

Promoting Public Retirement Savings Accounts during Tax Filing: Evidence from a Field Experiment

Stephen Roll

Social Policy Institute at Washington University in St. Louis
Brown School at Washington University in St. Louis

Michal Grinstein-Weiss

Social Policy Institute at Washington University in St. Louis
Brown School at Washington University in St. Louis

Olga Kondratjeva

Social Policy Institute at Washington University in St. Louis

Sam Bufe

Social Policy Institute at Washington University in St. Louis

ABSTRACT: Many U.S. households—especially those with low- to moderate-incomes (LMI)—struggle to save for retirement. To address this issue, the Department of the Treasury launched *myRA*, a no-fee retirement account designed primarily to help people who lacked access to employer-sponsored plans build retirement savings. In this paper, we report findings from two *myRA*-focused field experiments, both of which were administered to well over 100,000 LMI online tax filers before and during the 2016 tax season. The first experiment involved sending one of three different *myRA*-focused email messages to tax filers immediately prior to tax season, and the second experiment involved incorporating *myRA*-focused messages and choice architecture directly into an online tax filing platform. Messages were chosen to address different barriers to retirement savings LMI households may face. We find that, though the general level of interest in *myRA* was very low in this population, interest and enrollment in *myRA* depends heavily on the way in which the benefits of the accounts are framed. Results from both experiments indicate that messages emphasizing the possibility of receiving a larger refund in the future were the most effective at increasing interest in *myRA*, while messages focused around the simplicity and ease of use of the accounts were less effective. We also conduct several subsample analyses to investigate the extent to which these effects differed by key household characteristics.

ACKNOWLEDGEMENTS: The authors would like to acknowledge the funders who made the Refund to Savings Initiative and this project possible: Intuit, Inc.; the Intuit Financial Freedom Foundation; and JPMorgan Chase Foundation. The Refund to Savings Initiative would not exist without the commitment of Intuit and its Tax and Financial Center. We thank the thousands of taxpayers who consented to participate in the research surveys and shared their personal financial information. The findings and conclusions expressed are solely those of the authors and does not represent the views or opinions of Intuit, Inc. and JPMorgan Chase Foundation. The authors accept all responsibilities for errors or omissions.

INTRODUCTION

Many U.S. households fail to save enough to support themselves financially in retirement. According to a 2018 Federal Reserve report, 26 percent of non-retirees reported lacking any savings for retirement, either in defined contribution plans (e.g., 401(k) and 403(b) plans), defined benefit plans, or other savings vehicles like individually-managed retirement savings accounts (IRAs) (Board of Governors of the Federal Reserve System, 2018). Other work shows that the median retirement account balance was zero across all U.S. working-age adults and approximately \$40,000 conditional on holding any savings in retirement accounts (Brown, Saad-Lessler, & Oakley, 2018). Access to retirement accounts themselves is also an issue: 59 percent of working-age adults said they did not have a defined contribution plan, defined benefit plan, or IRA (Brown et al., 2018), and 42 percent of U.S. workers (67 percent of part-time workers) lacked access to any form of retirement plan through their employer (Pew Charitable Trusts, 2016).

Retirement savings levels are particularly anemic in low- and moderate-income (LMI) households (Board of Governors of the Federal Reserve System, 2017; Brown et al., 2018). Among the reasons for low retirement savings rates in the LMI population are inadequate incomes, the complexity of retirement-related financial decisions, and the lack of access to employer-based retirement plans. For example, only 32 percent of workers with annual incomes of \$25,000 or less reported having access to retirement plans through employers, compared to 75 percent for high-income earners (Pew Charitable Trusts, 2016). The difference in actual participation in employer-based retirement plans was even greater: Only 20 percent of LMI workers participated in a retirement plan relative to 72 percent of upper-income workers (Pew Charitable Trusts, 2016).

Policymakers have long been interested in promoting retirement savings in the general population, often through the use of tax incentives for households who save for retirement. More recently, policymakers in a number of states including Illinois, California, Maryland, Connecticut, and Oregon have enacted programs that create publicly-sponsored retirement accounts (also known as “auto-IRAs”) to help employees who lack employer-sponsored retirement programs save for retirement (Scott & Blevins,

2018). At the federal level, in 2015 the U.S. Department of the Treasury also implemented the *myRA* program—a publicly-sponsored, nationally available retirement savings account meant to address both the retirement savings deficit and the lack of access to retirement plans. The *myRA* account did not charge fees for account opening, maintenance, or fund withdrawals; allowed easy transfers into the accounts, guaranteed relatively risk-free investments (albeit at low interest rates); and had no requirements for minimum contributions or account balances—all of which made it a potentially attractive individual retirement account for LMI households. Shortly after *myRA*'s launch, the Treasury Department partnered with researchers at Washington University in St. Louis and industry professionals at Intuit Inc. to experimentally test different promotional approaches to driving enrollment in and deposits to *myRA* accounts for LMI households.

This paper presents the results of two related field experiments conducted in 2015 and 2016 through that partnership. These experiments tested the degree to which messaging interventions delivered through different modes can motivate LMI tax filers to open and fund a new retirement account product during the tax filing process. The experiments were embedded in TurboTax Freedom Edition (TTFE), which is a free online tax preparation and tax filing program for LMI households, and consisted of: (1) pre-tax season interventions in which previous TTFE filers received one of three emails that provided information on *myRA*, and (2) interventions embedded in the TTFE filing process that showed one of three different *myRA* related screens during tax filing and invited tax filers to deposit their tax refunds into a *myRA*. The messages shown to tax filers in each of the experiments highlighted different features of the accounts meant to address typical barriers to retirement savings in LMI households. These included messaging around the simplicity of the account structure, the ease of use and management of the accounts, the role of the account as a first step in saving for retirement, and the potential to get a larger refund through saving in the account (through the non-refundable Saver's Credit). In total, 130,280 LMI tax filers took part in the email experiment and 210,397 participated in the tax filing experiment.

We find that the general interest among LMI tax filers in opening a *myRA* during the tax filing process was extremely low, with between 0.3 and 1.4 percent of tax filers expressing interest in opening a

myRA across the intervention conditions. At the same time, we also find that account opening and deposit behaviors could be impacted by the way the accounts were framed. In particular, both the emails and tax filing messages that highlighted the opportunity to receive larger refunds in the future by depositing to a *myRA* were significantly more effective at both driving LMI tax filers to seek more information on *myRAs* ($p < 0.01$) and indicate that they wanted to use their tax refund open and fund a *myRA* ($p < 0.01$). However, while messaging around receiving a larger refund was associated with higher rates of seeking more information on *myRA*, we also observe that this messaging condition was significantly less effective at driving interest in depositing to *myRAs* for those that sought more information; a finding that may indicate that certain gains-oriented framings are more effective at driving interest in savings products but less effective at motivating actual engagement with those products. There is also evidence that the *myRA* product and our interventions were more salient for key subsamples, including older households, higher income households (in our LMI population), and EITC recipients. Finally, we find that the intervention focusing on receiving a bigger refund in the future through *myRA* deposits was particularly effective for tax filers who filed late in the tax season, which may be due to the fact that late tax filers tend to receive smaller refunds than early tax filers.

Though *myRA* was discontinued in 2017 due to low takeup rates, this work has broad implications for the design and implementation of savings products aimed at LMI households. Our study finds that, while the overall interest in opening *myRAs* during tax filing was low in our population, the near universality of tax filing in the U.S. still makes it a promising opportunity to promote retirement savings products to LMI households. Our work also demonstrates the potential for low-cost, scaleable messaging approaches to promote increased rates of engagement with and enrollment in long-term savings vehicles in LMI households. These approaches may be particularly useful for often resource-constrained public agencies and financial capability-oriented nonprofits seeking to drive enrollment in these types of accounts, and our work highlights the importance of design, content, and delivery mode in maximizing the impact of low-cost messaging campaigns.

RELATED LITERATURE AND STUDY BACKGROUND

This work draws primarily on two bodies of research: behavioral economics interventions promoting retirement savings, and interventions focused on the use of the tax refund to build savings. In this section, we highlight the relevant literature from these fields and provide details on the *myRA* program.

