

Splitting Tax Refunds and Building Savings: An Empirical Test

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Draft: February 2005

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Splitting Tax Refunds and Building Savings: An Empirical Test*

Families are more likely to save if they can commit to savings before being tempted to spend. For low-income U.S. families, an important savings opportunity arises annually, in the form of federal income tax refunds received from the Earned Income Tax Credit, the Child Tax Credit, and other sources of federal refunds. We study a set of low-income individuals in Tulsa, Oklahoma, who, at the time of filing their return, were encouraged to save a part of their federal refund. Those who agreed directed a portion of their refund to a savings account, with the rest sent to them in the form of a check. Eligible individuals could also open low-cost savings accounts. We document the demand for these services, the characteristics of those who sought to participate, the savings goals of those who participated, the immediate savings generated by the program, and the disposition of savings a few months after receipt. This pilot study suggests that low-income families may have a substantial demand to direct a portion of their refunds to savings that supports emergency needs as well as asset building. We discuss the implications of our findings for tax policy, as well as for nonprofit and for-profit tax preparers, community development organizations, and financial service firms.

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* We would like to thank the Annie E. Casey Foundation, the Community Action Project of Tulsa County, Doorways to Dreams Fund (D2D Fund), the Bank of Oklahoma, and the participants from the Pine and Lewis, Houston Center, and 21st Street tax preparation sites in Tulsa, Oklahoma for allowing us to conduct this study. In particular, we would like to thank the team consisting of Monica Armstrong, Kim Cowden, Steven Dow, Brandy Holleyman, Tim Flacke and Jeff Zinsmeyer who helped plan and carry out this experiment. We would also like to thank Lily Bachelder, Michael Barr, Colleen Dailey, Stephen Dow, Fred Goldberg, John Gourville, Derek Martin, David Rose, Reggie Stanley, Mike Stegman, Anne Stuhldreher, Jen Tescher, Heather Tyler, and John Zinman as well as participants at the National Community Tax Coalition/Annie E. Casey 3rd Annual Conference and the 2004 IDA Learning Conference for their comments on this work. Toni Wegner and David Hann assisted us in the IRB approval processes. Financial support for this research project was provided by the Division of Research of the Harvard Business School, the Annie E. Casey Foundation, and D2D Fund. We thank them for their support but acknowledge that the findings and conclusions presented in this report are those of the authors alone, and do not necessarily reflect the opinions of the Casey Foundation, Harvard Business School or D2D Fund.

1. Introduction

Saving is hard work. A saver must defer gratification today for the sake of a better life tomorrow, much like a dieter, a recovering alcoholic, or an almost ex-smoker must resist the nearby chocolate cake, beer, or cigarettes. In each case, removing the source of temptation is one prudent strategy. In this spirit, would-be savers often direct money to savings before they are tempted to spend it. Financial advisors tell people to “pay themselves first,”¹ and this advice is embodied in a number of institutional programs. In the workplace, automatic investment plans enable workers to deduct monies from their paychecks to fund savings programs like 401(k) and 403(b) plans. Workers will sometimes force savings by increasing the amount of withholding on their W2 forms. Also in the workplace, the novel SMarT program, proposed by Bernartzi and Thaler (2004), enables workers to precommit to save their raises. Outside of the workplace, automatic investment plans, like those offered by mutual funds, allow investors to regularly sweep money from transactional accounts into long-term investing accounts. Nearly all of the 500 largest mutual funds (defined by assets under management) allow investors to set up automatic monthly contributions.

All of these programs share a common trait: They tap into a potential savings sources before the person has the opportunity to spend the money. For low- and moderate-income (LMI) U.S. families, annual federal and state tax refunds are an important source of savable funds.² In 2001 (the most recent year for which data are available), low-income tax-filers received more than \$78 billion in total federal refund payments, including the EITC, the Child Tax Credit (CTC), other refundable credits, and refunds from over-withholding (IRS (2001)).³ This massive flow of funds, which takes place primarily during a few weeks in the early part of the tax season, represents a substantial portion of the inflows of an LMI family. For a family with income between \$25,000 and \$30,000 a year, the federal tax refund would likely be the single largest payment received all year. With an average value of \$1,546 in 2001, this refund payment would generally be hundreds of dollars more than the amount of a low-income family’s regular bi-weekly paycheck.⁴ In addition to being large, tax refunds are perhaps the most savable of funds, out of reach for most of the year and hence beyond temptation.

¹ In fall 2004, all three of the top-selling books on personal finance at Amazon.com emphasized the concept of “paying yourself first.” See Kiyosaki and Lechter (2000), Bach (2003), and Clason (1988).

² We define LMI as having AGI of less than \$30,000.

³ The 2001 data are based on estimates prepared by the Statistics of Income Division of the IRS and are based on calendar year.

⁴ The average amount of a federal refund for filers making between \$25,000 and \$30,000 a year was \$1,546 in 2001 (IRS (2001)). For an individual earning \$25,000 a year, the average pre-tax value of a bi-weekly paycheck is \$962; for an individual earning \$30,000 a year, a bi-weekly paycheck averages \$1,154.

Yet, just as most workers can't direct all of their salary into an automatic investment program, most refund recipients cannot direct all of their tax refunds to savings. In both cases, some funds are needed for current living expenses and perhaps to pay past-due bills. Ideally, the refund recipient could be enabled to save *part* of her refund at the source, rather than receiving all of the money and then having to decide how much of it to spend and how much to save. This precommitment could be physical in nature (investing in a savings product with limited liquidity), mostly psychological in nature (mentally segregating funds for savings), or a combination of the two. Unfortunately, neither the Internal Revenue Service (IRS) nor the financial service sector has moved quickly to enable LMI families to split their refunds and simultaneously precommit to savings. In part, this reluctance is fueled by a lack of facts; no one knows what fraction of families—especially LMI families—would use refund splitting if it were offered nor the amount of money that would be saved out of refunds.

To gather some tentative empirical evidence about refund splitting, we entered into a collaborative research project in the spring of 2004.⁵ As described in more detail below, for four weeks during the tax season, the team offered about 516 LMI filers at one of the nation's largest free tax preparation sites the ability to split their refunds into saving and spending components, and, if needed, to open new savings accounts to house their new savings. Participants were also allowed to deposit their entire refund into a newly established account. The collaborative research team included the Community Action Project of Tulsa County (CAPTC), Doorways to Dreams (D2D) Fund, the Bank of Oklahoma (BOK), the Annie E. Casey Foundation (AECF), and the coauthors of this study. The participants—whose adjusted gross incomes averaged \$12,300—were drawn from CAPTC's existing tax preparation sites, with staff from CAPTC working on-site to enroll clients in the program. D2D Fund oversaw the legal and administrative apparatus of splitting. BOK opened new accounts for participants who desired them.⁶ AECF and D2D provided funding for the experiment. We, the academic research team, developed the research design, created and administered a series of surveys, and analyzed data from the experiment.

While our results are only suggestive, they support the intriguing notion that refund splitting might increase savings for low- and moderate-income families, or help them better manage their spending. In short, we find that:

⁵ Our research project roughly followed the "action research" cycle of problem definition, pilot program implementation, evaluation, and re-test. See Lewin (1948) and Kemmis and McTaggart (1990).

- Over 20% of refund recipients studied sought to participate in R2A, by splitting their refunds, opening new savings accounts, or both.
- 15% of refund recipients were able to participate in R2A. Of these 79, 56% opened new accounts and split their refunds, 27% split their refunds and used existing accounts, and 17% chose not to split and instead deposited their entire refund into new accounts.
- Participants saved approximately 47% of their refunds. One-fourth of participants had existing savings. These participants sent an average of \$924 to savings; by their reports, this represented a 90% increase in savings. Three-fourths of participants reported no prior saving, and these participants sent an average of \$479 dollars to savings.
- Participants had many savings goals, with the most common being general precautionary savings, car purchase or repair, and home purchase or repair.
- About four months after receiving refunds, a larger fraction of participants were still saving a portion of refund or had met their identified savings goals, when compared with a sample of refund recipients at a comparison site without access to the R2A service. While we sometimes equate savings with long-term goals, many of the poor’s saving goals were short-term in nature.
- Follow-up survey data show that an overwhelming fraction of participants were pleased with the service, planned to use it again, would recommend it to their friends, and were willing to pay a nominal fee to split.

The remainder of this report provides the motivation for this research project (Section 2), describes the experiment (Section 3), presents our findings regarding take-up and initial saving (Section 4), presents follow-up results related to saving outcomes and perceptions of the program (Section 5), and describes the business, policy, and research implications of our work (Section 6.)

2. Why Test Refund-Splitting for LMI Tax Filers?

Public Policy and Asset Building. U.S. public policy enthusiastically encourages asset building through a host of programs, estimated by some to cost the government \$335 billion a year (Wood, Schweke, and Buchholz (2004)). Calls for an “ownership society” underscore the belief that asset building can strengthen families and societies. By building financial assets, families can weather

⁶ The Bank of Oklahoma is a subsidiary of the Bank of Oklahoma Financial Corporation (BOKF). BOKF operates banks in Oklahoma, Texas, New Mexico, Arkansas, and Missouri. It is the largest bank in Oklahoma, with \$5.9 billion in

temporary income shocks, demonstrate credit-worthiness, purchase non-financial assets (like homes, durables, or education), earn income, and prepare for retirement. Societies whose members have assets are also stronger; evidence suggests that asset holding could lead to increased residential stability, higher levels of social and political engagement, and better life outcomes for children (Sherraden (1991), Page-Adams and Scanlon (2001)).

Despite incentives to save and clear benefits from saving, Americans save little of their annual earnings and have little in financial assets. Data from the National Income and Products Accounts (NIPA) show that the personal saving rate in the U.S. is low by historical standards. In 2003, Americans saved just 1.4% of disposable income, sharply down from the 1950s through the 1990s when the saving rate was between 7% and 10% (BEA (2004)).⁷

In addition to having low saving rates, Americans also generally have small stocks of assets. Haveman and Wolff (2001) have defined asset poverty as lacking enough assets to live at the poverty level for three months. Using this definition, Wolff and Caner (2002) find asset poverty rates in the U.S. of more than 40% when only liquid assets are considered and 26% when net worth, including home equity, is considered. In a later paper, Wolff and Caner (2004) find that asset poverty rates have been largely static from 1984 to 1999. More recent data from the Survey of Consumer Finances emphasizes the degree to which the poor have very low levels of assets; in 2001, 25% of households in the bottom income quintile had no financial assets at all (Azicorbe, Kennickell, and Moore (2003)).

Public policy supporting asset building largely targets those who have higher incomes and more assets. A recent report estimates that the bottom 60% of tax filers by income received less than 5% of the approximately \$335 billion that the federal government spent to encourage asset building through homeownership, retirement savings, small business development and investing (Wood, Schweke, and Buchholz (2004)). This bias is due in no small part to the provision of asset-building incentives through the income tax system, thereby delivering the highest benefits to those who pay the highest taxes. Reasonable people might disagree about where incentives for asset building should be concentrated on the basis of equity or macro-economic effect. However, in terms of strengthening families and civic values, adding some savings to those with the least probably has the largest

deposits, more than twice that of BancFirst, its closest competitor in the market. See www.bokf.com.

⁷ This decline is less dramatic, though generally still evident, when alternative approaches to measuring the saving rate are used such as those employed by Parker (1999) and Gale and Sabelhaus (1999). Borsch-Supan and Lusardi (2003) use data from the Organisation for Economic Co-operation and Development (OECD) to show that the saving rate in the U.S. is significantly below that of most European countries and Japan.

marginal effect. Creating incentives to add \$10,000 in assets to a family with \$1 million in assets will surely have less impact than adding the same amount to a family with no assets.

Refunds and Asset Building. The current system encourages saving by reducing tax payments made by the well-to-do. Although tax-payer based incentives are ineffective for low-income families who pay little tax, the federal tax *refund* system is a potentially powerful way to facilitate asset building among LMI families. As discussed below, the federal tax system delivers sizeable refunds that can be practically and mentally separated from regular employment earnings used to support everyday expenses.

Many LMI households receive sizeable refunds, as a result of two federal tax credits: the fully refundable Earned Income Tax Credit (EITC)⁸ and the partially refundable Child Tax Credit (CTC).⁹ The average refundable EITC benefit in 2001 was \$1,840 for the 10 million EITC claimants with AGI of less than \$15,000, and \$1,640 for the 6.5 million families with AGI between \$15,000 and \$30,000 (IRS (2001)). Data on the size of the refundable portion of the CTC are not available by income, but outlays on the refundable portion for all income groups were approximately \$980 million in 2001 and \$5.8 billion in 2003 (Carasso and Steuerle (2003)). When all refund sources are considered (i.e., EITC, CTC, other refundable tax credits, and over-withholding), in 2001, more than 30 million filers with AGIs below \$15,000 received refunds worth \$1,176 on average, and 24.5 million filers with AGIs between \$15,000 and \$30,000 received \$1,710 on average. In the aggregate, these LMI families received more than \$78 billion in federal refunds (IRS (2001)). Just as the threat of large tax payments provide incentives for the wealthy to save, large tax refunds can provide assistance for most other Americans to save.

