
AN EVALUATION OF TAX-REFUND SPLITTING AS AN ASSET-BUILDING TOOL FOR LOW-TO-MIDDLE INCOME INDIVIDUALS

POLICY ANALYSIS EXERCISE

APRIL 5, 2005

SUBMITTED TO:

Timothy Flacke & Jeffrey Zinsmeyer
DOORWAYS TO DREAMS FUND, INC (D2D)

PREPARED BY:

ANNE E. CHIOU
SAMUEL E. ROE
ETHAN S. WOZNAK
CANDIDATES FOR MASTER IN PUBLIC POLICY
JOHN F. KENNEDY SCHOOL OF GOVERNMENT
HARVARD UNIVERSITY

FACULTY ADVISOR:

PROFESSOR ERZO LUTTMER

PAC SEMINAR LEADERS:

PROFESSOR GUY STUART
PROFESSOR WILLIAM APGAR

TABLE OF CONTENTS

Executive Summary	1
Introduction	2
Savings as an asset-building tool.....	3
Varying theories on why low-income individuals save.....	5
Our current R2A study.....	6
Previous studies on R2A tax refund splitting.....	7
Current R2A Tax Refund Study	11
Design of the study.....	11
Important additions to the study.....	12
Research Questions	13
Methodology	15
A Look at R2A Participants	17
Characteristics of participants.....	17
Evaluation of R2A	25
Take-up rate.....	25
How much saving is R2A generating?.....	27
Is R2A getting the right people to save their refunds?.....	28
Marketing &Expansion Plan	34
Recommendations	40
Appendix	43
Sample R2A Survey	44
End Notes	48
Bibliography	49

EXECUTIVE SUMMARY

The trend towards promoting asset accumulation among the poor has been gaining steam in recent years due to the emphasis on asset-building as a means to lift the poor out of poverty. This trend is a result of greater focus on the increasing wealth gap between high-income groups and low-income groups.

One way to build assets is to accumulate wealth through savings. Studies have shown that almost a quarter of the poor hold no financial assets at all. Obtaining higher savings would foster greater asset-accumulation, allowing the poor to build reserves for emergency use, plan for future expenses, and shield themselves against income shocks.

Savings as an asset-building tool for the poor is a step in the right direction. However, how to generate greater savings and for what population remains to be determined. Our client, the Doorways to Dreams Fund, established the Refunds to Assets (R2A) program to promote asset-building among the poor through tax refund splitting. Tax refund splitting is a pre-commitment from the tax refund recipient to put a portion of their tax refund into a savings account. Since tax refunds are one of the largest lump-sum payments from the government to low-to-middle income (LMI) households, tax refunds have the potential to become a powerful asset-building tool.

The R2A program is in its second-year of study. R2A II uses two tax site locations in Tulsa, Oklahoma and Brooklyn, New York to survey LMI individuals on their savings behavior, financial preferences, and financial condition. Participants were randomly assigned into treatment and control groups. We have been commissioned to answer the following questions:

- What is the take-up rate & savings generated from the R2A program?
- Is R2A targeting the right population of savers that should be saving?
- How can R2A increase its effectiveness in its marketing strategy?

To answer these questions, we analyzed survey and tax data from a randomized offering of R2A.

Key Findings

- While the take-up rate was relatively low this year, in the 5-8% range, those that did participate saved 236% more than they said they would before hearing about the program
- By a variety of measures, R2A does not appear to be encouraging refund saving among those who are in financial situations less suitable for saving.
- D2D should follow a marketing plan designed to decrease the cost of participation for the non-profits, increase the attractiveness of the program for government agencies, provide financial institutions with increased incentives to participate, and increase product desirability for program participants.

A Look At Asset Accumulation & the Poor

In the U.S., there are 9.2 million American households that earn less than \$36,784, which is twice the federal poverty level.¹ These households are counted as low-to-middle income (LMI) families, and have the following distinguishing characteristics:

- ◆ work an average of 1.2 jobs
- ◆ one-third are parents who didn't finish high school.
- ◆ tend to be younger heads of households
- ◆ have fewer years of education than their higher-income peers.²
- ◆ are disproportionately racial minorities

Low-Income Households Hold Only 1% of U.S. Wealth.

The income discrepancy between the poor and the wealthy in the U.S. is also a distinguishing feature of this population. However, what is *less* noticed is the discrepancy in asset accumulation between the poor and the wealthy.

In a study conducted by Edward N. Wolff (2001), the very top 1% of households earned roughly 17% of national income, but owned more than double this percent (38%) in national wealth. In contrast, the bottom 40% earns only 10% of national income, but a mere 1% of wealth.

LMI Households Hold Almost No Financial Assets

Even on a stand-alone basis, the number of LMI households that lack financial assets reflects the lack of asset accumulation from the lowest income groups.

- ◆ In 2001, approximately 25% of households in the bottom income bracket had *no financial assets* at all (Azicorbe, Kennickell, and Moore, 2003).
- ◆ Another study reported one out of seven, or roughly 14% of low-income households as having *no financial assets*.

Lack of financial assets among the poor is thus a prevailing syndrome of the poverty trap, in which pay-check to pay-check living results in continuing poverty.

The Poor Tend to Stay Poor Even Over Time

Even over time, studies show that the poor tend to stay poor.

- ◆ Hurst, Luoh and Stafford (1998) find that 2/3rds of families falling in the bottom 10% of the wealth distribution stayed in the bottom 20% 10 years later.

**Distinguishing
Between Assets
& Income**

This staggering differential in asset accumulation between the wealthy and the poor is even higher than the income discrepancy. The distinction between income and assets has thus gained wide attention in academic literature. In particular, Sherraden's (1991) asset-based theory of welfare has called for direct policy towards asset-building for the poor at the federal level.

**Improving the
Condition of the
Poor Through
Asset-Building**

With asset accumulation comes the advantages of cushions against economic shocks, household stability, stimulation of the development of other assets, and other positive "asset effects." Advocates for asset-accumulation as a poverty reduction tool refer to these asset effects as evidence that asset-building improves the overall well-being of the poor.

SAVING AS AN ASSET-BUILDING TOOL

One way to build assets is to accumulate wealth through savings. Savings is a liquid form of asset-building that allows for preparation in case of emergencies, and cushions against income shocks. Savings can help a person avoid high debt & generate better planning.

Although savings in general can be a positive tool to build assets for the future, we acknowledge that there are circumstances in which savings can adversely affect a person's financial condition. Saving may make a person worse off if they are currently receiving substantial government assistance that is contingent upon their assets. High debt levels and loan obligations may make a person worse off if they try to save. Savings as an asset-building tool, thus, must be a timed decision.

Low savings is a pervasive problem among (LMI)³ families, affecting a quarter of working families in the U.S. While private savings in the U.S. has generally been low on average across income groups, it is usually the case that LMI households have disproportionately lower than average savings rates.⁴ In fact, the likelihood of any savings among low-to-middle income (LMI) households is small. The Survey of Consumer Finances (2001) describes 30% of the lowest income bracket as having any savings at all, which means that 70% of the lowest-income households were not saving at all.

As we move up the income brackets, savings tends to climb higher. Thus, savings and asset accumulation are positively correlated with income. In fact, it has been shown to be the case in numerous studies including Brady and Friedmand (1950), Fisher (1952) and Kuznets (1953) that not only does saving rates increase with level of income but the variability in saving rates over time has historically been higher among those in lower-income brackets.⁵

Part of the explanation for why low-income households may have lower savings and why high income groups generate higher savings is due to consumption constraints on LMI households. This intuitive reason is underlined by Beverly, Tescher and Marzhal (2000), who posit that subsistence needs will override savings for the LMI. Other theories focus on economic shocks constraining LMI savings behavior; the savings gap between the wealthy and the poor can be partly explained by positive temporary shocks concentrating more in high-income groups while negative temporary shocks occurring more often in low-income households.⁶ Still other explanations focus on demographic variables: those who hold less saving tend to be less educated, are non-white, hold less wealth, and are unemployed.⁷

Asset accumulation and savings are linked in that an increase in savings should result in higher asset accumulation. One way to see the positive relationship is to view those who do not have transactions accounts, and therefore, do not have observable signs of savings, and compare their assets to those who hold transactions accounts.⁸

The un-banked, those who do not own a bank account, make up nearly 10 million U.S. households, or roughly 9.5% of all U.S. households. Almost 83% of the unbanked—those who earn less than \$25,000 a year—are low-income.⁹ A large portion of the unbanked also hold very little financial assets.

According to Gale & Carney (1998) low-income households with bank accounts were 43% more likely to have other financial assets than households without bank accounts.¹⁰

Studies also suggest that the unbanked, those who do not have savings or checking accounts, hold less savings than the banked.

For instance, a survey of low-income neighborhoods revealed that 78% of the banked in Los Angeles and New York held some form of savings as compared to 30% for the unbanked.¹¹

Results such as these suggest that savings, or at minimum, the opening of a transactions account, may be correlated with asset accumulation. These studies do not prove that holding transactions accounts “cause” greater asset ownership. However, they do suggest holding transactions account may provide a link to the financial mainstream that affect asset-building in unobservable ways.

Clearly there is strong evidence to support the fact that higher savings leads to higher asset accumulation. So what are the motivations that drive LMI households savings, apart from external constraints? We take a look at some of the theories of savings below.

VARYING THEORIES ON WHY LOW-INCOME INDIVIDUALS SAVE

Life-Cycle Hypothesis of Savings

The oldest of the saving theories, the life-cycle hypothesis, assumes that individuals are concerned with long-term consumption. Savings is a way to smooth out consumption in the face of income fluctuations.¹² The life-cycle hypothesis (LCH) assumes that individuals will have the financial information to make long-term choices between consumption and saving. However, LMI households are, on average, ill-informed of their financial options compared to higher-income groups.

In general, the LCH has trouble explaining the savings behavior of LMI households. In fact, asset accumulation of low-income households is much less consistent with LCH predictions of wealthier households. (Bernheim & Scholz, 1993). The LCH also assumes that individuals are rational in their inter-temporal trade-offs between consumption and saving, smoothing out their consumption over time to reflect not only their present utility but also incorporating future utility into their calculations. Such a rational approach to savings does not fit the empirical evidence, especially when it comes to the poor. There is little evidence available that confirms that LMI households save based on the LCH model of savings.

Behavioral Theory of Savings

Unlike life-cycle models of savings, behavioral savings models contend that households are not optimizing life-cycle agents.¹³ Instead, behavioral models of savings suggest that individuals have short-term focus and myopic consumption behaviors. Behavioral theories of savings assume that individuals are not self-controlled and rational in making their savings choices.

In making savings choices, Katona (1975) divides the decision to save into two categories—the ability to save and willingness to save.¹⁴ The poor not only have more difficulty to save given their income constraints, but behavioral theories of savings purport that the poor's willingness to save will play a large role in determining their savings rate.

Willingness to save is also affected by time preferences for saving. As Harris & Laibson (2001) points out, there is a gap between what savers purport they are willing to save with what they will actually save due to the fact that decision-makers are relatively impatient with making short-run tradeoffs versus trade-offs in the long-run. Hyperbolic discounting models illuminate the gap between actual savings and expected savings. This is due to the fact that in the far distance, commitments to save are more easily made but as time moves closer to the event, actual savings may be less than what was initially proposed. Thus, one explanation for why LMI households tend to save less or fail to hold any savings is that they are hyperbolic savers who hold higher time preference rates.

In tracing behavior-induced savings trends among the poor, behavioral theories can help explain why individuals may not accumulate assets, and provide ways in which programs intended to instill self-control and discipline into savings frameworks amongst the poor may narrow the gap between preferred and actual savings.

**Institutional
Theory of
Savings**

Implications from behavioral theory of savings spill over into the institutional theory of savings. The institutional theory of savings points out that the low savings rate may be attributable to the absence of institutional mechanisms to save.¹⁵ Sherraden (1991) posits that low saving rates and limited asset accumulation of low-income individuals might be partly explained by relatively limited access to institutional saving opportunities and incentives.¹⁶ If institutional constraints are the reason why LMI households save so little, then programs and policies enacted to facilitate savings may engender a higher rate of savings among the poor.

**Precautionary
Theory of
Savings &
Buffer-Stock
Model**

The precautionary approach to savings emphasizes the degree to which uncertainty plays a role in savings decisions. Under the life-cycle model, individuals will save regardless of income uncertainty. However, under uncertainty from both permanent and transitory income shocks, individuals may increase the amount that they save as a way to insure against these uncertainties. Hubbard, Skinner & Zeldes (1995) assert that certain welfare programs and policies may actually create the incentives for LMI households to save *less*, since social insurance cushions against future uncertainty and would thus minimize the need for precautionary saving. Similar studies by Carroll and Samwick (1997), link greater wealth accumulation with predictably greater income uncertainty. Tangential to precautionary motives to save is the buffer-stock model describing savings as primarily a way to insulate consumption against a bad draw in disposable income. Households that experience a bad draw, resulting in lower wealth, would be careful to “replenish” their buffer stock to some target wealth-to-income ratio in order to ameliorate the uncertainty effects.