Behavioral Economics Interventions Promoting Retirement Savings

Much of the experimental work on promoting retirement savings draws from the field of behavioral economics. A number of systematic and often predictable behavioral factors may prevent individuals from saving enough for retirement, including present-biased preferences (Goda, Levy, Manchester, Sojourner, & Tasoff, 2015; Laibson, 1997), a lack of self-control (Thaler & Shefrin, 1981), or tendencies to procrastinate (O'Donoghue & Rabin, 2001) and stick to the status quo (Samuelson & Zeckhauser, 1988). Researchers have developed an array of tools and techniques to counteract or capitalize on these biases to increase individuals' retirement savings. One of most prominent approaches to overcome procrastination and reliance on the status quo is to automatically enroll employees in a pre-specified employer-sponsored retirement plan unless they elect to actively opt out of the plan. In comparison to a plan requiring employees to opt in to an employer-sponsored retirement plan, automatic enrollments with an opt-out enrollment structure have been highly effective in increasing participation in employer-sponsored retirement plans (Choi, Laibson, Madrian, & Metrick, 2002, 2004; Madrian & Shea, 2001). Other strategies, including requiring newly-hired employees to make an active retirement plan selection before a pre-specified date and allowing employees to allocate their future pay increases to their retirement accounts have also been very effective at promoting retirement savings (Benartzi & Thaler, 2007; Carroll, Choi, Laibson, Madrian, & Metrick, 2009; Thaler & Benartzi, 2004).

Another class of behavioral interventions focuses on the use of different messaging framings to influence retirement savings behaviors. Message framing refers to a simple idea that the way information is conveyed can influence the choices individuals make (Thaler & Sunstein, 2008). For example, because individuals tend to be more responsive to losses than to equivalent gains, framing identical decisions in terms of losses or gains can change individual behavior (Kahneman & Tversky, 1979). In the context of

retirement savings, this means that stressing the benefits of making retirement contributions rather than the costs of not saving for retirement may have differential impacts on individuals' decisions and actions. Evidence suggests that interventions illustrating the implications of exponential growth through compound interest (Goda et al., 2015; McKenzie & Liersch, 2011), orienting individuals towards their future (Hershfield et al., 2011) or future well-being of their family (Shah, Osborne, Lefkowitz, Fishbane, & Soman, 2019), or personalizing projections and information about future retirement payouts (Dolls, Doerrenberg, Peichl, & Stichnoth, 2018; Fuentes, Lafortune, Riutorts, Tessada, & Villatoro, 2017; Smyrnis, Bateman, Dobrescu, Newell, & Thorp, 2019) may motivate individuals to improve their long-term savings behaviors. In the study most relevant to our work, Clark, Hammond, Morrill, & Khalaf (2019) tested whether providing informational flyers to public employees in North Carolina—delivering general information about the plan, or stressing tax advantages, longer life expectancy, a possibility for early funds withdrawal, and personalized investment allocations—can increase retirement savings contributions. These interventions led to statistically significant increases in savings contributions among workers with supplemental retirement savings plans, but no effects were observed among those who did not participate in supplemental plans.

For the most part, existing experimental studies do not explicitly focus on retirement savings of lower-income individuals, even though the barriers to saving for retirement can be disproportionately higher for LMI households than for the rest of the population. More specifically, lower-income households may face severe budget and liquidity constraints that preclude them from investing in retirement accounts (Board of Governors of the Federal Reserve System, 2016, 2018), experience greater institutional barriers to savings (Beverly & Sherraden, 1999), and are more restricted in their access to employer-sponsored retirement programs (Pew Charitable Trusts, 2016). The presence of persistently low and often volatile incomes can also amplify behavioral and cognitive biases in financial decisionmaking (Shah, Mullainathan, & Shafir, 2012), meaning that LMI households may be more at-risk of saving too little for long-term considerations like retirement.

An exception to the lack of experimental interventions promoting retirement savings in LMI populations comes from the only other *myRA*-related intervention in the literature, outside the current study. Researchers partnered with two community organizations to use a combination of financial education and behavioral interventions (including having participants visualize their future needs and commit to opening a *myRA* by a certain future date) to promote *myRA* enrollment in an LMI sample of Hispanic participants (Blanco, Duru, & Mangione, 2019). This intervention increased the rate of opening a *myRA* from 0 percent in the control to 14 percent in the treatment, indicating that a relatively high-touch approach (the intervention took around 50 minutes in total) can generate notable increases in retirement program enrollment among certain LMI populations.

Tax Filing and Savings Behavior in LMI Households

The process of tax filing presents a timely opportunity to promote retirement savings, especially for LMI households. First, tax filing is an almost universal experience in the U.S., and the majority of filers receive tax refunds (Internal Revenue Service, 2019). This means that interventions conducted through the tax system and centered on the tax refund have the advantage of potentially reaching large numbers of households on a yearly basis. Second, for many LMI households the federal tax refund comprises the largest single amount of money they receive in a year (Roll, Davison, Grinstein-Weiss, Despard, & Bufe, 2018). Accordingly, many LMI households report relying on tax refunds to engage in financial behaviors that are less feasible throughout the year, such as paying down their debt obligations and building their short- and long-term savings (Despard, Perantie, Oliphant, & Grinstein-Weiss, 2015; Jones & Michelmore, 2018; Mendenhall et al., 2012; Sykes, Križ, Edin, & Halpern-MeeKin, 2015). Finally, considering that lower-income individuals often lack appropriate institutional mechanisms to facilitate asset accumulation (Beverly & Sherraden, 1999), the increasing prevalence of electronic tax filing and receiving tax refunds via direct deposit (Internal Revenue Service, 2019) can help remove some of the existing barriers to saving on a large scale.

A growing body of research has examined whether LMI tax filers can be motivated to allocate part or all of their tax refunds towards short- and long-term savings during the tax-preparation process.

Broadly, these studies can be divided into three groups. The first group tests whether providing financial incentives to LMI tax filers can drive their savings behaviors. Field experiments by Duflo et al. (2006) and Saez (2009) found that providing matched incentives for contributions into IRAs at the time of tax-filing increased take-up rates and the amount of IRA contributions among LMI households, relative to those in the control group who received no match. Others have explored whether offering 50 percent matches on saved tax refunds can persuade LMI filers to hold their deposits in savings accounts for one year, and found that households were more likely to save and accumulate more savings relative to comparison groups that did not receive a match (Azurdia, Freedman, Hamilton, & Schultz, 2014; Key, Tucker, Grinstein-Weiss, & Comer, 2015). In contrast, providing financial incentives through the non-refundable tax credit on IRA contributions showed substantially smaller changes in savings outcomes (Duflo, Gale, Liebman, Orszag, & Saez, 2007).

The second group examines how incorporating behavioral economics techniques into the tax filing process can affect the savings behaviors of LMI tax filers. The proliferation of electronic tax-filing provides a useful setting for testing the impacts of low-cost, low-touch interventions implemented directly in the tax filing environment. For example, Roll, Russell, Perantie, & Grinstein-Weiss (2019) and Grinstein-Weiss et al. (2017) tested how behaviorally-informed interventions embedded in tax-filing software impacted the propensity of LMI households to save their tax refund. In Roll et al. (2019), tax filers in the intervention group saw a screen with a salient refund deposit option, and were exposed to motivational messages (emphasizing the importance of saving for emergencies, family, or future) and suggested savings amounts (or anchors). In Grinstein-Weiss et al. (2017), treated individuals were shown refund deposit options that emphasized savings account deposits alongside one of several different savings prompts (emphasizing saving for emergencies, retirement, or specific goals). The studies found consistently positive effects of the interventions on savings behaviors of LMI tax filers, relative to controls that saw more generic refund deposit screens. Though the effects of the interventions were modest, the aggregate savings generated through these interventions—which reached hundreds of thousands of LMI tax filers—were substantial.

The final group of studies investigates how providing different types of information during the tax filing process can affect savings behaviors. For example, presenting an offer of savings incentives in terms of savings matches rather than credit rebates has been demonstrated to improve tax filers' savings rates (Saez, 2009), and providing information about the U.S. Savings Bonds at tax time increased the use of the tax refund to purchase of bonds (Tufano, 2011). Besides savings behaviors, presenting relevant and well-structured information has been shown to influence tax filers' behaviors. In one study, researchers partnered with the IRS to send letters to potential EITC recipients in order to increase the takeup of the credit and found that, while sending any letter at all was associated with increased EITC takeup rates, the content of the letter mattered: Letters that emphasized the maximum payout of the EITC were the most effective at driving takeup of the credit, while letters that provided relatively large amounts of information about the EITC were actually less effective than generic reminder letters (Bhargava & Manoli, 2015).

