)	Binary variable that takes on value: • 1 if agrees or strongly agrees • 0 if disagrees or strongly disagrees	Short-Term Follow-Up Survey	Exploratory	66.8 (47.1) [4,118]
Panel D: Sustainable Homeownership				
Ever 60 days delinquent (%)	Binary variable that takes on value: • 1 if ever 60 days delinquent on mortgage loan, as of December 2019 • 0 if never 60 days delinquent on mortgage loan or no mortgage loan	Credit bureau data; lender data; FHA data	**Confirmatory**	**5.3** **(22.4)** **[5,484]**
Ever 30 days delinquent (%)	Binary variable that takes on value: • 1 if ever 30 days delinquent on mortgage loan, as of December 2019 • 0 if never 30 days delinquent on mortgage loan or no mortgage loan	Credit bureau data; lender data; FHA data	Secondary	10.4 (30.5) [5,484]
Ever 90 days delinquent (%)	Binary variable that takes on value: • 1 if ever 90 days delinquent on mortgage loan, as of December 2019 • 0 if never 90 days delinquent on mortgage loan or no mortgage loan	Credit bureau data; lender data; FHA data	Secondary	3.8 (19.0) [5,484]

Outcome Label	Coding Outline	Data Source(s)	Outcome Classification	Full Sample Mean (Standard Deviation) [Sample Size]
Ratio of monthly housing costs to monthly income	Monthly housing costs to monthly income ratio, where monthly income is monthly household income reported on the Long-Term Follow-Up Survey and monthly housing costs are set equal to: • Monthly rent if study participant rents a house or apartment • Monthly required housing payment (including principal, interest, property taxes, homeowners insurance, condo fees, etc.) if study participant owns the home they live in • 0 if study participant lives in someone else's house or apartment without paying rent • Missing if indicated an alternative housing arrangement (e.g., military setting), responded "don't know", or refused to answer	Long-Term Follow-Up Survey	Secondary	25.0 (22.0) [3,503]
Study participant described the condition of current home/apartment as good or excellent (%)	Binary variable that takes on value: • 1 described the condition of their current home/apartment as good or excellent • 0 described the condition of their current home/apartment as fair or poor	Long-Term Follow-Up Survey	Secondary	86.4 (34.3) [4,143]
Study participant is satisfied with current neighborhood (%)	Binary variable that takes on value: • 1 if reports being satisfied or very satisfied with their current neighborhood • 0 if reports being somewhat dissatisfied or very dissatisfied with their current neighborhood	Long-Term Follow-Up Survey	Secondary	93.4 (24.9) [4,138]
Study participant is confident in ability to make housing payments over the next 6 months (%)	Binary variable that takes on value: • 1 if study participant reports being confident or very confident that they can make their housing payments over the next 6 months • 0 if study participant reports being somewhat confident or not confident at all that they can make their housing payments over the next 6 months	Long-Term Follow-Up Survey	Secondary	87.0 (33.8) [4,094]
Monthly housing costs exceed 30 percent of monthly income (%)	Binary variable that takes on value: • 1 if monthly housing costs exceed 30 percent of monthly household income • 0 if monthly housing costs are less than or equal to 30 percent of monthly household income See *ratio of monthly housing costs to monthly income* for description of how monthly housing costs and monthly income were constructed.	Long-Term Follow-Up Survey	Exploratory	21.6 (41.1) [3,503]
Monthly housing costs exceed 40 percent of monthly income (%)	Binary variable that takes on value: • 1 if monthly housing costs exceed 40 percent of monthly household income • 0 if monthly housing costs are less than or equal to 40 percent of monthly household income See *ratio of monthly housing costs to monthly income* for description of how monthly housing costs and monthly income were constructed.	Long-Term Follow-Up Survey	Exploratory	10.9 (31.2) [3,503]

Outcome Label	Coding Outline	Data Source(s)	Outcome Classification	Full Sample Mean (Standard Deviation) [Sample Size]
Study participant obtained a mortgage loan and is satisfied that it has the best terms to fit needs (%)	Binary variable that takes on value: • 1 if reports being satisfied or very satisfied that the mortgage they got was the one with the best terms to fit their needs • 0 if reports being somewhat dissatisfied or very dissatisfied that the mortgage they got was the one with the best terms to fit their needs or no mortgage loan	Long-Term Follow-Up Survey	Exploratory	66.2 (47.3) [4,137]
Since purchasing home, study participant has made *additional* payments (beyond scheduled monthly payments) toward mortgage loan balance (%)	Binary variable that takes on value: • 1 if study participant has made additional payments toward their mortgage loan balance • 0 if no additional payments or no mortgage loan	Long-Term Follow-Up Survey	Exploratory	31.5 (46.5) [4,135]
Study participant indicated that home needs repairs or maintenance that the study participant cannot afford to make right now (%)	Binary variable that takes on value: • 1 if agrees or strongly agrees that home needs repairs or maintenance that the study participant cannot afford to make right now • 0 if disagrees or strongly disagrees with statement or did not purchase a home	Long-Term Follow-Up Survey	Exploratory	17.8 (38.3) [4,129]
Study participant keeps track of and does regular maintenance needed to prevent larger expenses down the road (%)	Binary variable that takes on value: • 1 if agrees or strongly agrees that they keep track of and do regular maintenance needed to prevent larger expenses down the road • 0 if disagrees or strongly disagrees with statement or did not purchase a home	Long-Term Follow-Up Survey	Exploratory	68.7 (46.4) [4,121]

Appendix C: Expanded Results for the Overall Impact of Services

This appendix presents expanded results for the overall impact of the demonstration's homebuyer education and counseling, including additional information related to the overall impacts presented in the main text and impacts on additional outcomes not presented in the main text (exhibit C.1). The reason for this additional information is that we expect that some readers will be interested not just in the main results (mean outcome levels for treatment and control groups and impact estimates) but also in some of the finer details such as sample sizes, standard errors, and *post hoc* minimum detectable effects, the added details of which we explain in section C.1. In addition, exhibit C.2 presents the overall impact on study participant credit scores measured at various points in time.

C.1 Overall Impact and How to Read Exhibits Reporting Impacts

We begin by reviewing how to interpret the contents of exhibit C.1, as a model for how to interpret the elements of the impact tables provided across the rest of the appendixes, which contain parallel content organized in a similar way. Considering each column of exhibit C.1, from left to right:

- The **Treatment Sample Size** and **Control Sample Size** columns report the number of treatment group and control group observations with nonmissing data for each outcome.
- The **Treatment Group Mean** and **Control Group Mean** columns report the regression-adjusted mean level of the outcome for the treatment and control groups, respectively.
- The difference between the treatment and control group means is the **Impact of Being Offered Services**, and it is estimated using multiple regression, as described in appendix section A. 2. This is the ITT impact.
- The **Standard Error** of the impact estimate is reported in parentheses. The standard error provides a measure of the accuracy of the impact estimate (technically the standard deviation of the sampling distribution of the impact estimate).
- In the **Impact of Being Offered Services** column, impacts marked with one or more asterisks are statistically significant, indicating that it is unlikely that the impact is due to chance. The number of asterisks indicates whether the impact is statistically significant at the $p<.10$ level (*), $p<.05$ level (**), or $p<.01$ level (***) level. The more asterisks, the less likely the finding is due to chance.
- The **Percentage Impact,** calculated as the impact divided by the control group mean, provides context for interpreting the relative magnitude of the treatment-control difference.
- The ***p*-Value** indicates how strong the evidence is in favor of rejecting the null hypothesis. The smaller the *p*-value, the stronger the evidence that the null hypothesis should be rejected.
- The **90-Percent Confidence Interval** places bounds on the impact of being offered services. Values that fall within the confidence interval are not statistically different from the

estimated impact of having been offered services. Values outside the interval are statistically different from the impact.

- The **Minimum Detectable Effect** (MDE) is the smallest *true* intervention impact that can be detected with a given level of confidence. MDEs are helpful for understanding findings that are not statistically significant because MDEs indicate how large the impact *would have needed to be* to be detected at a given level of confidence. In this application, we set the significance level to 10 percent and set statistical power to 80 percent.
- The **Impact of Taking Up Services** column provides an estimate of the impact on study participants who participate in homebuyer education and counseling services, where service take-up is measured using administrative data. Similar to the **Impact of Being Offered Services** column, the corresponding standard error is reported in parentheses, and impacts marked with one or more asterisks are statistically significant. The more asterisks, the less likely the finding is due to chance. As described in the textbox **Calculating Impact Two Ways** in section 2.3, the ITT impact analysis and TOT impact analysis both yield the same pattern of results: the sign of the ITT and TOT estimates (that is, whether the impact is positive or negative, or favorable or unfavorable) will always be the same, and the level of statistical significance of the ITT and TOT estimates will generally be the same.
- The **Classification** column indicates whether each outcome is categorized as confirmatory, secondary, or exploratory. The study categorizes outcomes as confirmatory, secondary, or exploratory as a means to focus the analyses and protect the integrity of the interpretation of statistical tests. This is because, with a large number of outcomes, there is a high likelihood that at least one of the outcomes will appear as statistically significant purely as a result of chance. Categorizing outcomes as confirmatory, secondary, or exploratory helps to mitigate this problem by identifying a narrow set of outcomes that are most important to the study and treating other outcomes as less definitive.

  The **confirmatory** outcomes are the main indicators of the extent to which the program is effective in the long term. For this long-term analysis, we selected in advance one confirmatory outcome in each of two domains: Participants' credit score as of December 2019 (in the financial capability domain) and an indicator for whether the study participant was ever 60 days delinquent on their mortgage loan (in the sustainable homeownership domain).

  Secondary outcomes are additional important indicators tied to the logic of the intervention in its efforts to influence outcomes in the three domains (preparedness and search, financial capability, and sustainable homeownership). Secondary outcomes are included in all impact analyses.

  Exploratory outcomes are of two types: (1) alternative specifications of secondary outcomes, and (2) additional outcomes of interest that are less directly tied (or are more ambiguously tied) to the logic of the intervention but that still might be influenced by the program. Exploratory outcomes are included in the analyses related to the overall impact of homebuyer education and counseling. Exploratory outcomes are selectively included in the

study's presentation of delivery mode effects and subgroup analyses based on whether a story emerged for these outcomes in the analyses of overall impacts.

Exhibit C.1: Overall Impact of the Demonstration's Homebuyer Education and Counseling, Expanded Results

Outcome	Treatment Sample Size	Control Sample Size	Treatment Group Mean	Control Group Mean	Impact of Being Offered Services (Standard Error)	Percentage Impact	*p*-Value	90 Percent Confidence Interval	Minimum Detectable Effect	Impact of Taking Up Services (Standard Error)	Classification
Panel A: Preparedness and Search											
Study participant was confident in ability to find information needed about the homebuying process (%)[a]	2,306	1,832	71.9	68.2	3.7*** (1.2)	5.4%	0.006	(1.6, 5.8)	3.1	6.0*** (2.0)	Secondary
Study participant purchased a home (%)[b]	3,265	2,414	77.1	76.8	0.3 (1.2)	0.4%	0.787	(– 1.8, 2.4)	3.0	0.6 (2.2)	Secondary
Study participant was very satisfied with the homebuying process (%)[a]	2,286	1,819	39.8	40.3	– 0.6 (1.1)	– 1.4%	0.599	(– 2.4, 1.3)	2.7	– 1.0 (1.7)	Secondary
Study participant was satisfied with decision to buy or rent (%)[a]	2,298	1,824	87.6	87.0	0.6 (1.1)	0.7%	0.607	(– 1.3, 2.4)	2.7	0.9 (1.7)	Secondary
Number of lenders from which the study participant received price quotes[a]	2,249	1,782	1.84	1.79	0.05 (0.05)	2.7%	0.336	(– 0.04, 0.13)	0.12	0.08 (0.08)	Exploratory
Study participant was satisfied with the process of obtaining a mortgage loan (%)[a] ~	2,305	1,831	62.1	63.4	– 1.3 (1.5)	– 2.0%	0.383	(– 3.8, 1.2)	3.6	– 2.1 (2.3)	Exploratory
Panel B: Financial Knowledge, Behaviors, and Skills											
If in financial difficulty, the study participant would contact lender for assistance prior to missing a mortgage payment (%)[a] ~	2,266	1,789	55.7	55.7	0.0 (1.6)	0.1%	0.978	(-2.7, 2.8)	4.1	0.1 (2.6)	Secondary
If in financial difficulty, the study participant would contact counseling agency, consumer credit counseling agency, or other nonprofit organization for assistance prior to missing a mortgage payment (%)[a] ~	2,126	1,663	26.3	23.5	2.8 (1.8)	11.9%	0.134	(-0.3, 5.9)	4.5	4.5 (2.9)	Secondary

Exhibit C.1: Overall Impact of the Demonstration's Homebuyer Education and Counseling, Expanded Results (Continued)

Outcome	Treatment Sample Size	Control Sample Size	Treatment Group Mean	Control Group Mean	Impact of Being Offered Services (Standard Error)	Percentage Impact	*p*-Value	90 Percent Confidence Interval	Minimum Detectable Effect	Impact of Taking Up Services (Standard Error)	Classification
Financial skill score (ranges from 0 to 100)[a]	2,123	1,705	63.5	63.1	0.4 (0.4)	0.7%	0.291	(– 0.2, 1.1)	1.0	0.7 (0.6)	Secondary
Study participant knows how to correct inaccurate information in credit report (%)[a]	2,291	1,821	77.5	75.1	2.3** (1.1)	3.1%	0.036	(0.5, 4.1)	2.6	3.8** (1.6)	Exploratory
If study participant started having financial problems and could not pay all of the bills, the study participant would pay mortgage first (%)[a]	2,291	1,819	78.4	78.4	0.1 (1.4)	0.1%	0.967	(– 2.3, 2.4)	3.4	0.1 (2.2)	Exploratory
Regularly required mortgage payment is automatically deducted from a bank account (%)[a] ~	2,294	1,821	41.2	40.9	0.3 (1.5)	0.8%	0.831	(– 2.2, 2.9)	3.7	0.5 (2.4)	Exploratory
Panel C: Financial Indicators											
Credit score as of December 2019 (range is 300-850)[c]	3,033	2,231	720.7	719.1	1.6 (2.0)	0.2%	0.210	(– 1.7, 4.9)	4.2	2.9 (3.5)	Confirmatory
Study participant has a credit score greater than or equal to 620 (%)[c]	3,033	2,231	82.8	82.2	0.6 (0.8)	0.7%	0.482	(– 0.8, 2.0)	2.1	1.1 (1.5)	Secondary
Financial well-being score (ranges from 0 to 100)[a]	2,124	1,705	63.4	63.2	0.1 (0.4)	0.2%	0.774	(– 0.6, 0.9)	1.1	0.2 (0.7)	Secondary
Total nonhousing debt($)[c]	3,044	2,242	30,613	29,572	1,042 (855)	3.5%	0.234	(– 415, 2,498)	2,129	1,906 (1,517)	Secondary
Student loan debt($)[c]	3,044	2,242	11,681	10,185	1,496*** (515)	14.7%	0.007	(619, 2,373)	1,282	2,737*** (929)	Secondary
Total consumer debt (all debt besides housing and student) ($)[c]	3,044	2,242	18,933	19,387	– 454 (699)	– 2.3%	0.521	(– 1,645, 736)	1,740	– 831 (1,250)	Exploratory
Credit card debt ($)[c]	3,044	2,242	5,797	6,289	– 492* (269)	– 7.8%	0.079	(– 950, -33)	670	– 900* (483)	Exploratory
Total monthly debt-to-income ratio (back-end ratio)[d]	1,847	1,460	28.1	28.5	– 0.4 (0.7)	– 1.4%	0.601	(– 1.6, 0.9)	1.8	– 0.6 (1.4)	Secondary

Exhibit C.1: Overall Impact of the Demonstration's Homebuyer Education and Counseling, Expanded Results (Continued)

Outcome	Treatment Sample Size	Control Sample Size	Treatment Group Mean	Control Group Mean	Impact of Being Offered Services (Standard Error)	Percentage Impact	*p*-Value	90 Percent Confidence Interval	Minimum Detectable Effect	Impact of Taking Up Services (Standard Error)	Classification
Total monthly debt-to-income ratio exceeds 0.43 (%)[d]	1,847	1,460	16.8	16.0	0.8 (1.0)	4.8%	0.445	(– 0.9, 2.5)	2.5	1.2 (1.5)	Exploratory
Student loan 30-day delinquency indicator (%)[c]	3,057	2,249	4.5	3.9	0.6 (0.5)	15.0%	0.243	(– 0.3, 1.4)	1.2	1.1 (0.9)	Secondary
Bankruptcy or repossession due to nonhousing debt(%)[c]	3,081	2,262	11.9	11.3	0.6 (0.6)	5.0%	0.332	(– 0.4, 1.5)	1.4	1.0 (1.0)	Exploratory
Study participant occasionally does not have enough money to cover all bills at the end of the month (%)[a]	2,307	1,833	14.8	14.7	0.1 (1.0)	0.7%	0.921	(– 1.6, 1.8)	2.5	0.2 (1.6)	Exploratory
Total savings and investments ($)[a]	2,218	1,769	71,231	66,492	4,739** (1,885)	7.1%	0.018	(1,528, 7,950)	4,694	7,678** (2,975)	Exploratory
Study participant could come up with $2,000 in 30 days if an unexpected need arose within the next month (%)[a]	2,287	1,820	70.0	68.7	1.3 (1.5)	1.9%	0.394	(– 1.3, 3.9)	3.8	2.1 (2.4)	Exploratory
Study participant usually has enough savings set aside to cover 3 months of expenses (%)[a]	2,294	1,824	68.3	65.0	3.3*** (1.1)	5.1%	0.005	(1.5, 5.1)	2.7	5.3*** (1.7)	Exploratory
Panel D: Sustainable Homeownership											
Ever 60 days delinquent (%)[e] ~	3,164	2,320	5.0	5.5	– 0.5 (0.6)	– 8.5%	0.229	(– 1.5, 0.6)	1.3	– 0.9 (1.1)	Confirmatory
Ever 30 days delinquent (%)[e] ~	3,164	2,320	10.1	10.6	– 0.6 (0.7)	– 5.6%	0.428	(– 1.9, 0.7)	1.8	– 1.1 (1.3)	Secondary

Exhibit C.1: Overall Impact of the Demonstration's Homebuyer Education and Counseling, Expanded Results (Continued)

Outcome	Treatment Sample Size	Control Sample Size	Treatment Group Mean	Control Group Mean	Impact of Being Offered Services (Standard Error)	Percentage Impact	*p*-Value	90 Percent Confidence Interval	Minimum Detectable Effect	Impact of Taking Up Services (Standard Error)	Classification
Ever 90 days delinquent (%)[e] ~	3,164	2,320	3.6	4.0	– 0.4 (0.5)	– 10.1%	0.411	(– 1.2, 0.4)	1.2	– 0.7 (0.9)	Secondary
Ratio of monthly housing costs to monthly income[a]	1,968	1,535	24.6	25.2	– 0.5 (0.6)	– 2.1%	0.383	(– 1.6, 0.5)	1.5	– 0.9 (1.0)	Secondary
Study participant described the condition of current home/apartment as good or excellent (%)[a]	2,309	1,834	86.5	86.3	0.2 (1.0)	0.3%	0.824	(– 1.5, 2.0)	2.5	0.4 (1.6)	Secondary
Study participant is satisfied with current neighborhood (%)[a]	2,307	1,831	93.7	93.2	0.5 (0.8)	0.5%	0.528	(– 0.8, 1.8)	1.9	0.8 (1.2)	Secondary
Study participant is confident in ability to make housing payments over the next 6 months (%)[a]	2,288	1,806	87.3	86.4	0.9 (1.0)	1.1%	0.363	(– 0.8, 2.7)	2.5	1.5 (1.6)	Secondary
Monthly housing costs exceed 30 percent of monthly income (%)[a]	1,968	1,535	20.2	23.4	– 3.1* (1.5)	– 13.4%	0.053	(– 5.8, -0.5)	3.8	– 5.0** (2.4)	Exploratory
Monthly housing costs exceed 40 percent of monthly income (%)[a]	1,968	1,535	10.5	11.4	– 0.9 (1.1)	– 8.0%	0.402	(– 2.7, 0.9)	2.7	– 1.5 (1.7)	Exploratory
Study participant obtained a mortgage loan and is satisfied that it has the best terms to fit needs (%)[a] ~	2,306	1,831	66.7	66.4	0.3 (1.6)	0.4%	0.866	(– 2.4, 2.9)	3.9	0.4 (2.5)	Exploratory
Since purchasing home, study participant has made additional payments (beyond scheduled monthly payments) toward mortgage loan balance (%)[a] ~	2,305	1,830	31.8	31.5	0.3 (1.4)	0.9%	0.837	(– 2.1, 2.7)	3.5	0.5 (2.3)	Exploratory
Study participant indicated that home needs repairs or maintenance that the study participant cannot afford to make right now (%)[a] ~	2,301	1,828	17.2	19.3	– 2.1 (1.5)	– 10.9%	0.166	(– 4.6, 0.4)	3.7	– 3.4 (2.3)	Exploratory

Exhibit C.1: Overall Impact of the Demonstration's Homebuyer Education and Counseling, Expanded Results (Continued)

Outcome	Treatment Sample Size	Control Sample Size	Treatment Group Mean	Control Group Mean	Impact of Being Offered Services (Standard Error)	Percentage Impact	*p*-Value	90 Percent Confidence Interval	Minimum Detectable Effect	Impact of Taking Up Services (Standard Error)	Classification
Study participant keeps track of and does regular maintenance needed to prevent larger expenses down the road (%)[a] ~	2,295	1,826	68.8	69.4	– 0.6 (1.7)	– 0.8%	0.749	(– 3.5, 2.4)	4.3	– 0.9 (2.7)	Exploratory

Notes: A one-sided test was used to determine the statistical significance of the impact on the confirmatory outcome. All other tests were two-sided. Due to rounding, reported impacts (T-C differences) could differ from differences between reported means for the treatment and control groups.
Appendix A details the analytic methods and appendix B provides additional detail on the construction of measures.
Statistical significance levels for one-sided tests are indicated with hashtags as follows: ### = 1 percent; ## = 5 percent; # = 10 percent.
Statistical significance levels for two-sided tests are indicated with asterisks as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.
~ Denotes outcomes that are coded as 0 for study participants who did not purchase a home.
Sources:
[a] Long-Term Follow-Up Survey
[b] Long-Term Follow-Up Survey; credit bureau; study lenders; Federal Housing Administration
[c] Credit bureau
[d] Long-Term Follow-Up Survey; credit bureau
[e] Credit bureau; study lenders; Federal Housing Administration

Exhibit C.2: Overall Impact of the Demonstration's Homebuyer Education and Counseling on Credit Score over Time, Expanded Results

Outcome	Treatment Sample Size	Control Sample Size	Treatment Group Mean	Control Group Mean	Impact of Being Offered Services (Standard Error)	Percentage Impact	*p*-Value	90 Percent Confidence Interval	Minimum Detectable Effect	Impact of Taking Up Services (Standard Error)	Classification
Credit score 6 to 12 months after enrollment (range is 300-850)	3,036	2,247	701.4	700.4	1.0 (1.3)	0.1%	0.438	(– 1.2, 3.2)	3.2	1.8 (2.3)	Exploratory
Credit score 12 to 18 months after enrollment (range is 300-850)	3,043	2,255	705.9	706.9	– 1.0 (1.4)	– 0.1%	0.480	(– 3.4, 1.4)	3.5	– 1.9 (2.5)	Exploratory
Credit score 18 to 24 months after enrollment (range is 300-850)	3,041	2,255	708.0	710.6	– 2.6** (1.2)	– 0.4%	0.046	(– 4.6, -0.5)	3.0	– 4.7** (2.2)	Exploratory
Credit score 24 to 30 months after enrollment (range is 300-850)	3,042	2,253	709.9	711.9	– 2.0 (1.3)	– 0.3%	0.122	(– 4.2, 0.1)	3.2	– 3.7 (2.3)	Exploratory
Credit score 30 to 36 months after enrollment (range is 300-850)	3,040	2,245	711.3	713.4	– 2.1 (1.3)	– 0.3%	0.118	(– 4.3, 0.1)	3.2	– 3.8 (2.3)	Exploratory
Credit score 36 to 42 months after enrollment (range is 300-850)	3,033	2,238	714.1	716.2	– 2.1* (1.2)	– 0.3%	0.079	(– 4.1, -0.1)	2.9	– 3.8* (2.1)	Exploratory
Credit score 42 to 48 months after enrollment (range is 300-850)	3,020	2,238	716.3	717.1	– 0.8 (1.2)	– 0.1%	0.504	(– 2.9, 1.2)	3.0	– 1.5 (2.2)	Exploratory

Notes: Due to rounding, reported impacts (T-C differences) could differ from differences between reported means for the treatment and control groups.
Statistical significance levels for two-sided tests are indicated with asterisks as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.
Source: Credit bureau

Appendix D: Expanded Results for Impacts by Service Delivery Mode

Chapter 8 reports the impact of being offered in-person services, reports the impact of being offered remote services, and reports on a test of whether these two impacts are statistically different. This appendix presents expanded results of the impact of homebuyer education and counseling services by service delivery mode. Section D.1 presents expanded results for the impacts of in-person and remote services that appear in the main text. This section also presents the impacts of being offered a choice of in-person or remote services. Section D.2 compares the impact of being offered a choice of in-person or remote services to the impact of offering remote services alone.

D.1 Expanded Results by Service Delivery Mode: In-Person, Remote, and Choice

Exhibit D.1 and exhibit D.2 report expanded results for the impacts of in-person services and the impact of remote services, which are summarized in chapter 8 of the main text. This section also presents the impacts of being offered a choice of in-person or remote services (exhibit D.3). For an explanation of how to read the exhibits, see appendix section C.1.

Exhibit D.1: Impact of In-Person Homebuyer Education and Counseling, Expanded Results

Outcome	Treatment Sample Size	Control Sample Size	Treatment Group Mean	Control Group Mean	Impact of Being Offered Services (Standard Error)	Percentage Impact	*p*-Value	90 Percent Confidence Interval	Minimum Detectable Effect	Impact of Taking Up Services (Standard Error)	Outcome Classification
Panel A: Preparedness and Search											
Study participant was confident in ability to find information needed about the homebuying process (%)[a]	551	870	71.6	67.6	4.0 (2.9)	5.9%	0.173	(– 0.9, 8.9)	7.1	12.2 (8.4)	Secondary
Study participant purchased a home (%)[b]	790	1,168	76.6	74.7	2.0 (1.9)	2.6%	0.309	(– 1.3, 5.2)	4.7	7.1 (6.6)	Secondary
Study participant was very satisfied with the homebuying process (%)[a]	545	863	42.4	39.9	2.5 (2.3)	6.2%	0.297	(– 1.5, 6.5)	5.8	7.6 (6.9)	Secondary
Study participant was satisfied with decision to buy or rent (%)[a]	549	864	87.3	85.8	1.5 (2.2)	1.7%	0.513	(– 2.3, 5.3)	5.6	4.5 (6.6)	Secondary
Panel B: Financial Knowledge, Behaviors, and Skills											
If in financial difficulty, the study participant would contact lender for assistance prior to missing a mortgage payment (%)[a] ~	546	849	55.9	52.3	3.6 (3.2)	7.0%	0.260	(– 1.7, 9.0)	7.9	11.1 (9.3)	Secondary
If in financial difficulty, the study participant would contact counseling agency, consumer credit counseling agency, or other nonprofit organization for assistance prior to missing a mortgage payment (%)[a] ~	518	804	29.1	22.8	6.4*** (2.2)	27.9%	0.008	(2.6, 10.1)	5.5	18.9*** (6.6)	Secondary
Financial skill score (ranges from 0 to 100)[a]	503	812	63.5	63.1	0.5 (0.8)	0.7%	0.545	(– 0.8, 1.7)	1.9	1.3 (2.1)	Secondary
Panel C: Financial Indicators											
Credit score as of December 2019 (range is 300-850)[c]	733	1,072	714.3	709.0	5.2 (3.2)	0.7%	0.112	(– 0.2, 10.7)	7.9	18.9 (11.2)	Confirmatory
Study participant has a credit score greater than or equal to 620 (%)[c]	733	1,072	81.4	79.8	1.6 (1.4)	2.0%	0.253	(– 0.7, 4.0)	3.4	5.8 (4.9)	Secondary

Exhibit D.1: Impact of In-Person Homebuyer Education and Counseling, Expanded Results (Continued)

Outcome	Treatment Sample Size	Control Sample Size	Treatment Group Mean	Control Group Mean	Impact of Being Offered Services (Standard Error)	Percentage Impact	*p*-Value	90 Percent Confidence Interval	Minimum Detectable Effect	Impact of Taking Up Services (Standard Error)	Outcome Classification
Financial well-being score (ranges from 0 to 100)[a]	503	811	62.9	62.7	0.2 (0.9)	0.3%	0.817	(– 1.3, 1.7)	2.2	0.6 (2.5)	Secondary
Total nonhousing debt($)[c]	736	1,079	28,348	29,546	– 1,199 (1,346)	– 4.1%	0.381	(– 3,491, 1,094)	3,351	– 4,340 (4,742)	Secondary
Student loan debt($)[c]	736	1,079	9,207	10,060	– 853 (791)	– 8.5%	0.291	(– 2,200, 495)	1,970	– 3,088 (2,794)	Secondary
Total consumer debt (all debt besides housing and student) ($)[c]	736	1,079	19,141	19,487	– 346 (1,135)	– 1.8%	0.763	(– 2,279, 1,587)	2,826	– 1,252 (3,943)	Exploratory
Credit card debt ($)[c]	736	1,079	5,856	6,099	– 243 (322)	– 4.0%	0.456	(– 791, 305)	801	– 881 (1,107)	Exploratory
Total monthly debt-to-income ratio (back-end ratio)[d]	432	686	30.9	29.4	1.4 (1.3)	4.9%	0.275	(– 0.8, 3.6)	3.2	4.2 (3.5)	Secondary
Student loan 30-day delinquency indicator (%)[c]	741	1,083	5.6	5.0	0.6 (1.0)	12.1%	0.561	(– 1.1, 2.3)	2.5	2.2 (3.5)	Secondary
Total savings and investments ($)[a]	524	843	67,820	60,006	7,813 (5,935)	13.0%	0.199	(– 2,296, 17,923)	14,779	24,074 (17,756)	Exploratory
Panel D: Sustainable Homeownership											
Ever 60 days delinquent (%)[e] ~	764	1,118	5.2	6.4	– 1.1 (1.4)	– 17.4%	0.449	(– 3.6, 1.3)	3.6	–-4.0 (4.9)	Confirmatory
Ever 30 days delinquent (%)[e] ~	764	1,118	11.0	12.8	– 1.8 (1.5)	– 13.8%	0.259	(– 4.4, 0.8)	3.8	– 6.4 (5.2)	Secondary
Ever 90 days delinquent (%)[e] ~	764	1,118	3.9	4.5	– 0.6 (1.1)	– 12.8%	0.603	(– 2.4, 1.3)	2.7	– 2.1 (3.7)	Secondary
Ratio of monthly housing costs to monthly income[a]	458	717	27.5	25.3	2.2 (1.4)	8.8%	0.120	(– 0.1, 4.6)	3.4	6.7 (4.0)	Secondary

Exhibit D.1: Impact of In-Person Homebuyer Education and Counseling, Expanded Results (Continued)

Outcome	Treatment Sample Size	Control Sample Size	Treatment Group Mean	Control Group Mean	Impact of Being Offered Services (Standard Error)	Percentage Impact	*p*-Value	90 Percent Confidence Interval	Minimum Detectable Effect	Impact of Taking Up Services (Standard Error)	Outcome Classification
Study participant described the condition of current home/apartment as good or excellent (%)[a]	553	871	86.0	85.0	1.0 (2.0)	1.2%	0.608	(– 2.3, 4.3)	4.9	3.1 (5.7)	Secondary
Study participant is satisfied with current neighborhood (%)[a]	553	870	92.8	92.6	0.2 (1.7)	0.2%	0.904	(– 2.7, 3.1)	4.2	0.6 (4.9)	Secondary
Study participant is confident in ability to make housing payments over the next 6 months (%)[a]	551	854	85.4	86.2	– 0.8 (1.8)	– 0.9%	0.660	(– 3.9, 2.3)	4.5	– 2.5 (5.3)	Secondary

Notes: Due to rounding, reported impacts (T-C differences) could differ from differences between reported means for the treatment and control groups.
Statistical significance levels for two-sided tests are indicated with asterisks as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.
~ Denotes outcomes that are coded as 0 for study participants who did not purchase a home.
Sources:
[a] Long-Term Follow-Up Survey
[b] Long-Term Follow-Up Survey; credit bureau; study lenders; Federal Housing Administration
[c] Credit bureau
[d] Long-Term Follow-Up Survey; credit bureau
[e] Credit bureau; study lenders; Federal Housing Administration

Exhibit D.2: Impact of Remote Homebuyer Education and Counseling, Expanded Results

Outcome	Treatment Sample Size	Control Sample Size	Treatment Group Mean	Control Group Mean	Impact of Being Offered Services (Standard Error)	Percentage Impact	*p*-Value	90 Percent Confidence Interval	Minimum Detectable Effect	Impact of Taking Up Services (Standard Error)	Outcome Classification
Panel A: Preparedness and Search											
Study participant was confident in ability to find information needed about the homebuying process (%)[a]	1,755	1,832	71.3	68.2	3.1** (1.4)	4.6%	0.038	(0.7, 5.6)	3.6	4.4** (2.0)	Secondary
Study participant purchased a home (%)[b]	2,475	2,414	76.6	76.8	– 0.2 (1.2)	– 0.2%	0.882	(– 2.3, 1.9)	3.1	– 0.3 (1.9)	Secondary
Study participant was very satisfied with the homebuying process (%)[a]	1,741	1,819	38.6	40.3	– 1.7 (1.2)	– 4.2%	0.174	(– 3.8, 0.4)	3.1	– 2.4 (1.7)	Secondary
Study participant was satisfied with decision to buy or rent (%)[a]	1,749	1,824	87.0	87.0	– 0.0 (1.1)	– 0.0%	0.985	(– 2.0, 1.9)	2.8	– 0.0 (1.6)	Secondary
Panel B: Financial Knowledge, Behaviors, and Skills											
If in financial difficulty, the study participant would contact lender for assistance prior to missing a mortgage payment (%)[a] ~	1,720	1,789	54.8	55.7	– 0.9 (1.4)	– 1.6%	0.524	(– 3.3, 1.5)	3.5	– 1.3 (1.9)	Secondary
If in financial difficulty, the study participant would contact counseling agency, consumer credit counseling agency, or other nonprofit organization for assistance prior to missing a mortgage payment (%)[a] ~	1,608	1,663	25.1	23.5	1.7 (2.2)	7.1%	0.457	(– 2.1, 5.4)	5.5	2.4 (3.0)	Secondary
Financial skill score (ranges from 0 to 100)[a]	1,620	1,705	63.5	63.1	0.4 (0.4)	0.7%	0.311	(– 0.3, 1.1)	1.0	0.6 (0.5)	Secondary
Panel C: Financial Indicators											
Credit score as of December 2019 (range is 300-850)[c]	2,300	2,231	719.9	719.1	0.8 (2.0)	0.1%	0.690	(– 2.6, 4.2)	5.0	1.3 (3.1)	Confirmatory
Study participant has a credit score greater than or equal to 620 (%)[c]	2,300	2,231	82.6	82.2	0.4 (1.0)	0.5%	0.712	(– 1.3, 2.1)	2.5	0.6 (1.5)	Secondary

Exhibit D.2: Impact of Remote Homebuyer Education and Counseling, Expanded Results (Continued)

Outcome	Treatment Sample Size	Control Sample Size	Treatment Group Mean	Control Group Mean	Impact of Being Offered Services (Standard Error)	Percentage Impact	*p*-Value	90 Percent Confidence Interval	Minimum Detectable Effect	Impact of Taking Up Services (Standard Error)	Outcome Classification
Financial well-being score (ranges from 0 to 100)[a]	1,621	1,705	63.3	63.2	0.1 (0.5)	0.1%	0.850	(– 0.7, 0.9)	1.1	0.1 (0.6)	Secondary
Total nonhousing debt($)[c]	2,308	2,242	30,978	29,572	1,407 (976)	4.8%	0.161	(– 256, 3,070)	2,431	2,219 (1,492)	Secondary
Student loan debt($)[c]	2,308	2,242	12,243	10,185	2,058*** (574)	20.2%	0.001	(1,080, 3,037)	1,430	3,247*** (900)	Secondary
Total consumer debt (all debt besides housing and student) ($)[c]	2,308	2,242	18,735	19,387	– 652 (803)	– 3.4%	0.424	(– 2,019, 716)	1,999	– 1,028 (1,238)	Exploratory
Credit card debt ($)[c]	2,308	2,242	5,740	6,289	– 549* (276)	– 8.7%	0.057	(– 1,018, -79)	687	– 865* (428)	Exploratory
Total monthly debt-to-income ratio (back-end ratio)[d]	1,415	1,460	27.6	28.5	– 0.8 (0.9)	– 2.9%	0.346	(– 2.3, 0.6)	2.1	– 1.2 (1.2)	Secondary
Student loan 30-day delinquency indicator (%)[c]	2,316	2,249	4.5	3.9	0.5 (0.6)	13.9%	0.343	(– 0.4, 1.5)	1.4	0.9 (0.9)	Secondary
Total savings and investments ($)[a]	1,694	1,769	70,074	66,492	3,583 (2,334)	5.4%	0.136	(– 393, 7,558)	5,812	5,037 (3,179)	Exploratory
Panel D: Sustainable Homeownership											
Ever 60 days delinquent (%)[e] ~	2,400	2,320	5.1	5.5	– 0.4 (0.6)	– 7.1%	0.516	(– 1.4, 0.6)	1.5	– 0.6 (0.9)	Confirmatory
Ever 30 days delinquent (%)[e] ~	2,400	2,320	10.1	10.6	– 0.6 (0.9)	– 5.3%	0.559	(– 2.2, 1.1)	2.4	– -0.9 (1.5)	Secondary
Ever 90 days delinquent (%)[e] ~	2,400	2,320	3.6	4.0	– 0.4 (0.4)	– 10.2%	0.370	(– 1.2, 0.4)	1.1	– 0.6 (0.7)	Secondary
Ratio of monthly housing costs to monthly income[a]	1,510	1,535	23.8	25.2	– 1.4* (0.7)	– 5.4%	0.052	(– 2.5, -0.2)	1.7	– 1.9* (0.9)	Secondary

Exhibit D.2: Impact of Remote Homebuyer Education and Counseling, Expanded Results (Continued)

Outcome	Treatment Sample Size	Control Sample Size	Treatment Group Mean	Control Group Mean	Impact of Being Offered Services (Standard Error)	Percentage Impact	*p*-Value	90 Percent Confidence Interval	Minimum Detectable Effect	Impact of Taking Up Services (Standard Error)	Outcome Classification
Study participant described the condition of current home/apartment as good or excellent (%)[a]	1,756	1,834	86.0	86.3	– 0.3 (1.2)	– 0.4%	0.778	(– 2.3, 1.6)	2.9	– 0.5 (1.6)	Secondary
Study participant is satisfied with current neighborhood (%)[a]	1,754	1,831	93.6	93.2	0.4 (0.8)	0.5%	0.581	(– 0.9, 1.8)	2.0	0.6 (1.1)	Secondary
Study participant is confident in ability to make housing payments over the next 6 months (%)[a]	1,737	1,806	87.6	86.4	1.2 (1.0)	1.4%	0.249	(– 0.5, 2.9)	2.5	1.7 (1.4)	Secondary

Notes: Due to rounding, reported impacts (T-C differences) could differ from differences between reported means for the treatment and control groups.
Statistical significance levels for two-sided tests are indicated with asterisks as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.
~ Denotes outcomes that are coded as 0 for study participants who did not purchase a home.
Sources:
[a] Long-Term Follow-Up Survey
[b] Long-Term Follow-Up Survey; credit bureau; study lenders; Federal Housing Administration
[c] Credit bureau
[d] Long-Term Follow-Up Survey; credit bureau
[e] Credit bureau; study lenders; Federal Housing Administration

