Center for Financial Security

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Field Experiments on the Impacts of Financial Planning Interventions for Recent Homebuyers

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Center for Financial Security
Working Paper 2011-CFS.5

October 2011

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Field Experiments on the Impacts of Financial Planning Interventions for Recent Homebuyers

University of Wisconsin, Center for Financial Security[1]
Working Paper: October 2011

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Abstract

Low and moderate-income households are less likely to plan for long term financial goals, including retirement. Targeting low and moderate income households with efficient and effective financial education and planning interventions is challenging because intensive financial planning services are costly, individuals are not likely to seek out financial planning services, and research demonstrates that those who do seek financial counseling are typically those who are already motivated to be successful. Our goal is to overcome these inherent problems by conducting a randomized field experiment that integrates new technology to provide replicable, theoretically based financial planning interventions to low and moderate-income households during a teachable stage in the life-cycle: the purchase of a first home. Through a unique partnership with the Ohio Housing Finance Agency a pilot group of 600 homebuyers will be randomly assigned to varying combinations of financial planning interventions to be completed during the first year after home purchase. During this study period, this project will design and validate the interventions, including an online financial assessment tool, interactive financial education modules, and telephone based financial coaching. Low income households will be randomly assigned to the interventions. Ongoing follow-up with homebuyers and outcome evaluation will be completed in subsequent years.

[1]The research reported herein was performed pursuant to a grant from the U.S. Social Security Administration (SSA) funded as part of the Financial Literacy Research Consortium. The opinions and conclusions expressed are solely those of the authors and do not represent the opinions or policy of SSA or any agency of the Federal Government.

Field Experiments on the Impacts of Financial Planning Interventions for Recent Homebuyers (CFS-5)

1. Introduction

For the past several decades, homeownership has been promoted as a tool to build wealth among low and moderate income households. Indeed, equity in a home is the largest source of wealth for lower income households (Green and White 1997; Boehm and Schlottmann 1999). However, the recent mortgage crisis demonstrates that ownership in a home can create a substantial financial hardship, particularly for new homeowners who have fewer resources to draw upon in times of personal or economic crisis (Duda and Belsky 2001). Further, low and moderate-income households in general are less likely to plan for long term financial goals, including retirement (Haveman, Holden, Wolfe, & Sherlund, 2006; Munnell, Golub-Sass, Perun, & Webb, 2007). Such households often exhibit lower overall financial literacy and financial knowledge, and make less informed financial decisions (Bucks & Pence, 2008; Lax, Manti, Raca, & Zorn, 2004).

Targeting this vulnerable population with efficient and effective financial planning interventions is challenging because intensive financial planning services are costly, individuals are not likely to seek out financial planning services, and research demonstrates that those who do seek financial counseling are typically those who are already motivated to be successful (Meier & Sprenger, 2007). We suggest that the purchase of a first home may provide a teachable moment to reach low and moderate income households with comprehensive financial planning tools, thereby increasing overall financial well-being. Many first time homeownership programs currently include some form of homebuyer education and/or counseling; rather than limiting the focus of these interventions to preparation for homeownership, such interventions can be enhanced to equip low and moderate income households with comprehensive financial planning

tools. Prior to implementing such interventions on a broad scale, there is a need for a systematic understanding of the overall financial well-being of the target population (low and moderate income homebuyers), and the effectiveness of financial planning interventions that can be efficiently integrated into existing homeownership programs.

This project addresses this need by leveraging a unique policy setting, a first time homeownership program administered by a state housing finance agency serving more than 4,000 new low and moderate income homebuyers per year. Using insights from behavioral economics, psychology and computer science, a randomized field experiment is administered to: (a) describe the financial well-being of low-income, first-time homebuyers at home purchase; and (b) test the relative effectiveness of online financial planning tools and telephone-based financial coaching for homeowners in the first year after purchase.

The present manuscript provides the first-year analysis of a three-year project, and proceeds as follows. First, we provide a review of the literature motivating the present study and the design of our interventions. Next, we describe our study sample and methodology for the field experiment. Third, employing data on the 200 participants enrolled in the study to date, we present preliminary findings on the financial well-being of first-time homebuyers. We conclude with early implications for both policy and practice.

2. Review of the Literature

Low and moderate income (LMI) households, and in particular first-time homebuyers, have specific challenges when it comes to financial planning given limited assets and competing demands. We break the financial planning process into four stages, identifying challenges that are specific to each stage based on a review of the literature in behavioral economics and

financial decision making. Each stage and its requisite challenges are discussed in Section 2. We then leverage this information to design the interventions employed in this study, discussed in Section 3. Table 1 provides a summary of the financial planning process for LMI homebuyers, including stages, challenges and interventions.

Table 1: The Financial Planning Process for LMI Homebuyers

Stage	Challenges	Interventions
Assessing financial well-being	Myopic decision frames	Financial health assessment
Setting financial goals	Low financial literacy and skills Present-oriented time preferences	Interactive and educational planning tools
Implementing financial goals	Procrastination	Setting goals with implementation intentions
Monitoring progress towards goals	Lack of accountability	External monitoring or coaching

2.1 Assessing Financial Well-Being

Before planning for future goals, a first stage in the financial planning process is to assess one's current situation. However, assessing financial well-being in a comprehensive way is complex and time consuming. Ideally, earnings, spending, saving and investment, credit, and insurance documents are assembled and analyzed, and areas for improvement are identified. This is a tedious task that many households hesitate to undertake (Lieber 2010). The task is made more complicated at home purchase, where the acquisition of a mortgage is associated with a number of new and often unfamiliar financial items, such as amortizing interest, property taxes, and private mortgage insurance (PMI). The financial picture gets even more complicated if first-time homeownership is connected with events in the family life course, often marriage and child birth

(Aarland and Nordvik 2009). Yet, without knowledge of the big picture, there is a tendency to base future financial decisions on simplified assumptions, creating myopic decision frames (Prelec and Loewenstein 1991; Weber and Chapman 2005). This is particularly true for decisions made under stressful conditions (Payne, Bettman, and Schkade 1999). For the first-time homeowner, home maintenance and meeting payment obligations may create a stream of those situations, where decisions are made complicated by an overflow of choices, an overload of information, or limited time to consider various options (Lax, Manti, Race and Zorn 2004; Bucks and Pence 2008). Thus, while an initial snapshot of financial health may be an integral foundation on which to base future financial decisions, homebuyers may be myopically focused on the purchase transaction as a response to the overload of information. Such homebuyers may benefit from tools that assist them to easily sort through their financial information and identify areas of financial need.

2.2 Setting Financial Goals

Once households have assessed their financial situation, a second stage is to identify the appropriate next steps to improve their situation (identifying financial goals). There are several challenges inherent in this activity, particularly for LMI households. On a basic level, low and moderate income households have been found to have lower levels of financial literacy (less knowledge of financial concepts and terms), resulting in less awareness of the appropriate desired end goal and thus less informed financial decisions (Lusardi and Tufano 2009; Campbell 2006; Haveman et al. 2006; Munnell et al. 2007). Aside from literacy, such households may also demonstrate lack of financial skills, such as numeracy skills that may be critical to assess the future outcomes of financial decisions. Collecting responses to a series of numeracy problems

related to interest and inflation in the Health and Retirement Survey, Lusardi and Mitchell (2008) noted that "these deficiencies are concentrated among particular population subgroups—those with low income and low education, minorities, and women—where being financially illiterate may render them most vulnerable to economic hardship in retirement." Low and moderate income homebuyers are no exception; research demonstrates that such homebuyers often do not understand their mortgage terms and other basic financial concepts, and are unable to appropriately evaluate the impact of key financial variables, such as changes in interest rates over time (Bucks and Pence 2008; Lax et al. 2004; Bergstresser and Beshears 2010). For example, low-to-moderate income homeowners are less likely to refinance their mortgages during a period of falling interest rates (Campbell 2006) and tend to transact in high-cost manners, incurring higher fees and using high-cost borrowing (Lusardi and Tufano 2009).

Another aspect of that affects the ability to set financial goals the extent to which a person is willing to become involved in long-term planning. Having knowledge of "the right thing to do" is not sufficient; the household must be willing to engage in the process of creating a plan for change in the future. This is particularly troubling for households with limited resources, who may have a tendency to focus on the shorter term rather than the longer term when making financial decisions (Lawrance 1991). This tendency is even stronger in high-consequence decisions, such as a home purchase, and intensifies if combined with events in the family life cycle, such as marriage and child birth. The need to manage new financial and familial obligations points toward a focus on present consumption at the cost of deferred consumption. As such, transactions such as home purchase may not only deter households from engaging in long-term planning, but may actually lead to short term behaviors that worsen their long term financial well-being, such as increased credit card and other debt (Meier and Sprenger(2010).

Drawing from the marketing literature, the challenge is to shift the focus of the household from situational involvement in a financial transaction (i.e., the purchase of a home), towards enduring involvement in longer term financial well-being ((Laurent and Kapferer 1985; (Petty, Cacioppo, and Schuhmann 1983)); (Richins and Bloch 1986); (Bloch, Sherrell, and Ridgway 1986; Mathwick and Rigdon 2004).