OUR CURRENT R2A STUDY

The R2A Study

The federal tax refund provides an opportunity to encourage asset-building among low-income individuals. Our client, Doorways to Dreams, has launched the Refunds to Assets (R2A) program to assist low-income individuals with achieving higher savings, and thus, higher asset accumulation. The Refunds to Assets Program (R2A) partners with local community action groups and volunteer income tax assistance (VITA) programs to provide tax-refund splitting services to low-income participants. Tax refunds can already be direct-deposited in savings accounts, but few LMI households will be able to save their entire refund. Tax-refund splitting seeks to help individuals build savings by giving them the ability to put a portion of their federal tax refunds into a savings account, while also keeping part of their refund for other uses. R2A has only been tested on a relatively small scale, but has the potential to generate a large volume of savings. To test the effectiveness of tax-refund splitting in savings generation and program participation rates, a pilot study was done last year and a second, larger study was conducted this year. Doorways to Dreams asked us to form an academic research team, to assist in the second-year pilot study of R2A, evaluating R2A as an asset-building tool to help low-income families attain higher savings

**Refund-Splitting
As a Possible
Asset-Building
Tool**

Perhaps the largest single lump sum payment that LMI households will receive in a given year comes from refund payments.¹⁷ These refunds from the federal government total more than \$78 billion. A significant portion of these refunds come from the earned income tax credit (EITC), the child tax credit (CTC), and other refundable credits. Based on refund amounts compared to income limits, these refunds can range from 3% to 12% of earned income.¹⁸

**Tax Refund
Splitting
Capitalizes on
Mental
Accounting &
Lump-Sum
Behavioral
Effects**

Tax refund splitting allows individuals to make their own choices about how much to save and how much to consume. Of course, on their own, individuals can also make savings decisions. However, they often times do not choose to save on their own. Part of the reason why this may occur is because there is a lack of institutional mechanisms to save. Tax refund splitting, therefore, may create easier access to savings and overcome institutional constraints to save. Because refund amounts are a large lump-sum amount, they are particularly good for saving. Smeeding et al. (2000) found that nearly a third of a sample of 650 EITC recipients planned to save at least a portion of their tax refunds.¹⁹ Thus there is some evidence to suggest that tax refunds are a good source of savings.

One reason for this could be the tax refund's lump-sum nature and its perception as "additional" income by many LMI recipients. Theories of mental accounting contend that individuals separate their income into three accounts: (1) current income to be spent right away (2) assets and (3) future income.²⁰ The way that income is received influences which of these accounts that income is placed in, and therefore, how that income is spent. Tax refunds as a lump-sum amount may therefore be perceived via mental accounting as most suitable toward asset-building.

**Tax Refund
Splitting
Requires Pre-
Commitment**

Secondly, the notion that pre-commitment may help to place constraints on the temptation to spend factors into the use of tax refund-splitting as a savings tool. In a separate study, Thaler and Bernatzi have found that pre-commitment to savings tends to increase savings amount when employees are given the option to pre-commit a portion of their raise towards their employer's pension plan.²¹ Pre-commitment of a salary raise is thus similar to tax refund splitting in that they both promise a portion of additional income to be set aside—income that was not fully known at the time the decision to pre-commit was made. Therefore we have some evidence to suggest that pre-commitment of tax refunds through splitting may be an effective asset-building tool.

**Tax Refund
Splitting May
Promote Other
Financial
Services**

Finally, individuals who participate in tax refund splitting may benefit from integrating these services with other financial products not offered to them in the past. Tax refund splitting may provide these individuals with the opportunity to open savings accounts, receive advice on financial planning, and create future incentives to use financial services.

PREVIOUS STUDIES ON R2A TAX-REFUND SPLITTING

Study Design

Originally, the Refund to Assets (R2A) study was conducted for primarily two purposes: (1) to assess the impact of tax refund splitting on savings generated through the program and (2) to find out the take-up rate (number of participants who signed up for the program over total participants).

The first R2A pilot program was conducted at two tax preparation sites in Tulsa, Oklahoma with an additional comparison site, in which participants were not offered R2A but were asked if they would hypothetically enroll. The study was conducted for a period of one month, during tax season, between mid-February to mid-March of 2003. Participants were those who walked into the two tax preparation sites and were offered R2A. Takers were those who enrolled in R2A, opened a savings account, or both split their refunds and opened a savings account. Decliners were those who declined to enroll in the R2A program, both from splitting or opening a savings account. A baseline survey was administered to takers, decliners and comparison group participants, although the survey questions varied in between these groups. A follow-up phone interview was also conducted three to five months after R2A takers enrolled.

R2A Team

This year’s study was conducted through the D2D Fund in conjunction with a local community action group called Community Action Program of Tulsa County (CAPTC) that delivers free tax preparation services in Tulsa County. They also partnered with the Bank of Oklahoma, a local community bank, to issue new savings accounts in addition to refund-splitting services.

D2D Fund	D2D Fund	Non-profit organization based in Roxbury, Massachusetts that aims to improve delivery of financial services to the poor, & tests innovative financial products & services. <ul style="list-style-type: none"> ◆ Provided overall administrative support to R2A study ◆ Developed processes/ systems for asset-building
Annie E. Casey Foundation	Annie E. Casey Foundation	Organization designing strategies to help disadvantaged children and families <ul style="list-style-type: none"> ◆ Explicit tax refund & asset-building agenda
Academic Research Team (HBS)	Academic Research Team (HBS)	Researchers & academics at Harvard Business School <ul style="list-style-type: none"> ◆ Developed research design, administered surveys, data analysis.
CAPTC	CAPTC	Large community action agency based in Tulsa, Oklahoma that provides community with services ranging from housing assistance, child care, and health services to free tax preparation. <ul style="list-style-type: none"> ◆ Enrolled participants in R2A program on-site
BOK	BOK	Local community bank that provides financial services to individuals and small businesses in Tulsa, OK <ul style="list-style-type: none"> ◆ Opened new savings accounts for participants

Important Findings From Last Year's Study***Participants saved an average of \$649 or 47% of their tax refunds.***

Overall, the R2A study showed potential to capture a large percentage of refunds from among takers (those who enrolled in R2A) as savings. More importantly, the study predicted that savings generated from the R2A program could be as large as \$2 billion per year.²²

21% of participants either joined R2A or would have joined if offered the program; 12% actually enrolled in the R2A program.

Excluding those participants who used the R2A program solely for opening a saving account, and not for refund-splitting, roughly one-fifth of participants would have potentially enrolled in the R2A program. As a comparison group, these participants were not offered R2A, but were simply asked if they would enroll if given the opportunity. Another set of participants were offered R2A and 12% of those participants actually enrolled. This is a promising result given that the program is only in its first-year of offering, and given the potential to expand the program to various tax sites nation-wide.

Two-thirds of takers split their refunds to new account

67% of takers opened a new account while splitting their refunds, while the remaining 33% split into an existing account. This finding hints at the usefulness of combining various financial services into packages (both splitting and account opening). It also suggests that the opening of transaction accounts may lead to higher savings, as noted in previous studies. (see Introduction)

Short-comings of the Study

Although last year's R2A study confirmed that substantial savings could be generated from a tax-refund splitting program, there were certain limitations to the study that should be addressed.

One-time study & small sample size

Perhaps the most obvious limitation of the study is that it was conducted in only one city, and had a relatively small sample size. Thus, the study may not be entirely representative of the population. Expanding the study to include more participants or increasing the tax service sites across regions may ameliorate this concern.

Lack of Randomized Control Group

The study did not use a randomized control group as a comparison. Instead, the comparison group was drawn from a tax-preparation site where R2A was not offered, and the group was offered R2A on a hypothetical basis. If people entered the site where R2A was offered showed different characteristics than people who entered the comparison site, then the comparison group's effectiveness as a control is greatly diminished. The study did attempt to manage this shortcoming by looking for differences in observable characteristics between the two groups, but a randomized control group will ensure that even unobservable characteristics are evenly distributed if the sample size is large enough. Thus, adding a randomized control group to the study will make the results more robust.

Baseline survey questions inconsistent among all three groups

For takers, decliners and comparison group participants, the baseline surveys that were administered contained different questions. The taker survey asked for demographic characteristics, current savings and planned refund uses. Decliners were only asked for demographic characteristics and reasons for declining. Comparison group participants were asked for demographic characteristics, financial characteristics and planned refund uses, if offered R2A. Variations in the questions asked make it difficult to compare across these groups. Further, any attempt to make comparisons is hampered by the inherent difference in characteristics that may exist already between each group. It then becomes difficult to understand whether differences between the taker and decliner groups caused the differences in savings generated or if R2A had a positive effect. Administering one survey to all groups would solve this dilemma.

Does not Compare Actual to Expected Savings

The study did not compare takers' expected savings without R2A to their actual refund savings with R2A. Instead, the study compared the actual refund savings of the treatment group to the refund savings of the comparison, which suffers the shortcomings listed above. Without some method of accurately measuring what would have happened in the counterfactual, we cannot be sure whether or not those enrolled in the R2A program saved more or less than the amount they would have otherwise saved without R2A.

Makes the Assumption that Savings is Good for Everyone

Finally, the study does not address the question of whether or not savings is a good decision to make for participants with different financial situations. It assumes that increased savings is necessarily good for LMI participants, since it leads to higher asset-accumulation. There needs to be a re-opening of this general assumption that savings is good, if certain financial constraints such as high debt levels or decreases in governmental public assistance programs should lead to lower savings.

The Scope of Our Study

Because the initial R2A study revealed R2A's promising potential for contributing to savings, further research was required to build on these findings. Our client, D2D, committed itself to another pilot study in order to ascertain the merits of R2A and confirm the findings from the prior year. It also hoped to expand the scope of the study to reveal LMI households' financial product preferences and the effectiveness of various marketing strategies. The looming question of whether R2A could be implemented on a nation-wide basis also entered the picture, and consequently, our client was also interested in the implications that the program may have on IRS involvement into the future, so that R2A could be offered as a part of the tax refund process on a federal level.

With limitations as to what questions to pursue, we have chosen to leave a qualitative assessment of wider policy impacts of the R2A program for future study. Instead, we commit to the following three objectives:

(1) CONFIRM the consistency of the take-up rate & savings generated from the R2A program as compared to last year's pilot study.

(2) RE-EVALUATE whether R2A serves its intended purpose of bettering the condition of its targeted population, the working poor, using refund-splitting as an asset-building tool. That is, we will examine whether or not R2A realizes its goals to engender savings among the population that should be saving²³, versus those that should not, based on their financial constraints.

(3) IDENTIFY the financial products options and the marketing strategies to assess for our client what financial products or marketing techniques are most effective in increasing the effectiveness of R2A.

DESIGN OF THE STUDY

Location/ Sites

Two *tax preparation locations* have been chosen for preliminary studies: one in Tulsa, Oklahoma and the other in Brooklyn, New York. Within the Tulsa location, there are *two tax sites* and in the Brooklyn location, there is *one tax site*. Data from the two sites in Tulsa were consolidated into one batch. Thus references to data from Tulsa refer to data from both sites within Tulsa.

R2A II Team

Doorways to Dreams (D2D)

Our client, Doorways to Dreams, will again administer the refund-splitting program and provide the resources to fund the study. D2D is in charge of the R2A study and hopes to use the study to further its understanding of low-income families' financial needs.

Community Action Groups

CAPTC (Community Action Project of Tulsa County) has volunteered to offer their services in signing up participants at the tax sites in Tulsa, Oklahoma. **FoodChange** in Brooklyn, New York, another community action organization, has also volunteered to participate in the pilot study for the first time.

Bank of Oklahoma (BOK) & Independence Bank

These local banks will provide savings accounts for R2A participants.

Academic Research Team

In conjunction with the initial research team, we have been enlisted to accomplish the following tasks.

- (1) create survey & design questions
- (2) assist in survey implementation at the tax sites
- (3) integrate data sources & analyze data
- (4) report findings

IMPORTANT ADDITIONS TO THE STUDY

Additional Tax Site in Brooklyn, NY

In addition to the tax preparation services in Tulsa, the R2A pilot program has added one more tax site in Brooklyn, New York by working with Food Change, a community resource center that offers free tax assistance. This additional site will expand the overall study, but will also provide additional demographic variety in terms of racial composition. The Brooklyn site services a population that is predominantly of African-descent. In contrast, the Tulsa sites service a more white population in one site, and a racially minority-mixed population in the other site. The Brooklyn site should generate a larger participation base & provide geographical variety to the study.

Randomization with Control Group

Perhaps the most significant improvement to R2A II is usage of randomization in the offering of R2A with the separation of participants into control and treatment groups. The addition of a control group to the study enables us to correct for selection bias with a base case as a reference. This will make the results more robust.

Analyzing Savings as a Good Financial Decision

In this study, we will take a step back to examine whether or not savings is a good decision for participants given their financial constraints. We will look to see whether or not savings would leave participants worse-off, that is, whether or not, they are saving more than they should. Or, if they are indeed, saving less than they should be saving.