Exhibit D.3: Impact of Choice of In-Person or Remote Homebuyer Education and Counseling, Expanded Results

Outcome	Treatment Sample Size	Control Sample Size	Treatment Group Mean	Control Group Mean	Impact of Being Offered Services (Standard Error)	Percentage Impact	*p*-Value	90 Percent Confidence Interval	Minimum Detectable Effect	Impact of Taking Up Services (Standard Error)	Outcome Classification
Panel A: Preparedness and Search											
Study participant was confident in ability to find information needed about the homebuying process (%)[a]	812	1,241	74.4	67.5	6.9*** (1.8)	10.2%	0.001	(3.9, 9.9)	4.4	10.8*** (2.8)	Secondary
Study participant purchased a home (%)[b]	1,123	1,636	77.5	75.6	2.0 (1.8)	2.6%	0.286	(– 1.1, 5.1)	4.6	3.6 (3.2)	Secondary
Study participant was very satisfied with the homebuying process (%)[a]	805	1,232	43.0	40.3	2.7 (2.4)	6.7%	0.262	(– 1.3, 6.7)	5.9	4.2 (3.5)	Secondary
Study participant was satisfied with decision to buy or rent (%)[a]	809	1,237	88.5	86.8	1.7 (1.8)	2.0%	0.347	(– 1.3, 4.8)	4.5	2.7 (2.7)	Secondary
Panel B: Financial Knowledge, Behaviors, and Skills											
If in financial difficulty, the study participant would contact lender for assistance prior to missing a mortgage payment (%)[a] ~	800	1,213	55.4	55.5	– 0.2 (2.1)	– 0.4%	0.927	(– 3.8, 3.4)	5.2	– 0.3 (3.2)	Secondary
If in financial difficulty, the study participant would contact counseling agency, consumer credit counseling agency, or other nonprofit organization for assistance prior to missing a mortgage payment (%)[a] ~	734	1,116	28.4	23.8	4.5* (2.5)	19.1%	0.075	(0.4, 8.7)	6.1	7.1* (3.6)	Secondary
Financial skill score (ranges from 0 to 100)[a]	746	1,156	63.9	63.0	0.9 (0.5)	1.4%	0.110	(– 0.0, 1.8)	1.4	1.4 (0.8)	Secondary
Panel C: Financial Indicators											
Credit score as of December 2019 (range is 300-850)[c]	1,045	1,508	722.6	721.0	1.6 (2.7)	0.2%	0.568	(– 3.1, 6.2)	6.8	2.8 (4.7)	Confirmatory
Study participant has a credit score greater than or equal to 620 (%)[c]	1,045	1,508	83.7	82.6	1.1 (0.9)	1.3%	0.222	(– 0.4, 2.5)	2.1	1.9 (1.5)	Secondary

Exhibit D.3: Impact of Choice of In-Person or Remote Homebuyer Education and Counseling, Expanded Results (Continued)

Outcome	Treatment Sample Size	Control Sample Size	Treatment Group Mean	Control Group Mean	Impact of Being Offered Services (Standard Error)	Percentage Impact	*p*-Value	90 Percent Confidence Interval	Minimum Detectable Effect	Impact of Taking Up Services (Standard Error)	Outcome Classification
Financial well-being score (ranges from 0 to 100)[a]	746	1,157	63.3	63.3	0.1 (0.6)	0.1%	0.908	(– 0.9, 1.1)	1.5	0.1 (0.9)	Secondary
Total nonhousing debt($)[c]	1,050	1,514	30,951	29,180	1,771 (1,103)	6.1%	0.120	(– 108, 3,650)	2,747	3,153 (1,884)	Secondary
Student loan debt($)[c]	1,050	1,514	12,635	9,847	2,788*** (741)	28.3%	0.001	(1,526, 4,050)	1,845	4,964*** (1,257)	Secondary
Total consumer debt (all debt besides housing and student) ($)[c]	1,050	1,514	18,316	19,333	– 1,017 (868)	– 5.3%	0.251	(– 2,495, 461)	2,160	– 1,811 (1,492)	Exploratory
Credit card debt ($)[c]	1,050	1,514	5,649	6,221	– 572 (378)	– 9.2%	0.142	(– 1,216, 72)	941	– 1,018 (651)	Exploratory
Total monthly debt-to-income ratio (back-end ratio)[d]	652	988	29.2	27.8	1.4 (1.1)	5.0%	0.208	(– 0.4, 3.2)	2.7	2.1 (1.6)	Secondary
Student loan 30-day delinquency indicator (%)[c]	1,058	1,520	4.7	3.2	1.4** (0.7)	44.5%	0.046	(0.3, 2.6)	1.7	2.6** (1.2)	Secondary
Total savings and investments ($)[a]	785	1,194	68,504	65,284	3,220 (4,845)	4.9%	0.512	(– 5,032, 11,472)	12,064	5,008 (7,200)	Exploratory
Panel D: Sustainable Homeownership											
Ever 60 days delinquent (%)[e] ~	1,090	1,570	4.5	4.6	– 0.1 (0.8)	– 1.2%	0.947	(– 1.5, 1.3)	2.1	– 0.1 (1.4)	Confirmatory
Ever 30 days delinquent (%)[e] ~	1,090	1,570	9.0	8.9	0.1 (1.2)	0.6%	0.964	(– 2.0, 2.1)	3.0	0.1 (2.1)	Secondary
Ever 90 days delinquent (%)[e] ~	1,090	1,570	3.1	3.2	– 0.2 (0.7)	– 5.1%	0.813	(– 1.4, 1.0)	1.7	– 0.3 (1.2)	Secondary
Ratio of monthly housing costs to monthly income[a]	692	1,053	25.1	25.3	– 0.2 (0.9)	– 0.7%	0.845	(– 1.7, 1.3)	2.2	– 0.3 (1.3)	Secondary

Exhibit D.3: Impact of Choice of In-Person or Remote Homebuyer Education and Counseling, Expanded Results (Continued)

Outcome	Treatment Sample Size	Control Sample Size	Treatment Group Mean	Control Group Mean	Impact of Being Offered Services (Standard Error)	Percentage Impact	*p*-Value	90 Percent Confidence Interval	Minimum Detectable Effect	Impact of Taking Up Services (Standard Error)	Outcome Classification
Study participant described the condition of current home/apartment as good or excellent (%)[a]	814	1,241	87.5	85.8	1.7 (1.3)	2.0%	0.192	(– 0.5, 3.8)	3.1	2.6 (1.9)	Secondary
Study participant is satisfied with current neighborhood (%)[a]	814	1,239	94.2	93.5	0.7 (1.1)	0.8%	0.514	(– 1.1, 2.6)	2.7	1.1 (1.6)	Secondary
Study participant is confident in ability to make housing payments over the next 6 months (%)[a]	809	1,223	87.0	86.6	0.4 (1.4)	0.5%	0.756	(– 2.0, 2.8)	3.5	0.7 (2.1)	Secondary

Notes: Due to rounding, reported impacts (T-C differences) could differ from differences between reported means for the treatment and control groups.
Statistical significance levels for two-sided tests are indicated with asterisks as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.
~ Denotes outcomes that are coded as 0 for study participants who did not purchase a home.
Sources:
[a] Long-Term Follow-Up Survey
[b] Long-Term Follow-Up Survey; credit bureau; study lenders; Federal Housing Administration
[c] Credit bureau
[d] Long-Term Follow-Up Survey; credit bureau
[e] Credit bureau; study lenders; Federal Housing Administration

D.2 Comparison of Impact of Choice of Service Modes with Impact of Remote Services

This section compares impacts for the group of study participants who were offered a choice between in-person and remote services and compares impacts for that group to impacts for those offered remote services without a choice. This comparison may be of interest because homebuyers outside the context of a study are likely to have their choice of service mode and because homebuyer education and counseling services may be more effective for individuals able to choose their mode of service.

As described in section A.1, the study shifted from randomizing individuals into a purely in-person treatment group when it became clear that take-up of in-person services was low (about one-quarter of those offered in-person services took up that offer). Replacing the in-person offer with an offer of a *choice* of service modes allows the study to consider whether giving prospective homebuyers the choice of in-person or remote services modes would be an improvement on what might otherwise be a world in which only remote services are available.

Having a choice might lead to larger impacts for treatment group members if they are more motivated or engaged and, thereby, experience greater benefits from services because they take up services that are in line with their preferences. Alternatively, to the extent that "one more choice" in a choice-filled homebuying process dissuades choice treatment group members from participating in services, we might expect that those offered remote services (without a choice) might experience more favorable impacts relative to those offered a choice of service modes. [104]

Exhibit D.4 compares the impact of *being offered* the choice of in-person or remote services with the impact of *being offered* remote services without a choice.[105] For 3 out of 24 outcomes, we observe a statistically significant difference (at the 10-percent significance level) between the impact for those study participants given a choice of service modes and those offered access to remote services without a choice. This is no more than the number of differences we would expect due to random chance.

One possible explanation for this general lack of statistically significant differences is that three-fourths of those who were given a choice of service modes expressed a preference for remotely provided services, implying that the large majority of choice group members opted for the exact same type of services offered to remote treatment group members. In brief, neither of

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[104] We generally find that those in the choice treatment group had similar service participation rates to those in the in-person or remote treatment group who were offered the same service.

[105] We estimate the impact of remote services by comparing the control group with the remote treatment group. No choice treatment group members are included in this estimate of the impact of remote services, which is why the values differ slightly from the impact of remote services reported in exhibit D.2, where we included all study participants who were offered remote services, including those in the choice treatment group, in order to maximize sample size for that analysis. This enables us to make a clean comparison of the impact of having a choice of service modes relative to the impact of remote services without a choice.

the possible hypotheses about having a choice of service modes—greater empowerment or information overload—is borne out in the data.

Exhibit D.4: Comparison of Impact of Being Offered Choice of In-Person or Remote Services with Impact of Being Offered Remote Services

Outcome	Impact of Being Offered Choice of Service Modes	Impact of Being Offered Remote Services	Difference Between Choice and Remote Impacts
Panel A: Preparedness and Search			
Study participant was confident in ability to find information needed about the homebuying process (%)[a]	6.9***	1.7	5.2*
Study participant purchased a home (%)[b]	2.0	– 0.9	2.9
Study participant was very satisfied with the homebuying process (%)[a]	2.7	– 3.4*	6.1**
Study participant was satisfied with decision to buy or rent (%)[a]	1.7	– 1.0	2.7
Panel B: Financial Knowledge, Behaviors, and Skills			
If in financial difficulty, the study participant would contact lender for assistance prior to missing a mortgage payment (%)[a] ~	– 0.2	– 0.7	0.5
If in financial difficulty, the study participant would contact counseling agency, consumer credit counseling agency, or other nonprofit organization for assistance prior to missing a mortgage payment (%)[a] ~	4.5*	1.4	3.1
Financial skill score (ranges from 0 to 100)[a]	0.9	0.1	0.8
Panel C: Financial Indicators			
Credit score as of December 2019 (range is 300-850)[c]	1.6	0.3	1.3
Study participant has a credit score greater than or equal to 620 (%)[c]	1.1	– 0.0	1.1
Financial well-being score (ranges from 0 to 100)[a]	0.1	0.3	– 0.3
Total nonhousing debt($)[c]	1,771	996	775
Student loan debt($)[c]	2,788***	1,365*	1,423
Total consumer debt (all debt besides housing and student) ($)[c]	– 1,017	– 368	– 649
Credit card debt ($)[c]	– 572	– 486	– 86
Total monthly debt-to-income ratio (back-end ratio)[d]	1.4	– 2.0*	3.4**
Student loan 30-day delinquency indicator (%)[c]	1.4**	0.4	1.0
Total savings and investments ($)[a]	3,220	5,747*	– 2,527
Panel D: Sustainable Homeownership			
Ever 60 days delinquent (%)[e] ~	– 0.1	– 0.4	0.4
Ever 30 days delinquent (%)[e] ~	0.1	– 0.4	0.4
Ever 90 days delinquent (%)[e] ~	– 0.2	– 0.4	0.2
Ratio of monthly housing costs to monthly income[a]	– 0.2	– 1.8**	1.6
Study participant described the condition of current home/apartment as good or excellent (%)[a]	1.7	– 0.8	2.5
Study participant is satisfied with current neighborhood (%)[a]	0.7	0.1	0.6
Study participant is confident in ability to make housing payments over the next 6 months (%)[a]	0.4	2.6**	– 2.2

Notes: Appendix A details the analytic methods and sample composition and appendix B provides additional detail on the construction of measures. For the analysis of choice of service modes, the treatment group includes the choice treatment group; and the control group includes the Modified Study Design control group. For the analysis of remote services, the treatment group includes the remote treatment group; and the control group includes the full control group. Statistical significance levels for two-sided tests are indicated with asterisks as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.

~ Denotes outcomes that are coded as 0 for study participants who did not purchase a home.

Sources:

[a] Long-Term Follow-Up Survey

[b] Long-Term Follow-Up Survey; credit bureau; study lenders; Federal Housing Administration

[c] Credit bureau

[d] Long-Term Follow-Up Survey; credit bureau

[e] Credit bureau; study lenders; Federal Housing Administration

Appendix E: Impacts on Subgroups

The data collected by the baseline survey and baseline credit bureau data offer a rich set of demographic, socioeconomic, financial, and housing market characteristics from which the team defined subgroups of interest. In this appendix, we report impacts on these 17 pre-specified sets of subgroups:

Key Findings: Impacts on Subgroups Defined by Baseline Characteristics

This appendix reports impacts on subgroups defined by baseline demographic, socioeconomic, financial, and housing market characteristics.

We find evidence of systematic between-subgroup differences in impacts for five sets of subgroups: those defined by gender, age, credit score, consumer debt, and student loan debt.

- Exhibit E.1 presents results for the comparison of impacts on subpopulations defined by **gender**.
- Exhibit E.2 presents results for the comparison of impacts on subpopulations defined by **age** at baseline.
- Exhibit E.3 presents results for the comparison of impacts on subpopulations defined by **credit score** at baseline.
- Exhibit E.4 presents results for the comparison of impacts on subpopulations defined by **consumer debt** at baseline.
- Exhibit E.5 presents results for the comparison of impacts on subpopulations defined by **student loan debt** at baseline.
- Exhibit E.6 and E.7 present results for the comparison of impacts on subpopulations defined by **race/ethnicity**.
- Exhibit E.8 presents results for the comparison of impacts on subpopulations defined by **educational attainment** at baseline.
- Exhibit E.9 presents results for the comparison of impacts on subpopulations defined by **stage in homebuying process** at baseline.
- Exhibit E.10 presents results for the comparison of impacts on subpopulations defined by **borrower income relative to area median income** at baseline.
- Exhibit E.11 presents results for the comparison of impacts on subpopulations defined by **savings** at baseline.
- Exhibit E.12 presents results for the comparison of impacts on subpopulations defined by **area housing affordability** at baseline.
- Exhibits E.13 through E.16 present results for the comparison of impacts on subpopulations defined by the **likelihood of taking up services, completing education, completing counseling, and completing all services**, respectively.
- Exhibit E.17 presents results for the comparison of impacts on subpopulations defined by the **likelihood of purchasing a home.**

We report impacts on individual subgroups based on the comparison of mean outcomes between the pooled treatment group and the control group. Additionally, we report whether the impact of the intervention differs across subgroups. Appendix A details the analytic methods, and appendix B provides additional detail on the construction of measures.

We conduct a substantial number of tests in this subgroup analysis: we estimate and report the impact of being offered services on 24 outcomes for each of 17 sets of subgroups. In conducting this many tests, some impacts might appear simply due to random chance. Therefore, in this appendix, we focus on subgroups for which there is evidence of *systematic* between-subgroup differences in impacts. As described in more detail in section A.8 and as depicted by exhibit A.10, we operationalize this strategy by setting the minimum threshold for evidence of systematic between-subgroup differences in impacts as follows: For a given subgroup of interest, we must find a statistically significant between-subgroup difference in impacts (at the 10-percent significance level) for 5 or more of the 24 outcomes analyzed. If there are 4 or fewer between-subgroup differences (out of 24 total tests for each subgroup), then we conclude that there is not sufficient evidence to conclude that impacts for the subgroups are different.

We did find evidence of systematic between-subgroup differences in impacts for five sets of subgroups defined by characteristics at the time of student enrollment: gender (section E.1); age above or below 30 (section E.2); credit score above or below 680 (section E.3); consumer debt above or below $10,000 (section E.4); and whether the study participant had any student debt (section E.5). For these five sets of subgroups, the discussion focuses on outcomes for which there is a statistically significant difference in impacts between subgroups. For the other 12 sets of subgroup impacts, the analysis revealed no systematic between-subgroup differences in impacts (section E.6). After reporting on these pre-specified subgroups (for those first with and then without systematic evidence of impact differentials), we report on another subgroup, which we had not pre-specified in our plans (Asians).

E.1 Differences in Subgroup Impacts: Gender

We consider the impact of being offered homebuyer education and counseling services on men (60.2 percent of the study sample) and women (the remaining 39.8 percent of the study sample).[106] Exhibit E.1 reports the impacts of homebuyer education and counseling for women and for men and shows differences, if any, between them. We observe five statistically significant differences in impacts between men and women (at the 10 percent level).

- **Homebuyer education and counseling improved the financial skill of women.** Among women, treatment group members had a financial skill score 1.4 points higher than their control group counterparts. There is no detectable impact for men.

[106] The disproportionate number of men in our sample is due to the recruitment process: lenders reached out to the primary borrower on the application or pre-application.

- **Homebuyer education and counseling improved the credit scores of women.** Among women, treatment group members had a credit score 6.4 points higher than control group members. There is no detectable impact for men.

- **Homebuyer education and counseling decreased the share of income that women spend on total debt.** Among women, treatment group members spent 28.2 percent of their monthly income on debt payments, 2.9 percentage points lower than their control group counterparts (a favorable impact). This represents a 9.3 percent reduction relative to control group women who spend an average of 31.1 percent of their income on debt payments. Although homebuyer education and counseling did not detectably change nonhousing debt for women, treatment group women had $5,824 more in household income relative to their control group counterparts (not shown on exhibit). This favorable impact on income for women helps to explain how women in the treatment group were able to spend a smaller share of their income on debt. There is no detectable impact on the share of income that men spend on total debt.

- **For women, homebuyer education and counseling increased total savings and investments.** Among women, treatment group members had $9,662 more in total savings and investments than their control group counterparts at long-term followup. This increase in total savings and investments represents a meaningful 17.7 percent increase in savings relative to the $54,530 in savings for the average control group member.[107,108] There is no detectable impact for men.

- **Homebuyer education and counseling decreased the share of income that women spend on housing.** Among women, treatment group members had a monthly housing cost to monthly income ratio 2.5 points lower than control group members (a favorable impact). This represents a 9.1 percent reduction relative to control group women who spend an average of 27.6 percent of their income on housing payments. There is no detectable impact for men.

Taken together, homebuyer education and counseling appear to have a favorable impact on women at long-term followup, a conclusion we reach by observing a relatively large number of impact differentials between men and women, where the within-group impacts are favorable for women. Relative to their control group counterparts, treatment group women improved their

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[107] We also find that, among women, treatment group members had $9,828 more in nonhousing wealth, defined as total savings and investment minus nonhousing debt, relative to their control group counterparts (not shown in exhibit). This represents a meaningful increase relative to women's control group mean nonhousing wealth of $23,385.

[108] This favorable impact on total savings and investments is concentrated among women who did not have children living with them when they enrolled in the study. Among women without children at baseline, treatment group members had $16,396 more in total savings and investments at long-term followup than did the control group (not shown in exhibit). In contrast, among women with children at baseline, there is no detectable impact on total savings and investments.

financial skill score and credit score; increased their savings; and decreased monthly debt and housing payments relative to income. One potential explanation for these differences in impacts between men and women is that women were more likely than men to participate in homebuyer education and counseling services (as described in Moulton et al., 2018). For example, about 30 percent of treatment group women completed all homebuyer education and counseling services, whereas 22 percent of treatment group men completed all services (this difference in completion rates is significant at the 1-percent level).

Among men, although we did not detect a favorable impact on credit score, total savings and investments, or monthly debt and housing payments relative to income at long-term followup, outcome levels for men (both in the treatment and control groups) indicate that men are performing well at long-term followup. For example, control group men had an average credit score of 727 (considered good); total savings and investments of $74,107; a total-monthly debt-to-income ratio of 26.7; and a monthly housing cost to monthly income ratio of 23.7. Relatedly, we find that outcome levels for treatment group men are similar relative to those of treatment group women (or better, in the case of credit scores and total savings and investments). The favorable impacts for the women subgroup and null impacts for the subgroup of men may, therefore, indicate that homebuyer education and counseling services are helping to level the playing field for women.

How to Read the Exhibits in This Appendix

Exhibits in this appendix show the impacts by subgroup and include the following:

- The **Control Group Mean** indicates the mean value for the control group for a given subgroup.
- The difference between the treatment and control group means for a given subgroup is presented as the **Impact of Being Offered Services** and is estimated using multiple regression.
- The **Difference in the Impact of Being Offered Services** is the difference in impacts between the two subgroups.
- Each impact has a corresponding **Standard Error** reported in parentheses. The standard error provides a measure of the accuracy of the impact estimate.
- **Asterisks** flag statistically significant differences at the 1-percent, 5-percent, and 10-percent levels .

Exhibit E.1: Comparison of Impacts on Subpopulations Defined by Gender

Outcome	Males (N = 3,459) Control Group Mean	Males (N = 3,459) Impact of Being Offered Services (Standard Error)	Females (N = 2,286) Control Group Mean	Females (N = 2,286) Impact of Being Offered Services (Standard Error)	Difference in the Impact of Being Offered Services (Standard Error)
Panel A: Preparedness and Search					
Study participant was confident in ability to find information needed about the homebuying process (%)[a]	70.3	4.2*** (1.4)	64.7	3.1* (1.7)	1.1 (1.9)
Study participant purchased a home (%)[b]	78.2	0.1 (1.2)	74.7	0.4 (2.1)	– 0.3 (2.1)
Study participant was very satisfied with the homebuying process (%)[a]	41.4	– 1.1 (1.5)	38.6	0.1 (2.4)	– 1.2 (3.2)
Study participant was satisfied with decision to buy or rent (%)[a]	88.4	1.5 (1.3)	84.8	– 0.7 (1.5)	2.2 (1.8)
Panel B: Financial Knowledge, Behaviors, and Skills					
If in financial difficulty, the study participant would contact lender for assistance prior to missing a mortgage payment (%)[a] ~	57.8	– 1.0 (2.1)	52.5	1.7 (2.0)	– 2.7 (2.6)
If in financial difficulty, the study participant would contact counseling agency, consumer credit counseling agency, or other nonprofit organization for assistance prior to missing a mortgage payment (%)[a] ~	25.4	0.8 (2.0)	20.4	5.8** (2.8)	– 5.0 (3.0)
Financial skill score (ranges from 0 to 100)[a]	63.7	– 0.2 (0.4)	62.1	1.4* (0.8)	– 1.7* (0.9)
Panel C: Financial Indicators					
Credit score as of December 2019 (range is 300–850)[c]	726.6	– 1.4 (2.4)	707.7	6.4** (3.0)	– 7.8** (3.6)
Study participant has a credit score greater than or equal to 620 (%)[c]	84.4	– 0.4 (1.0)	78.7	2.2 (1.7)	– 2.6 (2.1)
Financial well– being score (ranges from 0 to 100)[a]	64.1	– 0.2 (0.5)	61.9	0.6 (0.8)	– 0.8 (0.9)
Total nonhousing debt($)[c]	27,548.6	1,169.4 (1,061.1)	32,719.7	883.2 (1,151.4)	286.2 (1,402.4)
Student loan debt($)[c]	7,801.2	1,747.0** (769.5)	13,906.0	1,125.3 (694.7)	621.6 (1,081.2)
Total consumer debt (all debt besides housing and student) ($)[c]	19,747.4	– 577.6 (755.7)	18,813.6	– 242.1 (891.0)	– 335.5 (872.9)
Credit card debt ($)[c]	6,095.6	– 360.2 (258.5)	6,615.7	– 703.0 (452.2)	342.8 (449.8)
Total monthly debt-to-income ratio (back-end ratio)[d]	26.7	1.4 (0.8)	31.1	– 2.9** (1.4)	4.3** (1.6)
Student loan 30-day delinquency indicator (%)[c]	3.5	– 0.0 (0.6)	4.5	1.3 (1.0)	– 1.4 (1.3)
Total savings and investments ($)[a]	74,106.8	1,550.8 (2,449.5)	54,529.6	9,662.1*** (3,323.1)	– 8,111.3* (4,320.3)
Panel D: Sustainable Homeownership					
Ever 60 days delinquent (%)[e] ~	4.6	– 0.2 (0.8)	6.7	– 0.8 (0.9)	0.5 (1.1)
Ever 30 days delinquent (%)[e] ~	9.7	– 0.3 (0.9)	12.0	– 1.0 (1.1)	0.7 (1.3)
Ever 90 days delinquent (%)[e] ~	3.2	– 0.2 (0.7)	5.1	– 0.7 (0.7)	0.5 (1.0)

Ratio of monthly housing costs to monthly income[a]	23.7	0.6 (0.7)	27.6	– 2.5* (1.2)	3.1* (1.5)
Study participant described the condition of current home/apartment as good or excellent (%)[a]	88.3	– 0.3 (1.3)	83.4	0.7 (1.4)	– 0.9 (1.7)
Study participant is satisfied with current neighborhood (%)[a]	94.9	0.2 (0.9)	90.5	1.1 (1.4)	– 0.9 (1.8)
Study participant is confident in ability to make housing payments over the next 6 months (%)[a]	88.4	0.6 (1.3)	83.2	1.4 (2.1)	– 0.7 (2.8)

Notes: Appendix A details the analytic methods and appendix B provides additional detail on the construction of measures. Outcome-specific sample sizes vary due to missing data.
Statistical significance levels for two-sided tests are indicated with asterisks as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.
~ Denotes outcomes that are coded as 0 for study participants who did not purchase a home.
Sources:
[a] Long-Term Follow-Up Survey
[b] Long-Term Follow-Up Survey; credit bureau; study lenders; Federal Housing Administration
[c] Credit bureau
[d] Long-Term Follow-Up Survey; credit bureau
[e] Credit bureau; study lenders; Federal Housing Administration

E.2 Differences in Subgroup Impacts: Age

We consider the impact of being offered homebuyer education and counseling services on those study participants who were age 29 or younger at the time of study enrollment (31.7 percent of the study sample) and a complementary subgroup comprising those age 30 or older at the time of study enrollment (the remaining 68.3 percent of the study sample). These two groups, divided by age, are at different life cycle stages, and their life circumstances likely influence the ways in which they interact with the intervention and their subsequent experience. For example, the younger group, part of the millennial generation, was less likely to be married or have children relative to the older study participants. Although the two groups had similar baseline incomes, relative to younger study participants, those age 30 or older had lower baseline credit scores (702 for the older subgroup versus 716 for the younger subgroup); were more likely to self-identify as African-American non-Hispanic (24.4 percent versus 13.5 percent); and were more likely to have owned a home sometime prior to enrolling in the study (14.9 percent versus 0.9 percent). Participation in services did not differ between the two groups: the younger and older subgroups took up services and completed all services at similar rates.

We observe 10 statistically significant differences in impacts between the younger and older subgroups at long-term followup (at the 10 percent level).

- **For those age 29 or younger, homebuyer education and counseling improved knowledge that they should proactively communicate with lenders in times of financial distress.** Among those age 29 or younger at baseline, treatment group members were 5.1 percentage points more likely to report that they would contact their lender for assistance prior to missing a mortgage payment if in financial difficulty. There is no detectable impact for those age 30 or older at baseline.

- **Homebuyer education and counseling improved the financial skill of those age 29 or younger.** Among those age 29 or younger at baseline, treatment group members had a

financial skill score 1.7 points higher than control group members. There is no detectable impact for those age 30 or older at baseline.

- **Homebuyer education and counseling improved credit scores for those age 29 or younger.** Among those age 29 or younger at baseline, treatment group members had a credit score 7.0 points higher than control group members and were 4.1 percentage points more likely to have a credit score of 620 or greater relative to control group members. There is no detectable impact on these two outcomes for those age 30 or older at baseline.

- **Homebuyer education and counseling increased nonhousing debt levels for those age 29 or younger.** Among those age 29 or younger: relative to control group members, treatment group members had $4,961 more in total nonhousing debt; $2,529 more in total consumer debt (all debt besides housing and student); and $828 more in credit card debt. These impacts on debt levels for those age 29 or younger at baseline are all statistically different from the corresponding impacts on those age 30 or older, where the estimated impacts for the older subgroup are either not detectably different from zero (as is the case for total nonhousing debt) or are negative (as is the case for both total consumer debt and credit card debt).

- **Homebuyer education and counseling increased total savings and investments for those age 29 or younger.** Among those age 29 or younger, treatment group members had $12,050 more in total savings and investments than control group members. This higher level of savings and investments for treatment group members age 29 or younger more than offsets the higher debt levels for this group. There is no detectable impact on total savings and investments for those age 30 or older at baseline.

- **Homebuyer education and counseling improved the reported condition of the respondent's current home/apartment for those age 29 or younger.** Among those age 29 or younger, treatment group members were 3.1 percentage points more likely to report that the condition of their current home/apartment was good or excellent. There is no detectable impact on this outcome for those age 30 or older at baseline.

Taken together, this evidence indicates that homebuyer education and counseling had a favorable impact at long-term followup on study participants who were age 29 or younger at baseline. Relative to their control group counterparts, treatment group members age 29 or younger at baseline improved knowledge that they should proactively communicate with lenders in times of financial distress; improved their financial skill; and improved their credit scores (via multiple measures). Although treatment group members who were age 29 or younger at baseline have higher levels of debt at long-term followup relative to their control group counterparts, these higher levels of debt are more than offset by higher levels of total savings and investments.

Exhibit E.2: Comparison of Impacts on Subpopulations Defined by Age at Baseline

Outcome	Age 30 or Older (N = 3,622) Control Group Mean	Age 30 or Older (N = 3,622) Impact of Being Offered Services (Standard Error)	Age 29 or Younger (N = 1,684) Control Group Mean	Age 29 or Younger (N = 1,684) Impact of Being Offered Services (Standard Error)	Difference in the Impact of Being Offered Services (Standard Error)
Panel A: Preparedness and Search					
Study participant was confident in ability to find information needed about the homebuying process (%)[a]	68.6	3.3* (1.9)	69.7	1.3 (2.9)	2.0 (4.0)
Study participant purchased a home (%)[b]	75.1	– 0.6 (1.2)	80.9	1.1 (2.0)	– 1.7 (1.6)
Study participant was very satisfied with the homebuying process (%)[a]	40.1	– 1.3 (1.5)	41.2	– 0.6 (2.7)	– 0.7 (3.6)
Study participant was satisfied with decision to buy or rent (%)[a]	86.0	0.2 (1.4)	89.4	1.6 (1.7)	– 1.5 (1.7)
Panel B: Financial Knowledge, Behaviors, and Skills					
If in financial difficulty, the study participant would contact lender for assistance prior to missing a mortgage payment (%)[a] ~	55.0	– 3.0 (1.9)	58.0	5.1* (2.7)	– 8.1*** (2.6)
If in financial difficulty, the study participant would contact counseling agency, consumer credit counseling agency, or other nonprofit organization for assistance prior to missing a mortgage payment (%)[a] ~	24.1	2.0 (2.3)	21.9	3.2 (3.5)	– 1.2 (4.1)
Financial skill score (ranges from 0 to 100)[a]	63.2	– 0.4 (0.6)	63.4	1.7** (0.7)	– 2.1** (0.9)
Panel C: Financial Indicators					
Credit score as of December 2019 (range is 300–850)[c]	714.4	– 0.8 (2.4)	729.7	7.0** (3.1)	– 7.8** (3.6)
Study participant has a credit score greater than or equal to 620 (%)[c]	81.2	– 1.0 (1.1)	84.4	4.1** (1.5)	– 5.1*** (1.8)
Financial well-being score (ranges from 0 to 100)[a]	62.2	– 0.2 (0.7)	65.7	0.6 (0.8)	– 0.8 (1.1)
Total nonhousing debt($)[c]	30,420.5	– 907.1 (892.0)	27,912.8	4,960.9*** (1,307.0)	– 5,867.9*** (1,309.6)
Student loan debt($)[c]	9,689.8	1,075.8* (581.2)	11,273.8	2,432.3** (1,121.9)	– 1,356.5 (1,287.1)
Total consumer debt (all debt besides housing and student) ($)[c]	20,730.7	– 1,982.9** (726.7)	16,639.0	2,528.6** (1,169.1)	– 4,511.4*** (1,191.3)
Credit card debt ($)[c]	6,906.1	– 1,092.5*** (313.3)	4,982.6	828.4** (321.7)	– 1,920.9*** (387.0)
Total monthly debt-to-income ratio (back-end ratio)[d]	30.4	– 0.8 (0.9)	24.4	0.2 (1.1)	– 1.0 (1.4)
Student loan 30-day delinquency indicator (%)[c]	3.9	1.0 (0.7)	4.0	– 0.4 (0.8)	1.4 (1.1)
Total savings and investments ($)[a]	65,993.5	53.5 (3,326.4)	63,972.6	12,050.0*** (3,931.3)	– 11996.4* (6,166.5)
Panel D: Sustainable Homeownership					
Ever 60 days delinquent (%)[e] ~	5.8	– 0.2 (0.7)	4.4	– 1.0 (1.0)	0.8 (1.1)
Ever 30 days delinquent (%)[e] ~	10.8	– 0.3 (0.9)	9.9	– 1.1 (1.4)	0.8 (1.6)
Ever 90 days delinquent (%)[e] ~	4.5	– 0.4 (0.7)	2.6	0.0 (0.7)	– 0.5 (1.0)

Ratio of monthly housing costs to monthly income[a]	26.8	– 0.7 (0.9)	21.1	– 0.0 (1.0)	– 0.7 (1.7)
Study participant described the condition of current home/apartment as good or excellent (%)[a]	86.0	– 1.7 (1.6)	88.9	3.1* (1.6)	– 4.8* (2.5)
Study participant is satisfied with current neighborhood (%)[a]	93.8	– 0.6 (0.9)	91.6	2.1 (1.4)	– 2.7* (1.5)
Study participant is confident in ability to make housing payments over the next 6 months (%)[a]	84.6	1.8 (1.3)	90.1	– 0.6 (1.8)	2.3 (2.2)

Notes: Appendix A details the analytic methods and appendix B provides additional detail on the construction of measures. Outcome-specific sample sizes vary due to missing data.
Statistical significance levels for two-sided tests are indicated with asterisks as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.
~ Denotes outcomes that are coded as 0 for study participants who did not purchase a home.
Sources:
[a] Long-Term Follow-Up Survey
[b] Long-Term Follow-Up Survey; credit bureau; study lenders; Federal Housing Administration
[c] Credit bureau
[d] Long-Term Follow-Up Survey; credit bureau
[e] Credit bureau; study lenders; Federal Housing Administration

E.3 Differences in Subgroup Impacts: Credit Score at Baseline

We consider the impact of being offered homebuyer education and counseling services on those study participants who had a baseline credit score of 680 or above (64.9 percent of the study sample) and a complementary subgroup comprising those with a baseline credit score below 680 (the remaining 35.1 percent of the study sample). We observe five statistically significant differences in impacts between these subgroups at long-term followup (at the 10 percent level).

- **For those with a baseline credit score 680 or above, homebuyer education and counseling improved knowledge that they should proactively communicate with a counseling agency or other nonprofit organizations in times of financial distress.** Among those with a baseline credit score of 680 or above, treatment group members were 4.8 percentage points more likely to report that they would contact their counseling agency or other nonprofit organizations for assistance prior to missing a mortgage payment if in financial difficulty. There is no detectable impact for those with a baseline credit score below 680.

- **Homebuyer education and counseling increased student loan debt levels for those with a baseline credit score below 680.** Among those with a baseline credit score below 680: relative to control group members, treatment group members had $3,407 more in student loan debt at long-term followup.

- **Homebuyer education and counseling increased the 30-day student loan delinquency rate for those with a baseline credit sore below 680.** Among those with a baseline credit score below 680: relative to control group members, treatment group members were 2.2 percentage points more likely to be 30 or more days past due on student loans in past 6 months.

- **Homebuyer education and counseling decreased the share of income that those with a baseline credit score of 680 or above spend on housing.** Among those with a baseline credit score of 680 or above, treatment group members had a monthly housing cost to

monthly income ratio 1.7 points lower than control group members (a favorable impact). This represents a 6.8 percent reduction relative to those in the control group with a baseline credit score of 680 or above who spend an average of 25.1 percent of their income on housing payments. In contrast, among those with a baseline credit score below 680, treatment group members had a monthly housing cost to monthly income ratio 1.4 points higher than control group members (an unfavorable impact).

- **For those with a baseline credit score 680 or above, homebuyer education and counseling improved neighborhood satisfaction.** Among those with a baseline credit score of 680 or above, treatment group members were 1.8 percentage points more likely to report that they are satisfied with their neighborhood at long-term followup. There is no detectable impact for those with a baseline credit score below 680.

Taken together, we find some evidence that homebuyer education and counseling had a favorable impact at long-term followup on study participants who had a baseline credit score of 680 or above. Relative to their control group counterparts, treatment group members who had a baseline credit score of 680 or above improved knowledge that they should proactively communicate with a counseling agency or other nonprofit organizations in times of financial distress; decreased the share of income they spend on housing; and experienced improved neighborhood satisfaction. In contrast, we find some evidence that homebuyer education and counseling had an unfavorable impact on study participants who had a baseline credit score below 680. Relative to their control group counterparts, treatment group members who had a baseline credit score below 680 had a higher 30-day delinquency rate on student loans and increased the share of income they spend on housing.