Our study differs from other tax-time savings interventions in three important ways. First, though previous tax-time savings studies focused mainly on incentivizing general-purpose or short-term savings (e.g., Roll et al., 2019) or retirement contributions into IRAs (e.g., Duflo et al., 2006), this study concerns a new retirement savings product targeted primarily at lower-income individuals. Lower-income tax filers may already be relatively insensitive to tax-time savings interventions due to greater financial constraints and because many already plan in advance how they intend to use their tax refunds (Bronchetti, Dee, Huffman, & Magenheim, 2013; Roll et al., 2019). Promoting the entirely new *myRA* program requires overcoming these existing obstacles to savings in addition to mitigating the potential issues associated with the accumulation of long-term savings, as well as the lack of knowledge and misperceptions about a new account. Second, unlike other similar informational interventions conducted at tax preparation sites, this large-scale field experiment used a combination of two electronic modes—emails and electronic tax-filing software—to both deliver information about the retirement savings program and to have tax filers indicate interest in opening an account directly in the tax filing process. Finally, this study is, to our knowledge, the first to examine the degree to which behavioral interventions can promote retirement account opening during the tax filing process.

myRA Program Background

Established in 2014 and launched nationwide by the Department of the Treasury in November of 2015, the new *myRA* savings program was created as a “simple, safe, and affordable” starter retirement account (U.S. Department of the Treasury, 2015). This account was targeted primarily at individuals who lacked access to employer-sponsored retirement plans or other retirement savings options and who made only small contributions to their retirement plans (U.S. Department of the Treasury, 2015). The *myRA* plan was a Roth-style savings account, which followed the same eligibility and withdrawal requirements as a Roth IRA. The *myRA* program had no fees associated with account opening, maintenance, or withdrawals, and it enabled easy contributions to and withdrawals from the account: Account holders could set up automatic payroll deductions, direct deposits through their bank accounts, or deposit part or all of their federal tax refunds into *myRA* accounts at the time of tax filing; they could also withdraw deposited funds tax-free at any time and without incurring any penalties. After-tax contributions into *myRA* accounts were backed by U.S. government bonds with interest tied to the Government Securities Fund, thereby guaranteeing nearly risk-free investments with relatively low annual returns; 2.04 percent per year in 2015 (Federal Reserve Bank of Dallas, 2017). There were no requirements for minimum balances or contributions and *myRA* beneficiaries could contribute up to \$5,500 (for those younger than 50) or \$6,500 (for those older than 50) annually into their accounts, up to a total balance limit of \$15,000. Balances beyond the \$15,000 limit would be transferred to a privately managed Roth IRA plan.

By July, 2017, approximately 30,000 *myRA* accounts were opened. The median balance among the 20,000 accounts in which there had been at least one deposit was \$500 (Bernard, 2017). Citing low program enrollment and relatively high program maintenance costs, the U.S. Department of the Treasury fully discontinued the *myRA* in 2017, and existing *myRA* account balances were transferred into a Roth IRA. The field experiment in this study, however, ended in April, 2016, over a year prior to the discontinuation of *myRA*.

DATA AND EXPERIMENTAL DESIGN

Experimental Procedure

This paper uses administrative tax data from a field experiment conducted during the 2016 tax season as part of the Refund to Savings (R2S) initiative, which is a collaboration between Washington University in St. Louis and Intuit Inc., the makers of TurboTax. The purpose of this experiment was to test how behaviorally-informed interventions conducted at the time of tax filing—roughly one to four months after the launch of *myRA*—could promote the *myRA* program to LMI tax filers and encourage them to deposit their tax refunds into *myRA* accounts. Only households using TTFE could participate in the study. To be eligible to file taxes with TTFE in 2016,¹ households had to earn \$31,000 or less in adjusted gross income (AGI) in the previous year, qualify for the EITC, or be active duty military members and earn \$60,000 or less in AGI. During the 2016 tax filing season, 93 percent of TTFE tax filers had less than \$31,000 in AGI and 40.5 percent claimed the EITC.

This study examines two related field experiments. The first experiment involved sending one of three emails with information about *myRA* to the prior year's TTFE filers one month before the start of the tax season. The second experiment was embedded within the TTFE filing environment itself and invited tax filers to deposit their tax refunds into *myRA* retirement accounts at the time of tax filing. Both experiments were conducted shortly after *myRA* was rolled out on a national scale in November of 2015; the email interventions were delivered in December of 2015 and the TTFE interventions were delivered during the 2016 tax season.

Experiment 1—Pre-tax Season Emails

For the first experiment, Intuit sent out informational emails to all TTFE filers from the previous year to promote *myRA* accounts prior to the tax season of 2016. These emails were sent at the end of December, 2015. Table 1 summarizes intervention conditions for pre-tax season emails, and the emails themselves are shown in the Appendix (Figure A). Subjects randomly received one of three possible *myRA*-related

¹ TTFE software is offered to LMI households as part of the IRS Free File Alliance (<https://freefilealliance.org/>).

emails with different types of messaging: the “Starter Account” email suggested that tax refunds could be used to start saving for retirement and showed projected future savings; the “Simplicity” email underscored that *myRA* is simple, safe, and affordable; and the “Bigger Refund” email emphasized that opening a *myRA* account could lower tax liabilities and increase tax refunds by allowing tax filers to qualify for the Saver’s Tax Credit, a non-refundable tax credit available to LMI households who are making deposits to qualified retirement accounts, including *myRA*. The subject line did not differ across intervention conditions.² Upon opening the email, recipients could click on “Sign up today” button, which redirected them to the www.myRA.gov website.

Experiment 2—Messages Embedded in a Tax Filing Product

The second experiment applied different messaging designs to promote *myRA* directly in the TTFE environment during the 2016 tax season. All participating tax filers in this experiment who received federal tax refunds were randomly shown one of three informational screens about *myRA* during the tax filing process. The screens appeared after tax filers had learned the tax refund amount they would receive and immediately before they had to decide how to receive their refunds. Table 1 outlines each intervention condition within the tax environment, and the screens shown to filers are depicted in the Appendix (Figure B). Each condition highlighted a different aspect or benefit of the *myRA* accounts: the “Convenience” screen stated that *myRA* accounts are quick to open, easy to manage, and they incur no fees; the “Simplicity” screen indicated that the *myRA* program is simple to use, affordable, and secure; and the “Bigger Refund” screen stressed that saving for retirement could result in a larger tax refund next year through the Saver’s Tax Credit. All intervention conditions contained a “Learn more” button that, if clicked on, redirected tax filers to a screen that provided more information on *myRA*.

After interacting with the pre-deposit screens, tax filers were taken to the refund deposit screen. The TTFE refund deposit screens are presented in the Appendix (Figure C). The refund deposit screens were identical across the three intervention conditions and listed five refund deposit options, in the

² The email subject line read as follows, “Turn your 2015 tax refund into savings with MyRA.”

following order: (i) deposit some or all of the refund into a *myRA* retirement account, (ii) deposit the entire refund into a savings account, (iii) split the refund between a savings account and another bank account or U.S. Savings Bonds, (iv) deposit the entire refund into a bank account, or (v) get a refund through a mailed paper check. The first option appeared alongside the *myRA* logo. Tax filers could select any of five methods to deposit the tax refund. However, because federal regulations prohibit account opening during the tax filing process, those who chose to deposit their refund into a *myRA* savings account were redirected to a separate pop-up screen that invited tax filers to open a *myRA* account through the www.myRA.gov website and subsequently routed them back to the refund deposit screen. After selecting a method of depositing their tax refunds, TTFE users could then submit their tax returns. Given the inability to open *myRA* accounts during the tax preparation process,³ these experiments examine only the interest and readiness of LMI households to invest in *myRA*; our ability to draw conclusions about whether tax filers would follow through with opening an account (and how much they would deposit to the account upon opening) are therefore limited.

In both experiments, the message framings, which were approved by the Treasury Department, were chosen to try and address different barriers LMI households may face when deciding to open a retirement account and make retirement savings deposits. The “Starter Account” message focuses explicitly on the ease of starting a *myRA* account, particularly through the use of the tax refund to fund the account; an approach that may help overcome behavioral inertia by minimizing the perceived effort in opening an account. The “Simplicity” message aims to offset concerns around the complexity of managing and affording a retirement account, as research has demonstrated that low levels of financial literacy may make navigating the complexities of retirement savings challenging (Mitchell & Lusardi, 2011). The “Convenience” message frames the benefits of *myRA* in terms of the speed and ease of account opening and management, offsetting potential concerns around time investment. Finally, the “Bigger Refund” message is intended to address concerns that saving for retirement may put a strain on

³ Tax filers could directly deposit their refund into an existing *myRA* account, however.

already-tight budgets; by saving now households may be able to enjoy additional income (in the form of reduced tax burden) in the future.

