## HARVARD BUSINESS SCHOOL



## Just Keep My Money! Supporting Tax-time Savings with US Savings Bonds

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Working Paper

09-059

Rev: August 13, 2010

#### Just Keep My Money! Supporting Tax-time Savings with US Savings Bonds

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This paper reports the results of a 2007 experiment testing if specific process simplification can foster increased take-up rates for savings products, particularly by low-to-moderate income (LMI) households. Tax refund recipients at certain H&R Block tax preparation offices were given the option to purchase U.S. Savings Bonds with their tax refunds, augmenting the tax-site savings options offered by Block. Those who received the savings bond offer were substantially more likely to purchase a savings product on-site than those who didn't, even after controlling for client demographics. Much of this take-up was directed at intra-family gifting, or asset building on behalf of children.

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Many policy proposals seek to encourage savings, some by providing financial incentives, others by supporting automatic contribution programs, and still others by simplifying the processes. Field experiments have demonstrated how savings product take-up can be increased through these means (John Beshears et al., 2008, James Choi et al., 2009, Esther Duflo et al., 2006, Emmanuel Saez, 2009). This paper reports on an experiment that sought to marry an existing distribution process (income-tax preparation) and a familiar savings product (U.S. Savings Bonds) to make it more convenient to purchase savings products.

Over 5,000 clients at 31 H&R Block (Block) tax preparation offices in Massachusetts and Illinois comprised the control and treatment groups for the experiment. Both groups had access to Block-branded savings products ("Easy Savings" and "Easy IRA"); but the 3,730 tax refund recipients in the treatment group also were given the opportunity to buy inflation-indexed (Series I) US Savings Bonds. All of these on-site purchases were elected at the time of tax preparation and funded by filers' tax refunds, requiring no explicit cash outlay.

Offering the bond as an additional product choice could have depressed on-site savings product take up by confusing filers with too many choices (John T. Gourville and Dilip Soman, 2005). It could have cannibalized or crowded out sales of Block savings products, perhaps even leading filers to divide their funds equally among the choices (Shlomo Benartzi and Richard Thaler, 2001). However, rather than suppress take up, on-site purchase of any savings product at tax sites was 8.5 times higher in treatment offices than in control offices (7.05% vs. 0.74%), and after controlling for extensive demographic factors from survey and tax data, the bond offer led to a 5.5 percentage point increase in on-site take up. Before the offer of savings products, participants were surveyed "Do you plan to save some of your federal refund?" without regard to when or how this might take place. Overall, about a third of participants stated that they did not

plan to save any of their refund. Purchases of savings products by those with *no plan to save* at treatment sites were *greater* than by those who *planned to save* at control sites. The savings bond offer did not lead to a cannibalization of tax-site sales for the Block savings products, nor a mechanical 1/n investment choice.

Of those who bought bonds, a substantial fraction (42%) reported having no existing financial assets at all, and 65% would be considered "asset poor" (i.e., financial assets less than \$5000). While the take up of many financial products, like mutual funds or stocks, is higher among families with higher incomes or wealth (Shlomo Benartzi and Richard Thaler, 2001, Brian Bucks et al., 2006) this was not the case for savings bonds in our experiment. With respect to income and wealth, the bond offer seemed to appeal to individuals who were less well off.

The experiment allowed refund recipients to buy bonds for themselves or for another coowner; and 69% bought bonds in co-ownership form. Results from a related project show that these sales were primarily for children, suggesting potential for the old-fashioned concept of "gifting savings."

While I may use the terms "saving" and "savers" as short-hand to represent the tax-site purchase of savings products, this paper (like others in this field), cannot establish if purchase of a savings product merely substituted for off-site savings activity or reflected a reduction in consumption (Peter Tufano and Daniel Schneider, 2009). However, purchases by people who claimed no intent to save any of their refund, and by those without any other savings, suggest that the offer may have fostered new savings.

The remainder of this paper provides background and context for the experiment, then reports on three analyses: (a) the comparison of treatment and control groups with respect to their demographics and *ex ante* desire to save any of their refund; (b) the take up of savings

products in treatment and control sites; and (c) the characteristics of savers, including savings goals, saver demographics, and the phenomenon of gifting savings.

#### 1. Background and Motivation for the Study

Despite a recent increase in savings rates, the decades-long decline is notable (Andrea Ryan et al., 2010).<sup>1</sup> Furthermore, recent survey evidence suggests that almost half of American adults ages 18-65 cannot access \$2000 within 30 days (whether from savings or other means) which leaves them vulnerable to even small economic shocks (Annamaria Lusardi et al., 2010).

Prior work has established how changing financial incentives, product structure and so-called choice architecture can affect savings and savings product take up. For example, Individual Development Accounts (Michael Sherraden, 2008) offer match funding for low-income asset builders. Tax time experiments with filers at H&R Block (Esther Duflo et al., 2006, Emmanuel Saez, 2009), and an analysis of company programs (James Choi et al., 2006) illustrate that match incentives increase both take-up rates and contributions in retirement plans.

Changing other product terms can also have an effect on product attractiveness. For example, commitment savings products that restrict withdrawals have been shown to increase savings. Ashraf et al's (2006) study of commitment savings in the Phillipines examined a product where savers established goals (set to a date or an amount) and agreed to restrict access to their funds until they met their stated goals. One year following the experiment, average savings of participants increased by 81% relative to those in the control group, which the researchers consider long-term net new savings.

Yet other innovations address the sign-up process. Thaler and Benartzi (2004) found

3

<sup>&</sup>lt;sup>1</sup> The personal savings rate dropped from roughly 11% in 1984 to less than 1% in 2008, but increased to 4% as of May 2010.

that offering employees the opportunity to commit in advance to gradually increase their pension contributions over time through the SMarT program increased both take-up rates and overall contributions. Choi et al (2006) support this idea, finding that savings interventions without this type of tiered structure are not successful. Madrian and Shea (2001) were among the first to show that changing the defaults can increase retirement program take up.

Finally, innovations that reframe product descriptions and improve information delivery to make choices simpler increase take-up rates. Saez (2009) shows that when tax filers are presented with the opportunity to open an IRA account with a choice between two equivalent-value financial incentives—a 50% match on initial contributions versus a 33% cash-back credit on initial and ongoing contributions—the match option produced higher take up and contribution rates than the more complicated credit. Choi, Laibson and Madrian (2009) tested the effect of making decision making easier, namely through their "Quick Enrollment" plan. When employees were given the opportunity to easily enroll and select a plan with a pre-selected contribution rate and asset allocation (as opposed to making the more complicated set of decisions about whether or not to enroll and how to handle the allocation), participation increased three-fold.

This study combines elements of these prior projects, facilitating the purchase of a traditional savings product with a commitment element in a simple fashion at a time when low-income households have money: tax time. In 2007, the Federal government distributed \$250 billion in 2006 tax year refunds to Americans, of which nearly \$115 billion went to families with incomes under \$40,000. Refund recipients with adjusted gross incomes (AGI) under \$40,000 received refunds of approximately \$1,679.<sup>2</sup> Prior research suggests that families aspire to save at

<sup>&</sup>lt;sup>2</sup> http://www.irs.gov/pub/irs-soi/06in33ar.xls.

least some of these monies (Sondra Beverly et al., 2006).

The IRS has made it simpler for families to save by "paying themselves first" from their refunds by introducing Form 8888, which permits a refund recipient to send funds to up to three destinations. There are, however, a few barriers. First, without an existing account, this infrastructure cannot lead to savings; and account opening at tax sites remains spotty at best. Second, traditional depositories are wary of remote account opening as a result of "know your customer" (KYC) regulations, and generally are not inclined to open less-profitable small-balance accounts.<sup>3</sup> Finally, mutual funds and other specialized investment products have substantial minimum investment requirements and must be sold through registered dealers (Daniel Schneider and Peter Tufano, 2007).<sup>4</sup> These barriers make it difficult to offer tax-time savings products. Private preparers have shown limited support of tax-site savings (Peter Tufano and Daniel Schneider, 2004).

Our experiment focuses on using bonds as a simple savings vehicle available to all as the "offer" at tax time. Bonds can be bought *by* or *for* anyone with a social security number, including children and persons with poor credit or previous problems managing their finances. The product is well designed for individuals: bonds comes in small denominations, charge no fees, generally pay a competitive rate, guarantee no principal loss, provide good liquidity (after a year), and can be cashed in at more than 40,000 depositories around the country. They are exempt from state and local taxes, and if used to pay for education, may have certain federal tax advantages as well. Finally, Series I bonds are indexed to inflation, an attractive feature (See Zvi Bodie et al., 2009). One potential drawback (or advantage) of bonds is that they cannot be

<sup>&</sup>lt;sup>3</sup> Depositories may, in fact, simply refuse to open even savings accounts for individuals who have had past problems managing their checking and debit accounts. See Campbell et al. 2007.

<sup>&</sup>lt;sup>4</sup> For more information, see U.S. SEC <a href="http://www.sec.gov/investor/brokers.htm">http://www.finra.org/InvestorInformation/InvestorProtection/p005882</a>

redeemed for twelve months except in the case of natural disasters<sup>5</sup> and redemptions before five years are subject to the loss of three months of interest. For savers seeking liquidity, these features are a negative; for those seeking a commitment savings vehicle, they are a plus.