RESEARCH QUESTIONS

To help our client to evaluate the R2A program's impacts, refine the program, and plan for the potential implementation of a R2A-like program nationwide, we intend to pursue the following research questions, drawing on the data collected from the R2A pilot programs, as well as additional background research.

Background Data

Who are the people that are using community tax preparation services, and are the participants in this pilot study. What are their demographics? What are their existing financial circumstances? (existing debt, savings, income) Are they integrated into the banking services sector already?

Is R2A Effective?

What is the take-up rate of the program?

Because everyone who enters the tax site will be offered the R2A program during treatment periods, we will divide the number of R2A participants by the number of people who use the tax preparation service. This should be more accurate than dividing by the number of surveys collected, since everyone who used the tax preparation service was offered the R2A service while some people elected not to fill out surveys. We will do this by examining the take-up rate in each tax location (one in Tulsa, and one in Brooklyn) separately.

Are New Savings being generated?

For this, we will compare the amount saved through R2A by the takers to the amount the takers stated they would save before hearing about R2A. We use this method because any portion of the refund that takers would have saved in the absence of R2A cannot be considered an effect of R2A. Thus, we are calculating the incremental effect of R2A on the takers.

However, this is still an imperfect measure, because the total amount of refund saving by the R2A takers will be underestimated, as they may save some additional part of their refund outside of the R2A program. In addition, the amount of stated refund savings (before hearing about R2A) may mis-estimate the actual amount of the refund that would have been saved in the absence of R2A, because 1.) we can only measure what they indicate they will do, rather than actual behavior as in the taker group, and because 2.) at the time people take the survey, they may not know the exact amount of their tax refund.

Is the R2A program beneficial?

While, generally, we might think that saving is a good thing, it may be more or less appropriate for various people, given their financial circumstances. Thus, even if R2A is generating substantial new savings, we also need to discern whether this saving is going to be beneficial for the person.

Is the program helping people meet their stated financial goals?

Since individuals will have more information about their own financial position than we can gather from a survey, we will begin by determining if the program is helping participants meet their stated financial goals. Thus, we will compare takers' stated

savings needs for emergencies and other unexpected things to stated current savings and see if R2A encourages saving among those whose existing savings is below what they state they need. We will also look at the savings behavior of people on their own by this metric.

Is the R2A program better than private saving at getting the right population to save?

To explore this further, we will attempt to determine, from participants' survey responses, whether saving appears to be a good idea, given their current financial position. We will use characteristics such as current savings, monthly debt payments, and income to construct a measure of how appropriate it is for a person to be saving. We will then see if those with higher scores are more likely to save through R2A. If so, then the program is reaching people who have a higher need or suitability for saving.

It is important to note that this method would be using a relative measure of saving suitability, which frees us from having to decide what the absolute requirements are for suitability for saving, but it also prevents us from seeing if possibly none (or all) of the relevant population are in a good position to be saving.

Increasing the Effectiveness of R2A

Targeting: Who should be targeted?

Using our measure of suitability for saving, we will address how these particular people could be targeted.

What products do the takers want?

Matching financial products and services to participant desires should increase the take-up and make R2A more effective. All survey takers answered a question regarding what features are most important to them in a savings account. Additionally, R2A takers were asked if they would use tax refund splitting for other purposes (make a credit card payment, pre-pay for childcare expenses, etc.) if additional services were offered.

Who do they trust?

In last year's study, some potential participants cited trust/privacy issues as their reason for declining the program. Understanding who this population trusts to be involved in a program like R2A could help D2D increase the take-up rate. All R2A takers were asked who they trusted to be involved in a program like this.

What are the steps to improve program desirability?

Using basic principles of marketing and the information from this year's study, we will determine what could be done to make refund splitting more amenable to all parties involved in the service.

METHODOLOGY

- STEP 1:
Initial Survey** A potential participant enters the tax preparation site and is given the survey tool that the research team created. The participant fills out a survey without any assistance and the survey is returned to a member of the R2A project. Usually, the participant will return to their seat and wait until a member of the tax preparation service calls them. Randomization of the product the participant was offered was done by day in NY, and by half day in Tulsa. In half of the time periods, participants were offered R2A. One fourth of the time, savings accounts only were offered, and in the remaining fourth of the time periods, nothing was offered. In NY, product offerings were made by announcement to groups of people in the waiting room, whereas in Tulsa, product offerings were made on a per-person basis by a staff person.
- STEP 2:
Randomization**
- STEP 3:
R2A Offered to
Takers** If the participant is offered R2A and accepts the offering, the respondent then tells the R2A representative how much of their federal refund that they will split either at that moment or when they receive confirmation from the tax preparer of their exact refund. The participant works with the bank representative to open their savings vehicle. The participant is then given a legal document and another survey, the taker survey. The taker survey is used to collect data on: why the participant chose to use the service, other ways on which the participant would like their refund to be split, and participants' attitudes towards banks, non-profits, and other members or potentials members of a tax refund splitting initiative.
- STEP 4:
Taker Survey**
- STEP 5:
Intake Period** Regardless of what offering participants receive, they then return to their seats and wait for what is called intake. During intake the tax preparers collect basic demographic data on the participant to make sure that the participant qualifies for the use of the free tax preparation service. The service is intended for use by low-income residents. By this time a participant could have spent anywhere from one to two hours in the waiting room. If eligible for participation in the program, the participant then returns to his or her seat and waits from anywhere from one to two hours to receive the free tax preparation
- STEP 6:
Free Tax
Preparation**

What was described was the flawless process, but there are times when problems arise. Some participants are denied savings vehicles because of a negative credit or banking history. Some participants that are offered the chance to split their refund already have savings accounts. In that case their refund may go to a bank that is not a participant in the study. Consequently, follow-up research will not have access to their long-term bank account balances

In addition to the previously mentioned problems with this study, there are problems inherent to randomized trials. Randomized trials still suffer from external validity issues. Simply put, no one can say if the outcomes of this program, positive and/or negative, would change if the program was moved to different locations. For instance, maybe the ethnic composition of the neighborhoods being examined are sufficiently unique and integrated that the savings behavior exhibited is due to peer effects or behavior unique to recent immigrants that are concentrated in New York City or Tulsa.

Despite the aforementioned problems, a randomized trial is the best way to approach this study. There are three main reasons for this:

- (1) Other statistical methods are subject to bias and attempts to correct that bias are imperfect at best.
- (2) There are not readily available datasets that deal with the issues that are relevant to this study.
- (3) Although there are external validity issues with the study, if the study is replicated in enough areas of country to get a suitable sample of the population, then the external validity issues are lessened.

A LOOK AT R2A PARTICIPANTS

Details of the Data Collected For This Study

For this study, data was collected in Tulsa between January 29th and February 12th, 2005 and in NY between February 4th and February 12th. While R2A continued to be offered past February 12th, due to publication deadlines, data collected past that date could not be included in our results, but will likely be included in a forthcoming paper commissioned by D2D.

In total, 1176 people filled out surveys and signed consent forms during our time period. The consent form allowed us to access the person's tax return information, as collected by the tax preparation sites through software called Taxwise. Due to difficulties in matching surveys to Taxwise data, only 890 of the participants have data for both the survey and Taxwise. 745 of these people were from Tulsa, while 145 were from NY. We call these 890 people, for whom we have consent forms, survey data, and Taxwise information, R2A participants.

429 of the participants were offered the R2A program, while 200 were offered just a savings account, and 261 were a pure control group. 75 of those who were offered R2A decided to join the program and were able to participate. We will call these people *takers of the R2A program*, while those who were offered the program and did not ultimately participate will be called *non-takers*. Further discussion of takers vs. non-takers can be found below in the section on take-up rate.

CHARACTERISTICS OF PARTICIPANTS

Demographics

Of the 890 participants, two-thirds were women, with 79% of NY participants being female, and 66% of Tulsa participants being female. The program participants are primarily of low socio-economic status, and exhibit many interesting characteristics. Although the average age is 38 and the median age is 36, the modal age is 22.

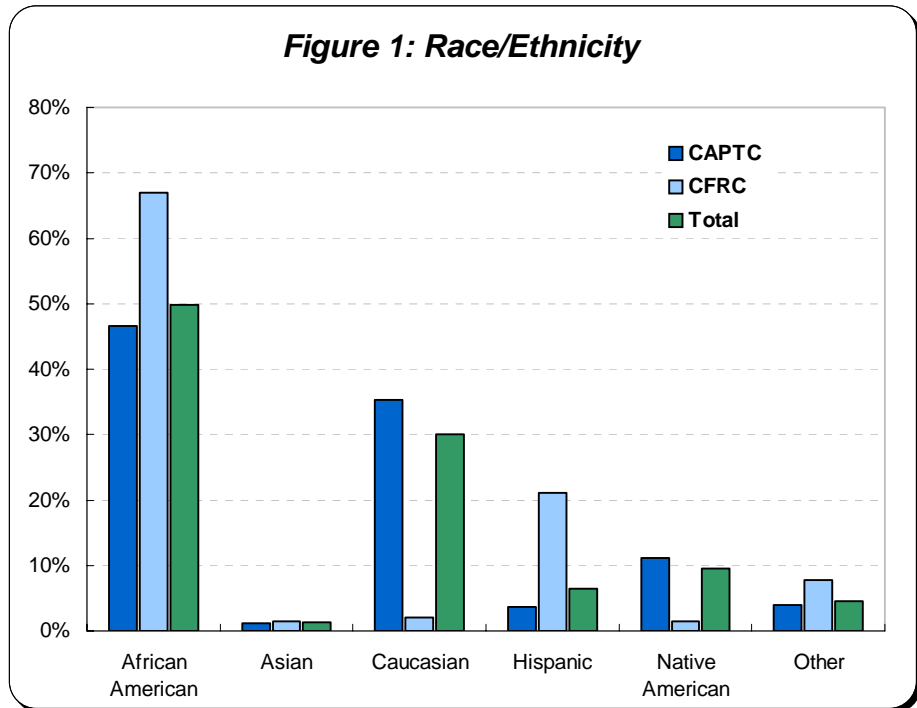
Race/Ethnicity

Table 1 below shows the breakdown of participants by race/ethnicity. Participants were allowed to select multiple choices. Blacks make up nearly half of the program participants, Whites another 30%, Native Americans 6%, Hispanics 8%, and Asian/Other account for approximately another 6%. The racial distributions differ significantly from the distribution the United States as a whole. According to the 2000 census, at that time, 63% of the population was White, another 12% was Black, 12% was Hispanic, 1% was Native American, 3.5% were Asian, and the remaining 4-5% identified as some other race. Racial distributions for the sites are shown below.

Table 1: Stated Race/Ethnicity of Participants

	CAPTC	CFRC	Total
African American	342	95	437
Asian	9	2	11
Caucasian	260	3	263
Hispanic	27	30	57
Native American	82	2	83
Other	29	11	40
Total	735	142	877

Figure 1: Race/Ethnicity

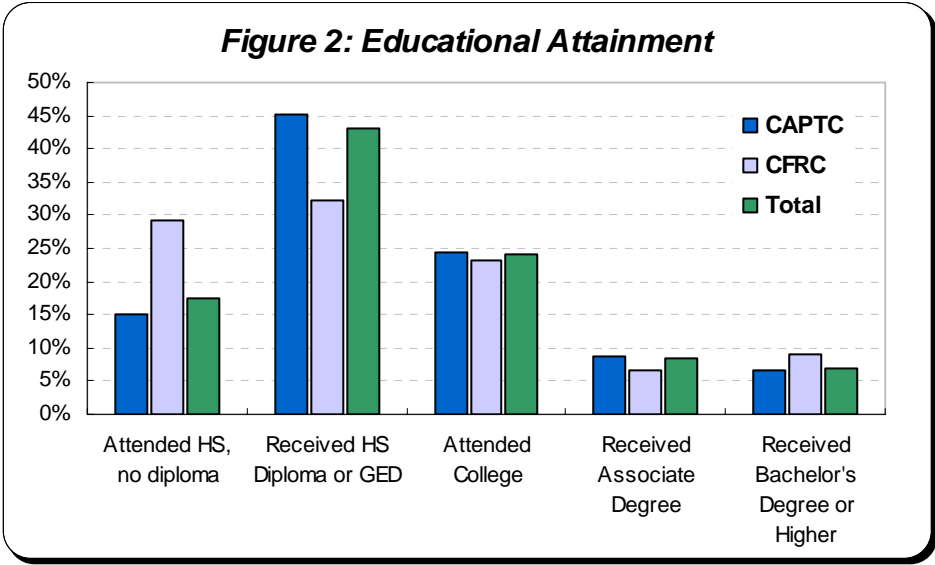


Education

In terms of education, the population has levels of educational attainments that are significantly lower than the norms of the United States. According to the last census, 8% of Americans twenty-five years or older have graduated from high school, while only 73% of the participants had done so. Only 8% of participants 25 years or older have received a bachelor’s degree or higher, compared to the census figure of 25% for the general population.