Exhibit E.3: Comparison of Impacts on Subpopulations Defined by Credit Score at Baseline

	Credit Score 680 or Above (N = 3,239)		Credit Score Below 680 (N = 1,751)		
Outcome	Control Group Mean	Impact of Being Offered Services (Standard Error)	Control Group Mean	Impact of Being Offered Services (Standard Error)	Difference in the Impact of Being Offered Services (Standard Error)
Panel A: Preparedness and Search					
Study participant was confident in ability to find information needed about the homebuying process (%)[a]	69.9	3.0** (1.4)	67.4	2.7 (2.9)	0.3 (3.3)
Study participant purchased a home (%)[b]	81.1	1.7 (1.2)	68.9	– 2.5 (2.7)	4.2 (3.1)
Study participant was very satisfied with the homebuying process (%)[a]	41.4	– 1.7 (1.7)	39.0	0.4 (2.1)	– 2.1 (3.0)
Study participant was satisfied with decision to buy or rent (%)[a]	89.9	1.5* (0.8)	82.4	– 1.4 (2.7)	2.9 (2.8)

Panel B: Financial Knowledge, Behaviors, and Skills					
If in financial difficulty, the study participant would contact lender for assistance prior to missing a mortgage payment (%)[a] ~	60.5	0.2 (1.7)	46.6	– 1.2 (3.4)	1.4 (3.5)
If in financial difficulty, the study participant would contact counseling agency, consumer credit counseling agency, or other nonprofit organization for assistance prior to missing a mortgage payment (%)[a] ~	25.0	4.8*** (1.6)	21.6	– 1.2 (3.4)	6.0* (3.5)
Financial skill score (ranges from 0 to 100)[a]	63.6	0.1 (0.6)	62.6	0.7 (0.8)	– 0.6 (1.1)
Panel C: Financial Indicators					
Credit score as of December 2019 (range is 300–850)[c]	756.4	3.3 (2.2)	652.5	– 1.3 (4.5)	4.6 (5.3)
Study participant has a credit score greater than or equal to 620 (%)[c]	91.9	1.6 (1.0)	65.0	– 0.7 (2.4)	2.3 (2.9)
Financial well-being score (ranges from 0 to 100)[a]	64.1	0.5 (0.5)	61.3	– 0.5 (0.8)	1.0 (0.8)
Total nonhousing debt($)[c]	26,974.7	583.4 (1,106.3)	35,307.2	2,499.6 (1,834.2)	– 1,916.2 (2,194.7)
Student loan debt($)[c]	9,209.6	601.0 (604.3)	12,462.2	3,407.0*** (1,037.6)	– 2,806.0** (1,281.5)
Total consumer debt (all debt besides housing and student) ($)[c]	17,765.1	– 17.6 (912.9)	22,845.0	– 907.4 (1,236.0)	889.8 (1,440.5)
Credit card debt ($)[c]	6,304.9	– 500.2 (295.1)	6,691.8	– 658.1 (449.8)	157.9 (464.6)
Total monthly debt-to-income ratio (back-end ratio)[d]	27.1	– 0.7 (0.9)	31.7	0.4 (1.4)	– 1.1 (1.6)
Student loan 30-day delinquency indicator (%)[c]	1.9	– 0.2 (0.5)	7.4	2.2* (1.2)	– 2.4* (1.4)
Total savings and investments ($)[a]	82,693.0	4,787.3 (2,927.3)	31,514.5	4,415.9 (2,892.7)	371.4 (4,113.5)
Panel D: Sustainable Homeownership					
Ever 60 days delinquent (%)[e] ~	2.9	– 0.6 (0.7)	9.7	– 0.2 (1.2)	– 0.5 (1.6)
Ever 30 days delinquent (%)[e] ~	6.9	– 0.9 (0.8)	16.2	0.8 (1.6)	– 1.6 (1.8)
Ever 90 days delinquent (%)[e] ~	1.8	– 0.2 (0.6)	7.7	– 0.6 (1.1)	0.4 (1.4)
Ratio of monthly housing costs to monthly income[a]	25.1	– 1.7** (0.7)	25.5	1.4* (0.8)	– 3.1*** (1.0)
Study participant described the condition of current home/apartment as good or excellent (%)[a]	89.7	– 1.0 (1.4)	81.6	1.8 (2.0)	– 2.8 (2.4)
Study participant is satisfied with current neighborhood (%)[a]	93.6	1.8* (0.9)	92.9	– 2.7 (2.2)	4.5* (2.5)
Study participant is confident in ability to make housing payments over the next 6 months (%)[a]	88.3	1.2 (1.2)	82.2	0.5 (2.0)	0.7 (2.1)

Notes: Appendix A details the analytic methods and appendix B provides additional detail on the construction of measures. Outcome-specific sample sizes vary due to missing data.

Statistical significance levels for two-sided tests are indicated with asterisks as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.

~ Denotes outcomes that are coded as 0 for study participants who did not purchase a home.

Sources:

[a] Long-Term Follow-Up Survey

[b] Long-Term Follow-Up Survey; credit bureau; study lenders; Federal Housing Administration

[c] Credit bureau

[d] Long-Term Follow-Up Survey; credit bureau

[e] Credit bureau; study lenders; Federal Housing Administration

E.4 Differences in Subgroup Impacts: Consumer Debt at Baseline

We consider the impact of being offered homebuyer education and counseling services on those study participants who had $10,000 or more in consumer debt (all debt besides housing and student) at baseline (36.7 percent of the study sample) and a complementary subgroup comprising those with less than $10,000 in consumer debt at baseline (the remaining 63.3 percent of the study sample). We observe five statistically significant differences in impacts between these subgroups at long-term followup (at the 10 percent level).

- **Homebuyer education and counseling decreased home purchase rates for those with $10,000 or more in baseline consumer debt.** Among study participants who had $10,000 or more in consumer debt at baseline, 74.9 percent of those offered homebuyer education and counseling services purchased a home at long-term followup. This home purchase rate is 2.5 percentage points lower than the rate of their control group counterparts, indicating that the offer of services decreased the home purchase rate among those with high levels of consumer debt at baseline. The impact on the home purchase rate for the subgroup with $10,000 or more in consumer debt at baseline is statistically different from the impact for the subgroup with less than $10,000 in consumer debt. Among those with consumer debt less than $10,000 at baseline, the impact on the home purchase rate is positive but not statistically different from zero.
- **Homebuyer education and counseling increased student loan debt for those with less than $10,000 in baseline consumer debt.** Among those with less than $10,000 in baseline consumer debt, treatment group members had $2,029 more in student loan debt than their control group counterparts. There is no detectable impact for those with a $10,000 or more in baseline consumer debt.
- **Homebuyer education and counseling decreased credit card debt for those with $10,000 or more in baseline consumer debt.** Among those with $10,000 or more in baseline consumer debt, treatment group members had $1,089 less in credit card debt than their control group counterparts. There is no detectable impact for those with a less than $10,000 in baseline consumer debt.
- **Homebuyer education and counseling had a different impact on the 30-day delinquency rate for among those with higher versus lower levels of baseline consumer debt.** Although there was no detectable overall impact on the 30-day delinquency rate (rates were about 10 percent, on average, across both the treatment and control groups), that finding obscures an apparent offsetting effect for people of lower versus higher consumer debt at baseline: the offer of homebuyer education and counseling led to a larger reduction in 30-day delinquencies among those who entered the study with more than $10,000 in debt relative to those who enrolled in the study with less debt.
- **Homebuyer education and counseling improved participants' confidence in their ability to make housing payments over the next 6 months for those with less than $10,000 in baseline consumer debt.** Among those with less than $10,000 in baseline consumer debt,

treatment group members were 2.9 percentage points more likely to report that they were confident in their ability to make housing payments over the next 6 months than their control group counterparts. There is no detectable impact for those with a $10,000 or more in baseline consumer debt.

As described above, we find that homebuyer education and counseling decreased home purchase rates for those with $10,000 or more in baseline consumer debt. One possible explanation for this finding is that homebuyer education and counseling encouraged study participants with high levels of consumer debt to get this debt under better control prior to purchasing. We do, in fact, find that homebuyer education and counseling decreased credit card debt among this group. Relatedly, we find evidence that homebuyer education and counseling differentially improved loan performance among the high consumer debt subgroup; those with $10,000 or more in baseline consumer loan debt experienced a relatively favorable impact on the 30-day delinquency rate relative to the subgroup with lower levels of baseline consumer debt. Taken together, these findings may indicate that homebuyer education and counseling prevented some study participants with high levels of consumer debt from purchasing a home, and this may be a favorable outcome for them as evidenced by the relatively favorable impacts on loan performance for members of this group who did purchase.

Exhibit E.4: Comparison of Impacts on Subpopulations Defined by Consumer Debt at Baseline

	Consumer Debt $10,000 or More (N = 1,856)		Consumer Debt Less Than $10,000 (N = 3,203)		
Outcome	Control Group Mean	Impact of Being Offered Services (Standard Error)	Control Group Mean	Impact of Being Offered Services (Standard Error)	Difference in the Impact of Being Offered Services (Standard Error)
Panel A: Preparedness and Search					
Study participant was confident in ability to find information needed about the homebuying process (%)[a]	68.8	3.6 (2.3)	68.8	2.8 (1.9)	0.8 (3.2)
Study participant purchased a home (%)[b]	77.4	– 2.5** (1.2)	76.2	1.5 (1.7)	– 4.0** (1.8)
Study participant was very satisfied with the homebuying process (%)[a]	43.7	– 2.2 (2.7)	38.6	– 0.0 (2.0)	– 2.2 (4.1)
Study participant was satisfied with decision to buy or rent (%)[a]	86.4	– 0.0 (1.8)	87.7	0.7 (1.4)	– 0.7 (2.2)
Panel B: Financial Knowledge, Behaviors, and Skills					
If in financial difficulty, the study participant would contact lender for assistance prior to missing a mortgage payment (%)[a] ~	55.2	– 1.0 (2.6)	55.7	– 0.7 (2.3)	– 0.3 (3.3)
If in financial difficulty, the study participant would contact counseling agency, consumer credit counseling agency, or other nonprofit organization for assistance prior to missing a mortgage payment (%)[a] ~	21.7	3.6 (2.6)	24.7	2.2 (2.2)	1.3 (3.3)
Financial skill score (ranges from 0 to 100)[a]	63.3	0.5 (0.7)	63.1	0.3 (0.6)	0.2 (1.0)

Panel C: Financial Indicators					
Credit score as of December 2019 (range is 300–850)[c]	702.3	0.4	729.2	2.6	– 2.2
		(2.5)		(2.8)	(4.0)
Study participant has a credit score greater than or equal to 620 (%)[c]	77.9	1.2	84.6	0.8	0.3
		(1.3)		(1.0)	(1.7)
Financial well-being score (ranges from 0 to 100)[a]	62.0	0.7	63.7	– 0.2	1.0
		(0.9)		(0.7)	(1.3)
Total nonhousing debt($)[c]	41,319.0	761.1	22,637.0	1,433.5*	– 672.3
		(1,568.2)		(798.5)	(1,400.4)
Student loan debt($)[c]	15,380.0	361.1	7,118.7	2,028.5***	– 1,667.5*
		(931.7)		(316.5)	(960.3)
Total consumer debt (all debt besides housing and student) ($)[c]	25,939.0	400.1	15,518.2	– 595.0	995.1
		(1,245.0)		(693.6)	(1,109.6)
Credit card debt ($)[c]	8,700.8	– 1,089.0*	4,985.8	– 211.7	– 877.4*
		(546.2)		(186.6)	(499.9)
Total monthly debt-to-income ratio (back-end ratio)[d]	31.1	– 1.0	27.4	– 0.2	– 0.8
		(1.3)		(0.8)	(1.5)
Student loan 30-day delinquency indicator (%)[c]	5.1	1.4	3.1	0.2	1.2
		(1.2)		(0.5)	(1.4)
Total savings and investments ($)[a]	53,571.3	– 1,352.5	69,953.0	8,325.9**	– 9,678.4
		(3,835.3)		(3,710.7)	(6,397.8)
Panel D: Sustainable Homeownership					
Ever 60 days delinquent (%)[e] ~	6.6	– 1.0	4.6	– 0.2	– 0.8
		(0.9)		(0.7)	(1.1)
Ever 30 days delinquent (%)[e] ~	13.6	– 2.0	8.4	0.5	– 2.5*
		(1.3)		(0.7)	(1.4)
Ever 90 days delinquent (%)[e] ~	5.1	– 0.9	3.2	– 0.0	– 0.9
		(1.0)		(0.6)	(1.2)
Ratio of monthly housing costs to monthly income[a]	24.1	– 0.4	25.9	– 0.7	0.4
		(1.0)		(0.5)	(1.1)
Study participant described the condition of current home/apartment as good or excellent (%)[a]	87.4	0.0	86.3	0.0	0.0
		(1.8)		(1.5)	(2.4)
Study participant is satisfied with current neighborhood (%)[a]	92.6	1.6	93.6	– 0.5	2.0
		(1.5)		(0.9)	(1.7)
Study participant is confident in ability to make housing payments over the next 6 months (%)[a]	88.0	– 2.6	84.9	2.9*	– 5.5**
		(1.8)		(1.6)	(2.5)

Notes: Appendix A details the analytic methods and appendix B provides additional detail on the construction of measures. Outcome-specific sample sizes vary due to missing data.
Statistical significance levels for two-sided tests are indicated with asterisks as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.
~ Denotes outcomes that are coded as 0 for study participants who did not purchase a home.
Sources:
[a] Long-Term Follow-Up Survey
[b] Long-Term Follow-Up Survey; credit bureau; study lenders; Federal Housing Administration
[c] Credit bureau
[d] Long-Term Follow-Up Survey; credit bureau
[e] Credit bureau; study lenders; Federal Housing Administration

E.5 Differences in Subgroup Impacts: Student Loan Debt at Baseline

We consider the impact of being offered homebuyer education and counseling services on those with any baseline student loan debt (32.7 percent of the study sample) and a complementary subgroup comprising those with no baseline student loan debt (the remaining 67.3 percent of the study sample). We observe five statistically significant differences in impacts between these subgroups at long-term followup (at the 10 percent level).

- **Homebuyer education and counseling improved the financial wellbeing of those with any baseline student loan debt.** Among those with any baseline student loan debt, treatment

group members had a financial wellbeing score 1.3 points higher than their control group counterparts. There is no detectable impact for those with no baseline student loan debt.

- **Homebuyer education and counseling increased nonhousing debt levels for those with any baseline student loan debt.** Among those with any baseline student loan debt: relative to control group members, treatment group members had $4,846 more in total nonhousing debt and $3,595 more in student loan debt. Additionally, we find that the impact on total consumer debt (all debt besides housing and student) is statistically larger for those with any baseline student loan debt relative to those with no student loan debt at baseline.
- **Homebuyer education and counseling improved participants' confidence in their ability to make housing payments over the next 6 months for those with any baseline student loan debt.** Among those with any baseline student loan debt, treatment group members were 4.2 percentage points more likely to report that they were confident in their ability to make housing payments over the next 6 months than their control group counterparts. There is no detectable impact for those with no baseline student loan debt.

Taken together, these findings are consistent with the story that homebuyer education and counseling encouraged those with student loan debt to forego making additional student loan payments (or to defer making payments) with the goal of building up savings for a home purchase. It does not appear that the increase in student loan debt is related to unfavorable impacts for the subgroup with any baseline student loan debt. Instead, we find that among those with any student loan debt, study participants who were offered homebuyer education and counseling services experienced improved financial well-being and improved confidence in their ability to make housing payments over the next six months.

Exhibit E.5: Comparison of Impacts on Subpopulations Defined by Student Loan Debt at Baseline

	Any Baseline Student Loan Debt (N = 1,656)		No Baseline Student Loan Debt (N = 3,403)		
Outcome	Control Group Mean	Impact of Being Offered Services (Standard Error)	Control Group Mean	Impact of Being Offered Services (Standard Error)	Difference in the Impact of Being Offered Services (Standard Error)
Panel A: Preparedness and Search					
Study participant was confident in ability to find information needed about the homebuying process (%)[a]	69.6	4.5 (2.9)	68.4	2.4 (1.6)	2.0 (3.6)
Study participant purchased a home (%)[b]	76.9	– 0.2 (2.3)	76.5	0.3 (1.5)	– 0.5 (2.8)
Study participant was very satisfied with the homebuying process (%)[a]	39.3	1.6 (2.4)	41.0	– 2.0 (1.7)	3.5 (3.3)
Study participant was satisfied with decision to buy or rent (%)[a]	86.9	0.6 (1.7)	87.4	0.5 (1.2)	0.0 (1.8)

Panel B: Financial Knowledge, Behaviors, and Skills					
If in financial difficulty, the study participant would contact lender for assistance prior to missing a mortgage payment (%)[a] ~	57.2	0.0 (3.1)	54.8	– 1.0 (2.2)	1.0 (3.8)
If in financial difficulty, the study participant would contact counseling agency, consumer credit counseling agency, or other nonprofit organization for assistance prior to missing a mortgage payment (%)[a] ~	22.6	2.2 (4.0)	24.0	3.1 (2.0)	– 0.9 (4.6)
Financial skill score (ranges from 0 to 100)[a]	63.7	– 0.4 (0.8)	63.0	0.7 (0.5)	– 1.1 (0.9)
Panel C: Financial Indicators					
Credit score as of December 2019 (range is 300–850)[c]	700.5	4.2 (3.4)	727.7	1.2 (2.3)	3.0 (4.3)
Study participant has a credit score greater than or equal to 620 (%)[c]	76.2	1.0 (2.0)	84.8	1.2 (0.8)	– 0.1 (2.3)
Financial well-being score (ranges from 0 to 100)[a]	62.4	1.3* (0.6)	63.3	– 0.5 (0.7)	1.8* (1.0)
Total nonhousing debt($)[c]	48,970.4	4,846.4** (1,895.6)	20,732.0	– 515.7 (852.0)	5,362.1*** (1,881.7)
Student loan debt($)[c]	27,493.5	3,594.7*** (1,129.7)	2,179.9	547.8 (415.7)	3,046.9** (1,135.1)
Total consumer debt (all debt besides housing and student) ($)[c]	21,476.9	1,251.7 (1,324.2)	18,552.1	– 1,063.5 (763.8)	2,315.2* (1,332.5)
Credit card debt ($)[c]	7,687.0	– 847.4 (556.4)	5,796.6	– 391.6 (264.6)	– 455.8 (575.0)
Total monthly debt-to-income ratio (back-end ratio)[d]	30.4	– 0.1 (1.6)	28.0	– 0.6 (0.8)	0.4 (1.9)
Student loan 30-day delinquency indicator (%)[c]	8.5	2.0 (1.3)	1.7	– 0.2 (0.4)	2.2 (1.3)
Total savings and investments ($)[a]	51,132.1	6,013.2 (5,538.5)	69,626.0	4,291.6 (3,079.2)	1,721.6 (7,224.3)
Panel D: Sustainable Homeownership					
Ever 60 days delinquent (%)[e] ~	7.4	– 0.9 (0.8)	4.4	– 0.3 (0.8)	– 0.6 (1.2)
Ever 30 days delinquent (%)[e] ~	13.7	– 1.4 (1.5)	8.8	– 0.0 (0.9)	– 1.3 (1.8)
Ever 90 days delinquent (%)[e] ~	5.5	– 0.8 (0.9)	3.2	– 0.2 (0.6)	– 0.6 (1.1)
Ratio of monthly housing costs to monthly income[a]	23.2	– 0.7 (0.9)	26.2	– 0.5 (0.7)	– 0.2 (1.3)
Study participant described the condition of current home/apartment as good or excellent (%)[a]	86.1	1.5 (1.8)	87.0	– 0.6 (1.8)	2.2 (3.0)
Study participant is satisfied with current neighborhood (%)[a]	90.9	2.0 (1.6)	94.3	– 0.4 (0.9)	2.4 (1.8)
Study participant is confident in ability to make housing payments over the next 6 months (%)[a]	84.8	4.2* (2.1)	86.6	– 0.8 (1.3)	4.9* (2.5)

Notes: Appendix A details the analytic methods and appendix B provides additional detail on the construction of measures. Outcome-specific sample sizes vary due to missing data.

Statistical significance levels for two-sided tests are indicated with asterisks as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.

~ Denotes outcomes that are coded as 0 for study participants who did not purchase a home.

Sources:

[a] Long-Term Follow-Up Survey

[b] Long-Term Follow-Up Survey; credit bureau; study lenders; Federal Housing Administration

[c] Credit bureau

[d] Long-Term Follow-Up Survey; credit bureau

[e] Credit bureau; study lenders; Federal Housing Administration

E.6 Additional Pre-Specified Subgroup Results

In the initial part of this appendix, we discuss subgroups for which there is evidence of *systematic* between-subgroup differences in impacts. As detailed in section A.8 and depicted by exhibit A.10, we set the threshold for evidence of systematic between-subgroup differences in impacts as follows: For a given subgroup of interest, we must find a statistically significant between-subgroup difference in impacts (at the 10-percent significance level) for 5 or more of the 24 outcomes analyzed. If there are 4 or fewer between-subgroup differences (out of 24 total tests for each subgroup), then we conclude that there is not sufficient evidence to conclude that impacts for the subgroups are different.

The remainder of this appendix shows subgroup results for subgroups in which there was no evidence of systematic between-group differences in impacts. Because there is no evidence of between-group impact differentials, we do not provide discussion of any of the results. However, chapter 9 of this report discusses the finding that the impacts for African American non-Hispanics and Hispanics do not differ systematically from the impacts for White non-Hispanics.

Exhibit E.6: Comparison of Impacts on Subpopulations Defined by Race/Ethnicity: White Non-Hispanic Versus African-American Non-Hispanic

Outcome	White Non-Hispanic (N = 2,187) Control Group Mean	White Non-Hispanic (N = 2,187) Impact of Being Offered Services (Standard Error)	African-American Non-Hispanic (N = 1,165) Control Group Mean	African-American Non-Hispanic (N = 1,165) Impact of Being Offered Services (Standard Error)	Difference in the Impact of Being Offered Services (Standard Error)
Panel A: Preparedness and Search					
Study participant was confident in ability to find information needed about the homebuying process (%)[a]	72.6	3.0** (1.4)	66.4	5.5 (4.0)	– 2.5 (4.4)
Study participant purchased a home (%)[b]	83.1	0.7 (1.6)	67.8	– 5.2* (2.6)	5.9** (2.9)
Study participant was very satisfied with the homebuying process (%)[a]	43.4	– 0.4 (2.4)	38.9	– 4.1* (2.2)	3.8 (3.2)
Study participant was satisfied with decision to buy or rent (%)[a]	91.4	0.6 (1.2)	82.0	– 1.8 (2.6)	2.4 (3.1)
Panel B: Financial Knowledge, Behaviors, and Skills					
If in financial difficulty, the study participant would contact lender for assistance prior to missing a mortgage payment (%)[a] ~	63.2	3.7* (2.1)	44.8	– 3.0 (3.8)	6.7 (4.4)
If in financial difficulty, the study participant would contact counseling agency, consumer credit counseling agency, or other nonprofit organization for assistance prior to missing a mortgage payment (%)[a] ~	21.9	4.4* (2.3)	21.1	– 0.1 (3.6)	4.5 (3.9)
Financial skill score (ranges from 0 to 100)[a]	63.3	0.2 (0.7)	64.7	– 0.1 (0.6)	0.3 (0.9)
Panel C: Financial Indicators					
Credit score as of December 2019 (range is 300–850)[c]	738.6	4.6 (3.1)	670.6	– 7.5* (4.2)	12.1** (5.3)
Study participant has a credit score greater than or equal to 620 (%)[c]	87.1	2.4** (1.2)	67.3	– 1.6 (2.2)	4.0* (2.1)

Financial well-being score (ranges from 0 to 100)[a]	64.5	– 0.6 (0.7)	61.9	0.3 (1.2)	– 0.9 (1.5)
Total nonhousing debt($)[c]	28,945.0	790.3 (1,389.6)	40,110.3	2,708.8 (1,745.5)	– 1,918.4 (1,856.6)
Student loan debt($)[c]	9,756.2	986.7 (801.1)	19,697.5	2,967.0** (1,337.8)	– 1,980.3 (1,424.7)
Total consumer debt (all debt besides housing and student) ($)[c]	19,188.8	– 196.4 (976.6)	20,412.7	– 258.3 (1,433.0)	61.9 (1,701.8)
Credit card debt ($)[c]	6,499.1	– 282.4 (317.5)	7,041.0	– 1,066.3* (587.5)	783.9 (650.5)
Total monthly debt-to-income ratio (back-end ratio)[d]	25.4	0.4 (1.0)	31.2	– 1.5 (2.1)	1.9 (2.2)
Student loan 30-day delinquency indicator (%)[c]	3.3	– 0.5 (0.7)	8.1	1.5 (2.0)	– 2.0 (2.3)
Total savings and investments ($)[a]	89,140.2	7,367.9** (3,418.2)	32,911.4	– 1,601.5 (4,123.3)	8,969.4 (6,202.6)
Panel D: Sustainable Homeownership					
Ever 60 days delinquent (%)[e] ~	4.4	– 1.2 (0.8)	8.4	1.5 (2.0)	– 2.8 (2.0)
Ever 30 days delinquent (%)[e] ~	8.6	– 1.7 (1.2)	15.5	0.4 (2.2)	– 2.1 (2.7)
Ever 90 days delinquent (%)[e] ~	3.7	– 1.5* (0.7)	6.2	1.5 (1.9)	– 3.0 (1.9)
Ratio of monthly housing costs to monthly income[a]	21.7	0.5 (1.0)	26.5	– 0.4 (1.3)	0.9 (1.8)
Study participant described the condition of current home/apartment as good or excellent (%)[a]	89.9	– 1.4 (1.7)	82.2	0.3 (2.4)	– 1.7 (3.1)
Study participant is satisfied with current neighborhood (%)[a]	94.2	1.0 (1.1)	90.6	1.8 (1.7)	– 0.8 (2.1)
Study participant is confident in ability to make housing payments over the next 6 months (%)[a]	89.7	0.8 (1.5)	83.0	– 1.5 (3.1)	2.3 (3.4)

Notes: Appendix A details the analytic methods and appendix B provides additional detail on the construction of measures. Outcome-specific sample sizes vary due to missing data.
Statistical significance levels for two-sided tests are indicated with asterisks as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.
~ Denotes outcomes that are coded as 0 for study participants who did not purchase a home.
Sources:
[a] Long-Term Follow-Up Survey
[b] Long-Term Follow-Up Survey; credit bureau; study lenders; Federal Housing Administration
[c] Credit bureau
[d] Long-Term Follow-Up Survey; credit bureau
[e] Credit bureau; study lenders; Federal Housing Administration

Exhibit E.7: Comparison of Impacts on Subpopulations Defined by Race/Ethnicity: White Non-Hispanic Versus Hispanic

Outcome	White Non-Hispanic (N = 2,187) Control Group Mean	White Non-Hispanic (N = 2,187) Impact of Being Offered Services (Standard Error)	Hispanic (N = 1,426) Control Group Mean	Hispanic (N = 1,426) Impact of Being Offered Services (Standard Error)	Difference in the Impact of Being Offered Services (Standard Error)
Panel A: Preparedness and Search					
Study participant was confident in ability to find information needed about the homebuying process (%)[a]	72.6	3.0** (1.4)	65.6	2.4 (3.4)	0.6 (3.9)
Study participant purchased a home (%)[b]	83.1	0.7 (1.6)	71.0	2.5 (2.0)	– 1.8 (2.7)
Study participant was very satisfied with the homebuying process (%)[a]	43.4	– 0.4 (2.4)	39.0	2.1 (3.0)	– 2.5 (4.0)
Study participant was satisfied with decision to buy or rent (%)[a]	91.4	0.6 (1.2)	82.6	2.1 (2.5)	– 1.5 (2.8)
Panel B: Financial Knowledge, Behaviors, and Skills					
If in financial difficulty, the study participant would contact lender for assistance prior to missing a mortgage payment (%)[a] ~	63.2	3.7* (2.1)	50.3	– 0.1 (3.0)	3.8 (3.5)
If in financial difficulty, the study participant would contact counseling agency, consumer credit counseling agency, or other nonprofit organization for assistance prior to missing a mortgage payment (%)[a] ~	21.9	4.4* (2.3)	27.6	1.2 (3.0)	3.1 (4.1)
Financial skill score (ranges from 0 to 100)[a]	63.3	0.2 (0.7)	62.6	– 0.0 (0.7)	0.2 (0.9)
Panel C: Financial Indicators					
Credit score as of December 2019 (range is 300–850)[c]	738.6	4.6 (3.1)	701.9	7.3* (3.9)	– 2.7 (5.3)
Study participant has a credit score greater than or equal to 620 (%)[c]	87.1	2.4** (1.2)	80.1	0.4 (1.3)	2.0 (1.8)
Financial well-being score (ranges from 0 to 100)[a]	64.5	– 0.6 (0.7)	62.3	0.5 (0.8)	– 1.1 (1.2)
Total nonhousing debt($)[c]	28,945.0	790.3 (1,389.6)	25,535.2	– 336.3 (1,321.5)	1,126.6 (2,084.5)
Student loan debt($)[c]	9,756.2	986.7 (801.1)	5,440.8	977.7 (687.4)	9.0 (1,137.9)
Total consumer debt (all debt besides housing and student) ($)[c]	19,188.8	– 196.4 (976.6)	20,094.4	– 1,314.0 (954.6)	1,117.6 (1,313.1)
Credit card debt ($)[c]	6,499.1	– 282.4 (317.5)	5,735.6	– 590.2 (482.5)	307.8 (630.1)
Total monthly debt-to-income ratio (back-end ratio)[d]	25.4	0.4 (1.0)	31.8	– 0.4 (1.5)	0.9 (2.1)
Student loan 30-day delinquency indicator (%)[c]	3.3	– 0.5 (0.7)	2.9	1.3** (0.6)	– 1.8 (1.1)
Total savings and investments ($)[a]	89,140.2	7,367.9** (3,418.2)	37,457.7	6,657.2** (2,716.3)	710.7 (4,996.0)
Panel D: Sustainable Homeownership					
Ever 60 days delinquent (%)[e] ~	4.4	– 1.2 (0.8)	6.1	– 0.6 (1.3)	– 0.6 (1.6)
Ever 30 days delinquent (%)[e] ~	8.6	– 1.7 (1.2)	12.2	– 0.1 (1.6)	– 1.6 (1.8)

Ever 90 days delinquent (%)[e] ~	3.7	– 1.5* (0.7)	3.8	– 0.2 (1.2)	– 1.3 (1.5)
Ratio of monthly housing costs to monthly income[a]	21.7	0.5 (1.0)	29.2	– 1.6 (1.6)	2.2 (1.8)
Study participant described the condition of current home/apartment as good or excellent (%)[a]	89.9	– 1.4 (1.7)	82.2	2.8 (2.3)	– 4.2 (3.3)
Study participant is satisfied with current neighborhood (%)[a]	94.2	1.0 (1.1)	93.5	– 1.5 (2.0)	2.5 (2.4)
Study participant is confident in ability to make housing payments over the next 6 months (%)[a]	89.7	0.8 (1.5)	84.4	1.4 (2.0)	– 0.6 (2.7)

Notes: Appendix A details the analytic methods and appendix B provides additional detail on the construction of measures. Outcome-specific sample sizes vary due to missing data.
Statistical significance levels for two-sided tests are indicated with asterisks as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.
~ Denotes outcomes that are coded as 0 for study participants who did not purchase a home.
Sources:
[a] Long-Term Follow-Up Survey
[b] Long-Term Follow-Up Survey; credit bureau; study lenders; Federal Housing Administration
[c] Credit bureau
[d] Long-Term Follow-Up Survey; credit bureau
[e] Credit bureau; study lenders; Federal Housing Administration

Exhibit E.8: Comparison of Impacts on Subpopulations Defined by Educational Attainment at Baseline

Outcome	Bachelor's Degree or Higher (N = 3,072) Control Group Mean	Bachelor's Degree or Higher (N = 3,072) Impact of Being Offered Services (Standard Error)	Less Than a Bachelor's Degree (N = 2,676) Control Group Mean	Less Than a Bachelor's Degree (N = 2,676) Impact of Being Offered Services (Standard Error)	Difference in the Impact of Being Offered Services (Standard Error)
Panel A: Preparedness and Search					
Study participant was confident in ability to find information needed about the homebuying process (%)[a]	70.1	4.7*** (1.4)	66.1	2.6 (2.6)	2.1 (3.3)
Study participant purchased a home (%)[b]	83.2	1.3 (1.5)	70.0	– 1.0 (1.8)	2.3 (2.3)
Study participant was very satisfied with the homebuying process (%)[a]	38.6	0.7 (1.9)	42.2	– 2.0 (2.1)	2.7 (3.2)
Study participant was satisfied with decision to buy or rent (%)[a]	89.4	2.7** (1.1)	84.6	– 1.9 (1.8)	4.5** (2.0)
Panel B: Financial Knowledge, Behaviors, and Skills					
If in financial difficulty, the study participant would contact lender for assistance prior to missing a mortgage payment (%)[a] ~	61.4	1.2 (1.8)	49.4	– 1.3 (2.6)	2.5 (3.0)
If in financial difficulty, the study participant would contact counseling agency, consumer credit counseling agency, or other nonprofit organization for assistance prior to missing a mortgage payment (%)[a] ~	24.9	3.0 (2.4)	21.9	2.7 (2.3)	0.3 (3.1)
Financial skill score (ranges from 0 to 100)[a]	62.9	0.3 (0.7)	63.3	0.5 (0.6)	– 0.2 (1.1)
Panel C: Financial Indicators					
Credit score as of December 2019 (range is 300–850)[c]	752.6	0.5 (2.1)	682.1	2.7 (3.3)	– 2.2 (3.9)
Study participant has a credit score greater than or equal to 620 (%)[c]	91.5	– 0.4 (1.0)	72.0	1.6 (1.2)	– 2.0 (1.5)
Financial well-being score (ranges from 0 to 100)[a]	63.3	1.6*** (0.6)	63.1	– 1.6*** (0.5)	3.2*** (0.8)
Total nonhousing debt($)[c]	32,799.6	2,355.9 (1,439.7)	26,111.2	– 454.9 (877.7)	2,810.8 (1,720.2)
Student loan debt($)[c]	14,463.7	1,866.8** (832.5)	5,515.5	1,060.3* (553.5)	806.5 (997.9)
Total consumer debt (all debt besides housing and student) ($)[c]	18,335.9	489.2 (1,121.3)	20,595.6	– 1,515.1* (883.3)	2,004.3 (1,488.4)
Credit card debt ($)[c]	6,714.1	– 728.3* (413.2)	5,823.6	– 206.5 (278.5)	– 521.9 (470.6)
Total monthly debt-to-income ratio (back-end ratio)[d]	25.8	0.7 (0.7)	31.4	– 1.8 (1.5)	2.4 (1.7)
Student loan 30-day delinquency indicator (%)[c]	2.4	1.1 (0.7)	5.6	0.0 (0.9)	1.0 (1.1)
Total savings and investments ($)[a]	94,200.0	5,539.4* (2,938.1)	35,606.4	3,401.5 (2,892.5)	2,137.9 (4,425.8)
Panel D: Sustainable Homeownership					
Ever 60 days delinquent (%)[e] ~	3.7	– 0.5 (0.8)	7.5	– 0.4 (1.0)	– 0.1 (1.3)
Ever 30 days delinquent (%)[e] ~	8.0	– 1.0 (1.1)	13.6	– 0.1 (1.4)	– 1.0 (2.0)
Ever 90 days delinquent (%)[e] ~	2.5	0.0 (0.8)	5.7	– 0.8 (0.8)	0.9 (1.3)

Ratio of monthly housing costs to monthly income[a]	23.8	– 0.9 (1.0)	26.6	– 0.2 (1.2)	– 0.7 (1.8)
Study participant described the condition of current home/apartment as good or excellent (%)[a]	89.6	– 0.3 (1.2)	82.7	1.0 (1.2)	– 1.3 (1.4)
Study participant is satisfied with current neighborhood (%)[a]	93.4	2.0* (1.0)	92.9	– 1.2 (1.3)	3.2* (1.8)
Study participant is confident in ability to make housing payments over the next 6 months (%)[a]	88.4	0.8 (1.5)	84.1	1.1 (1.5)	– 0.3 (2.2)

Notes: Appendix A details the analytic methods and appendix B provides additional detail on the construction of measures. Outcome-specific sample sizes vary due to missing data.
Statistical significance levels for two-sided tests are indicated with asterisks as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.
~ Denotes outcomes that are coded as 0 for study participants who did not purchase a home.
Sources:
[a] Long-Term Follow-Up Survey
[b] Long-Term Follow-Up Survey; credit bureau; study lenders; Federal Housing Administration
[c] Credit bureau
[d] Long-Term Follow-Up Survey; credit bureau
[e] Credit bureau; study lenders; Federal Housing Administration

Exhibit E.9: Comparison of Impacts on Subpopulations Defined by Stage in Homebuying Process at Baseline

Outcome	Made an Offer, Signed an Agreement, or Purchased a Home (N = 2,933)		Early Stage in Homebuying Process (N = 2,735)		Difference in the Impact of Being Offered Services (Standard Error)
	Control Group Mean	Impact of Being Offered Services (Standard Error)	Control Group Mean	Impact of Being Offered Services (Standard Error)	
Panel A: Preparedness and Search					
Study participant was confident in ability to find information needed about the homebuying process (%)[a]	70.3	5.0*** (1.2)	65.7	2.1 (2.4)	2.9 (2.8)
Study participant purchased a home (%)[b]	91.3	0.1 (0.8)	60.9	0.7 (2.1)	– 0.6 (1.9)
Study participant was very satisfied with the homebuying process (%)[a]	43.6	1.4 (1.6)	36.5	– 2.7 (2.0)	4.1 (2.8)
Study participant was satisfied with decision to buy or rent (%)[a]	93.6	0.4 (0.9)	79.5	0.9 (2.1)	– 0.5 (2.3)
Panel B: Financial Knowledge, Behaviors, and Skills					
If in financial difficulty, the study participant would contact lender for assistance prior to missing a mortgage payment (%)[a] ~	68.5	0.8 (1.8)	41.6	– 1.3 (2.3)	2.0 (2.5)
If in financial difficulty, the study participant would contact counseling agency, consumer credit counseling agency, or other nonprofit organization for assistance prior to missing a mortgage payment (%)[a] ~	27.4	4.0 (2.5)	19.5	1.0 (2.2)	2.9 (3.0)
Financial skill score (ranges from 0 to 100)[a]	63.6	– 0.0 (0.6)	62.6	0.8 (0.6)	– 0.9 (0.9)
Panel C: Financial Indicators					
Credit score as of December 2019 (range is 300–850)[c]	739.0	1.8 (2.0)	697.0	1.4 (3.2)	0.5 (3.7)
Study participant has a credit score greater than or equal to 620 (%)[c]	88.6	– 0.2 (1.0)	75.1	1.5 (1.3)	– 1.7 (1.7)
Financial well-being score (ranges from 0 to 100)[a]	64.6	– 0.2 (0.5)	61.8	0.3 (0.6)	– 0.5 (0.6)
Total nonhousing debt($)[c]	29,982.0	1,781.4 (1,268.6)	29,033.0	418.6 (1,186.0)	1,362.8 (1,787.5)
Student loan debt($)[c]	9,625.2	1,647.5** (796.5)	10,763.6	1,383.9** (656.3)	263.6 (1,053.3)
Total consumer debt (all debt besides housing and student) ($)[c]	20,356.9	133.9 (955.4)	18,269.4	– 965.3 (895.6)	1,099.2 (1,235.8)
Credit card debt ($)[c]	6,881.3	– 440.4 (410.3)	5,649.9	– 596.6* (326.9)	156.2 (527.4)
Total monthly debt-to-income ratio (back-end ratio)[d]	28.9	– 0.2 (0.9)	27.7	– 0.5 (1.2)	0.4 (1.5)
Student loan 30-day delinquency indicator (%)[c]	3.0	0.1 (0.7)	5.0	1.1 (0.9)	– 1.1 (1.3)
Total savings and investments ($)[a]	84,693.6	1,741.8 (3,600.3)	46,733.0	8,244.0*** (2,668.1)	– 6,502.2 (5,221.6)
Panel D: Sustainable Homeownership					
Ever 60 days delinquent (%)[e] ~	5.6	– 0.1 (0.9)	5.2	– 0.8 (1.1)	0.7 (1.6)
Ever 30 days delinquent (%)[e] ~	11.7	– 0.6 (1.4)	9.3	– 0.4 (1.1)	– 0.2 (2.0)

Ever 90 days delinquent (%)[e] ~	4.2	– 0.1 (0.6)	3.6	– 0.6 (0.8)	0.5 (1.0)
Ratio of monthly housing costs to monthly income[a]	23.6	– 0.1 (0.7)	26.8	– 0.9 (1.0)	0.8 (1.2)
Study participant described the condition of current home/apartment as good or excellent (%)[a]	89.7	– 0.3 (1.4)	82.7	0.4 (1.9)	– 0.7 (2.6)
Study participant is satisfied with current neighborhood (%)[a]	95.0	– 0.0 (1.1)	91.2	1.1 (1.3)	– 1.1 (1.9)
Study participant is confident in ability to make housing payments over the next 6 months (%)[a]	89.1	0.1 (1.3)	83.9	1.1 (1.4)	– 1.0 (1.8)

Notes: Appendix A details the analytic methods and appendix B provides additional detail on the construction of measures. Outcome-specific sample sizes vary due to missing data.
Statistical significance levels for two-sided tests are indicated with asterisks as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.
~ Denotes outcomes that are coded as 0 for study participants who did not purchase a home.
Sources:
[a] Long-Term Follow-Up Survey
[b] Long-Term Follow-Up Survey; credit bureau; study lenders; Federal Housing Administration
[c] Credit bureau
[d] Long-Term Follow-Up Survey; credit bureau
[e] Credit bureau; study lenders; Federal Housing Administration