2.3. Implementing Financial Goals

Once financial goals have been identified, the next stage is to implement steps to reach the desired goals. Several studies have shown that establishing specific implementation intentions can improve the likelihood of goal attainment. Implementation plans establish links between specific situations and the desired behavioral responses. Implementation intentions are considered "strategies," "modes," "steps," or "mechanisms" used to reach a goal (Gollwitzer 1999; Gollwitzer and Brandstätter 1997; Brandstätter, Lengfelder, and Gollwitzer 2001). When such aids are present, relevant situational cues act to implement automatic and efficient actions (Verplanken and Faes 1999; Gollwitzer 1993). In this context, implementation intentions have been examined with respect to related psychological measures, such as goal progress, goal difficulty, goal commitment, goal efficacy, goal self-concordance (Koestner et al. 2002), self-efficacy (Powers, Koestner, and Topicu 2005), and habit formation (Verplanken 2005; Verplanken and Faes 1999).

The implication for financial behaviors is evident: achieving goals underlying the decision to better manage personal finances can be enhanced by encouraging people to develop an action plan specifying, for instance, how to deposit money regularly into a savings account (e.g., enrolling in direct deposit on a specified date). Implementation intentions are intra-personal

commitment devices that appear to work for difficult-to-implement consumer goals, which are accomplished in the somewhat distant future and require complex and less familiar action sequences for successful behavioral change. Furthermore, many consumers perceive difficult-to-implement goals as more important than easy goals, which often leads to lower certainty of completion and a higher number of unsuccessful attempts (Gollwitzer and Brandstätter 1997). Orbell, Hodgkins, and Sheeran (1997) suggested that implementation intentions might be particularly effective in changing behavior for chronic but unfulfilled or postponed intentions. Implementation intentions have also been shown to be particularly useful for consumers with self-control problems (Gollwitzer and Brandstätter 1997; Koestner et al. 2002; Bénabou and Tirole 2004).

2.4. Monitoring Progress towards Financial Goals

The final hurdle in financial planning is the task of monitoring progress towards goals. External monitoring can prove more effective than self-monitoring in terms of clients' adherence to their goals (Ariely and Wertenbroch 2002), as it increases the salience of accountability on four dimensions: expectation of being observed; identifiability; expectation that performance will be assessed, and expectation that one will have to give reasons for actions (Lerner and Tetlock 1999). Further, external monitoring can lead to increased self-control, or the degree to which people can restrain impulses. The application of external monitoring to financial behaviors is relatively new; however, preliminary evidence suggests that a model of external modeling, such as financial coaching, may lead to sustained behavioral change and thus goal-attainment (Baumeister 2002; Baumeister et al. 2008; Collins, Baker, and Gorey 2007).

Financial coaching is a fairly new form of intervention that draws upon a broader coaching field in psychology (Biswas-Diener and Dean 2007; Grant 2008). In contrast to more traditional methods of counseling or therapy, coaching is future oriented and self-directed, working with clients in collaboration to achieve pre-determined goals (Bluckert 2005). Further, unlike therapy or counseling, coaching helps clients with issues related to self-control rather than serious mental illness (Grant 2008). While extensions of financial coaching to other fields, such as health care, have empirical evidence of effectiveness (Tidwell et al. 2004; Hayes and Kalmakis 2007), less is known about the effectiveness of financial coaching. However, the extension of the coaching model to personal finances is growing rapidly. Similar to personal or health coaches, financial coaches do not provide direct advice (i.e. clients are charged with defining their own goals), nor do they focus on providing information about finances. As such, financial coaches need not be experts in personal finance. Whereas more traditional services such as financial education focus on delivering information, financial coaching recognizes that knowledge alone is often insufficient—individuals may struggle to change their behaviors even when they have learned something new and desire to change.

In summary, drawing from the literature on behavioral economics and financial decision-making, there are at least five challenges to financial planning for low to moderate income homebuyers: myopic decision frames, low financial literacy, present-oriented time preferences, self-control problems and lack of accountability. These new homeowners may have a fragmented view of their financial situation, lack knowledge to make informed financial decisions, spend money now for their needs as new homeowners rather than providing for future expenses, and

lack self-control to sustain change over time. Our study is aimed at these households; thus, we carefully address these challenges when designing our interventions.

3. The MyMoneyPath Program

3.1 The MyMoneyPath Approach

Building on the insights discussed in Section 2, we developed a web-based support program we call "MyMoneyPath" (on the web at www.mymoneypath.com). Leveraging new technologies, this interactive system provides individualized, visualized financial information to the user. Moreover, the system encourages implementation intentions through a goal-setting component and assures accountability through financial coaching. While the online program is designed to be accessible to a user with low financial literacy, the visual support provided throughout can be helpful to users of all abilities. Participants complete the MyMoneyPath program on their own time from a home, work or library computer, and can return at any time at their own convenience.

Our intent is to develop and test new interventions that are not only effective, but that are also easily replicable, accessible across diverse geographies, and affordable. Thus, while there is generally a bias against using technology in favor of face-to-face financial literacy and planning interventions (Hirad and Zorn 2002; Quercia and Spader 2008), face to face interventions are time intensive, costly, and not equally accessible. The interventions in this study increase efficiency and accessibility by leveraging technology while adhering tightly to theoretical models of behavioral change. In previous research, it may not be that the mode of delivery was ineffective, but that the structure of the delivery was not designed to facilitate behavioral change. Moreover, the design of related work that found a benefit to face to face education and

counseling compared to book or telephone based counseling may not account for borrower self-selection into a particular mode of treatment (Collins 2007; Collins, Baker, and Gorey 2007; Meier and Sprenger 2007; Elliehausen, Lundquist, and Staten 2007; Barron and Staten 2009). Recent cross-sectional and quasi-experimental studies suggest that when well designed, both technology based (online or telephone) financial counseling and face-to-face counseling offer positive effects (Barron and Staten 2009; Elliehausen, Lundquist, and Staten 2007; Collins 2007).

The program we designed and implemented in the study consists of four parts. The first three parts are implemented solely on the web, while the last part consists of phone-based financial coaching. First, new homeowners are asked to complete an online financial health assessment at time of closing on the home. Financial problem areas are automatically identified from assessment results. Second, the homeowner is offered online financial planning modules that present basic financial concepts and provide visual representations of how the individual is doing financially in different areas. Third, to prompt the recent homeowners to start making financially sound decisions to address problem areas, users are asked to select financial goals and time frames to meet the goals. Users select goals in different potential problem areas, including credit card repayment, savings, mortgage repayment, or retirement planning. Finally, quarterly coaching calls remind homeowners of their goals and reiterate what steps need to be taken. This last component harnesses phone-based technology, but has the potential to become web-based in the future. In order to directly evaluate the benefit of different components of the MyMoneyPath program and reduce the problem of self-selection, we randomized users to either receive the financial health assessment only (control group) or the assessment followed by the online financial planning modules, actionable goals, and coaching components (treatment group).

3.2 Online Financial Health Assessment

The first step in the MyMoneyPath program is to assess the baseline financial health of low and moderate income homebuyers at the time of purchase. The assessment collects information on five areas of financial health: budgeting, borrowing, savings, home, retirement, as well as basic demographic and socio-economic information. The indicators of financial health that we have identified are in line with the U.S. Treasury's recently released "Financial Education Core Competencies" in five key areas: (1) earning, (2) spending, (3) saving, (4) borrowing, and (5) protecting against risk (U.S. Department of Treasury 2010). Contrasted with financial literacy, a focus on financial health draws from behavioral economics and the construct of financial capability (e.g., Atkinson et al. 2007). Behaviors, such as having adequate emergency savings, managing personal debt, and investing in longer term financial goals, are likely to be critical to the long term well-being of the new homeowner, and may or may not be associated with financial literacy. On the financial health assessment, participants are asked to estimate the dollar amount of money (if any) saved in each of the following types of accounts/investments: checking, savings, retirement, and other accounts. Participants also complete questions about the regularity of savings, savings habits, preference for spending, debt, housing expenses and retirement planning The assessment also includes measures of confidence regarding finances, time preferences and a short financial literacy component as in Lusardi and Mitchell (2008). After completion of the assessment, participants view a concise results sheet reporting the status of their financial health in each of the five areas, coded "red" if the area is in need of immediate attention, "yellow" if the area needs some attention, and "green" if the area is

not in need of attention (See Figure 1). The results of the assessment are then used to tailor the rest of the MyMoneyPath program to the user's specific financial situation.