Table 1: Experiments and Intervention Conditions

Condition	Key message	Message framing
<i>Experiment 1: Pre-Tax Season Emails</i>		
“Starter Account”	No fees; no complications; no risk	<p>“Use your tax refund to start saving for retirement”</p> <p>“Even a portion of your refund can generate real savings.”</p> <ul style="list-style-type: none"> ○ “No cost to open and no fees.” ○ “No complicated investment options.” ○ “No risk of losing money.”
“Simplicity”	Simplicity; affordability; security	<p>“myRA makes saving for retirement simple, safe, and FREE of fees.”</p> <p>“myRA is a good option to start saving.”</p> <ul style="list-style-type: none"> ○ “It’s simple. You take control.” ○ “It’s safe. No need to worry about your investment.” ○ “It’s affordable. Budget friendly – no costs or fees.”
“Bigger Refund”	Less taxes; bigger refund	<p>“You could pay less in taxes this year – open a myRA account and save.”</p> <p>“Contribute to myRA before April 18, 2016.”</p> <ul style="list-style-type: none"> ○ “You could pay less in taxes by opening a myRA account.” ○ “You could get a bigger tax refund with the Saver’s Tax Credit.”
<i>Experiment 2: In-Product Messages at Tax Time</i>		
“Convenience”	Speed; easiness; no hassle/no fees	<p>“Saving for retirement can seem impossible”</p> <p>myRA is...</p> <ul style="list-style-type: none"> ○ “Quick to open.” ○ “Easy to manage and track.” <p>“No hassles, no fees.”</p>
“Simplicity”	Simplicity; affordability; security	<p>“Saving for retirement doesn’t always seem easy.”</p> <p>myRA is...</p> <ul style="list-style-type: none"> ○ “Simple to use.” ○ “Affordable.” ○ “Safe and secure.”
“Bigger Refund”	Bigger refund next year	<p>“Like an even bigger refund next year?”</p> <p>“Get up to \$1,000 added to your refund next year by setting money aside for retirement.”</p>

Analytical Strategy

This study evaluates the impact of promoting the *myRA* retirement account on tax filers' interest in the new retirement savings program and their intentions to save for retirement during the tax-filing process. The random assignment of TTFE users into intervention conditions ensures that systematic differences between the intervention groups are minimized, and the average effect of interventions—the intent-to-treat (ITT) estimates—can effectively be measured through pairwise mean comparisons:

$$ITT = \bar{Y}_{T1} - \bar{Y}_{T2}$$

where \bar{Y}_{T1} and \bar{Y}_{T2} are average outcomes for two different intervention conditions. Study outcomes varied across the experiments. The study outcome for the email-based experiment was the rate of clicking on “Sign up today” button within the email. For the in-product experiment, we explored the extent to which tax filers clicked on “Learn more” button and/or clicked to deposit some or all of the refund into a *myRA* retirement account within TTFE.

Experimental Sample

Figure 1 summarizes the experimental design and the experimental sample of 2016 TTFE users. In total, of the 749,207 LMI individuals who used TTFE to file taxes in 2016 and received tax refunds, 130,280 randomly received one of the three pre-tax season emails in 2015, 210,568 were randomly assigned to one of the three *myRA* tax refund screens in 2016, and 31,712 tax filers participated in both email and in-product *myRA* experiments. A very small number of experimental participants in the in-product experiment had to be dropped due to data errors (n=171), leading to a final analytical sample consisting of 130,280 tax filers in the email experiment, 210,397 in the in-product experiment, and 31,690 in both experiments. The 538,639 households who did not participate in the *myRA* experiments were randomly assigned to a different savings field experiment unrelated to the current study (see Roll et al., 2018).

Figure 1: Experimental Design and Sample

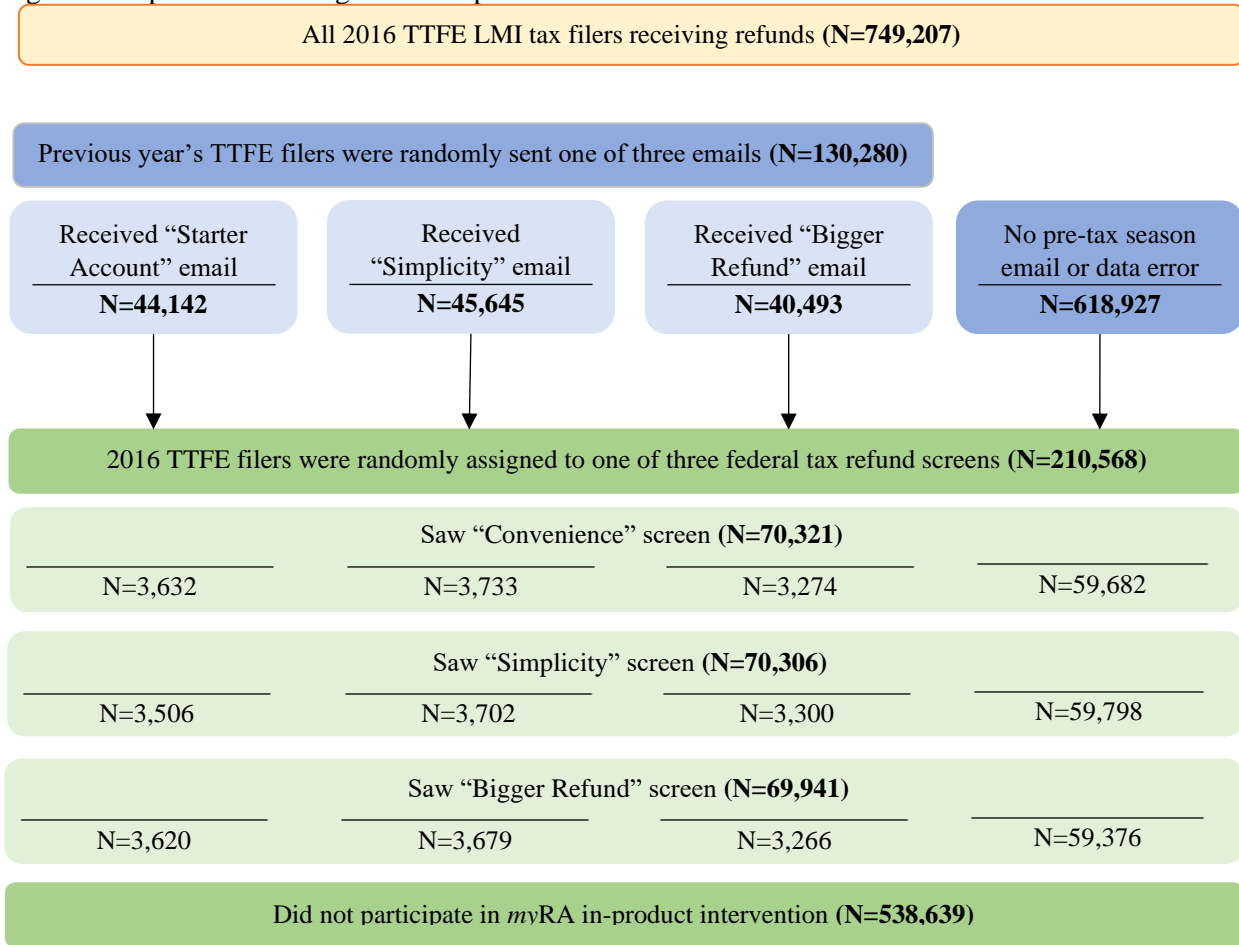


Table 2 summarizes key demographic and tax characteristics of all 2016 TTFE LMI tax filers who received tax refunds (Column 1) as well as study participants in each experiment (Columns 2-4). The majority of TTFE users filed taxes as single (67.6 percent) and 30.0 percent claimed dependents on tax forms. On average, study participants were 35.8 years of age. The average AGI was \$14,901, and the average federal tax refund was \$1,990, conditional on receiving a tax refund. Tax filers submitted an average of 1.50 W-2 forms, which are used to report household wages in separate places of employment among members of the tax household. Forty-one percent of TTFE users claimed the federal EITC and 62.2 percent had health insurance for the full calendar year. Individuals participating in the *myRA* experiments closely resembled the entire population of 2016 TTFE tax filers.