Exhibit E.10: Comparison of Impacts on Subpopulations Defined by Borrower Income Relative to Area Median Income at Baseline

Outcome	Income Higher Than 80 Percent of Area Median (N = 2,542)		Income Lower Than 80 Percent of Area Median (N = 3,160)		Difference in the Impact of Being Offered Services (Standard Error)
	Control Group Mean	Impact of Being Offered Services (Standard Error)	Control Group Mean	Impact of Being Offered Services (Standard Error)	
Panel A: Preparedness and Search					
Study participant was confident in ability to find information needed about the homebuying process (%)[a]	70.4	3.7** (1.7)	66.3	3.7* (1.9)	0.0 (2.7)
Study participant purchased a home (%)[b]	84.3	1.0 (1.2)	70.6	– 0.3 (1.8)	1.3 (2.0)
Study participant was very satisfied with the homebuying process (%)[a]	41.1	– 1.2 (2.0)	39.6	– 0.0 (1.7)	– 1.2 (3.0)
Study participant was satisfied with decision to buy or rent (%)[a]	90.3	1.1 (1.2)	84.2	0.3 (1.7)	0.8 (2.1)
Panel B: Financial Knowledge, Behaviors, and Skills					
If in financial difficulty, the study participant would contact lender for assistance prior to missing a mortgage payment (%)[a] ~	64.1	– 0.9 (2.0)	48.4	0.8 (2.4)	– 1.6 (3.1)
If in financial difficulty, the study participant would contact counseling agency, consumer credit counseling agency, or other nonprofit organization for assistance prior to missing a mortgage payment (%)[a] ~	23.6	4.4 (2.6)	23.4	1.6 (2.3)	2.8 (3.6)
Financial skill score (ranges from 0 to 100)[a]	63.9	0.2 (0.5)	62.3	0.8 (0.6)	– 0.6 (0.8)
Panel C: Financial Indicators					
Credit score as of December 2019 (range is 300–850)[c]	737.8	1.2 (2.2)	703.0	2.2 (3.2)	– 1.0 (3.8)
Study participant has a credit score greater than or equal to 620 (%)[c]	87.5	– 0.0 (1.1)	77.6	1.4 (1.4)	– 1.5 (1.9)
Financial well-being score (ranges from 0 to 100)[a]	65.8	– 0.5 (0.7)	61.1	0.7 (0.7)	– 1.3 (1.0)
Total nonhousing debt($)[c]	32,136.1	714.8 (1,439.3)	27,423.8	1,260.7 (981.9)	– 545.9 (1,736.2)
Student loan debt($)[c]	10,718.1	1,049.6 (825.8)	9,760.7	1,774.3** (643.4)	– 724.7 (1,025.2)
Total consumer debt (all debt besides housing and student) ($)[c]	21,417.9	– 334.7 (1,106.1)	17,663.1	– 513.6 (788.4)	178.9 (1,270.2)
Credit card debt ($)[c]	7,113.2	– 589.7 (450.5)	5,546.7	– 375.2 (231.4)	– 214.5 (460.4)
Total monthly debt-to-income ratio (back-end ratio)[d]	26.4	0.1 (0.9)	30.4	– 0.8 (1.2)	1.0 (1.6)
Student loan 30-day delinquency indicator (%)[c]	3.3	0.2 (0.9)	4.4	0.8 (0.8)	– 0.6 (1.3)
Total savings and investments ($)[a]	98,746.9	4,471.1 (3,688.4)	38,236.7	5,441.7*** (1,708.9)	– 970.6 (4,109.5)
Panel D: Sustainable Homeownership					
Ever 60 days delinquent (%)[e] ~	5.6	– 0.8 (1.1)	5.2	– 0.1 (0.9)	– 0.8 (1.5)
Ever 30 days delinquent (%)[e] ~	10.9	– 1.4 (1.3)	10.3	0.2 (1.3)	– 1.6 (2.2)

Ever 90 days delinquent (%)[e] ~	4.4	– 0.8 (1.0)	3.4	0.0 (0.5)	– 0.8 (1.2)
Ratio of monthly housing costs to monthly income[a]	22.9	0.6 (1.0)	27.3	– 1.6** (0.7)	2.2* (1.2)
Study participant described the condition of current home/apartment as good or excellent (%)[a]	90.0	– 0.2 (1.2)	83.0	0.6 (1.5)	– 0.8 (1.8)
Study participant is satisfied with current neighborhood (%)[a]	94.4	0.0 (0.9)	92.1	0.8 (1.2)	– 0.8 (1.6)
Study participant is confident in ability to make housing payments over the next 6 months (%)[a]	89.1	0.1 (1.6)	83.9	1.7 (1.7)	– 1.7 (2.7)

Notes: Appendix A details the analytic methods and appendix B provides additional detail on the construction of measures. Outcome-specific sample sizes vary due to missing data.
Statistical significance levels for two-sided tests are indicated with asterisks as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.
~ Denotes outcomes that are coded as 0 for study participants who did not purchase a home.
Sources:
[a] Long-Term Follow-Up Survey
[b] Long-Term Follow-Up Survey; credit bureau; study lenders; Federal Housing Administration
[c] Credit bureau
[d] Long-Term Follow-Up Survey; credit bureau
[e] Credit bureau; study lenders; Federal Housing Administration

Exhibit E.11: Comparison of Impacts on Subpopulations Defined by Savings at Baseline

Outcome	Savings $20,000 or More (N = 2,986) Control Group Mean	Savings $20,000 or More (N = 2,986) Impact of Being Offered Services (Standard Error)	Savings Less Than $20,000 (N = 2,687) Control Group Mean	Savings Less Than $20,000 (N = 2,687) Impact of Being Offered Services (Standard Error)	Difference in the Impact of Being Offered Services (Standard Error)
Panel A: Preparedness and Search					
Study participant was confident in ability to find information needed about the homebuying process (%)[a]	69.8	4.0*** (1.2)	66.6	2.8 (2.3)	1.2 (2.5)
Study participant purchased a home (%)[b]	82.7	1.5 (1.4)	70.4	– 1.0 (2.0)	2.5 (2.2)
Study participant was very satisfied with the homebuying process (%)[a]	39.9	0.5 (1.9)	41.0	– 1.9 (2.0)	2.4 (3.2)
Study participant was satisfied with decision to buy or rent (%)[a]	90.4	1.6 (1.3)	83.2	– 0.3 (1.8)	1.9 (2.1)
Panel B: Financial Knowledge, Behaviors, and Skills					
If in financial difficulty, the study participant would contact lender for assistance prior to missing a mortgage payment (%)[a] ~	61.7	0.2 (2.2)	49.0	– 0.1 (2.5)	0.3 (3.1)
If in financial difficulty, the study participant would contact counseling agency, consumer credit counseling agency, or other nonprofit organization for assistance prior to missing a mortgage payment (%)[a] ~	27.1	3.0 (2.5)	19.4	2.9 (2.7)	0.1 (3.6)
Financial skill score (ranges from 0 to 100)[a]	63.9	– 0.6 (0.5)	62.1	1.6** (0.7)	– 2.2** (0.9)
Panel C: Financial Indicators					
Credit score as of December 2019 (range is 300–850)[c]	749.9	3.0 (2.6)	685.0	0.3 (3.4)	2.8 (4.4)
Study participant has a credit score greater than or equal to 620 (%)[c]	90.9	0.3 (1.2)	72.3	1.4 (1.4)	– 1.2 (2.0)
Financial well-being score (ranges from 0 to 100)[a]	64.9	– 0.0 (0.6)	61.2	0.4 (0.6)	– 0.4 (0.9)
Total nonhousing debt($)[c]	26,775.0	2,059.3 (1,291.2)	32,915.2	– 26.3 (934.3)	2,085.6 (1,448.7)
Student loan debt($)[c]	8,284.8	1,995.0*** (625.7)	12,500.0	848.4 (689.4)	1,146.6 (750.8)
Total consumer debt (all debt besides housing and student) ($)[c]	18,490.2	64.3 (1,035.0)	20,415.2	– 874.7 (839.0)	939.0 (1,277.5)
Credit card debt ($)[c]	6,476.5	– 517.2 (376.5)	6,037.4	– 397.2 (380.0)	– 120.0 (552.1)
Total monthly debt-to-income ratio (back-end ratio)[d]	26.2	0.8 (1.0)	31.1	– 1.7 (1.1)	2.5 (1.6)
Student loan 30-day delinquency indicator (%)[c]	2.7	– 0.4 (0.8)	5.3	1.5* (0.8)	– 1.9 (1.3)
Total savings and investments ($)[a]	105614.2	6,883.7* (3,370.6)	21,577.7	2,302.1 (1,676.5)	4,581.7 (4,024.0)
Panel D: Sustainable Homeownership					
Ever 60 days delinquent (%)[e] ~	4.3	– 0.2 (0.8)	6.9	– 1.1 (1.0)	0.9 (1.2)
Ever 30 days delinquent (%)[e] ~	8.6	– 0.9 (1.1)	13.1	– 0.6 (1.1)	– 0.3 (1.5)
Ever 90 days delinquent (%)[e] ~	3.1	– 0.6 (0.7)	4.9	– 0.4 (0.8)	– 0.2 (1.0)

Ratio of monthly housing costs to monthly income[a]	24.1	0.6 (1.2)	26.5	– 1.9** (0.9)	2.5 (1.7)
Study participant described the condition of current home/apartment as good or excellent (%)[a]	88.7	1.0 (1.3)	83.8	– 0.8 (1.7)	1.8 (2.3)
Study participant is satisfied with current neighborhood (%)[a]	94.2	1.0 (0.9)	91.9	0.0 (1.2)	1.0 (1.6)
Study participant is confident in ability to make housing payments over the next 6 months (%)[a]	89.3	0.4 (1.0)	82.9	1.6 (1.7)	– 1.2 (1.8)

Notes: Appendix A details the analytic methods and appendix B provides additional detail on the construction of measures. Outcome-specific sample sizes vary due to missing data.
Statistical significance levels for two-sided tests are indicated with asterisks as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.
~ Denotes outcomes that are coded as 0 for study participants who did not purchase a home.
Sources:
[a] Long-Term Follow-Up Survey
[b] Long-Term Follow-Up Survey; credit bureau; study lenders; Federal Housing Administration
[c] Credit bureau
[d] Long-Term Follow-Up Survey; credit bureau
[e] Credit bureau; study lenders; Federal Housing Administration

Exhibit E.12: Comparison of Impacts on Subpopulations Defined by Area Housing Affordability

Outcome	Relatively Expensive Housing (N = 3,902) Control Group Mean	Relatively Expensive Housing (N = 3,902) Impact of Being Offered Services (Standard Error)	Relatively Affordable Housing (N = 1,833) Control Group Mean	Relatively Affordable Housing (N = 1,833) Impact of Being Offered Services (Standard Error)	Difference in the Impact of Being Offered Services (Standard Error)
Panel A: Preparedness and Search					
Study participant was confident in ability to find information needed about the homebuying process (%)[a]	67.8	4.4*** (1.6)	68.9	2.1 (1.7)	2.3 (2.3)
Study participant purchased a home (%)[b]	76.2	1.0 (1.5)	78.0	– 1.1 (1.5)	2.0 (1.9)
Study participant was very satisfied with the homebuying process (%)[a]	38.9	– 0.7 (1.2)	43.4	– 0.5 (2.4)	– 0.1 (2.7)
Study participant was satisfied with decision to buy or rent (%)[a]	86.7	1.1 (1.3)	87.7	– 0.4 (1.9)	1.5 (2.3)
Panel B: Financial Knowledge, Behaviors, and Skills					
If in financial difficulty, the study participant would contact lender for assistance prior to missing a mortgage payment (%)[a] ~	55.6	0.2 (2.0)	55.6	– 0.1 (2.9)	0.4 (3.5)
If in financial difficulty, the study participant would contact counseling agency, consumer credit counseling agency, or other nonprofit organization for assistance prior to missing a mortgage payment (%)[a] ~	23.0	4.8*** (1.7)	24.4	– 0.9 (3.6)	5.7 (4.0)
Financial skill score (ranges from 0 to 100)[a]	63.3	– 0.0 (0.5)	62.6	1.5** (0.6)	– 1.5* (0.8)
Panel C: Financial Indicators					
Credit score as of December 2019 (range is 300–850)[c]	726.8	4.4* (2.2)	702.3	– 3.9 (3.5)	8.3* (4.1)
Study participant has a credit score greater than or equal to 620 (%)[c]	84.1	1.5 (1.0)	77.8	– 1.0 (1.7)	2.4 (2.0)
Financial well-being score (ranges from 0 to 100)[a]	63.2	– 0.0 (0.6)	63.4	0.4 (0.5)	– 0.4 (0.8)
Total nonhousing debt($)[c]	28,306.5	1,665.7* (818.2)	32,127.8	– 118.7 (1,975.3)	1,784.5 (2,089.7)
Student loan debt($)[c]	9,737.1	1,609.8** (595.5)	11,089.8	1,206.9 (1,048.1)	402.9 (1,234.3)
Total consumer debt (all debt besides housing and student) ($)[c]	18,569.4	55.9 (809.6)	21,038.0	– 1,325.7 (1,422.1)	1,381.5 (1,610.2)
Credit card debt ($)[c]	6,185.9	– 354.7 (355.8)	6,431.1	– 650.9* (359.4)	296.2 (499.4)
Total monthly debt-to-income ratio (back-end ratio)[d]	28.2	– 0.5 (0.9)	29.0	– 0.3 (1.1)	– 0.1 (1.4)
Student loan 30-day delinquency indicator (%)[c]	3.5	0.3 (0.7)	4.8	1.2* (0.6)	– 0.9 (1.0)
Total savings and investments ($)[a]	74,421.8	4,930.7* (2,606.7)	49,398.3	4,471.0* (2,559.5)	459.7 (3,856.9)
Panel D: Sustainable Homeownership					
Ever 60 days delinquent (%)[e] ~	5.0	– 0.3 (0.7)	6.3	– 0.5 (1.3)	0.2 (1.5)
Ever 30 days delinquent (%)[e] ~	9.6	– 0.1 (0.9)	12.7	– 1.5* (0.8)	1.4 (1.0)
Ever 90 days delinquent (%)[e] ~	3.7	– 0.5 (0.6)	4.4	0.0 (0.8)	– 0.5 (1.1)

Ratio of monthly housing costs to monthly income[a]	26.3	– 0.3 (0.7)	22.8	– 1.1 (1.2)	0.8 (1.4)
Study participant described the condition of current home/apartment as good or excellent (%)[a]	87.2	– 0.6 (1.2)	84.5	2.0 (1.7)	– 2.6 (2.0)
Study participant is satisfied with current neighborhood (%)[a]	93.4	0.1 (0.8)	92.7	1.3 (1.4)	– 1.3 (1.5)
Study participant is confident in ability to make housing payments over the next 6 months (%)[a]	86.4	0.9 (1.4)	86.1	1.0 (1.3)	– 0.1 (1.9)

Notes: Appendix A details the analytic methods and appendix B provides additional detail on the construction of measures. Outcome-specific sample sizes vary due to missing data.
Statistical significance levels for two-sided tests are indicated with asterisks as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.
~ Denotes outcomes that are coded as 0 for study participants who did not purchase a home.
Sources:
[a] Long-Term Follow-Up Survey
[b] Long-Term Follow-Up Survey; credit bureau; study lenders; Federal Housing Administration
[c] Credit bureau
[d] Long-Term Follow-Up Survey; credit bureau
[e] Credit bureau; study lenders; Federal Housing Administration

Exhibit E.13: Comparison of Impacts on Subpopulations Defined by Likelihood of Taking Up Services

Outcome	Most Likely to Take Up Services (N = 3,168) Control Group Mean	Most Likely to Take Up Services (N = 3,168) Impact of Being Offered Services (Standard Error)	Least Likely to Take Up Services (N = 2,591) Control Group Mean	Least Likely to Take Up Services (N = 2,591) Impact of Being Offered Services (Standard Error)	Difference in the Impact of Being Offered Services (Standard Error)
Panel A: Preparedness and Search					
Study participant was confident in ability to find information needed about the homebuying process (%)[a]	68.4	3.0** (1.3)	67.9	4.6** (1.9)	– 1.7 (1.9)
Study participant purchased a home (%)[b]	76.3	0.9 (1.6)	77.5	– 0.8 (1.8)	1.7 (2.4)
Study participant was very satisfied with the homebuying process (%)[a]	38.0	– 0.2 (1.6)	44.1	– 1.8 (2.5)	1.6 (3.5)
Study participant was satisfied with decision to buy or rent (%)[a]	87.0	0.5 (1.5)	87.1	0.8 (1.3)	– 0.4 (1.7)
Panel B: Financial Knowledge, Behaviors, and Skills					
If in financial difficulty, the study participant would contact lender for assistance prior to missing a mortgage payment (%)[a] ~	56.9	– 0.2 (1.6)	53.8	1.0 (2.7)	– 1.2 (2.9)
If in financial difficulty, the study participant would contact counseling agency, consumer credit counseling agency, or other nonprofit organization for assistance prior to missing a mortgage payment (%)[a] ~	23.1	1.4 (2.7)	24.1	4.0** (1.9)	– 2.6 (3.0)
Financial skill score (ranges from 0 to 100)[a]	63.3	0.7 (0.5)	62.8	0.4 (0.7)	0.3 (0.9)
Panel C: Financial Indicators					
Credit score as of December 2019 (range is 300–850)[c]	726.7	2.3 (2.5)	706.8	0.9 (3.4)	1.4 (4.3)
Study participant has a credit score greater than or equal to 620 (%)[c]	84.1	0.4 (1.4)	79.1	1.1 (1.1)	– 0.8 (1.8)
Financial well-being score (ranges from 0 to 100)[a]	62.9	0.7 (0.5)	63.7	– 0.8 (0.7)	1.4* (0.8)
Total nonhousing debt($)[c]	31,125.8	1,607.1 (1,425.5)	27,055.3	1,170.0 (1,297.3)	437.2 (2,192.8)
Student loan debt($)[c]	12,587.4	1,932.9** (809.1)	6,294.6	1,654.4** (793.7)	278.5 (1,201.2)
Total consumer debt (all debt besides housing and student) ($)[c]	18,538.4	– 325.8 (1,036.3)	20,760.6	– 484.4 (1,015.1)	158.7 (1,535.4)
Credit card debt ($)[c]	6,400.8	– 503.7 (335.2)	6,106.7	– 331.8 (327.1)	– 171.8 (361.8)
Total monthly debt-to-income ratio (back-end ratio)[d]	27.7	– 0.9 (0.8)	29.6	0.3 (1.4)	– 1.2 (1.7)
Student loan 30-day delinquency indicator (%)[c]	4.1	0.8 (0.8)	3.6	0.4 (0.6)	0.4 (1.0)
Total savings and investments ($)[a]	74,299.2	4,543.0 (3,205.6)	53,995.3	4,464.0 (4,417.4)	79.0 (6,290.5)
Panel D: Sustainable Homeownership					
Ever 60 days delinquent (%)[e] ~	5.3	– 0.7 (0.7)	5.8	– 0.2 (1.1)	– 0.5 (1.4)
Ever 30 days delinquent (%)[e] ~	10.1	– 1.1 (1.1)	11.6	– 0.0 (1.3)	– 1.1 (1.8)
Ever 90 days delinquent (%)[e] ~	3.9	– 0.3 (0.5)	4.1	– 0.5 (0.9)	0.2 (1.1)

Ratio of monthly housing costs to monthly income[a]	24.7	– 1.7** (0.8)	25.9	0.6 (1.1)	– 2.3* (1.2)
Study participant described the condition of current home/apartment as good or excellent (%)[a]	86.8	– 1.1 (1.4)	85.5	1.9 (1.3)	– 3.1* (1.7)
Study participant is satisfied with current neighborhood (%)[a]	92.5	0.9 (0.8)	94.3	– 0.4 (1.5)	1.3 (1.8)
Study participant is confident in ability to make housing payments over the next 6 months (%)[a]	86.2	0.9 (1.2)	86.7	1.0 (1.6)	– 0.0 (2.0)

Notes: Appendix A details the analytic methods and appendix B provides additional detail on the construction of measures. Outcome-specific sample sizes vary due to missing data. We constructed this subgroup by creating a binary variable that takes on value 0 if the study participant is unlikely to take-up services based on their baseline characteristics and 1 if the study participant is likely to take-up services based on their baseline characteristics. See Peck et al. (2019), appendix F for a detailed description of how these subgroup identifiers were constructed.
Statistical significance levels for two-sided tests are indicated with asterisks as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.
~ Denotes outcomes that are coded as 0 for study participants who did not purchase a home.
Sources:
[a] Long-Term Follow-Up Survey
[b] Long-Term Follow-Up Survey; credit bureau; study lenders; Federal Housing Administration
[c] Credit bureau
[d] Long-Term Follow-Up Survey; credit bureau
[e] Credit bureau; study lenders; Federal Housing Administration

Exhibit E.14: Comparison of Impacts on Subpopulations Defined by Likelihood of Completing Education

Outcome	Most Likely to Complete Education (N = 1,783) Control Group Mean	Most Likely to Complete Education (N = 1,783) Impact of Being Offered Services (Standard Error)	Least Likely to Complete Education (N = 3,976) Control Group Mean	Least Likely to Complete Education (N = 3,976) Impact of Being Offered Services (Standard Error)	Difference in the Impact of Being Offered Services (Standard Error)
Panel A: Preparedness and Search					
Study participant was confident in ability to find information needed about the homebuying process (%)[a]	70.4	1.6 (1.4)	67.1	4.6** (1.8)	– 3.0 (2.5)
Study participant purchased a home (%)[b]	78.3	– 0.6 (2.2)	76.1	0.7 (1.2)	– 1.3 (2.2)
Study participant was very satisfied with the homebuying process (%)[a]	42.0	– 2.9 (2.3)	39.6	0.6 (1.5)	– 3.5 (2.9)
Study participant was satisfied with decision to buy or rent (%)[a]	88.2	– 1.3 (1.6)	86.5	1.4 (1.4)	– 2.7 (2.2)
Panel B: Financial Knowledge, Behaviors, and Skills					
If in financial difficulty, the study participant would contact lender for assistance prior to missing a mortgage payment (%)[a] ~	60.0	– 2.0 (2.2)	53.6	1.1 (1.8)	– 3.0 (2.6)
If in financial difficulty, the study participant would contact counseling agency, consumer credit counseling agency, or other nonprofit organization for assistance prior to missing a mortgage payment (%)[a] ~	24.1	1.1 (3.7)	23.2	3.6** (1.5)	– 2.5 (3.4)
Financial skill score (ranges from 0 to 100)[a]	63.8	1.0 (0.8)	62.8	0.2 (0.6)	0.8 (1.1)
Panel C: Financial Indicators					
Credit score as of December 2019 (range is 300–850)[c]	733.1	– 0.0 (3.3)	712.5	2.5 (2.1)	– 2.5 (3.5)
Study participant has a credit score greater than or equal to 620 (%)[c]	86.4	– 1.2 (1.6)	80.2	1.5 (0.9)	– 2.7 (1.8)
Financial well-being score (ranges from 0 to 100)[a]	63.3	1.4* (0.7)	63.2	– 0.5 (0.5)	1.9* (0.9)
Total nonhousing debt($)[c]	32,490.5	1,200.8 (1,937.7)	28,182.4	970.2 (756.1)	230.6 (1,952.0)
Student loan debt($)[c]	14,354.0	1,543.1 (1,029.5)	8,200.5	1,486.3** (635.5)	56.8 (1,257.2)
Total consumer debt (all debt besides housing and student) ($)[c]	18,136.6	– 342.2 (1,473.1)	19,982.0	– 516.1 (689.0)	173.8 (1,534.6)
Credit card debt ($)[c]	6,455.4	– 977.0* (507.3)	6,209.1	– 277.8 (231.7)	– 699.2 (426.8)
Total monthly debt-to-income ratio (back-end ratio)[d]	28.3	– 3.0*** (0.8)	28.5	0.8 (0.9)	– 3.8*** (1.1)
Student loan 30-day delinquency indicator (%)[c]	4.0	1.3 (0.9)	3.9	0.3 (0.6)	0.9 (1.1)
Total savings and investments ($)[a]	78,991.2	6,291.0 (4,919.8)	60,485.2	4,014.2* (2,268.0)	2,276.8 (5,921.9)
Panel D: Sustainable Homeownership					
Ever 60 days delinquent (%)[e] ~	4.8	0.6 (0.9)	5.8	– 1.0 (0.8)	1.6 (1.3)
Ever 30 days delinquent (%)[e] ~	9.4	– 1.1 (1.1)	11.2	– 0.4 (0.9)	– 0.7 (1.4)
Ever 90 days delinquent (%)[e] ~	3.9	0.4 (1.0)	4.0	– 0.7 (0.6)	1.1 (1.3)

Ratio of monthly housing costs to monthly income[a]	25.3	– 3.0** (1.2)	25.1	0.7 (0.7)	– 3.7** (1.4)
Study participant described the condition of current home/apartment as good or excellent (%)[a]	88.4	– 2.2 (1.6)	85.3	1.3 (1.1)	– 3.5** (1.6)
Study participant is satisfied with current neighborhood (%)[a]	93.3	2.3 (1.4)	93.1	– 0.2 (1.2)	2.6 (2.2)
Study participant is confident in ability to make housing payments over the next 6 months (%)[a]	85.8	1.4 (2.5)	86.6	0.7 (1.6)	0.8 (3.5)

Notes: Appendix A details the analytic methods and appendix B provides additional detail on the construction of measures. Outcome-specific sample sizes vary due to missing data. We constructed this subgroup by creating a binary variable that takes on value 0 if the study participant is unlikely to complete homebuyer education based on their baseline characteristics and 1 if the study participant is likely to complete homebuyer education based on their baseline characteristics. See Peck et al. (2019), appendix F for a detailed description of how these subgroup identifiers were constructed.
Statistical significance levels for two-sided tests are indicated with asterisks as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.
~ Denotes outcomes that are coded as 0 for study participants who did not purchase a home.
Sources:
[a] Long-Term Follow-Up Survey
[b] Long-Term Follow-Up Survey; credit bureau; study lenders; Federal Housing Administration
[c] Credit bureau
[d] Long-Term Follow-Up Survey; credit bureau
[e] Credit bureau; study lenders; Federal Housing Administration

Exhibit E.15: Comparison of Impacts on Subpopulations Defined by Likelihood of Completing Counseling

Outcome	Most Likely to Complete Counseling (N = 2,145) Control Group Mean	Most Likely to Complete Counseling (N = 2,145) Impact of Being Offered Services (Standard Error)	Least Likely to Complete Counseling (N = 3,614) Control Group Mean	Least Likely to Complete Counseling (N = 3,614) Impact of Being Offered Services (Standard Error)	Difference in the Impact of Being Offered Services (Standard Error)
Panel A: Preparedness and Search					
Study participant was confident in ability to find information needed about the homebuying process (%)[a]	69.4	1.3 (1.8)	67.3	5.0** (1.9)	– 3.7 (3.0)
Study participant purchased a home (%)[b]	77.3	0.1 (2.4)	76.4	0.5 (1.6)	– 0.5 (3.0)
Study participant was very satisfied with the homebuying process (%)[a]	39.9	– 0.8 (2.3)	40.6	– 0.3 (1.8)	– 0.5 (3.4)
Study participant was satisfied with decision to buy or rent (%)[a]	87.8	– 0.2 (1.2)	86.5	1.3 (1.4)	– 1.5 (1.6)
Panel B: Financial Knowledge, Behaviors, and Skills					
If in financial difficulty, the study participant would contact lender for assistance prior to missing a mortgage payment (%)[a] ~	58.0	– 0.1 (2.1)	54.0	0.6 (2.4)	– 0.7 (3.3)
If in financial difficulty, the study participant would contact counseling agency, consumer credit counseling agency, or other nonprofit organization for assistance prior to missing a mortgage payment (%)[a] ~	23.0	3.3 (3.9)	23.8	2.7 (1.6)	0.6 (4.1)
Financial skill score (ranges from 0 to 100)[a]	63.6	1.3** (0.6)	62.7	0.1 (0.6)	1.1 (0.8)
Panel C: Financial Indicators					
Credit score as of December 2019 (range is 300–850)[c]	729.4	4.2 (2.5)	711.7	0.3 (2.8)	3.9 (3.8)
Study participant has a credit score greater than or equal to 620 (%)[c]	84.2	1.2 (1.4)	80.8	0.3 (1.1)	0.9 (1.8)
Financial well-being score (ranges from 0 to 100)[a]	63.0	1.1 (0.7)	63.4	– 0.4 (0.5)	1.5* (0.8)
Total nonhousing debt($)[c]	31,797.8	1,415.9 (1,789.9)	27,961.6	1,044.3 (1,024.4)	371.6 (2,187.2)
Student loan debt($)[c]	13,112.2	2,166.1*** (718.1)	8,067.5	1,230.7 (757.2)	935.4 (1,048.6)
Total consumer debt (all debt besides housing and student) ($)[c]	18,685.6	– 750.2 (1,429.3)	19,894.0	– 186.4 (781.9)	– 563.8 (1,646.6)
Credit card debt ($)[c]	6,872.0	– 1,038.5** (480.4)	5,866.5	– 24.9 (276.3)	– 1,013.6* (499.7)
Total monthly debt-to-income ratio (back-end ratio)[d]	27.7	– 1.4 (0.9)	29.0	0.1 (1.1)	– 1.5 (1.6)
Student loan 30-day delinquency indicator (%)[c]	4.6	0.3 (1.0)	3.4	0.9** (0.4)	– 0.6 (1.1)
Total savings and investments ($)[a]	80,523.5	3,749.2 (4,180.2)	56,666.4	5,737.1** (2,664.4)	– 1,988.0 (5,495.4)
Panel D: Sustainable Homeownership					
Ever 60 days delinquent (%)[e] ~	5.3	– 0.9 (1.1)	5.6	– 0.2 (0.8)	– 0.6 (1.3)
Ever 30 days delinquent (%)[e] ~	9.8	– 1.9 (1.2)	11.2	0.2 (0.9)	– 2.1 (1.4)
Ever 90 days delinquent (%)[e] ~	3.8	– 0.5 (1.0)	4.1	– 0.4 (0.6)	– 0.1 (1.3)

Ratio of monthly housing costs to monthly income[a]	24.7	– 2.3* (1.2)	25.5	0.3 (0.7)	– 2.6* (1.4)
Study participant described the condition of current home/apartment as good or excellent (%)[a]	86.9	– 1.3 (1.7)	85.9	1.1 (1.1)	– 2.4 (1.6)
Study participant is satisfied with current neighborhood (%)[a]	92.9	1.6* (0.9)	93.4	– 0.0 (1.2)	1.6 (1.6)
Study participant is confident in ability to make housing payments over the next 6 months (%)[a]	86.5	1.5 (2.0)	86.3	0.8 (1.5)	0.7 (2.9)

Notes: Appendix A details the analytic methods and appendix B provides additional detail on the construction of measures. Outcome-specific sample sizes vary due to missing data. We constructed this subgroup by creating a binary variable that takes on value 0 if the study participant is unlikely to complete homebuyer counseling based on their baseline characteristics and 1 if the study participant is likely to complete homebuyer counseling based on their baseline characteristics. See Peck et al. (2019), appendix F for a detailed description of how these subgroup identifiers were constructed.
Statistical significance levels for two-sided tests are indicated with asterisks as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.
~ Denotes outcomes that are coded as 0 for study participants who did not purchase a home.
Sources:
[a] Long-Term Follow-Up Survey
[b] Long-Term Follow-Up Survey; credit bureau; study lenders; Federal Housing Administration
[c] Credit bureau
[d] Long-Term Follow-Up Survey; credit bureau
[e] Credit bureau; study lenders; Federal Housing Administration

Exhibit E.16: Comparison of Impacts on Subpopulations Defined by Likelihood of Completing All Services

Outcome	Most Likely to Complete All Services (N = 1,454) Control Group Mean	Most Likely to Complete All Services (N = 1,454) Impact of Being Offered Services (Standard Error)	Least Likely to Complete All Services (N = 4,305) Control Group Mean	Least Likely to Complete All Services (N = 4,305) Impact of Being Offered Services (Standard Error)	Difference in the Impact of Being Offered Services (Standard Error)
Panel A: Preparedness and Search					
Study participant was confident in ability to find information needed about the homebuying process (%)[a]	70.6	1.3 (1.5)	67.3	4.6** (1.7)	– 3.3 (2.8)
Study participant purchased a home (%)[b]	78.4	– 0.7 (2.3)	76.2	0.7 (1.3)	– 1.4 (2.4)
Study participant was very satisfied with the homebuying process (%)[a]	40.2	– 1.5 (2.5)	40.4	– 0.3 (1.4)	– 1.2 (3.0)
Study participant was satisfied with decision to buy or rent (%)[a]	89.0	– 1.6 (1.8)	86.3	1.4 (1.5)	– 3.1 (2.6)
Panel B: Financial Knowledge, Behaviors, and Skills					
If in financial difficulty, the study participant would contact lender for assistance prior to missing a mortgage payment (%)[a] ~	58.9	– 0.2 (2.1)	54.5	0.3 (1.9)	– 0.4 (2.7)
If in financial difficulty, the study participant would contact counseling agency, consumer credit counseling agency, or other nonprofit organization for assistance prior to missing a mortgage payment (%)[a] ~	23.0	3.4 (4.0)	23.6	2.6* (1.4)	0.8 (3.4)
Financial skill score (ranges from 0 to 100)[a]	64.0	0.8 (1.0)	62.8	0.4 (0.5)	0.5 (1.3)
Panel C: Financial Indicators					
Credit score as of December 2019 (range is 300–850)[c]	733.4	3.5 (3.8)	713.7	1.1 (2.3)	2.5 (4.4)
Study participant has a credit score greater than or equal to 620 (%)[c]	85.7	0.3 (1.8)	80.9	0.7 (0.9)	– 0.5 (1.9)
Financial well-being score (ranges from 0 to 100)[a]	63.0	1.8** (0.8)	63.3	– 0.4 (0.5)	2.3** (0.9)
Total nonhousing debt($)[c]	32,079.3	2,573.3 (2,357.7)	28,615.3	547.7 (714.9)	2,025.6 (2,350.9)
Student loan debt($)[c]	13,929.5	2,797.9** (1,032.4)	8,756.7	1,053.3* (562.6)	1,744.6 (1,052.1)
Total consumer debt (all debt besides housing and student) ($)[c]	18,149.9	– 224.6 (2,013.0)	19,858.6	– 505.5 (664.5)	280.9 (2,138.9)
Credit card debt ($)[c]	6,620.9	– 981.0* (521.1)	6,161.8	– 294.4 (262.2)	– 686.6 (473.9)
Total monthly debt-to-income ratio (back-end ratio)[d]	28.5	– 3.3*** (1.2)	28.4	0.7 (0.8)	– 4.0*** (1.4)
Student loan 30-day delinquency indicator (%)[c]	4.2	0.3 (1.2)	3.8	0.7 (0.5)	– 0.4 (1.2)
Total savings and investments ($)[a]	81,224.5	7,603.3 (5,518.1)	61,009.2	3,977.1 (2,362.4)	3,626.2 (6,607.1)
Panel D: Sustainable Homeownership					
Ever 60 days delinquent (%)[e] ~	6.1	– 0.9 (1.2)	5.2	– 0.2 (0.7)	– 0.8 (1.3)
Ever 30 days delinquent (%)[e] ~	10.7	– 2.0 (1.4)	10.6	0.0 (0.9)	– 2.1 (1.6)
Ever 90 days delinquent (%)[e] ~	4.5	– 0.6 (1.1)	3.8	– 0.2 (0.6)	– 0.4 (1.4)

Ratio of monthly housing costs to monthly income[a]	25.2	– 3.4** (1.3)	25.2	0.4 (0.7)	– 3.8** (1.5)
Study participant described the condition of current home/apartment as good or excellent (%)[a]	88.1	– 2.6 (2.4)	85.7	1.2 (0.9)	– 3.8* (2.2)
Study participant is satisfied with current neighborhood (%)[a]	92.7	2.6 (1.8)	93.3	– 0.1 (1.1)	2.7 (2.5)
Study participant is confident in ability to make housing payments over the next 6 months (%)[a]	85.5	1.1 (3.0)	86.7	0.8 (1.5)	0.3 (3.9)

Notes: Appendix A details the analytic methods and appendix B provides additional detail on the construction of measures. Outcome-specific sample sizes vary due to missing data. We constructed this subgroup by creating a binary variable that takes on value 0 if the study participant is unlikely to complete all homebuyer education and counseling services based on their baseline characteristics and 1 if the study participant is likely to complete all homebuyer education and counseling services based on their baseline characteristics. See Peck et al. (2019), appendix F for a detailed description of how these subgroup identifiers were constructed.

Statistical significance levels for two-sided tests are indicated with asterisks as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.

~ Denotes outcomes that are coded as 0 for study participants who did not purchase a home.