While a refund recipient could choose to go to a bank to buy a savings bond instead of buying one at the tax site, this two-step process is more cumbersome than a simpler one whereby a refund recipient can merely instruct the IRS to "keep some of my money." Indeed, a number of "institutional" theories explain low savings rates as a result of institutional impediments (Sondra Beverly and Michael Sherraden, 1999), and related research interventions show that process simplification can increase savings (James Choi et al., 2009). This experiment seeks to find if making it simpler to purchase a savings bond at the tax site can materially increase the likelihood and level of savings product take up.

### 2. Structure of the Experiment<sup>6</sup>

The research experiment was designed and executed by a team from H&R Block (Block) Corporation, Doorways to Dreams (D2D) Fund, and an academic research team. Thirty-one Block tax-preparation offices were divided into treatment and control sites, selected to be comparable with respect to demographics of prior-year tax clients. Participants in both groups had access to Block's existing menu of savings products ("Easy Savings" and "Easy IRA"). However, only the treatment group had the additional opportunity to purchase US Savings Bonds.

<sup>&</sup>lt;sup>5</sup> <u>http://www.savingsbonds.gov/indiv/research/indepth/ebonds/res\_e\_bonds\_eeredeem\_disaster.htm</u> (last visited on 9/3/08)

<sup>&</sup>lt;sup>6</sup> Portions of the section on related to experimental design and Block-site operations are drawn from Maynard 2008 with permission.

Selection of Treatment and Control Offices. The 31 Block tax-preparation offices were located in two districts — Boston, MA (20 offices) and Schaumberg, IL (11 offices). Twenty-seven offices were designated as "treatment" (16 in Boston, 11 in Schaumberg) and four were designated as "control" (all in Boston). To select treatment and control offices, we analyzed the prior tax season's (2006 or "TS06") client data to identify offices that were comparable with respect to weighted average adjusted gross income (AGI), refunds, and take up of other Block savings products which are described below. The average *ex ante* figures for the control and treatment offices are shown below:

Sample Analysis (TS06 Data)	Weighted Average AGI	Weighted Avg. Refund for EITC Recipients	Avg. % of EITC Returns	Easy Savings Take-Up Rate	Easy IRA Take-Up Rate
Control Offices	\$ 38,534	\$ 2,989	25%	0.009 %	0.25 %
Treatment Offices	\$ 35,732	\$ 3,300	27%	0.010 %	0.23 %

(Maynard 2008)

While the selection of treatment and control offices sought to eliminate differences in the populations, we also collected client-level data to control for other variation in the two samples.

Table 1 shows the characteristics of filers in the treatment and control offices. The treatment group was comprised of 3,730 Block clients who each completed a survey and received the bond offer. The control group was comprised of 1,484 Block clients who were administered the survey only. While treatment and control populations are not dissimilar with respect to AGI or age, they do differ markedly on other characteristics, including even refund amount, which was an *ex ante* selection criterion. The control group members inadvertently were more likely to be male single filers, to have pension plans, to be homeowners, and to have

<sup>&</sup>lt;sup>7</sup> All eleven of the Schaumberg offices participated in the TS06 pre-experiment.

larger refund amounts. They also were more likely to answer that they planned to save some of their refund, as discussed below. Had we been able to randomize the offer, some or all of these differences might have become insignificant. Fortunately, we have extensive survey and tax information which we use to isolate treatment effects by controlling for these differences in multivariate analyses.

Tax Professional Training, Marketing Materials, and Incentives. Over 400 H&R Block tax professionals participated in the experiment during the fourteen-week tax season from January through mid-April 2007. Prior work shows that tax professionals vary in their support of these types of experiments (Esther Duflo, William Gale, Jeffrey Liebman, Peter Orszag and Emmanuel Saez, 2006). While one cannot control for variation in the personality and sales approaches of tax professionals, control and treatment office tax professionals were trained together, used the same tax prep software providing standardized scripts, received the same incentives, and collected tax and survey data using the same tools.

Each tax professional underwent a 90-minute training session covering the mechanics and logic of the experiment, details of US Savings Bonds, the Tax Preparation Software (TPS) system processes, research protocols, and the highlights of the bond fulfillment process. The marketing materials in the treatment offices included small posters (i.e., privacy panels), table tents, pamphlets, and tax professional summary sheets with key aspects of the products and process. Marketing materials used the messages about the ease of purchasing a bond ("US Savings Bonds are easy to buy."); the immediacy ("We can help you buy them today."); the inflation-indexed rates (at the time 4.52%; lower than the rates on prevailing Block products); and the affordability (You can save "for as little as \$50.") Tax professionals received no

incremental compensation for selling either bonds or Block products, but did receive nominal compensation for the completion of surveys.

Selection of Study Participants: Block clients with federal tax refunds of \$500 or more were eligible to participate in the research study, which meant that they would be surveyed and, if in a treatment office, would receive an offer to purchase US Savings Bonds. A total of 40,978 clients were qualified: 34,348 of whom were in the treatment offices (6,324 in Schaumberg and 28,024 in Boston) and 6,630 in the control offices (all in Boston). Of qualified clients in the treatment offices, 11% (3,730/34,348) chose to complete the survey, as did 22% (1,484/6,630) of qualified clients in the control offices. While clients could buy as little as \$50 in savings bonds, the \$500 refund level to participate in the experiment reflected operational considerations in Block offices, in particular the need to have enough funds to pay for the tax preparation process out of the refund and fund the conduit account through which the savings bonds would be purchased (discussed below).

*Process flow.* Block's tax professionals collect information from the filer, provide advice, prepare the necessary forms, and present options for disbursing refunds and saving. This process is standardized by an elaborate computer program, Block's Tax Preparation Software (TPS), which prompts the tax professional through a structured interview process. This interview is designed to collect background information that does not appear on the tax forms (e.g., "Are you a homeowner?") as well as information that would appear on the 1040 form (e.g., filing status).

After the tax professional calculated the tax owed or amount to be refunded, TPS would automatically alert him/her as to whether or not the client was eligible to participate in the research. If so, a screen would prompt the tax professional to ask clients if they would be willing

to respond to a brief survey. (See survey questions in Appendix.) Client affirmation served as consent for participation in the study. A total of 5,214 clients completed the survey, 3,755 (2,271 treatment and 1,484 control) from Boston and 1,459 (treatment) from Schaumberg.<sup>8</sup> The first question asked customers if they planned to save any of their federal refund (i.e., determined "refund savings intent"). It should be noted, however, that this question did not distinguish between saving on-site (i.e., purchasing Block products or savings bonds) and saving off-site (e.g., putting money into another product or institution).

Tax professionals working in treatment offices then would see an "offer screen" prompting them to offer savings bonds to the client and to explain the bond purchase process, including the fact that Block would serve as the purchasing agent for the client, and the requirement that the client temporarily open a conduit H&R Block Easy Savings to fund the bond purchase. Clients could purchase bonds using as little as \$50. They also could purchase bonds for themselves or for up to four additional co-owners.

If a client chose to purchase a bond, the tax professional had to remember first to open the conduit Easy Savings account. Unfortunately, this proved to be an operational stumbling block in that tax professionals sometimes failed to complete this step in the process. Some clients who expressed their intent to purchase bonds did not end up actually purchasing or receiving them, but rather received their full refund amount in whatever other form they had designated. As a result, there were more clients who *directed* the tax professional to purchase bonds than who actually purchased them. (To account for this in the analysis, I used the client *instructions* as the indicator of purchase intent, but also carried out robustness checks using only

<sup>&</sup>lt;sup>8</sup> No identifying information (e.g., names, social security numbers, addresses) was made available to the researchers. It was not required that a client complete a research survey in order to purchase a US Savings Bond. Ten clients purchased US Savings Bonds but opted out of participating in this research study. Their data are not included in this analysis.

fully-executed purchases. None of the multivariate results change materially using the executed purchase data, which is consistent with operational errors being fairly random.)

The minimum Easy Savings purchase was \$300, but clients could buy as little as \$50 in bonds. Bond buyers were neither required, nor encouraged, to retain funds in the conduit Easy Savings account. Rather, they were explicitly given choices for how they could receive the balance of the account that was not used to buy savings bonds. Clients buying less than \$300 in bonds were given the choice to (1) direct deposit the balance into another bank account; (2) receive the balance as a paper check or (3) keep the monies in the Easy Savings account.

The Savings Product Options. The key differences between the Easy Savings, Easy IRA and U.S. Savings Bond products are listed below.<sup>9</sup>

	Easy IRA (Roth or Traditional)	Easy Savings	Series I U.S. Savings Bond
Initial Yield	5.00%	5.00%	4.52%
Fees	Yes	Yes	No
Minimum to open	\$300	\$300	\$50
Rate variability	Adjusts with market conditions; essentially a money market fund	Adjusts with market conditions; essentially a money market fund	Adjusts bi-annually, as a function of the CPI. Owner earns roughly 1.4% plus the annualized inflation rate
Minimum holding period	None (but penalties apply)	None	1 year
Early redemption (penalty / forfeiture)	Penalties if redeemed before age 59 ½; taxes on earnings if redeemed within first 5 years (generally)	None	3 months interest (redemptions within 5 years of purchase)
Maturity	None	None	Stops earning interest after 30 years
ChexSystems review	No	No	No
May buy as a gift	No	No	Yes, as co-owner

<sup>&</sup>lt;sup>9</sup> This chart was not part of the marketing materials presented by tax professionals.