Not only does the tax system distribute substantial funds, but it does so in a way that—in part—facilitates savings. While in principle “funds are fungible,” behavioral researchers have identified the tendency for people to mentally group different monies into different pots. For example, one might write checks for day-to-day expenses from one account and for “big ticket” items from

⁸ The EITC is available to low-income tax filers (individuals or families) with earnings. It is intended primarily for parents of children under age 19, but low-income workers without children may receive a small credit. The amount of the credit initially rises with earnings, then reaches a plateau, and finally decreases with each additional dollar earned (see Center on Budget and Policy Priorities, 2004, for details). The maximum credit for tax year 2003 was \$4,204.

⁹ The CTC is a federal tax credit for each dependent under age 17. For tax year 2003, the credit was worth a maximum of \$1,000 per child. Filers with taxable earned income above \$10,500 were eligible for a refundable credit (see Lee and Greenstein, 2003, for details). When a credit is refundable, any portion of the credit that exceeds tax liability is transferred to the tax filer as an income tax refund.

another. Or, one might designate income from a primary job for living expenses and income from a secondary job as savings.

This notion of “mental accounting” relates to the behavioral life-cycle hypothesis that people tend to view “irregular” income differently than wage and salary income, especially when the irregular in-flows are large (see, e.g., Shefrin and Thaler (1992); Thaler (1990)). One specific prediction derived from behavioral life-cycle theory is that people who receive sizeable tax refunds will consider saving at least some portion of their refunds or using refunds to make “special” purchases, rather than financing routine expenses. Some evidence supports this hypothesis. Smeeding et al. (2000) found that 33% of a sample of 650 EITC recipients planned to save at least a portion of their tax refunds; 16% planned to purchase a car, repair a car, or make car payments; 13% planned to purchase furniture or household appliances; 10% planned to pay educational expenses; and 5% planned to use their refunds to purchase homes or move. Consumer Expenditure Survey data suggest that low-income families often use tax refunds to purchase consumer durables, such as furniture and vehicles (Barrow and McGranahan (2000)). Thaler (1994) recognized the savings opportunity presented by tax refunds and argued for an additional credit for filers directly depositing refunds into Individual Retirement Accounts (IRAs).

Evidence regarding the use of tax refunds has also led volunteer and for-profit tax preparers to encourage refund recipients to save their refunds. Several free Volunteer Income Tax Assistance (VITA) tax preparation sites, locations that provide free income tax preparation services to low income filers, have allowed tax filers to open savings accounts on-site and directly deposit their tax refunds into these accounts.¹⁰ Table I lists some of these programs. The most complete evaluation to date of this type of service comes from a 2000 study of a program sponsored by Shorebank and the

¹⁰ At VITA sites, savings accounts have generally been offered through partnerships between the community organizations running the tax preparation sites and banks or credit unions. The terms of these accounts vary, with financial institutions occasionally waiving fees, minimum balances, or ChexSystems requirements (discussed in more detail in section 4 of this paper). Product marketing differs across programs as well. At some sites, bank representatives are on-site and actively “sell” the accounts. At others, VITA staff may be responsible for selling the accounts and are required to call-in to a partner bank to set up the account remotely. There also appears to be considerable variability in the success of these programs. Some practitioners have found that few participants are interested in opening accounts and that those who do deplete these accounts quickly; other programs have seen greater success. This assessment is based on phone interviews with staff from nine free tax preparation sites and reports from two other tax preparation sites. Interviews were conducted during April 2004 with staff at The Baltimore CASH Campaign (Baltimore, MD), the Piton Foundation (Denver, CO), The Milwaukee EITC/Asset Building Project (Milwaukee, WI), Alternatives Federal Credit Union (Ithaca, NY), The Central City Asset Building Coalition (New Orleans, LA), The Riverside Family Asset Building Program (Riverside, CA), The United Way of King County (Seattle, WA), The Center for Economic Progress (Chicago, IL), The Nehemiah Gateway CDC (Wilmington, DE). Reports from the Boston EITC coalition (Boston, MA) and the Community Food Resource Center (New York, NY) were also used.

Center for Economic Progress. Over 400 Chicago tax filers were invited to open low-cost savings accounts at Shorebank with their tax refunds, and about 20% did so. Two-fifths of account-openers depleted their accounts very rapidly, but 14% maintained balances and perhaps added additional savings to the accounts (Beverly, Tescher, Romich, and Marzhal (2002)).

In the private sector, some H&R Block offices have piloted a program to encouraged clients to open savings accounts on-site as a means of accumulating emergency savings (Brookings (2004)). In the 2003 tax season, Block opened approximately 400 accounts with an average opening balance of \$870. Only 2% of Block clients at the offices offering the service opened accounts, but this take-up rate was depressed by rigorous account opening requirements based on a credit check (Tufano and Schneider (2004a)). Block also offered refund recipients on-site opening of IRAs. Over the three tax seasons from 2001 to 2004, the company opened more than 440,000 Express IRA accounts. In 2004, the average balance on these accounts was \$575 (Tufano and Schneider (2004a)).

Behavioral economists have also posited that people often make irrational decisions about financial matters, due in large part to spending temptations (e.g., Shefrin and Thaler, (1992); Thaler (1994); (2000)). However, it is possible to deliberately modify incentives and constraints to avoid or overcome these temptations. Theory and empirical evidence suggests that helping people enforce self-discipline by precommitting money to savings is effective. For example, some people arrange to have retirement contributions automatically deducted from their paychecks. One novel program has increased savings by having workers precommit to save *future* raises.¹¹ Another recent experiment in the Philippines allowed participants to make deposits into a restricted withdrawal account, not in exchange for higher interest rates, but merely as a device to commit to savings. Participants had significantly higher balances over time than members of a control (Ashraf, Karlan, and Yin (2004)). Some people use mental or even physical accounting strategies to separate spending money from savings, and evidence suggests that these psychological and behavioral strategies help people resist the urge to withdraw savings (Beverly, Moore, and Schreiner (2003)).

Splitting Refunds and Building Assets. The size of tax refunds and their segregation from routine earnings means that tax refunds are an important potential source of savings for low-income

¹¹ In 1998, Richard Thaler and Shlomo Benartzi implemented the first test of the Save More Tomorrow plan (SMarT) (Thaler & Benartzi, 2004). The SMarT plan allowed workers to precommit to automatically save their 3% annual raises in the company pension plan. Of 286 employees who met with an investment advisor, 162 enrolled in the program. After 28 months, these employees had increased their saving rates from an average of 3.5% to 11.6% of income. A comparison group of employees who did not precommit to save their raises, but who did agree to try to increase their savings without an automatic feature, increased their saving rates only from 4.4% to 8.7%.

families. But most existing experiments in linking tax refunds and savings, while inconclusive, are also disappointing. We posit that most of these tax-refund savings programs directed at *low- and moderate-income* families are hampered by a simple, operational flaw: the IRS will send refunds to only one account, and most poor families can't save all of their refund. Thus, whether the money is sent via paper check or directly deposited to a single account, the would-be saver has to receive the entire refund, make a decision about saving, and then execute the saving plan while spending part of the money. Any program that deposits all money in one place and requires recipients to save some leaves them open to spending temptations. Refund recipients may mentally " earmark" part of their refunds for savings, like a worker planning to save part of her paycheck. But unlike the worker, who can use a variety of programs to precommit some earnings to savings, the refund recipient can only rely on her best intentions, saving once the refund check or deposit has been received. If it were possible to split the refund to multiple destinations at the time of filing a tax return, then a family could mentally and physically separate saving and spending money and make saving automatic, thereby reducing the mental energy required to save. The intention to save would be further reinforced if the savings portion were directed to a savings-oriented financial product, especially one that restricts withdrawals.

Some well-to-do families have access to refund splitting. Vanguard, the second largest mutual fund company in the U.S., allows investors to split their refunds between as many as four existing Vanguard accounts (including money market accounts with check-writing privileges which can be used as transaction accounts). Prior to tax filing, would-be splitters file a form with Vanguard outlining the allocation of their refunds. These filers then submit a general Vanguard account number and routing number on their tax return, and Vanguard automatically splits the refund deposited into this account according to the previously-issued instructions.¹² Although Vanguard is the only company out of the ten largest banks and ten largest mutual funds with a formal splitting service,¹³ we understand that customers with some brokerage accounts in other firms may be able to have their brokers automatically split refunds across multiple investments. Unfortunately, LMI families are not

¹² Additional information on Vanguard's splitting policy is available at <http://flagship2.vanguard.com/VGApp/hnw/TcDirectDepositController?cbd> (accessed March 3, 2004).

¹³ This statement is based on phone interviews conducted in March of 2004 with representatives from the nation's ten largest banks and largest mutual funds by assets.

likely customers of Vanguard (whose funds typically require a minimum investment of at least \$3,000)¹⁴ nor of brokerage firms.

LMI families do have access to some refund splitting, albeit of a different form. Clients who take out refund anticipation loans (RALs) “split” their refunds, sending some to pay the tax preparer and receiving the remainder. RAL “splitting” does not build assets, however, but instead satisfies the need for very immediate spending. Clients opting to purchase H&R Block’s Express-IRA product at the time of tax preparation have the option of splitting their refunds, directing some to the newly opened IRA and receiving some as a direct deposit or as a paper check (Tufano and Schneider (2004a)). Splitting tied explicitly to retirement savings may be less appealing to LMI families with shorter-term savings goals.

On logical grounds, we hypothesized that a simple splitting program, with an option to open a new savings account, offered to LMI families at the time of tax filing, would facilitate asset building among LMI families. We hypothesized that (a) some LMI refund recipients would choose to precommit part of their refunds, that precommitting would (b) increase immediate savings, and by leveraging mental accounting, would perhaps even (c) help people resist temptations to deviate from planned savings goals. Our collaborative research team was formed to gather evidence to support or reject these hypotheses.

3. The 2003 Refunds to Assets Program

During the 2003 tax season, the Community Action Program of Tulsa County (CAPTC) partnered with D2D Fund (D2D) to deliver the Refunds to Assets (R2A) program. CAPTC is a large community action agency based in Tulsa, Oklahoma providing a variety of services including housing assistance, child care, health services, emergency food and financial assistance, and Individual Development Accounts (IDAs).¹⁵ CAPTC also provides free tax preparation to low-income households; in 2002, volunteers completed about 14,300 federal returns. D2D Fund (www.d2dfund.org) is a non-profit organization dedicated to improving the delivery of financial

¹⁴ Seventy-two of the 500 largest mutual funds by assets as reported by Morningstar were Vanguard funds. Of these, only one fund had a minimum initial investment of less than \$1,000.

¹⁵ Individual Development Accounts were first proposed by Sherraden (1991). They are matched savings accounts for low income people designed to encourage asset building.

services to low-income families and focused on the development and testing of innovative financial products and services.¹⁶

Clients at two of CAPTC's free tax preparation sites were invited to split their refunds, sending part to a savings account via direct deposit and arranging to receive the rest by mail as a check. We enlisted Bank of Oklahoma (BOK) as a partner so that participants could open new BOK savings accounts without leaving the tax preparation site.¹⁷ The pilot program was offered in two time periods during the tax season, during the first two weeks of February (the peak season for filing by those expecting refunds) and for two weeks in March. To be eligible, clients had to be at least 18 years old, have an expected federal tax refund, and agree to a set of legal authorizations.¹⁸ In addition, clients wishing to open a savings account with BOK had to pass a credit-check system used by the bank (ChexSystems) and have a valid driver's license or passport.

Recruitment and enrollment were accomplished almost entirely at the tax-preparation site.¹⁹ CAPTC staff and/or a member of our research team approached groups of CAPTC clients who were waiting to meet with tax preparers. They used a prepared script to describe R2A, emphasizing the program as a tool to split refunds and to encourage saving. Next, in one-on-one conversations, staff explained legal and research authorizations and collected preliminary information from those who did and did not want to participate. Individuals wanting to open BOK accounts completed a short form. Generally, at this point, potential participants began their tax preparation appointments while program staff opened accounts for those who requested them. Near the end of the tax preparation appointment, interested clients completed the R2A enrollment process and gave detailed written instructions for how their refunds should be divided. Although the script encouraged people to split their refunds, individuals who wanted to open new BOK accounts and deposit their entire refunds into these accounts were allowed to do so. Depending on filing date and on IRS processing times, the savings portion was directly deposited into the new BOK account or the participant's existing account about 10-14 days after the date of tax filing, and the participant received the remainder as a check shortly thereafter.