[FIGURE 1 ABOUT HERE]

3.3 Online Financial Planning &Goal Setting Modules

Following the financial health assessment, a subset of users are randomized to the treatment group (as described in Section 4), and receive the online financial planning and goal setting modules in the MyMoneyPath program. We developed the series of modules with the intent of helping the user understand key financial concepts, visualize their current financial health and potential improvements that can occur through concrete behavioral changes, and establish time and action-specific steps to reach their goals. Drawing from behavioral economics, cognitive science, and visual analytics we consider three primary components that may be integral to the success of online financial tools. These include (1) visually interactive information presentation, (2) individualized instruction and implementation plans founded on responses from the financial health assessment and (3) interactive financial goal setting. Our hypothesis is that study participants who receive the online financial planning and goal setting modules will exhibit more positive indicators of financial health one year after purchase than those completing the assessment of financial health only.

Related work has found that visually interactive information presentation, or visual analytics, improves efficiency of choice and increases exploration of the decision space relative to traditional textual modes of presentation in financial decision-making tasks in the lab (Savikhin and Ebert 2010; Rudolph, Savikhin, and Ebert 2009). Moreover, use of visual analytic

tools during the decision-making process has been linked to increased levels of confidence, a potentially important indicator for financial well-being (Savikhin and Ebert 2010; Rudolph, Savikhin, and Ebert 2009). Appropriate visual analytic presentation affects the cognitive process of information search, and can reduce the marginal cost of acquiring new information, facilitating information transfer to the user (Savikhin et al. 2011). Specifically, graphical presentations may allow decision makers to quickly identify trends and patterns of co-variation between variables (Lurie and Mason 2007). Graphical representations may help individuals consider more of the available information when making decisions because information is more easily assessed and compared (Jarvenpaa 1989). Because humans have highly developed skills of perceptual sense making, visual presentations of information can be used to shift information processing to the perceptual system, therefore enlarging problem-solving capabilities and reducing cognitive load of the task at hand (Keim et al. 2008; Tegarden 1999). We posit that utilizing visual analytics as part of the intervention can be potentially very effective.

In the intervention we developed, individual financial information, drawn from the financial health assessment, is accurately and realistically visualized through the use of web-based, interactive visual analytic presentations. The online financial planning modules include user controls to manipulate and set financial goals. Financial health in key areas is visualized in real time during the goal setting process. First, the MyMoneyPath program presents the user with financial health at the current time period. Second, the program presents the user with potential scenarios that will occur in the future with and without behavior change. After setting goals, study participants develop implementation intentions for select action steps, including how and when they will complete the step.

We will focus on the Borrowing component to explain the general structure of each module. Each module proceeds with a visual 'snapshot' of the user's financial health in that area. For example, in Borrowing, the user views a bar chart showing his/her level of debt (including mortgage), and a bar chart showing how much debt is acceptable for him/her based on information provided in the financial assessment and the individuals' debt to income ratio, see Figure 2. The 'snapshot' screen also announces the three main objectives of the module, (1) to learn whether one has too much debt, based on key financial concepts (2) to set goals for paying off debt and (3) to create an action plan to meet the goals.

[FIGURE 2 ABOUT HERE]

The module then proceeds through several suggested ways to reduce debt, such as the effect of making an extra payment each month. These suggestions are individualized based on data from the financial assessment (for example, someone who already uses direct deposit will not be asked to set up direct deposit). The user interacts with the system to simulate increasing and decreasing the extra payment amount. During the interaction process, the effect of changing the extra payment amount on overall debt and debt due to interest is visualized in real time on the screen. Then the user is asked to choose a level of extra payment to commit to, and views the 'snapshot' of the current debt next to the 'snapshot' of the reduced level of debt due to the extra payment. The 'snapshot' also includes the projected level of debt in one year with and without the extra payment. This concludes the implementation suggestion section of the module.

The last component of each module is setting goals, or 'action steps' as we label them. The user is presented with several options, as in Figure 3. A roll-over feature allows the user to

interact with each option and view a short, written description of what each goal will entail. For example, in 'Borrowing,' goals may include using the tax return to make an extra payment on a credit card, setting up automatic credit card payments, or paying off the highest-interest card first.

[FIGURE 3 ABOUT HERE]

Following the completion of each module, the user is asked to select his/her most pressing goals from the list of his/her action steps to be completed in the near term. The user then selects each action step, uses a drop-down list of dates to select a deadline for completing the action step, and reports how confident he/she is about completing the action step in the allotted time. Then the user is able to print out the planned action step report, and can fill in the dates for the remaining goals by hand. This responds to the concept of implementation intentions. Because users actually visualize the impact of making a change in the preceding part, the implementation intention coupled with the new knowledge is expected to be particularly effective.

3.4 Telephone-based financial coaching

A final step in our approach is the provision of telephone based financial coaching for one year after home purchase to a subset of users. Participants assigned to financial coaching receive an initial contact from a trained financial coach one month after home purchase, with quarterly follow-up from the same coach spaced evenly throughout the year. As distinct from education or counseling, financial coaching is client directed to encourage and monitor progress towards client-identified financial goals. For the MyMoneyPath program, the online financial assessment

and financial plan serves as a starting point for the coach and participant. In addition, the participant may identify additional or alternative financial goals to pursue during the coaching sessions.

While financial coaching is client directed, a coaching guidebook developed specifically for the MyMoneyPath program was provided as part of a two-week training session for the four coaches providing services for this program. Coaches were provided "sample dialogue scripts" to reference when making contact with clients, and practiced coaching techniques in a group setting prior to working with actual participants. The purposes of the coaching sessions were to: (1) identify, or refine, client-directed financial goals; (2) break down goals into actionable steps that are specific, measurable, attainable, realistic and time-bound; and (3) establish a plan to monitor progress towards goals, with the coach serving as an external check on progress, i.e., how the client and coach will identify when success has been achieved. While coaching contact is scheduled for quarterly intervals, follow-up by the participant and coach through phone calls or emails between quarterly calls is anticipated to monitor progress towards goals. It is up to the coach and participant to establish the most appropriate mechanisms for follow-up. We expect that financial coaching will reinforce clients' follow-through on the intentions they formulated during the action-step process. As a result, we expect increased goal attainment.

4. Implementation

4.1. Study Population & Data

To evaluate the appropriateness and effectiveness of financial planning interventions for first-time homebuyers, we integrate the MyMoneyPath approach into a statewide affordable homeownership program in Ohio. We have partnered with the Ohio Housing Finance Agency

(OHFA)'s First Time Homebuyer Program, which provides affordable fixed-rate mortgage financing funded through tax-exempt Mortgage Revenue Bonds. Nationwide, more than 100,000 low and moderate-income first-time homebuyers purchase homes using state Mortgage Revenue Bond programs every year. OHFA's "First-Time Homebuyer Program" is one of the largest in the nation in terms of the number of homebuyers served (National Council of State Housing Agencies 2011). From 2005 to 2011, OHFA has originated roughly 40,000 loans to low and moderate income homebuyers. By law, OHFA's program serves individuals with household incomes below 115 percent of area median income, or up to 140 percent of median income in federally designated underserved target areas where borrowers are not required to be first-time homebuyers.

OHFA's program provides the ideal setting to isolate the effectiveness of technology based financial planning interventions. Because of the Mortgage Revenue Bonds' subsidized mortgage product, interest rates and loan terms are held constant across homebuyers at any given point in time. Further, while there are multiple lenders originating OHFA loans, all loans are sold to the same Master Servicer within 60 days of closing, holding constant variation in loan performance that may be due to more or less aggressive servicing. Importantly, as the owner of the mortgage, OHFA collects ongoing data on borrower loan performance, as well as credit histories that may be indicative of financial well-being (see Appendix A). Finally, OHFA currently requires all homebuyers receiving down payment assistance to complete its "OHFA's Streamlined Homebuyer Education Program" (OHFA 2008) prior to loan closing, allowing for easy integration of the MyMoneyPath program developed for this study.

4.2 Research Design

The sampling frame for this study consists of all low and moderate-income homebuyers participating in the Ohio Housing Finance Agency's homebuyer program and completing its education component beginning May 20, 2011 through December 31, 2011. During this seven-month time frame, a minimum of 1,500 homebuyers are expected to complete the education program and be invited to participate in the study. The first 600 consenting homebuyers will be randomly assigned to one of two groups:

(1) *Control group:* 200 participants will be assigned to the control group. Control group participants will complete the online financial assessment immediately prior to home purchase and twelve months after home purchase. They will receive summary of their financial health, and a standardized list of resources for additional information on each of the five content areas assessed in the online check-up.

(2) *Treatment group:* 400 participants will be assigned to the treatment group. Treatment group participants complete the online financial assessment immediately prior to home purchase and twelve months after home purchase (receiving the same output as the control group). In addition, participants in the treatment group will be offered the online financial planning modules (includes learning and goal setting tools) after completion of the financial assessment, and receive telephone coaching and counseling sessions from an assigned professional in the financial counseling field.