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Government backing	FDIC insured	FDIC insured	Full faith and credit of US Government
Are contributions tax advantaged?	Yes (Traditional, up to IRS annual maximum); No (Roth)	No	No
Are earnings taxable?	Yes, but deferred (Traditional); No (Roth)	Yes	Interest exempt from state and local tax and in some cases, federal tax (when used for education)

The savings bond differs from the Block products on a number of dimensions, some favorably and others unfavorably. Its small denominations, lack of fees, inflation indexing, explicit government backing, and ability to be gifted are plusses. However, the lower up-front yield, required holding period, and complicated rate setting rules (inflation plus a fixed rate) might reduce its attractiveness. From a research perspective, adding a product with many different features makes it difficult to identify which feature might be most important; but from a policy perspective, adding an existing product tests the impact of a feasible policy change.

Tax Professional Attitudes. We did not select offices on the basis of the interest levels of tax professionals. We intended the research protocol to be a seamless add-on to the existing tax-preparation process. However, in mid-season focus groups, tax professionals indicated that they saw it as an additional burden, for reasons ranging from the time it took to sell the bonds to technological glitches (e.g., the survey software occasionally crashed the system.) They believed that the way the program was implemented decreased tax-professionals' interest in offering the bonds and hence likely reduced customer take-up rates for the bonds themselves. Representative quotes from the focus groups indicate their concerns.

- "The way we were selling the bonds tended to restrict the amount of sales we got"
- "It was a shame that they were limited to only people getting a refund over \$500 because I think some of the other people would have bought it. Or if they could have bought it even though they weren't getting a refund."

- "Some people thought that the bond questions on the survey were kind of intrusive...[and said] I don't want to do this anymore when they got to that point."
- "I would have more clients [buying bonds]. They told me, "I wish I had would have known about this before I came in."...They're not impulse buyers.

#### 3. Refund Savings Intent

The first survey question, "Do you plan to save any of your refund?" was asked to all participants before explaining or proposing any savings products. It was designed to measure refund savings intent in that it refers to savings explicitly related to the tax refund. However it deliberately did not refer to tax-site product purchases, hence, someone planning to use some of their refund to buy a CD or stocks would have answered affirmatively.

Ideally, refund savings intent would have been equal between control and treatment populations. It was not: 76% of the control group and 63% of the treatment group expressed *ex* ante refund savings intent. On its face, this difference could lead us to *underestimate* the effect of the bond offer. Multivariate analyses can control for refund savings intent as well as the differences in observable characteristics.

The survey and tax data can help describe differences between those who did and did not plan to save some of their refunds. If mental accounting is pervasive, the marginal propensity to consume or save from one income source (e.g., refunds) may be different from another (e.g., salary or windfalls) (James Choi et al., 2008, Richard Thaler, 1985, 1999, 1990). In general, prior work illustrates that refund recipients often aspire to save some of their refunds in the sense of putting them aside for future consumption. (Michael S. Barr and Jane K. Dokko, 2006, Lisa Barrow and Leslie M. McGranahan, 2000, Barbara Robles, 2005, Jennifer Romich and Thomas Weisner, 2000, Daniel Schneider and Peter Tufano, 2006, Timothy Smeeding et al., 2000).

<sup>&</sup>lt;sup>10</sup> However, pension coverage was 18% higher in the treatment group than the control group, suggesting that members of the treatment group could have had other, more, or different opportunities to save off site, and the lower refund savings intent reflected only their interest in saving funds directly out of the refund.

Browning and Lusardi's (1996) survey of savings theory and empirical results summarizes the extant literature on savings. I examined whether these broad patterns regarding saving helped to predict the narrower concept of refund savings intent. If the latter is positively correlated with the former phenomenon, we expect to find a relationship between refund savings intent and:

- Age (and age squared to capture nonlinearities)
- Marital status (as picked up by filing status) and number of dependents
- Income (as measured by adjusted gross income)
- Disruptions to income through unemployment
- Financial wealth (measured by financial assets)
- Owning real assets (e.g., being a home owner)
- Owning stocks or mutual funds (as proxied by dividend income)
- Having a pension plan

In addition, we included a few other variables that could influence one's intent or ability to save some of their refund:

- Refund amount, reasoning that people receiving larger refunds may be more interested in saving some of the refund
- Unbanked, measured by whether the person has a checking or savings account, to test if lack of connection to the traditional financial system is related to desire to save.
- Student indicators, perhaps capturing short-run inability to save due to life cycle considerations.

Table 2 examines refund savings intent as a function of demographic factors as well as the treatment/control office variable.

While refund savings intent is much more limited than savings overall, its patterns reflected many of the traits from Browning and Lusardi's predictions and stylized facts from extant empirical work. In particular, refund savings intent was lower among filers with lower incomes and no current savings, as well as those who are unbanked. Certain demographic characteristics mattered, too. Younger persons, single men, joint filers, and those with more dependents had lower levels of refund savings intent. Finally, refund savings intent also was lower among filers receiving smaller refunds. As mentioned above, even after controlling for

these demographic variables, participants in treatment offices expressed a 12 percentage point lower interest in saving some of their refund than did participants in control offices. After controlling for the other demographics, this difference should lead to lower product take up in the treatment offices than in the control offices, and bias against finding a result.

#### 4. Tax-site Savings: Does Savings Product Purchase Increase When Offering Bonds?

The experiment sought to understand whether facilitating the purchase of a savings bond could make a material change in the amount of money tax filers directed from their refunds into savings products. The results suggest that on-site savings product take up was enhanced through the experiment. After controlling for demographics and refund savings intent, individuals who had the opportunity to purchase savings bonds with their refunds (i.e., treatment group participants) were considerably more likely to purchase any savings product on-site than those who didn't have the opportunity to buy savings bonds (i.e., control group participants).

The incidence of tax-site take up. Table 3 provides descriptive statistics on realized on-site savings product take—up rates by filers at control and treatment offices. Realized tax-site savings includes the tax-time savings available on-site: US Savings Bond, Easy IRA, or Easy Savings instruments (but excluding pass-through usage of the latter to fund the bond purchase). The data illustrate average deposits into savings products purchased for the following categories: any product (bonds and/or Block products), bonds only, Block products only, and a combination of bonds and Block products.

The incidence and level of savings product take up was markedly higher in treatment offices. The fraction of refund recipients who chose to purchase tax-site savings products was 8.5 times higher in treatment offices than in control offices (7.05% vs. 0.74%). There is no

evidence of 1/n allocations across products, as only 23% of savers bought both Block products and bonds.

The offer of bonds, and their purchase, led to a higher take up of Block products, so apparently did not "crowd out" Block purchases. Table 3 reports that Block product take up was 2.76% in treatment offices versus 0.76% in control offices. Some of this increase was likely due to monies left in Easy Savings accounts after bond purchases. However, even among those who did not buy savings bonds—and hence were not subject to inadvertent take up of the conduit account—take up of Block products was slightly higher in treatment offices than in control offices (1.15% vs. 0.76%). While this difference is neither economically nor statistically striking, it fails to show any crowd-out effect.

To isolate the impact of the bond offer on take up, I control for the demographics of refund recipients. Table 4, column a1, reports a dprobit analysis of realized tax-site take up as a function of the same variables used in Table 3 plus the following two variables: (a) refund savings intent (included with the thought that *ex ante* refund savings intent relates to *ex post* tax-site savings); and (b) use of tax refund lending products (included with the idea that consumers who are cash constrained and therefore use a tax refund lending product may be less likely to save). Column a2 repeats this analysis without the refund savings intent coefficient.

After controlling for the factors in Table 4, the offer of bonds led to a 5.5 percentage point increase in the likelihood of take up in treatment sites over control sites. Thus, the 6.3 percentage point difference in take up in Table 3 is not attributable to observable differences between treatment and control groups with respect to variables including income, wealth, age, and filing status, nor to the unobservable trait of refund savings intent. After controlling for all of these factors, tax-site take up was substantially higher in treatment sites.

This is not to say the various demographic factors do not explain the incidence of purchasing savings products. In both specifications, the likelihood of take up was positively related to refund amount and number of dependents, while negatively related to AGI. For each additional \$1000 in refund amount, the likelihood of take up increased by 0.4-0.6%. For each dependent, the likelihood increased by 1.1%. Both of these are significant at the 1% level.

The relationship with AGI, while weaker, runs counter to the overall pattern that the wealthier save more. For each \$1000 increase in AGI, the likelihood of take up *declined* by 0.02%. While this coefficient was small yet significant, it is critical to compare it to the same coefficient on refund savings intent in Table 2. Refund savings *intent* was strongly positively related to AGI, consistent with substantial evidence that more well-to-do are more likely to own financial assets or have other opportunities to save. However, the actual decision to purchase savings products at a tax site was weakly negatively related to AGI. Similarly, while refund savings intent was lower for filers with more dependents, realized take up was higher for those with more dependents. All of these results suggest that this particular tax-site savings intervention altered savings purchase patterns, encouraging on-site saving purchases among those who were otherwise less inclined to save any of their refund.