We collected data from three different groups:

¹⁶ In the interest of full disclosure, we note that one of the researchers is the founder and chairman of D2D Fund.

¹⁷ These accounts earned the same interest rate as other basic BOK savings accounts (.5% per annum at the time of the study). However, BOK waived minimum balance requirements and associated fees for accounts in this program. Had they not been waived, account holders would have been charged \$6 per quarter on accounts with balances of less than \$300. Account holders would also have been required to make a \$100 initial deposit to open an account.

¹⁸ Clients were also asked, but not required, to sign a research consent form.

¹⁹ Postcards announcing the program were mailed in January 2003 to 3,200 clients of CAPTC, but this mailing was ineffective and generated virtually no detectable response.

- 1) Takers—137 individuals at the two CAPTC test sites who expected to receive refunds and who attempted to sign up for the program. These were subsequently divided into two subgroups: 79 who ended up participating (participants) and 58 who sought to participate but were unable to, usually because they did not pass BOK’s credit screen (foiled participants).
- 2) Decliners—Approximately 379 individuals at the two test sites who expected refunds but were not interested in participating in R2A.
- 3) Comparison Group—53 individuals at a CAPTC tax preparation site where R2A was *not* available who said that they would have participated in R2A had the program been offered. By design, this group had similar motives as the R2A participants, although they did not have the benefit of the program.

We collected several different sources of information (See Table II). Takers, decliners, and members of the comparison group completed a short written baseline survey during the enrollment process. For takers, this survey included questions about demographic characteristics, current savings, and planned refund uses. For decliners, this survey asked about demographic characteristics and reasons for declining. For the comparison group, the baseline survey asked about demographic and financial characteristics as well as planned refund uses.²⁰ Data on anticipated refund amount and Adjusted Gross Income (AGI) were collected for takers and decliners from a summary information page generated by the Taxwise tax preparation software. Data on how R2A participants allocated their refunds between savings deposits and checks were taken from the refund-splitting instructions issued on site.

In addition to these baseline data, R2A participants and members of the comparison group were asked to complete a 15-minute phone survey three to five months after they received their refunds. 55% of participants and 49% of comparison group members completed this follow-up survey. In total 63 respondents were successfully contacted, 41 participants and 22 comparison group members. The survey included questions on actual refund use, satisfaction with R2A (for participants), and interest in similar services and products.

Before we discuss the research findings, we acknowledge some obvious limitations to this work. We studied a relatively small number of individuals in a single city under particular research conditions, and therefore we cannot be confident that our results are generalizable. However, given

²⁰ Copies of survey instruments are available from the authors.

the paucity of research on this topic, even this small study may be useful in understanding the potential of refund splitting. One can think of our results as akin to a “test market” approach to research, as used by business marketers, where consumers are exposed to a product or service to gauge their likely reception.

We organize our discussion of the research findings in the next section around five topics:

- 1) Is there demand for refund splitting? What is the apparent take-up rate of refund splitting, and what are structural impediments to increasing take-up?
- 2) Who participated? What are the characteristics of participants?
- 3) Why did people choose to participate? What goals were participants trying to reach?
- 4) What was the immediate impact of the program on savings?
- 5) After a few months, did participants have better saving outcomes than the comparison group?

We defer a discussion of the sixth set of findings, regarding participants’ thoughts about alternative splitting options to the final section of the paper, where we discuss the implications of our research.

4. Baseline Research Findings from the R2A Program

Take-Up and Participation Rates. Table III summarizes information regarding the take-up rate for the R2A program at the two Tulsa sites. In brief, about 27% of refund recipients sought to participate in the R2A program (takers) and 15% were able to participate (participants), with the remainder being “foiled” because they did not meet various eligibility standards, as described below. These figures represent our estimates of the demand for the R2A version of an asset-building strategy leveraging tax refunds. As we describe below, a more conservative estimate of the potential and actual demand for *splitting alone* would be 21% and 12%, respectively.

To determine potential demand, we divided the number of people who enrolled or attempted to enroll by the number of refund recipients approached by the staff. R2A program staff approached about 556 individuals about enrolling in R2A during the four weeks the service was offered. Of these, we estimate that 516 anticipated a refund; this number serves as the denominator for take-up and participation rates and equals the takers plus decliners. Of these 516, 137 wanted to enroll in the program, producing an estimated take-up rate of 27%.

Fifty-eight of the would-be enrollees (11% of the 516 eligible individuals) were turned away. Excluding these individuals from the numerator yields a participation rate of 15%, considerably above

the 2% rate experienced by H&R Block, mentioned above.²¹ Table IV gives reasons for disqualification. While some takers were foiled by lack of identification or age requirements, the most severe constraint was that individuals who wanted to open a BOk account had to pass BOk's ChexSystems standard. ChexSystems is a credit-screening device used by approximately 90% of bank branches nationwide (Quinn (2001)). Subscribing banks use the product in two ways, as a reporting mechanism for current clients who have had problems using their accounts, often in the form of overdrafts or bounced checks, and as a data source to check the financial histories of potential new account-holders. Our team failed to ask BOk to waive ChexSystems requirements, and as result BOk's default rules were in place. The bank would not open a savings account for any individual with a ChexSystems record.²² This policy disqualified 26% of the individuals who wanted to enroll in the program.

Finally, we consider the actual demand for *splitting alone*. The R2A program allowed participants to split their refunds and to open new accounts. Among participants, 56% split to a new account, 27% split to an existing account, and 17% simply opened a new account and deposited all of their federal refund in it (even though this was not the intent of the program). If we exclude participants who did not use splitting services, then the potential and actual take-up rates are reduced to 21% and 12% respectively.

All of the take-up and participation rates discussed thus far assume that participants split their refunds because they perceived value in dividing their refunds into portions for spending and saving and in being able to precommit to saving. However, it is possible that participants split for other reasons, and, if this is the case, the take-up and participation rates above may over estimate the demand for splitting. First, participants may have split because they believed it was a prerequisite for account opening. The R2A outreach emphasized splitting, and some may have split simply to gain access to the BOk account. This interpretation has some support: In response to an open-ended question, 15% of the 33 splitters who completed the follow-up survey reported that opening an account was their primary reason for splitting. (Follow-up methods, response rate, and data are

²¹ The take-up rate may have been higher in R2A because participants who have used other CAPTC services in the past and have a favorable opinion of the organization might be more likely to use another CAPTC service. However, CAPTC reports that tax clients do not generally identify the free tax preparation service with CAPTC.

²² While research on the impact of ChexSystems (and similar) credit scoring services on banking participation by the poor is limited, BOk's practices are probably the norm among banks. However, some depository institutions waive ChexSystems either as a general rule or in the specific instance of targeted saving programs.

discussed in detail below.) On the other hand, the 17% who chose not to split their refunds recognized that splitting was not required.

Second, participants who opened new accounts and split their refunds may have been interested in both program features but may have been *more* interested in account opening. In the follow-up survey, more than 70% of those who split into new accounts (n=22) reported that opening a new account was more important to them than splitting their refund. However, the fact these participants valued account opening over splitting, does not necessarily mean that their interest in splitting was insignificant. In fact, in the follow-up survey, 94% of participants who said account opening was more important than splitting said they planned to split again next year.

Third, when asked why they split, a substantial share of splitters gave reasons that did not obviously and directly relate to splitting or physical/mental accounting. Fourteen percent of splitters said that they did so because of an interest in trying something new, 6% said they split to receive their refund faster, and 14% gave miscellaneous reasons (e.g., “because of the business” or “it just sounded like a good thing to do”). Another 18% of respondents gave a response that spoke broadly about saving without specifically referring to splitting (e.g., “to save for car insurance” or “just to have extra cash in case I ever run out”). These responses may indicate that people split because they believed splitting would help them save. However, if a participant believed that having a new account would help him save and split simply to open an account, then this type of response could reveal perceived benefits of account-opening rather than perceived benefits of splitting. To the extent that R2A participants split simply to gain other benefits (most notably access to a savings account), even our estimates of 21% (potential take-up) and 12% (actual take-up) for splitting alone are biased upward.

Characteristics of Subgroups. Table V reports demographic characteristics of the various subgroups, including participants, foiled participants, takers, and decliners. Where possible, it also describes residents of Tulsa County. We begin by summarizing characteristics of participants. Participants had an average age of 35, were predominantly female, and were predominantly African-American or Caucasian. As one would expect, because the tax preparation program serves LMI households, participants had low AGIs (mean = \$12,297). Their federal tax refunds averaged \$1,381. Over half of participants held full-time jobs, and more than three quarters worked at least part-time. However, respondents reported an effective unemployment rate of more than twice the national average of 5.6%, with 12% of respondents reporting that they were unemployed and currently looking for work. Overall, participants might be described as the “working poor.”

The last four columns of Table V indicate whether participants are different from foiled participants and whether takers are different from decliners.²³ Participants differ from foiled participants in three key ways. Foiled participants were younger on average and had smaller average expected refunds than participants. They were also less likely to be white and more likely to be Hispanic and African-American.

Compared to decliners, takers (foiled and actual participants) tended to be younger and to have less income. They were more likely to have children, more likely to be never-married, and less likely to have health insurance. The mean AGI for takers was \$11,177 compared to \$13,927 for decliners. In short, those who wanted to participate were probably among the least financially stable households. This evidence—especially regarding income—is broadly consistent with the early evidence on IDAs, where one study has found that saving rates were highest among the lowest-income participants.²⁴ If the ability to open a bank account was part of R2A’s appeal (discussed in detail below), then this finding may reveal unmet demand for low-fee bank accounts by low-income working households.

Stated Reasons for Declining and Participating. In our baseline survey, we asked decliners why they were not interested in R2A. The question was closed-ended with an open-ended “other” option. Explanations for disinterest in R2A fall into two broad categories: “I don’t need the service” or “I don’t like the service” (See Table VI). Ninety-four percent of respondents gave an answer that we classified in the first category. Forty-four percent of decliners said they had already decided how to use their refund, and another 24% said that they planned to spend all of their refunds. Looking forward, we believe that some of those who said they did not need the service might use it under other circumstances. Tulsa’s economy was weak in early 2004,²⁵ and our conversations with tax filers revealed many cases of unemployment and unusual financial difficulties that prevented them from saving at all. In better economic times, some of these decliners might choose to split.

A much smaller percent (9%) of decliners gave responses that we classified as “don’t like the service.” Some (4%) sought to have matching funds linked with the service or to deposit to an

²³ We ran several logistic regression models to identify predictors of take-up. Findings were not robust, so we cannot say whether differences that were significant in a bivariate framework would remain significant when other differences were controlled.

²⁴ The American Dream Demonstration project, a national study of IDA programs, found that participants with the lowest incomes had the highest average saving rates. However, regression analysis on ADD participants did not find that income had a significant effect on the likelihood of being a “saver” (defined as saving a specified minimum over the life of the program). The ADD research also found that having health insurance was positively related to being a saver (Shreiner, Clancy, and Sherraden (2002)), but our findings suggest that health insurance is negatively related to R2A enrollment.

²⁵ In 2003, the unemployment rate in Tulsa was 6.5%, the highest annual rate in 15 years (BLS (2004)).

investment product dedicated to a specific purpose,²⁶ and others (2%) expressed concerns about the security and reliability of the processing system used to split refunds. Both of these concerns could be addressed in the future, by offering additional savings choices or by implementing the system more simply, as would happen if the IRS were to enable refund recipients to split their refunds. Finally, 2% said they did not want to participate because they were moving away. Therefore, they did not want to open new accounts nor make additional deposits into soon-to-be-closed accounts.

In our follow-up survey, we asked participants why they chose to participate in R2A. As noted above, the most common reason respondents gave for splitting their refunds was to separate their refunds into spending and saving portions (27%). Participants also reported that they choose to split in order to save (18%), to avoid spending all of the refund (12%), to try something new (15%), and finally because they wanted to open an account (15%). Respondents who opened new accounts listed a desire to save (29%) as the leading reason for account opening. A quarter of respondents reported that they had wanted a savings account and 16% said that they opened an account simply because they were offered one. The BOk brand had some currency among this population, with 19% citing it as the primary reason they opened an account, the same share that choose to open an account because of the terms offered. When all account openers were asked about these specific account features, the largest share of respondents reported that the convenience of opening an account on site was most important to them (44%). The waiver of minimum balance requirements (13%) and fees (13%), as well as the opportunity to earn interest on savings (13%) also attracted many participants. Fewer participants were drawn in by the faster processing time for refunds deposited into bank accounts (9%) or using their tax refund as the opening balance (6%).