Table 2: Stated Educational Attainment of Participants

	CAPTC	CFRC	Total
Attended HS, no diploma	106	39	145
Received HS Diploma or GED	315	43	358
Attended College	170	31	201
Received Associate Degree	60	9	69
Received Bachelor’s Degree or Higher	46	12	58
Total	697	134	831



Financial Characteristics

Many of the income and tax characteristics have means and medians that are significantly different, implying that those variables are skewed. The median value for Adjusted Gross Income (AGI) in this population is slightly over \$12,200 and the median household size is two people. According to guidelines issued by the U.S. Department of Health and Human Services, a family of two is considered to be in poverty if household income is not above \$12,500. Finally, the median federal tax refund is almost \$1,000 or approximately 8% of the average participants AGI.

Table 3: AGI and Federal Tax Refunds of Participants (n = 890)

	AGI			Federal Tax Refund		
	CAPTC	CFRC	Total	CAPTC	CFRC	Total
Mean	\$13,767	\$14,971	\$13,963	\$1,647	\$2,205	\$1,738
Median	\$11,916	\$13,047	\$12,211	\$870	\$1,778	\$951

The participants at both sites have comparable financial descriptive statistics, with CFRC participants having slightly higher median values for income. However, there are significant differences in terms of the median values for the refund received by the participants at the two locations.

Existing Savings & Debt

Most participants report having little or no existing savings: 58% have no savings, while 83% have \$250 or less. On the debt side, 55% of participants make a loan payment in a typical month, and 18% of participants pay more than \$500 in loan payments in a typical month. Tables 4 and figure 4 show existing savings and typical monthly loan payments in detail.

Table 4: Stated Existing Total Savings

	CAPTC	CFRC	Total
None	212	38	250
\$1-\$250	93	17	110
\$251-\$500	23	5	28
\$501-\$1000	17	4	21
\$1001-\$2500	8	2	10
\$2501-\$5000	3	1	4
\$5001-\$10,000	4	1	5
\$10,000+	5	0	5
	365	68	433

Figure 4: Amount of Existing Savings

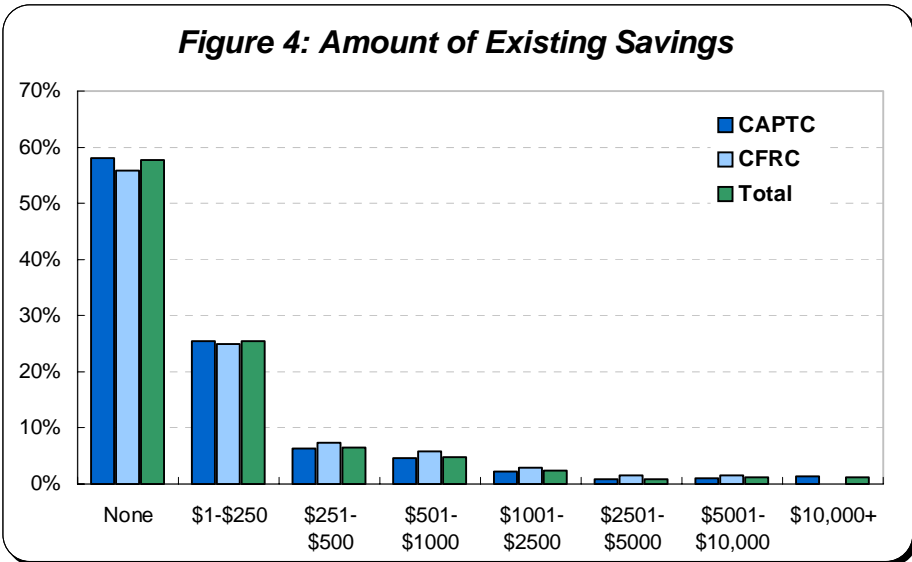
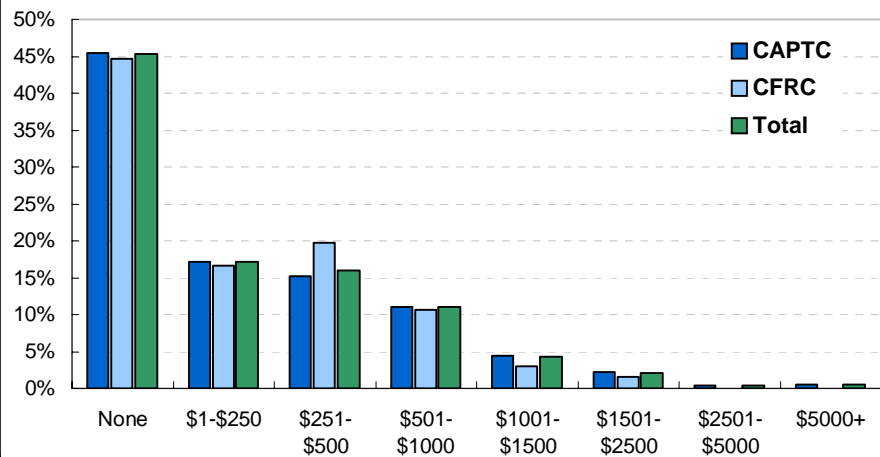


Table 5: Stated Typical Total Loan Payment per Month

	CAPTC	CFRC	Total
None	325	59	384
\$1-\$250	123	22	145
\$251-\$500	109	26	135
\$501-\$1000	79	14	93
\$1001-\$1500	32	4	36
\$1501-\$2500	16	2	18
\$2501-\$5000	3	0	3
\$5000+	4	0	4
Total	715	132	847

Figure 5: Typical Loan Payment per Month



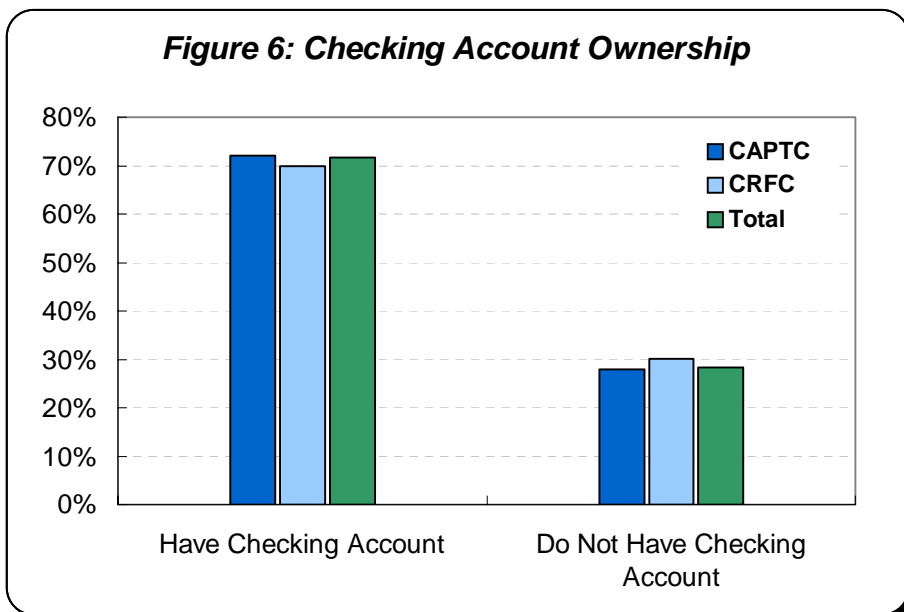
Checking Account Ownership

As noted in the background section, integration into the banking system is correlated with increased asset accumulation. In the present study, 28% of the participants reported not having a checking account.

Table 6: Stated Checking Account Ownership

	CAPTC	CRFC	Total
Have Checking Account	523	93	616
Do Not Have Checking Account	203	40	243
Total	726	133	859

Figure 6: Checking Account Ownership

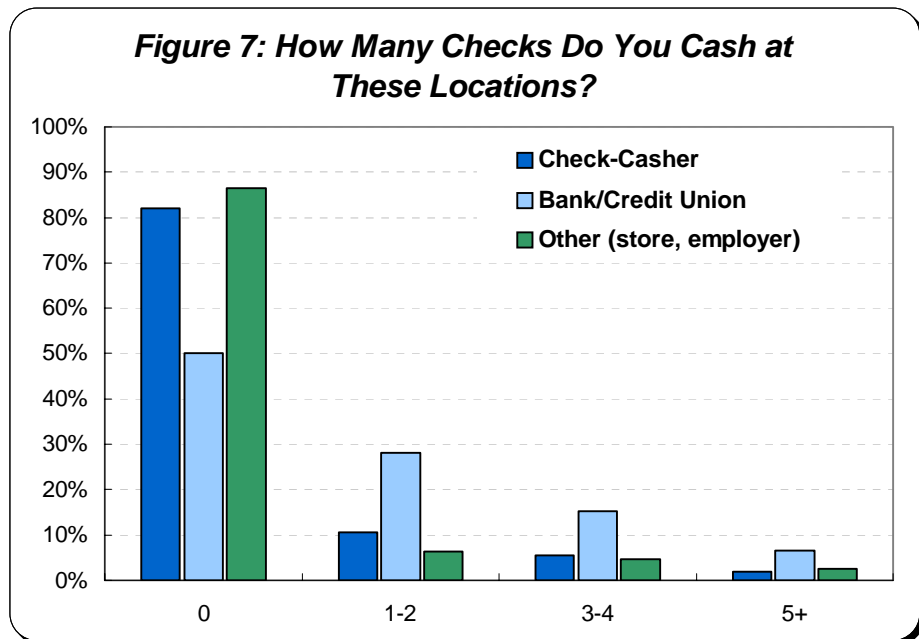


Check Cashing Behavior

Another signal that this population has not been fully integrated into the banking system is that 18% of the participants report having cashed at least one check at check-casher, which is usually done at rates much higher than could be done at a bank even if the person does not have a checking account.

Table 7: “How Many Checks Do You Cash At These Locations?”

	Check-Casher	Bank/Credit Union	Other (store, employer)
0	580	378	539
1-2	75	212	40
3-4	39	114	29
5+	13	49	16
Total	707	753	624

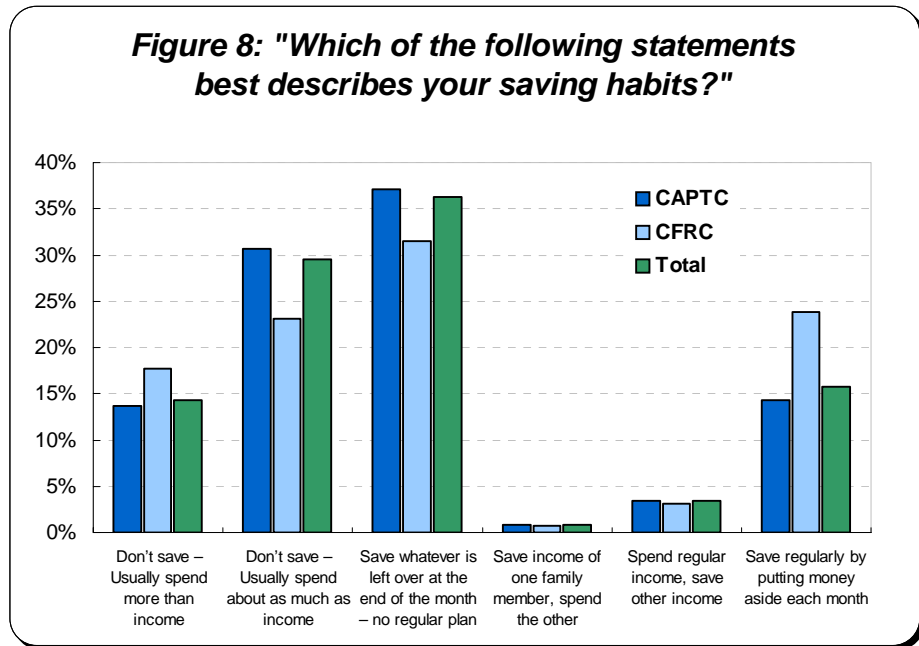


Savings Behavior

In terms of saving behavior, Table 8 shows that 44% of participants report that they do not save. Further, of those who state that they save, 64% report that they have no regular plan for saving.

Table 8: “Which of the Following Statements Best Describes Your Saving Habits”

	CAPTC	CFRC	Total
Don't save – Usually spend more than income.	96	23	119
Don't save – Usually spend about as much as income.	215	30	245
Save whatever is left over at the end of the month – no regular plan.	260	41	301
Save income of one family member, spend the other.	6	1	7
Spend regular income, save other income.	24	4	28
Save regularly by putting money aside each month.	100	31	131
Total	701	130	831



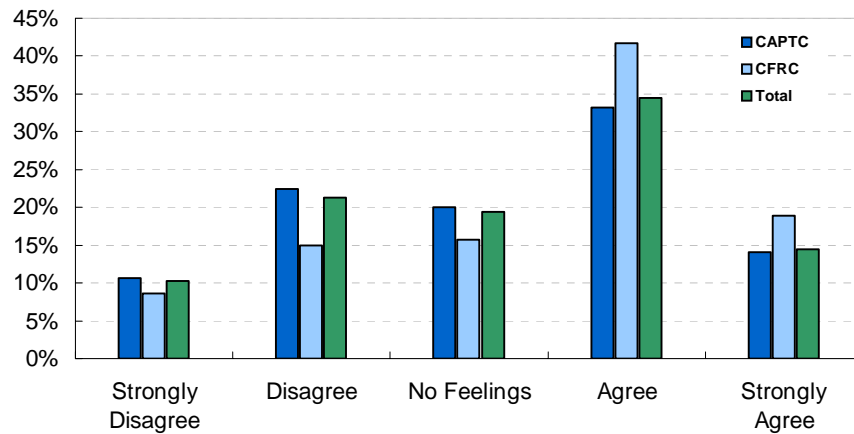
Financial Discipline

Finally, in terms of financial discipline, participants were asked, “How do you feel about the following statement regarding your own spending and savings?: ‘I often find that I regret spending money. I wish that when I had cash, I was better disciplined and saved it rather than spent it.’” 49% of the participants responded with either agree or strongly agree. Only 32% stated that they disagree or strongly disagreed with the statement.