Introducing the tax refund lending variable had no significant effect on take up. People who took out high-cost refund loans were no less likely to purchase a savings product than others. Whether the use of these products indicates short-term credit constraints, severe impatience, or present-mindedness, it apparently was not a barrier to product take up.

The likelihood of a refund client purchasing some tax-site savings product was related to refund savings intent, albeit at relatively low levels. The *ex ante* intent to save some of the

17

<sup>&</sup>lt;sup>11</sup> Similarly, while filers with no assets had substantially lower savings intent (as shown in Table 2), they were no less likely to actually save than those filers with the greatest financial assets.

refund led to a 3.6% increase in the likelihood of take up. This fits with recent research on the positive effect of advance notice on take-up rates of IRAs (Emmanuel Saez, 2009) as well as comments by tax professionals that take up could have been heightened if filers had been made aware of the savings options beforehand.

Since including the refund savings intent variable may capture planned savings decisions related to observable differences within our sample, column a2 reports the results excluding this variable. This change in the specification has very little effect on the results, and changes only one variable in a significant way. When the refund savings intent variable was removed from the analysis, those with no current savings were 2.2% more likely to take up a savings product than were those with the most financial assets.

Beyond the differences discussed above, there were differences in take-up between the Illinois (treatment only) and Massachusetts (treatment and control) sites. Comparing the two treatment groups, take-up of any savings product was considerably higher in Illinois (8.6%) than in Boston (6.0%). I re-estimated the models in Table 4 to control for this difference in a multivariate setting. If one adds a Boston fixed effect to the specification in A1, the coefficient on "Offered Savings Bonds" drops from 5.50% to 4.77%, but maintains the same level of significance as shown in Table 4 and the Boston fixed effect has a coefficient of -2.72% with a p-value of .000. If one adds an interaction term, Boston\*Offer fixed effect, the Offer coefficient rises to 6.16% and this new interaction term has a value of -2.24%. The other coefficients change values slightly, but there are no material changes in sign, size or significance of other predictors of tax-site product take up. While these geographic differences don't change the

<sup>12</sup> While there were no Schaumberg control sites, the Boston control take-up of less than 1% was consistent with Block's national experience with its savings products

overall picture, they do suggest that regional differences can be meaningful for any small scale, non-national study. In this instance, one cannot rule out that the two-week TS06 feasibility test in Schaumberg might have increased take up in those locations.

The level of tax-site product purchases. Table 3 also provides descriptive statistics on the level of product purchases in treatment and control offices. This information is presented three ways: in dollars, as a percentage of AGI, and as a percentage of the refund amount. The information is provided on a per capita basis for all filers (top set of results), for all savers (second set of results), and by product purchased (third and fourth sets of results).

In brief, the per capita results for *all* filers show that not only did more people in the treatment offices choose to use some portion of their refund to purchase a savings product, but also average amounts were higher (\$28.21 versus \$12.95 per filer). However, while there were more product purchasers in the treatment offices, they tended to buy less on a per-saver basis than those in the control offices. In terms of the amounts deposited into the savings products, those made by the treatment group totaled less than a quarter of the amount deposited by those in the control offices, and represent a smaller fraction of both their AGI and refund amount. In simple terms, in control offices a few people purchased products but deposited a lot; in treatment offices many more people bought savings products, but on average, deposited much less.

Table 4, columns b1-b3 show Tobit analyses of the savings amount in dollars (column b1), as a fraction of AGI (b2) and as a fraction of refund amount (b3). The level of savings product purchases was higher in treatment offices, for individuals with greater intent to save, for filers receiving larger refunds, and for those with more dependents. Savings product purchase

<sup>&</sup>lt;sup>13</sup> The control office numbers are considerably inflated by a single person who invested \$10,000 in an Easy IRA. Without this one observation, the control site savings levels—while still higher than the treatment savings levels—would have been cut by half, e.g., the average savings would have been \$923.

levels were lower for filers with higher adjusted gross incomes. Compared with filers with substantial financial assets (over \$40,000), amounts were lower for filers with no pre-treatment savings, but also for filers with other levels of saving.

#### 5. Who are these bond buyers? Why purchase bonds? Is this likely "savings"?

Using detailed survey and tax data, I profile the savers, determining the similarities and differences between bond buyers and buyers of Block products. I also differentiate them on the basis of their primary savings goals.

Table 5 provides two types of analyses of the characteristics of bond buyers and Block-product buyers. Columns a1 and a2 provide dprobit analyses of buyers of bonds (a1) and Block products (a2) as compared with those filers who did not buy these products. Columns b1-b3 provide the results of a multinomial logit analysis of four filer types: those who only bought bonds (b1), those who bought bonds and Block products (b2), and those who bought only Block products (b3), all of which are expressed relative to those who made no tax-site product purchases (the base case).

For both analyses, purchasing any of the savings products is related to refund savings intent and refund amounts, although the purchase of bonds is substantially more sensitive to refund amount than the purchase of Block products. For example, in the dprobit analyses, refund savings intent is related to a 5.4% increased likelihood of buying bonds but only a 2.1% increase in the likelihood of buying a Block product.

There are some material differences between the buyers of the different products. Filers with more dependents were more likely to be bond buyers and not Block product purchasers.

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<sup>&</sup>lt;sup>14</sup> The samples in these two columns include all study participants in treatment sites. In unreported results, these dprobit results were rerun for bond buyers vs. non-savers and Block product buyers vs. non-savers. The results are virtually identical for the former sample, but for the latter, three variables (age squared, having a pension plan, and the size of the refund) become insignificant when Block buyers are compared against only non-savers.

Consistent with this finding, bond-buyers' savings goals are more family-centered. I include a variable that indicates the filer's primary reason for saving or investing in general (although not the reason for this transaction in particular.) Family-centered goals (i.e., respondents indicated that education and/or children/family was their most important reason for saving) are coded as one, with the other goals (e.g., retirement, housing, cars, emergencies) coded as zero. Selecting a family-centered primary savings goal was positively associated with bond purchases, but negatively related to purchases of only Block products. In short, bond buyers have more dependents and are saving for their families—one of the original intents of the US Savings Bond program.

Perhaps it is not surprising that the offer of a traditional family-oriented product (bonds) led to take-up among family-focused savers; however, there are relatively few alternatives of this sort marketed to low-income families. For example, tax-advantaged 529 plans are primarily taken up by higher income households (Margaret Clancy et al., 2004, Michael Sherraden, 2009).

To test if bond sales were driven by those previously aware of or experienced with bonds, we included a survey question to gauge filers' awareness of bonds ("Have you ever heard about US Savings Bonds before today?") and their experience as bond purchaser ("Have you ever bought US Savings Bonds before today?"). Both of these questions were asked prior to the actual offer of bonds. Both awareness of and experience with bonds was extraordinarily high in the sample, with 89.0% of filers having known of and 39.2% having bought bonds in the past. 15 While sales of Block products were unrelated to prior bond activity, bond sales were 2.4%

<sup>&</sup>lt;sup>15</sup> These percentages were identical between control and treatment groups. While current holdings of savings bonds are lower than this level, it captures the experience of *ever buying* bonds, not currently owning them. While only 14.9% of people in the 2007 Survey of Consumer Finances currently hold bonds, in 1977, this figure was 31%. Furthermore, many people purchase bonds for others as gifts, and the question refers to the purchase of bonds not their ownership.

*higher* among people who said they had previously *not* heard about bonds. One interpretation of these results is that bonds are more marketable to "new" customers than to existing customers.<sup>16</sup>

While take-up rates for virtually all financial products are positively related to income and wealth., bonds sold at tax time seem to appeal broadly. There is no systematic relationship between bond take up and financial assets, with the coefficients of all but one of the asset ranges indistinguishable from the take up of filers with the highest level of financial assets (>\$40,000). In contrast, Block product sales are lower for filers with financial assets from \$5000 to \$40,000.

It is important to consider whether the bond and Block product purchases could be characterized as "new" savings: Did the money deposited into these products represent (net) savings that would not have been done otherwise? I cannot answer this question directly. I was unable to track the long-run consumption of bond buyers and the relatively small size of bond purchases in comparison to annual consumption would make it unlikely to find statistically reliable results. However, there is suggestive evidence that bond purchases may have resulted in savings in the formal sense. A material fraction of bond buyers had few or no financial assets before purchasing bonds. Slightly over 42% of bond buyers reported having no prior financial assets and 65% could be considered "asset poor" (e.g., having financial assets of less than \$5000.)<sup>18</sup>

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<sup>&</sup>lt;sup>16</sup> Bonds are sometimes thought of as "old fashioned." Therefore, some might suspect that older persons would be more likely to purchase bonds. The data do not bear out this hypothesis, either in the dprobit or mlogit analyses. We found no relationship between age or age-squared and purchase of bonds in either analysis. Older filers are more likely to buy Block products, but this relationship flattens with a negative age-squared coefficient. This result is more pronounced for filers buying both Block products and bonds.