The motives of participants may also be understood through the lens of their planned refund uses and, more concretely, their immediate savings goals. In the baseline survey, we asked participants if they planned to spend, save, or repay debt with their refunds and then used open-ended questions to probe for more specific plans in each of these categories. We grouped these open-ended comments into various categories. For example, people could report that they planned to use refunds to pay rent (spending), to make mortgage payments (debt repayment), or to save for a future home (savings). We classified all three as housing-related refund uses, but only the third would be classified as a *savings* goal.

²⁶ These decliners chose the following response option: “I’d be interested if there was a match or if there was an option to save for specific purpose.” It is unlikely that individuals would have given this response to an open-ended question. Still,

The first three columns of Table VII summarize planned refund uses for participants. Savings uses made up the largest single grouping of planned uses. Eighty-one percent of participants planned to save part of their refund, with 57% and 45% planning spending or debt repayment, respectively. As expected in a splitting program, participants planned multiple and varied uses for their refunds. Specifically, 41% of participants planned both a savings and a spending use, 32% planned a savings and a debt-repayment use, 17% planned a spending and a debt-repayment use, and 16% planned a savings, a spending, and a debt-repayment use (results not shown).

Because R2A aimed to encourage saving, we paid special attention to planned savings uses. The most common savings goal, named by 16% of participants, we called “general” saving. This includes responses like “to build savings”, or “just to have money.” The next most common savings goals were saving for housing-related uses (15%, mostly for home purchase, but also for home improvement), saving for emergencies (13%), and vehicle-related saving (13%, mostly car purchase and car repair). Retirement saving, a major focus of public policy, was mentioned by only 5% of participants. This may indicate that participants have more immediate savings needs; however, these same people might become interested in saving for retirement in future years. It is also possible that the product choice available in R2A—a simple savings account best suited to short-term savings rather than an IRA—did not appeal to filers planning to save for retirement.

Initial Savings Amounts. The initial savings that the R2A program generated can be benchmarked in three ways: in dollars per participant, as a percentage of refund amount, and as a fraction of pre-program savings. By any of these measures, R2A participants initially saved a substantial amount. See Table VIII for data on initial deposits to savings. The mean (median) participant directed \$606 (\$203) into savings. This represented 47% (39%) of her refund. Combining baseline survey data on existing savings with data on amount of refund sent to savings shows the immediate effect of R2A on household savings. On a per capita basis, savings increased from \$276 dollars before the receipt of refunds to \$863 dollars after refund receipt. This change represented a \$587 per capita increase, 213% growth.²⁷

Participants contain two interesting subgroups: one subgroup reporting some savings before the program and a second reporting no prior savings. Individuals with existing savings had larger refunds and directed a larger portion (mean = 60%) of their refunds to savings accounts. In contrast,

these responses suggest that the service, as delivered, was not attractive enough to elicit participation.

“greenfield” savers—individuals without existing savings—received smaller refunds and directed less to savings (mean = 42%). With smaller refunds and smaller shares directed to savings, greenfield savers sent an average of \$479 to savings versus \$924 by existing savers. These values represent an infinite and a 90% increase in savings for the two groups, respectively. In both cases, the increase in savings was large, at least initially.

5. Follow-up Results

In this section, we use available data to examine whether R2A seemed to help participants save out of refunds and meet specific savings goals. As noted above, we conducted a follow-up telephone interview of R2A participants and comparison group members three to five months after refund receipt. Forty-one (55%) of the 75 participants, and 22 (42%) of the 53 comparison group members completed this interview.²⁸ To assess comparability between these samples, Panel A of Table IX shows demographic characteristics of the baseline and follow-up samples, for participants and comparison group members. Panel B of Table IX shows planned refund uses for these four samples.

The follow-up participant sample is quite similar demographically to the baseline participant sample. The most notable differences are related to home ownership, employment, and race. Members of the follow-up sample were less likely than those in the baseline sample to own homes (25% vs. 31%). They were more likely to work full-time (67% vs. 60%) and to be white (44% vs. 39%). Planned refund uses are also quite similar for these two groups, with one exception: The follow-up sample was less likely to name a planned spending use than the baseline sample (49% vs 57%).

Differences between the follow-up sample of participants and the follow-up comparison sample are more pronounced. Comparison group members were much more likely to own homes (56% vs. 25%) and to be female (88% vs. 59%). Comparison group members also had higher incomes. All of these differences are statistically significant. Other differences approach statistical significance: Comparison group members were more likely to be white (65% vs. 44%), they had less education, and they had smaller anticipated refunds.²⁹ (*Actual* refund amounts were quite similar for

²⁷ The per-capita data is restricted to those participants who responded to the survey item on existing savings and for whom there is data on the amount of refund sent to savings (N=68).

²⁸ We attempted to reach participants and comparison group members multiple times over the follow-up period. Only 2 of those contacted refused to complete the follow-up survey. It seems unlikely that participants who did not save disproportionately avoided the follow-up interview.

²⁹ Data on anticipated refund come from different sources for the two groups. Comparison group members were asked to estimate refund amount before tax preparation began. For participants, data were taken from the Taxwise software after tax preparation was completed.

the two groups.) With the exception of education, the comparison sample appears to be more advantaged than the participant sample.

If one assumes that the advantaged sample is more likely to save out of refunds and meet specific savings goals, then demographic characteristics suggest that comparisons between the follow-up participant and comparison samples represent a conservative test of the impact of R2A. Data on planned refund use complicate matters, however. The follow-up comparison sample was less likely than the follow-up participant sample to name a planned savings use (63% vs. 82%) and more likely to name spending and debt repayment uses. Differences in saving and repayment goals approach statistical significance. If these observed differences are not due to chance, they may represent individual differences not captured by the demographic variables. Or, they may suggest that R2A had an immediate impact on planned refund uses. The latter is consistent with the fact that the program was presented as a tool to encourage saving and the assumption that participants enrolled in the program because they believed it would in fact facilitate saving.

Saving Outcomes for Participant and Comparison Groups. Our first evidence on the short-term impact of R2A comes from comparing saving outcomes for the participant and comparison groups. We present data separately for planned savers (i.e., those who named a savings goal at baseline) and for all respondents. Limiting the sample to planned savers may reduce bias caused by differences in planned refund use across the two samples. In Table X, the outcome of interest is money from refund still held in savings. Among planned savers, 72% of participants said they were still saving part of their refunds, compared to 42% of the comparison group. This difference is statistically significant at the .10 level. Among all follow-up respondents, 66% of participants were still saving, compared to 36% of the comparison group. This difference is statistically significant at the .05 level. Mean differences in amount of refund still saved, either in dollar terms or as percent of total refund amount, are not significant.

Next, we broaden our outcome measure to include using the refund on at least one stated savings goal, in addition to continuing to save a portion of refund. A person who planned to save to purchase a car and, at follow-up, had done so would meet this broader definition of “success.” Someone who planned to save for the future and used part of her refund for an emergency also meets this definition. Table XI shows that 78% of planned savers in the participant group were still saving some portion of refund or had spent on a stated savings goal. In the comparison group, 42% of planned savers met this criterion. Among all follow-up respondents (not just planned savers), 71% of

participants met this criterion, compared to 36% of the comparison group. Both differences are significant at the .05 level. Again, mean differences in amount of refund still saved or spent on a savings goal are not significant. In sum, evidence regarding the short-term impact of R2A on saving out of refund and achieving savings goals is positive but somewhat mixed: Participants were more likely than comparison group members to save and spend on savings goals, but amounts saved and spent on savings goals did not differ significantly.

Bank-level Account Data: In addition to self-reported data, we obtained bank balance and transaction data for participants from the Bank of Oklahoma. BOk provided individual data for participants who either opened new savings accounts with BOk or who split their refunds into existing BOk accounts. The data include account status, monthly account balance information for August through November 2004, limited account-level data on transactions and household-level data on the ownership of BOk products. These data were not available for comparison group members.

BOk located account data for 58 out of the 66 individuals who either opened an account with BOk or split to an existing account. (These 58 individuals represent 77% of all R2A participants.) Of these 58, 62% still had active BOk accounts by mid-August 2004, but 38% had closed their accounts, either at their request or due to bank policy which closes zero-balance accounts. (The bank provided no additional information on these closed accounts and account-holders.) The 62% with still-open accounts kept their accounts open at least through November 2004, when BOk provided data to the research team.

Participants with open accounts generally received larger refunds and had higher incomes than participants with closed accounts. Apart from these differences, there were no significant differences between the two groups on other demographic variables. Participants with open accounts appeared to have greater familiarity with savings accounts (33% had a savings account at another financial institution compared to 22% of those with closed accounts), but the difference is not statistically significant. The two groups appear almost identical in terms of R2A services used (splitting, account opening, or both) and checking account ownership.

For participants who still had accounts open in November 2004, BOk provided household-level data on other relationships these individuals had with the bank. As we would expect, all of these households owned some kind of savings vehicle at BOk. (Ninety-seven percent had savings accounts, 8% had money market accounts, and 3% held IRAs at BOk.) Only 16% had ATM cards. Half of the households had a checking account of some kind, including a mix of standard checking accounts, free

or “second chance” checking accounts, and even high-end products with high balance requirements (though the balances on these accounts were quite small and so the account holders were probably paying account fees). Only 8% of these households held any debt with BOk. (Three percent had installment loans, and 5% had mortgages.)

Some of these checking accounts, debt products, and investment accounts appear to pre-date the tax-season. However, approximately 56% of this subset of households did not have a relationship with BOk prior to the tax season, so the initial savings accounts generated new customers for the bank. Furthermore, one quarter of these new R2A-BOk customers opened additional accounts (beyond the savings account) following tax season, suggesting meaningful cross-selling opportunities within the R2A participant sample.³⁰

BOk provided end-of-month data on savings account balances for August, September, October, and November 2004 for accounts remaining open in mid-August. These data show that participants rapidly withdrew money from their accounts. This subsample of participants initially deposited an average of \$644 into their BOk accounts. The average balance dropped to \$112 by August (26 weeks after refund receipt for most participants) and to \$27 by November (38 weeks after refund receipt for most participants). The median balance of \$203 at enrollment dropped to \$11 in August and \$1 in November. Although 36 accounts were still open in November, at least 16 of those might be considered inactive: they had balances of less than \$10 and no activity for at least two months. As detailed in Table XII, excluding these “inactive” accounts from the balance calculations yields higher average and median balances, but a substantially higher account closure rate.

Saving Outcomes for Participants with and without R2A. Further evidence on the short-term impact of R2A comes from data on saving out of refunds by participants in 2003, the year before R2A was available. In the baseline survey, we asked R2A participants whether they had received a federal refund in the previous year. We asked those who did receive a refund in 2003 whether they were still saving a portion three months after they received their refunds. We compared these data with data on savings at follow-up in 2004, when participants used R2A services. Table XII shows results for the 31 people with available data. If R2A facilitates saving, we would expect to see more people in the lower

³⁰ Data are not available on the types of accounts opened or how many accounts each household opened. Among all participant households that kept their accounts open through November (not just new BOk customers), 19% (7) purchased new products after tax season.

left cell than in the upper right cell. This pattern does appear and is highly significant.³¹ Participants report a higher propensity to save with R2A relative to the prior year, when R2A was not available.

Participant Perceptions of R2A. A final source of evidence regarding the impact of R2A comes from responses to attitudinal questions included in the follow-up survey, displayed in Table XIII. The survey data suggest that R2A facilitated saving and thoughtful spending. Eighty-three percent of respondents said that the service helped them save more, 83% said that the service helped them spend their refunds more slowly, and 76% said that the service helped them resist spending temptations. In addition, all respondents said they would recommend R2A to a friend, and 97% planned to split their refunds again next year. On average, participants were willing to pay \$6.60 to split their refunds, and 89% were willing to split even if they had to wait longer to receive their refunds. Willingness to incur costs to split strongly suggests that participants obtained real benefits from the service.

6. Implications of the Refunds to Assets Program

Before discussing the implications of the Refunds to Assets program, it is important to remind the reader of the critical caveats and qualifications that must be applied to this data. This is a small survey in a single location with a set of taxpayers that may not be representative of the LMI population in the U.S. In addition, we acknowledge that our research design is not ideal for measuring the incremental impacts of the program, as it lacks a rigorous control group that might be produced from other methodologies (e.g., randomized experiments). Nevertheless, there are a few implications of this experiment that are intriguing, probably more to be understood as hypotheses for future study than as conclusions in their own right.