The financial assessment and online financial planning modules are hosted on the MyMoneyPath website. The completion of the online financial health assessment has been made mandatory to be eligible for the affordable OHFA mortgage financing and has been integrated into the streamlined education program provided to all homebuyers applying for OHFA mortgage

financing. Upon completion of the financial assessment, participants are directed to a screen on the website informing them of the opportunity to receive additional free financial planning modules and participate in a study. Full study details are provided, including descriptions of the financial planning modules and confidential use of their data for research, following an IRB approved protocol. After reading the consent information online, participants indicate consent by selecting "I agree" or "I do not agree" to participate in the study and receive additional financial planning resources. Participants who agree to participate receive a $25 Amazon.com gift card via e-mail for their participation, and are randomized into either the control or the treatment group. Participants in the treatment group are immediately directed to the online financial planning modules, and receive an additional $25 Amazon.com gift card after they complete the financial planning modules as an additional incentive. Participants in the treatment group are also instructed that they will receive free financial coaching for one year after home purchase, which will commence within one month of their mortgage loan closing.

The effectiveness of the treatment interventions will be evaluated through comparisons of pre- and post-treatment indicators of long-term financial well-being from both administrative and self-reported data. Standard statistical procedures will be employed to determine the impact of the treatment on indicators of financial well-being. Because we have experimental data, we can employ a pre and post-test design (X1 T X2), where X1 is the measured outcome at time 1, X2 the measured outcome at time 2, and T is the intervention. Differences in pre and post-test indicators will be compared for control and treatment group participants, using standard statistical procedures, such as comparison of means, t-tests, analysis of variance. Effect size will be calculated and compared with previous studies of similar outcomes. Regression models will be employed to account for important covariates, including participant credit score, household

income, family size, gender of applicant, race and ethnicity, age of applicant, total household debt, mortgage amount, purchase price and location (census tract) of home purchase.

4.3 Indicators of Financial Well-Being

To evaluate the effectiveness of the interventions, there are four types of quantitative indicators of financial well-being analyzed in this study: (1) changes in debt exposure and repayment, derived from credit report data pre and post-treatment; (2) mortgage payment history, provided monthly by the Ohio Housing Finance Agency; (3) changes in reported savings and savings plans, including retirement savings, taken from pre and post-treatment assessments; and (4) changes in self-reported indicators of financial well-being, taken from pre and post-treatment assessments. All data is collected at Time 1 and Time 2 for participants in control and treatment groups.

Changes in debt exposure & repayment. Data on the amount and types of debt held by participants is obtained from credit report information collected by the Ohio Housing Finance Agency through their loan servicer at the time of purchase, and 12 months after purchase. See Appendix A for a list of administrative indicators, including credit indicators. Debt indicators include change in credit score, change in the number of accounts with a positive balance, change in total debt (dollars), change in consumer debt (dollars), change in the number of credit card accounts with a positive balance, and change in revolving debt (dollars). We build on previous research validating the measures to be used here (Elliehausen, Lundquist, and Staten 2007).

Mortgage payment history. Data on monthly mortgage payment performance is available for all homebuyers in the Ohio Housing Finance Agency's First-time Homebuyer Program. This data is provided through the Ohio Housing Finance Agency's loan servicer, who collects and

tracks all mortgage payments. Each monthly payment is given a code number (1-9) based on the timeliness of the payment, indicating whether or not the payment is on time, 15 days late, 30 days late, 60 days late, and so on. Mortgage payments that are late 30 days or more are considered "delinquent", and payments more than 60 days late are considered "seriously delinquent." For the proposed outreach project, mortgage payment performance is tracked by (1) whether or not the homebuyer was "ever delinquent" (missed any payments) in the first 12 months after home purchase; and (2) whether or not the homebuyer was ever "seriously delinquent" within the first 12 months after home purchase. Measures for mortgage loan payment performance will build on previously validated measures of mortgage loan performance in state Mortgage Revenue Bond programs (Moulton 2009).

Self-reported savings behavior. Data on household savings is collected for all participants through the online financial assessment completed immediately prior to home closing, and 12 months after home closing. Appendix B provides the text of the assessment questions from the MyMoneyPath tool, by financial assessment construct.

Self-reported financial well-being. In addition to collecting data about household savings, the financial assessment (completed prior to closing and 12 months after closing) includes an array of questions about other areas of financial health, including budgeting, borrowing, housing and retirement (see Appendix B). Further, additional measures of confidence with finances, financial literacy, and time preferences are included, adapted from the standard assessment tool of the financial capability framework (Atkinson et al. 2006).

5. Year 1 Results: Baseline Indicators of Financial Well-Being

5.1 Study Recruitment

The purpose of the first year of this study was two-fold: (1) to design and validate financial planning interventions for first time homebuyers, and (2) to collect baseline data on the financial well-being of first-time homebuyers receiving the interventions. In this section, we present the baseline data on homebuyers recruited to participate in the study thus far. As of August 8, 2011, 203 consenting participants have been enrolled into the study and randomly assigned to the control (n=61) and treatment (n=142) groups. An additional 162 participants completed the financial assessment but did not consent to participate in the study. 82 participants started, but did not yet complete the financial assessment and are still in the process of being recruited for the study. Thus, the total number consenting to date (n=203) represents a consent rate of 55% of the 366 completing the assessment, and 45% of the 447 initiating it.

5.2 Baseline Administrative Data

To provide context for our study population, Table 1 provides summary statistics of baseline administrative data collected by the Ohio Housing Finance Agency through their Master Servicer for all homebuyers purchasing homes in May and June 2011 (near our study period), and for our study sample. It is important to note that there is a minimum two months lag from the time a participant is enrolled in the study, and the time a complete array of administrative characteristics are available. This is due to the fact that participants are recruited immediately prior to purchasing their home, and originating lenders are not required to sell their loans to OHFA's Master Servicer until 60 days after closing. Thus, while we have some baseline administrative data (in addition to financial health assessment data) for all study participants to

date (n=203), some indicators are only available for a small number of the homebuyers consenting to participate in our study between May 20, 2011 and August 8, 2011, whose loans have already been purchased by OHFA's servicer (n=19).

[Insert Table 1 Here]

Examining the administrative data in Table 1, it is clear that the average household in the sample would be considered "low-income", with an annual gross household income of $36,696 (monthly income of $3,058), which is only 61% of the HUD median family income of $60,300 for Ohio in 2011 (U.S. Department of Housing and Urban Development 2011). Despite having lower incomes, most of the households would be considered ready for home purchase by conventional underwriting standards. For example, the average credit score of borrowers in the study sample is 675 (range of 620 to 780). Even by conservative underwriting criteria, credit scores above 620 are typically considered acceptable, and scores above 660 are considered to be indicative of "good" credit. The debt to income ratio (total financed monthly debt divided by monthly income) is modestly high, with a mean of 39%, and a housing ratio (house payment divided by income) of 24%, however the ratios still fall below the conventional affordability cut-offs of 41% for debt to income, and 29% for house payment to income.

Demographically, the average sample borrower is 33 years of age (range from 19 to 89), with a household size of 2.25 (range from 1 to 7). About 17% of the sample borrowers are black, and 55% are female-headed households. In terms of their mortgage, the average appraised value at closing is $97,105 for sample borrowers, with an average loan to value (LTV) ratio (for all loans) of 97.5% and an interest rate of 4.9%. It is important to note that the interest rate will be

the same for OHFA borrowers at any given point in time, as the rate is set by the program and is not tied to credit risk. One interesting observation is the comparison between the previous rent payment and new mortgage payment (including principal, interest, taxes and insurance). On average, sample borrowers previous rent payment was $537 (median of $600), with a range from $0 to $1,700. By contrast, the average mortgage payment is $778, with a range from $409 to $1,261. Thus, in addition to the costs associated with purchasing and maintaining a home, the base amount paid each month for housing is typically higher after purchase, potentially causing financial constraints.

5.3 Baseline Indicators of Financial Health

While qualifying for a mortgage based on underwriting criteria (such as credit and debt), it is important to consider the overall financial health of the homebuyer, as this will likely be associated with their ability to maintain mortgage payments and build wealth and financial security over time. We analyze the baseline financial health of our sample of homebuyers to date (n=203) in five key areas included in the online financial health assessment: budgeting, borrowing, saving, housing and retirement. Table 2 provides summary statistics of key indicator items in each of these areas, beginning with an overview of the types of financial accounts held by the homebuyers in our sample.

[Insert Table 2 Here]

First, while most of the respondents (97.5%) report having a checking account, only 69% report having a savings account. Further, among those with checking or savings accounts, the

median amount accumulated is very low: only $1,000 in either account. Thus, nearly one third of homebuyers enter homeownership without a savings account, and the median homebuyer has less than $2,000 in liquid assets held in checking and savings accounts combined. In terms of long-term financial health, while the average homebuyer is in their early 30s, less than half (42%) report that they have a retirement account; and among those who do have a retirement account, the median amount saved is only $5,000.

In terms of budgeting, a majority of homebuyers (91%) report that their paycheck is directly deposited into their checking account, which supports the notion that automatic deposits are recommended as a behavioral strategy to help with self-control issues. Further, 83% of homebuyers report that they have some sort of written spending plan or budget, and of those, about three quarters (74%) report that they are able to stick to that plan most of the time. When asked how often they were short of money within the last year, 95% of respondents reported "rarely" or "never".