<sup>&</sup>lt;sup>17</sup> It is not clear why this group would have lower take up than those with more than \$40,000 in financial assets. We also find that refund recipients with pensions are less likely to buy Block products, perhaps because their pensions made them less interested in IRA products.

<sup>&</sup>lt;sup>18</sup> As part of the survey, filers were asked how much money they thought they needed to have saved for emergencies. While the responses were spotty and not used in the formal analysis, the \$5700 average is the same rough order of magnitude as the \$5000 figure which is sometimes used as a metric of asset poverty.

It is possible that the bond sale merely substituted for off-site savings activity. Even so, if someone purchased a bond, but stated, *ex ante*, that she had no intent to save any of her refund, we have reason to suspect that the intervention led to higher levels of saving than we might otherwise have observed. Figure 1 shows the take-up rates at the treatment sites when the data are double sorted by reported savings and refund savings intent. Refund recipients with the lowest levels of asset holdings but who reported intent to save showed the highest take-up rates, between 9.5 and 14.3%. This could reflect enhanced interest or opportunity due to the experiment. Perhaps the most striking result is that the take up of bonds by those who hadn't planned to save any of their refunds (2.4%) in treatment offices was 2.3 times higher than the take-up rate of all savings products by those who did (0.7%) in control offices. We must interpret this with caution, however, as we are unable to determine whether recipients allocated a portion or all of their refund to another savings vehicle off-site.

#### 6. Why and for whom are they buying savings products?

Participants were asked to identify their primary savings goal (for any saving, not limited to the tax-site opportunities) by responding to the following question (and corresponding answer choices as seen in Figure 2): "What is your (and your spouse's) most important reason for saving and investing?" Figure 2 shows the distribution of responses both for those who bought bonds and those who declined the offer. Retirement savings was the top choice for 40% of all study participants. Family-centered goals were consistently ranked the second and third choices for bond buyers as compared to only 20.4% for non-bond buyers.<sup>19</sup> Non-bond buyers reported

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<sup>&</sup>lt;sup>19</sup> Many of the savings goals have some family component (e.g., housing, everyday household expenses), but these two are the most obvious of the categories. Education is likely for a child, as the average age of the study participants is 38.

that housing (e.g., purchasing a home, making home improvements or making housing payments) was the second-most important goal.

Under the structure of the experiment, individuals could purchase bonds for as many as four other persons, to a maximum of four sets of "co-owners," in effect sharing ownership with someone else. Where we see co-ownership, in essence the filer is "gifting savings" to another person. The majority (69%) of all bond buyers in the sample bought at least one bond in co-ownership form, with this revealed preference suggesting that the gifting feature was important to bond buyers <sup>21</sup> In this study, we cannot identify the relationship of the bond purchaser to the co-owner, but results from a companion project carried out at VITA sites show that most of them were for children or grandchildren. While the economics literature has focused on the bequest motive as one reason for saving (Martin Browning and Annamaria Lusardi, 1996), this savings gift is not a traditional deathbed bequest, but rather an intra-family savings gift.

I estimated a multivariate dprobit analysis of gifting among bond buyers, as a function of the demographics used in earlier tables. (Table available from author.) Conditional on buying any bonds, the likelihood of buying a bond for someone else was positively related to refund amount, number of dependents, filing status and having a family-centered savings goal. For example, the likelihood of gifting was about 34 percentage points higher among married filing jointly than among single filers. Relative to people with savings above \$40,000, those with savings between \$1 and \$20,000 were about 20 to 25 percentage points more likely to gift.

<sup>&</sup>lt;sup>20</sup> Due to the manner in which the bonds were sold, the primary refund recipient was required to be a co-owner along with their designee. Co-ownership of the Block products was not possible.

<sup>&</sup>lt;sup>21</sup> In the brief TS06 pre-experiment, due to operational limitations, refund recipients did not have the opportunity to buy bonds in co-ownership form. Compared with the 5.9% bond take up in this experiment, the TS06 bond take-up rate was only 2.9% (Tufano, 2007). While this difference might be attributable to a number of factors, it is consistent with the hypothesis that gifting is an important feature of savings bonds.

<sup>&</sup>lt;sup>22</sup> In the VITA survey, a total of 74% of bond purchasers responded that their co-owners were children/stepchildren or grandchildren/stepgrandchildren. (Flacke et al 2008).

Those with family-centered savings goals were 20 to 25 percentage points more likely to gift. Other variables, such as refund savings intent, age, etc. were not related to co-ownership.

We cannot rule out that these bond-givers would have bought bonds, or some other savings product, for others off-site. However, we can rule out that *all* of the increase in take up is attributable only to gift-giving. Excluding those who bought co-registered bonds, single-registered bonds had a take up of 1.8%, which is still more than twice that at control offices.

Finally, buyers (and non-buyers) were asked to identify the most appealing feature of bonds.<sup>23</sup> I carried out a dprobit analysis (table available from author) of the likelihood of buying a bond at a treatment site as a function of the filers' judgment of the most attractive features of bonds. The probability of buying a bond increased substantially if the filer judged the bond's primary appealing feature to be its competitive interest rate (17.7%), low \$50 minimum savings entry point (15.7%), lack of fees (12.2%), and its penalties for early withdrawal (11.3%). The first three of these are understandable, but the fourth indicates that people seem to value the commitment nature of the product, echoing the results of other studies on commitment savings vehicles (Nava Ashraf, Dean Karlan and Welsey Yin, 2006).

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<sup>&</sup>lt;sup>23</sup> The combined results are reported in the Appendix.

#### 7. Discussion and implications

The inadequate level of household savings, especially among the less well-to-do, is an increasingly critical problem in America, requiring many different interventions. Some solutions will involve costly financial incentives, while others leverage psychology to set up defaults so that saving can hardly be avoided (Peter Tufano and Daniel Schneider, 2009). Our experiment complements these innovations and addresses the institutional impediments to saving by making it easy and painless for tax-refund recipients to save.

Offering tax filers the option to easily buy US Savings Bonds materially increased the incidence of savings product take up from about 1% to 7%; and almost none of this difference can be attributed to demographic characteristics of the study participants. We see purchase of savings products by those who don't save—or who have little savings. We see family-centered take up by families with dependents and in the form of co-ownership. Rather than exhibiting overchoice indecision or 1/n biases, filers bought bonds—and Block products too. While the intervention at Block sites was carried out by paid tax professionals, companion studies at volunteer income-tax sites show similar, if not higher, levels of take up, even among populations with substantially lower incomes and wealth (Tim Flacke, Preeti Mehta and Jeff Zinsmeyer, 2008).

Why did the Block intervention increase tax-site take up for people who did not typically save? After all, Block already had been offering savings products at the tax site, and US Savings Bonds already were available at banks and credit unions. One answer is that this intervention demonstrated the power of offering the appropriate product at the right time—when people have money that has not yet been spent. It also seems that bonds appealed to a particular demographic: people with dependents and family-centered savings goals, and those who wished

to give savings to others through co-ownership. Because bonds differed from the Block product suite on many dimensions, the experimental design cannot isolate a single reason for the increased take up. However, the bonds' competitive rates, low entry point, and lack of fees were attractive to buyers.

As a post-script, on September 5, 2009, President Obama announced that all Americans would be able to direct a portion of their refunds to the purchase of savings bonds using IRS Form 8888 starting in January 2010. (In the first year, the program would not permit co-ownership and gifting, but this feature would be added in the following tax year.) While this universal roll-out of the program will preclude some types of control and treatment experiments, it will provide opportunities to observe whether the small sample results will be reproduced at scale. It offers all Americans the opportunity to purchase a savings product—and hopefully to save—with a simple election on their tax form.

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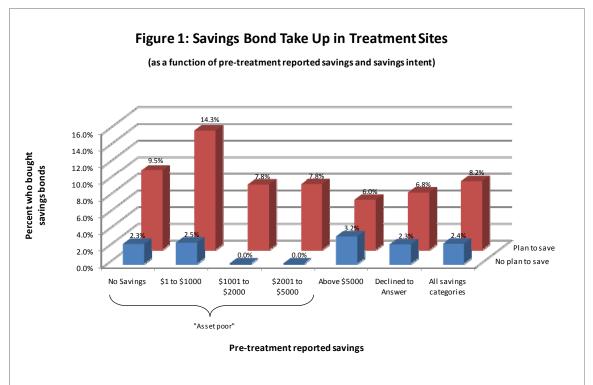
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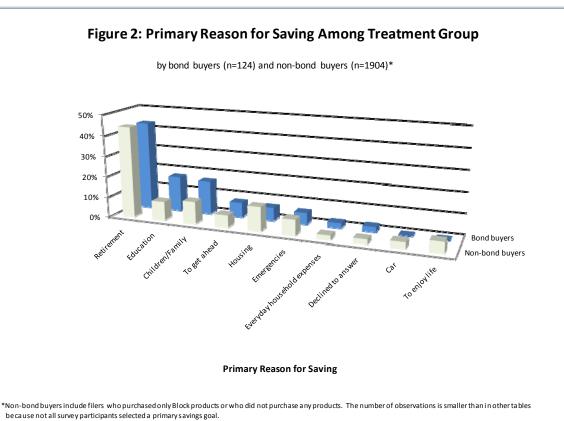
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### **Table 1: Characteristics of Control and Treatment Group Participants**

This table reports the incidence of selected demographic characteristics across the treatment and control groups. These data come from the TPS interview or tax filling. The final column reports the p-values for tests of differences. The test for continuous variables is a two-sample t-test (Ho: sample means equal); Ha: sample means not equal). Probability of |T| > |t| is reported. For non-continuous variables a chi-squared test is used.