Table 2: Sample Summary Statistics

	All 2016 TTFE tax filers (1)	Experiment 1: Email intervention (2)	Experiment 2: In-product intervention (3)	Experiments 1 + 2: Email and in-product interventions (4)
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
Age (years)	35.8 (16.12)	37.7 (15.81)	35.2 (16.14)	37.9 (16.07)
Filing status:				
Single (%)	67.6	68.2	69.1	69.6
Head of household (%)	22.0	18.7	22.0	19.1
Married filing jointly (%)	9.6	12.3	8.2	10.6
Claimed dependents (%)	30.0	28.3	29.1	27.4
Adjusted gross income (\$)	14,901.20 (10,057.72)	17,118.63 (10,215.57)	14,326.38 (9,852.05)	16,766.28 (9,988.50)
Federal tax refund (\$)	1,990.45 (2,376.49)	1,997.52 (2,324.16)	1,938.58 (2,363.69)	1,963.93 (2,314.35)
Number of W-2 forms	1.50 (1.02)	1.52 (1.03)	1.48 (0.98)	1.47 (0.98)
Received Earned Income Tax Credit (%)	40.5	41.0	39.3	40.2
Reported health insurance for the full year (%)	62.2	68.6	60.2	67.8
Final analytical sample	749,207	130,280	210,397	31,690

Notes: ^aTax season in 2016 lasted 90 days.

RESULTS

Table 3 reports the topline results from the email experiment (Experiment 1). The rate of opening the pre-season email was quite similar across intervention groups (Column 1), which is to be expected given that pre-tax season emails had identical subject lines and sender names and thus appeared to be identical in the recipients' email inbox. However, we do observe some notable differences across intervention groups when we look at the rate of clicking to sign up for *myRA*. Among recipients of the email that emphasized the bigger refund, 1.4 percent clicked to sign up for *myRA* (Column 2). Although the base rate of clicking to sign up was low, this rate of clicking to sign up for *myRA* was over 50 percent higher for those in the “Bigger Refund” group than it was for those who received the “Starter Account” email. Though its impact was more modest, the “Simplicity” email also increased the rate of clicking to sign up relative to the “Starter Account” message by roughly 22 percent. Conditional on having opened the email, the rates of clicking to sign up for *myRA* followed a similar pattern, and the overall rates of clicking to sign up among email openers was around 3 to 4 percent, depending on the intervention (Column 3).

Table 4 shows the results from the in-product experiment (Experiment 2). As in the email experiment, results from the in-product experiment generally showed that the level of interest in *myRA* was low. However, we do observe some interesting variation between intervention conditions in the rate of clicking to learn about and selecting to deposit to *myRA*. In the in-product experiment, those who saw the “Convenience” and “Simplicity” screens clicked to learn more about *myRA* at similar rates—1.69 percent and 1.60 percent, respectively (Column 1). Tax filers who were randomized into the “Bigger Refund” intervention, however, were more than twice as likely as those who saw the other intervention to click to learn more about *myRA*; in total, 3.57 percent of filers in this intervention group sought more information about *myRA*. We observe a similar pattern when we look at the full sample’s rate of selecting to deposit to *myRA*, though the rates of clicking to deposit are roughly one-sixth as high as the rates of clicking to learn more (Column 2). Interestingly, when we examine the rate of selecting to deposit to *myRA* conditional on clicking to learn more about *myRA* (Column 3), a different pattern emerges. Although the rate of clicking to learn more about *myRA* was the lowest for filers who saw the “Convenience” screen, the rate of clicking to deposit—conditional on having clicked to learn more—was the highest for the filers in this group. Over 20 percent of filers who saw the “Convenience” screen and clicked to learn more about *myRA* also clicked to deposit. This is nearly 30 percent greater than the deposit rate for respondents who saw clicked to learn more on the “Simplicity” screen and over 40 percent greater than the rate of doing so for respondents who clicked to learn more on the “Bigger Refund” screen.

Finally, Columns 4 and 5 of Table 4 compare the effects of the in-product interventions (from Experiment 2) on the rate of selecting to deposit to *myRA* by the whether or not the filer opened the pre-season email (from Experiment 1). Within each in-product intervention condition, tax filers who opened their pre-season emails were more likely to select to deposit to *myRA* than those who did not, though this difference is only statistically significant for filers who saw the “Bigger Refund” screen. Notably, we observe that the “Bigger Refund” intervention remained the most effective in-product intervention condition, even after factoring in the opening of the pre-season emails.

Table 3: Email Intervention Results

Intervention	Email opened (1)	Clicked to sign up	
		Full sample (2)	Email opened (3)
Starter account	34.0	0.9	2.7
Simplicity	33.3*	1.1**	3.4**
Bigger refund	34.2	1.4**	4.0**
Observations	130,280	130,280	44,032

Different from Starter account: * $p < 0.05$; ** $p < 0.01$

Table 4: In-Product Experiment Results

Intervention	<i>Experiment 2: In-Product Intervention</i>		<i>Experiments 1 & 2: Email and In-Product Interventions</i>		
	Full sample		Clicked to learn more	Email opened	Email not opened
	Clicked to learn more (1)	Selected to deposit (2)	Select to deposit (3)	Selected to deposit (4)	Selected to deposit (5)
Convenience	1.6	0.36	22.7	0.28	0.25
Simplicity	1.69	0.30*	17.8**	0.46**	0.37
Bigger refund	3.57**	0.57**	15.8**	1.1**	0.68**
Observations	210,568		4,809	10,440	21,272

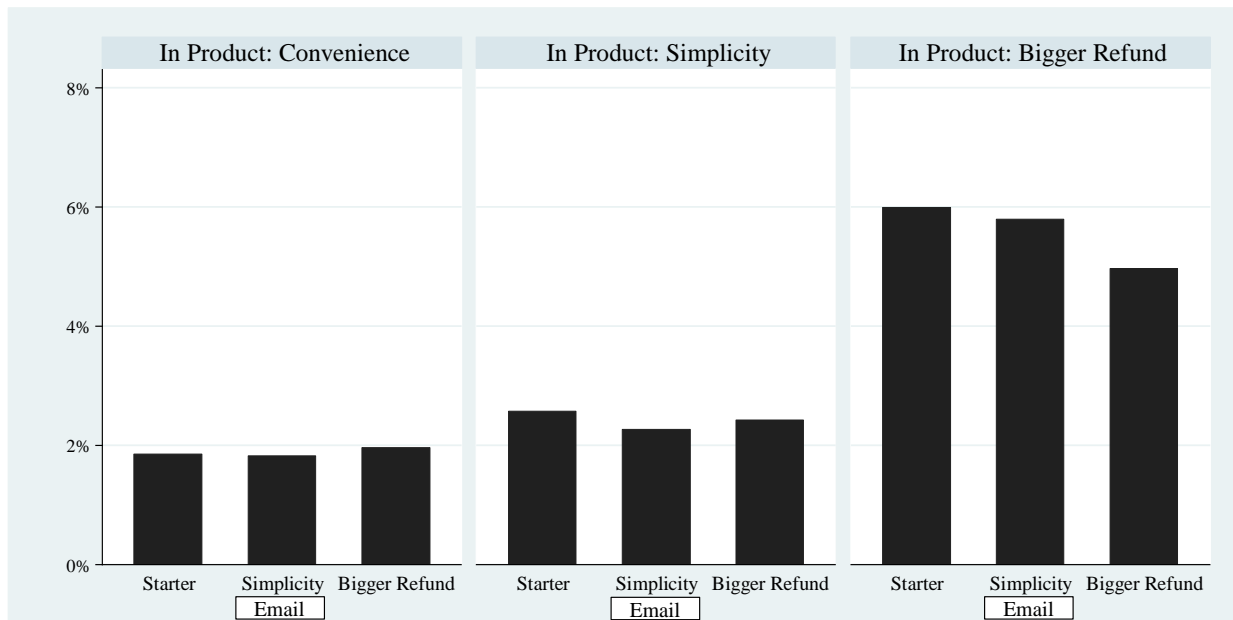
Different from Convenience: * $p < 0.05$; ** $p < 0.01$

Figure 2 examines the interaction between the email and in-product interventions by comparing the rates of clicking to learn more about *myRA* in TTFE for individuals who participated in both interventions. These results highlight the magnitude of the impact that the “Bigger Refund” in-product intervention had on clicking to learn more about *myRA*, relative to the other in-product intervention conditions. Among each of the three pre-season email groups, filers who saw the “Bigger Refund” screen during tax-filing clicked to learn more at least 5.0 percent of the time. The rate of clicking to learn more for the other emails and in-product intervention combinations ranged from 1.8 percent to 2.6 percent, a statistically significant difference. Secondly, this graph suggests that the effect of the in-product intervention did not depend on which pre-season email the filer received. Within in-product intervention

groups, there were no statistically significant differences across email intervention groups in the rate of clicking to learn more about *myRA*.