Sources:

[a] Long-Term Follow-Up Survey

[b] Long-Term Follow-Up Survey; credit bureau; study lenders; Federal Housing Administration

[c] Credit bureau

[d] Long-Term Follow-Up Survey; credit bureau

[e] Credit bureau; study lenders; Federal Housing Administration

Exhibit E.17: Comparison of Impacts on Subpopulations Defined by Likelihood of Purchasing a Home

Outcome	Most Likely to Purchase a Home (N = 4,391) Control Group Mean	Most Likely to Purchase a Home (N = 4,391) Impact of Being Offered Services (Standard Error)	Least Likely to Purchase a Home (N = 1,288) Control Group Mean	Least Likely to Purchase a Home (N = 1,288) Impact of Being Offered Services (Standard Error)	Difference in the Impact of Being Offered Services (Standard Error)
Panel A: Preparedness and Search					
Study participant was confident in ability to find information needed about the homebuying process (%)[a]	70.1	4.0*** (1.1)	61.9	2.6 (4.4)	1.5 (4.7)
Study participant purchased a home (%)[b]	84.4	0.5 (1.1)	51.7	– 0.4 (3.0)	0.9 (2.8)
Study participant was very satisfied with the homebuying process (%)[a]	42.8	– 0.1 (1.3)	32.2	– 2.3 (3.5)	2.1 (4.0)
Study participant was satisfied with decision to buy or rent (%)[a]	90.1	1.4 (1.1)	77.1	– 2.1 (3.1)	3.5 (3.3)
Panel B: Financial Knowledge, Behaviors, and Skills					
If in financial difficulty, the study participant would contact lender for assistance prior to missing a mortgage payment (%)[a] ~	62.4	1.2 (1.8)	34.0	– 3.8 (3.0)	4.9 (3.0)
If in financial difficulty, the study participant would contact counseling agency, consumer credit counseling agency, or other nonprofit organization for assistance prior to missing a mortgage payment (%)[a] ~	25.3	3.8* (1.9)	17.8	– 0.6 (2.6)	4.5* (2.4)
Financial skill score (ranges from 0 to 100)[a]	63.5	0.0 (0.5)	61.8	1.9* (1.0)	– 1.9 (1.3)
Panel C: Financial Indicators					
Credit score as of December 2019 (range is 300–850)[c]	733.6	1.4 (1.6)	671.3	2.3 (6.2)	– 0.9 (6.3)
Study participant has a credit score greater than or equal to 620 (%)[c]	86.6	0.2 (0.8)	67.5	2.1 (2.4)	– 1.9 (2.5)
Financial well-being score (ranges from 0 to 100)[a]	64.4	0.0 (0.4)	59.4	0.5 (1.0)	– 0.5 (1.0)
Total nonhousing debt($)[c]	30,277.0	1,490.0 (1,023.3)	27,259.4	– 441.5 (1,307.9)	1,931.5 (1,650.8)
Student loan debt($)[c]	10,136.6	1,758.8** (645.0)	10,343.0	642.1 (1,222.2)	1,116.7 (1,482.3)
Total consumer debt (all debt besides housing and student) ($)[c]	20,140.3	– 268.8 (761.3)	16,916.4	– 1,083.6 (1,003.3)	814.8 (1,061.3)
Credit card debt ($)[c]	6,706.1	– 542.1* (302.9)	4,919.4	– 320.0 (556.5)	– 222.1 (617.3)
Total monthly debt-to-income ratio (back-end ratio)[d]	28.1	– 0.4 (0.8)	29.7	– 0.5 (2.2)	0.2 (2.5)
Student loan 30-day delinquency indicator (%)[c]	3.4	0.3 (0.5)	5.7	1.4 (1.3)	– 1.0 (1.4)
Total savings and investments ($)[a]	77,866.4	5,235.0** (2,058.5)	29,099.7	3,116.5 (3,857.5)	2,118.5 (4,221.5)
Panel D: Sustainable Homeownership					
Ever 60 days delinquent (%)[e] ~	5.5	– 0.6 (0.6)	5.4	– 0.1 (1.5)	– 0.5 (1.5)
Ever 30 days delinquent (%)[e] ~	11.1	– 1.1 (0.8)	9.2	1.2 (1.5)	– 2.3 (1.7)
Ever 90 days delinquent (%)[e] ~	3.9	– 0.4 (0.5)	4.1	– 0.5 (1.0)	0.1 (1.0)

Ratio of monthly housing costs to monthly income[a]	24.1	– 0.7 (0.8)	28.7	0.1 (1.8)	– 0.8 (2.1)
Study participant described the condition of current home/apartment as good or excellent (%)[a]	88.8	– 0.7 (1.2)	78.2	3.2 (3.2)	– 3.9 (3.6)
Study participant is satisfied with current neighborhood (%)[a]	94.5	0.4 (0.9)	88.8	0.7 (2.0)	– 0.4 (2.3)
Study participant is confident in ability to make housing payments over the next 6 months (%)[a]	88.6	0.4 (1.4)	79.1	2.9 (2.0)	– 2.5 (2.7)

Notes: Appendix A details the analytic methods and appendix B provides additional detail on the construction of measures. Outcome-specific sample sizes vary due to missing data. We constructed this subgroup by creating a binary variable that takes on value 0 if the study participant is unlikely to purchase a home based on their baseline characteristics and 1 if the study participant is likely to purchase a home based on their baseline characteristics. See Peck et al. (2019), appendix F for a detailed description of how these subgroup identifiers were constructed.
Statistical significance levels for two-sided tests are indicated with asterisks as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.
~ Denotes outcomes that are coded as 0 for study participants who did not purchase a home.
Sources:
[a] Long-Term Follow-Up Survey
[b] Long-Term Follow-Up Survey; credit bureau; study lenders; Federal Housing Administration
[c] Credit bureau
[d] Long-Term Follow-Up Survey; credit bureau
[e] Credit bureau; study lenders; Federal Housing Administration

E.7 Additional Subgroup Results that were Not Pre-Specified

The study pre-specified 17 sets of subgroups for impact analysis to limit the risk of type I "false positive" error (see section A.8.2 for more detail). This appendix describes exploratory findings for a subgroup comparison that was not pre-specified: the subgroup of Asian non-Hispanics as they compare to White non-Hispanics. We consider the impact of being offered homebuyer education and counseling services on Asian non-Hispanic (12.1 percent of the study sample) compared to White non-Hispanic (38.5 percent of the study sample) study participants.

At baseline, Asian non-Hispanics were financially better off than White non-Hispanics. Asian study participants had statistically significantly lower debt levels and higher incomes, savings and investments, and credit scores than their White counterparts (exhibit E.18).

Exhibit E.18: Baseline Characteristics by Race/Ethnicity

	White Non-Hispanic (N = 2,187)	Asian Non-Hispanic (N = 688)	Statistically Significant Difference Between Asian and White
Income received by study participant and any co-borrowers in last 12 months ($)	64,500	75,253	**
Level of total savings and investments ($)	65,021	90,495	**
Credit score (range is 300-850)	724	744	**
Credit score greater than or equal to 620 (%)	93.9	97.8	**
Amount of nonhousing debt ($)	19,414	11,983	**
Debt-to-income ratio	0.07	0.06	**

* Group means are statistically significantly different at the $p<.05$ level.
Sources: Baseline survey of study participants; credit bureau data

Exhibit E.19 reports the impacts for Asian non-Hispanics alongside the impacts for White non-Hispanics, and the differences between those impacts. In addition to being advantaged relative to Whites at baseline, Asian non-Hispanics also performed well on a variety of measures of financial capability and sustainable homeownership at long-term followup. At long-term followup, the Asian control group's mean credit score was 777, and just 0.7 percent of were ever 60 days delinquent on their mortgage loan. In contrast, the White control group's mean credit score was 739, and 4.4 percent were ever 60 days delinquent on their mortgage loan at long-term followup (exhibit E.19).

Taken together, these findings imply that Asian study participants were performing extremely well on a variety of measures, and they did not have much room for improvement on outcomes like credit score and loan performance. The intervention did improve some outcomes for Asian non-Hispanics, including improvements in their satisfaction with their decision to buy or rent and financial skill score. However, homebuyer education and counseling did not improve any of the Asian participants' measures of financial indicators or sustainable homeownership. Instead, the intervention helped White study participants close the gap between themselves and Asian study participants on select measures, including the share with a credit score of 620 or higher and measures of loan performance. We expect this is the case not for any reason related to

the intervention but instead because of these extreme values that characterized the Asian subgroup (very high credit scores and very low delinquencies).

Exhibit E.19: Comparison of Impacts on Subpopulations Defined by Race/Ethnicity: White Non-Hispanic Versus Asian Non-Hispanic

	White Non-Hispanic (N = 2,187)		Asian Non-Hispanic (N = 688)		
Outcome	Control Group Mean	Impact of Being Offered Services (Standard Error)	Control Group Mean	Impact of Being Offered Services (Standard Error)	Difference in the Impact of Being Offered Services (Standard Error)
Panel A: Preparedness and Search					
Study participant was confident in ability to find information needed about the homebuying process (%)[a]	72.6	3.0** (1.4)	61.7	8.3** (3.9)	– 5.3 (4.2)
Study participant purchased a home (%)[b]	83.1	0.7 (1.6)	83.6	4.0 (3.1)	– 3.3 (3.0)
Study participant was very satisfied with the homebuying process (%)[a]	43.4	– 0.4 (2.4)	35.0	– 1.2 (4.1)	0.8 (5.7)
Study participant was satisfied with decision to buy or rent (%)[a]	91.4	0.6 (1.2)	89.6	4.5** (1.9)	– 3.9* (2.1)
Panel B: Financial Knowledge, Behaviors, and Skills					
If in financial difficulty, the study participant would contact lender for assistance prior to missing a mortgage payment (%)[a] ~	63.2	3.7* (2.1)	58.7	– 2.4 (5.4)	6.1 (5.8)
If in financial difficulty, the study participant would contact counseling agency, consumer credit counseling agency, or other nonprofit organization for assistance prior to missing a mortgage payment (%)[a] ~	21.9	4.4* (2.3)	25.2	4.2 (5.3)	0.2 (5.4)
Financial skill score (ranges from 0 to 100)[a]	63.3	0.2 (0.7)	60.1	2.8** (1.1)	– 2.6* (1.3)
Panel C: Financial Indicators					
Credit score as of December 2019 (out of 850)[c]	738.6	4.6 (3.1)	777.4	– 2.8 (3.8)	7.4 (4.7)
Study participant has a credit score greater than or equal to 620 (%)[c]	87.1	2.4** (1.2)	96.6	– 1.2 (1.4)	3.6* (2.0)
Financial wellbeing score (ranges from 0 to 100)[a]	64.5	– 0.6 (0.7)	63.0	1.3 (1.1)	– 1.9 (1.2)
Total nonhousing debt($)[c]	28,945.0	790.3 (1,389.6)	20,738.4	2,012.5 (2,080.1)	– 1,222.1 (2,227.9)
Student loan debt($)[c]	9,756.2	986.7 (801.1)	4,199.2	1,818.4 (1,536.3)	– 831.7 (1,665.9)
Total consumer debt (all debt besides housing and student) ($)[c]	19,188.8	– 196.4 (976.6)	16,539.2	194.1 (1,906.7)	– 390.4 (1,940.3)
Credit card debt ($)[c]	6,499.1	– 282.4 (317.5)	5,352.6	– 113.6 (586.9)	– 168.8 (717.8)
Total monthly debt-to-income ratio (back-end ratio)[d]	25.4	0.4 (1.0)	26.4	0.3 (2.6)	0.2 (2.8)
Student loan 30-day delinquency indicator (%)[c]	3.3	– 0.5 (0.7)	0.4	0.2 (0.6)	– 0.7 (1.0)
Total savings and investments ($)[a]	89,140.2	7,367.9** (3,418.2)	107,294.3	4,524.8 (11,502.7)	2,843.1 (12,864.5)
Panel D: Sustainable Homeownership					
Ever 60 days delinquent (%)[e] ~	4.4	– 1.2 (0.8)	0.7	0.7 (0.8)	– 1.9* (1.1)
Ever 30 days delinquent (%)[e] ~	8.6	– 1.7 (1.2)	3.4	1.5 (1.1)	– 3.2* (1.7)

Ever 90 days delinquent (%)[e] ~	3.7	– 1.5* (0.7)	0.7	0.0 (0.7)	– 1.5 (0.9)
Ratio of monthly housing costs to monthly income[a]	21.7	0.5 (1.0)	26.3	– 1.2 (1.9)	1.8 (2.1)
Study participant described the condition of current home/apartment as good or excellent (%)[a]	89.9	– 1.4 (1.7)	89.3	1.3 (3.5)	– 2.7 (4.1)
Study participant is satisfied with current neighborhood (%)[a]	94.2	1.0 (1.1)	94.6	0.6 (2.2)	0.4 (2.9)
Study participant is confident in ability to make housing payments over the next 6 months (%)[a]	89.7	0.8 (1.5)	85.6	3.3 (2.7)	– 2.5 (3.3)

Notes: Appendix A details the analytic methods and appendix B provides additional detail on the construction of measures. Outcome-specific sample sizes vary due to missing data.
Statistical significance levels for two-sided tests are indicated with asterisks as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.
~ Denotes outcomes that are coded as 0 for study participants who did not purchase a home.
Sources:
[a] Long-term follow-up survey.
[b] Long-term follow-up survey, credit bureau, study lenders, and the Federal Housing Administration.
[c] Credit bureau.
[d] Long-term follow-up survey and credit bureau.
[e] Credit bureau, study lenders, and the Federal Housing Administration.

Appendix F: Study Participants' Homebuying and Homeownership Experiences

This appendix provides descriptive information on our study participants' overall experience during the 4 to 6 years following study enrollment. We present outcomes related to participants' home search process and, where applicable, experiences after home purchase. As descriptive information, the results do not include tests of statistical significance. Any between-group differences should be interpreted accordingly.

This appendix reports outcomes for the *entire sample* of participants—that is, the combined sample of treatment and control group members. Consequently, this appendix's information does not imply anything about the effectiveness of the homebuyer education and counseling intervention. Instead, by providing information on our study sample's overall homebuying experience, it supplements chapter 3 and provides context for the report's findings.[109]

F.1 Home Search Outcomes

This section describes outcomes related to the home search process for study participants, including the decision of whether to purchase or not, factors affecting the timing of home purchase, and (for those who did not purchase) reasons for postponing the home search.

More than three-fourths (77.1 percent) of study participants purchased a home by long-term followup.[110] From the time of study enrollment, study participants who purchased took an average of 9.1 months to buy a home, with 25 percent of home purchasers completing their search in less than a month. About 25 percent of purchasers purchased a home 18 months or more after enrolling in the study.

Among purchasers who took more than 18 months to purchase a home, nearly half (46.0 percent) cited needing to save enough money before purchasing as a reason for the timing of their purchase. Other commonly cited reasons for the timing of their purchase included having trouble finding a home they wanted to purchase (38.2 percent); losing out on homes due to a competitive market (25.9 percent); and needing to do more research or collect additional information (23.3 percent) (exhibit F.1).

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[109] Except where noted otherwise, the data source used for this chapter is the Long-Term Follow-Up Survey administered to study participants beginning about 4 to 6 years after random assignment. For all analyses of followup survey data presented in this chapter, we applied sample weights that adjust for followup survey nonresponse to ensure that the estimates are generalizable to our full study sample.

[110] Source: Long-Term Follow-Up Survey; credit bureau data; lender data; FHA data.

Exhibit F.1: Reason for Timing of Home Purchase (Among Those Who Took More than 18 Months to Purchase)

	Subsample of Purchasers Who Took 18 or Months to Purchase[a] (%)
Among those who took more than 18 months to purchase, reason for timing of home	
Needed to save enough money before purchasing	46.0
Had trouble finding a home I wanted to purchase	38.2
Lost out on homes due to a competitive market	25.9
Needed to do more research/collect additional information	23.3
Needed to repair my credit before purchasing	19.9
Waited until my lease was up on previous residence	13.8
Unexpected situations	7.6
Waited to get married before purchasing	6.5
Wanted to finish school	4.6

[a] Sample: 1,026 study participants who responded to the Long-Term Follow-Up Survey and took 18 or more months to purchase their home.
Note: Respondents could select multiple reasons for the timing of their purchase. Excludes study participants who withdrew from the study and those missing measure-specific data.
Source: Long-Term Follow-Up Survey

About one-half of those who did not buy a home were still looking for a home to purchase (50.4 percent) by long-term followup, and the other half (49.6 percent) had postponed their home search. Among those study participants who reported delaying their search, two of the three most frequently cited reasons related to affordability (exhibit F.2). More than one-third (38.1 percent) said that they could not afford to buy, and 22.6 percent said they did not like the houses they could afford.[111] Participants also cited that they postponed their home search because they learned that they needed to repair their credit first (22.6 percent) or because of a change in the participant's or co-purchaser's personal situation (22.0 percent).

Exhibit F.2: Reasons for Postponing Home Search

	Subsample of Nonpurchasers Who Postponed Their Home Search[a] (%)
Among those who postponed their home search, reason for postponing	
Learned I could not afford to buy a home	38.1
Learned I needed to repair my credit first	22.6
Did not like the houses I could afford	22.6
There was a change in my (or my co-purchaser's) personal situation	22.0
The current economic climate has made it more difficult to get a mortgage	20.3
Did not like the neighborhoods I could afford	18.5
I prefer the flexibility of renting	18.1
There was a change in my (or my co-purchaser's) employment situation	18.0
The person I was planning to purchase a home with is no longer interested in purchasing	5.8
The information or advice I got from a housing counseling agency influenced my decision	3.7

[a] Sample: 456 study participants who responded to the Long-Term Follow-Up Survey and had postponed their home search.
Note: Respondents could select multiple reasons for postponing their home search. Excludes study participants who withdrew from the study and those missing measure-specific data.
Source: Long-Term Follow-Up Survey

[111] Respondents could select multiple reasons for postponing their home search.

F.2 Homebuying Lessons and Challenges

This section describes obstacles and hardships faced by study participants, as well as and the most valuable lessons learned by both purchasers and nonpurchasers.

F.2.1 Obstacles Before and After Home Purchase

Among both purchasers and nonpurchasers, lack of affordable housing was most commonly cited as the greatest obstacle to purchasing a home (18.1 percent for purchasers and 30.8 percent for nonpurchasers), followed by lack of a down payment (11.2 percent for purchasers and 16.3 percent for nonpurchasers). Other reported obstacles differed between those who purchased and did not purchase a home. For purchasers, the complicated mortgage process (11.0 percent) and the belief that they could not afford their preferred neighborhood (10.5 percent) were frequently reported challenges. In contrast, nonpurchasers described weak or bad credit (14.7 percent) and insufficient savings (14.4 percent) as significant obstacles (exhibit F.3, panel 1).

For purchasers, when asked about the challenges or obstacles they faced *after* purchasing a home that they wished they were better prepared for, more than one-half (56.6 percent) indicated that they did not face any challenges or obstacles after purchasing a home. However, approximately one in four purchasers (26.6 percent) wished they were better prepared for home repairs (exhibit F.3, panel 2).

Exhibit F.3: Obstacles to Purchasing a Home, Purchasers versus Nonpurchasers

	Subsample of Purchasers[a] (%)	Subsample of Nonpurchasers[b] (%)
Panel 1: Greatest Obstacle to Purchasing a Home (%)		
Lack of affordable housing	18.1	30.8
Lack of a down payment	11.2	16.3
Complicated mortgage loan process	11.0	3.1
Belief you can't afford your preferred neighborhood	10.5	13.1
Difficulty finding the right home	7.7	3.3
Competitive market	6.1	2.8
Insufficient savings	5.6	14.4
Difficulty getting a mortgage loan approved	5.1	3.0
Weak or bad credit	4.1	14.7
Concerns about maintenance/repair costs	2.0	2.1
Lack of job security	1.8	7.4
Belief a home is not a good investment right now	0.9	3.3
Student loan debt	0.6	1.3
Other	19.3	14.3
No obstacles	9.8	2.3
Panel 2: Obstacles After Home Purchase (%)		
Home repairs	26.6	-
Unexpected costs beyond the home itself	3.9	-
Regrets or challenges stemming from the buying process	3.0	
Difficulty managing finances	2.7	-
Dislike neighborhood or neighbors	1.3	-
Budgeting and savings	1.0	-

	Subsample of Purchasers[a] (%)	Subsample of Nonpurchasers[b] (%)
Dealing with lender	0.6	-
Other response	6.0	-
No obstacle	56.6	-

[a] Sample: 3,210 study participants who responded to the Long-Term Follow-Up Survey and had purchased a home.
[b] Sample: 939 study participants who responded to the Long-Term Follow-Up Survey and had not purchased a home.
Note: Respondents could provide multiple responses. Excludes study participants who withdrew from the study and those missing measure-specific data.
Source: Long-Term Follow-Up Survey

About 65 percent of all study participants experienced at least one hardship in the last 12 months based on responses to the Long-Term Follow-Up Survey. Almost one-third (29.8 percent) had a major car or home repair. About 2 in 10 participants experienced other hardships, including having work hours and/or pay reduced (20.0 percent), unexpected financial support to a family member or friend (19.0 percent), or a health emergency (17.9 percent) (exhibit F.4).

Exhibit F.4: Hardships Experienced in the Last 12 Months

	Full Sample[a] (%)
Had a major car or home repair	29.8
Had work hours and/or pay reduced	20.0
Provided unexpected financial support to a family member of friend	19.0
Had a health emergency	17.9
Received a large sum of money beyond normal income	14.8
Had a child start daycare of college	14.8
Lost a job	14.2
Added a child to the household	14.1
A business I or someone in my household owned had financial difficulty	8.3
Got a divorce or separation	4.4
Experienced the death of primary breadwinner	1.4
Received a foreclosure notice	1.1

[a] Sample: 4,147 study participants who responded to the Long-Term Follow-Up Survey.
Note: Excludes study participants who withdrew from the study and those missing measure-specific data.
Source: Long-Term Follow-Up Survey

F.2.2 Lessons Learned

Looking back on their experiences since enrollment in the study, both purchasers and nonpurchasers reported that the most valuable lessons they learned during the process related to personal finance best practices. This was particularly the case for nonpurchasers (35.6 for nonpurchasers in the treatment group and 29.0 percent for nonpurchasers in the control group) compared to purchasers (19.9 and 19.7 percent for the treatment group and control group).

Other common lessons that both purchasers and nonpurchasers (in both treatment and control groups) cited included homeownership costs and the process and costs of getting a mortgage loan, although again, purchasers were particularly likely to cite these lessons. Purchasers were also more likely to report the pride that comes from owning a home, the value of a home inspection, and the value of a good lender as lessons learned from their experience.

When asked from *whom* they learned their most valuable lessons, a plurality of study participants—regardless of experimental group or purchase status—said their own experience was a source. However, purchasers were more likely to cite their self-knowledge as a source of information (38.5 and 40.0 percent for the treatment group and control group) compared to nonpurchasers (22.3 and 24.9 percent for the treatment group and control group). Other common sources of information included friends or family and self-learning from the homebuying process, home repairs, or individual research (exhibit F.5).

Not surprisingly, counseling or education courses were much more commonly cited by the treatment group (11.1 and 16.8 percent for purchasers and nonpurchasers) than by the control group (3.2 and 8.0 percent for purchasers and nonpurchasers).

Exhibit F.5: Most Valuable Thing Learned about the Home Purchase Process and/or Homeownership, Treatment and Control Group and Purchasers versus Nonpurchasers

	Treatment Group		Control Group	
	Purchasers[a]	Nonpurchasers[b]	Purchasers [c]	Nonpurchasers[d]
Most Valuable Lesson Learned (%)				
Personal finance best practices	19.9	35.6	19.7	29.0
All the costs of homeownership	15.4	10.0	16.1	11.5
The process and costs of getting a mortgage loan	14.2	11.8	13.3	11.8
The pride that comes from owning a home	7.8	3.8	9.9	3.7
My preference for a home type, quality, location	7.5	6.4	7.2	5.6
The whole process of finding and financing a home	7.4	7.2	6.4	6.9
Value of a home inspection	5.8	2.6	5.1	1.1
The patience required throughout the process	4.1	1.4	5.3	4.6
Value of a good lender	4.2	2.2	4.7	2.1
Value of a good realtor	4.6	2.5	3.9	3.0
The housing market	3.4	8.5	4.6	10.6
Information learned from a homebuyer education course	3.1	4.0	0.7	4.2
How much financial stress buying a home can cause	0.9	0.8	0.5	0.6
Other	14.8	13.6	14.0	14.7
Did not learn anything valuable	4.4	6.8	5.6	6.8
Don't know/refused	4.6	4.8	6.8	6.5
Who the Respondent Learned the Lesson From (%)				
Self-knowledge	38.5	22.3	40.0	24.9
Counseling or education course	11.1	16.8	3.2	8.0
Friends or family	10.5	9.2	13.2	10.7
Learned from process, repairs, or own research	10.3	7.6	12.2	9.7
Buyer's agent or real estate agent	8.5	10.8	8.7	11.8
Lender	4.7	7.2	5.8	8.7
Website, book, materials received through mail	4.1	6.0	3.8	6.9
Mortgage broker	4.1	5.8	3.7	4.8
Other	8.2	14.3	9.4	14.5

[a] Sample: 1,775 study participants who responded to the Long-Term Follow-Up Survey, was in the treatment group, and purchased a home.

[b] Sample: 537 study participants who responded to the Long-Term Follow-Up Survey, was in the treatment group, and did not purchase a home.

[c] Sample: 1,433 study participants who responded to the Long-Term Follow-Up Survey, was in the control group, and purchased a home.

[d] Sample: 402 study participants who responded to the Long-Term Follow-Up Survey, was in the control group, and did not purchase a home.

Note: Study participants could indicate multiple lessons learned. Excludes study participants who withdrew from the study and those missing measure-specific data. Source: Long-Term Follow-Up Survey

F.3 Purchase Price and Financing

Among study participants who purchased a home, the median purchase price of that home was $192,700, below the national median single-family home prices for the most common years that study participants bought a home.[112] However, the purchase prices for those participants who bought homes ranged considerably. The 10th and 90th percentile prices were $90,000 and $416,000 (exhibit F.6).

The vast majority of study participants who took out mortgages—87.7 percent—received 30-year fixed-rate mortgages, and another 5.8 percent received fixed-rate mortgages of another term. Among those with a 30-year fixed-rate mortgage, the average interest rate was 4.1 percent.[113] Approximately 4 percent received adjustable-rate mortgages. The average initial interest rate for adjustable-rate mortgages was 3.5 percent. More than one-third (34.9 percent) of study participants with a mortgage had an FHA loan.

The average downpayment for purchasers was $30,259, although the median downpayment was notably less, at $10,000. Fewer than 1 in 10 purchasers (9.7 percent) received downpayment assistance, whether from a formal downpayment assistance program or from friends or family. About one-fourth (26.5 percent) of those with a mortgage loan had a loan-to-value (LTV) ratio less than or equal to 0.80; about one-third (32.3 percent) had an LTV ratio between 0.80 and 0.85; and about two-fifths of purchasers (41.2 percent) had an LTV ratio greater than 0.95.[114]

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[112] Median prices were $216,961 in 2014, $228,187 in 2015, $238,526 in 2016, and $248,354 in 2017. Prices are inflation adjusted, not seasonally adjusted, and are based on the sales of existing homes (DQYDJ, 2020).

[113] These interest rates are comparable to average interest rates offered over the study period. Average interest rates on 30-year fixed-rate mortgages between Q1 2014 and Q3 2020 ranged between 2.9 and 4.9 percent (Freddie Mac, 2020).

[114] The loan-to-value ratio is computed as the reported mortgage loan amount divided by the purchase price.

Exhibit F.6: Home Purchase Price and Financing, Among Purchasers

	Subsample of Purchasers
Purchase price[a] ($)	
10th percentile	90,000
25th percentile	135,000
50th percentile (median)	192,700
75th percentile	288,000
90th percentile	416,000
Mean	232,273
Monthly Housing cost[a] ($)	
10th percentile	790
25th percentile	1,100
50th percentile (median)	1,500
75th percentile	2,030
90th percentile	4,550
Mean	1,655
Loan terms[b] (%)	
Fixed-rate mortgage with 30-year term	87.7
Fixed-rate mortgage with 15-year term	3.6
Fixed-rate mortgage with term other than 15 or 30 years	2.2
Adjustable-rate mortgage	4.2
Some other loan type	0.5
Mortgage loan interest rate[b]	
Interest rate among those with fixed-rate mortgage with 30-year term (mean)	4.1
Interest rate among those with fixed-rate mortgage with 15-year term (mean)	3.4
Interest rate among those with adjustable rate mortgage (mean)	3.5
Loan-to-value (LTV) ratio categories[b] (%)	
LTV less than or equal to 0.80	26.5
LTV 0.80 to 0.95	32.3
LTV greater than 0.95	41.2
FHA loan[c] (%)	
FHA loan	34.9
Downpayment assistance[b]	
Received downpayment assistance (%)	9.7
Downpayment[a] ($)	
50th percentile	10,000
Mean	30,259

FHA = Federal Housing Administration.

[a] Sample: 3,210 study participants who responded to the Long-Term Follow-Up Survey and had purchased a home.

[b] Sample: 2,993 study participants who responded to the Long-Term Follow-Up Survey and had taken out a mortgage loan.

[c] Sample: 4,076 study participants who had taken out a mortgage loan.

Note: Excludes study participants who withdrew from the study and those missing measure-specific data.

Sources: Long-Term Follow-Up Survey; credit bureau data; lender loan and servicing data; Federal Housing Administration

F.4 Experiences after Home Purchase

In this section, we describe post-purchase experiences for study participants who purchased homes, including whether they remain in their home, as well as loan repayment and refinancing decisions.

F.4.1 Status of Purchased Home

At long-term followup, approximately 9 in 10 purchasers (90.6 percent) still own and live in their purchased home (Exhibit F.7). About 5 percent of purchasers still own their home, but use the property for another use such as a rental or investment property (3.1 percent) or renting their home to friends or family (1.4 percent). Among the 4.8 percent of purchasers who sold their home, the most common reasons for selling included wanting to or having to relocate out of the area (35.5 percent); purchasing a bigger home (18.3 percent); and not being happy with the neighborhood (10.5 percent).[115]

Exhibit F.7: Among Purchasers, Status of Home at Long-Term Followup

	Subsample of Purchasers[a] (%)
Among those who purchased, status of home at long-term followup	
Still owns the home and lives in it	90.6
Still owns the home and uses home as a rental or investment property	3.1
Still owns the home and uses home for another use (e.g., lodging for family or friends)	1.4
Sold the home	4.8

[a] Sample: 3,210 study participants who responded to the Long-Term Follow-Up Survey and purchased a home.
Note: Excludes study participants who withdrew from the study and those missing measure-specific data.
Source: Long-Term Follow-Up Survey

F.4.2 Home Equity and Refinancing

Among those study participants who ever had mortgage loan, 20.6 percent modified or refinanced their mortgage loan by long-term followup. Among those who refinanced, nearly half (47.2 percent) refinanced to reduce their monthly payment (exhibit F.8).[116] Other commonly cited reasons for refinancing included avoiding paying mortgage insurance (23.4 percent); shortening the number of years until their home loan is paid off (19.8 percent); avoiding a change in interest rate on their original adjustable-rate mortgage (13.8 percent); and consolidating debt (13.1 percent).

Among those who refinanced, 27.5 percent borrowed additional money (or 5.2 percent of all purchasers). Among those who borrowed additional money, the average amount borrowed was $32,412, with 25 percent borrowing $8,000 or less and 75 percent borrowing $40,000 or more. Among those who did borrow money, the most common reasons for doing so included making a home improvement or repair (38.8 percent); paying down or paying off other debt (25.2 percent); and paying down or paying off credit cards (18.6 percent).

[115] Respondents could select multiple reasons for selling their home.

[116] Respondents could select multiple reasons for refinancing.

Exhibit F.8: Among those who Refinanced, Reason for Refinancing

	Subsample of Purchasers who Refinanced[a] (%)
Among Those who Refinanced, Reason for Refinancing	
Reduce monthly housing payment	47.2
To avoid paying mortgage insurance	23.4
Shorten the number of years until your loan is paid off	19.8
To avoid a change in interest rate on your original adjustable-rate mortgage	13.8
To consolidate your debt	13.1
To take out home equity to pay for a housing-related expense	10.3
To take out home equity to pay for a nonhousing-related expense	3.6
To avoid foreclosure or defaulting on your loan or mortgage	2.2

[a] Sample: 596 study participants who responded to the Long-Term Follow-Up Survey and refinanced a mortgage loan.
Note: Respondents could select multiple reasons for refinancing. Excludes study participants who withdrew from the study and those missing measure-specific data.
Source: Long-Term Follow-Up Survey

At the time of the long-term followup, very few purchasers (5.6 percent) had borrowed against their home equity, either through a home equity line of credit or home equity loan. Among those who did borrow through a home equity line of credit or home equity loan, almost half (52.1 percent) did so to make a home improvement or repair.[117] Paying down debt was also a common reason that study participants cite for borrowing against their home equity: 15.8 percent of those who borrowed against home equity used the money to pay down credit card debt, and 12.8 percent used the money to pay down other debt.

F.4.3 Loan Repayment

Among those study participants who ever had mortgage loans, 13.8 percent reported missing a mortgage payment (that is, had been at least 30 days delinquent) as of the long-term followup;[118] 7.0 percent of those with a mortgage loan reported experiencing a 60-day delinquency; and 4.9 percent reported a 90-day delinquency (exhibit F.9.) Among those who were ever behind on a mortgage loan payment, approximately 2 in 10 participants fell behind because of losing a job (19.8 percent). Other common reasons for late payments included reduced income (12.6 percent), unexpected medical costs (7.9 percent), and forgetting to make a payment (7.0 percent). Very few (about 1 in 1,000) study participants lost their homes due to foreclosure according to credit bureau data.

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[117] Respondents could select multiple uses of the borrowed money.

[118] The delinquency rates presented in exhibit F.9 differ from those presented in chapter 7 for a couple reasons. First, the sample in exhibit F.9 includes study participants (both treatment and control group members) who had taken out a mortgage loan at long-term followup, whereas the sample used in chapter 7 includes all study participants, regardless of whether they took out a mortgage loan. Second, exhibit F.9 reports the delinquency rates for the pooled sample of all treatment and control group members, whereas chapter 7 reports regression-adjusted delinquency rates separately for the treatment group and control group. For these reasons, the delinquency rates presented here are not directly comparable with those presented in chapter 7.

Exhibit F.9: Loan Performance, Among Purchasers with a Mortgage Loan

Loan performance at long-term followup	Subsample of Purchasers with a Mortgage Loan[a] (%)
Ever 30 days delinquent	13.8
Ever 60 days delinquent	7.0
Ever 90 days delinquent	4.9

[a] Sample: 4,076 study participants with administrative data that had taken out a mortgage loan.
Note: Excludes study participants who withdrew from the study and those missing measure-specific data.
Sources: Credit bureau; lender loan and servicing data; Federal Housing Administration

F.4.4 Savings and Investments

As reported in chapter 6, homebuyer education and counseling had a positive impact on total savings and investments: the treatment group had $4,739 more in total savings and investments than the control group. The value for total savings and investments is calculated by summing the balances for all reported savings and investment accounts, including checking, savings, and retirement accounts. Almost all study participants had checking accounts (99.4 percent), and most had savings accounts (84.2 percent). Three-quarters of study participants also had retirement accounts. Money market accounts, certificates of deposit, and accounts holding mutual funds stocks outside of a retirement account were less common (26.6 percent). Homebuyer education and counseling did not have a detectable impact on the percent of treatment group members who had each of these accounts as compared to the percent of control group members who had each of these accounts.

Study participants had median balance of $45,000 in their retirement accounts (among those who reported a balance). Study participants had slightly more money saved in their savings accounts (median balance of $5,000) as compared to their checking accounts (median balance of $3,000).

Exhibit F.10: Components of Total Savings and Investments

	Percent with account	Account Balance (median)	Number of study participants who had an account and reported an account balance
Checking account ($)	99.4	3,000	3,381
Savings account ($)	84.2	5,000	2,738
Retirement account ($)	75.0	45,000	2,123
Money market accounts, certificates of deposit, mutual funds, stocks, or brokerage accounts (aside from retirement account) ($)	26.6	15,000	803
Other sources of savings available ($)	15.0	6,000	443

Sample: 4,147 study participants who responded to the Long-Term Follow-Up Survey.
Note: Excludes study participants who withdrew from the study and those missing measure-specific data.
Source: Long-Term Follow-Up Survey

Appendix G: Sensitivity Analyses: Alternative Outcome Specifications

This appendix presents supplemental exploratory analyses that consider whether the impact findings presented in the main text are robust to alternative model specifications and outcome construction. Section G.1 reports the overall impact of the intervention on categorical outcomes, which were constructed as binary in the main text, using a multinomial logit model. Section G.2 reports on whether homebuyer education and counseling had an impact on the individual components of the financial skill score and the financial well-being score.

G.1 Multinomial Logit Sensitivity Analysis

All outcomes for the study's impact analysis, as reported in chapters 4 through 7 and exhibit C.1 and defined in exhibit B.5 are either continuous or binary, allowing for least squares regression analysis of all outcomes. However, select binary outcomes could be re-defined as categorical outcomes. For example, the outcome *regularly required mortgage payment is automatically deducted from a bank account*, which is defined as a binary outcome in exhibit B.5, could be defined as a categorical outcome as follows:

- Equals 2 if regularly required mortgage payment is automatically deducted from a bank account.
- Equals 1 if regularly required mortgage payment is not automatically deducted from a bank account.
- Equals 0 if no mortgage loan.

As a sensitivity test to the overall impact findings presented in chapters 4 through 7 and exhibit C.1, for select binary outcomes we constructed an alternative categorical version of the outcome with three categories, where one of the three categories is "does not have a mortgage loan" or "did not purchase a home."

We estimate the overall impact of the intervention on the categorical outcome using a multinomial logit model. For each outcome, the reference category is the group of study participants who have a mortgage loan (or purchased a home), but did not experience the outcome of interest. In the example above, the reference category would be the group of study participants whose regularly required mortgage payment is not automatically deducted from a bank account. For each outcome category, we report the relative risk ratio, which is the ratio of the probability of observing the outcome category in the treatment group to the probability of observing the outcome category in the control group. The relative risk ratios can be interpreted as follows:

- A relative risk ratio greater than 1 indicates that the offer of homebuyer education and counseling services increases the likelihood that the outcome category is observed.

- A relative risk ratio less than 1 indicates that the offer of homebuyer education and counseling services decreases the likelihood that the outcome category is observed.
- A relative risk ratio equal to 1 indicates that the offer of homebuyer education and counseling services does not affect the likelihood that the outcome category is observed.

Exhibit G.1 presents impacts on categorical outcomes as estimated by a multinomial logit model.[119] We find that, compared to the control group, the treatment group is **1.21 times as likely to report that they would contact a counseling agency, consumer credit counseling agency, or other nonprofit organization for assistance prior to missing a mortgage payment as compared to control group members.** No other impacts from these alternative specifications are statistically significant at the 10 percent level.

Findings from the multinomial logit model are generally similar to the impact of being offered services from least squares regression on binary versions of these outcomes as shown in the far right column of exhibit G.1 and as reported in chapters 4 through 7 and exhibit C.1. Across both sets of estimates—those from the multinomial logit model and from the least squares regression on binary versions of the outcomes—the findings are generally similar. The one exception is that the multinomial logit model produced a positive and statistically significant impact (at the 10 percent significance level) on the outcome *If in financial difficulty, the study participant would contact counseling agency, consumer credit counseling agency, or other nonprofit organization for assistance prior to missing a mortgage payment.* In contrast, the least squares impact on this outcome is not statistically significant at the 10 percent significance level (p=.134). We do not detect a statistically significant impact on any other outcome by either method. As a result, we remain comfortable focusing on the binary versions of these outcomes reported in chapters 4 through 7 and exhibit C.1.

Exhibit G.1: Overall Impact of the Demonstration's Homebuyer Education and Counseling, Multinomial Logit Results

Outcome	Outcome Category	Relative Risk Ratio (Standard Error)	Impact of Being Offered Services from Least Squares Regression (Standard Error)
Panel A: Preparedness and Search			
Study participant was satisfied with the process of obtaining a mortgage loan[a]	Satisfied	0.946 (0.115)	– 1.3
	Not satisfied	Reference category	(1.5)
	No mortgage loan	1.004 (0.166)	

[119] The model generally includes the same set of covariates included in the studies preferred specification (eq. A.1). However, for one outcome (*Study participant obtained a mortgage loan and is satisfied that it has the best terms to fit needs*) the multinomial logit model failed to produce standard errors for the estimated coefficients. To address this issue, we did not conduct the dummy variable adjustment approach (as described in section A.5) for this outcome. This reduced the number of covariates in the model and allowed the multinomial logit model to successfully produce standard errors for all estimated coefficients.

Outcome	Outcome Category	Relative Risk Ratio (Standard Error)	Impact of Being Offered Services from Least Squares Regression (Standard Error)
Panel B: Financial Knowledge, Behaviors, and Skills			
If in financial difficulty, the study participant would contact lender for assistance prior to missing a mortgage payment[a]	Would contact Would not contact No mortgage loan	1.051 (0.084) Reference category 1.076 (0.120)	0.0 (1.6)
If in financial difficulty, the study participant would contact counseling agency, consumer credit counseling agency, or other nonprofit organization for assistance prior to missing a mortgage payment[a]	Would contact Would not contact No mortgage loan	1.210* (0.120) Reference category 1.093 (0.109)	2.8 (1.8)
Regularly required mortgage payment is automatically deducted from a bank account[a]	Automatically deducted Not automatically deducted Does not own a home	1.055 (0.074) Reference category 1.094 (0.108)	0.3 (1.5)
Panel D: Sustainable Homeownership			
Ever 60 days delinquent[e]	Ever 60 days delinquent Not delinquent No mortgage loan	0.898 (0.114) Reference category 0.982 (0.086)	– 0.5 (0.6)
Ever 30 days delinquent[e]	Ever 30 days delinquent Not delinquent No mortgage loan	0.929 (0.076) Reference category 0.979 (0.085)	– 0.6 (0.7)
Ever 90 days delinquent[e]	Ever 90 days delinquent Not delinquent No mortgage loan	0.905 (0.129) Reference category 0.985 (0.086)	– 0.4 (0.5)
Study participant obtained a mortgage loan and is satisfied that it has the best terms to fit needs[a]	Satisfied Not satisfied No mortgage loan	1.094 (0.171) Reference category 1.157 (0.224)	0.3 (1.6)
Since purchasing home, study participant has made additional payments (beyond scheduled monthly payments) toward mortgage loan balance[a]	Additional payments No additional payments No mortgage loan	1.036 (0.074) Reference category 1.063 (0.104)	0.3 (1.4)
Study participant indicated that home needs repairs or maintenance that the study participant cannot afford to make right now[a]	Agree or strongly agree Disagree or strongly disagree Does not own home	0.882 (0.879) Reference category 1.037 (0.090)	– 2.1 (1.5)
Study participant keeps track of and does regular maintenance needed to prevent larger expenses down the road[a]	Agree or strongly agree Disagree or strongly disagree Does not own home	1.149 (0.191) Reference category 1.219 (0.198)	– 0.6 (1.7)

Notes: For each outcome category, we report the relative risk ratio, which is the ratio of the probability of observing the outcome category in the treatment group to the probability of observing the outcome category in the control group. In computing these probabilities, one category of the outcome is designated as the "reference category," and the probability of membership in the other outcome categories are computed with those in the "reference category" included in the denominator. For example, the treatment group's probability of being ever 60 days delinquent is computed as *the number treatment group members who were ever 60 days delinquent divided by the number of treatment group members who were either ever 60 days delinquent or who had a mortgage loan but were not delinquent.* A similar probability is computed for the control group, and the ratio of the treatment and control group probabilities provides the relative risk ratio.