³¹ There are three important data quality issues in addition to the small sample. First, respondents may have been unable to accurately recall refund uses for 2003. Since the R2A outreach emphasized the value of saving, we assume that over-reporting of saving in 2003 was more common than under-reporting. If this is true, our test is conservative, all else equal. Second, we cannot account for changes in economic or personal circumstances that would affect use of refund. The final issue involves mismatch in timing. For saving in 2003, each person was asked to report whether she was saving *three months* after refund receipt. For saving in 2004, each follow-up survey respondent was asked whether she was *currently* saving some portion of refund, and the timing of follow-up surveys varied from three months to five months after refund receipt. Again, this data flaw is likely to make our test more conservative because people are less likely to have some refund in savings as time passes.

1. There seems to be material demand for refund splitting among LMI families and even a willingness to pay for the service.

When we began this experiment, the team was prepared for the possibility that no one would want to use this new, untested service. We offered people a service that involved their money, where few had any advance notice of the service, where there was no word of mouth, and where refund recipients had to fill out additional paperwork in order to participate. We were surprised that demand was as strong as it was: 27% of refund recipients wanted to use the service. Afterwards, satisfaction levels were virtually 100%, participants expressed a desire to use the service again, and participants expressed a willingness to pay an average of \$6 for the splitting service. While it will take other experiments at other sites to confirm these results, our data suggest that refund splitting could meet with very strong consumer demand among LMI families.

2. It is important to evaluate the success of the program relative to the savings goals of LMI participants.

Most asset-building policy proposals require substantial funding and hence they are evaluated carefully. Even though refund splitting would not require substantial federal outlays, it would still be prudent to evaluate its effectiveness. If we examine the program from the perspective of consumer satisfaction or self-reported ability to better manage their finances, this program looks attractive. Measured narrowly using data on account balances, the results are far less impressive, as balances were rapidly drawn down.

From our research, we have come to appreciate that this service cannot be evaluated simply by looking at the size of a participant's bank balance. While savings account balances dropped significantly over our nine-month study, in comparison with individuals not offered the service, participants saved portions of their refunds for longer periods of time. Perhaps the relevant measure of success is not account balance, but whether the participant is making progress—or has achieved—her financial goals. Emergency saving is a legitimate savings goal for families, as is saving for auto repair, if that car helps an individual keep his job. If the program helps participants to weather emergencies or keep their cars functioning and hence maintain employment, then the program cannot be judged a failure because savings balances are depleted. Although accumulating and protecting long-term savings (say, for retirement) are important goals, there are other critical savings goals for LMI families. Any program must be measured against the participants' goals.

3. Unless individuals are able to open new savings vehicles at the time of tax preparation, the demand for refund-splitting among LMI households is likely to be much lower than observed here.

In our experiment, participants either split into existing accounts, split into new accounts, or opened new accounts without splitting. If we had limited the service to only people who could split into existing accounts, our participation rate would have been considerably lower. Only 4% of refund recipients used an existing account. Our data suggest that the potential market for splitting would be five times larger if: (a) participants were able to set up savings accounts at the time of tax preparation, and (b) foiled participants unable to open a savings account were given access to another savings vehicle.³² Revealed preference suggests that the new account feature was attractive (or essential) to participants.

Furthermore, the use of low ChexSystems scores to deny accounts—thereby reducing saving opportunities and incentives—must be addressed. In our experiment, potential participants foiled by ChexSystems had completed almost all of the required paperwork and clearly had strong demand for the service. Had we been able to offer them a savings vehicle, we could have increased our splitting participation rate from 12% to 19%.³³ While some tax preparation sites have succeeded in convincing bank partners to waive ChexSystems requirements for refund depositors, we need to ensure that all willing savers have an opportunity to save.

Simultaneously solving the tax preparation and account opening tasks—for all willing savers—is not an insurmountable problem. There are a number of different approaches. First, various commercial firms allow filers to open some kinds of savings vehicles at the same time as their taxes. H&R Block has piloted two programs in which a participant could open either an IRA or a savings account at the time of filing (Tufano and Schneider (2004a)). We understand that a partnership between Intuit (the makers of Quicken tax prep software) and Wells Fargo has offered a similar service (Ackerman (2002)). VITA sites sometimes partner with banks, as we did with BOk, to open accounts on-site.

³² The splitting take-up rate if the above conditions were met is calculated as the number of individuals successfully splitting (62), unable pass ChexSystems (36), lacking ID required by BOk to open an account (4), or not old enough to open a BOk account (3) divided by the total number of individuals approached expecting refunds (516).

³³ The splitting participation rate is calculated as the number of splitters (62) divided by the number of individuals approached expecting a refund (516). The participation rate had ChexSystems not been used is calculated as the number of

A more seamless solution to this problem is to enable refund recipients to immediately direct some of their money to savings on their tax form. The simplest form of this one-step investing would be to allow investors to receive part of their refund in U.S. Savings Bonds rather than in cash. We develop this idea in some detail in another piece (Tufano and Schneider (2004b)). In brief, we propose that refund recipients be able to instruct the IRS to use a portion of their refund to purchase savings bonds. By adding a single line to the 1040 form, it would be possible to ensure that every American family had access to at least one saving option at the time they filed out their taxes. Obviously, there are more elaborate versions of this proposal, whereby the refund recipient could direct the IRS to deposit the money in a wider range of alternatives (such as those offered by the Thrift Savings Plan to federal employees). However, giving all refund recipients the opportunity to seamlessly save in the form of Savings Bonds would be a far more simple, feasible and immediate solution. Furthermore, enabling refund-based Savings Bond purchases would provide valuable learning for more involved models of tax-based savings programs.

4. LMI splitting is likely to involve simple financial products, perhaps a menu of these products.

In our follow-up research, we probed participants on which financial products they would like to “split into” (See Table XV). Not surprisingly, the demand was for simpler financial products, with 92% very likely or likely to use a savings account, 88% a checking account and 65% to receive a paper check. There was also interest in retirement savings products (53%), college savings products (51%) and, to a lesser extent, Certificates of Deposit, Savings Bonds, and mutual funds. (As an aside, our interest in Savings Bonds is not deterred by these results. In another question, the conditional demand was 76%, once the participant understood that savings bonds yield more than bank savings deposits.)³⁴

Our experiment only allowed refund recipients to invest in a completely liquid vehicle—a standard savings account. Participants who wanted a stronger form of pre-commitment to savings, such as provided by a CD or a savings bond, were not offered this type of product. We hypothesize

participants splitting (62) and the number denied by ChexSystems (36) divided by the number of individuals expecting a refund approached (516).

³⁴ Specifically 76% of those surveyed answered “Yes” to the question: “Most savings accounts in banks currently pay about 1% interest. Suppose you could send part of your refund to save in a savings bond that paid 3.4% but wouldn't allow you to withdraw the money for several months. Would you consider sending part of your refund to save in a savings bond?” The rates we quoted in the survey question were representative of those offered at the time through bank accounts and savings bonds.

that some investors would benefit from having a savings choice which enabled them to leverage their mental accounting biases and thereby encourage longer-run financial planning.

Families also expressed a demand for a splitting service that directly paid down various debts (car loan—45%, credit card—44% and mortgage—42%), although in our pilot no one used the service to pay down principal on their mortgage. Finally, more than one-fourth of respondents expressed interest in a splitting service that would allow them to send international remittances.³⁵

In total, one can imagine various forms of splitting services, some offering a fairly limited set of options and others offering more extensive choices. For example, if administered by the IRS, we would imagine that splitting options might be relatively limited. However if splitting were also facilitated by the private sector, a broader range of services could be offered. In all cases, the product set would likely consist of simple “standard” products, but policy makers should be aware of the breadth of services that may be demanded.

5. Even if our more conservative estimates were attained, the initial level of LMI savings generated through refund splitting could be considerable in the context of business, public policy, or family economics.

It is dangerous to project the results of any small study onto a large population. However, if one is going to make a business or public policy decision that affects millions, it is equally foolhardy to ignore the data at hand. In the spirit of “back of the envelope calculations” (and the attendant cautions associated with such calculations), we estimate the potential size of initial savings from a national refund splitting program.

Table XIV shows the possible size of LMI savings that might be generated as a result of a refund-splitting program. The key variables are the take-up rate of the program, the savings per participant, and the base of taxpayers to whom this analysis is applied. With respect to the take-up rate, we show a variety of alternatives: our take-up rate of 27%, our splitting-only take-up rate of 21%, our participation rate of 15%, our splitting-only participation rate of 12%, and for a low estimate, the rate of participation among those who split to existing accounts (4%). For the initial savings per participant, we use the average from our program, which is 47% of the refund, and for saving at 3-5

³⁵ It is possible that our survey underestimated demand for this service in the wider market. A large portion of the remittances sent abroad from the US are directed to Latin America. The most likely senders of these remittances, Hispanics, were under-represented in our sample because we did not recruit participants at CAPTC’s Spanish-language tax preparation site.

months, we use the percent of refund still being saved among all follow-up respondents (21%). We apply these factors to two populations: all LMI filers receiving refunds and all LMI filers receiving refunds excluding our estimate of filers who purchased refund anticipation loans, since these filers were not represented in our data and we believe they may be unable or unwilling to save even part of their refunds.³⁶

While the various combinations of assumptions produce different estimates, the amount of savings that could be generated through a splitting program is material by most standards. Using the 12% splitting-only participation rate and the estimated amount of all refunds sent to LMI filers not purchasing RALs, we calculate that splitting could generate as much as \$2 billion in savings each year. In aggregate, this yearly flow of savings would be material. By way of comparison, new IRA contributions in 2002 were \$9.6 billion (Copeland (2004)). For R2A participants, just the amounts saved out of refund represented an average annual saving rate of 5.8%, much above the current saving rate for all income groups of 1.4% (BEA (2004)). From a public policy perspective, we agree with former IRS commissioner Fred Goldberg that fixing this part of IRS “plumbing” could have a material impact on savings, without requiring any federal program outlays that support the current \$335 billion in family asset building (Brookings (2004)).

However, we also acknowledge the limitations of our data in making these estimates. We are unable to determine how much of these substantial savings flows would be incremental to any current savings out of refunds that now occurs without the use of splitting. Our sample is essentially too small to estimate the marginal effect on savings of splitting. However, to the extent that LMI refund receivers save anything out of their refunds now, it is despite the failure of the government and the financial sector which both fail to facilitate savings at this time. At a minimum, our results suggest how important refunds may be in helping families save.

From the perspective of families, a voluntary splitting program seems to resonate with their desire to receive help in the self-discipline of saving. The additional savings could help families build stronger records that would prepare them for responsible use of credit. The splitting feature itself would prevent some families from having to pay check-cashing fees to transform their refunds into cash and then convert the cash into savings. These fees have been estimated to be as high as 2.83% on

³⁶ Filers purchasing RALs demonstrate a strong preference for receiving their refunds quickly, even at very high costs. However, the participants in our study chose to have their taxes prepared at sites where RALs were not available, suggesting a different set of preferences for their refund dollars. We hypothesize that RAL purchasers would be less likely

IRS checks and 3.08% on RAL checks or \$161 million in fees for cashing RAL checks alone (Woo and Fox (2004); Woo and Fox (2003)).

From the perspective of asset managers, refund splitting could serve as a new and relatively efficient way to gather assets from low-income families in a cost-effective manner, and the size of assets, while not huge relative to pension pools and savings by the affluent, would not be so small as to be uninteresting. Furthermore, if participants were willing to pay a nominal fee (say \$5, which is below the average willingness of \$6) for the service, the aggregate fees of as much as \$29 million could be used to ensure that the costs of offering the service were recouped. Furthermore, while this is mere speculation, paid tax preparers or financial institutions might find that offering splitting services could increase client retention. Some anecdotal evidence suggests that retention is higher among tax preparation clients who purchase additional services.³⁷

6. While splitting could be accomplished at many levels, probably the most efficient solution is to split tax refunds at the source, i.e., at the Internal Revenue Service, but permit the private sector to augment this splitting service. A second best solution is to have the private sector perform the splitting alone.

While the purpose of our experiment was to determine whether there was demand by refund recipients for splitting, in the course of our experiment, we learned about the operational details of implementing a splitting system. In principle, splitting could occur at three points in the refund process. First, the split could occur at the IRS, which would direct monies to more than one destination. Second, the split could occur en route, with the refund passing into some kind of account that in turn divided it into the various components. Third, the split could occur at one of the final destinations requested by the saver, for example, the monies could be deposited into a checking account and auto-debited to other destinations.