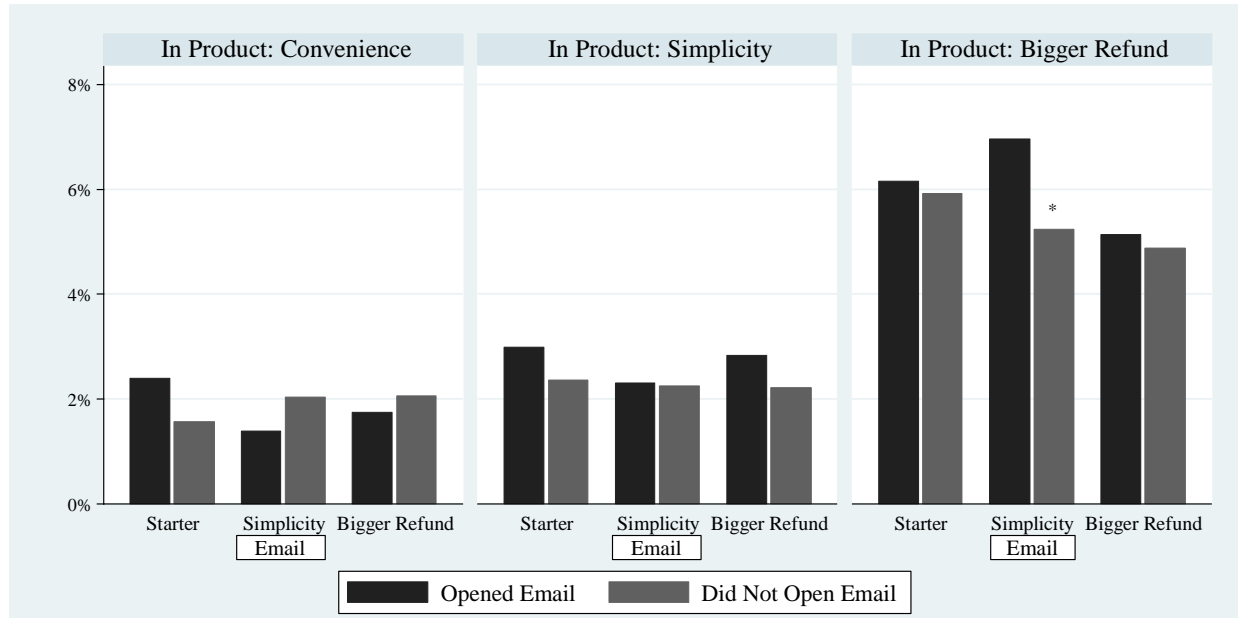
Similarly, Figure 3 illustrates how the rates of choosing to learn more about *myRA* differed for filers who did and did not open their pre-season email, by the type of email and in-product intervention screen. Interestingly, there was only one combination of email and in-product intervention (the “Simplicity” email with the “Bigger Refund” screen) in which there was a statistically significant difference in the rate of clicking to learn more about *myRA* between email openers and non-openers. This further suggests that the pre-season email did not have a substantial impact on the filers’ in-product decisions on engagement with *myRA*.

Figure 2: Rate of Clicking to Learn More about *myRA*, by Pre-Season Email and In-Product Intervention Group (N=31,712)



The rate of clicking to learn more about *myRA* did not differ between email groups within in-product intervention groups at the 0.05 level.

Figure 3: Clicking to Learn More about *myRA*, by Pre-Season Email Opening and In-Product Intervention Group (N=31,712)



Rate of clicking to learn more about *myRA* is different from openers, $*p < 0.05$

Subsample Analyses

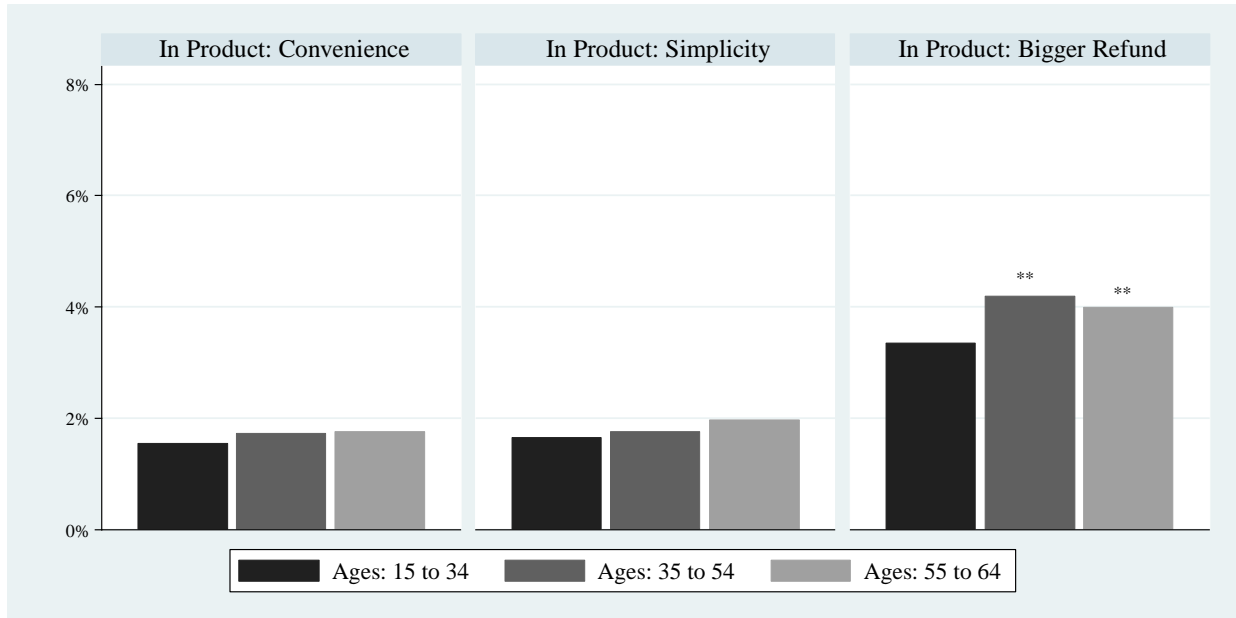
There are several important LMI population groups for whom *myRA* may be particularly relevant. In this section, we compare the effects of the in-product interventions by the tax filer’s age, AGI, EITC receipt, and date of tax filing to better understand the extent to which the in-product interventions had an impact on different potential target populations for retirement savings interventions. In these subsample analyses, we show the results of individuals who participated in the in-product experiment (regardless of whether they received a pre-season email).

First we examine differences in the interventions by the age of the tax filer, as younger filers may stand to benefit more from retirement deposits due to compounding interest, but older filers have a more acute need to save for retirement as their retirement dates are more imminent. Figure 4a compares the rate of clicking to learn more about the *myRA* program by in-product intervention group across different three age groups: 15 to 34, 35 to 54, and 55 to 64. We exclude filers 65 or older from this analysis because they are likely at the point of drawing down on their retirement and would not have as much need for a new retirement savings product like *myRA*. Interestingly, despite the fact that filers in different age categories likely have very different retirement savings needs, the rate of clicking to learn more about *myRA* was

generally quite similar across age groups. We only observe statistically significant differences across age groups for filers who saw the “Bigger Refund” in-product intervention. In this in-product intervention group, filers aged 35 to 54 and aged 55 to 64 were more likely to click to learn more than filers ages 15 to 34.