Statistical significance levels for two-sided tests are indicated with asterisks as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.

Sources:

[a] Long-Term Follow-Up Survey

[e] Credit bureau; study lenders; Federal Housing Administration

G.2 Impact on Financial Skill and Financial Well-Being Items

The Long-Term Follow-Up Survey included two scales recently developed by the Consumer Financial Protection Bureau (CFPB) to better understand the financial lives of consumers: the

financial skill scale and the *financial well-being scale*.[120] The *financial skill scale* measures participants' self-reported ability "find, process, and act on financial information" (CFPB, 2018). The *financial well-being scale* measures how participants feel about their financial security and freedom of choice, both in the present and the future (CFPB, 2017a). Respondents' answers to each scale are converted into scores ranging from 0 to 100.

Overall, homebuyer education and counseling services had no detectable impact on either the financial skill or financial well-being score. However, because each scale measures multiple sub-constructs, we also examined whether homebuyer education and counseling had an impact on the individual items of the financial skill score and the financial well-being score. [121] We constructed 10 separate outcomes, 5 of which were based on the 5 questions used to construct the financial skill score and 5 based on the 5 questions used to construct the financial-wellbeing score. Each of the 10 measures is on a 0 to 4 scale, where 4 indicates the most favorable response and 0 indicates the least favorable response. We do not detect an impact of homebuyer education and counseling on any of the 10 measures constructed.

[120] The Long-Term Follow-Up Survey includes the abbreviated (5-item) version of both of these scales.

[121] That is, the Financial Skill Scale purports to captures participants' self-assessment of three separate skills: finding information, processing information and executing decisions (CFPB, 2018). The Financial Well-Being Scale captures four separate feelings: "control over day-to-day finances" (present financial security); "capacity to absorb a financial shock" (future financial security); "freedom to make financial choices to enjoy life" (present freedom of choice); and "on track to meet financial goals" (future freedom of choice) (CFPB, 2017a).

Exhibit G.2: Overall Impact on Financial Skill and Financial Well-Being Items

Outcome	Treatment Group Mean	Control Group Mean	Impact of Being Offered Services	P-value
Financial skill score (ranges from 0 to 100)	63.5	63.1	0.40	0.29
I know how to get myself to follow through on my financial intentions (range: 0 to 4, where 0 indicates "does not describe you at all" and 4 indicates "describes you completely")	3.30	3.28	0.02	0.58
I know how to make complex decisions (range: 0 to 4, where 0 indicates "does not describe you at all" and 4 indicates "describes you completely")	3.14	3.10	0.04	0.18
I know how to make myself save (range: 0 to 4, where 0 indicates "does not describe you at all" and 4 indicates "describes you completely")	3.34	3.30	0.04	0.19
I know when I do not have enough information to make a good decision involving my money (range: 0 to 4, where 0 indicates "never" and 4 indicates "always")	3.05	3.05	0.00	0.97
I struggle to understand financial information (range: 0 to 4, where 0 indicates "always" and 4 indicates "never")	2.96	2.90	0.06	0.10
Financial well-being score (ranges from 0 to 100)	63.4	63.2	0.10	0.77
Because of my money situation, I feel like I will never have the things I want in life (range: 0 to 4, where 0 indicates "describes you completely" and 4 indicates "does not describe you at all")	3.02	2.99	0.02	0.57
I am just getting by financially (range: 0 to 4, where 0 indicates "describes you completely" and 4 indicates "does not describe you at all")	2.72	2.68	0.05	0.30
I am concerned that the money I have or will save won't last (range: 0 to 4, where 0 indicates "describes you completely" and 4 indicates "does not describe you at all")	2.62	2.58	0.04	0.27
I have money left over at the end of the month (range: 0 to 4, where 0 indicates "never" and 4 indicates "always")	2.87	2.88	– 0.01	0.86
My finances control my life (range: 0 to 4, where 0 indicates "always" and 4 indicates "never")	2.32	2.29	0.03	0.38

Notes: Due to rounding, reported impacts (T-C differences) could differ from differences between reported means for the treatment and control groups. Appendix A details the analytic methods.
Statistical significance levels for two-sided tests are indicated with asterisks as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.
Source: Long-Term Follow-Up Survey.

Appendix H: How COVID-19 Affected First-Time Homebuyers

During early 2020, the final period of data collection for the First-Time Homebuyer Education and Counseling Demonstration, the COVID-19 pandemic emerged in the U.S., resulting in economic devastation for the United States economy. The U.S. unemployment rate shot up from 3.8 percent in February 2020, one of the lowest rates on record in the post-World War II era, to 13.0 percent in May 2020 (Kochhar, 2020). Although the pandemic arrived several years after the treatment group was offered homebuyer education and counseling services, its adverse financial consequences, including reduced income and increased medical and childcare expenses, could have affected key study *outcomes* such as credit scores and delinquency rates. Furthermore, the *impact* of homebuyer education and counseling may be different during the pandemic, when people face greater financial instability and a weaker economy.

We use March 15 as an approximate date for when COVID-19 started having an effect on the U.S. economy. The total number of hours worked fell by about 60 percent in March 2020. From March 2020 to April 2020, the number of people ages 25 to 54 participating in the labor force but not working (i.e., unemployed or employed but not at work) surged from 7.9 million to 19.6 million. This rise was associated with a 10.3 percentage point increase in the unemployment rate during the same time period (Bauer et al., 2020).

Study outcomes based on administrative data collected from a credit bureau and FHA were measured as of December 2019, before the onset of the pandemic. Most surveys of study participants, 71 percent, were implemented before March 15, 2020, when the effects of the pandemic began to be felt in the United States. Therefore, the information presented in this appendix does not call into question the accuracy of evaluation findings presented in the main body of this report. Instead, we use both the later survey responses, including responses to a survey question added in April 2020, and later administrative data to examine how the pandemic affected study participants, how outcomes changed as a result of the pandemic, and whether the intervention's impacts changed during the altered economic environment.

In section H.1, we describe how COVID-19 influenced study participants' economic and housing situations, based on participants' responses to a Long-Term Follow-Up Survey question added in April 2020. Section H.2 reports on changes in some of the key study *outcomes* for study participants before versus after the onset of COVID-19, and section H.3 reported on our assessment of whether the *impacts* of homebuyer education and counseling—that is, differences between outcomes for treatment and control groups—changed after the onset of COVID-19.

H.1 The Influence of COVID-19 on Study Participants' Housing and Economic Situation

In late April 2020, we added the following question to the Long-Term Follow-Up Survey: "How has the COVID-19 pandemic affected your housing or economic situation?" Between April 29,

2020 and July 16, 2020, 641 study participants (11 percent of the study sample) responded to this question.[122]

- **The COVID-19 pandemic affected the housing or economic situation of half of study participants.**

One-half of survey respondents indicated that COVID-19 did not affect their housing or economic situation. About a quarter (26 percent) indicated that COVID-19 resulted in job loss, job insecurity, or a reduction in hours or pay (exhibit H.1). Another quarter (24 percent) said that COVID-19 affected their housing or economic situation in some other way, including difficulty paying bills, emotional or mental stress, receipt of additional government assistance, or delay of home repairs or other large purchases, with fewer than 3 percent of respondents reporting each of these other effects. The job loss reported by 12 percent of study participants aligns with the 10.3 percentage point increase in the national unemployment rate from March 2020 to April 2020 (Brookings, 2020).

Exhibit H.1: How the COVID-19 Pandemic Influenced Participants' Housing or Economic Situation

	Full Sample [a] (%)
Did not affect housing or economic situation	49.8
Job insecurity, hours cut, or reduced pay	14.4
Job loss	11.9
Affected in some other way	23.9

[a] Sample: 641 study participants who responded to the Long-Term Follow-Up Survey during the period this question was asked.
Source: Long-Term Follow-Up Survey

H.2 Study Participant Outcomes during the COVID-19 Crisis

To determine how the economic effects of the pandemic that appear to have affected half the study sample influenced outcomes measured by the study, we conducted two types of analysis, one based on survey responses before and after March 15, 2020, the other on outcomes measured using administrative data, comparing outcomes measured before and after the onset of the pandemic.

H.2.1 Data and Methods for Pre-Post COVID-19 Descriptive Analysis

Using data from the Long-Term Follow-Up Survey, we compared mean outcomes for the subgroup of study participants who completed the survey between March 15, 2020 and July 16, 2020 to the subgroup who completed the survey before March 15, 2020.[123] We show outcomes

[122] The remainder of the study sample either replied to the Long-Term Follow-Up Survey prior to when this question was added or did not respond to the Long-Term Follow-Up Survey.

[123] Study participants who replied to the Long-Term Follow-Up Survey after March 15, 2020 had similar baseline financial characteristics to those who replied to the survey prior to March 15, 2020. For instance, baseline credit score, income, total savings and investments, and total nonhousing debt were not detectably different between those who replied to the survey before versus after March 15, 2020. Even so, to help control for any differences in baseline characteristics between study participants who replied to the survey before versus after this date, we

for the full study sample, regardless of their treatment or control group status. The outcomes are self-reports by study respondents on financial well-being and related experiences.

Using data from the credit bureau and FHA, we compare mean outcomes for the full study sample measured on July 31, 2020—after the economics effects of the pandemic might have had an effect on outcomes such as mortgage delinquency and credit scores—to mean outcomes measured at two time points before the emergence of COVID-19 in the U.S.: (1) outcomes measured on December 31, 2019, and (2) outcomes measured on July 31, 2019. Outcomes measured on December 31, 2019, represent mean outcomes just before the emergence of COVID-19 in the U.S. We also report outcomes measured on July 31, 2019, the same point in the calendar year as the July 2020 outcomes, to eliminate the possibility that that normal seasonal fluctuations influenced observed differences in the outcomes.[124]

H.2.2 Pre-Post COVID-19 Differences in Selected Survey-based Outcomes

Overall, study participants who responded to the Long-Term Follow-Up Survey after March 15, 2020, reported much more unfavorable financial conditions than those who responded to the survey prior to March 15, 2020, but with one notable exception (exhibit H.2). Study participants who responded after March 15, 2020:

- Reported lower levels of financial well-being.
- Were less likely to report that they could come up with $2,000 in 30 days if an unexpected need arose within the next month.
- Were less likely to report that they were confident in their ability to make housing payments over the next 6 months.
- Were more likely to report that they lost a job or had work hours and/or pay reduced.
- Were more likely to report that a business they or someone in their household owned had financial difficulty.

However, one favorable outcome was more often reported by study participants who responded after the onset of the COVID Pandemic. Study participants who responded after March 15, 2020:

- Were much more likely to report that they received a large sum of money beyond normal income. We infer that the study respondents were reporting one-time cash payments by the federal government under the Coronavirus Aid, Relief, and Economic Security (CARES Act) enacted in late March 2020.

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control for our standard set of baseline covariates included in all impact models (see Appendix A for more details).

[124] For example, increased credit card debt incurred around the holidays and paid off in the spring (Drukker and Nelson, 2018).

Exhibit H.2: Comparison of Outcomes Before and After the Onset of COVID-19, Selected Long-Term Survey Outcomes

Outcome	Mean Outcome, Survey Responses March 15, 2020 or Later (N=1,218)	Mean Outcome, Survey Responses Before March 15, 2020 (N=2,929)	Difference
Financial well-being score (ranges from 0 to 100)	62.3	63.6	– 1.3**
Study participant occasionally does not have enough money to cover all bills at the end of the month (%)	14.7	14.5	0.2
Study participant could come up with $2,000 in 30 days if an unexpected need arose within the next month (%)	65.3	70.8	– 5.5**
Study participant is confident in ability to make housing payments over the next 6 months (%)	77.1	90.7	– 13.6***
Study participant refinanced or made modifications to a mortgage loan (%) ~	16.1	13.5	2.6
Lost a job (%)	20.5	11.5	9.0***
Had work hours and/or pay reduced (%)	31.7	15.3	16.4***
A business I or someone in my household owned had financial difficulty (%)	10.6	7.4	3.2*
Had a health emergency (%)	16.7	18.5	– 1.8
Received a large sum of money beyond normal income (such as inheritance, bonus or other windfall) (%)	31.7	7.2	24.5***

Notes: The sample comprises study participants who responded to the Long-Term Follow-Up Survey. The difference in means was computed by a model that includes survey non-response weights, MSA fixed effects, and the covariates described in exhibit B.3.
Statistical significance levels for the difference in means are indicated with asterisks as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.
~ Denotes outcomes that are coded as 0 for study participants who did not purchase a home.
Source of outcome data: Long-Term Follow-Up Survey.

H.2.3 Pre-Post COVID-19 Differences in Selected Administrative Data-based Outcomes

Differences between outcomes based on administrative data before and after the onset of the COVID pandemic were mixed. Bankruptcies and delinquency rates on mortgages increased, but credit scores improved (see exhibit H.3, "COVID Difference" column).

- **Bankruptcies and repossessions increased.** Bankruptcies and repossessions associated with nonhousing debt increased to 21.0 percent in July 2019 from lower levels at prior time points. In December 2019, the level was 11.5 percent, which is an apparent low-point relative to other times we have observed this indicator. In July 2020, the level was 17.9 percent (exhibit H.3); in January 2019, it was 16.1 percent (not shown); and in July 2018, it was 14.4 percent (not shown). Regardless of the reference point, July 2020 represents a higher level.
- **Delinquency rates on mortgages increased.** The proportion of study participants who were ever 30 days delinquent on a mortgage loan increased by 3.6 percentage points, and the proportion ever 60 days delinquent increased by 2.7 percentage points. The administrative data also show that that 11.3 percent of those with a mortgage loan received mortgage loan

forbearance, a loan modification, or another accommodation within the three months prior to July 31, 2020.[125]

- **Credit scores increased.** Credit scores improved by 8.5 points between December 2019 and July 2020 and were 1.8 percentage points more likely to be greater than or equal to 620.[126]
- **Total nonhousing debt and credit card debt decreased.** Total nonhousing debt decreased by $560, and credit debt decreased by $1,005, between December 2019 and July 2020. Although these changes may be considered small in magnitude, it is reassuring that nonhousing debt did not increase despite the job loss and reductions in hours or pay associated with the pandemic, at least at this early time point. One possible explanation for this finding is that study participants used economic stimulus payments to pay down credit card debt.

[125] We do not make a comparison to December or July 2019 because we do not have data for the earlier time periods.

[126] This increase in credit scores is driven by those study participants who did not experience a mortgage loan delinquency between December 2019 and July 2020. Among those who did not experience a 30-day delinquency between December 2019 and July 2020, credit scores increased by 8 points, from 733 to 741.

Exhibit H.3: Comparison of Outcomes Before and After the Onset of COVID-19, Outcomes from Administrative Data

Outcome	July 31, 2020 Mean Outcome (1)	Dec. 31, 2019 Mean Outcome (2)	July 31, 2019 Mean Outcome (3)	COVID Difference (1) - (2)	Annual Difference (1) - (3)
Credit score (out of 850)[c]	730.2	721.7	722.8	8.5***	7.3***
Indicator for whether participant has a credit score greater than or equal to 620 (%)[c]	84.9	83.1	84.3	1.8***	0.6
Total nonhousing debt ($)[c]	29,151	29,711	29,195	– 560*	– 44
Student loan debt ($)[c]	10,744	10,780	10,876	– 36	– 132
Total consumer debt (all debt besides housing and student debt) ($)[c]	18,406	18,931	18,319	– 524**	88
Credit card debt ($)[c]	4,958	5,963	5,484	– 1,005***	– 526***
Bankruptcy or repossession due to nonhousing debt (%)[c]	21.0	11.5	17.9	9.4***	3.0***
Ever 30 days delinquent on mortgage loan (%)[f]	12.5	8.9	8.7	3.6***	3.7***
Ever 60 days delinquent on mortgage loan (%)[f]	7.5	4.7	4.1	2.7***	3.4***
Among those with a mortgage loan, received mortgage loan forbearance, a loan modification, or other accommodation within the last three months (%)[g]	11.3	-		-	

Notes: The sample is restricted to study participants with non-missing administrative data for July 2020, December 2019, and July 2019. Statistical significance levels for the difference in means are indicated with asterisks as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.
Sources:
[c] Credit bureau. N= 5,281
[f] Credit bureau and Federal Housing Administration. . N=5,375
[g] Credit bureau. N= 3,381

Taken together, the survey and administrative data suggest that COVID-19 has had significant unfavorable consequences for the financial conditions of study participants. The favorable changes—increased credit score and stable nonhousing debt—are likely explained by the "large sum" of money outside of normal income that 32 percent of participants surveyed after March 15, 2020, reported that they had received, 24 percentage points higher than those who responded to the survey earlier. This likely underestimates the share of participants who received the one-time government stimulus payment. Some of the survey respondents may not have considered the amount a "large sum."

H.3 The Impact of Homebuyer Education and Counseling in the Context of COVID-19

Like so much of the U.S. population, the study sample experienced financial hardship as a result of the economic downturn associated with the COVID-19 pandemic. An important question for this study is whether the treatment group, because of its exposure to homebuyer education and counseling, was any better prepared for the economic stresses of the pandemic than the control group. This section reports on the impacts of homebuyer education and counseling after the onset

of COVID-19, compared to the impact observed before the onset of COVID-19. Similar to the analysis reported in section H.2, this analysis considers both survey- and administrative data-based outcomes.

H.3.1 Pre-Post COVID-19 Differences in Selected Survey-based Impacts

For outcomes constructed using Long-Term Follow-Up Survey, we estimate the impact of offering homebuyer education and counseling for the subgroup of study participants who responded to the survey after March 15, 2020. We then assess whether impacts on this subgroup are statistically different from impacts for the subgroup of study participants who responded to the survey on or before March 15, 2020.[127] As with other subgroup analyses included in this report, this analysis uses subsets of the study sample; and, as such, has less power to detect effects than we have for the overall sample.[128]

Homebuyer education and counseling did not have a detectable impact on any of the survey-based outcomes for study participants who replied to the Long-Term Follow-Up Survey on March 15, 2020, or later, except for refinancing or modifying a mortgage: treatment group members who replied after this date were 4.3 percentage points less likely to refinance or modify a mortgage than their control group counterparts; however, this impact is not statistically different than the impact (which was not statistically significant) for those who replied prior to March 15, 2020. In addition, some of the impacts that appear among those who replied to the survey before March 15, 2020, seem either to have dissipated or reversed (exhibit H.4). For example, among control group members, the portion of the sample reporting that they would contact a counseling agency, consumer credit counseling agency, or other nonprofit organization for assistance prior to missing a mortgage payment increased from about 22 to 28 percent, although the treatment group's level did not change meaningfully pre- and post-COVID-19. As a result, the pre-COVID-19 impact favoring the treatment group was not detected for the portion of the sample surveyed after COVID-19 (exhibit H.4, panel A). Similarly, before COVID-19, the treatment group was more confident in its ability to make housing payments over the next 6 months, and that impact is no longer detectable for the portion of the sample surveyed after COVID-19.

In sum, according to these select measures from the Long-Term Follow-Up Survey, homebuyer education and counseling did change how the treatment group navigated their financial lives in the first 3 months of the COVID-19 pandemic relative to their control group counterparts.

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[127] The impacts for these two subgroups were computed using the same statistical model used to produce the subgroup impacts reported in appendix E, described in more detail in appendix A.

[128] See the textbox **Understanding Null Effects** in chapter 2 for more information.

Exhibit H.4: Comparison of Impacts on Subpopulations Defined by Whether They Responded to the Long-Term Follow-Up Survey Before or After the Initial COVID-19 Surge

Outcome	Replied to Long-Term Follow-Up Survey March 15, 2020 or Later (N = 1,218)		Replied to Long-Term Follow-Up Survey Before March 15, 2020 (N = 2,929)		Post-COVID Impact minus Pre-COVID Impact (Standard Error)
	Control Group Mean	Impact of Being Offered Services (Standard Error)	Control Group Mean	Impact of Being Offered Services (Standard Error)	
Panel A: Financial Knowledge, Behaviors, and Skills					
If in financial difficulty, the study participant would contact lender for assistance prior to missing a mortgage payment (%) ~	59.8	– 1.5 (2.9)	54.0	0.6 (2.0)	– 2.1 (3.5)
If in financial difficulty, the study participant would contact counseling agency, consumer credit counseling agency, or other nonprofit organization for assistance prior to missing a mortgage payment (%) ~	27.8	– 2.8 (2.8)	21.8	5.0** (2.4)	– 7.8* (3.8)
Financial skill score (ranges from 0 to 100)[a]	64.2	– 0.4 (0.8)	62.7	0.7 (0.4)	– 1.2 (0.9)
Panel B: Financial Indicators					
Financial well-being score (ranges from 0 to 100)	62.8	0.0 (0.8)	63.4	0.2 (0.4)	– 0.2 (0.8)
Total savings and investments ($)	59,103.9	4,442.4 (4,979.2)	69,509.3	4,996.8* (2,721.9)	– 554.3 (6,565.3)
Panel C: Sustainable Homeownership					
Ratio of monthly housing costs to monthly income	25.3	– 0.9 (1.1)	25.1	– 0.4 (0.8)	– 0.6 (1.6)
Study participant described the condition of current home/apartment as good or excellent (%)[a]	87.8	– 2.3 (1.9)	85.7	1.3 (1.2)	– 3.6 (2.2)
Study participant is satisfied with current neighborhood (%)	94.1	– 1.1 (1.3)	92.8	1.2 (1.0)	– 2.2 (1.7)
Study participant is confident in ability to make housing payments over the next 6 months (%)	78.7	– 2.3 (2.1)	89.5	2.5*** (0.9)	– 4.8** (2.2)
Study participant refinanced or made modifications to a mortgage loan (%) ~	19.4	– 4.3** (2.2)	14.3	– 1.2 (1.3)	– 3.1

Notes: Appendix A details the analytic methods and appendix B provides additional detail on the construction of measures. Outcome-specific sample sizes vary due to missing data.
Statistical significance levels for two-sided tests are indicated with asterisks as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.
~ Denotes outcomes that are coded as 0 for study participants who did not purchase a home.
Source of outcome data: Long-Term Follow-Up Survey.

H.3.2 Pre-Post COVID-19 Differences in Selected Administrative Data-based Impacts

Using administrative data, we estimated the impact of offering homebuyer education on outcomes measured as of July 2020. We then tested whether that impact is statistically different from the impact of homebuyer education and counseling on outcomes measured as of December 2019. We find that homebuyer education and counseling increased student loan debt and decreased credit card debt as measured in July 2020 (exhibit H.5). These impacts are similar in magnitude and not statistically different from the impacts on the corresponding outcomes as measured in December 2019. Further, across all other outcomes considered we do not detect a difference in the impact of homebuyer education and counseling on financial indicators or sustainable homeownership observed before versus after the onset of COVID-19.

Exhibit H.5: Comparison of Impacts on Financial Capability and Sustainable Homeownership Before or After the Initial COVID-19 Surge, Administrative Outcomes

Outcome	July 31, 2020 Admin. Data: Control Group Mean	July 31, 2020 Admin. Data: Impact of Being Offered Services (Standard Error)	December 31, 2019 Admin. Data: Control Group Mean	December 31, 2019 Admin. Data: Impact of Being Offered Services (Standard Error)	Impact on July 2020 Outcomes minus Impact on Dec 2019 Outcomes
Panel C: Financial Indicators					
Credit score as of December 2019 (out of 850)[c]	731.0	0.9 (1.8)	723.4	1.7 (2.0)	-0.8
Study participant has a credit score greater than or equal to 620 (%)[c]	85.8	0.9 (0.8)	83.7	0.6 (0.9)	0.3
Total nonhousing debt($)[c]	30,318	1,177 (1,121)	30,778	1,077 (861)	100
Student loan debt($)[c]	12,099	1,361*** (506)	12,253	1,480*** (522)	– 119
Total consumer debt (all debt besides housing and student) ($)[c]	18,219	– 184 (850)	18,525	– 403 (705)	219
Credit card debt ($)[c]	4,480	– 476* (265)	5,489	– 472* (272)	– 4
Panel D: Sustainable Homeownership					
Ever 60 days delinquent (%)[f] ~	6.6	– 0.9 (0.7)	4.1	– 0.6 (0.6)	– 0.2
Ever 30 days delinquent (%)[f] ~	11.3	– 1.2 (0.8)	8.2	– 0.7 (0.7)	– 0.5

Notes: Appendix B provides additional detail on the construction of measures. For each outcome, the sample is limited to study participants with non-missing outcome data for both December 2019 and July 2020. Outcome-specific sample sizes vary due to missing data.
Statistical significance levels for two-sided tests are indicated with asterisks as follows: *** = 1 percent; ** = 5 percent; * = 10 percent.
~ Denotes outcomes that are coded as 0 for study participants who did not purchase a home.
Sources:
[c] Credit bureau. N= 5,281
[f] Credit bureau and Federal Housing Administration. N=5,370

In summary, this appendix has considered how the COVID-19 pandemic might have influenced this study's findings. To do so, we analyzed data just before and after the COVID-19 onset, which was around the time the long-term impact analysis considered. We conclude that no caveats are needed to the study's main results, at least at this time. That is, the impact results are not meaningfully different before and after the COVID-19 onset. That does not mean that the study sample did not experience substantial upheaval. It did. Perhaps longer-term effects of the economic collapse will result in additional changes to this study sample—whether overall or specifically within the treatment group—but as of the July 2020 data, we do not see any important shifts that warrant modifying the interpretation of the study's main findings.

Appendix I: Long-Term Follow-Up Survey

HUD's First-Time Homebuyer Education and Counseling Demonstration and Impact Evaluation - Long-Term Follow-Up Survey

Hello, this is _____. I'm from Abt Associates and I'm here on behalf of the HUD *First-Time Homebuyer Study*. Is (RESPONDENT NAME) home?

SAME AS INTRODUCTION THROUGH UP2 – NO CHANGES

INTERVIEWER: IF NECESSARY, READ: (RESPONDENT) has agreed to help with a study on first-time homebuyers.

1 YES [GO TO INTRO2]
2 ANY OTHER RESPONSE [GO TO ROC SHELL]

[GO TO INTRO2]

PRE-INTRO.

Hello, this is _____. I'm calling from Abt Associates on behalf of the HUD *First-Time Homebuyer Study*. May I please speak to (RESPONDENT NAME)?

IF RESPONDENT IS NOT AVAILABLE, COLLECT INFORMATION ON BEST TIME TO CALL BACK.

1 YES [GO TO INTRO2]
2 NO/DK, SCHEDULE CALLBACK [GO TO INTRO1A]
3 WRONG PERSON/NUMBER [THANK AND END, DISPO AS WRONG PERSON/ NUMBER]
4. GATEKEEPER REFUSAL - GIVE CONTACT INFO: Please call 866-725-1550 and ask for Study 26874. Mention your ID is [QKEY]. [DISPO AS SOFT REFUSAL]
8. (VOL) Soft Refusal [DISPO AS SOFT REFUSAL]
9 (VOL) HARD REFUSAL [THANK AND END, DISPO AS HARD REFUSAL]

INTRO1A. INTERVIEWER: RECORD STATUS OF R

1 R NOT AVAILABLE – CALLBACK AT SAME NUMBER
2 R NOT AVAILABLE – CALLBACK AT DIFFERENT NUMBER [GO TO UP1]

UP1. [INTERVIEWER: UPDATE PHONE NUMBER]

UP2. Is that a landline or cell phone?

1 LANDLINE [UPDATE CELL VARIABLE = 0]
2 CELL PHONE [UPDATE CELL VARIABLE = 1]]

[CATI – START CALLBACK AT INTRO1]

INTRO1.
Hello, my name is [NAME] and I'm calling from Abt Associates. I'm calling you about the *HUD First-Time Homebuyer Study*.

[CATI: ASK IF CELL PHONE SAMPLE]

CELL1: If you are now driving a car or doing an activity that requires your full attention, I need to call you back. Are you in a safe place that you can talk?

1. Yes [GO TO INTRO2]
2. No [SCHEDULE CALLBACK]

INTRO2.
You may recall joining the First-Time Homebuyer Study back in [S_REGDTM] of [S_REGDTY]. At that time you were starting to look for a home. When you joined the study, you completed a survey and we told you that we would be contacting you again to learn how you are doing and ask you about your experiences with the home search process. The interview will take about 35 minutes and you will receive a $35 Visa card to thank you for your time.

Participation in this study is voluntary. All information you provide will be kept secure and confidential. You may refuse to answer any individual questions.

Is now a good time to do the interview?

1. OK to continue
2. Not a good time [SCHEDULE CALLBACK]
9. REFUSED INTERVIEW **[PLEASE COPY REFUSAL CODING FROM 5753]**

[SET QUALIFIED LEVEL=1 FOR INTRO2=1, 2]

[CAPI: MAIN SURVEY START]

CONTINUE TO VERIFICATION:
DOB. First I just need to verify that I am speaking with the correct person.

What is your date of birth?

Respondent's Birthday: _____ / _____ /_____
MM DD YYYY
9. (VOL) REFUSED

COMPARE RESPONSE GIVEN TO THE BIRTH DATE ON SAMPLE FILE.

1. **IF INFORMATION IS CORRECT CONTINUE WITH INTERVIEW [SET QUALIFIED LEVEL=2]**

2. **IF THERE IS A MISMATCH IN DOB, DK OR REF:**
   I'm sorry. I was unable to pull up the correct questionnaire. I will need to check with my supervisor to look into the problem. I will re-contact you when the problem is resolved. Thank you for your time.

INTRO3.
The U. S. Department of Housing and Urban Development, along with Abt Associates, is conducting a study on first-time homebuyers. We'd like to ask you some questions about yourself and if applicable, the people you might be buying or have bought a house with. The information requested under this collection is protected and held confidential and will be protected to the fullest extent possible by law, including 5 U. S. C.552a (Privacy Act of 1974) and OMB Circular No. A-130. Your responses will be combined with the responses from about 6,000 other participants. Your participation will not affect your mortgage loan process or any benefits you may receive now or in the future. The information you provide will help HUD improve future first-time home buyer and housing counseling programs.

Before we begin, I am required to tell you that the questions in this survey have been reviewed by the Office of Management and Budget (OMB) under the Paperwork Reduction Act of 1995. Public reporting burden for this collection of information is estimated to average 35 minutes per survey. HUD may not conduct or sponsor, and a person is not required to respond to, a collection of information unless that collection displays a valid OMB control number 2528-0293, expiring 10-31-2021.

As I mentioned, the survey will take about 35 minutes. You can choose not to answer a question if you do not want to. Please stop me at any time if you have questions.

I.1 Section A: Home Purchase Status

Group Assignments (assigned in section A and used throughout remainder of the survey):

Group 1: Purchased before short-term followup and responded to short-term followup.
Group 2: Purchased after short-term followup (or purchased and did not respond to short-term survey)
Group 3: Did not purchase, but still looking
Group 4: Did not purchase and postponed search

First, I am going to ask you a few questions about your housing status.

SAMPLE: ALL
CURRENT_ADDRESS.

What is your current address?

[IF NEEDED: This is where you are currently living.]

[IF NEEDED: We will use this information to determine features of your neighborhood and surrounding areas.]

1. GAVE RESPONSE
8. DON'T KNOW
9. REFUSED

[STANDARD ADDRESS COLLECTION MODULE]
Street 1:_____

Street 2:_____

City:_____

State:_____

Zip:_____

A1.

IF WE HAVE PURCHASE DATE FROM PREVIOUS SURVEY:

According to our records, you told us that you purchased a home or property since you first learned about this study in about [REGDTM] of [REGDTY]. Is this correct?

IF WE DO NOT HAVE PURCHASE DATE FROM PREVIOUS SURVEY: Since you first learned about this study in about [REGDTM] of [REGDTY] did you purchase or acquire any homes or properties?

1. Yes
2. No [SKIP TO A2]
8. (VOL) DON'T KNOW [SKIP TO A2]
9. (VOL) REFUSED [SKIP TO A2]

SAMPLE: A1=1

A1a. Do you currently live in the home that you purchased or acquired since then?

1. Yes [SKIP TO A3]
2. No
3. (VOL): Purchased more than one home, only live in one [SKIP TO A3]
8. (VOL) DON'T KNOW

9. (VOL) REFUSED

SAMPLE: A1 = 2, 8, 9 OR A1a = 2, 8, 9

A2. And what is your current housing situation? Do you… [READ ITEMS]

1. Rent your house or apartment
2. [CAPI: HIDE PUNCH; code A2=2 if A1a=1, 3] Own your home
3. Live in someone else's house or apartment without paying rent
4. Live in some other housing arrangement (SPECIFY: _____)
5. A MILITARY SETTING (BASE, CAMP, DEPLOYMENT, OR COMBAT ZONE)
6. EDUCATIONAL INSTITUTION (RESIDENTIAL COLLEGE, DORM)
7. HOTEL/MOTEL
8. SUBSIDIZED HOUSING
9. HOMELESS LIVING SITUATION (SHELTER)
10. INSTITUTIONAL FACILITY (MENTAL HEALTH, SUBSTANCE ABUSE) [GO TO A2a]
11. CORRECTIONAL FACILITY/JAIL OR DETENTION CENTER [GO TO A2a]
98. DON'T KNOW
99. REFUSED

SAMPLE: A2 = 10, 11

[ASK IF A2 = 10 or 11]

A2a. To confirm, you currently live in a(n) [INSERT ANSWER FROM A2]. Did I get that right?

1. Yes [TERMINATE CALL. DISPO AS SCREENOUT A2]
2. No [GO BACK TO A2]

[CATI: IF A1= YES, CHECK SAMPLE INFORMATION ABOUT PREVIOUS PURCHASE.IF RESPONDENT HAS PURCHASE DATE IN SAMPLE FILE ASSIGN TO GROUP 1. IF RESPONDENT DOES NOT HAVE PURCHASE DATE IN FILE ASSIGN TO GROUP 2/NEW PURCHASER]

SAMPLE: GROUP2

[ASK IF A1 = 1, IF A1>1, SKIP TO A7]

A3. What month and year did you purchase or acquire your (first) home since you learned of this study around [REGDTM] of [REGDTY]?

[PROMPT: If you inherited or otherwise did not purchase your home, please tell us the month and year that you became the owner of the property. If you purchased more than one property since then, please think about the first one.]

Month _____ Year_____ [RANGE: 2013-2020]
[IF DK, ASK FOR BEST GUESS.] **98. (VOL) DON'T KNOW**
99. (VOL) REFUSED

SAMPLE: A1a = 2, 8, 9
[ASK IF A1a=2, 8, 9 OTHERWISE SKIP TO A3d]
A3B. Do you still own that home?

1. Yes [ASK A3c THEN SKIP TO A4]
2. No [SKIP TO A3d]
8. (VOL) DON'T KNOW [SKIP TO A3d]
9. (VOL) REFUSED [SKIP TO A3d]

SAMPLE: A3b=1
A3C. What is the current use of the property? Is it a … (READ LIST):

1. Rental property
2. Unoccupied investment property
3. Home for a relative or friend
4. Something else: Specify_____
8. (VOL) DON'T KNOW
9. (VOL) REFUSED

SAMPLE: A3b=2, 8, 9
A3D. What happened to the home you purchased or acquired on that date? (DO NOT READ LIST)

1. I sold the home
2. I lost the home through foreclosure
3. The home was damaged in a fire, flood, or some other disaster
4. Other (specify): _____
8. (VOL) DON'T KNOW [SKIP TO A5]
9. (VOL) REFUSED [SKIP TO A5]

SAMPLE: A3d = 1, 2, 3, 4
A3E.What month and year did that happen?

Month _____ Year_____ [RANGE: 2013-2020]
[IF DK, ASK FOR BEST GUESS.]
98. (VOL) DON'T KNOW
99. (VOL) REFUSED

SAMPLE: A3d=1
A4. (Source: New) [IF A3d=1, ASK,] Why did you sell the home? [READ LIST; ALLOW MULTIPLE RESPONSES]

1. I could no longer afford the home
2. I was not happy with the neighborhood
3. I wanted (or had) to relocate out of the area
4. I decided that I would rather rent
5. I wanted to purchase a bigger home
6. I wanted to purchase a smaller home
7. Other (Specify):_____
8. (VOL) DON'T KNOW
9. (VOL) REFUSED

SAMPLE: A3d=1

A4D. [CATI: IF A3d=1, ASK,] What was the sale price of the home?

1. $ _____ [INSERT PRICE]
8. (VOL) DON'T KNOW
9. (VOL) REFUSED

SAMPLE: GROUP 2

A5. [FOR GROUP 2/NEW PURCHASERS SINCE LAST SURVEY] You enrolled in the First-Time Homebuyer Study in [insert Month and Year] and you purchased your home on [insert month and year from A3]. Which of the following things contributed to your decision about the timing of your home purchase? (READ LIST. CHECK ALL THAT APPLY)

1. Needed to repair my credit before purchasing
2. Needed to save enough money before purchasing
3. Had trouble finding a home I wanted to purchase
4. Lost out on homes due to a competitive market
5. Waited to get married before purchasing
6. Waited until my lease was up on previous residence
7. Wanted to finish school
8. Needed to do more research/collect additional information
9. Unexpected situations (ex. Loss of a job, death, illness)
10. Other (specify): _____

98. (VOL) DON'T KNOW
99. (VOL) REFUSED

SAMPLE: GROUP 2

[SKIP IF A3b=2, 8, OR 9, DOES NOT CURRENTLY OWN THE RESIDENCE]

A6. Now think about your plans for the future. How many years do you think you will own the home? (Prompt: If you don't know, please give us your best guess.) READ LIST

1. Less than 1 year
2. 1 to 5 years

3. 6 to 10 years
4. 11-20 years
5. More than 20 years
8. (VOL) DON'T KNOW
9. (VOL) REFUSED

GROUP 1 AND GROUP 2 SKIP TO SECTION B.

SAMPLE: A1 = 2, 8, 9

A7. Are you still actively searching for a home to purchase?

1. Yes [SKIP TO SECTION B]
2. No
8. (VOL) DON'T KNOW [SKIP TO SECTION B]
9. (VOL) REFUSED [SKIP TO SECTION B]

[IF A7=1,8,9 ASSIGN GROUP=3; IF A7=2 ASSIGN GROUP=4

[IF RESPONDENT SELECTS 1 "YES" 8 "DON'T KNOW" OR 9 "REFUSED" THEN ASSIGN RESPONDENT TO GROUP 3/NON PURCHASER, BUT STILL LOOKING.
IF RESPONDENT SELECTS 2 "NO" THEN ASSIGN RESPONDENT TO GROUP 4/NON PURCHASER – NO LONGER LOOKING.]

SAMPLE: GROUP 4

A7a. [FOR GROUP 4] I am going to read you a list of common reasons individuals postpone their search for a home. Please let me know if any of them describe the reason you postponed your search for a home. [READ LIST, CHECK ALL THAT APPLY.]