	Control Group (survey only)	Treatment Group (survey and offer)	Significance of test of differences
Number of filers	1,484	3,730	na
DEMOGRAPHIC CHARACTERISTICS			
Adjusted Gross Income	\$42,062	\$40,913	0.248
Age (mean)	38	38	0.945
Gender (if not joint filer)			
Female	45%	44%	0.393
Male	41%	33%	0.000
Full-time student	5%	6%	0.472
Unemployed	7%	8%	0.279
Number of dependents			0.004
None	74%	70%	
One	13%	15%	
Two	8%	12%	
Three	3%	3%	
Four	1%	1%	
ASSETS & FINANCIAL STATUS			
Pre-Treatment Savings			0.000
No savings	50%	42%	0.000
\$1 - \$1,000	11%	7%	
\$1,001 - \$2,000	4%	4%	
\$2,001-\$5,000	6%	6%	
\$5,001-\$10,000	6%	5%	
\$10,001-\$20,000	6%	7%	
\$20,001-\$40,000	5%	5%	
Above \$40,000	6%	11%	
Decline to answer	7%	13%	
Does not have a checking nor a savings account	12%	15%	0.007
Has a pension plan	34%	52%	0.000
Awareness and experience with Savings Bonds before today	3470	3270	0.000
Heard of them	89%	89%	0.706
Bought them	39%	40%	0.868
Homeowner	21%	29%	0.000
TAX TIME STATUS & BEHAVIOR			
Taxpayer filing status			0.000
Single	58%	43%	0.000
Married filing joint	14%	23%	
Married filing separately	1%	1%	
Head of household	26%	33%	
Qualifying widow(er)	0%	0%	
Bought a refund lending product (IMAL, IRAL or RAL)	17%	18%	0.137
Mean refund amount	\$528	\$631	0.000
Plan to save at tax time	76%	63%	0.000

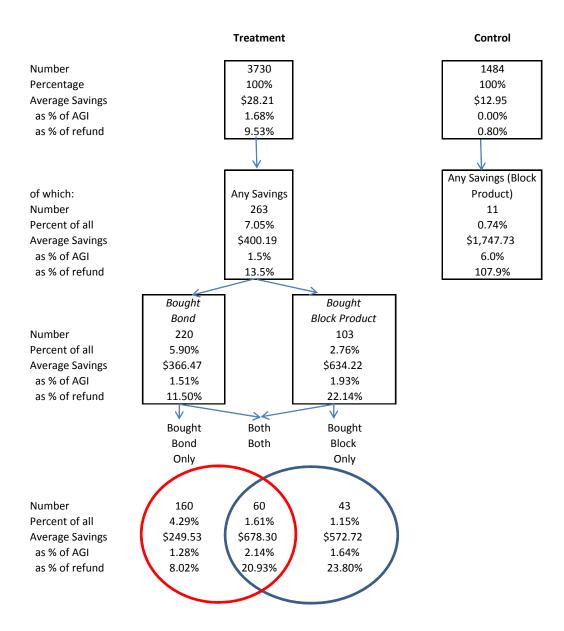
# Table 2: Multivariate dprobit regression of tax refund savings intent on demographic and socio-economic characteristics.

The dependent variable is an indicator variable that equals one if the client answered "Yes" to the question "Do you plan to save some of your federal refund?" This question was asked before any savings options were presented. The dprobit regression reports marginal probabilities for a one unit change in each continuous variable and the discrete change in the probability for dummy variables. Standard errors are in parentheses, \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

Has neither a checking nor a savings account	-0.090***	-0.082***
<b>0</b>	(0.022)	(0.022)
Tax Filing Status (omitted category is single)		
Married filing joint	-0.083***	-0.063***
	(0.024)	(0.024)
Married filing separately	-0.067	-0.060
	(0.067)	(0.067)
Head of household	-0.017	-0.002
	(0.022)	(0.022)
Qualifying widow(er)	-0.348	-0.327
	(0.219)	(0.227)
Age	-0.008**	-0.009***
	(0.036)	(0.004)
Age squared	0.00007*	0.00008**
	(0.00004)	(0.0004)
Gender (if not joint filer; omitted category is male)		
Female	0.034**	0.034**
	(0.016)	(0.016)
Number of dependents	-0.026**	-0.028***
	(0.011)	(0.011)
Has a pension plan	-0.076***	-0.059***
	(0.016)	(0.016)
Full-time student	-0.025	-0.025
	(0.032)	(0.032)
Unemployed	-0.021	-0.018
	(0.027)	(0.027)
Adjusted gross income ( in thousands)	0.001***	0.001***
	(0.0003)	(0.0003)
Pre-treatment savings (omitted category is >\$40,000)		
No savings	-0.144***	-0.158***
	(0.030)	(0.030)
\$1 - \$1,000	0.009	-0.011
	(0.036)	(0.037)
\$1,001 - \$2,000	-0.015	-0.031
	(0.045)	(0.045)
\$2,001-\$5,000	0.076**	0.066*
, ,	(0.035)	(0.035)
\$5,001-\$10,000	0.023	0.004
4	(0.039)	(0.040)
\$10,001-\$20,000	0.044	0.038
4	(0.035)	(0.035)
\$20,001-\$40,000	-0.002	-0.015
- " ·	(0.039)	(0.040)
Decline to answer	-0.026	-0.025
	(0.033)	(0.033)
Homeowner	-0.015	-0.005
	(0.020)	(0.020)
Dividend income amount (in thousands)	0.071***	0.068***
	(0.025)	(0.025)
Refund amount (in thousands)	0.021***	0.021***
	(0.004)	(0.004)
Offered Savings Bond (in treatment group )		-0.118***
ol ii	400-	(0.015)
Observations	4889	4889
Pseudo R-squared	0.051	0.060

### **Table 3: Summary of Savings Activity Among Treatment and Control Groups**

The table below summarizes the number of individuals in the treatment and control groups and their savings activity. Savings activity is represented in terms of dollars per capita as well as average savings as a percentage of adjusted gross income and refund amount. All study participants had refunds of at least \$500. The table also reports the savings activity in the treatment site by type of product purchased.



#### Table 4. Multivariate regressions of tax-site savings on demographic and socio-economic characteristics

The dependent variables in these analyses are the incidence (A1 and A2) and level (B1 - B3) of tax-site savings. Tax-site savings is saving that is carried out at a tax site, through the purchase of either Block products or Savings Bonds. This analysis includes all treatment and control group participants. The dprobit regression for the binary savings variable reports marginal probabilities for a one unit change in each continuous variable and the discrete change in the probability for dummy variables. Tobit regression models were used for the continuous savings variables, specifically the amount of savings in dollars, normalized by AGI and normalized by refund amount. Standard errors are in parentheses, \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