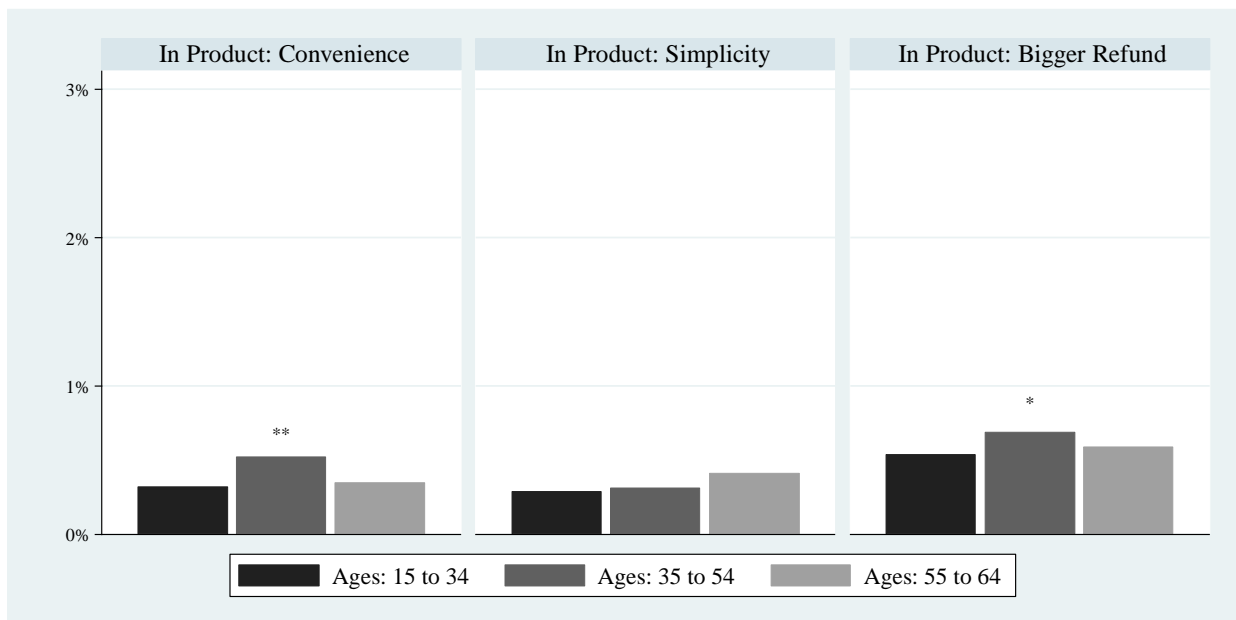
However, when we look at the rate of actually selecting to deposit to *myRA* by age group within in-product interventions (Figure 4b), some interesting patterns emerge. Although the rate of clicking to learn more about *myRA* did not statistically differ across age groups among filers who saw the “Convenience” screen, we do observe some differences in the rate of selecting to actually deposit to *myRA*. Among those who saw the “Convenience” screen, filers aged 35 to 54 were more likely to select to deposit to *myRA* than filers aged 15 to 34. However, filers aged 55 to 64 were no more likely than younger filers to select to deposit to *myRA*. We see a similar pattern when looking at the rate of selecting to deposit for those who saw the “Bigger Refund” screen. Filers in the middle age group were more likely to select to deposit to *myRA* than those in the youngest age group, but those who were closest to retirement age (55 to 64 years old) were no more likely than those in the youngest age category (15 to 34 years old) to select to deposit to *myRA*. It is not entirely clear why the increased interest in learning about *myRA* among older LMI filers does not translate to increased rates in clicking to deposit to a *myRA*. It is possible that, after these filers learned more about the product, they concluded that *myRA* did not meet their pre-retirement needs. Alternatively, older filers may have realized that they needed a retirement savings option that had higher yields than *myRA*s in order to meet their retirement savings needs.

Figure 4a: Rate of Clicking to Learn More about *myRA* across In-Product Intervention Groups, by Age (N=197,591)



Rate of clicking to learn more about *myRA* is different from filers aged 15 to 34, $**p < 0.01$

Figure 4b: Rate of Selecting to Deposit to *myRA* across In-Product Intervention Groups, by Age (N=197,591)

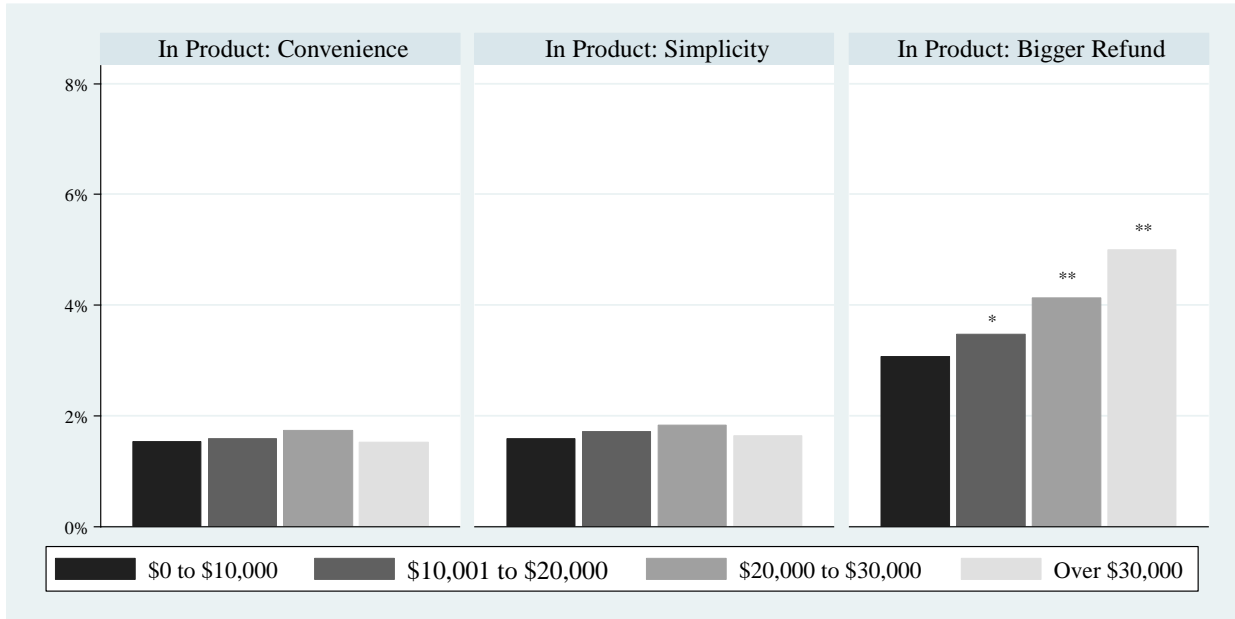


Rate of selecting to deposit is different from filers aged 15 to 34, $*p < 0.05$, $**p < 0.01$

Figure 5a shows the rate of clicking to learn more about *myRA* by AGI for each in-product intervention group. The differences in the rate of clicking to learn more between income groups were statistically insignificant in both the “Simplicity” and “Convenience” intervention groups. In the “Bigger Refund” intervention, however, we observe a positive relationship between the likelihood of clicking to learn more about *myRA* and AGI levels. Filers in each of the income categories above \$10,000 were more likely to click to learn more about *myRA* than filers with incomes of \$10,000 or less. Interestingly, in our sample, refund size was positively related with adjusted gross income. In fact, among those who saw the “Bigger Refund” screen, the average federal refund for filers in the highest income category was \$4,024, which was over 15 times larger than the average refund of those in the lowest income category. It may be that relatively high-income filers (in comparison to other LMI filers) view the refund as more central to their overall finances and are therefore more interested in a product that might allow them to receive a larger refund in the future. These higher-income filers who just learned that they would be receiving large refunds may also have been excited about their new cash windfall and were therefore more interested in a product that might help them have a similar experience during the next tax season. Alternatively, they may simply have had a larger refund amount that allowed them to apply the refund to a more diverse array of needs—including long-term savings—than lower-income filers.