1. Learned I could not afford to buy a home
2. Learned I needed to repair my credit first
3. Did not like the houses I could afford
4. Did not like the neighborhoods I could afford
5. The person I was planning to purchase a home with is no longer interested in purchasing a home.
6. There was a change in my (or my co purchaser's) employment situation
7. There was a change in my (or my co purchaser's) personal situation.
8. The current economic climate has made it more difficult to get a mortgage
9. The information or advice I got from a housing counseling agency influenced my decision to not to purchase at this time
10. I prefer the flexibility of renting
11. Other (Specify:_____)
98. (VOL) DON'T KNOW
99. (VOL) REFUSED

NOTE: THE REMAINDER OF THE SURVEY THE PARTICIPANTS ARE PLACED INTO ONE OF FOUR GROUPS

Group 1: Purchased before short-term followup
Group 2: Purchased after short-term followup (or purchased and did not respond to short-term survey)
Group 3: Did not purchase, but still looking
Group 4: Did not purchase and postponed search

I.2 Section B: Home and Mortgage Search

The next section asks questions about your home purchase process experiences. I am interested in your experiences, whether you recently purchased a home or have not purchased a home.

SAMPLE: ALL

B1. GROUP 1 AND GROUP 2: Did you ask any lenders for a price quote of the interest rate and other costs associated with loans that you might apply for?

GROUP 3 AND GROUP 4: Have you ever asked any lender for a price quote of the interest rate and other costs associated with loans that you might apply for?

1. YES
2. NO [SKIP TO B3]
8. (VOL) DON'T KNOW [SKIP TO B3]
9. (VOL) REFUSED [SKIP TO B3]

SAMPLE: B1 = 1

B1a. Did you get price quotes from more than one lender?

1. YES; How many # _____
2. NO
8. (VOL) DON'T KNOW
9. (VOL) REFUSED

[IF DK, ASK FOR BEST GUESS.]

SAMPLE: GROUP 1 AND GROUP 2

B3. GROUP 1 AND GROUP 2: A home inspection is an examination of the physical structures and systems of a house, to identify any problems or needed repairs. Before you purchased your home, did you have the home inspected?

1. YES
2. NO
8. (VOL) DON'T KNOW
9. (VOL) REFUSED

SAMPLE: ALL

B4. GROUP 1 AND GROUP 2: In general, during the home purchase process, how confident were you that you could find the information you needed about the home purchase process? [READ LIST]

GROUP 3 AND GROUP 4: In general, during the home purchase process, how confident are you that you can find the information you need about the home purchase process? [READ LIST]

1. Very Confident
2. Confident
3. Somewhat Confident
4. Not Confident at All
8. (VOL) DON'T KNOW
9. (VOL) REFUSED

SAMPLE: ALL

B5. GROUP 1 AND GROUP 2: In general, how satisfied were you with the home search and purchase process? [READ LIST]
GROUP 3 AND GROUP 4: In general, how satisfied are you with the home search process? [READ LIST]

1. Very Satisfied
2. Somewhat Satisfied
3. Somewhat Dissatisfied
4. Very Dissatisfied
8. (VOL) DON'T KNOW
9. (VOL) REFUSED

SAMPLE: ALL

B6. (Source: New Question)

[GROUP 1 AND GROUP 2] Overall, how satisfied are you with your decision to purchase a home? [READ RESPONSES]

[GROUP 3 AND GROUP 4: Overall, how satisfied are you with your decision to not purchase a home? [READ RESPONSES]

1. Very satisfied
2. Somewhat satisfied
3. Somewhat dissatisfied
4. Very dissatisfied
8. (VOL) DON'T KNOW
9. (VOL) REFUSED

SAMPLE: ALL

B7. Source: 2017 America at Home Survey
GROUP 1 AND GROUP 2: What did you find to be the greatest obstacle or obstacles to buying a home?
GROUP 3 AND GROUP 4: What have you found to be the greatest obstacle or obstacles to buying a home?

[KEEP OPEN ENDED.DO NOT READ LIST. DO NOT PROBE FOR MULTIPLES BUT ACCEPT AS GIVEN. INTERVIEWER TO CHECK COMMON RESPONSES.]

1. LACK OF AFFORDABLE HOUSING.
2. WEAK OR BAD CREDIT.
3. INSUFFICIENT SAVINGS.
4. LACK OF A DOWN PAYMENT
5. BELIEF YOU CAN'T AFFORD YOUR PREFERRED NEIGHBORHOOD
6. CONCERNS ABOUT MAINTENANCE/REPAIR COSTS
7. LACK OF JOB SECURITY
8. BELIEF A HOME IS NOT A GOOD INVESTMENT RIGHT NOW
9. STUDENT LOAN DEBT
10. OTHER (SPECIFY):_____
11. NO OBSTACLES

98. (VOL) DON'T KNOW
99. (VOL) REFUSED

Now I'd like to ask you some questions about the place and the neighborhood where you are currently living.

SAMPLE: ALL

B8. (Source: Adapted from MTO Survey) Overall, how would you describe the condition of the home you currently live in? [READ RESPONSES]

1. Excellent
2. Good
3. Fair
4. Poor

8. (VOL) DON'T KNOW
9. (VOL) REFUSED

SAMPLE: ALL

B9. (Source: Adapted from MTO Survey) Which of the following statements best describes how satisfied you are with your neighborhood? [READ RESPONSES]

1. Very satisfied
2. Somewhat satisfied
3. Somewhat dissatisfied
4. Very dissatisfied

8. (VOL) DON'T KNOW
9. (VOL) REFUSED

I.3 Section C: Home and Mortgage Features

[GROUP 2 SHOULD BE ASKED THIS SECTION. GROUP 1 SHOULD SKIP TO C13. GROUP 3 AND GROUP 4 SHOULD SKIP TO SECTION D.]

SAMPLE: GROUP 2

In this section, I have a few questions about the features of your home and mortgage, even if you no longer own the residence. It will be very helpful to have your Closing Disclosure or Settlement Statement on hand. You probably received one of these documents a few days before closing or when you signed the settlement documents. The Settlement Statement is also called a HUD-1. It is okay if you don't have both documents—most people only get one or the other. Each document is about three to five pages long and should say either 'Closing Disclosure' or 'Settlement Statement' at the top of the first page.

C1. Do you have either your Settlement Statement (also known as your HUD-1 form or your Closing Disclosure on hand?

1. Yes, Settlement Statement [PROCEED WITH SURVEY]
2. Yes, Closing Disclosure [PROCEED WITH SURVEY]
3. YES BOTH [PROCEED WITH SURVEY]
4. No [INTERVIEWER ASK: Do you want to go and get the form? IF YES, INTERVIEWER WAIT UNTIL RESPONENT COMES BACK. IF NO, PROCEED]
8. (VOL) DON'T KNOW
9. (VOL) REFUSED

SAMPLE: GROUP 2

C2. What was the purchase price of the home you purchased? That is, what was the final amount you paid for this home? [IF C1=1: This can be found on Line 101, labeled Contract Sales Price on your Settlement Statement. IF C1=2 or 3: This can be found on the top left hand corner on page one of the Closing Disclosure under the Closing Information heading. It is labeled as Sale Price.] [Probe: This price does not include closing costs or any subsidy you received from the seller.]

1. $_____ [RANGE: 1-999,999+]
8. (VOL) DON'T KNOW
9. (VOL) REFUSED

SAMPLE: GROUP 2

C3. For the next question, please think only about the amount of your down payment. How much was the down payment amount?

1. $_____ [RANGE: 0-999,999+]
8. (VOL) DON'T KNOW
9. (VOL) REFUSED

SAMPLE: GROUP 2

C4. Not including any assistance from family or friends, did you receive any down payment assistance, grants, or forgivable loans that you may not be obligated to pay back, such as loans or grants from a city or county government agency, a community organization, or a local housing agency? [INTERVIEW: IF R MENTIONS FUNDS RECEIVED FROM HUD PROGRAMS, "HOME" PROGRAM, OR FAMILY SELF SUFFICIENCY PROGRAM, CODE RESPONSE AS YES.]

1. YES
2. NO
8. (VOL) DON'T KNOW
9. (VOL) REFUSED

SAMPLE: GROUP 2

The next set of questions asks about how you financed the purchase of your home. This could include a mortgage loan which is a loan that you must repay. Please do not include any down payment assistance, grants, or forgivable loans that you have previously described.

C5. How did you finance the acquisition of this home? (READ LIST, CHECK ALL THAT APPLY)

1. Took on one new mortgage [SKIP TO C6]
2. Took on two or more new mortgages [GO TO C6]
3. Assumed one or more mortgages already on the property [SKIP TO C6]
4. Borrowed using assets other than this property as collateral [SKIP TO D1]
5. Gift or loan from friends or relatives [SKIP TO D1]
6. Paid all cash – no borrowing [SKIP TO D1]
7. Inherited the home [SKIP TO D1]
8. Other (specify) [SKIP TO D1]
98. (VOL) DON'T KNOW [SKIP TO D1]
99. (VOL) REFUSED [SKIP TO D1]

[CATI: NOTE ON C5: SOME COMBINATIONS ARE MUTUALLY EXCLUSIVE]:
List of unallowed combos: 1&2 and 6 with 1,2,3,4

SAMPLE: C5=1, 2, 3

[If C5=2]: The next set of questions focus on your first mortgage.

C6. **[IF (A1a=1 OR 3) OR (A3b=1)]** How much is the loan amount for your first mortgage on this home?

[IF A3b=2, 8, OR 9] How much was the loan amount for your first mortgage on this home?

1. $_____ [RANGE: 1-999,999+]
8. (VOL) DON'T KNOW
9. (VOL) REFUSED

(IF R SAYS DK, NOT SURE, PROBE: Think about the purchase price of the home and the amount of your total down payment. *If you have one mortgage,* the remaining amount after the down payment would be the mortgage, or loan amount you needed, to purchase this home)

SAMPLE: C5=1, 2, 3

C7. **[IF (A1a=1 OR 3) OR (A3b=1)]** What is the initial annual interest rate on this mortgage? [IF C1=1: This can be found on your Settlement Statement in The Loan Terms box on about page 3 that has a line that says 'Your initial interest rate is …' IF C1=2 or 3: This can be found at the top half of the Closing Disclosure in the Loan Terms section. It is labeled Interest Rate.]

[IF A3b=2, 8, OR 9] What was the initial annual interest rate on this mortgage? [IF C1=1: This can be found on your Settlement Statement in The Loan Terms box on about page 3 that has a line that says 'Your initial interest rate is …' IF C1=2 or 3: This can be found at the top half of the Closing Disclosure in the Loan Terms section. It is labeled Interest Rate.]

1. _____% Annual Interest Rate [RANGE: 0. 00-15. 00%]
8. (VOL) DON'T KNOW
9. (VOL) REFUSED

SAMPLE: C5=1, 2, 3

C8. **[IF (A1a=1 OR 3) OR (A3b=1)]** Is your mortgage a standard, fixed-rate mortgage or adjustable-rate mortgage? Or is it some other type of mortgage? [IF C1=2 or 3: This can be found at the top of page one of the Closing Disclosure in the right side of the page under the heading Loan Information. It is labeled Product.]

[IF A3b=2, 8, OR 9] Was your mortgage a standard, fixed-rate mortgage or adjustable-rate mortgage? Or was it some other type of mortgage? [IF C1=2 or 3: This can be found at the top of page one of the Closing Disclosure in the right side of the page under the heading Loan Information. It is labeled Product.]

1. Fixed rate mortgage
2. Adjustable rate mortgage (ARM)
3. Or some other type of mortgage
   (Specify with any notes listed on the SETTLEMENT STATMENT:_____)
8. (VOL) DON'T KNOW
9. (VOL) REFUSED

SAMPLE: C8=2

[CATI/CAPI: ASK IF C8=2 AND **[IF (A1a=1 OR 3) OR (A3b=1)]**
[SKIP IF A3b=2, 8, OR 9, DOES NOT CURRENTLY OWN THE RESIDENCE]
C8a. When will the interest rate change, or adjust, on this mortgage?

1. 5 years after the loan was made
2. 7 years after the loan was made
3. Or after some other number of years (Specify: _____YEARS)
8. (VOL) DON'T KNOW
9. (VOL) REFUSED

SAMPLE: C5=1, 2, 3

C10. **[IF (A1a=1 OR 3) OR (A3b=1)]** What is the term of the mortgage? That is, what is the total number of months or years over which mortgage payments are to be made? [IF C1=1: This can be found on your Settlement Statement in The Loan Terms box on about page 3 that has a line that says 'Your loan term is … IF C1=2 or 3: This can be found at the top of page one of the Closing Disclosure in the right side of the page under the heading Loan Information. It is labeled Loan Term.]

[IF A3b=2, 8, OR 9] What was the term of the mortgage? That is, what was the total number of months or years over which mortgage payments were to be made? [IF C1=1: This can be found on your Settlement Statement in The Loan Terms box on about page 3 that has a line that says 'Your loan term is … IF C1=2 or 3: This can be found at the top of page one of the Closing Disclosure in the right side of the page under the heading Loan Information. It is labeled Loan Term.]

1. 30 years or 360 months
2. 25 years or 300 months
3. 20 years or 240 months
4. 15 years or 180 months
5. 10 years or 120 months
6. Or some other number of months (Specify: _____MONTHS)
8. (VOL) DON'T KNOW
9. (VOL) REFUSED

SAMPLE: C5=1, 2, 3

C11. **[IF (A1a=1 OR 3) OR (A3b=1)]** Do you have mortgage insurance? This insurance is sometimes called PMI or MIP for FHA loans, and may have been required by the bank or lender, to protect them against possible nonpayment. Answer yes if you have a loan from FHA, VA, FMHA, or RHS. [This is different from insurance on the home itself.] [IF C1=1: This can be found on your Settlement Statement in The Loan Terms box on about page 3 that has a line 'Your initial monthly amount owed for principal, interest, and any mortgage insurance is. ' IF C1=2 or 3: This can be found around the middle of page one on the Closing Disclosure under the heading Projected Payments. If you have mortgage insurance, there will be a dollar amount listed for that heading.]

[IF A3b=2, 8, OR 9] Did you have mortgage insurance? This insurance is sometimes called PMI or MIP for FHA loans, and may have been required by the bank or lender, to protect them against possible nonpayment. Answer yes if you had a loan from FHA, VA, FMHA, or RHS. [This is different from insurance on the home itself.] [IF C1=1: This can be found on your Settlement Statement in The Loan Terms box on about page 3 that has a line 'Your initial monthly amount owed for principal, interest, and any mortgage insurance is. ' IF C1=2 or 3: This can be found around the middle of page one on the Closing Disclosure under the heading Projected Payments. If you have mortgage insurance, there will be a dollar amount listed for that heading.]

1. Yes
2. No [GO TO C12]
8. (VOL) DON'T KNOW [GO TO C12]
9. (VOL) REFUSED [GO TO C12]

SAMPLE: C11=1

C11a. **[IF (A1a=1 OR 3) OR (A3b=1)]** What type of mortgage insurance do you have? Do you have mortgage insurance from… (READ LIST)

[IF A3b=2, 8, OR 9] What type of mortgage did you have? Did you have mortgage insurance from…

1. A private insurance company, such as Mortgage Guarantee Insurance (MGIC) (Conventional Insured)
2. Federal Housing Administration (FHA)
3. Farmers Home Administration (FMHA), or USDA/Rural Housing (RHS)
4. Veterans Affairs (VA)
5. Mortgage insurance from a State agency for first-time homebuyers
6. Or some other type of mortgage insurance (Specify: _____)
8. (VOL) DON'T KNOW
9. (VOL) REFUSED

SAMPLE: C5=2

C12. [IF C5=2; THEN ASK, OTHERWISE SKIP] Next, I'd like to focus on your second mortgage loan. Can you tell me how the money was used? [CHECK ALL THAT APPLY]

1. Pay off or pay down credit cards or other debt
2. Make a home improvement or repair
3. Pay for appliances, furniture, or other home furnishings
4. Cover a portion of the down payment
5. Other. Specify_____
8. (VOL) DON'T KNOW
9. (VOL) REFUSED

IF GROUP=1: In this section, I have a few questions about your mortgage. If you no longer own the home, please think about the time you had your mortgage.

SAMPLE: (GROUP 1 AND HAS A MORTGAGE LOAN BASED ON SHORT-TERM FOLLOW-UP SURVEY) OR (C5 = 1, 2, 3)
C13: (Source: Adapted from NSMO Survey) Overall, how satisfied are you that the mortgage(s) you got was (were) the one(s) with the best terms to fit your needs? (READ LIST)

1. Very Satisfied
2. Somewhat Satisfied
3. Somewhat Dissatisfied
4. Very Dissatisfied
8. (VOL) DON'T KNOW
9. (VOL) REFUSED

SAMPLE: (GROUP 1 AND HAS A MORTGAGE LOAN BASED ON SHORT-TERM FOLLOW-UP SURVEY) OR (C5 = 1, 2, 3)
C14: (Source: New) Overall, how satisfied were you with the process of obtaining a mortgage? (READ LIST)

1. Very Satisfied
2. Somewhat Satisfied
3. Somewhat Dissatisfied
4. Very Dissatisfied
8. (VOL) DON'T KNOW
9. (VOL) REFUSED

I.4 Section D: Mortgage Performance

[GROUP 3 AND GROUP 4 SHOULD SKIP TO D15]
The next set of questions asks about your experiences since you purchased the home.

SAMPLE: GROUP 1 AND GROUP 2
D1. **[IF (A1a=1 OR 3) OR (A3b=1)]** Since you purchased the home in [GROUP1: S_PURCHMM / S_PURCHMY GROUP2: MM/YY Answer from A3], have you borrowed against your home equity, for example by using a home equity line of credit (HELOC), a home equity loan, or a second or third mortgage? Do not include any second or third mortgages that you used to purchase the home and have already told us about.

[IF A3b=2, 8, OR 9] While you had the home you purchased in [GROUP1: S_PURCHMM / S_PURCHMY GROUP2: MM/YY Answer from A3], did you borrow against your home equity, for example by using a home equity line of credit (HELOC), a home equity loan, or a second or third mortgage? Do not include any second or third mortgages that you used to purchase the home and have already told us about.

1. Yes
2. No [SKIP TO D3]
8. (VOL) DON'T KNOW [SKIP TO D3]
9. (VOL) REFUSED [SKIP TO D3]

SAMPLE: D1 = 1
D2. How did you use the money from the HELOC, home equity loan, or second or third mortgage? Did you use it to… [DO NOT READ LIST. CHECK ALL THAT APPLY]

1. PAY DOWN OR PAY OFF CREDIT CARDS
2. PAY DOWN OR PAY OFF STUDENT LOAN DEBT
3. PAY DOWN OR PAY OFF OTHER DEBT
4. MAKE A HOME IMPROVEMENT OR REPAIR
5. PAY FOR APPLIANCES, FURNITURE, OR OTHER HOME FURNISHINGS
6. PURCHASE OR LEASE A VEHICLE
7. PAY FOR EDUCATION FOR YOURSELF OR A CHILD
8. PAY DOWN OR PAY OFF MEDICAL COSTS
9. OTHER: SPECIFY:_____
98. (VOL) DON'T KNOW
99. (VOL) REFUSED

SAMPLE: (GROUP 1 AND HAS A MORTGAGE LOAN BASED ON SHORT-TERM FOLLOW-UP SURVEY) OR (C5 = 1, 2, 3)
D3. (Source: New) **[IF (A1a=1 OR 3) OR (A3b=1)]** Since purchasing your home, have you paid any additional principal or money towards your mortgage loan balance beyond what was required in your payment?

[IF A3b=2, 8, OR 9] While you had the home/mortgage, did you pay any additional principal or money towards the mortgage loan balance beyond what was required in your payment?

1. Yes
2. No [SKIP TO D7]
8. (VOL) DON'T KNOW [SKIP TO D7]
9. (VOL) REFUSED [SKIP TO D7]

SAMPLE: D3=1
[ASK IF D3=1 AND [(A1a=1 OR 3) OR (A3b=1)]]
[SKIP IF A3b=2, 8, OR 9, DOES NOT CURRENTLY OWN THE RESIDENCE]
D3a. (Source: New) In the past 12 months, how much additional principal or money beyond what is required in your payment have you paid in total? [If you make payments on a monthly, quarterly, bi-annual, or annual basis we can help convert that to the amount paid in the past 12 months.]

1. PER MONTH: $_____
2. PER QUARTER: $_____
3. BI-ANNUAL/TWICE A YEAR: $_____
4. ANNUAL/ONCE PER YEAR: $_____
8. DON'T KNOW
9. REFUSED

SAMPLE: (GROUP 1 AND HAS A MORTGAGE LOAN BASED ON SHORT-TERM FOLLOW-UP SURVEY) OR (C5 = 1, 2, 3) OR (D1 = 1)

The next set of questions asks about your experiences with all of the mortgage loans that we have talked about to this point, including loans you used to purchase the home and any home equity loans or lines of credit that you may have taken out since.

[SHOW IF A3b=2, 8, OR 9] *If you no longer own the home, please consider the time in which you did own the home and had the mortgage loan(s).*

D7. **[IF (A1a=1 OR 3) OR (A3b=1)]** Since you purchased the home, have you refinanced or made any modifications to your mortgage loan?
[IF C5=2] Since you purchased the home, have you refinanced or made any modifications to any of the mortgages on your home?

[IF A3b=2, 8, OR 9] While you owned the home, did you refinance or make any modifications to the mortgage loan?

[IF C5=2] While you owned the home, did you refinance or make any modifications to any of the mortgage loans?

1. Yes
2. No [SKIP TO D8]
8. (VOL) DON'T KNOW [SKIP TO D8]
9. (VOL) REFUSED [SKIP TO D8]

SAMPLE: D7=1

D7C. People refinance for different reasons. Please tell me about your reasons for refinancing? [READ LIST. CHECK ALL THAT APPLY]

1. Reduce your monthly payment
2. Shorten the number of years until your loan is paid off
3. To consolidate your debt
4. To take out home equity to pay for a housing-related expense (home improvement, home repair, etc.)
6. To take out home equity to pay for a non-housing-related expense (medical expense, educational expense, etc.)
7. To avoid paying mortgage insurance

8. To avoid a change in interest rate on your original adjustable-rate mortgage
9. To avoid foreclosure or defaulting on your loan or mortgage
10. Other. Specify_____
98. (VOL) DON'T KNOW
99. (VOL) REFUSED

SAMPLE: D7=1

D7D. Beyond the balance of the original mortgage, how much additional money did you borrow during the refinance?

$_____ [RANGE: 0-999,999+]
8. (VOL) DON'T KNOW [SKIP TO D8]
9. (VOL) REFUSED [SKIP TO D8]

SAMPLE: Response to D7d > $0

D7E. Can you tell me how the money was used? [DO NOT READ LIST. CHECK ALL THAT APPLY]

1. PAY DOWN OR PAY OFF CREDIT CARDS
2. PAY DOWN OR PAY OFF STUDENT LOAN DEBT
3. PAY DOWN OR PAY OFF OTHER DEBT
4. MAKE A HOME IMPROVEMENT OR REPAIR
5. PAY FOR APPLIANCES, FURNITURE, OR OTHER HOME FURNISHINGS
6. PURCHASE OR LEASE A VEHICLE
7. PAY FOR EDUCATION FOR YOURSELF OR A CHILD
8. PAY DOWN OR PAY OFF MEDICAL COSTS
9. OTHER. SPECIFY_____
98. (VOL) DON'T KNOW
99. (VOL) REFUSED

SAMPLE: (GROUP 1 AND HAS A MORTGAGE LOAN BASED ON SHORT-TERM FOLLOW-UP SURVEY) OR (C5 = 1, 2, 3) OR (D1 = 1)

[IF (A1a=1 OR 3) OR (A3b=1)] The next set of questions asks about the payments that you have made on the loan(s) that are secured by your house (i.e., mortgages and home equity lines). Please think about the payments you have made on all of the mortgage loans and home equity lines of credit that we have discussed for this home.

[IF A3b=2, 8, OR 9] The next set of questions asks about the payments that you made on the loan(s) that were secured by your house (i.e., mortgages and home equity lines). Please think about the payments you made on all of the mortgage loans and home equity lines of credit that we have discussed for this home.

D8. **[IF (A1a=1 OR 3) OR (A3b=1)]** Sometimes people have difficulty making their mortgage payments. Since purchasing the home, have you ever missed a monthly payment on your mortgage or home equity line of credit?

[IF A3b=2, 8, OR 9] Sometimes people have difficulty making their mortgage payments. While you owned the home, did you ever miss a monthly payment on your mortgage or home equity line of credit?

1. YES
2. NO [SKIP TO D13]
8. (VOL) DON'T KNOW [SKIP TO D9]
9. (VOL) REFUSED [SKIP TO D9]

SAMPLE: D8=1

D8a. **[IF (A1a=1 OR 3) OR (A3b=1)]** What is the longest amount of time that you have been behind on your mortgage or home equity line? If you have been behind more than one time, please respond for the time you were the furthest behind.

[IF A3b=2, 8, OR 9] What was the longest amount of time that you had been behind on your mortgage or home equity line? If you had been behind more than one time, please respond for the time you were the furthest behind.

1. 0-30 days
2. 31-60 days
3. 61-90 days
4. 91 days or more
8. (VOL) DON'T KNOW
9. (VOL) REFUSED

SAMPLE: D8=1
[ASK IF D8=1 AND [(A1a=1 OR 3) OR (A3b=1)]]
[SKIP IF A3b=2, 8, OR 9, DOES NOT CURRENTLY OWN THE RESIDENCE]

D8B. Are you currently behind on your mortgage?

1. YES [SKIP TO D8c]
2. NO
8. (VOL) DON'T KNOW [SKIP TO D9]
9. (VOL) REFUSED [SKIP TO D9]

SAMPLE: D8b=2
[ASK IF D8b=2 AND [(A1a=1 OR 3) OR (A3b=1)]]

[SKIP IF A3b=2, 8, OR 9, DOES NOT CURRENTLY OWN THE RESIDENCE]D8b1. (Source: New) How were you able to catch up on your missed mortgage payment(s)? (READ LIST AND CHECK ALL THAT APPLY)

1. Borrowed money from friends or family [SKIP TO D9]

2. Used your savings [SKIP TO D9]
3. Borrowed from a retirement account [SKIP TO D9]
4. Produced extra income through picking up extra job, extra shifts, etc. [SKIP TO D9]
5. Put off paying other debts [SKIP TO D9]
6. Worked with your lender to make up the payments [SKIP TO D9]
7. Other (please specify) _____ [SKIP TO D9]
8. (VOL) DON'T KNOW [SKIP TO D9]
9. (VOL)REFUSED [SKIP TO D9]

SAMPLE: D8b=1
[ASK IF D8b=1 AND [(A1a=1 OR 3) OR (A3b=1)]]
[SKIP IF A3b=2, 8, OR 9, DOES NOT CURRENTLY OWN THE RESIDENCE]

D8C. How behind are you currently on mortgage or loan payments?

1. 0-30 days
2. 31-60 days
3. 61-90 days
4. 91 days or more
8. (VOL) DON'T KNOW
9. (VOL) REFUSED

SAMPLE: D8b=1
[ASK IF D8b=1 AND [(A1a=1 OR 3) OR (A3b=1)]]
[SKIP IF A3b=2, 8, OR 9, DOES NOT CURRENTLY OWN THE RESIDENCE]

D8c1. (Source: New) What has prevented you from catching up on your missed mortgage payments? [PROBE]

_____

_____

8. (VOL) DON'T KNOW
9. (VOL) REFUSED

SAMPLE: D8=1, 8, 9

D9. **[IF (A1a=1 OR 3) OR (A3b=1)]** On your current home, have you received a "notice of default" or "notice of intent to foreclose" from your bank or lender?

[IF A3b=2, 8, OR 9] While you had the home you purchased in [GROUP1: S_PURCHMM / S_PURCHMY GROUP2: MM/YY Answer from A3], did you ever receive a "notice of default" or "notice of intent to foreclose" from your bank or lender?

1. YES
2. NO [IF D8 = 8 or 9; SKIP TO D13, otherwise proceed to D10]
8. (VOL) DON'T KNOW [IF D8 = 8 OR 9; SKIP TO D13, otherwise proceed to D10]

9. (VOL) REFUSED [IF D8 = 8 or 9; SKIP TO D13, otherwise proceed to D10]

SAMPLE: D9=1

D9a. Did you lose your home to foreclosure?

1. YES, when_____ [RANGE: 2013-2019]
2. NO
8. (VOL) DON'T KNOW
9. (VOL) REFUSED

SAMPLE: D8=1 OR D9=1

D10. What caused you to get behind on your mortgage? [DO NOT READ LIST, CHECK ALL THAT APPLY.]

1. I FORGOT TO MAKE THE PAYMENT.
2. THE CHECK GOT LOST IN THE MAIL OR AN ELECTRONIC PROCESSING ERROR.
3. MY MORTGAGE PAYMENTS INCREASED.
4. MY HOMEOWNERS' INSURANCE PREMIUM WENT UP.
5. MY PROPERTY TAXES WENT UP.
6. I INCURRED UNEXPECTED HOME REPAIR EXPENSES.
7. I TOOK ON TOO MUCH CREDIT CARD DEBT OR OTHER DEBTS.
8. I INCURRED UNEXPECTED CAR EXPENSES.
9. I HAD A BUSINESS VENTURE THAT FAILED.
10. I LOST MY JOB.
11. MY INCOME WAS REDUCED (JOB LOSS OR REDUCTION IN HOURS FOR ME OR CO-BORROWER).
12. I WAS FINANCIALLY AFFECTED BY THE GOVERNMENT SHUTDOWN.
13. I OR SOMEONE IN MY FAMILY INCURRED UNEXPECTED MEDICAL COSTS.
14. I HAD A DIVORCE OR SEPARATION.
15. I HAD A DEATH IN MY FAMILY.
16. OTHER (SPECIFY:_____)

98 . (VOL) DON'T KNOW

99 . (VOL) REFUSED

SAMPLE: D8=1 OR D9=1

D11. Did you contact your lender for assistance regarding your missed payment(s)?

1. YES
2. NO [SKIP TO D12]
8. (VOL) DON'T KNOW [SKIP TO D12]
9. (VOL) REFUSED [SKIP TO D12]

SAMPLE: D11=1

D11a. When did you first contact your lender? [READ LIST]

1. After you received the foreclosure notice
2. After you missed a payment
3. Before you missed a payment
8. (VOL) DON'T KNOW
9. (VOL) REFUSED

SAMPLE: D8=1 OR d9=1

D12. Did you contact a housing counseling agency, consumer credit counseling agency, or other non-profit organization for assistance regarding your missed payment(s)?

1. YES
2. NO [SKIP TO D15]
8. (VOL) DON'T KNOW [SKIP TO D15]
9. (VOL) REFUSED [SKIP TO D15]

SAMPLE: D12=1

D12a. When did you first contact the counseling agency? [READ LIST]

1. After you received the foreclosure notice
2. After you missed a payment
3. Before you missed a payment
8. (VOL) DON'T KNOW
9. (VOL) REFUSED

SAMPLE: D8=2 OR (D8= 8 or 9 AND D9 = 2, 8, or 9)

D13. Now imagine that you have encountered financial difficulty and are about to miss a loan payment. Would you contact your lender for assistance with your missed payment(s)?

1. YES
2. NO [SKIP TO D14]
8. (VOL) DON'T KNOW [SKIP TO D14]
9. (VOL) REFUSED [SKIP TO D14]

SAMPLE: D13 = 1

D13a. When would you first contact your lender? [READ LIST]

1. After you received the foreclosure notice
2. After you missed a payment
3. Before you missed a payment
8. (VOL) DON'T KNOW
9. (VOL) REFUSED

SAMPLE: D8=2 OR (D8= 8 or 9 AND D9 = 2, 8, or 9)
D14. Would you contact a housing counseling agency, consumer credit counseling agency, or other non-profit organization for assistance with your missed payment(s)?

1. YES
2. NO [SKIP TO D15]
8. (VOL) DON'T KNOW [SKIP TO D15]
9. (VOL) REFUSED [SKIP TO D15]

SAMPLE: D14=1

D14a. When would you first contact the counseling agency? [READ LIST]

1. After you received the foreclosure notice
2. After you missed a payment
3. Before you missed a payment
8. (VOL) DON'T KNOW
9. (VOL) REFUSED

SAMPLE: ALL
D15. (Source: New) Thinking just about the PAST 6 months, how **comfortable** were you in making your housing payments? (READ LIST)

1. Very Comfortable
2. Comfortable
3. Somewhat Comfortable
4. Not Comfortable at all
8. (VOL) DON'T KNOW
9. (VOL) REFUSED

SAMPLE: ALL
D16. (Source: New) Now, thinking about the NEXT 6 months, how **confident** are you that you can make your housing payments? (READ LIST)

1. Very Confident
2. Confident
3. Somewhat Confident
4. Not Confident at All
8. (VOL) DON'T KNOW
9. (VOL) REFUSED

I.5 Section E: Income and Financial Management

[ASK ALL RESPONDENTS THIS SECTION.]

Next, I would like to ask you a few questions about your financial experiences. Your experiences are very important to the study. Please remember that all of your answers will be kept confidential. You can also choose not to answer a question, though we hope you won't.

SAMPLE: ALL

E1. For each of the following statements, please select the response that best indicates how well, in general, the statement describes you or your current situation. Please use a 5-point scale where "5" indicates that the statement "Describes you completely" and "1" indicates that the statement "Does not describe you at all." You can select any number between 1 and 5 for your response. [INCLUDE 8. (VOL)DK and 9. (VOL) REF as answer options.]

[CATI: RANDOMIZE]

E1a. Because of my money situation, I feel like I will never have the things I want in life
E1B. I am just getting by financially
E1C. I am concerned that the money I have or will save won't last

SAMPLE: ALL

E2. For this next set of statements, we are interested in learning how often you would say that each statement applies to you and/or your situation. Please select the response that best indicates how often you would be able to make this statement about yourself using a 5-point scale where "5" indicates "Always" and "1" indicates "Never." You can select any number between 1 and 5 for your response. [INCLUDE 8. (VOL)DK and 9. (VOL) REF as answer options.]

[CATI: RANDOMIZE]

E2a. I have money left over at the end of the month
E2B. My finances control my life

SAMPLE: ALL

E3. For each of the following statements, please tell me whether you strongly disagree, disagree, agree, or strongly agree with the statement. [CATI: RANDOMIZE]

SAMPLE: ALL

E3a. I occasionally don't have enough money to cover all of my bills at the end of the month. Do you… (READ LIST)

1. Strongly Disagree
2. Disagree
3. Agree
4. Strongly Agree
8. (VOL) DON'T KNOW
9. (VOL) REFUSED

SAMPLE: ALL

E3B. I know how to correct inaccurate information in my credit report. Do you… (READ LIST)

1. Strongly Disagree
2. Disagree
3. Agree
4. Strongly Agree
8. (VOL) DON'T KNOW
9. (VOL) REFUSED

SAMPLE: ALL

E3C. I usually have enough savings set aside to cover three months of expenses. (READ LIST)

1. Strongly Disagree
2. Disagree
3. Agree
4. Strongly Agree
8. (VOL) DON'T KNOW
9. (VOL) REFUSED

SAMPLE: ALL

E4. For each of the following statements, please select the response that best indicates how well, in general, the statement describes you. Please use a 5-point scale where "5" indicates that the statement "Describes you completely" and "1" indicates that the statement "Does not describe you at all." You can select any number between 1 and 5 for your response. [INCLUDE 8. (VOL)DK and 9. (VOL) REF as answer options.]

[CATI: RANDOMIZE]

E4a. I know how to get myself to follow through on my financial intentions
E4B.I know how to make complex financial decisions
E4C.I know how to make myself save

SAMPLE: ALL

E5. For this next set of statements, we are interested in learning how often this statement applies to you or your situation currently. Please select the response that best indicates how often you would be able to make this statement about yourself using a 5-point scale where "5" indicates "Always" and "1" indicates "Never." You can select any number between 1 and 5 for your response. [INCLUDE 8. (VOL)DK and 9. (VOL) REF as answer options.]

[CATI: RANDOMIZE]

E5a. I know when I do not have enough information to make a good decision involving my money

E5B.I struggle to understand financial information

Next, I would like to ask you a few questions about different sources of income you may receive.

SAMPLE: ALL

E6. Thinking only about your own income, what is the total amount of income you received in the past 12 months? Please tell me the total amount before any taxes or deductions are removed. We are interested in your income from all sources, including income from wages or salaries, investment income or rental income, social security, unemployment income, child support payments and alimony, direct financial support from friends or family to help pay expenses, and any other sources of income.

[IF R IS UNSURE PROMPT: Your best estimate is fine.]

1. GAVE RESPONSE $ _____ [RANGE: 0-999,999]
8. (VOL) DON'T KNOW [Skip to E6b]
9. (VOL) REFUSED [Skip to E7]

SAMPLE: ALL

E6a. To confirm, you said _____. Did I get that right?

1. YES [Skip to E7]
2. NO [GO BACK TO E6]

SAMPLE: E6 = 8

E6B. If you are unsure of your total income received in the past 12 months, was it (READ LIST)…

1. Less than $10,000
2. $10,000 to less than $25,000
3. $25,000 to less than $40,000
4. $40,000 to less than $55,000
5. $55,000 to less than $70,000
6. $70,000 to less than $85,000
7. $85,000 to less than $100,000
8. $100,000 or greater
98. (VOL) DON'T KNOW
99. (VOL) REFUSED

SAMPLE: GROUP 1, 2, AND 3

E7. **GROUP 1 and GROUP 2**: Now please think about the total income of you and your mortgage co-borrowers, even if you no longer own the home. We refer to "co-borrowers" as those individuals who applied for your home loan with you and are responsible for your mortgage payments with you. They may or may not currently live with you. What is the total amount of income that you and any co-borrowers received in the last 12 months?

GROUP 3: Now please think about the total income you will use to qualify for a mortgage. If you expect to have co-borrowers on your loan, think about the total for yourself and the co-borrowers. We refer to "co-borrowers" as people who will apply for a mortgage with you and who will be responsible for your mortgage payments with you. They may or may not currently live with you. What is the total amount of income that you and any potential co-borrowers received in the last 12 months?

[IF R IS UNSURE PROMPT: Your best estimate is fine.]

1. GAVE RESPONSE $ _____ [RANGE: 0-999,999]
6. (VOL) No Co-borrower/Income is the same as individual income [Skip to E8].
8. (VOL) DON'T KNOW [Skip to E7b]
9. (VOL) REFUSED [Skip to E8]

SAMPLE: E7a = 1 (GAVE RESPONSE)

E7a. To confirm, you said _____. Did I get that right?

1. YES [Skip to E8]
2. NO [GO BACK TO E7]

IF (E6=1 AND E7=1) CHECK that E6<E7. Otherwise: "I am sorry but I may have made a mistake earlier when I asked for your income so just to confirm I have the correct information…" re-ask E6. (Ask once; if still doesn't match, proceed)

SAMPLE: E7 = 8

E7B. If you are unsure of the total income that you and any co-borrowers received in the last 12 months, was it (READ LIST)

1. Less than $10,000
2. $10,000 to less than $25,000
3. $25,000 to less than $40,000
4. $40,000 to less than $55,000
5. $55,000 to less than $70,000
6. $70,000 to less than $85,000
7. $85,000 to less than $100,000
8. $100,000 or greater
98. (VOL) DON'T KNOW
99. (VOL) REFUSED

SAMPLE: ALL

Now please think about your total household income.

SAMPLE: ALL

E8. GROUPS 1, 2, and 3: Is your total household income the same as the total amount of income that you (and any co-borrowers) received in the past 12 months? [IF E7=6 do not ask (and any co-borrowers)]
GROUP 4: Is your total household income the same as the individual income you received in the past 12 months?

1. YES [SKIP TO E9]
2. NO
8. (VOL) DON'T KNOW
9. (VOL) REFUSED [SKIP TO E9]

SAMPLE: E8 = 2 or 8

E8a. What is your total household income in the past 12 months? Please tell me the total amount before any taxes or deductions are removed. Again, this includes income from wages or salaries, investment income or rental income, social security, unemployment income, child support payments and alimony, direct financial support from friends or family to help pay expenses, and any other sources of income.