With regard to borrowing, most homebuyers report that they have at least one credit card, with a range of 0 to 7 cards per household. About 12% of homebuyers report that the last time they received their credit card bill, they paid only the minimum or less. An additional 5% report receiving a collection call within the last three months, and 2% report using payday lending services within the last three months. More concerning appears to be the average level of indebtedness of the households. Table 3 provides a breakdown of self-reported non-mortgage debt.

[Table 3 Here]

As indicated on Table 3, all homebuyers in the study report having some form of outstanding non-mortgage debt, most frequently credit card debt (70.9%), with an average outstanding balance of $3,047 and a median of $1,000—the same amount that most homebuyers report that they have in liquid assets. More than half of households in the study report car debt with a median outstanding balance of $11,000, and nearly half report having student loan debt with a median outstanding balance of $17,500. Overall, the median total outstanding non-mortgage debt for homebuyers is $14,396 with a median monthly payment of $319. Given the low incomes of the homebuyers combined with lack of liquid assets, this level of debt may seriously impede the homebuyers' ability to build financial security.

In terms of savings behavior, 86% of homebuyers report that they are saving, indicating that more than 1 in 10 homebuyers (14%) are not currently saving. While most of those who are saving money report that they are saving for emergencies, about half are saving for short or long-term financial goals (53%). Further, only 38% of homebuyers report having money automatically deposited into an account to save money. As new homeowners, one area of potential financial concern is increased home maintenance costs. However, only 62% of homebuyers report having money saved for home repairs. Further, 14% of the new homebuyers report that they struggled making their rent payments within the last three months, signaling potential concern for meeting monthly mortgage obligations.

An area of financial health that is of particular importance in this study is retirement preparedness because of its linkage to long-term financial planning. Many lower income households lack access to financial planning resources that would adequately prepare them for retirement. Indeed, only half of respondents report that they are saving for retirement, either in an individual account or in an account through their employer. Of those who report saving for

retirement, just over half (57%) report that this savings occurs automatically, such as through payroll deduction. Apparently, even of those who report saving for retirement, many are not doing so on a regular basis.

While it is possible that even if respondents are not currently saving, they may have a plan to save for retirement at some point, only 41% of respondents reported having such a plan. When asked how much they think they might need to have saved by the time they retire, our sample of low-to-moderate income homebuyers provided a broad range of responses, from $0 to $100 million, with a median response of $200,000. Almost half of respondents were not reasonably confident with their estimate. Of perhaps greater concern, fewer than half of respondents (46%) report that they understand how to find out about their estimated social security benefits. Respondents estimate that social security might cover between 0% to 100% of their retirement costs, with an average of 25%.

5.4 Financial Confidence, Literacy and Time Preferences

In addition to self-reported financial behaviors, the online financial health assessment includes a series of questions related to participant's perceived confidence with different aspects of their finances, their ability to solve financial problems, and their time preferences for financial gratification. Table 4 provides the summary statistics for these questions. Of all areas of their financial health, including day to day finances, paying off debt, making mortgage payments, planning for future expenses and retirements, homebuyers feel most confident about their ability to make their mortgage payments, with an average response of 3.92 on a scale of 1 to 4, where 1 is not at all confident and 4 is very confident. A full 92% of homebuyers report that they are very confident that they will be able to make their mortgage payments. This compares favorably to the

only 83% who are very confident that they will be able to cover their day-to-day expenses and 76% who are very confident that they will be able to pay down their debt. This result may be due in part to myopic decision frames. Because the homebuyer is in the process of purchasing a home, they feel most confident about this financial obligation compared with their other obligations. Whether or not this confidence will hold after purchase is an empirical question for the evaluation phase of our study. Of particular concern, less than half of respondents (47%) report that they are very confident that they will be prepared for future expenses, and 11% report that they are not confident. Further, with regard to retirement, only 36% of respondents are very confident that they are prepared, and one in four respondents report that they are not confident that they are prepared for retirement.

[Insert Table 4 Here]

To distinguish between financial behaviors and other traditional indicators of financial literacy, homebuyers were asked two previously validated questions related to calculating interest and calculating inflation (Lusardi and Mitchell 2007). With regard to interest, 89% of homebuyers responded correctly to the following prompt: "Suppose you had $100 in a savings account and the interest rate was 2% per year. After 5 years, how much do you think you would have in the account if you left the money to grow?" With regard to inflation, 70% of homebuyers responded correctly to the following prompt: "Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, how much would you be able to buy with the money in this account?"

Aside from financial literacy, time preferences may drive the financial behaviors of homebuyers. For example, those homebuyers with a preference for immediate gratification may be less likely to save money or plan for long term expenses - even if the return in the future would be higher. To measure time preferences, we include a previously validated hypothetical question (Ashraf, Karlan, and Yin 2005) that asks respondents whether they would prefer $40 today, or some higher amount of money in the future. About 78% of respondents were willing to wait one month to receive $50, instead of $40 today; 92% were willing to wait one month to receive $60 instead of $40 today; and nearly all (99.5%) of respondents were willing to wait to receive $125 one month from now instead of $40 today. Thus, 22% of respondents were willing to pay a hypothetical $10 (or 20% of the total available surplus) to have the money today, and 8% of respondents were willing to pay a hypothetical $20 (or 33% of the total available surplus) to have the money today. These results suggest that a non-negligible proportion of participants in our sample prefer immediate gratification to waiting for future, greater consumption.

[Insert Table 5 Here]

5.5 Sample Bias Estimates

As a final step in our preliminary analysis, we compare the sample of homebuyers who consented to participate in the study with the homebuyers who did not consent to participate in the study. A critical issue for evaluations of financial education interventions is self-selection; that is, those who elect to participate in the financial intervention may be more (or less) likely to have financial difficulty. While we randomly assign consenting participants to the treatment and control groups to help overcome this selection bias, participants still must consent to participate

in the study before they are randomly assigned. It is possible that those who consent to participate in the study perceive that they have greater (or less) financial need than those who do not consent to participate in the study. We use aggregate statistics from the online financial health assessment to compare consenters and non-consenters, with the appropriate statistical tests for comparisons of means (t-test) and comparisons of frequencies (χ^2). Table 6 presents the results.

[Insert Table 6 Here]

There are a few significant differences between those homebuyers who consent to participate in the study and receive additional financial planning resources, and those who do not. First, those who do not consent report slightly higher liquid assets, as measured by the amount of money in their checking and savings accounts. However, they are significantly less likely to use automated deposits, either from their paycheck or into a savings account. They are less likely to report that they struggled to pay their rent within the past three months, and are more likely to report that they have a plan for their retirement. Further, non-consenters are significantly more confident in their ability to pay down their debt and save for retirement. Finally, non-consenters are significantly less likely to answer correctly to questions related to their financial literacy, with only 82% responding correctly to interest and 57% responding correctly to inflation, compared with 89% and 70%, respectively, for consenters. The significant differences between the two groups provide a mixed picture. On one hand, non-consenters appear more confident in their abilities to plan and save for long term expenses, and less likely to perceive difficulty making rent payments in the last three months. However, when it comes to more objective indicators, such as automatic deposit or enrollment into savings accounts, and

responses to questions regarding financial literacy, non-consenters rate lower than the consenters.

6. Policy Implications & Conclusions

While still early in the study, there are several important policy implications that can be drawn thus far from our program design and baseline data. We divide these implications into three categories, corresponding to three distinct areas of contribution: (1) low income homeownership programs; (2) long term financial and retirement planning for vulnerable populations; and (3) the design and implementation of targeted financial planning interventions for low income households.

6.1 Low Income Homeownership Programs

While homeownership is often promoted as a wealth building tool for low and moderate income households, such homebuyers may lack the knowledge and/or capability to make financially sound decisions regarding their mortgages, leaving them with a liability rather than an asset. Further, lack of sufficient savings and high debt burdens may make low and moderate income homeowners particularly vulnerable in the presence of "triggering events," such as job loss or medical crisis, leading to mortgage default (Firestone, Van Order, and Zorn 2007). Indeed, our study sample demonstrates this vulnerability; the average homebuyer has less than $2,000 in liquid assets, with median non-housing debt of nearly $15,000. However, based on conventional underwriting criteria, the borrowers in our sample are doing fine, with an average credit score of 674, and affordable housing and debt ratios. Further, the new homebuyers in our sample are very confident in their ability to make their mortgage payment-- even more confident than they are

with their ability to manage their daily finances. Despite their perceptions, as signaled by their very low savings and high non-mortgage debt, this confidence may be overstated.

Even as affordable housing policies shift towards tightened underwriting criteria based on conventional standards, it is critical to keep in mind that low and moderate income homebuyers are still vulnerable and may not be positioned to build assets through ownership without more broadly targeted interventions. Such interventions should not be limited to readiness for home purchase or ability to make mortgage payments, but rather should assist homebuyers to accurately appraise their overall financial situation and work towards comprehensive financial well-being. To the extent that building wealth is a rationale for homeownership, it is critical to consider interventions that facilitate financial behaviors that build wealth.