Of these three options, the first is clearly superior along some dimensions. It would ensure that the split was available to *all* refund recipients, it would make the splitting seamless, it would reduce some of the possibilities for operational risk, and it would encourage all refund recipients to realize that they have to make a deliberate decision about how to use their refunds. Furthermore, if linked

to split than the CAPTC clients who make up our sample in that the service would route a portion of the refund to savings, deferring consumption and slowing down the receipt of funds, nearly the opposite effect of a RAL.

with a savings bond program, the first option would encourage Americans to invest in the country and provide all Americans—regardless of their credit history—with a chance to save. Even if the IRS offered simple splitting services, it appears to us that it would be useful to *also* enable the private sector to offer additional or augmented splitting services. The IRS should reexamine rules under which private-sector splitting might evolve, for example, clarifying the conditions under which refunds could be directed to a temporary pooled account en route to a refund recipient’s ultimate destination. Clarifying these rules might enable private entities to offer enhanced splitting services, perhaps directing taxpayers monies to more complicated destinations or to facilitate “on-the-fly” account opening by new savers. Facilitating private-sector splitting might also address the reservations about the IRS expressed by some participants. In the follow-up survey we asked participant and comparison group members how likely they would be to participate in R2A if the IRS offered the service, without help from CAP or BOK. Eighteen percent said they would be very likely, 36% said somewhat likely, 20% said somewhat unlikely, and 25% said very unlikely. This suggests that some families might be more responsive to splitting that was more closely tied to another entity.

While it seems sensible to use the private sector to augment the splitting offered by the IRS, it seems unlikely that the private sector alone would move quickly to set up splitting services on their own accord. A private sector actor seeking to scale up our small experiment would face the up-front costs and potential legal liability that would likely deter most entities. Any one private sector firm, unsure of their ultimate market share might wisely wait to see how others fared, creating an equilibrium where the service was never offered. Therefore, it seems that having the IRS offer some basic splitting services—and clarifying the rules under which private splitting could take place—would be substantially more effective than waiting for the private sector to act.

7. Further research in refund-based savings and splitting is needed.

Our study is only a first step towards understanding the potential impact of refund-based savings programs. It raises a number of intriguing possibilities that should be tested in future studies.³⁸ Our results suggest that a program of splitting with account opening might generate strong interest among LMI families. By forcing families to confront their refunds before they receive them,

³⁷ Tufano and Schneider (2004a) report on the experience of H&R Block. Additional anecdotal evidence on the link between cross selling and client retention for retail banking is reported by Pachetti and Lewis (2003), for insurance by Thomas (1999), and for financial advisors by McReynolds (2003).

they may feel better prepared to save and to resist spending temptations. Participants seem to have a somewhat better—or no worse—post-refund track record than other families. Future studies should further test the impact of programs like R2A, further unbundling the effects of account opening from splitting. In addition, while we have examined a limited set of account data, future work should look more closely at account-level transaction and balance data to understand how low-income filers use their accounts and the consequences of those use patterns for bank profitability. More generally, all of these first findings should be replicated on larger samples, where it would be possible to go further, to understand the product mix, features and marketing activities that would best support savings by low- and moderate-income families.

* * * * *

Refund splitting is not a complicated notion, but simple ideas sometimes have considerable power. Our team’s experiment in Tulsa suggests that it may be possible to help poor families achieve savings goals through a simple change in tax policy. By focusing on refund recipients, rather than just tax payers, the tax system can increase savings. By facilitating the splitting of refunds at the time refund amounts are known but before money is available to spend, the tax system could force families receiving the largest check they might see in a year to confront the decision “What should I do with my money?” and to commit in advance to an answer that saves for the future. Just as working families can precommit a portion of their paychecks to savings, refund recipients could precommit a portion of their \$78 billion of refunds to savings. Even if the share of refund recipients choosing to split were modest the cost-benefit tradeoff of this policy change is likely to be overwhelmingly positive.

³⁸ In the 2005 tax year, we are conducting new research in two cities where we are offering refund recipients a more varied menu of products and marketing appeals, using a randomized experimental design.

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Table I Free Tax Preparation Sites and Asset Building

Phone interviews were conducted with practitioners at community organizations, foundations, and financial institutions involved in linking asset building and free tax preparation. Respondents were identified through a listing of Annie E. Casey grant recipients and through mutual referral. The interviews took place in April and May 2004. Information is presented for each community organization and is organized into three general program categories.

	Opening Savings Accounts	Opening IDAs	Financial Education
Baltimore, MD Baltimore CASH Campaign	<ul style="list-style-type: none"> Offered accounts on site (did not waive ChexSystems, no fee) Hosted large general "asset building" event at start of season 	<ul style="list-style-type: none"> Some sites offered IDAs 	
Ithaca, NY Alternatives Credit Union[1]	<ul style="list-style-type: none"> Offered accounts on site (waived ChexSystems, no fee) 		<ul style="list-style-type: none"> Planning to expand financial education on site
Wilmington, DE Nehemiah Gateway CDC	<ul style="list-style-type: none"> Offered accounts on site (waived ChexSystems, no fee for 1 year) 	<ul style="list-style-type: none"> Provided information on IDAs 	
Riverside, CA Riverside Family Asset Building Program	<ul style="list-style-type: none"> Offered accounts 	<ul style="list-style-type: none"> Provided information and program applications 	
Seattle, WA United Way of King County	<ul style="list-style-type: none"> Offered accounts (did not waive ChexSystems, no fee) 		
Denver, CO The Piton Foundation	<ul style="list-style-type: none"> Offered checking accounts on site 	<ul style="list-style-type: none"> Provided information on IDAs 	<ul style="list-style-type: none"> Provided referrals to financial education
New Orleans, LA Central City Asset Building Coalition	<ul style="list-style-type: none"> Offered savings accounts 	<ul style="list-style-type: none"> Planning to link tax clients with "Prosperity Club" program (financial education and IDAs) 	<ul style="list-style-type: none"> Planning to link tax clients with "Prosperity Club" program (financial education and IDAs)
Boston, MA EITC Coalition	<ul style="list-style-type: none"> Offered bank accounts 		<ul style="list-style-type: none"> Referred to financial literacy classes
New York, NY CFRC and ORCA	<ul style="list-style-type: none"> Offered bank accounts 		
State Wide, IL Tax Counseling Project	<ul style="list-style-type: none"> Offered savings accounts through First Accounts program 		
Milwaukee, WI Milwaukee EITC/Asset Building Project	<ul style="list-style-type: none"> Offered savings accounts 	<ul style="list-style-type: none"> Provided information and referrals on IDAs 	<ul style="list-style-type: none"> Enrolled individuals in "Get Checking" classes
Washington, DC DC Cash Coalition	<ul style="list-style-type: none"> Offered savings accounts (waived ChexSystems, no fees for 1 year) 	<ul style="list-style-type: none"> Provided referrals to partner agencies 	<ul style="list-style-type: none"> Referred to financial education classes at partner agencies

[1] Additionally, Alternatives offered refund loans designed to help clients to build credit. A client could arrange to have her refund sent to the credit union and in exchange received a loan in the amount of her anticipated refund one or two days after filing. Alternatives then held the refund as collateral and allowed the client to pay back the loan in regular payments, thus building credit. There was very little risk for Alternatives because it held refunds as collateral.

Table II Response Rates per Data Source by Research Sample

Information was collected from a number of sources for individuals approached on site by R2A program staff. All individuals were asked to complete a baseline survey, and information from a Taxwise summary sheet was collected for all decliners and takers. Information was also collected from the splitting instructions issued by those participants opting to split their refunds. Follow-up telephone surveys were conducted 3-5 months after refund receipt with participants and members of the comparison group. Finally, BOK provided account data for select participants. Data collected 2/9 - 2/21 and 3/15 - 3/26 of 2004 in Tulsa, OK, and 5/30 – 8/12 by telephone from Boston, MA.

Data Source	Baseline Survey	Taxwise Summary Page	Splitting Instructions	Follow-up Survey
Takers	99%	95%	n/a	n/a
Participants [1]	100%	99%	83%	55%
Foiled	97%	89%	n/a	n/a
Decliners	63%	65%	n/a	n/a
Comparison Group	87%	n/a	n/a	49%

[1] Calculated as the number of participants with data divided by the total number of participants completing signing research consent forms (n=75). Four participants who did not complete research consent forms are excluded.

Table III Enrollment Outcomes

Individuals who were approached at the tax preparation site (N = 516) have been grouped into several categories: those who enrolled in the program, those who wanted to enroll in the program but could not, and those who declined to enroll. The first two of these groups are combined to form the group "Interested in Program." These individuals are referred to as "takers." Take-up rate, defined as the percent of those approached on site expecting a refund who were interested in the program, is also presented. Take-up rates are estimated for the program as a whole (splitting and account opening), for splitting, and for account opening. Participation rate is defined as the percent of those approached on site expecting a refund who successfully enrolled in the program. Participation rates are estimated for the program as a whole, for splitting, and for account opening. Data collected 2/9 - 2/21 and 3/15 - 3/26 of 2004 in Tulsa, OK

Outcome	Number	Percent
Take-up Rate—Program [1]	137	27%
Take-up Rate—Splitting [2]	110	21%
Take-up Rate—New Account [3]	98	19%
Participation Rate—Program [4]	79	15%
Participation Rate—Splitting [5]	62	12%
Participation Rate—New Account [6]	55	11%
Disqualification Rate—Program [7]	58	11%
Declined [8]	379	73%

[1] This group includes those who actually enrolled in the program (participants) and those who were interested in enrolling but were ineligible (foiled participants).

[2] Take-up rate for splitters is calculated by multiplying the percentage of participants splitting their refunds (83%) by the number of foiled participants (n=58) and adding that number to the number of successful splitters (n=62) and then dividing that total by the number of individuals approached who were expecting a refund (N=512 and excludes 4 participants who did not sign research consent forms).

[3] Take-up rate for new accounts is calculated following the same method as described above but for new accounts instead of splitters.

[4] This group includes individuals who successfully enrolled in the program.

[5] Participation rate for splitting is calculated as the number of splitters (n=62) divided by the number of individuals approached expecting refunds (n=512)

[6] Participation rate for new accounts is calculated as the number of individuals opening new accounts (n=55) divided by the number of individuals approached expecting refunds (n=512)

[7] This group includes individuals who wanted to enroll in the program but were not eligible. (See Table IV below).

[8] This group includes those who were approached by CAPTC staff about enrolling, but declined to participate. (See Table VI for fuller explanation).

Table IV Enrollment Outcomes for Takers

Some individuals who expressed interest in the program were unable to enroll. The percentage of all takers who either enrolled or were disqualified for specific reasons is shown below. Data collected 2/9 - 2/21 and 3/15 - 3/26 of 2004 in Tulsa, OK

Outcome	Number	Percent of Takers
Enrolled	79	58%
Wanted to Enroll	58	42%
ChexSystems [1]	36	26%
Declined to wait [2]	6	4%
Refund too small in the end [3]	6	4%
Lacked proper ID [4]	4	3%
Under age [5]	3	2%
Did not have existing account number [6]	2	1%
Paper return error [7]	1	1%

[1] This category includes the individuals denied accounts, and thus participation in the program, by ChexSystems.

[2] Waiting time to complete enrollment in the program during very busy periods could be as long as 15- 20 minutes, some clients declined to wait.

[3] Interested individuals began the enrollment process before learning the value of their refund; some individuals ultimately decided that their refund were too small to make splitting worthwhile.

[4] In order to open an account, BOk required a valid driver's license issued at least 3 months prior to the account-opening date.

[5] In order to open a non-custodial account, BOk required that the account-holder be at least 18 years old.

[6] In order to split a refund between a check and an existing account, individuals needed to know the account number of their existing savings account.

[7] Nearly all individuals enrolling in the program filed electronically. Although it would have been possible to enroll in R2A even if paper-filing, one individual was mistakenly turned away for this reason.

Table V Demographic Characteristics of R2A Participants, Foiled Participants, Takers, Decliners, and Residents of Tulsa County

Individuals approached at the R2A test site who expected to receive a refund have been classified into two groups. "Takers" includes those who either enrolled in the program or expressed interest but were blocked from participation. "Decliners" includes those who declined to participate. The group "takers" is divided into two sub-groups, "participants," those who successfully enrolled in the program, and "foiled," those who were interested in the program but were unable to enroll. Data for residents of Tulsa County are also presented. The table reports several financial and demographic characteristics for each group. The results of significance tests comparing the characteristics of participants and foiled participants and takers and decliners are shown in the right-hand columns. Data collected 2/9 - 2/21 and 3/15 - 3/26 of 2004 in Tulsa, OK. Data on Tulsa County are drawn from the US Census (2000).