[READ TO CLARIFY IN RESPONSE TO QUESTION ABOUT HOW HOUSEHOLD INCOME IS DEFINE: "Household income is the total income of all individuals who live with you, including any financial support received from family and friends"]

[IF R IS UNSURE PROMPT: Your best estimate is fine.]

1. GAVE RESPONSE $ _____ [RANGE: 0-999,999+]
8. (VOL) DON'T KNOW [SKIP TO E8c]
9. (VOL) REFUSED [SKIP TO E9]

SAMPLE: E8a = 1 (GAVE RESPONSE)

E8B.To confirm, you said _____. Did I get that right?

1. YES [SKIP TO E9]

NO [GO BACK TO E8a]

IF (E6=1 AND E8a=1) CHECK that E6<E8a. Otherwise: "I am sorry but I may have made a mistake earlier when I asked for your income so just to confirm I have the correct information…" re-ask E6. (Ask once; if still doesn't match, proceed)

SAMPLE: E8a = 8

E8C. If you are unsure of your total household income received in the past 12 months, was it (READ LIST)…

1. Less than $10,000
2. $10,000 to less than $25,000
3. $25,000 to less than $40,000
4. $40,000 to less than $55,000
5. $55,000 to less than $70,000
6. $70,000 to less than $85,000

7. $85,000 to less than $100,000
8. $100,000 or greater
98. (VOL) DON'T KNOW
99. (VOL) REFUSED

SAMPLE: ALL

E9. Do you currently have a checking account?

1. YES
2. NO (SKIP TO E10)
8. (VOL) DON'T KNOW (SKIP TO E10)
9. (VOL) REFUSED (SKIP TO E10)

SAMPLE: E9 = 1

E9a. How much money do you currently have in your checking accounts? Please round to the nearest 100. [Prompt: If you have more than one checking account, please tell us the total amount in these accounts. ANSWER MUST END IN 00] [CATI – ANSWER MUST BE ROUNDED TO THE NEAREST 100. LAST TWO DIGITS SHOULD BE 00]

1. GAVE RESPONSE_____ [RANGE: 0-999,000+]
8. (VOL) DON'T KNOW (SKIP TO E10)
9. (VOL) REFUSED (SKIP TO E10)

SAMPLE: E9a = 1

E9B.To confirm, you said _____. Did I get that right?

1. YES
2. NO [GO BACK TO E9a]

SAMPLE: ALL

E10. Do you currently have a savings account?

1. YES
2. NO (SKIP TO E11)
8. (VOL) DON'T KNOW (SKIP TO E11)
9. (VOL) REFUSED (SKIP TO E11)

SAMPLE: E10=1

E10a. How much money do you currently have in savings accounts? Please round to the nearest 100. [Prompt: If you have more than one savings account, please tell us the total amount in these accounts. ANSWER MUST END IN 00] [CATI – ANSWER MUST BE ROUNDED TO THE NEAREST 100. LAST TWO DIGITS SHOULD BE 00]

1. GAVE RESPONSE_____ [RANGE: 0-999,000+]
8. (VOL) DON'T KNOW (SKIP TO E11)

9. (VOL) REFUSED (SKIP TO E11)

SAMPLE: E10a=1

E10B.To confirm, you said _____. Did I get that right?

1. YES
2. NO [GO BACK TO E10a]

SAMPLE: ALL

E11. Do you currently have any retirement accounts, like 401(k) or 403(b) accounts, IRAs, or other pension accounts?

1. YES
2. NO (SKIP TO E12)
8. (VOL) DON'T KNOW (SKIP TO E12)
9. (VOL) REFUSED (SKIP TO E12)

SAMPLE: E11=1

E11a. How much money do you currently have in such accounts? Please round to the nearest 100. [Prompt: If you have more than one retirement account, please tell us the total amount in these accounts. ANSWER MUST END IN 00] [CATI – ANSWER MUST BE ROUNDED TO THE NEAREST 100. LAST TWO DIGITS MUST BE 00]

1. GAVE RESPONSE_____ [RANGE: 0-999,000+]
8. (VOL) DON'T KNOW (SKIP TO E12)
9. (VOL) REFUSED (SKIP TO E12)

SAMPLE: E11a=1

E11B.To confirm, you said _____. Did I get that right?

1. YES
2. NO [GO BACK TO E11a]

SAMPLE: ALL

E12. Aside from your savings accounts and retirement accounts, do you currently have any other money market accounts, certificates of deposit, mutual funds, stocks, or brokerage accounts?

1. YES
2. NO (SKIP TO E13)
8. (VOL) DON'T KNOW (SKIP TO E13)
9. (VOL) REFUSED (SKIP TO E13)

SAMPLE: E12=1

E12a. How much money do you currently have in such accounts? Please round to the nearest 100. [Prompt: If you have more than one account, please tell us the total amount in these accounts. ANSWER MUST END IN 00] [CATI – ANSWER MUST BE ROUNDED TO THE NEAREST 100. LAST TWO DIGITS SHOULD BE 00]

1. GAVE RESPONSE_____ [RANGE: 0-999,000+]
8. (VOL) DON'T KNOW (SKIP TO E13)
9. (VOL) REFUSED (SKIP TO E13)

E12B.To confirm, you said _____. Did I get that right?

1. YES
2. NO [GO BACK TO E12a]

SAMPLE: ALL

E13. Do you have any other source of savings that would be available if you lost your job or had a financial emergency? For example, this might include savings at home or savings with others who are keeping it safe.

1. YES
2. NO (SKIP TO E14)
8. (VOL) DON'T KNOW (SKIP TO E14)
9. (VOL) REFUSED (SKIP TO E14)

SAMPLE: E13=1

E13a. About how much would be available? Please round to the nearest 100. [Prompt: If you have more than one savings account, please tell us the total amount in these accounts. ANSWER MUST END IN 00] [CATI – ANSWER MUST BE ROUNDED TO THE NEAREST 100. LAST TWO DIGITS SHOULD BE 00]

1. GAVE RESPONSE_____ [RANGE 0-999,000+]
8. (VOL) DON'T KNOW (SKIP TO E14)
9. (VOL) REFUSED (SKIP TO E14)

SAMPLE: E13a=1

E13B.To confirm, you said _____. Did I get that right?

1. YES
2. NO [GO BACK TO E13a]

SAMPLE: ALL, EXCEPT SKIP TO E15 IF SUM OF E9a + E10a + E11a + E12a + E13a = 0 OR COMBINATION OF ALL = 0 AND DK/REF

E14. To confirm, your responses include a total of _____ in savings and investments. Does that sound about right? [CATI: INSERT SUM OF E9a + E10a + E11a + E12a + E13a IF = 1 GAVE RESPONSE]

1. YES (SKIP TO E15)
2. NO
8. (VOL) DON'T KNOW (SKIP TO E15)
9. (VOL) REFUSED (SKIP TO E15)

[IF E14=NO GO BACK TO E9-E13 AND CORRECT THE RESPONSES TO THE PREVIOUS QUESTIONS]

SAMPLE: ALL

E15. GROUP 3 AND GROUP 4: Now pretend that you have purchased a home. If you started having financial problems and could not pay all of your bills, which bill would you pay first? [READ LIST]
GROUP 1 AND GROUP 2: As a recent homeowner, if you started having financial problems and could not pay all of your bills, which bill would you pay first? [READ LIST] [CATI: RANDOMIZE LIST]

1. Credit card
2. Utilities (gas, electricity, water, etc.)
3. Car payment
4. Mortgage
5. Student loan
6. Health insurance
7. Other [SPECIFY_____]
8. (VOL) DON'T KNOW
9. (VOL) REFUSED

SAMPLE: ALL

E16. Source: Adapted from BCFP Financial Well-Being Survey) How confident are you that you could come up with $2,000 in 30 days if an unexpected need arose within the next month? (READ LIST)

1. I am certain I could come up with the full $2,000
2. I could probably come up with $2,000
3. I could probably not come up with $2,000
4. I am certain I could not come up with $2,000
8. (VOL) DON'T KNOW
9. (VOL) REFUSED

SAMPLE: ALL

E17. (Source: New) Since enrolling in the study [in Month/Year], do you (or did you) have any student loan debt? This could be student debt incurred after [Month/Year] or student debt that you incurred before you enrolled in the study [in MONTH/YEAR] but which you continued to have a balance on after enrolling in the study.

[INTERVIEWER - IF NECESSARY READ: Incur is defined as to acquire or experience.]

1. YES
2. NO (SKIP TO SECTION E18)
8. (VOL) DON'T KNOW (SKIP TO SECTION E18)
9. (VOL) REFUSED (SKIP TO SECTION E18)

SAMPLE: E17 = 1

E17a. (Source: New) In preparation to buy a home or qualify for a mortgage, which of the following changes, if any, did you make to your student loans or to your repayment of those loans? (READ LIST, CHECK ALL THAT APPLY)

1. Put the loans into deferral
2. Refinanced the loans to lower payments.
3. Skipped payments
4. Stopped making extra payments/paying more than the minimum due
5. Started making extra payments/paying more than the minimum due
6. Something else (SPECIFY)_____
7. None of these. I did not make any changes to my student loans. (SKIP TO E18)
8. (VOL) DON'T KNOW (SKIP TO E18)
9. (VOL) REFUSED (SKIP TO E18)

SAMPLE: E17a = 1-6

E17b: [IF RESPONENT INDICATED ONE CHANGE IN IN E17a, ASK]
Why did you decide to make this change? [IF RESPONDENT INDICATED TWO OR MORE CHANGES IN E17a, ASK] Why did you decide to make these changes?

1. GAVE RESPONSE (RECORD VERBATIM)
8. (VOL) DON'T KNOW
9. (VOL) REFUSED

SAMPLE: ALL

E18. Thinking about the recent federal government shutdown in December 2018 through January 2019, was your household financially affected by the shutdown?

1. Yes
2. No
8. (VOL) DON'T KNOW
9. (VOL) REFUSED

I.6 Section F: Monthly Housing Costs

Now, I would like to ask you a few questions about your monthly housing costs.

SAMPLE: A2=1

[ASK F0 QUESTIONS IF RESPONDENT CURRENTLY RENTS REGARDLESS OF WHETHER THEY PREVIOUSLY OWNED; A2=1. ALL OTHERS SHOULD SKIP TO F1]
F0. How much do you spend each month on rent? (Interviewer Note: If R is in a housing situation where R is paying rent with someone, this question asks for the amount of money that only the respondent pays each month for rent.)

1. GAVE RESPONSE_____ [RANGE: 1-9,999+]

8. (VOL) DON'T KNOW (SKIP TO F0b)
9. (VOL) REFUSED (SKIP TO F0b)

SAMPLE: F0=1

F0a. To confirm, you said _____. Did I get that right?

1. YES
2. NO [GO BACK TO F0]

SAMPLE: A2=1

F0B. Utilities include things like gas, electricity, water, and trash removal. They don't include things like cable TV, internet, or telephone. How much do you spend each month on utilities? Do not include any utilities that are included in your rent.

1. GAVE RESPONSE _____[RANGE: 0-9,999+]
8. (VOL) DON'T KNOW [SKIP TO F0e]
9. (VOL) REFUSED [SKIP TO F0e]

SAMPLE: F0b=1

F0C. To confirm, you said _____. Did I get that right?

1. YES
2. NO [GO BACK TO F0b]

SAMPLE: F0b=1

F0D. Other than the costs for rent and utilities, do you pay any other monthly costs related to housing?

1. Yes. Specify expense_____.
2. No [SKIP TO SECTION G]
8. (VOL) REFUSED [SKIP TO SECTION G]
9. (VOL) DON'T KNOW [SKIP TO SECTION G]

SAMPLE: F0d=1

F0E.How much do you pay each month for that expense?

$_____

8. (VOL) DON'T KNOW
9. (VOL) REFUSED

[CATI/CAPI: IF A1=1 AND [(A1a=1 OR 3) OR (A3b=1)], THEN ASK BELOW. IF NOT SKIP TO SECTION G]

SAMPLE: GROUP 1 AND GROUP 2, STILL OWN HOME

Now, I'd like to start by asking about your monthly housing payments.

F1. How much is your regular required housing payment? Please include all payments for your mortgage, money towards property taxes, homeowners insurance, condo fees, etc.

$_____
8. (VOL) DON'T KNOW
9. (VOL) REFUSED [SKIP TO F1b]

[IF DK, ASK FOR BEST GUESS.]

SAMPLE: GROUP 1 AND GROUP 2, STILL OWN HOME
F1a. How often do you make these payments? [READ LIST]

1. Monthly
2. Biweekly (every 2 weeks)
3. Quarterly
4. Other
8. (VOL) DON'T KNOW
9. (VOL) REFUSED

SAMPLE: GROUP 1 AND GROUP 2, STILL OWN HOME
F1B. Is the amount that you pay automatically deducted from a bank account?

1. Yes
2. No
8. DON'T KNOW
9. REFUSED

SAMPLE: GROUP 1 AND GROUP 2, STILL OWN HOME
F2. Utilities include things like gas, electricity, water, and trash removal. They don't include things like cable TV, internet, or telephone. How much do you spend each month on utilities? Do not include any utilities that are included in the monthly amount you pay your lender or for your escrow account. [If you make payments on a quarterly, bi-annual, or annual basis we can help convert that to a monthly amount.]

1. PER MONTH: $_____
2. PER QUARTER: $_____
3. BI-ANNUAL/TWICE A YEAR: $_____
4. ANNUAL/ONCE PER YEAR: $_____
8. (VOL) DON'T KNOW
9. (VOL) REFUSED

SAMPLE: GROUP 1 AND GROUP 2, STILL OWN HOME
F3. Other than the costs we covered in this section, do you pay any other monthly costs related to housing?

1. Yes. Specify_____
2. No [SKIP TO F4]
8. (VOL) DON'T KNOW [SKIP TO F4]
9. (VOL) REFUSED [SKIP TO F4]

F3a. How much do you pay each month for that expense?

$_____
8. (VOL) DON'T KNOW
9. (VOL) REFUSED

SAMPLE: GROUP 1 AND GROUP 2, STILL OWN HOME

F4. (Source: New) For each of the following statements, please tell me whether you strongly agree, agree, disagree, or strongly disagree with the statement. [CATI: RANDOMIZE]

F4a. My home needs repairs or maintenance that I can't afford to make right now.
F4B. I have set aside money that I can use to make major repairs like replacing the roof, heating system, or other parts of my home.
F4C. I keep track of and do regular maintenance of my house (such as cleaning the gutters, changing out air filters) needed to prevent larger expenses down the road.
F4D. I have made repairs or improvements that improve the energy efficiency of my home.

Would you say that you… (READ LIST)?

1. Strongly Agree
2. Agree
3. Disagree
4. Strongly Disagree
8. (VOL) DON'T KNOW
9. (VOL) REFUSED

I.7 Section G: Homebuyer Education and Counseling

ASK THIS SECTION OF ALL STUDY PARTICIPANTS.

Now, I want to ask you some questions about purchasing a home and homeownership.

SAMPLE: ALL

G1. (Source: New) Looking back on your experiences since enrollment in the study, whether you have bought a home or not, what was **the most valuable** thing that you learned about the home purchase process and/or homeownership? [KEEP OPEN ENDED-PROBE]

1. GAVE RESPONSE (RECORD VERBATIM)
2. (VOL) DID NOT LEARN ANYTHING VALUABLE [SKIP TO G2]
8. (VOL) DON'T KNOW [SKIP TO G2]
9. (VOL) REFUSED [SKIP TO G2]

SAMPLE: G1=1

G1a- (Source: New) How or from whom did you learn that? (DO NOT READ LIST)

1. LENDER
2. MORTGAGE BROKER
3. BUYER'S AGENT OR REAL ESTATE AGENT
4. COUNSELING AGENCY
5. ONLINE HOMEBUYER EDUCATION COURSE
6. IN-PERSON HOMEBUYER EDUCATION COURSE
7. ONE-ON-ONE IN-PERSON COUNSELING
8. ONE-ON-ONE TELEPHONE COUNSELING
9. FRIENDS OR FAMILY
10. CO-WORKERS
11. WEBSITES
12. BOOKS
13. OTHER NON-PROFITS OR GOVERNMENT AGENCIES
14. INFORMATIONAL SESSION AT LIBRARY, CHURCH, OR OTHER LOCAL PLACE
15. LAWYER
16. OTHER (SPECIFY): _____
98. (VOL) DON'T KNOW
99. (VOL) REFUSED

SAMPLE: ALL

G2. (Source: New) What kinds of challenges or obstacles did you face **during** the home search or purchase process that you wish you were better prepared for? [KEEP OPEN ENDED-PROBE]

1. Gave Response (record Verbatim)
2. (VOL) No challenges or obstacles
8. (VOL) DON'T KNOW
9. (VOL) REFUSED

SAMPLE: GROUP 1 AND GROUP 2

G3. (Source: New) [GROUP 1 AND GROUP 2] Were there any challenges or obstacles you faced **after** you purchased your home that you wish you were better prepared for? [KEEP OPEN ENDED-PROBE]

1. Gave response (record verbatim)
2. (VOL) No challenges or obstacles
8. (VOL) DON'T KNOW
9. (VOL) REFUSED

_____

_____

SAMPLE: ALL

When buying a home, some people complete homebuyer education programs, also referred to as homebuyer counseling, or homebuyer training. These programs may include homebuyer classes, homebuyer education on the Internet and in-person or telephone counseling.

The first set of questions asks about any one-on-one counseling that you received through a homebuyer program. Then I will ask you some questions on any homebuyer education programs you may have participated in.

[PROMPT: If the respondent asks about whether to include the services offered through the study, say: *"Please include any homebuyer education or counseling that you completed as part of the study*."]

G4. Since enrolling in the study, have you completed any one-on-one homebuyer **counseling**? Homebuyer counseling usually involves a one-on-one session with a certified housing counselor to discuss your specific circumstances either in-person at a local agency or over the telephone.

1. YES
2. NO (SKIP TO G5)
8. (VOL) DON'T KNOW [SKIP TO G5]
9. (VOL) REFUSED [SKIP TO G5]

SAMPLE: G4=1

G4a. Did you complete the homebuyer **counseling** over the telephone, in-person at an agency, or through some other means?

1. Over the telephone
2. In-person
3. Other [Please specify: _____]
8. (VOL) DON'T KNOW
9. (VOL) REFUSED

SAMPLE: ALL
G5. Now I'd like to ask you about any homebuyer **education programs** you may have participated in. This includes educational instruction provided in a group workshop or through an online course and can take from one to ten hours. Since enrolling in the study about a year ago have you participated in any homebuyer education?

1. YES
2. NO [SKIP TO LOGIC STATEMENT BEFORE G6]
8. (VOL) DON'T KNOW [SKIP TO STATEMENT BEFORE G6]
9. (VOL) REFUSED [SKIP TO STATEMENT BEFORE G6]

SAMPLE: G5=1
G5a. Did you complete the **homebuyer education** online, in-person at a housing agency, or through some other means?

1. Online (using the Internet)
2. In-person
3. Other [Please specify: _____]
8. (VOL) DON'T KNOW
9. (VOL) REFUSED

SAMPLE: G4=1 OR G5=1
G6. Was homebuyer education or counseling required by your lender?

1. YES
2. NO
8. (VOL) DON'T KNOW
9. (VOL) REFUSE

I.8 Section H: Personal Characteristics

[THIS SECTION SHOULD BE ASKED OF ALL STUDY PARTICPANTS.]

Finally, I would like to ask a few questions about your personal characteristics.

SAMPLE: ALL
H1. (Source: Adapted from BCPF Financial Well-Being Survey) In the past 12 months, did you or any members of your household experience any of the following situations?

1. Lost a job Yes No DK REF
2. Had work hours and/or pay reduced Yes No DK REF
3. A business I or someone in my household owned had financial difficulty Yes No DK REF
4. Received a foreclosure notice Yes No DK REF
5. Had a major car or home repair Yes No DK REF

6. Had a health emergency Yes No DK REF
7. Got a divorce or separation Yes No DK REF
8. Added a child to the household Yes No DK REF
9. Experienced the death of primary breadwinner Yes No DK REF
10. Received a large sum of money beyond normal income (such as inheritance, bonus or other windfall) Yes No DK REF
11. Had a child start daycare or college Yes No DK REF
12. Provided unexpected financial support to a family member or friend Yes No DK REF

SAMPLE: ALL

H2. How many people, not counting yourself, live with you?

1. _____ (people) RANGE = 0-10 [IF ZER, SKIP TO SECTION I]
98. (VOL) DON'T KNOW [SKIP TO SECTION I]
99. (VOL) REFUSED [SKIP TO SECTION I]

SAMPLE: H2 = 1-10

H3. How many of these people are under the age of 18? [CATI: ANSWER CAN NOT BE GREATER THAN H2]

1. _____ (people) = 0-10
98. (VOL) DON'T KNOW
99. (VOL) REFUSED

[IF GROUP =2 OR 3 ASK H4 OTHERWISE SKIP TO SECTION I]

H4. GROUP 2: Thinking about the home you purchased in [MM/YY Answer from A3], how many other people did you buy your home with? As a reminder, here we are talking about people who share ownership and financial responsibility for the home you bought. In other words, these are individuals who are/were also named on the home loan. They may or may not currently live with you.

GROUP3: How many other people do you plan to buy your home with? As a reminder, here we are talking about people who will share ownership and financial responsibility for the home you may buy. In other words, these are individuals who will also be named on the home loan. They may or may not currently live with you.

1. _____ (number of coborrowers) = 0-10
98. (VOL) DON'T KNOW
99. (VOL) REFUSED

[IF H4=1 and NUM0 ASK H4a]

H4a.

GROUP 2: What is the first and last name of each co-borrower you purchased a home with?

GROUP 3: What is the first and last name of each co-borrower you plan to purchase a home with?

1. Co-borrower #1: First Name: _____Last Name: _____
Suffix:_____

8. (VOL) DON'T KNOW
9. (VOL) REFUSED

2.

3. Co-borrower #2: First Name: _____Last Name:
Suffix_:_____

H5. Thank you for your time today. How has the COVID-19 pandemic affected your housing or economic situation?

I.9 Section I: Contact Information

SAMPLE: ALL

CI2.

IF PHONE: In appreciation for your time spent completing this interview, I will mail you a $35 VISA gift card. Is your mailing address the same as your current address?

[PROGRAMMER: READ IN CURRENT ADDRESS:

Street 1:_____

Street 2:_____

City:_____

State:_____

Zip:_____]

[DO NOT READ]
1. YES, SAME
2. NO, MAIL TO A DIFFERENT ADDRESS [GO TO CI3]
3. DECLINE INCENTIVE
8. (VOL) DON'T KNOW
9. (VOL) REFUSE

[IF CI2=1: BEFORE FINISHING THE SURVEY, FILL OUT THE ADDRESS ON THE ENVELOPE TO BE USED TO SEND THE INCENTIVE]

CI3. MAILING_ADDRESS.

What is your mailing address?

2. GAVE RESPONSE
3. DECLINE INCENTIVE

10. DON'T KNOW
11. REFUSED

[STANDARD ADDRESS COLLECTION MODULE]
Street 1:_____

Street 2:_____

City:_____

State:_____

Zip:_____

[BEFORE FINISHING THE SURVEY, CONFIRM MAILING ADDRESS AND FILL OUT THE ADDRESS ON THE ENVELOPE TO BE USED TO SEND THE INCENTIVE]

Works Cited

Angrist, Joshua D., and Guido Imbens. 1995. "Two-Stage Least Squares Estimation of Average Causal Effects in Models with Variable Treatment Intensity." *Journal of the American Statistical Association* 90 (430): 431–442.

Angrist, Joshua D., Guido W. Imbens, and Donald Rubin. 1996. "Identification of Causal Effects Using Instrumental Variables" (with discussion). *Journal of the American Statistical Association* 91(434): 444–472.

Baker, Christi. 2005. *Measuring the Delivery Costs of Prepurchase Homeownership Education and Counseling.* Washington, DC: Neighborworks America. https://policylabconsulting.files.wordpress.com/2014/01/measuring_the_delivery_costs_of_prepurchase_hbec.pdf.

Bauer, Lauren, Kristen Broady, Wendy Edelberg, and Jimmy O'Donnell. 2020. *Ten Facts about COVID-19 and the U.S. Economy*. Washington, DC: Brookings Institution. https://www.brookings.edu/wp-content/uploads/2020/09/FutureShutdowns_Facts_LO_Final.pdf.

Bloom, Howard S. 1984. "Accounting for No-Shows in Experimental Evaluation Designs." *Evaluation Review* 8(2): 225–246.

Board of Governors of the Federal Reserve System. 2020. Household Debt Service Payments as a Percent of Disposable Personal Income [TDSP], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/TDSP, December 1, 2020.

Bocian, Debbie, Tori Morris, Shawn R. Moulton, and Laura R. Peck. Forthcoming. *Exploring the Impact of Homenuyer Education and Counseling on Debt, Savings, and Nonhousing Wealth*. Washington, DC: U.S. Department of Housing and Urban Development, Office of Policy Development and Research.

Cameron, A. Colin, and Douglas L. Miller. 2015. "A Practitioner's Guide to Cluster-Robust Inference." *Journal of Human Resources* 50(2): 317–372.

Collins, J. Michael, Ryan Eisner, and Collin O'Rourke. 2013. "Bringing Financial Coaching to Scale—The Potential of Group Coaching Models. Madison, WI: University of Wisconsin-Madison, Center for Financial Security Issue Brief 7.

CFPB (Consumer Financial Protection Bureau). 2015. "Measuring Financial Well-Being: A Guide to Using the CFPB Financial Well-Being Scale." https://www.consumerfinance.gov/data-research/research-reports/financial-well-being-scale/.

CFPB. 2017a. "CFPB Financial Well-Being Scale: Scale Development Technical Report. https://www.consumerfinancE.gov/data-research/research-reports/financial-well-being-technical-report/.

CFPB. 2017b. *Effective Financial Education: Five Principles and How to Use Them.* Washington, DC: Author. https://files.consumerfinance.gov/f/documents/201706_cfpb_five-principles-financial-well-being.pdf.

CFPB. 2018. *Measuring Financial Skill: A Guide to Using the Bureau of Consumer Financial Protection Financial Skill Scale.* Washington, DC: Author. https://files.consumerfinance.gov/f/documents/bcfp_financial-well-being_measuring-financial-skill_guide.pdf.

Cox, Jeff. 2020. "Jobless Claims Edge Lower to 837,000 as Slow Recovery Continues." CNBC. https://www.cnbc.com/2020/10/01/weekly-jobless-claims.html.

Cutts, Amy Crews, and William Merrill. 2008. "Interventions in Mortgage Default: Policies and Practices to Prevent Home Loss and Lower Costs." In *Borrowing to Live: Consumer and Mortgage Credit Revisited,* edited by Nicolas P. Retsinas and Eric S. Belsky, 203–254. Washington, DC: Brookings Institution Press.

DeMarco, Donna, Nichole Fiore, Debbie Gruenstein Bocian, Shawn Moulton, and Laura Peck. 2016. *The First-Time Homebuyer Education and Counseling Demonstration: Early Insights*. Washington, DC: U.S. Department of Housing and Urban Development, Office of Policy Development and Research. https://www.huduser.gov/portal/sites/default/files/pdf/First-Time-Home-Buyers.pdf.

DeMarco, Donna, Nichole Fiore, Shawn Moulton, Debbie Gruenstein Bocian, Laura Peck, Sarah Ballinger, Karen Cuenca, Louise Rothschild, and Stephen Whitlow. 2017. *The First-Time Homebuyer Education and Counseling Demonstration Baseline Report: Study Design and Implementation*. Washington, DC: U.S. Department of Housing and Urban Development, Office of Policy Development and Research. https://www.huduser.gov/portal/publications/first-homebuyer-counseling.html.

DQYDJ. 2020. "Historical Home Prices: Monthly Median Value in the US from 1953–2020." https://dqydj.com/historical-home-prices/.

Drukker, Leonel, and Scott Nelson. 2018. *Quarterly Consumer Credit Trends: End-of-Year Credit Card Borrowing*. Washington, DC: Bureau of Consumer Financial Protection. https://files.consumerfinance.gov/f/documents/bcfp_consumer-credit-trends_eoy-credit-card-borrowing_062018.pdf.

FFIEC (Federal Financial Institutions Examination Council). 2020. "FFIEC Median Family Income Report." https://www.ffiec.gov/Medianincome.htm.

FHFA (Federal Housing Finance Agency). "U.S. House Price Index March 2021." https://www.fhfa.gov/AboutUs/Reports/Pages/US-House-Price-Index-March-2021.aspx.

FHFA. 2018. "House Price Index Datasets." https://www.fhfa.gov/DataTools/Downloads/Pages/House-Price-Index-Datasets.aspx#mpo.

Federal Reserve Bank. 2021. Conference on "Racism and the Economy: Focus on Housing." https://www.youtube.com/watch?v=NCqosQhYnR0&feature=emb_imp_woyt.

Federal Reserve Bank of New York. 2020. "New York Fed Consumer Credit Panel/Equifax, Total Debt Balance and Its Composition." https://www.newyorkfed.org/microeconomics/hhdc.html.

Fernandes, Daniel, John G. Lynch, Jr, and Richard G. Netemeyer. 2014. "Financial Literacy, Financial Education, and Downstream Financial Behaviors." *Management Science* 60(8): 1861–1883.

FCIC (Financial Crisis Inquiry Commission). 2011. *The Financial Crisis Inquiry Report*. Washington, DC. https://www.govinfo.gov/content/pkg/GPO-FCIC/pdf/GPO-FCIC.pdf.

FLEC (Financial Literacy and Education Commission). 2016. *Promoting Financial Success in the United States: National Strategy for Financial Literacy.* Washington, DC. https://www.treasury.gov/resource-center/financial-education/Documents/National%20Strategy%202016%20Update.pdf.

Freddie Mac. 2020. 30-Year Fixed Rate Mortgage Average in the United States [MORTGAGE30US], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/MORTGAGE30US, June 15, 2020.

Glaeser, Edward L., and Jesse M. Shapiro. 2003. "The Benefits of the Home Mortgage Interest Deduction." *Tax Policy and the Economy* 17: 37–82.

Hart Research Associates. 2014. *How Housing Matters: The Housing Crisis Continues to Loom Large in the Experiences and Attitudes of the American Public.* Washington, DC: Author. https://www.macfound.org/media/files/How_Housing_Matters_2014_FINAL_REPORT.pdf.

Herbert, Christopher E., Daniel T. McCue, and Rocio Sanchez-Moyano. 2013. "Is Homeownership Still an Effective Means of Building Wealth for Low-Income and Minority Households? (Was It Ever?)." Homeownership Built to Last. Cambridge, MA: Harvard University, Joint Center for Housing Studies, working paper HBTL-06. https://www.jchs.harvard.edu/sites/default/files/hbtl-06.pdf.

Hsueh, JoAnn, Desiree Principe Alderson, Erika Lundquist, Charles Michalopoulos, Daniel Gubits, and David Fein. 2012. *The Supporting Healthy Marriage Evaluation: Early Impacts on Low-Income Families: Technical Supplement*. OPRE Report 2012-27. Washington, DC: Office of Planning, Research, and Evaluation, Administration for Children and Families, U.S. Department of Health and Human Services.

Institute of College Access & Success. 2020. "Student Debt and the Class of 2019." https://ticas.org/wp-content/uploads/2020/10/classof2019.pdf.

Izrael, David, Michael P. Battaglia, and Martin R. Frankel. 2009. "Extreme Survey Weight Adjustment as a Component of Sample Balancing (aka Raking)." SAS Global Forum Paper No. 247-2009. https://support.sas.com/resources/papers/proceedings09/247-2009.pdf.

Kaul, Karan, and Laurie Goodman. 2020. *The Price Tag for Keeping 29 Million Families in Their Homes: $162 Billion.* Washington, DC: The Urban Institute. https://www.urban.org/urban-wire/price-tag-keeping-29-million-families-their-homes-162-billion.

Kingsley, G. Thomas, Robin Smith, and David Price. 2009. *The Impacts of Foreclosures on Families and Communities.* Washington, DC: Urban Institute.

Kochhar, Rakesh, and Richard Fry. 2014. "Wealth Inequality Has Widened along Racial, Ethnic Lines since End of Great Recession." *Pew Research Center* 12, no. 104: 121–145. https://www.pewresearch.org/fact-tank/2014/12/12/racial-wealth-gaps-great-recession/.

Kochhar, Rakesh. 2020. *Unemployment rose higher in three months of COVID-19 than it did in two years of the Great Recession*. Washington, DC: Pew Research Center. https://www.pewresearch.org/fact-tank/2020/06/11/unemployment-rose-higher-in-three-months-of-COVID-19-than-it-did-in-two-years-of-the-great-recession/.

Litwok, Daniel, and Laura R. Peck. 2018. "Variance Estimation in Evaluations with No-Shows: A Comparison of Methods." *American Journal of Evaluation*. https://doi.org/10.1177/1098214017749318.

Mortgage Bankers Association. 2011. *National Delinquency Survey Q1 2011*. https://nationalmortgageprofessional.com/sites/default/files/MBA_NDS_Q111.pdf.

Moulton, Shawn, Laura Peck, Nichole Fiore, Debbie Gruenstein Bocian, and Donna DeMarco. 2018. *Who Participates in Homebuyer Education and Counseling Services and Why? Insights from HUD's First-Time Homebuyer Education and Counseling Demonstration.* Washington, DC: U.S. Department of Housing and Urban Development, Office of Policy Development and Research. https://www.huduser.gov/portal/publications/First-Time-Homebuyer-Education-and-Counseling-Services.html.

Moulton, Shawn, Laura Peck, Debbie Gruenstein Bocian, Donna DeMarco, and Nichole Fiore. 2019. *The HUD First-Time Homebuyer Education and Counseling Demonstration: Long-Term Impact Report Analysis Plan.* Washington, DC: U.S. Department of Housing and Urban Development, Office of Policy Development and Research.

Peck, Laura R., Shawn R. Moulton, Debbie Gruenstein Bocian, Donna DeMarco, and Nichole Fiore. 2019. *Short-Term Impact Report: The HUD First-Time Homebuyer Education and Counseling Demonstration.* Washington, DC: U.S. Department of Housing and Urban Development, Office of Policy Development and Research. https://www.huduser.gov/portal/sites/default/files/pdf/Short-Term-Impact-Report.pdf.

Puma, Michael J., Robert B. Olsen, Stephen H. Bell, and Cristofer Price. 2009. *What to Do When Data Are Missing in Group Randomized Controlled Trials*. NCEE Report No. 2009-0049. Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U. S. Department of Education. http://ies.ed.gov/ncee/pdf/20090049.pdf.

Quillian, Lincoln, John J. Lee, and Brandon Honoré. 2020. "Racial Discrimination in the US Housing and Mortgage Lending Markets: A Quantitative Review of Trends, 1976–2016." *Race and Social Problems* 12(1): 13-28.

Rohe, William M., and Mark Lindblad. 2013. *Reexamining the Social Benefits of Homeownership after the Housing Crisis.* Boston: Joint Center for Housing Studies of Harvard University.

Sanbonmatsu, Lisa, Lawrence F. Katz, Jens Ludwig, Lisa A. Gennetian, Greg J. Duncan, Ronald C. Kessler, Emma K. Adam, Thomas McDade, and Stacy T. Lindau. 2011. *Moving to opportunity for fair housing demonstration program: Final impacts evaluation.* Washington, DC: U.S. Department of Housing and Urban Development, Office of Policy Development and Research. https://www.huduser.gov/portal/publications/pubasst/MTOFHD.html.

Schochet, P. Z. 2008. *Technical Methods Report: Guidelines for Multiple Testing in Impact Evaluations.* NCEE 2008-4018. Washington, DC: National Center for Education Evaluation and Regional Assistance.

Schochet, Peter Z., and Hanley Chiang. 2009. *Estimation and Identification of the Complier Average Causal Effect Parameter in Education RCTs.* NCEE Report No. 2009-4040. Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education.

Solomon, Danyelle, Connor Maxwell, and Abril Castro. 2019a. *Systematic Inequality and Economic Opportunity.* Washington, DC: Center for American Progress.

Solomon, Danyelle, Connor Maxwell, and Abril Castro. 2019b. *Systemic Inequality: Displacement, Exclusion, and Segregation.* Washington, DC: Center for American Progress.

Stein, Roger M., Ashish Das, Yufeng Ding, and Shirish Chinchalker. 2010. "Moody's Mortgage Metric Prime: A Quasi-Structural Model of Prime Mortgage Portfolio Losses." Technical Document, Moody's Research Labs. https://www.moodys.com/sites/products/ProductAttachments/Moody%27s%20Mortgage%20Metrics%20Prime%20White%20Paper.pdf.

Taylor, Edward W., Elizabeth J. Tisdell, and Karin Sprow. 2010. "Financial Literacy for Adult Learners in Community-Based Settings: A Mixed Methods Study." https://newprairiepress.org/cgi/viewcontent.cgi?article=3736&context=aerc.

Theodos, Brett, Margaret Simms, Mark Treskon, Christina Stacy, Rachel Brash, Dina Emam, Rebecca Daniels, and Juan Collazos. 2015. *An Evaluation of the Impacts and Implementation Approaches of Financial Coaching Programs.* Washington, DC: Urban Institute 500. https://www.urban.org/sites/default/files/publication/71806/2000448-an-evaluation-of-the-impacts-and-implementation-approaches-of-financial-coaching-programs.pdf.

Urban Institute. 2020. "Housing Credit Availability Index, Q2 2020." Housing Finance Policy Center. https://www.urban.org/policy-centers/housing-finance-policy-center/projects/housing-credit-availability-index.

U.S. Bureau of Economic Analysis. 2020. "Personal Saving Rate" [PSAVERT], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/PSAVERT, December 1, 2020.

U.S. Bureau of Economic Analysis. 2021. "Gross Domestic Product, 4th Quarter and Year 2020." https://www.bea.gov/news/2021/gross-domestic-product-4th-quarter-and-year-2020-advance-estimate.

U.S. Bureau of Labor Statistics. 2020a. Unemployment Rate [UNRATE], Unemployment Rate - Some College or Associate Degree, 25 to 34 years [SCAD2534], Unemployment Rate - College Graduates - Bachelor's Degree, 25 to 34 years [CGBD2534], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/UNRATE, August 6, 2020.

U.S. Bureau of Labor Statistics. 2020b. "Usual Weekly Earning Summary." https://www.bls.gov/webapps/legacy/cpswktab5.htm.

U.S. Bureau of Labor Statistics. 2021. "Labor Force Statistics from the Current Population Survey," https://data.bls.gov/timeseries/LNS14000000.

U.S. Census Bureau, American Community Survey. 2020. "2013 American Community Survey 1-Year Estimates." https://www.census.gov/programs-surveys/acs/news/data-releases.2013.html.

U.S. Census Bureau. 2020. Real Median Household Income in the United States [MEHOINUSA672N], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/MEHOINUSA672N, December 1, 2020.

U.S. Census Bureau and U.S. Department of Housing and Urban Development. 2020a. Average Sales Price of Houses Sold for the United States [ASPUS], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/ASPUS, December 13, 2020.

U.S. Census Bureau and U.S. Department of Housing and Urban Development. 2020b. Monthly Supply of Houses in the United States [MSACSR], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/MSACSR, August 6, 2020.

U.S. Department of Housing and Urban Development. 2015. "Housing Counseling Helps Millennials Manage Student Debt." *The Bridge: The Office of Housing Counseling Newsletter*, 4(2). https://www.hud.gov/sites/documents/OHC_BRIDGE083015.PDF.

U.S. Federal Housing Finance Agency. 2020. All-Transactions House Price Index for the United States [USSTHPI], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/USSTHPI, August 6, 2020.

Walker, Jessica Thornton, Debbie Gruenstein Bocian, Donna DeMarco, and Brian Freeman, with Dee Warmath. 2018. *Understanding the Pathways to Financial Well-Being. National Financial Well-Being Survey: Report 2.* Washington, DC: Bureau of Consumer Financial Protection. https://www.abtassociates.com/sites/default/files/2018-09/FWB%20Report%202_Final_180709.pdf.

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