6.2. Financial & Retirement Planning for Vulnerable Populations

There is significant policy concern that low and moderate income households may not be sufficiently prepared for long term financial needs, including retirement. This lack of preparation may stem from lack of information about future retirement needs, and/or from short-term perspectives that prevent cash-strapped households from investing for long term goals. Both barriers are present in our sample of low and moderate income homebuyers. With an average age of 32, most households in our sample are at an ideal age to begin saving for retirement. However, nearly half are not saving or planning for future goals, including retirement. In addition, the majority don't even understand the basics- such as where to find out information about social security benefits. Further, one in four reports a lack of confidence in their own ability to prepare

for retirement expenses, highlighting the importance of external support and interventions that target this population.

Interventions designed to increase the long-term preparedness of low and moderate income households for retirement should include a focus on both education and behavioral modifications. Targeted education should include information about basic resources, such as social security benefits and benefits through employers, in addition to more complex financial products. Behavioral modifications can encourage even modest savings on a regular basis towards retirement; simply setting up a retirement account and plan to save over time would improve the financial well-being of a large proportion of vulnerable households.

6.3. Designing Targeted Interventions for Vulnerable Populations

The economic crisis and mortgage crisis that preceded it has increased policy interest in targeted financial education and planning interventions for vulnerable populations. However, there is a lack of rigorous, systematic evaluations of the effectiveness of interventions that is needed to substantiate public investment in such strategies. This has led to a robust debate about the content of interventions and mode of delivery. For example, should interventions simply provide information and disclosure ("buyer beware"), or build in savings or monitoring mechanisms? Are online and technology based interventions truly sub-par to more costly and intensive face to face interventions? While the answers to these questions are beyond the scope of the present analysis, the preliminary study recruitment data collected thus far demonstrates that more than half of low-income homebuyers are amenable to the receipt of additional financial planning tools. From a comparison of consenters and non-consenters, it appears that those homebuyers who are less confident in their financial planning abilities are more likely to select into the study.

This may signal that those with greater need are able to self-select to receive assistance when it is offered; or it may simply indicate that there is a group of households who are unaware that have financial needs, and thus are less likely to accept assistance.

In either case, our preliminary data suggests that our interventions are being provided at a teachable moment (home purchase) to a potentially vulnerable group of households. *This highlights the potential to integrate simple financial planning tools, like those employed in this study, during other teachable moments across the lifecycle.* Short term awareness of a financial transaction may be leveraged to engage the household in long term financial planning. To the extent that such integration can occur through an existing program infrastructure as has been done in this study, there may be an increased likelihood of take-up, as well as cost savings for implementation.

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Table 1. Administrative Data, Ohio Housing Finance Agency Homebuyer Characteristics

	All Borrowers May-July, 2011 n=258				Sample Borrowers[1,2]				
	Mean	SD	Min	Max	Mean	SD	Min	Max	
Borrower Characteristics									
Credit Score	680.64	53.28	601	900	674.53	47.97	620	780	[1]
Monthly Income ($)	$3,194	$1,009	$1,043	$6,615	$3,058	$1,112	$519	$6,744	[2]
Black (%)	14.7%		0	1	17.2%		0	1	[2]
Male (%)	48.8%		0	1	44.8%		0	1	[2]
Household Size	N/A				2.25	1.39	1	7	[2]
Age of Purchaser	N/A				32.57	10.68	19	89	[2]
Debt Ratio	39.7%	0.09	12.4%	69.8%	39.1%	0.10	14.5%	55.1%	[1]
Housing Ratio	26.1%	0.07	11.7%	44.5%	24.1%	0.08	14.1%	39.9%	[1]
Previous Rent Payment	N/A				$537	$336	$0	$1,700	[2]
Mortgage Characteristics									
New Mortgage Payment (PITI)	$802	$240	$330	$1,604	$778	$210	$409	$1,261	[1]
First Mortgage LTV	93.9%	0.07	29.0%	121.2%	95.6%	0.02	90.6%	97.5%	[1]
Total LTV	98.0%	0.06	78.7%	138.9%	97.5%	0.00	97.4%	97.5%	[1]
Interest Rate	4.7%	0.00	4.3%	5.0%	4.9%	0.00	4.5%	5.0%	[1]
Property Value at Origination	$103,399	$35,887	$39,000	$220,000	$97,105	$28,170	$42,000	$155,000	[1]

[1]sample n=19, due to 2 month lag after closing for reporting on these indicators

[2]sample n=203, data is available prior to home closing

Table 2: Indicators of Financial Well-Being (Self-Report)

Indicator	Mean	Median	SD	Min	Max
Accounts					
Have Checking Account	97.5%			0	1
Checking ($)	$1,765	$1,000	$2,248	$0	$16,000
Have Savings Account	69.0%			0	1
Regular Savings ($)	$1,993	$1,000	$2,820	$0	$15,000
Have a Retirement Account	41.9%			0	1
Retirement Savings ($)	$12,013	$5,000	$21,084	$0	$159,000
Budgeting					
Paycheck Direct Deposit	0.91			0	1
Written Spending Plan	0.83			0	1
Stick to Spending Plan	0.74			0	1
Not Often Short of Money	0.95			0	1
Borrowing					
Credit Card Use (#)	1.47	1	1.00	0	7
Credit Card Habits (Minimum or less)	0.12			0	1
Collection Calls	0.05			0	1
Payday Lending	0.02			0	1
Saving					
Saving Any Money	0.86			0	1
Saving More	0.45			0	1
Saving Same	0.43			0	1
Saving Less	0.12			0	1
Emergency Savings	0.86			0	1
Saving for Goals	0.53			0	1
Automatic Savings	0.38			0	1
Housing					
Savings Home Repairs	0.62			0	1
Automatic Mortgage Payment	0.46			0	1
Rent: Struggle but Current	0.14			0	1
Retirement					
Saving for Retirement	0.51			0	1
Automatic Retirement Savings	0.57			0	1
Estimate Retirement ($)	$5,284,101	$200,000	$70,200,000	$0	$100,000,000
Retirement Confidence (Reasonably)	0.54			0	1
Retirement Plan	0.41			0	1
Stick to Retirement Plan	0.81			0	1
Estimate Social Security (%)	25.21%	20.00%	25.95%	0.00%	100.00%
Understand Social Security	0.46			0	1

Based on sample borrowers May 20 thru August 8, 2011; n = 203

Table 3: Non-Mortgage Debt (Self-Report)

	%	Mean	Median	SD	Min	Max
Monthly Payments						
Car Payment	56.7%	$333	$315	$122	$137	$715
Student Debt Payment	47.3%	$179	$118	$160	$0	$695
Credit Card Payment	70.9%	$112	$60	$143	$0	$1,000
Personal Loan Payment	7.9%	$128	$118	$80	$0	$312
Other Debt Payment	2.5%	$87	$100	$29	$50	$120
Total Monthly Payments	100.0%	$365	$319	$303	$0	$1,464
Outstanding Balance						
Car	56.7%	$12,059	$11,000	$7,614	$337	$43,000
Student Debt	47.3%	$23,946	$17,500	$24,673	$580	$180,000
Credit Card	70.9%	$3,047	$1,000	$4,863	$0	$26,000
Personal Loan	7.9%	$3,362	$2,400	$2,842	$50	$9,000
Other Debt	2.5%	$4,960	$2,100	$5,685	$1,700	$15,000
Total Non-Mortgage Debt	100.0%	$20,704	$14,396	$23,163	$0	$183,200

N=203

Table 4: Confidence with Finances (Self-Report)

	Mean	SD	Not at all Confident	Not Confident	Reasonably Confident	Very Confident
Day to Day Finances	3.83	0.39	0.0%	0.5%	16.3%	83.3%
Paying off Debt	3.70	0.61	2.0%	2.0%	20.2%	75.9%
Making Mortgage Payment	3.92	0.27	0.0%	0.0%	7.9%	92.1%
Planning Future Expenses	3.35	0.70	1.0%	10.3%	41.4%	47.3%
Planning for Retirement	3.07	0.85	4.4%	19.2%	40.9%	35.5%

N=203

Table 5: Financial Literacy and Time Preferences

Indicator		Mean	Min	Max
Financial Literacy				
	Interest (Correct)	89.16%	0	1
	Inflation (Correct)	70.44%	0	1
Time Preferences				
	$50 Later	77.83%	0	1
	$60 Later	92.12%	0	1
	$125 Later	99.51%	0	1