Demographics	All Participants	All Foiled	All Takers	All Decliners	Tulsa County	P ≠ F		D ≠ T	
						Test Statistic	p- Value	Test Statistic	p- Value
N	75	58	133	303	563,299				
Age						t = -2.03	0.04	t = 4.21	< 0.01
Mean	35	30	33	40	36				
Standard Deviation	13	13	13	16	---				
Median	32	26	30	39	35				
Income [1]						t = -1.45	0.15	t = 2.47	0.01
Mean	\$12,297	\$9,614	\$11,177	\$13,927	\$51,756				
Standard Deviation	\$9,264	\$11,529	\$10,312	\$10,136	---				
Median	\$10,526	\$5,602	\$7,850	\$12,328	\$38,213				
Federal Refund						t = -2.35	0.02	t = 0.72	0.47
Mean	\$1,381	\$835	\$1,153	\$1,261	---				
Standard Deviation	\$1,446	\$1,040	\$1,316	\$1,412	---				
Median	\$648	\$456	\$518	\$746	---				
Children in Household [2]	52%	55%	53%	44%	35%	$\chi^2 = 0.15$	0.70	$\chi^2 = 3.26$	0.07
Receives Public Assistance [3]	27%	33%	29%	30%	---	$\chi^2 = 0.53$	0.47	$\chi^2 = 0.02$	0.89
Has Health Insurance	45%	36%	42%	57%	86%	$\chi^2 = 0.80$	0.37	$\chi^2 = 7.51$	< 0.01
Owns Home	31%	23%	28%	33%	62%	$\chi^2 = 0.64$	0.42	$\chi^2 = 1.01$	0.32
Gender						$\chi^2 = 2.04$	0.15	$\chi^2 = 0.25$	0.62
Female	57%	70%	62%	65%	52%				
Male	43%	30%	38%	35%	48%				

Table V (cont...)

Demographics	All Participants	All Foiled	All Takers	All Decliners	Tulsa County	P ≠ F		D ≠ T	
N	75	58	133	303	563,299	Test Statistic	p-Value	Test Statistic	p-Value
Employment [4]						$\chi^2 = 6.99$	0.14	$\chi^2 = 4.45$	0.35
Working Full-Time	60%	39%	53%	49%					
Working Part-Time	16%	21%	18%	19%	64%				
Not Working, Looking for Work	12%	21%	15%	15%	3%				
Not Working, Student	8%	5%	7%	4%					
Not Working, Other [5]	4%	13%	7%	13%	33%				
Education [6]						$\chi^2 = 2.77$	0.60	$\chi^2 = 3.67$	0.50
Less than HS Diploma	14%	11%	13%	10%	15%				
HS Diploma or GED	37%	50%	41%	41%	27%				
Some College	33%	32%	32%	28%	25%				
Associate's Degree	8%	3%	6%	10%	7%				
Bachelor's Degree	8%	5%	7%	12%	27%				
Race / Ethnicity						$\chi^2 = 8.29$	0.08	$\chi^2 = 0.73$	0.95
African-American	50%	59%	53%	52%	11%				
Caucasian	39%	21%	33%	32%	73%				
Native American	3%	0%	2%	2%	5%				
Hispanic	5%	18%	10%	9%	6%				
Other [7]	3%	3%	3%	4%	6%				
Marital Status [8]						$\chi^2 = 4.02$	0.26	$\chi^2 = 7.28$	0.06
Single, Never Married	53%	70%	59%	47%	25%				
Separated or Divorced	27%	13%	16%	22%	14%				
Married	16%	15%	22%	22%	55%				
Widowed	4%	3%	4%	9%	6%				

[1] Annual Gross Income (AGI) as reported on summary TaxWise page. [2] Percentage of participants in each group reporting children under the age of 18 in household. [3] Percentage of participants in each group reporting currently receiving TANF, SSI, or Food Stamps. [4] Employment data for Tulsa County residents are available only for the general categories, "employed," "unemployed," and "not in the labor force." [5] Percentage of participants in each group reporting being retired, a homemaker, or other non-student categories. [6] For Tulsa County residents, education statistics include those over the age of 25 (U.S. Census Bureau (2000)). [7] Percentage of participants in each group reporting their ethnicity as Asian, Hawaiian or Pacific Islander, or "other." [8] For Tulsa County residents statistics on marital status include those over the age of 15. Note: Sample sizes vary across variables due to missing data.

Table VI Number and Percent of Decliners Naming Reasons for Declining

Individuals who declined to participate in R2A, despite expecting a refund, gave a number of reasons for choosing not to enroll. These specific reasons have been grouped into the broad categories of "Don't Need the Service" and "Don't Like the Service." Individuals were permitted to give more than one response, so percentages sum to more than one 100%. Data collected 2/9 - 2/21 and 3/15 - 3/26 of 2004 in Tulsa, OK

	Number	Percent
"Don't Need the Service"	285	94%
Already Decided How to Use Refund	132	44%
Plan to Spend Entire Refund	74	24%
Refund Too Small to Bother	37	12%
Don't Need Help Saving or Managing Money	28	9%
Already Have Account [1]	11	4%
Began Process but Sent All to Savings [2]	3	1%
"Don't Like the Service"	26	9%
Interested if There Was a Match or Dedicated Use [3]	12	4%
Moving Away [4]	7	2%
Trust/Privacy Issues [5]	5	2%
Other	34	11%

[1] This group includes individuals who stated that they had an existing savings account with another bank and thus were not interested in opening a new savings account with BOK. Presumably, these individuals did not see a value in the splitting service alone.

[2] Several individuals began the enrollment process, but after talking with CAPTC staff, decided to direct deposit their entire refunds into existing savings accounts.

[3] Individuals in this group stated that they would have been interested in the splitting program if additional incentives, such as a match, or additional saving options, were available.

[4] A number of individuals said they did not want to participate because they were moving away from the Tulsa area. Several of these individuals did not want to open a new bank account with BOK, since they were leaving the area, and several noted that they were planning to close existing accounts and did not want to make additional deposits to those accounts. These responses essentially address portability concerns.

[5] A few individuals decided not to participate based on a distrust of banking institutions generally or a desire to limit the number of parties involved with the processing of their refund to ensure their privacy.

Table VII Percent of Participants and Comparison Group Members Reporting Types of Planned Refund Use by Method of Use

Participants and comparison group members reported a wide variety of planned refund uses. Respondents were asked if they planned to save part of their refund, spend part, and/or repay debt with part. The first row of the table shows the percent of participants naming any planned refund uses in each of these broad categories. The percentages sum to more than 100% since participants could name multiple methods of use. Respondents also provided information on specific planned uses. The percent of participants reporting each specific refund use by method is presented in the second section of the table. Data collected 2/9 - 2/21 and 3/15 - 3/26 of 2004 in Tulsa, OK

	Participants (N=69)			Comparison (N=36)		
	Save	Spend	Repay	Save	Spend	Repay
Any	81%	57%	45%	56%	58%	56%
General Saving	16%	0%	0%	0%	0%	0%
Emergency Saving	13%	0%	0%	6%	0%	0%
Housing [1]	15%	9%	1%	13%	6%	0%
Car [2]	13%	12%	4%	8%	11%	6%
Education [3]	4%	1%	1%	0%	8%	0%
Business	1%	1%	0%	0%	0%	0%
Retirement	5%	0%	0%	2%	0%	0%
Children	4%	4%	1%	0%	2%	0%
Special Events [4]	4%	1%	0%	6%	0%	0%
Bills	3%	19%	13%	0%	2%	2%
Medical	1%	1%	3%	0%	0%	9%
Durables	1%	4%	1%	0%	4%	2%
Move	1%	4%	0%	0%	2%	0%
Living Expenses [5]	1%	0%	1%	0%	8%	0%
Miscellaneous	7%	1%	3%	0%	2%	4%
Credit Cards	0%	0%	12%	0%	0%	13%
Utilities	0%	0%	5%	0%	0%	2%
Loans	0%	0%	3%	0%	0%	2%
Clothes	0%	7%	0%	0%	0%	0%
Taxes	0%	0%	0%	0%	0%	6%
Family Transfers [6]	0%	0%	0%	0%	0%	2%

[1] Includes home purchase, home improvement, and rental housing uses.

[2] Includes car purchase, car repair, and other car-related uses (such as insurance).

[3] Includes tuition and school supplies.

[4] Includes trips, gifts, and events such as weddings and funerals.

[5] Includes food purchase and other general household expenses.

[6] Includes financial transactions between family members, including repaying of debt and making loans and gifts.

Table VIII Aggregate Initial Saving out of Refund

Data on total and individual measures of amount of refund sent to savings are presented below for all participants, all participants who split their refunds, and all participants who opened new accounts.
Data collected 2/9 - 2/21 and 3/15 - 3/26 of 2004 in Tulsa, OK

	All Participants (N=75)	All Splitters (N=62)	All New Account (N=58)
Amount Sent to Savings			
Total [1]	\$44,202	\$35,867	\$25,996
Mean	\$606	\$579	\$490
Standard Deviation	\$905	\$883	\$1011
Median	\$203	\$200	\$174
Minimum	\$3	\$15	\$3
Maximum	\$4,000	\$4,000	\$4000
Amount Sent to Savings as a Percent of Anticipated Refund			
Mean [2]	47%	38%	46%
Standard Deviation	33%	27%	36%
Median	39%	33%	35%
Minimum	2%	2%	2%
Maximum	100%	98%	100%

[1] Aggregate amount of initial deposits to saving.

[2] Calculated as the mean of individual savings as a percent of refund

Table IX Demographic Characteristics and Planned Refund Uses for Participants and Comparison Group Members in the Baseline and Follow-up Samples.

Data on participants and comparison group members are presented, for all individuals in each group with baseline data and for individuals in each group who completed a follow-up interview. The table reports demographic and financial information for members of each subgroup and compares the characteristics of baseline and follow-up participants and the characteristics of baseline and follow-up comparison group members. In addition, the last two columns give the results of statistical tests comparing follow-up comparison group members to follow-up participants.

	Participants		Comparison		PF \neq CF	
	Baseline	Follow-up	Follow-up	Baseline	Test Statistic	p-Value
Panel A. Demographic Characteristics						
Age [1]						
Mean	35	36	37	No Data	t = 0.51	0.62
Standard Deviation	13	12	17	No Data		
Median	32	34	41	No Data		
Income Ranges [2]						
\$0 - \$10,000	50%	51%	15%	30%	$\chi^2 = 8.18$	0.02
\$10,001 - \$20,000	24%	22%	50%	32%		
\$20,001 +	26%	27%	35%	39%		
Refund Anticipated [3]						
Mean	\$1,381	\$1,362	\$775	\$958	t = -1.47	0.15
Standard Deviation	\$1,446	\$1,567	\$769	\$1,080		
Median	\$648	\$624	\$500	\$500		
Refund Received						
Mean	No Data	\$1,377	\$1,299	No Data	t = -0.21	0.84
Standard Deviation	No Data	\$1,536	\$1,208	No Data		
Median	No Data	\$704	\$700	No Data		
Children in Household [4]	52%	51%	50%	40%	$\chi^2 = 0.03$	0.86
Receives Public Assistance [5]	27%	24%	17%	29%	$\chi^2 = 0.31$	0.58
Has Health Insurance	45%	45%	56%	64%	$\chi^2 = 0.43$	0.51
Owns Home	31%	25%	56%	53%	$\chi^2 = 3.89$	0.05
Gender						
Female	57%	59%	88%	76%	$\chi^2 = 4.57$	0.03
Male	43%	41%	12%	24%	Fisher's exact = 0.03	
Marital Status						
Currently Married	16%	15%	10%	20%	$\chi^2 = 0.22$	0.64
Not Married	84%	85%	90%	80%	Fisher's exact = 1.00	
Employment Status						
Working Full-time	60%	67%	58%	57%	$\chi^2 = 0.44$	0.51
Not Working Full-time	40%	33%	42%	43%	Fisher's exact = 0.58	
Education						
Some College or More	49%	48%	25%	51%	$\chi^2 = 2.81$	0.09
HS Diploma or Less	51%	53%	75%	49%	Fisher's exact = 0.16	
Race						
Asian, Black, Hispanic, Native American, Hawaiian, or Other	61%	56%	35%	42%	$\chi^2 = 2.39$	0.12
White	39%	44%	65%	58%	Fisher's exact = 0.18	

Table IX (cont...)

	Participants		Comparison		PF ≠ CF	
	Baseline	Follow-up	Follow-up	Baseline	Test Statistic	p-Value
Panel B. Planned Uses of Refund						
Savings	81%	82%	63%	56%	$\chi^2 = 2.49$	0.12 Fisher's exact = 0.19
Debt Repayment	45%	45%	68%	56%	$\chi^2 = 2.85$	0.09 Fisher's exact = 0.16
Spending	57%	49%	58%	58%	$\chi^2 = 0.43$	0.51 Fisher's exact = 0.58
N	75	41	22	53		

Note: Fisher's exact tests are two-sided.