Dependent Variable: Tax-site savings.	A1 Yes/No	A2	D1	of Tobit analyses of the incidence and level of tax site sav			
-	Yes/No		B1	В3			
Diamata and a falsa and and	·	Yes/No	Savings amount	Savings amount / AGI (a)	Savings amount / Refund amount		
·	0.036***		825.200***	0.031***	0.483***		
Has neither a checking nor a savings account	(0.005) (0.008 (0.006)	-0.011 (0.006)	(120.000) -143.800 (143.000)	(0.004) -0.006 (0.005)	(0.071) -0.104 (0.085)		
Tax Filing Status (omitted category is single)  Married filing joint	0.003	0.002	440,000	0.002	0.082		
	0.008)	(0.002)	118.900 (151.000)	(0.002)	(0.082)		
l II	0.005	-0.005	-98.850	-0.005	-0.052		
l ·	0.020)	(0.022)	(472.000)	(0.017)	(0.280)		
-	0.005 (0.007)	0.003 (0.008)	115.900 (133.000)	0.002 (0.005)	0.070 (0.079)		
l ·		0.089	1170.000		0.617		
l II	0.180)	(0.140)	(944.000)	(0.034)	(0.570)		
=	0.0002	-0.00002	-6.224	-0.00002	-0.011		
l II	0.001) 0.000001	(0.001) 0.000003	(22.600) 0.149	(0.001) 0.000003	(0.013) 0.0002		
	0.00001	(0.00003	(0.260)	(0.00001)	(0.0002)		
Gender (if not joint filer; omitted category is male)	,	,	(,	,	,		
		0.003	6.570		0.006		
		(0.006)	(111.000)	(0.004)	(0.066)		
· ·	0.003)	0.011*** (0.003)	213.700*** (60.400)	0.009*** (0.002)	0.117*** (0.036)		
l ·	0.002	-0.003	-9.862		0.005		
· · · ·	0.005)	(0.006)	(102.000)	(0.004)	(0.060)		
	0.006	-0.007	-123.400	-0.005	-0.067		
l II	0.009)	(0.010)	(215.000)	(0.008)	(0.130)		
	0.004	0.002 (0.010)	147.000 (158.000)	0.002 (0.006)	0.030 (0.097)		
· · · · · · · · · · · · · · · · · · ·	0.0002*	-0.0002*	-4.130*	-0.0002**	-0.003**		
(1	0.0001)	(0.0001)	(2.200)	(0.0001)	(0.001)		
Pre-treatment savings (omitted category is >\$40,000)							
_	0.013 (0.009)	-0.022** (0.010)	-360.900** (170.000)	-0.011 (0.007)	-0.244** (0.110)		
l II		0.010)	(179.000) -104.100	-0.003	-0.133		
	0.011)	(0.012)	(213.000)	(0.008)	(0.130)		
\$1,001 - \$2,000	0.004	-0.007	-157.800	-0.004	-0.146		
l II	0.012)	(0.012)	(259.000)	(0.009)	(0.150)		
	0.006 (0.009)	-0.006 (0.011)	-229.800 (216.000)	-0.006 (0.008)	-0.177 (0.130)		
· · · · · · · · · · · · · · · · · · ·	0.015	-0.019*	-485.700*	-0.016*	-0.307**		
(1)	0.008)	(0.009)	(260.000)	(0.009)	(0.150)		
	0.018**	-0.021**	-583.300**	-0.018**	-0.364***		
l II	(0.007) (0.005	(0.007) -0.008	(234.000) -241.400	(0.008) -0.006	(0.140) -0.150		
	0.010)	(0.011)	(228.000)	(0.008)	(0.130)		
· · · · · · · · · · · · · · · · · · ·	0.011	-0.015*	-367.800**	-0.011*	-0.238**		
	0.007)	(800.0)	(184.000)	(0.007)	(0.110)		
		0.004	90.080		0.043		
	0.007) 0.001	(0.007) -0.0001	(127.000) 72.900	(0.005) 0.0003	(0.075) 0.006		
· · · · · · · · · · · · · · · · · · ·	0.001	(0.005)	(63.000)	(0.003)	(0.043)		
	0.004***	0.006***	74.500***		0.033**		
· · · · · · · · · · · · · · · · · · ·	0.001)	(0.001)	(24.000)	(0.001)	(0.015)		
	0.002	-0.00001	10.910		0.018		
	(0.006) (0.055***	(0.006) 0.057***	(107.000) 1231.000***	(0.004) 0.045***	(0.063) 0.669***		
9 , 9 , ,	0.005)	(0.005)	(170.000)	(0.006)	(0.097)		
Constant	,	•	-3895.000***	-0.141***	-2.034***		
<u></u>			(558.000)	(0.020)	(0.320)		
	1,889 0.135	4,908 0.101	4,889 0.042	4,884 0.503	4,871 0.114		

#### **Table 5: Treatment Group: Multivariate Analyses of the Characteristics of Savers**

This table includes treatment group participants only and analyzes the characteristics of buyers of particular products. The dprobit regressions analyze the differences between characteristics of bond buyers and all others, and between Block product buyers and all others. The dprobit results for the binary savings variable report marginal probabilities for a one unit change in each continuous variable and the discrete change in the probability for dummy variables. The multinomial logit analysis analyzes four groups of study participants: those who only bought savings bonds, those who bought only Block products, those who bought both, and those who bought neither. Standard errors are in parentheses, \*\*\* p<0.01, \*\* p<0.05, \* p<0.01.

			Darohit			Mlogit	
			Dprobit		(base group	= non-savers among tre	atment group)
	Вс	ond Buyers	Block P	roduct Buyers	Only Bond Buyers	Both Bond and Block Buyers	Only Block Buyers
Plans to save part of the refund	0.0542***	0.0540***	0.0209***	0.0210***	1.5339***	1.1486***	1.676***
Has neither a checking nor a savings account	(0.0068) -0.0113	(0.0067) -0.0112	(0.0046) -0.0017	(0.0046) -0.0018	(0.2498) -0.3980	(0.3785) 0.0994	(0.5417) -0.5012
Tay Filing Status (omitted category is single)	(0.0094)	(0.0093)	(0.0069)	(0.0069)	(0.2784)	(0.4323)	(0.6527)
Tax Filing Status (omitted category is single)  Married filing joint	0.0054	0.0048	-0.0052	-0.0047	0.0280	0.1506	-0.8075
, ,,	(0.0127)	(0.0125)	(0.0070)	(0.0070)	(0.3055)	(0.5331)	(0.5593)
Married filing separately	0.0024	0.0005	0.0049	0.0051	-0.3970	0.5765	-43.0378
01.0	(0.0350)	(0.0338)	(0.0244)	(0.0246)	(1.0405)	(1.0664)	+
Head of household	0.0064 (0.0108)	0.0057 (0.0107)	-0.0026 (0.0063)	-0.0024 (0.0064)	0.1041 (0.2640)	-0.1155 (0.4163)	-0.1638 (0.4845)
Qualifying widow(er)	0.2010	0.1970	0.1930	0.2000	(0.2010)	(0.1103)	(0.1015)
	(0.2380)	(0.2370)	(0.2390)	(0.2430)			
Age	0.0009	0.0010	0.00308**	0.00317**	-0.0279	0.1836**	0.1067
	(0.0018)	(0.0018)	(0.0013)	(0.0013)	(0.0429)	(0.0824)	(0.0967)
Age squared	0.0000 (0.0000)	0.0000	-0.0000334** (0.0000)	-0.0000340** (0.0000)	0.0005 (0.0005)	-0.0019* (0.0010)	-0.0012 (0.0012)
Gender (if not joint filer; omitted category is male)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(3.0003)	(0.0010)	(0.0012)
Female	0.0010	0.0015	0.0068	0.0069	-0.1488	0.6364*	-0.0515
	(0.0088)	(0.0088)	(0.0057)	(0.0057)	(0.2224)	(0.3800)	(0.3787)
Number of dependents	0.0134***	0.0132***	0.0011	0.0010	0.4235***	-0.0939	0.3742
Han a nancian alaa	(0.0047)	(0.0047)	(0.0031)	(0.0032)	(0.1091)	(0.1926)	(0.2320)
Has a pension plan	0.0053 (0.0079)	0.0057 (0.0079)	-0.00854* (0.0051)	-0.0084 (0.0051)	0.1066 (0.2021)	0.1586 (0.3127)	-1.1141*** (0.3758)
Full-time student	-0.0090	-0.0087	-0.0006	-0.0005	-0.2969	-0.4071	0.1644
	(0.0141)	(0.0141)	(0.0098)	(0.0098)	(0.4481)	(0.7629)	(0.6692)
Unemployed	0.0203	0.0210	0.0074	0.0075	0.1861	0.7396*	-1.0412
	(0.0155)	(0.0155)	(0.0099)	(0.0099)	(0.3111)	(0.4149)	(1.0285)
Adjusted gross income (in thousands)	-0.000418**	-0.000408**	-0.000199*	-0.000196	-0.00635	-0.0194**	0.000773
D	(0.000185)	(0.000184)	(0.000120)	(0.000120)	(0.00466)	(0.0083)	(0.007550)
Pre-treatment savings (omitted category is >\$40,000)  No savings	0.0055	0.0055	-0.0060	-0.0068	-0.1385	0.6801	-1.6104**
	(0.0152)	(0.0151)	(0.0087)	(0.0086)	(0.3756)	(0.6218)	(0.6407)
\$1 - \$1,000	0.0206	0.0222	0.0030	0.0023	0.2484	0.8849	-0.7163
	(0.0222)	(0.0224)	(0.0115)	(0.0113)	(0.4181)	(0.6696)	(0.7346)
\$1,001 - \$2,000	-0.0152	-0.0141	0.0044	0.0042	-0.4232	-0.0374	0.1670
42 004 45 000	(0.0167)	(0.0170)	(0.0141)	(0.0140)	(0.5745)	(0.9087)	(0.7104)
\$2,001-\$5,000	-0.0046 (0.0164)	-0.0043 (0.0163)	0.0041 (0.0115)	0.0035 (0.0113)	-0.3625 (0.4634)	0.4495 (0.6943)	-0.2158 (0.6261)
\$5,001-\$10,000	-0.0040	-0.0030	-0.0177***	-0.0178***	-0.0184	-0.8915	-45.4297
	(0.0182)	(0.0183)	(0.0043)	(0.0043)	(0.4710)	(1.1260)	+
\$10,001-\$20,000	-0.0239**	-0.0234**	-0.0164***	-0.0166***	-0.6211	-1.3177	-1.4541*
	(0.0114)	(0.0115)	(0.0045)	(0.0045)	(0.4772)	(1.1187)	(0.8207)
\$20,001-\$40,000	0.0047	0.0052	-0.0125**	-0.0127**	0.1446	-0.2360	-1.5649
Decline to answer	(0.0191) -0.0113	(0.0192) -0.0108	(0.0060) -0.0010	(0.0060) -0.0011	(0.4353) -0.5101	(0.8559) 0.2897	(1.0715) -0.5212
Decline to unswer	(0.0127)	(0.0127)	(0.0084)	(0.0084)	(0.3913)	(0.6151)	(0.5827)
Homeowner	0.0002	0.0003	-0.0011	-0.0011	0.1114	-0.1705	0.1755
	(0.0098)	(0.0098)	(0.0061)	(0.0061)	(0.2478)	(0.3919)	(0.4277)
Dividend income amount (in thousands)	0.000957	0.000677	0.002250	0.002250	-0.2172	0.217*	-1.3629
Bufferdown of College and A	(0.005770)	(0.005770)	(0.002990) 0.00333***	(0.003010)	(0.2780)	(0.130)	(1.6736)
Refund amount (in thousands)	0.00520*** (0.00190)	0.00516*** (0.00189)	(0.00333***	0.00332*** (0.00118)	0.0838* (0.0466)	0.2097*** (0.0663)	0.0816 (0.0837)
Purchased either a RAL, IRAL, or IMAL	0.0009	0.0014	-0.0044	-0.0043	0.1631	-0.2454	-0.1493
	(0.0083)	(0.0083)	(0.0049)	(0.0050)	(0.2038)	(0.3337)	(0.4096)
Willingness to take financial risks (omitted category is "not willing")			1		1	•	÷
Takes substantial risks	-0.0230**	-0.0227**	0.0058	0.0057	-0.8478*	-0.2026	0.6083
<del>-</del> dt	(0.0103)	(0.0103)	(0.0106)	(0.0106)	(0.4822)	(0.6370)	(0.6438)
Takes above average financial risks	0.0309** (0.0152)	0.0316** (0.0153)	0.0306** (0.0129)	0.0314** (0.0131)	0.4055 (0.2787)	1.0669*** (0.3928)	1.2105** (0.5204)
Takes average financial risks	0.0102	0.0107	0.0132*	0.0136**	0.1516	0.4909	0.9585**
- www	(0.0092)	(0.0092)	(0.0068)	(0.0069)	(0.2199)	(0.3341)	(0.4473)
Decline to anwer risk question	0.0067	0.0080	-0.0041	-0.0042	0.5469**	-1.1472	0.8967
	(0.0124)	(0.0126)	(0.0074)	(0.0074)	(0.2673)	(0.7554)	(0.6005)
Family-centered savings goals	0.0313**	0.0302**	0.0029	0.0026	0.4426*	0.8311**	-1.0446*
Heard of Savings Bonds before	(0.0148)	(0.0146) -0.0239*	(0.0074)	(0.0073) -0.0037	(0.2581) -0.4703*	(0.3962) -0.4013	(0.6343) 0.1430
meana on Savings bonus berone		(0.0138)	1	(0.0080)	(0.2498)	(0.4053)	(0.6259)
Bought Savings Bonds before	-0.0056	1	0.0028	,	[	,	,
	(0.0077)		(0.0051)		1		
Constant			1		-3.9631***	-9.6049***	-7.2683***
Oh and the second	2450	2464	2460	2464	(0.9732)	(1.8316)	(2.1097)
Observations	3469	3464 0.0988	3469 0.0986	3464 0.0984	3464	3464	3464
Psuedo R-squared  Dropped because no observations with this filing status purchased Bla	0.0968	0.0500	0.0300	0.0304	<del></del>	0.114	