N=203

Table 6: Indicators of Financial Well-Being, by Consent or Not Consent

Indicator		Consent N=203	No Consent N=162	
Accounts				
	Have Checking Account	97.5%	96.9%	
	Checking ($)	$1,765	$2,194	^
	Have Savings Account	69.0%	64.8%	
	Regular Savings ($)	$1,993	$2,805	*
	Have a Retirement Account	41.9%	39.5%	
	Retirement Savings ($)	$12,013	$10,601	
Budgeting				
	Paycheck Direct Deposit	91.3%	83.3%	*
	Written Spending Plan	83.3%	79.0%	
	Stick to Spending Plan	73.9%	72.8%	
	Not Often Short of Money	94.6%	97.5%	
Borrowing				
	Credit Card Use (#)	1.47	1.33	
	Credit Card Habits (Minimum or less)	11.6%	7.9%	
	Collection Calls	4.9%	4.9%	
	Payday Lending	2.0%	0.6%	
Saving				
	Saving Any Money	86.3%	86.4%	
	Saving More	44.6%	47.9%	
	Saving Same	43.4%	42.1%	
	Saving Less	12.0%	10.0%	
	Emergency Savings	86.3%	83.6%	
	Saving for Goals	53.1%	53.6%	
	Automatic Savings	38.3%	29.3%	^
Housing				
	Savings Home Repairs	62.1%	55.6%	
	Automatic Mortgage Payment	46.3%	53.7%	
	Rent: Struggle but Current	14.2%	7.4%	*
Retirement				
	Saving for Retirement	50.7%	53.1%	
	Automatic Retirement Savings	56.7%	56.8%	
	Estimate Retirement ($)	$5,284,101	$8,949,235	
	Retirement Confidence (Reasonably)	53.7%	48.1%	
	Retirement Plan	41.4%	54.3%	*
	Stick to Retirement Plan	81.0%	79.5%	
	Estimate Social Security (%)	25.21%	34.12%	*
	Understand Social Security	45.81%	41.36%	

Confidence				
	Day to Day Finances	3.83	3.85	
	Paying off Debt	3.70	3.82	*
	Making Mortgage Payment	3.92	3.95	
	Planning for Future Expenses	3.35	3.42	
	Planning for Retirement	3.07	3.20	^
Financial Literacy				
	Interest (Correct)	89.16%	82.10%	*
	Inflation (Correct)	70.44%	56.79%	**
Time Preferences				
	$50 Later	77.83%	76.54%	
	$60 Later	92.12%	92.59%	
	$125 Later	99.51%	98.15%	

^p<.10; *p<.05; **p<.01. Based on comparison of frequency (chi2), or comparison means, (t-test) as appropriate

Appendix A: Administrative Data

Collected at Origination

Lender Name
Original Mortgage Amount ($)
Escrow per Month ($)
Mortgage Insurance Premium ($)
Race of borrower
Gender of borrower
Original Loan to value ratio (%)
Interest Rate on mortgage (%)
Original Property Value ($)
Amount of Purchase price ($)
City Code (location of purchase)
City Name
PMI Code (mortgage insurance company)
PMI Description (type of mortgage insurance)
Census tract (location of purchase)
Date Note (closing date)
Credit Score at closing
Monthly Income ($)
Monthly Debt ($)
Monthly House Payment ($)
First time Home Buyer?
Household Size
Downpayment Assistance ($)
Age of borrower (years)

Ongoing Data Collected

Monthly mortgage payment performance (days late)
Monthly loan status (current, paid in full, in default, foreclosed)
Outstanding mortgage balance (monthly)
Credit score (annually, from credit file)
# of accounts with positive balance (annually, from credit file)
# of credit cards with positive balance (annually, from credit file)
Total outstanding debt ($, annually, from credit file
Total consumer debt ($, annually, from credit file)
Total revolving debt ($, annually, from credit file)

Appendix B: Selected Financial Assessment Questions (from MyMoneyPath)

Indicator	Question
Self Report (Accounts)	
Regular Savings ($)	Amount in savings and checking accounts
Retirement Savings ($)	Amount in retirement account(s)
Have a Retirement Account	Dummy Variable, any retirement account
Self Report (Confidence)	
Day to Day Finances	How confident do I feel taking care of my day-to-day finances Scale of 1 to 4, 1=not at all confident; 4= very confident
Paying off Debt	How confident do I feel Paying off my loans and credit cards Scale of 1 to 4, 1=not at all confident; 4= very confident
Making Mortgage Payment	How confident do I feel Making my monthly mortgage/rent payment Scale of 1 to 4, 1=not at all confident; 4= very confident
Planning for Future Expenses	How confident do I feel planning for future expenses like vacations, big purchases, and emergencies Scale of 1 to 4, 1=not at all confident; 4= very confident
Planning for Retirement	How confident do I feel planning for my retirement Scale of 1 to 4, 1=not at all confident; 4= very confident
Self Report (Budgeting)	
Paycheck Direct Deposit	Is your paycheck directly deposited into your bank account?
Written Spending Plan	Do you have a written spending plan?
Stick to Spending Plan (Most of the Time)	Over past year, how often were you able to stick to your spending plan? Never, Some of the Time, Most of the Time, Don't Know
Not Short of Money (Never or Rarely)	Over past year, how often were you short of money at the end of the month? Never, Rarely, Often, Always
Self Report (Borrowing)	
Credit Card Use (#)	About how many credit cards do you regularly use?
Credit Card Habits	When you got your last credit card, did you: pay more than minimum amount due?
Collection Calls	In the last 3 months, have you received a call from a creditor or bill collector?
Payday Lending	Have you taken out payday loans in the past 3 months?
Self Report (Saving)	
Saving Any Money	Are you currently saving money?
Saving More	Over the past year, have you saved: More than you usually do?
Saving Same	Over the past year, have you saved: About the same as you usually do?
Saving Less	Over the past year, have you saved: Less than you usually do?
Emergency Savings	Are you currently saving specifically so you have money in case of emergencies (rather than a vacation, a new TV, etc.)?
Saving for Goals	Are you currently saving for other specific goals, like a vacation, car, or college?

Automatic Savings	Are you currently having money automatically deducted from your paycheck or transferred from a checking account in order to save money?
Self Report (Housing)	
Savings Home Repairs	Do you have money saved for home repairs or maintenance?
Savings Home Repairs ($)	How much money saved for home repairs or maintenance?
Automatic Mortgage Payment	Is your mortgage payment sent automatically from an account or do you pay it manually (for example, by sending a check) every month?
Don't Struggle	Thinking back over the past 3 months, how much do you struggle to make your monthly mortgage payments?
Struggle but Current	Thinking back over the past 3 months, how much do you struggle to make your monthly mortgage payments?
Struggle and Behind	Thinking back over the past 3 months, how much do you struggle to make your monthly mortgage payments?
Pay Extra on Mortgage (Definitely)	Do you plan to pay extra on your mortgage this year, like making an extra payment or paying more than the minimum amount due each month?
Self Report (Retirement)	
Saving for Retirement	Are you currently saving for your retirement?
Automatic Retirment Savings	Are you currently having money automatically deducted from your paycheck or transferred from a checking account to save for retirement?
Estimate Retirment ($)	How much do you think you will need to have saved by the time you retire? Take your best guess.
Retirment Confidence	How confident are you that this is a good estimate? Scale of 1 to 4, 1=not at all confident; 4= very confident
Retirment Plan	Do you have a plan to get to that amount?
Stick to Retirement Plan	In the past year, how well have you stuck to that plan? Never, Rarely, Most of the Time, Don't Know
Estimate Social Security	When you retire, about what percent of your income do you think will come from Social Security (compared with money from your retirement accounts or savings)?
Undersand Social Security	Do you know where to go to find an estimate of how much money you might expect to receive from Social Security when you retire?
Self Report (Financial Literacy)	
Interest (Correct)	Suppose you had $100 in a savings account and the interest rate was 2% per year. After 5 years, how much do you think you would have in the account if you left the money to grow?
Inflation (Correct)	Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, how much would you be able to buy with the money in this account?
Self Report (Time Preferences)	
$50 Later	Would you rather get $40 now or $50 a month from now
$60 Later	Would you rather get $40 now or $60 a month from now
$125 Later	Would you rather get $40 now or $125 a month from now