[1] For participants, data on age are taken from Taxwise summary sheets. Comparison group data on age come from follow-up surveys and so are only available for comparison group members contacted on follow-up.

[2] Data on comparison group members' incomes were reported on the baseline survey in ranges. For participants, income equals AGI as reported on summary TaxWise page and then converted to ranges.

[3] Anticipated refund for participants is taken from Taxwise summary sheets. Anticipated refund data for comparison group members is from baseline surveys completed by respondents prior to having their taxes prepared.

[4] Percentage of respondents in each group reporting children under the age of 18 in household.

[5] Percentage of respondents in each group reporting currently receiving TANF, SSI, or Food Stamps.

Note: Sample sizes varies across variables due to missing data

Table X Saving Out of Refund at Follow-up, for Participant and Comparison Groups

Saving outcomes for participants and comparison group members are compared. The percent of participants who planned to save and are still saving three to five months later is compared to that share of comparison group members doing so. The percent of all participants (not just planned savers) who are still saving is also compared to the share of comparison group members doing so. Data on the amount of refund still saved and the percent of the refund received still saved are presented for both planned savers and all follow-up respondents. Chi-Square, Fisher's Exact, and t-tests are used to test for significant differences between the groups.

	Planned Savers [1]		P ≠ C		All Respondents [2]		P ≠ C	
	Participants	Comparison	Test Statistic	p-Value	Participants	Comparison	Test Statistic	p-Value
Percent Still Saving Portion of Refund	72%	42%	$\chi^2 = 3.44$ Fisher's exact = 0.07	0.06	66%	36%	$\chi^2 = 5.04$ Fisher's exact = 0.02	0.03
Amount Saved								
Mean	\$423	\$318	t = 0.33	0.75	\$338	\$278	t = 0.28	0.78
Standard Deviation	\$1,041	\$596			\$931	\$550		
Median	\$50	\$0			\$35	\$0		
Minimum	\$0	\$0			\$0	\$0		
Maximum	\$4,000	\$2,000			\$4,000	\$2,000		
Percent of Refund Saved [3]								
Mean	24%	21%	t = 0.36	0.72	21%	19%	t = 0.33	0.74
Standard Deviation	31%	29%			29%	28%		
Median	11%	0%			8%	0%		
Minimum	0%	0%			0%	0%		
Maximum	100%	83%			100%	83%		
N	32	12			41	22		

Note: Fisher's exact tests are one-sided.

[1] Planned savers are those who named a planned savings use of their refunds on the baseline survey. [2] All respondents includes those who completed a follow-up interview, regardless of whether they listed a planned savings use on the baseline survey.

[3] Refund equals actual, not anticipated, refund amount.

Table XI Saving out of Refund or Spending on Savings Goals at Follow-Up, for Participant and Comparison Groups

Saving outcomes for participant and comparison groups are compared, first for planned savers, then for all respondents. Chi-Square, Fisher's Exact, and t-tests are used to test for significant differences between the groups.

	Planned Savers [1]		P ≠ C		All Respondents [2]		P ≠ C	
	Participants	Comparison	Test Statistic	p-Value	Participants	Comparison	Test Statistic	p-Value
Percent Still Saving Portion or Having Spent on Savings Goal	78%	42%	$\chi^2 = 5.35$ Fisher's exact = 0.03	0.02	71%	36%	$\chi^2 = 6.98$ Fisher's exact = 0.01	0.01
Amount Saved or Spent on Savings Goals								
Mean	\$472	\$568	t = -0.26	0.80	\$376	\$415	t = -0.15	0.88
Standard Deviation	\$1,065	\$1,192			\$956	\$943		
Median	\$53	\$0			\$50	\$0		
Minimum	\$0	\$0			\$0	\$0		
Maximum	\$4,000	\$3,900			\$4,000	\$3,900		
Percent of Refund Saved or Spent on Savings Goals [3]								
Mean	32%	27%	t = 0.44	0.66	27%	22%	t = 0.59	0.56
Standard Deviation	36%	37%			34%	32%		
Median	13%	0%			10%	0%		
Minimum	0%	0%			0%	0%		
Maximum	100%	98%			100%	98%		
N	32	12			41	22		

Note: Fisher's exact tests are one-sided.

[1] Planned savers are defined as those who named a planned savings use of their refunds on the baseline survey.

[2] All respondents includes all individuals who completed a follow-up interview, regardless of whether they listed a planned savings use on the baseline survey.

[3] Refund equals actual, not anticipated, refund amount.

Table XII Account Balances for Open and Active Bank of Oklahoma Savings Accounts, August – November 2004

	Accounts still Open as of November 2004				Accounts still Active as of November 2004 [1]			
	August 31, 2004 [2]	September 30, 2004	October 31, 2004	November 30, 2004	August 31, 2004	September 30, 2004	October 31, 2004	November 30, 2004
N	36	36	36	36	20	20	20	20
Balance								
Mean	\$112	\$80	\$63	\$27	\$185	\$135	\$114	\$49
SD	\$312	\$167	\$133	\$54	\$405	\$206	\$162	\$66
Median	\$11	\$13	\$8	\$1	\$51	\$56	\$56	\$24
Total Deposits	\$4,018	\$2,894	\$2,276	\$987	\$3,705	\$2,708	\$2,284	\$987
Year-to-date Average Balance								
Mean	\$176	\$166	\$155	\$147	\$207	\$199	\$189	\$180
SD	\$275	\$248	\$228	\$214	\$270	\$245	\$220	\$205
Median	\$56	\$62	\$60	\$61	\$106	\$116	\$142	\$135
Month-to-date Average Balance								
Mean	\$82	\$91	\$67	\$40	\$130	\$150	\$119	\$72
SD	\$149	\$192	\$142	\$65	\$181	\$240	\$175	\$74
Median	\$14	\$15	\$15	\$9	\$51	\$58	\$65	\$49

[1] Accounts are considered to be inactive if the balance is less than \$10 and there is no account activity for more than 2 months.

[2] For any given date, the time elapsed since refund receipt varied somewhat across sample members. For the end of August, the average and median number of weeks since refund receipt among open accounts was 26, the minimum was 20, and the maximum was 27.

Table XII Saving out of Refund for Participants in 2003 versus 2004

The R2A baseline survey asked participants if they were still saving some of their 2003 refund three months after receiving it, and the follow-up phone survey asked a similar question regarding their 2004 refunds. The table below compares the percent still saving three months after refund receipt in 2003, with the percent of participants still saving a portion of their refund three to five months after refund receipt in 2004. We use a McNemar chi-square to test for significant differences across time among the participants responding to both the baseline question and the follow-up survey (N = 31). The R2A service was not available in 2003, but was used by participants in 2004.

	Not Saving out of Refund in 2003	Saving out of Refund in 2003
Not Saving out of Refund in 2004	10	1
Saving out of Refund in 2004	17	3
	McNemar $\chi^2 = 14.22$	p < .01

Table XIII Responses to Follow-up Survey Attitudinal Questions for Participants, by Participation Status
 Participants were asked a series of questions designed to gauge their satisfaction with R2A and their feelings about the program's effectiveness. Participants were also asked several questions about possible future use of a splitting service. Responses are presented for participants who split their refunds, for participants not splitting their refunds, and for all participants.

	Split Refund to New or Existing Account	Did Not Split (New Account Only)	All Participants
Service helped to save more of refund	89%	63%	83%
Service helped to spend refund more slowly	82%	88%	83%
Service helped to resist spending temptations	76%	75%	76%
Would split next year [1]	97%	75%	92%
Would still split even if had to wait longer for refund [2]	87%	100%	89%
Would recommend service to a friend	100%	n/a	n/a
Average amount willing to pay to split refund	\$6.60	n/a	n/a
N	33	8	41

[1] Splitters were asked if they planned to split their refunds again next year. For non-splitters, the concept of the splitting service was explained, and they were then asked if they would split their refunds next year.

[2] Respondents (both splitters and non-splitters) who stated that they would split their refunds again next year were asked if they would still plan to split even if their refunds arrived more slowly as a result. Respondents who did not plan to split next year were not asked this question.

Table XIV National Extrapolation, The Estimated Size of Refund Splitting at Scale (in Millions of Dollars)

Estimates of the total amount of federal tax refunds directed to savings were generated from R2A and IRS data. The estimates for the amount of initial savings are based on the number of LMI filers receiving refunds (IRS data), the average amount of the refund (IRS data), and the initial savings rate (R2A data) and are generated for each of five possible take-up rates (R2A data). The same method is used to calculate total savings at 3-5 months. Estimated fee ranges are based on the total number of LMI filers receiving a refund (IRS data) at a \$5 splitting fee (R2A data) for the five possible take-up rates (R2A data).

(\$ million)	All Participants, Take-up Rate	Splitters, Take-up Rate	All Participants, Participation Rate	Splitters, Participation Rate	Splitters to Existing Accounts, Participation Rate
Estimated Initial Savings					
All LMI Filers Receiving a Refund from any Source [1]	\$9,973	\$7,757	\$5,541	\$4,433	\$1,478
All LMI Filers Receiving a Refund and Not Purchasing a RAL [2]	\$4,689	\$3,647	\$2,605	\$2,084	\$695
Estimated Savings at 3-5 Months After Refund Receipt [3]					
All LMI Filers Receiving a Refund from any Source	\$4,456	\$3,466	\$2,476	\$1,980	\$660
All LMI Filers Receiving a Refund and Not Purchasing a RAL	\$2,095	\$1,629	\$1,164	\$931	\$310
Estimated Fees (price = \$5) [4]					
All LMI Filers Receiving a Refund from any Source	\$75	\$58	\$42	\$33	\$11
All LMI Filers Receiving a Refund and Not Purchasing a RAL	\$66	\$51	\$37	\$29	\$10

[1] Approximately 55.5 million filers with incomes of less than \$30,000 received a federal tax refund of any kind in 2001 at an average value of \$1,415. We apply our initial savings rate of 47% to these figures to generate five estimates of the amount of funds that could be saved by all LMI refund recipients given five possible take-up rates: our take-up rate of 27%, our splitters-only taker-up rate of 21%, our participation rate of 15%, our splitters-only participation rate of 12%, and our splitting to existing accounts participation rate of 4%.

[2] Approximately 55.5 million filers with incomes of less than \$30,000 received a federal tax refund of any kind in 2001. In 1999, 39% of EITC recipients purchased a Refund Anticipation Loan (RAL) (Berube, Kim, Forman, and Burns (2003)). The RALs received by these filers accounted for 47% of total EITC dollars (Berube, Kim, Forman, and Burns (2003)). Here, we estimate the total number of LMI refund recipients not purchasing a RAL by subtracting the number of EITC filers receiving a RAL in 1999 from the total number of filers receiving a refund of any kind in 2001. We estimate the total amount of refunds received by LMI filers not purchasing a RAL to be 47% of the total amount of refunds received by LMI filers in 2001. Estimated average refund in 2001 for filers not receiving a RAL is then calculated to be approximately \$752. We then apply our initial savings rate of 47% to these figures to generate five estimates of the total amount that could be saved by LMI refund recipients.

[3] The same calculations as for initial savings are performed, but we substitute a 21% savings rate for our 47% initial savings rate to estimate the total amount of savings after 3-5 months.

[4] We multiply the numbers of filers in each category (same figures as for calculations of initial and 3-5 month savings) by an estimated average fee for splitting of \$5 to generate a range of total fees based on the five take-up rates.

Table XV **New Splitting Options, Participant Interest in Additional Products**

Participants and comparison group members (N = 60) were asked how likely they would be to split their refunds into a number of different financial products. Respondents were given four response options, "very likely," "somewhat likely," "somewhat unlikely," and "very unlikely." This table aggregates participant and comparison group member responses and presents the results for the "very likely" and "somewhat likely" responses, combining them in the right-hand column.

	Very Likely	Somewhat Likely	Combined
Savings			
Savings Account	66%	26%	92%
Retirement Savings	14%	39%	53%
College Savings	27%	24%	51%
Certificate of Deposit	12%	17%	29%
US Savings Bond	7%	17%	24%
Mutual Fund	9%	12%	21%
Transaction			
Checking Account	63%	25%	88%
Paper Check	25%	40%	65%
Stored Value Card [1]	15%	25%	40%
International Remittance	8%	14%	22%
Debt			
Car Loan	20%	25%	45%
Credit Card	32%	12%	44%
Mortgage	25%	17%	42%

[1] The "stored value card" was described to respondents as "a card that you could use at an ATM/Transfund Machine, like a debit card."