Table 9: "I often find that I regret spending money. I wish that when I had cash, I was better disciplined and saved it rather than spent it."

	CAPTC	CFRC	Total
Strongly Disagree	75	11	86
Disagree	159	19	178
No Feelings	142	20	162
Agree	235	53	288
Strongly Agree	100	24	121
Total	708	127	835

Figure 9: "I often find that I regret spending money. I wish that when I had cash, I was better disciplined and saved it rather than spent it."



TAKE-UP RATE

Calculation of the take-up rate for R2A is imprecise because, although everyone entering the tax preparation site should have been offered R2A if they entered during a time that was scheduled for the treatment group, an R2A staff person was not always present during these times. Logs do exist, but are incomplete, and force us to make estimates.

Defining Takers

We count as takers for the R2A program those people who were able to successfully sign up for R2A on the day they entered the tax preparation site. This means that a taker:

- (1) expressed interest in the program when offered
- (2) completed tax preparation and found that they would have a federal refund
- (3) successfully opened a savings account through the affiliated bank if they did not have one
- (4) filled out an R2A authorization kit (which includes the taker survey).

This measure of takers does not estimate total interest in the program, as a large number of people may have wanted to participate, but were unable to do so due to the inability to complete all of the steps above. In this year's study, data was not collected on the number of people who were in this situation. However, last year's study found that only 57% of interested people were able to complete all of the steps, with inability to open a savings account due to rejection by a bank background check being the most common reason for failure.

Outcomes of Takers

Unfortunately, not all of the takers were eventually able to participate in the program. Some ended up owing back taxes and thus did not actually get a refund. There were also processing errors on the part of the banks and the IRS. In some cases, the taker wanted to save all of their refund, which allowed the taker to simply have the IRS deposit the full refund in their savings account without going through R2A. A full breakdown is displayed in Table 10. Note that this table includes some takers from outside the range of dates we were collecting individual data. Thus, the number of takers in the table below (102), is greater than the number of takers for which we have data (75).

Table 10: Outcomes of Takers

	CAPTC	CFRC	TOTAL
Total Takers	81	21	102
Refund sent to client's personal acct	7	4	11
Client wished to save 100% (no split)	2	0	2
Client's entire refund offset by IRS	3	2	5
Client didn't intend to sign up	1	0	1
IRS sent refund as paper check	0	1	1
Direct deposit returned to IRS	0	3	3
Net successful splitters	68	11	79

We calculate take up rate in two ways. In method A, we count everyone who was offered the program in the denominator. In the method B, we only count a person as being part of the denominator if the person had an anticipated refund of greater than \$100.³² We assume that a refund smaller than \$100 is too small to make it worthwhile to split into two accounts. This is confirmed by a quick look at the takers: only 2% takers had refunds smaller than \$100 while 10% of the participants had refunds smaller than \$100.

Brooklyn Location

In NY, where randomization was scheduled to be done by day, estimates of how many people entered the tax preparation site on a given day are available. However, the R2A program was not offered the entire day. Logs of time periods when R2A was offered allowed us to roughly estimate what fraction of entrants were actually offered R2A. We estimate 250 people were offered R2A, 236 of which had refunds greater than \$100, with 14 takers. This yields approximate take up rates of 5.9% and 5.6%, respectively.

Tulsa Location

In Tulsa, logs were kept indicating what each person was offered. 879 people were offered R2A in Tulsa, approximately 780 of which had refunds greater than \$100, with 61 takers. This yields take up rates of 6.9% and 7.8%, respectively. Because the logs for Tulsa contained information on what was offered on a per person basis, we feel much more confident in the accuracy and precision of this number than the take-up rate for NY.

Comparison

In the previous pilot study done by D2D only in Tulsa, the R2A program had a 15% take-up rate, which is roughly twice as high as the take-up rate in Tulsa this year. A comparison of rates is in Table 11.

Table 11: R2A Take-Up Rates

	2004	2005	
	Tulsa	Tulsa	New York
Method A	11.8%	6.9%	5.6%
Method B	12.7%	7.8%	5.9%

Possible explanations for the lower take-up rate in NY include the use of a group-based rather than individual-based pitch, demographic differences between Tulsa and NY, as detailed in the previous section, and lower certainty regarding the number of people offered the program, due to the nature of the logs.

HOW MUCH SAVING IS R2A GENERATING?

Calculating the Net Effect of R2A

Even if the R2A program were not offered, many people would save part of their refund. Thus, the net effect of R2A is the amount of the refund saved in addition to what the person would have saved if the R2A program had not been offered. However, we do not have a way to measure how much of their refund people actually save – we must rely on what participants stated on their surveys that they would save. Clearly, this estimate may be biased. For example, it is reasonable to assume that people are optimistic, and plan to save more of their refund than they actually do when the refund check actually arrives. In this case, the survey data would overestimate the amount that participants would have saved in the absence of R2A. Although we hope that follow-up surveys will ask participants how much of their refund they actually saved, so an estimate can be made of this bias, for the purpose of this study we must assume that the stated amount is the amount that the person actually saved. Note that if this overestimates the amount participants would have saved in the absence of R2A, then our calculations will underestimate the true savings effect of R2A.

How much of their refunds would people have saved in the absence of R2A?

From the survey data, 238 (31%) of the 823 participants who answered the relevant question stated that they would save part of their refund. In contrast, takers were more likely to have stated that they would save part of their refund, at 48%. Still, the fact that more than half of the takers stated that they would not save any part of their refund means that R2A is getting some people who would otherwise not have saved their refund to do so.

For the participants who stated that they would save part of their refund, the average amount stated was \$715, while for takers the amount was higher, at \$932.

Table 12: Average Stated Amount of Refund to be Saved

	# Who Stated They Would Save	Those Who Stated They Would Save	All in the Group
Takers	15 (48%)	\$932	\$346
All Participants	258 (31%)	\$715	\$292

The Net Effect of R2A

Given our assumption that the amount of their refund a taker actually would have saved in the absence of R2A is the amount the person stated they would save on the survey, we can subtract this stated amount from the amount the person in fact saved through R2A, to get the net effect of R2A. The average amount saved through R2A was \$820, which is much higher than the \$346 stated amount for this group. The average difference is thus \$474 per taker, an increase of 236%. R2A does seem to be generating significant amount of saving among the takers.

There were 81 takers during the time period for which we collected, yielding a total net effect of \$38,394.

IS R2A GETTING THE RIGHT PEOPLE TO SAVE THEIR REFUNDS?

As discussed in the research questions section, based on their current circumstances, some people may be in a better position to save than others. Ideally, R2A would stimulate saving among those in good positions to save, while avoiding encouraging saving among those who might be better off not saving their refunds.

Most of this analysis will involve looking at the kinds of people who are saving through R2A versus the kinds of people that would have saved on their own, as revealed by their answer to “Are you planning to save some of your refund?” on the survey. Because the survey was filled out in nearly all cases before the individual heard about the R2A program, the response to this question should allow us to compare individuals along what they stated would be their savings behavior in the absence of R2A.

Does R2A Encourage Saving Among Those Whose Current Savings Is Less than the Savings of Other People in a Similar Financial Situation?

If the primary reason to have savings is to be able to weather income shocks or unexpected costs, then, in the ideal case, R2A would encourage refund saving primarily among those whose savings is smaller than a certain amount. On the other hand, those who already have sufficient savings may be less appropriate users of R2A.

To do this analysis, we want to find a “goal” amount of total savings for each person. We will do this by looking at the saving behavior of people who have similar characteristics and feel they are making good saving decisions. We will then see if people whose current savings is less than their goal amount are more likely to use R2A, since in theory, R2A should be targeting these people.

In practice, we identify people who think they are making good saving decisions by looking at people who answered the following survey question with either “disagree” or “strongly disagree.”

How do you feel about the following statement regarding your own spending and savings?: “I often find that I regret spending money. I wish that when I had cash, I was better disciplined and saved it rather than spent it.”?

These people have, on average, 24% higher (\$435 vs \$350) existing savings than people who answered the above question with “No Feelings,” “Agree,” or “Strongly Agree.”

For these people, stated current savings were regressed on some indicators of financial position, including AGI, total debt payments per month, number of children in the household, marital status, race/ethnicity, and education.

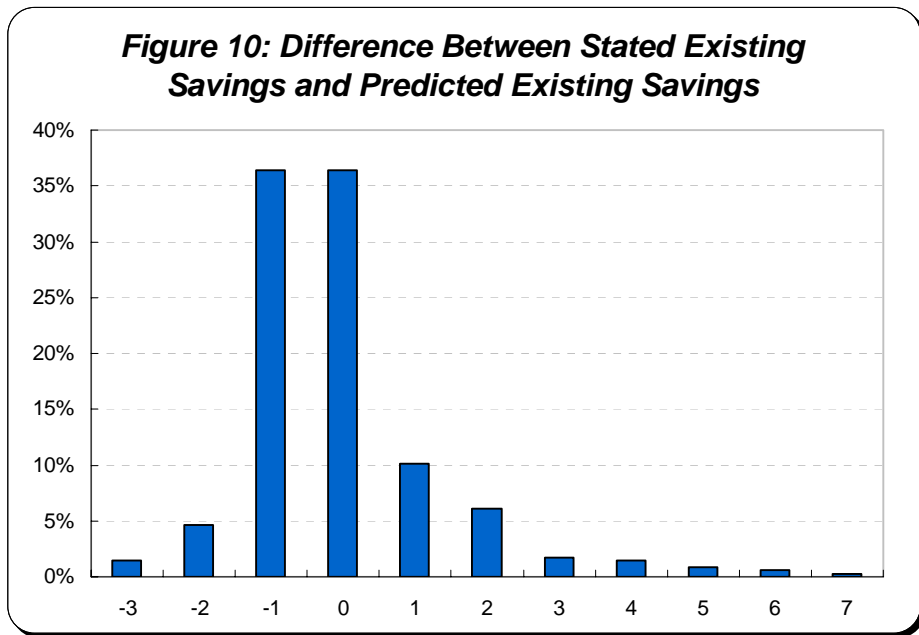
The results from this regression can be used to generate a predicted “goal” amount of savings for each person, based off the savings behavior of those who feel that they are saving well.

R2A performance was then assessed by looking at whether people whose current savings are below their predicted amounts save more of their refund through R2A than people whose current savings are higher than their predicted amounts.

Because we might expect that those who already have current savings greater than their predicted amount will also save more of their refunds than others, because past behavior should be a good indicator of future behavior, we also evaluated the amount of their refund people stated they would save before hearing about R2A. R2A savings behavior can then be compared to savings behavior without R2A to see if R2A performs better on this dimension.

The results of our regression are shown in the appendix. Note that data on AGI came from the person’s tax return, while data on current savings and debt came from the survey. On the survey, participants chose from the following monetary options: none, \$1-\$250, \$251-\$500, \$501-\$1000, \$1001-\$2500, \$2501-\$5000, \$5001-\$10,000, \$10,000+. The category number, not the actual monetary amount, was used in the regression, which approximates a log-linear transformation for savings and debt.

From the regression, predicted savings and the difference between predicted savings and actual savings were generated for each person. This difference indicates the number of categories a person’s current savings is away from their predicted savings category. The table below shows the average category difference by quartile:



From the table below, we can see that:

Those in the bottom quartile on savings difference, indicating that they are among the furthest below their predicted amount, have the *highest R2A take up rate*. Those in the highest quartile are the *least* likely to take R2A.

Table 13: R2A Saving Rate by Difference Between Stated and Predicted Existing Savings (n = 175)

Quartile	% Who Took R2A	Std. Dev.
0	11.6%	32.4
1	13.6%	34.7
2	9.1%	29.1
3	2.3%	15.1

The following table shows the percentage of people who indicated they would save part of their refund on their survey, again grouped by quartile on the difference between current and predicted savings. The general trend is that the refund savings rate increases as people's current savings get closer to or exceeds their predicted savings.

Table 14: Stated Refund Saving Rate by Difference Between Stated and Predicted Existing Savings (n = 133)

Quartile	% Stated Would Save	Std. Dev.
0	58.1%	50.2
1	60.0%	49.7
2	66.7%	47.9
3	70.3%	46.3

Comparing the tables shows that a larger proportion of R2A takers are in the lower quartiles than people who stated they would save on their own.