<sup>&</sup>lt;sup>†</sup> Dropped because no observations with this filing status purchased Block Products

### Appendix A: Survey Questions & Results for Study Participants

	Question	Number	Percent
1.	Do you plan to save some of your federal refund?		
	Yes	3415	65.50%
	No	1738	33.33%
	No response	61	1.17%
2.	One month after you receive your federal refund, about how much of it will you still have left?		
	None	1475	28.29%
	A quarter of my refund (25%)	990	18.99%
	Half of my refund (50%)	1280	24.55%
	Three quarters of my refund (75%)	616	11.82%
	All of my refund	521	9.99%
	Decline to answer	332	6.36%
3.	One year after you receive your federal refund, about how much of it will you still have left? [Asked if answer to 2 was not "None."		
	None	1670	32.03%
	A quarter of my refund (25%)	721	13.83%
	Half of my refund (50%)	567	10.87%
	Three quarters of my refund (75%)	227	4.35%
	All of my refund	238	4.56%
	Decline to answer	319	6.129
	question n/a: would have none left after one month (see Q2)	1472	28.23%
4.	Have you ever heard of US Savings Bonds before today?		
	Yes	4538	87.03%
	No	564	10.82%
	No response	112	2.15%
5.	Have you ever purchased a US Savings Bond for yourself and/or someone else before?		
	Yes, for myself	719	13.79%
	Yes, for someone else (i.e., child or grandchild)	765	14.67%
	Yes, for myself AND someone else	338	6.48%
	No, I have never purchased a bond	2580	49.48%
	Decline to answer	248	4.76%
	No response	564	10.82%
6.	I am going to read some key features of US Savings Bonds. Which one appeals most to you? (rank #1)		
	\$50 minimum	789	15.13%
	competitive interest rate (4.52%)	1275	24.45%
	Protected from inflation	465	8.92%
	Lose last three months of interest if redeem before 5 years	128	2.45%
	Backed by the US Government	497	9.53%
	No fee to purchase or to cash in	557	10.689
	Can give as a gift to someone	710	13.629
	One year holding period	143	2.749
	Decline to answer	648	12.43%
	No response	2	0.04%

	Question	Number	Percent
7.	I am going to read some key features of US Savings Bonds. Which one appeals most to $$		
	you? (rank #2)		
	\$50 minimum	306	5.87%
	competitive interest rate (4.52%)	889	17.05%
	Protected from inflation	818	15.69%
	Lose last three months of interest if redeem before 5 years	132	2.53%
	Backed by the US Government	654	12.54%
	No fee to purchase or to cash in	827	15.86%
	Can give as a gift to someone	636	12.20%
	One year holding period	199	3.82%
	Decline to answer	751	14.40%
	No response	2	0.04%
8.	Over the last 6 months, where did you cash most of your checks?		
	Credit union	417	8.00%
	Bank	4036	77.41%
	Check cashing outlet	220	4.22%
	Grocery store	47	0.90%
	WalMart	107	2.05%
	Convenience store	8	0.15%
	Other	182	3.49%
	Decline to answer	188	3.61%
	No response	9	0.17%
_			
9.	Do you have or have you ever had a savings account?		
	Yes, I currently have one	3421	65.61%
	No, not currently, but I have had a savings account	897	17.20%
	No, I have never had a savings account	441	8.46%
	Decline to answer	446	8.55%
	No response	9	0.17%
10.	Not including any savings/investments planned for your Federal Refund this year, do you [or your spouse] have any money saved or invested in savings, checking, or money market accounts, CDs, IRAs, 401(k)s, 403(b)s, Stocks, Savings Bonds, Bonds, or have		
	money saved at home?		
	Yes	2809	53.87%
	No	2116	40.58%
	No response	289	5.54%
11.	Altogether, how much do these savings/investments amount to (not including any		
	Federal refund you might receive this year)?		
	\$0	2192	42.04%
	\$1 to \$1,000	414	7.94%
	\$1,001 to \$2,000	188	3.61%
	\$2,001 to \$5,000	311	5.96%
	\$5,001 to \$10,000	253	4.85%
	\$10,001 to \$20,000	320	6.14%
	\$20,001 to \$40,000	247	4.74%
	Above \$40,000	475	9.11%
	Decline to answer	535	10.26%
	No response	279	5.35%

#### Appendix A, continued: Survey Questions & Results for Study Participants

	Question	Number	Percent
12.	What is your (and your spouse's) most important reason for saving and investing?		% responded
	Education	251	9.16%
	Retirement	1274	46.50%
	Housing (e.g., home, home improvement, rent)	290	10.58%
	Car	65	2.37%
	To get ahead	150	5.47%
	Emergencies	190	6.93%
	Children/family	286	10.44%
	Everyday household expenses	58	2.12%
	To enjoy life	115	4.20%
	Appliances or electronics (i.e., wash/dryer, tv)	0	0.00%
	Decline to answer	61	2.23%
	No response	2474	
13.	How much do you think you (and your family) need to have in savings for emergencies and other unexpected things that may come up?	\$5,697 (mean)	\$8,118 (s.d.)
14.	Some investments offer higher returns but are more risky. Risk means you could lose some of the money you invested. Which of the statements below comes closest to describing the amount of financial risk that you (and your spouse) are willing to take when you save or make investments?		
	Take substantial risks expecting to earn substantial returns	498	9.55%
	Take above average risks expecting to earn above average returns	689	13.21%
	Take average risks expecting to earn average returns	1690	32.41%
	Not willing to risk	1670	32.03%
	Decline to answer	656	12.58%
	No response	11	0.21%
15.	[Asked in treatment sites to bond decliners.] Why did you not purchase a bond today? (Please select only the most important reason.)  The purchasing process is too confusing, too complex, and takes		% responded
	too much of my time	102	2.91%
	Interest rate is too low	127	3.63%
	Required holding period of one year	101	2.89%
	Afraid of losing bond	82	2.34%
	Don't trust US government	81	2.31%
	Afraid of bond theft	62	1.77%
	I don't totally understand what a US Savings Bond is, how it works,		,-
	or why it would benefit me	104	2.97%
	Choose not to save at this time	2117	60.49%
	Decline to answer	724	20.69%
	No response	1714	