Figure 1a: Results of Financial Assessment as Displayed to User

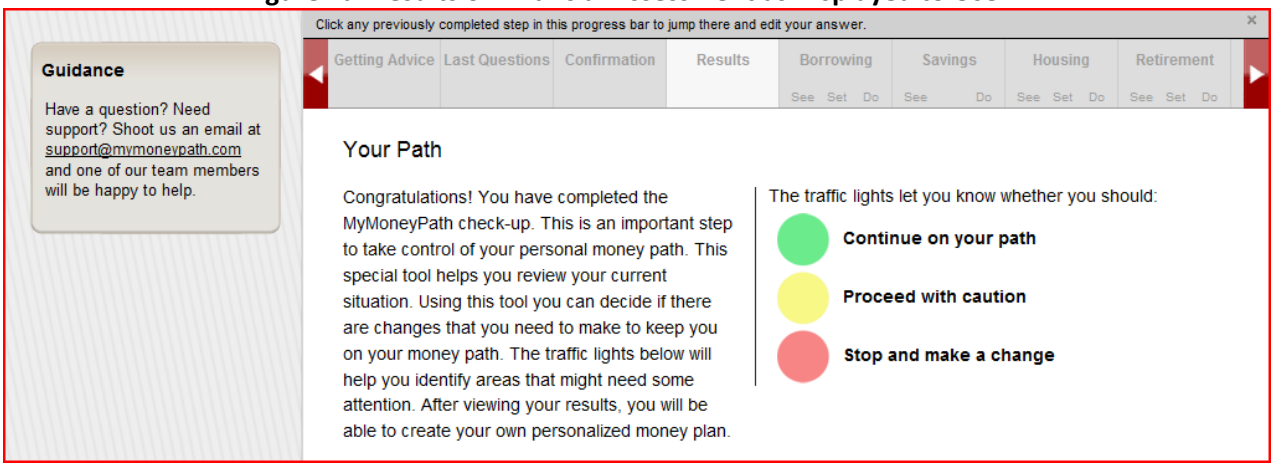


Figure 1b: Results Specific to Borrowing, Saving

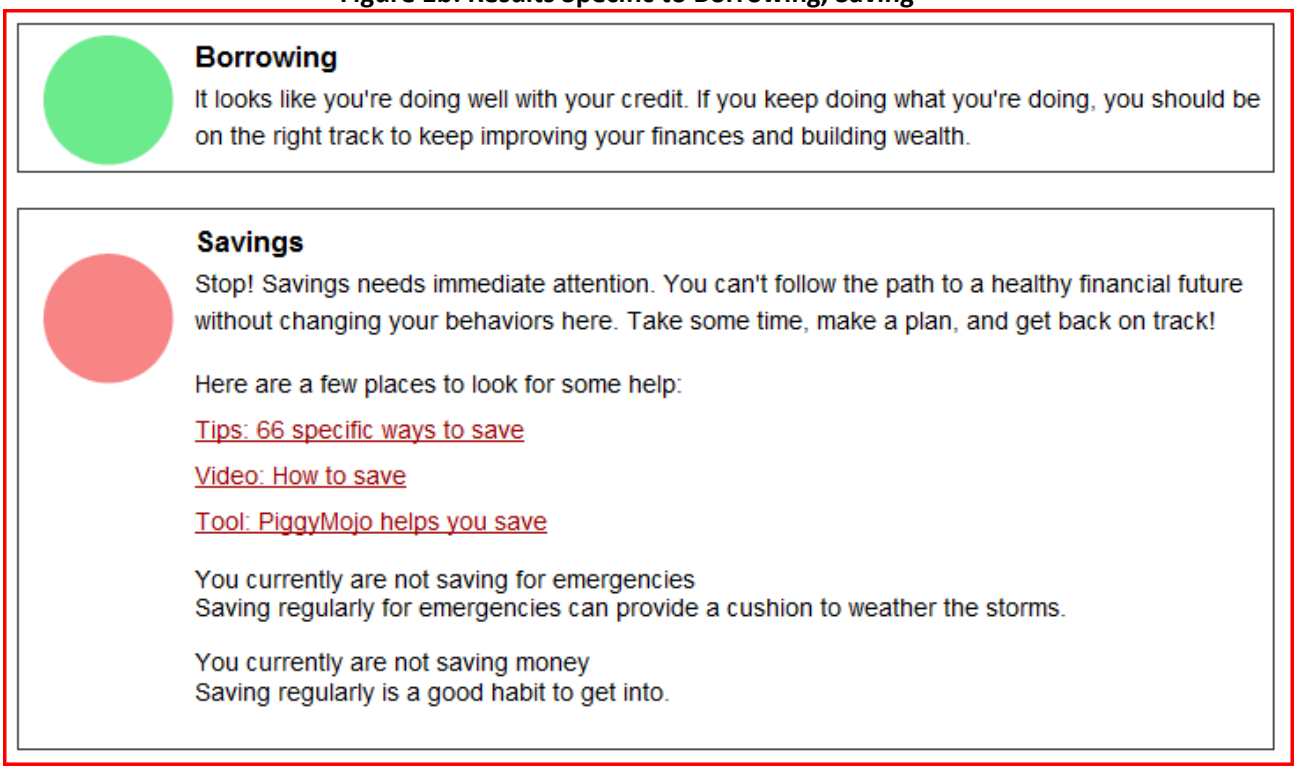


Figure 2: Borrowing "Snapshot"

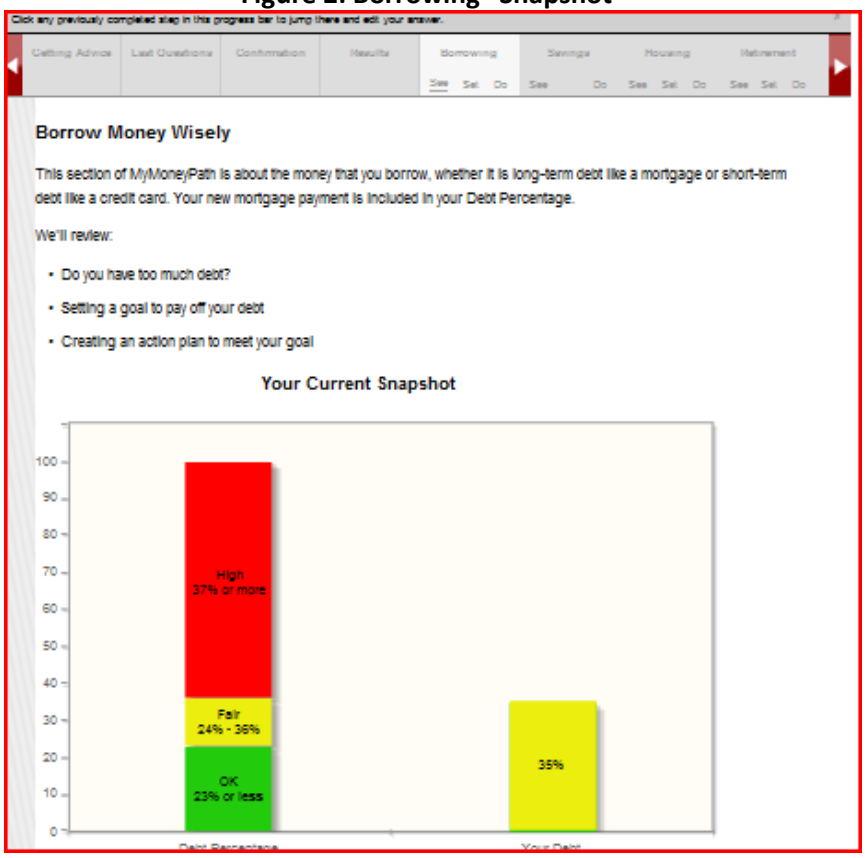
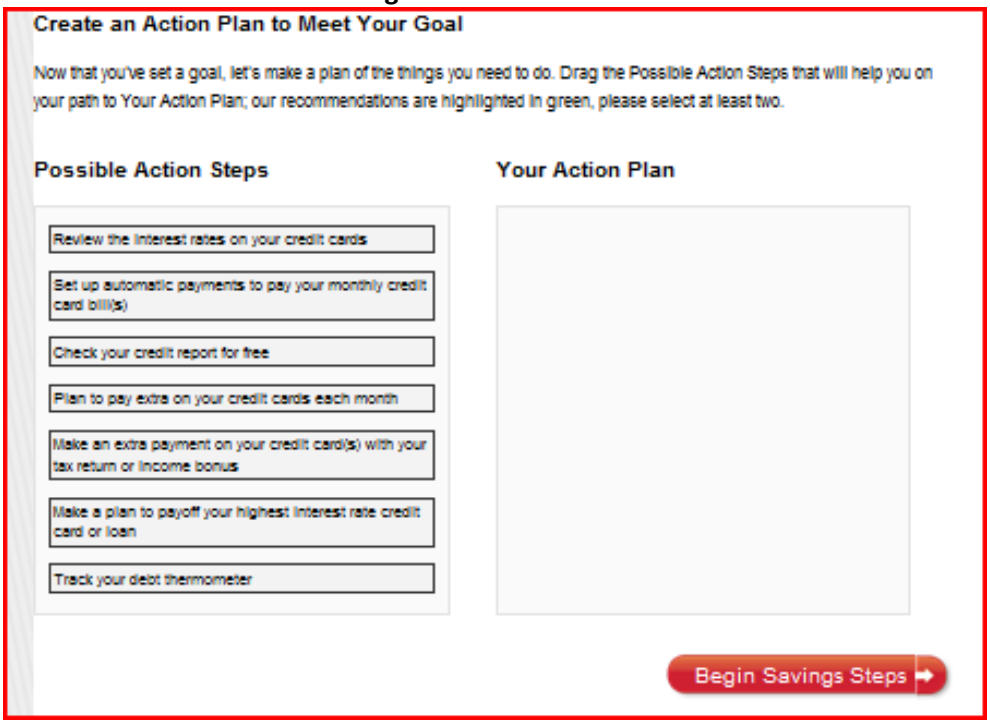


Figure 3: Action Plans



Field Experiments on the Impacts of Financial Planning Interventions for Recent Homebuyers

Center for Financial Security Working Paper 2011-CFS.5

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