This indicates that R2A is better at getting the people who are further below their predicted savings amounts to save than people saving on their own. This is very positive news for R2A.

Does R2A Encourage Savings Among Those Who Have Lower Credit Card Debt?

A second perspective of looking at whether R2A encourage savings among those in better situations for savings is to see whether those with less credit card debt are more likely to save through R2A than those with high credit card debt.

We can use having credit card debt while saving as an indicator of suitability for saving because paying off a credit card is preferable to putting money in a savings account since credit cards in general have higher interest rates than do savings accounts. Unlike other kinds of debt such as mortgages or car loans, paying off credit card debt does not lower a person's liquidity and ability to handle unexpected costs or income shocks, since any credit card debt that was paid off can easily be used again. Thus, those with high credit card debt will in most cases be better off by paying off their high-interest credit card debt rather than saving their refund.

The following tables show the savings rates both for R2A and participants on their own, categorized by credit card debt level.

Table 15: R2A Saving Rate by Credit Card Debt

Credit Card Debt	% Who Took R2A	Std. Dev.	# participants
None	8.4%	27.8	179
\$1-\$1000	6.3%	24.6	63
\$1000+	7.1%	26.0%	56

Table 16: Stated Refund Saving Rate by Credit Card Debt

Credit Card Debt	% Stated Would Save	Std. Dev.	# participants
None	64.9%	47.9	131
\$1-\$1000	63.8%	48.6	47
\$1000+	60.5%	49.5	43

The above tables show that refund savings rates for both R2A and participants on their own decline as credit card debt increases.

By this metric, R2A does not seem to be encouraging those in less suitable positions to save their refund, relative to participants saving on their own.

Does R2A Encourage Savings Among Those Who are Further From Their Stated Savings Goals?

Another method of evaluation is to see if R2A is more likely to get people to save whose current savings is below what they state they need to save. Essentially, the same procedure as above will be repeated, but this time using the difference between stated current savings and stated needed savings as the measure.

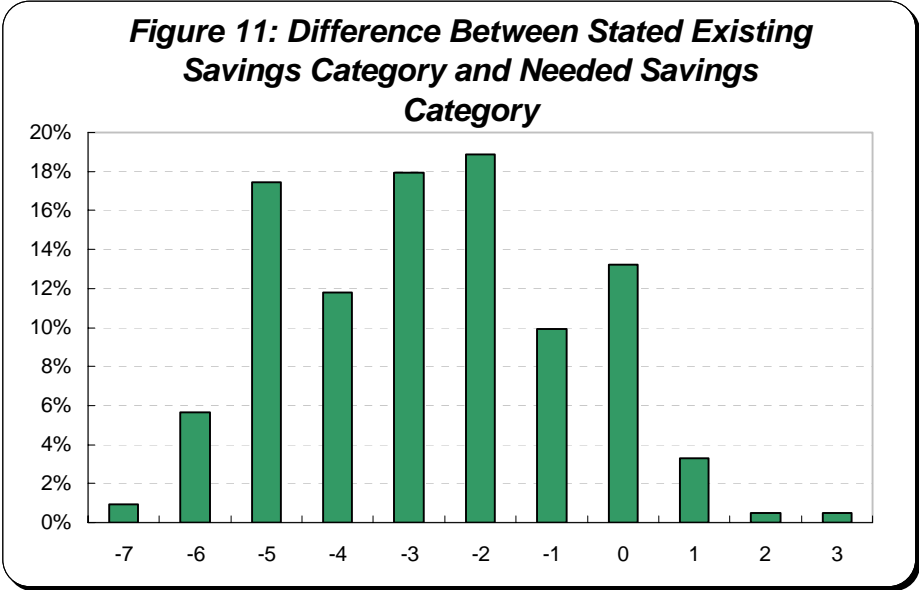
Participants responded to the following question on the survey:

“About how much do you think you (and your household) need to have in savings for emergencies and other unexpected things that may come up?”

As before, they answered using categories of amounts, shown above.

Again, a difference was calculated between what participants stated they had in current savings, and what they stated they need to have in savings.

The following table shows the distribution of differences in category. (a lower score means stated current savings further below stated needed savings) As can readily be seen, most people’s stated current savings are well below what they feel they need to have in savings.



The following tables show savings rates for R2A and people on their own, categorized by quartile on this difference.

Table 17: R2A Saving Rate by Difference Between Stated Existing and Needed Savings (n = 212)

Quartile	% Who Took R2A	Std. Dev.
0	7.8%	27.2
1	6.3%	24.6
2	15.0%	36.2
3	6.9%	25.6

Table 18: Stated Refund Saving Rate by Difference Between Stated Existing and Needed Savings (n = 162)

Quartile	% Stated Would Save	Std. Dev.
0	76.2%	43.1
1	69.4%	46.6
2	55.6%	50.6
3	63.6%	48.7

Refund saving rates of people on their own appear to be declining as people get closer or exceed their needed savings, which means that individual saving behavior is doing well on this dimension, even without R2A.

R2A savings fluctuates without a clear pattern as people get closer or exceed their needed savings, making R2A’s performance on this criterion inconclusive at best.

Does R2A Encourage Saving Among Those Who Feel That Their Financial Discipline is Poor?

Finally, we can evaluate whether R2A is better than people saving on their own at getting people with lower stated financial discipline to save. Stated financial discipline is measured by the participant’s response the following question:

How do you feel about the following statement regarding your own spending and savings?: “I often find that I regret spending money. I wish that when I had cash, I was better disciplined and saved it rather than spent it.”?

The distribution of participant’s responses to the above question can be seen in figure 9, on page 27.

A higher score means the person agrees more strongly with the statement. (i.e. believes they ought to be better disciplined) The following tables show refund saving rates for both R2A and people’s stated behavior without R2A

Table 19: R2A Savings Rate by Need for More Financial Discipline (n = 401)

	% Who Took R2A	Std. Dev.
Strongly Disagree	2.6%	16.0
Disagree	8.3%	27.8
No Feelings	3.8%	19.4
Agree	9.2%	29.0
Strongly Agree	15.8%	36.8

Table 20: Stated Refund Savings Rate by Need for More Financial Discipline (n = 401)

	% Stated Would Save	Std. Dev.
Strongly Disagree	74.1%	44.7
Disagree	60.6%	49.2
No Feelings	61.9%	49.0
Agree	59.8%	49.3
Strongly Agree	79.5%	40.8

Stated refund savings behavior without R2A seems to be highest for the extreme responses. Perhaps those who are aware that they have had bad financial discipline in the past are attempting to fix that through saving their refunds, and people who think they have very good financial discipline would like to continue that trend.

R2A, however, appears to have a roughly steadily increasing participation rate as people feel that they are less disciplined, which indicates that R2A could be helping those with lower financial discipline to overcome their difficulties and begin saving. It appears that R2A is performing better than people saving on their own on this dimension.

MARKETING TO CONSUMERS

R2A's marketing plan involves not only advertising but augmenting their product, distribution channels, and promotional material to increase the impact of their product offerings. Over ¼ of the program participants exhibited hyperbolic discount rates and that number is likely higher than what is stated, because some of the program participants did not completely fill out the survey question that revealed hyperbolic discount rates. To meet the needs of this marketing segment, savings vehicles that keep people from accessing their money, like certificates of deposits, should be offered. To ascertain whether a person's preferences are time inconsistent, the person offering participant the choice to split their refund can ask them a question like, "Do you regret spending money?" or "Would you like to tuck your money away, so you can not get to it." It is true that the IRS currently offers a service of holding a person's tax refund until the next year, but that service is likely unpopular partially because there is no option of extracting money in cases of emergency and those accounts offer no interest.

In addition, takers stated that, on average, they had more trust for banks and the people doing their taxes at their respective sites than for the IRS. These findings are inconsistent with general findings on trust of financial institutions and the type of communities that this experiment was done in, but takers are a special subset of people who agreed to have their refund split, so it is not totally strange that takers showed strong trust for banks. Simply put, if they did not trust banks, they would not be a taker. Takers also exhibited, on average, strong trust in the people preparing their returns. That result is expected, given that takers gave the tax-preparers large control over a large piece of their income.

It is odd that, on average, takers showed distrust towards H&R Block, maybe due to the efforts of non-profits to alert people in these communities to the high-interest rates of refund anticipation loans. Also, community organizations, such as Acorn, have been known to conduct outreach to dissuade people from using certain for-profit tax preparers and to use free tax prep sites, because of the lower cost of free tax sites and the use of high interest refund anticipation loans by certain for-profit tax preparers.

Given that takers show a strong trust for banks and that the average participant is more likely to show less trust for banks than a taker, then **Doorways to Dreams should create advertising that shows that on average, banks are trustworthy institutions.** For instance, Acorn circulates literature to inform people in low income communities of predatory lending. Some of the institutions that they document are large and presumably trust-worthy like Wells Fargo, which makes trusting banks even more precarious for the average low to middle income person. D2D could ask an organization like Acorn or the tax preparation non-profits that D2D partners with to circulate a document that says what banks they deem trustworthy and create a logo that signifies being trustworthy. In the tax prep sites, posters that convey that “XYZ Bank” is a bank that residents can trust should be made visible. In addition, when pitching the services, program representatives could state that the Bank that potential participants would possibly send their money to is endorsed by Acorn and/or the non-profit that is preparing the participants taxes.

It is true that the IRS currently offers a service of holding a person’s tax refund until the next year, but that service is likely unpopular partially because there is no option of extracting money in cases of emergency and those accounts offer no interest. In addition, takers stated that they had more trust for banks and the people doing their taxes at their respective sites than for the IRS. This is likely because, among other things, they have either had refunds confiscated due to back taxes or know of similar situations from other people.

Note that only takers answered the following question, and they could choose two responses.

Table 21: “Who do you trust to handle your refund as part of a tax refund splitting initiative?” 1 = Trust, 2 = Not Sure, 3 = Don’t Trust (n = 66)

Group	Preparing your taxes this Year	H & R Block	Employer	State Government	IRS	Local Community Group (e.g. YMCA)	
Banks	1.65	1.77	2.59	2.37	2.27	2.17	2.27

R2A should also consider offering individual development accounts to participants. Research done at Washington University in St. Louis shows that financial education programs, like IDAs, offer significant affect savings outcomes for the poor. The findings suggest that financial education has sizeable effects, and that the education courses do not need to last long for the effects to manifest themselves. IDAs would make the R2A program more attractive to policy-makers, financial institutions and program participant by providing participants with a program that increases the chance that their savings will be sustainable.

A significant number of people who wanted to participate in the program could not participate, due to poor credit and/or similar negative past encounters with the banking system. R2A should not be a program that provides savings vehicles to people whose past behavior predicts that they will be negligent, but R2A could potentially offer products that do not require a credit or banking system check. For instance, U.S. Savings Bonds are saving vehicles that could be offered without having people pass rigorous credit checks.

As it stands now, R2A is limited in what it can change about its distribution channels, but if R2A plans to move forward in the future, there are things that could be done to maximize the efficacy of its channels. D2D can encourage participation in the program by utilizing sites that will offer services amenable to women. For instance, sites that offer child care might be a better fit, all other things being equal, than sites that do not offer child care, given that the overwhelming majority of participants in the pilot were women. R2A could also seek to have a staff that is diverse in terms of gender and race. There is a wide body of social-psychology literature on race and trust.²² Given the racial diversity in the sites that R2A offers its services, the attractiveness of the program to potential participants would increase if the people offering the products reflected the diversity of the community they served.

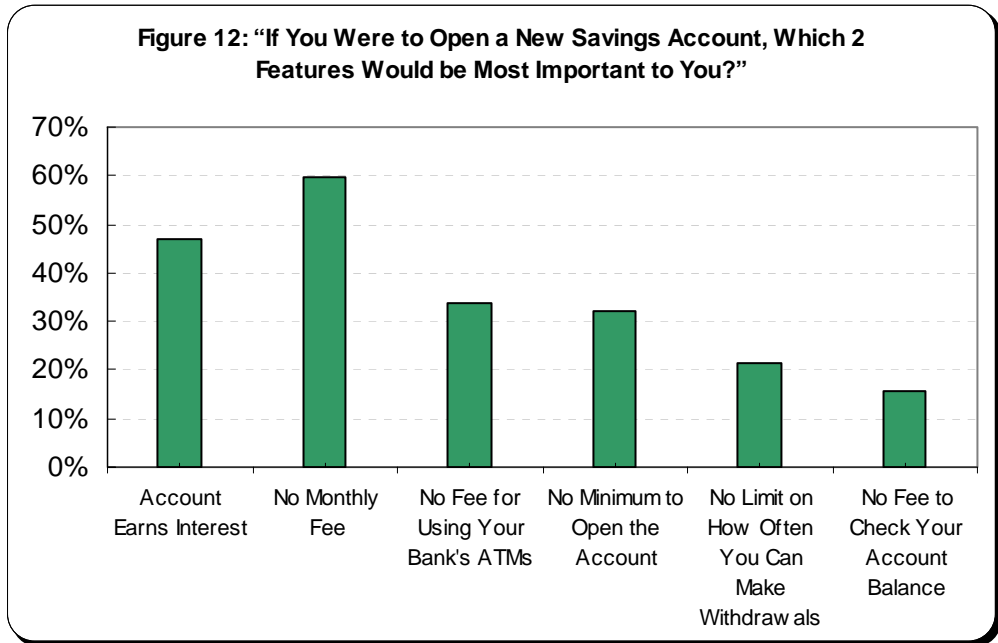
D2D should also consider advertising outside of the tax preparation sites. For instance, a targeted advertising campaign at local community banks would expose people to the program who might be pre-disposed but unaware of the program. These people show a trust towards the banking system and might be low hanging fruit that Doorways to Dreams can capture.

All the thirty-five takers identified in this dataset expected a refund, as compared with approximately seven percent of the general population that did not expect a refund. On average, the general population underestimated their refund by 300 dollars, and those that underestimated did so by an average of 900 dollars. These people represent a prime segment that should be aggressively marketed to, because it is likely that their financial decisions did not take into consideration that they would receive such a large cash influx. For instance, during intake simple questions could be asked to ascertain whether participants had a new child, started an post-secondary educational program, or were recently informed about the Earned Income Tax Credit. If the participants respond affirmatively to these questions, then they should be given a strong pitch. Of course, the marketing would not be constructed to make the people do things that would decrease their welfare, but committing substantial resources to providing this segment with the most amount of information about the benefits of refund splitting would likely be a high yield action.

For participants in the program, the characteristics of a savings vehicle that were most frequently cited as being important were: (1) Account earns interest (2) No monthly fee (3) No fee for using your bank's ATMs. (Table 20, below) The common thread is that participants wanted to use accounts that would not cost them anything. This is perfectly rational as the interest rates for the types of savings accounts available to most of the programs participants would not be worth using if they had high transactions cost. These desired characteristics for savings accounts are common in most savings accounts offered by commercial institutions, but as the program expands administrators should take these preferences into account, and emphasize these features in advertisements to maximize the appeal of the program. Care should be taken when doing this: for instance, savings accounts with unlimited withdrawals would likely increase the popularity of the program, even though limiting withdrawals may be good for some of the program participants.

Table 22: “If You Were to Open a New Savings Account, Which 2 Features Would be Most Important to You?” (n = 837)

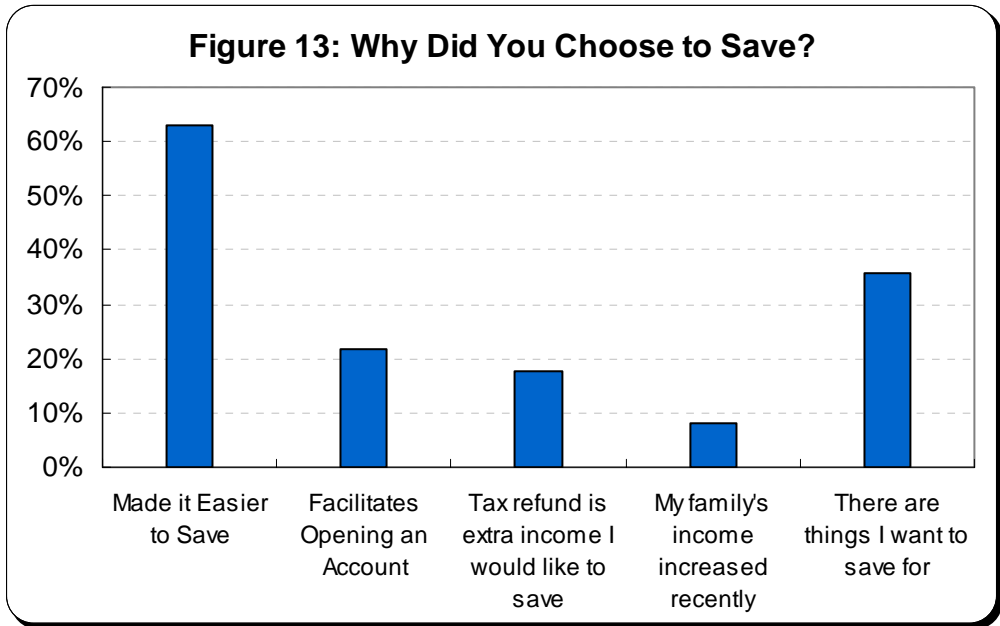
Account Earns Interest	No Monthly Fee	No Fee for Using Your Bank's ATMs	No Minimum to Open the Account	No Limit on How Often You Can Make Withdrawals	No Fee to Check Your Account Balance
46.8%	59.9%	33.7%	32.1%	21.5%	15.5%



Respondents most frequently cited the fact that R2A made it easier to save as a reason why they saved. (Table 23, below) Having particular things they wanted to save for was also a popular reason. Note that this question was only answered by takers, and that they could choose more than one response to this question.

Table 23: “Why Did You Choose to Save” (n = 73)

Made it Easier to Save	Facilitates Opening an Account	Tax refund is extra income I would like to save	My family's income increased recently	There are things I want to save for
46	16	13	6	26



Doorways to Dreams has considered offering additional services allowing participants to have portions of their refunds sent for other purposes. Participants were asked if any of these potential services interested them. On a three-point scale where a score of 1 indicated interest, a score of 2 indicated some interest, and a score of three indicated no interest, takers had interesting preferences as to where they would potentially like their refund sent. All the services had an average response greater than 2, indicating average preferences ranged from mediocre interest to strong non-interest. Directing money towards paying down credit card balances or loan payment were the among least popular options, while people looked most favorably on paying household bills or saving money for a rainy day account. One possible answer for this pattern is that credit cards and loans can go into delinquency and the respondents will still have their basic needs met, while having refunds directed towards rainy day account or household bills represent more pressing needs. It is true that a negative credit rating is undesirable, but given that people of color and lower income people tend to have lower credit scores and that those groups are disproportionately represented in this sample, the trends in table 24 are not unexpected.

Table 24: “Would you be interested in having your refund sent to any of the following?” 1 = Interested, 2 = Maybe, 3 = No Interest (n = 73)

Pay Down Credit Card Balance	Pay Household Bills	Make Loan Payment	Pay in Advance for Child Care	Pay in Advance for Healthcare	College Savings Account	Rainy Day Account
2.62	2.04	2.5	2.69	2.54	2.38	2.08

Marketing to the Government

D2D might be able to marshal more support for refund splitting, if the frame of the program was switched from asset building to ownership. During his second inaugural address, President Bush said:

“To give every American a stake in the promise and future of our country, we will bring the highest standards to our schools and build an ownership society. We will widen the ownership of homes and businesses, retirement savings and health insurance -- preparing our people for the challenges of life in a free society.”

According to officials in the Bush administration, an ownership society includes the establishment of health savings accounts, home ownership incentives and tax relief. Framing R2A as an issue of ownership will make it more amenable to Congressional leaders, administrators at the IRS, and government in general. Changing the language of the program would not fundamentally change the nature of R2A, but make the program more marketable in the political climate of today and the foreseeable future.

Marketing to Banks

If D2D decides to expand this program into other markets, the model of partnering with banks and community groups should be continued. D2D currently serves the needs of profit maximizing banks and welfare maximizing non-profits by identifying markets failures such as imperfect information, but there are ways to improve this initiative. There is much research in making “banking the unbanked” a profitable endeavor for financial institutions, especially by ShoreBank and John P. Caskey of Swarthmore College and there are two main relevant areas of this body of knowledge to the D2D and R2A.

Encourage the use of IDAs and long-term savings vehicles.

Savings accounts are great savings vehicles, but considering 1/3 of the takers stated that they wanted to save their money for specific reasons, and that IDAs offer bank greater incentives to open accounts because of the increased deposit amount incurred after matching grants, it is logical to encourage the use of IDA accounts *vis-a-vis* savings accounts.

Target institutions that are subject to the Community Reinvestment Act.

The 500 largest retail banking institutions account for most CRA-related lending nationwide. These institutions are estimated to account for over 70 percent of one- to four-family home lending and community development lending. However, only twenty four percent of these institutions find their lending in CRA communities equal to or greater in profitability than the lending they do now. R2A is not designed to deal with mortgage lending, but the program can help these banks decrease the costs of operating in communities that banks perceive to be unprofitable and that they would not operate in without the federal mandate. Moreover, R2A accounts help these banks with their CRA rating, a key area for banks.²³ This rating determines whether regulatory agencies look sympathetically on applications by commercial banks to open or close branches, merge with or acquire other banks. The largest commercial banks typically maintain the appropriate ratings necessary to engage in expansion activities, which is key to maintaining shareholder value. Shareholder value helps to ensure adequate capital infusion to compete in an industry where the competition has made it hard for banks with fewer than ten

billion dollars under management. Consequently, the CRA is a huge issue for banks. If D2D could present R2A as a way to successfully navigate the sharky CRA waters, the program could have more support from financial institutions.

Marketing to VITA sites

If Doorways to Dreams is to partner with VITAs in the future, then D2D has to market the program in way that it makes refund splitting seem congruent with the missions of the VITA sites and not cost prohibitive. This paper and other research has shown that refund splitting is of benefit to participants, but many VITAs might feel that offering the service will be a strain on their already limited resources of people and space. To ameliorate this strain, Doorways to Dreams can:

- 1) Give VITA sites the option of having the saving account approval process done in batches and at an offsite location.
 - a. By having the process done offsite and in batches, the impact on the space and time resources are mitigated. VITAs could send savings account information once a week to banks who will open accounts in time for electronic refund by the IRS.
- 2) Either offer the option of having VITA sites use a modified version of Taxwise that integrates tax refund splitting or lobby the IRS to require that tax refund splitting be integrated into any tax preparation software that they offer VITA site, so the time costs for VITA sites for using tax refund splitting are low.
 - For over a decade, the IRS has awarded Universal Tax Systems (UTS) the contract to have its Taxwise software be the software used by VITA sites to prepare and electronically file tax returns for low income, elderly and limited-English proficient taxpayers.
 - Government contracts are usually awarded by contractors who best fulfill the requests of the government agency. If the IRS Request for Proposals (RFPs) and other contracting documents integrate a need to have tax refund splitting as part of the package, then bidders will respond.
 - If for some reason the vendors do not respond, Doorways to Dreams could seek to modify the Taxwise software by use of a experienced software consulting firm. Modifying Taxwise software is possibly expensive, but modifying off the shelf software is not unheard of, provided that permission is granted.
 - Integrating tax refund splitting into Taxwise would decrease the amount of training needed to implement R2A.

EXPANDING THE PROGRAM

We recommend that the R2A program continue to be expanded and tested.

Results from this year's study, while limited due to small sample sizes, suggest that the R2A is generating significant amounts of new savings among people who could benefit from saving more. If follow-up data on this year's participants also shows positive effects of R2A, then we have no difficulty in recommending that R2A be expanded as much as possible, even to the national level.

Expansion entails:

1. Reframing asset building as an ownership initiative.
2. Working with large financial institution to show them the benefits of refund splitting in helping them achieve a satisfactory CRA score.
3. Marketing the products to fit the needs of participants, banks and VITA sites.

FUTURE STUDIES

- *Future studies must ensure full data is received from takers.*

The smallest subgroup in our analysis was the 75 takers. As the take-up rate is likely to remain in the 10-15% range in future studies, this will likely continue to be the smallest group, which makes it the hardest to draw conclusions from. In this year's study, there was a correlation between being a taker, and not having completed a survey, which also prevented us from accessing that person's Taxwise data. In the future, extra care should be given to ensure that full data is collected for each person in the taker group, so that the number of takers able to be used in analysis is as high as possible.

- *Future studies should attempt to determine how much of their refund decliners and control group members actually saved, compared to what they stated they would save.*

The amount of the refund a person stated they would save is an imperfect measure of the amount the person actually will save. Most likely, people are optimistic and believe they will save more than they actually do. Thus, comparing the amount R2A takers actually saved through R2A to what others stated they would save is a biased comparison. Future long-term studies should ask every participant how much of their refund actually made it into savings, to allow a meaningful comparison of the saving behavior of R2A takers and non-takers.

- Page 41 of 51
Report to Doorways to Dreams Fund
- *A control group should be utilized in any attempts to measure the*

persistence of R2A effects by comparing the total amount people have in savings at some point after receiving their tax refunds.

If long-term studies attempt to assess R2A performance by comparing the total amount of savings participants have at some point in the future, the comparison should be between the treatment group and the control group, *not* between the takers and non-takers, because the takers are self selecting, and may be the same people who would have saved more even in the absence of R2A.

Increasing the Take-Up Rate

- ***Consolidate R2A into the Tax Preparation Service***

Based both on our experience at the sites and the differential in take-up rates between Tulsa and NY, individual pitches appear to work best.

In addition, people who enter the tax preparation sites are often focused on their tax preparation yet must go through a number of side processes first, including registration, filling out a survey for the tax preparation site, being screened for social services, and then being offered R2A. Because the entrants come to the site with the goal of getting their taxes done, and because they are often worried about losing their place in the often long lines, the entrants are often unwilling to consider anything unrelated to their tax preparation. Having the tax preparer offer R2A will integrate R2A into the tax preparation service, and will allow filers to better consider the program. To avoid slowing the tax preparation process down too much, the filer could be sent to an R2A staff person to fill out the appropriate R2A forms after the tax return is completed.

- ***Pitch R2A as a Means of Opening a Savings Account***

Feedback from both sites indicates that many takers may be initially attracted to R2A because they liked the idea of opening a savings account. It may be only after being attracted to R2A that takers, desiring to have money to open their account with, decide to use their refund for this purpose, as it is often a large sum of readily available, often uncommitted, money.

If the R2A offering were integrated into the tax preparation service, a potential pitch could run as follows: “From our calculations, you are going to have a tax refund of \$X this year. If you’d like, we can help you set up a free savings account with a local bank, and have some of your refund put directly in that account, to help you start saving. Would you like more information about this?”

RESULTS OF REGRESSION USED TO PREDICT EXISTING SAVINGS:

. xi: reg currentSavingsCategory debtPerMonthCategory #childred lnagi maritalstatus race
 educationCategory employmentStatus if financialFeeling="disagree" or "StronglyDisagree, robust

Regression with robust standard errors

Number of obs = 112
 F(17, 94) = 1.17
 Prob > F = 0.3003
 R-squared = 0.2186
 Root MSE = 1.4573

currentSavings	Robustc Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
debtpermonth	.0175434	.1187381	0.15	0.883	-.2182139	.2533006
#children	-.1647011	.1081147	-1.52	0.131	-.3793654	.0499631
lnagi	-.0203082	.1098117	-0.18	0.854	-.2383419	.1977255
Separated	.4041542	.3409021	1.19	0.239	-.2727148	1.081023
Married	.6748767	.6057112	1.11	0.268	-.5277771	1.87753
Divorced	.0958876	.5068703	0.19	0.850	-.9105153	1.10229
Asian	.4655126	.4426288	1.05	0.296	-.4133373	1.344363
Caucasian	.7920367	.5412019	1.46	0.147	-.2825323	1.866606
Hispanic	1.312872	1.08779	1.21	0.230	-.8469593	3.47270
Nat American	2.915601	1.402816	2.08	0.040	.1302779	5.700925
HS	.2919857	.2922512	1.00	0.320	-.2882859	.8722572
Att. College	-.0854522	.7615604	-0.11	0.911	-1.597548	1.426644
Assoc. Degr	-.3550368	.3157739	-1.12	0.264	-.9820133	.2719397
Part-time	.3171688	.4189221	0.76	0.451	-.5146108	1.148948
Looking	.3713443	.5378838	0.69	0.492	-.6966365	1.439325
Student	-.026814	.2299883	-0.12	0.907	-.4834611	.4298332
Other	.215615	.7339414	0.29	0.770	-1.241643	1.672873
_cons	.3225826	1.127886	0.29	0.776	-1.916862	2.562027

- ¹ Rose, Barbara. "One in four working families are low income, study finds." Chicago Tribune. October 12, 2004.
- ² Carney, Stacie and William Gale. "Asset Accumulation Among Low-Income Households". The Brookings Institution. Page 5
- ³ For purposes of this paper, we define LMI as having adjusted gross income (AGI) of less than \$30,000 per year.
- ⁴ Beverly, Sondra. How can the poor save? Center for Social Development. Working Paper No. 97-3, page 1.
- ⁵ Huggett, Mark and Gustavo Ventura. "Understanding why high income households save more than low income households." Journal of Monetary Economics, Volume 45, 2000. page 366. See table 1 on page 367 which shows saving rates over the period of 1929-1950 for different income groups.
- ⁶ Huggett, Mark and Gustavo Ventura. Page 384.
- ⁷ Beverly, Sondra. "How can the poor save?" page 18.
- ⁸ Although it is possible to have savings that are not put into a transactions account, but are held in the form of cash, we choose to omit unobservable savings. Also, since most asset accumulation takes on observable forms it is reasonable to assume that observable savings leads to higher asset accumulation.
- ⁹ Sherraden, Michael. "Institutions and Inclusion in Saving Policy" Page 20.
- ¹⁰ Sherraden, Michael and Michael S. Barr. "Institutions & Inclusion in Saving Policy". Joint Center for Housing Studies, Working Paper Series. John F. Kennedy School of Government. page 25.
- ¹¹ Sherraden, Michael. "Institutions and Inclusion in Saving Policy" Page 24.
- ¹² Beverly, Sondra. How can the poor save? page 1.
- ¹³ R. Glenn Hubbard and Jonathan S. Skinner. "Assessing the Effectiveness of Savings Incentives". Journal of Economic Perspectives. Vol. 10, No. 4. pg. 76
- ¹⁴ Carney, Stacey and William G. Gale. "Asset accumulation among low-income households." Brookings Paper. February 2000. page 5
- ¹⁵ Beverly, Sondra. How can the poor save? page 11
- ¹⁶ Sherraden, Michael. "Institutions and Inclusion in Saving Policy" page 7.
- ¹⁷ Christopher Harris & David Liabson. "Hyperbolic Discounting and Consumption".
- ¹⁸ Ibid.
- ¹⁹ Beverly, Sondra, et al. "Splitting Tax Refunds and Building Savings: An Empirical Test."
- ²⁰ Tufano, Peter and Daniel Schneider. "Refunds to Assets Research Proposal" November 16, 2003. page 2
- ²¹ Beverly, Sondra, et al. "Splitting Tax Refunds and Building Savings: An Empirical Test." Working Paper, 2004.
- ²² Savings Generated from R2A Program Calculations:
IRS data--# of EITC recipients (18,028,208) x R2A study take-up rate (17%) x (\$EITC/ Recipients \$1,7775) x Saving/Refund (47%) = \$2.6 Billion
- Source: Beverly, Sandy & Daniel Schneider. "Refunds to Assets: Splitting Refunds & Building Assets" paper & presentation.
- ²³ By "should be saving", we do not mean to say that we have a patriarchal view of how much savings individuals appropriately must have. We think of "should be saving" as a measurement of how much savings one ought to have, given certain financial constraints and one's own stated expected savings as a targeted reference point.

BIBLIOGRAPHY

- ANDO, ALBERT & FRANCO MODIGLIANI. (1963). The "Life Cycle" Hypothesis of Saving: Aggregate Implications and Tests. *American Economic Review*, 53(1), 55-84.
- BEVERLY, SONDR A. & MICHAEL SHERRADEN. (1999). Institutional Determinants of Saving: Implications for Low-Income Households and Public Policy. *Journal of Socio-Economics*, 28, 457-473.
- BENAC, NANCY. (2005) Bush Offering Expanded 'Ownership Society'. Associated Press.
- BEVERLY, SONDR A. (1997). How Can the Poor Save: Theory and Evidence on Saving in Low-Income Households. *Center for Social Development, Working Paper*. 97(3), 1-57.
- BOSHARA, RAY. (2004). Federal Policy and Asset Building. New America Foundation. Issue Brief 1.
- CARNER, ASENA & EDWARD N. WOLFF. (2004). Asset Poverty in the United States, 1984-99: Evidence from the Panel Study of Income Dynamics. *Review of Income and Wealth*, 50(4), 493-518.
- CARR, JAMES H. AND JENNY SCHUETZ. (2001) Financial Services in Distressed Communities: Issues and Answers Framing the Issue, Finding Solutions. Fannie Mae Foundation
- CARNEY, STACIE & WILLIAM G. GALE. (2000). Asset Accumulation Among Low-Income Households. Brookings Institution / Economic Studies Papers.
- CARROLL, CHRISTOPHER D & ANDRE A. SAMWICK. (1997). The Nature of Precautionary Wealth. *Journal of Monetary Economics*, 40, 41-71.
- CARROLL, CHRISTOPHER D. (1997). Buffer-Stock Saving and the Life Cycle/ Permanent Income Hypothesis. *Quarterly Journal of Economics*, 112(1), 1-55.
- CASKEY, JOHN (2002) Bringing Unbanked Households Into the Banking System. *Capital Xchange. Brookings Institution. Washington DC*. <http://www.brook.edu/es/urban/capitalxchange/article10.htm>
- CHRISTOPHER D. CARROLL & ANDREW A. SAMWICK. (1993). How Important is Precautionary Saving? Working Paper Series / Economic Activity Section 145, Board of Governors of the Federal Reserve System.
- CLARIDA, RICHARD H.(1987). Consumption, Liquidity Constraints and Asset Accumulation in the Presence of Random Income Fluctuations. *International Economic Review*, 28(2), 339-351.
- DEATON, ANGUS. (1991). Saving and Liquidity Constraints. *Econometrica*, 59(5), 1221-1248.
- ENGEN, ERIC M., WILLIAM G. GALE & JOHN KARL SCHOLZ. (1996).The Illusory Effects of Saving Incentives on Saving. *Journal of Economic Perspectives*, 10(4), 113-138.
- FELDSTEIN, MARTIN. (1995). The Effects of Tax-Based Incentives on Government Revenue & National Saving. *The Quarterly Journal of Economics*, 110(2), 475-494.
- GALE, WILLIAM G, JOHN SABELHAUS AND ROBERT E. HALL. (1999). Perspectives on the Household Saving Rate. *Brookings Papers on Economic Activity*, 1, 181-224.

- GITTLEMAN, MAURY AND EDWARD N. WOLFF. (2004). Racial Differences in Patterns of Wealth Accumulation. *Journal of Human Resources*, 39(1), 193-227.
- HALL, ROBERT E. & FREDERIC S. MISHKIN.(1982). The Sensitivity of Consumption to Transitory Income: Estimates from Panel Data on Households. *Econometrica*, 50(2), 461-482.
- HARRIS, CHRISTOPHER AND DAVID LAIBSON. (2001). Hyperbolic Discounting and Consumption.
- HOGARTH, JEANNE M. & CHRIS E. ANGEULOV. (2003).How Much Can the Poor Save? *Consumer Interests Annual, Federal Reserve Board*, 49, 1-18.
- HUBBARD, R. GLENN & JONATHAN S. SKINNER. (1996). Assessing the Effectiveness of Saving Incentives. *Journal of Economic Perspectives*, 10(4), 73-90.
- HUBBARD, R. GLENN, JONATHAN SKINNER & STEPHEN P. ZELDES. Precautionary Saving and Social Insurance. *Journal of Political Economy*, 103 (2), 360-399.
- HUBBARD, R. GLENN, JONATHAN SKINNER AND STEPHEN P. ZELDES. (1994). Expanding the Life-Cycle Model: Precautionary Saving and Public Policy. *American Economic Review*, 84(2), 174-179.
- HUGGETT, MARK & GUSTAVO VENTURA. (2000). Understanding Why High Income Households Save More Than Low Income Households. *Journal of Monetary Economics*, 45, 361-397.
- KIMBALL, MILES S. & GREGORY N. MANKIW.(1989). Precautionary Saving and the Timing of Taxes. *Journal of Political Economy*, 97(4), 863-879.
- LAIBSON, DAVID. (1997). Golden Eggs and Hyperbolic Discounting. *Quarterly Journal of Economics*, 112(2), 443-478.
- LAWRENCE, EMILY C. (1991). Poverty and the Rate of Time Preference: Evidence from Panel Data. *Journal of Political Economy*, 99(1), 54-77.
- RUGGLES, PATRICIA & ROBERTON WILLIAMS. (1989). Longitudinal Measures of Poverty: Accounting for Income and Assets over Time. *Review of Income and Wealth*, 35(3), 225-243.
- SCHNEIDER, DANNY & PETER TUFANO. (2004). New Savings from Old Innovations: Asset Building for the Less Affluent. Preliminary Draft. Harvard Business School.
- SCHREINER, MARK, MARGARET CLANCY, AND MICHAEL SHERRADEN, (2002), Final Report: Saving Performance in the American Dream Demonstration, A National Demonstration of Individual Development Accounts. St. Louis, MO: Center for Social Development, Washington University, http://gwbweb.wustl.edu/csd/Publications/2002/ADD_report2002.pdf.
- SHERRADEN, MICHAEL & MICHAEL S. BARR. (2004). Institutions & Inclusion in Saving Policy. Joint Center for Housing Studies, Working Paper Series. Harvard University.

THALER, RICHARD & H.M.SHEFRIN. (1981). An Economic Theory of Self-Control. *Journal of Political Economy*, 89(2), 392-406.

THALER, RICHARD H. & SHLOMO BENARTZI. (2004). Save More Tomorrow: Using Behavioral Economics to Increase Employee Saving. *Journal of Political Economy*, 112(1), 164-187.

WOLFF, EDWARD N. (1998). Recent Trends in the Size Distribution of Household Wealth. *Journal of Economic Perspectives*, 12 (3), 131-150.

Woolfolk, Phillip D. (2001) The Impact of Banking on Society is Awesome. The Black Collegian Online. <http://www.black-collegian.com/career/industry-reports/impact2001-1st.shtml>

ZELDES, STEPHEN P. (1989). Consumption and Liquidity Constraints: An Empirical Investigation. *Journal of Political Economy*, 97(2), 305-346.