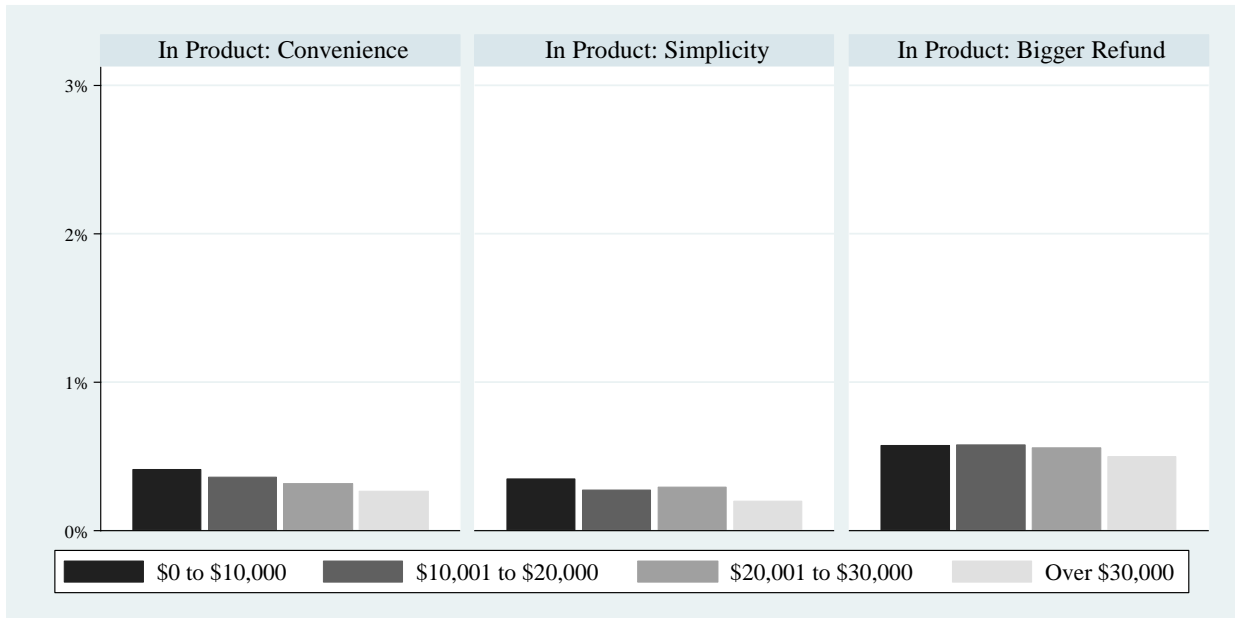
Figure 5b compares the rates of selecting to deposit to *myRA* by income category for each of the in-product intervention groups. Interestingly, despite large differences in clicking to learn more about *myRA* across income groups, there were no statistically significant differences across these groups in the rate of selecting to deposit to *myRA*. Although the “Bigger Refund” intervention was more effective at increasing the rate of clicking to learn more about *myRA* for higher-income LMI filers, it did not have any differential impact on the rate of clicking to deposit to *myRA*.

Figure 5a: Rate of Clicking to Learn More about *myRA* across In-Product Intervention Conditions, by Adjusted Gross Income (N=210,568)



Rate of clicking to learn more about *myRA* is different from \$0 to \$10,000, * $p < 0.05$; ** $p < 0.01$

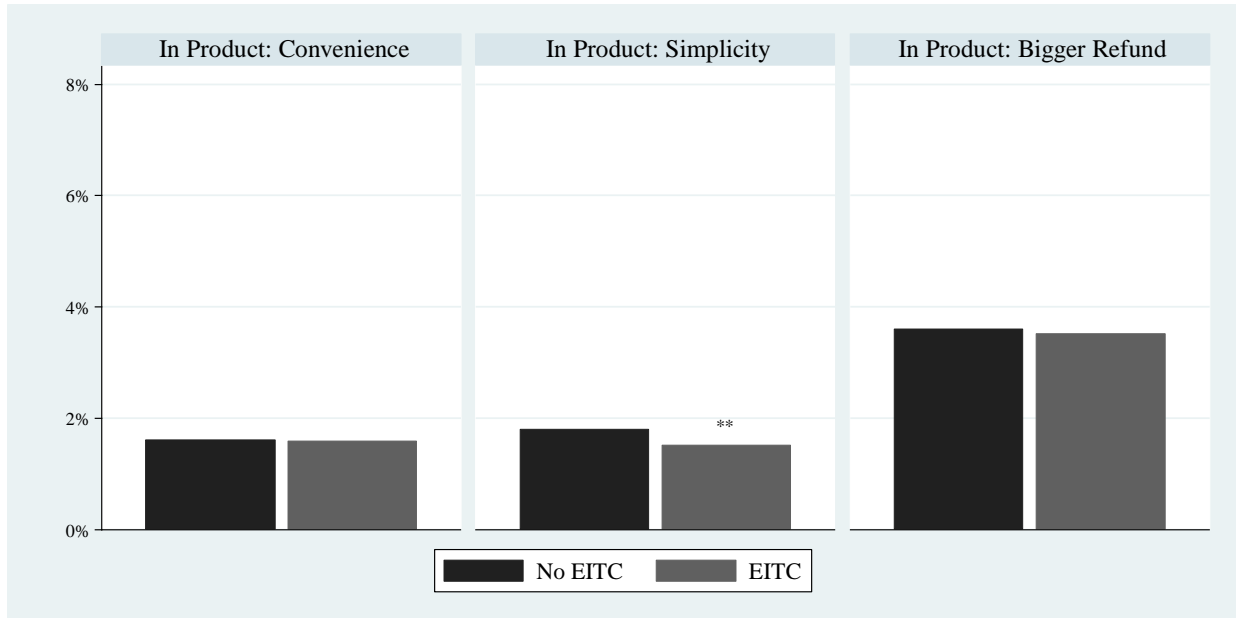
Figure 5b: Rate of Selecting to Deposit to *myRA* across In-Product Intervention Conditions, by Adjusted Gross Income (N=210,568)



Rate of selecting to deposit did not differ between email groups within in-product intervention groups at the 0.05 level.

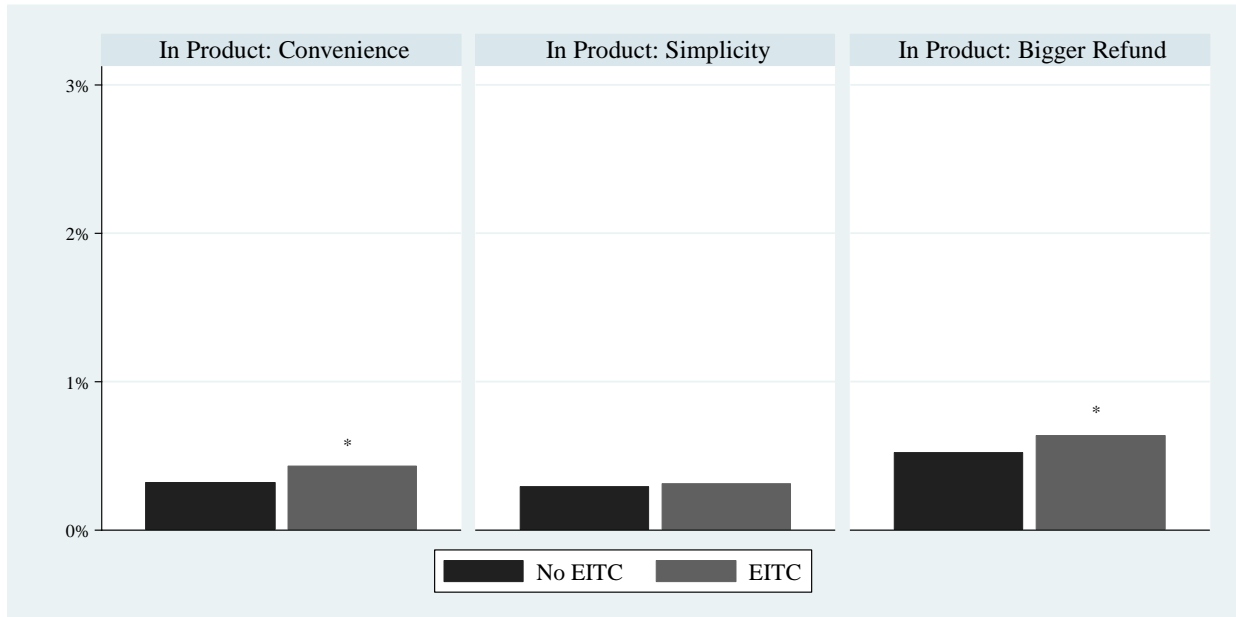
Figures 6a and 6b compare results from the in-product experiment for EITC recipients and non-recipients. As shown in Figure 6a, among filers who saw the “Simplicity” in-product intervention, EITC recipients were less likely to click to learn more about *myRA*. However, there were no statistically significant differences in the rate of clicking by receipt of the EITC for filers in other two in-product intervention groups. Interestingly, we see a different pattern when we look at the rate of selecting to deposit to *myRA* (Figure 6b). There was not a statistically significant difference in the rate of selecting to deposit to *myRA* between EITC recipients and non-recipients who saw the Simplicity intervention. However, EITC recipients in the “Bigger Refund” and “Convenience” intervention conditions were more likely to select to deposit to *myRA*. EITC recipients tend to receive larger refunds, which may help explain why we generally see EITC recipients selecting to deposit to *myRA* at higher rates—with larger refunds, EITC recipients may have more flexibility to save. The fact that they receive larger refunds may also explain why EITC recipients were more responsive to the “Bigger Refund” in-product intervention. If EITC recipients are more likely to plan their finances around their tax refund, it seems reasonable that they would be disproportionately impacted by messaging focused on receiving a larger refund in the future.

Figure 6a: Rate of Clicking to Learn More about *myRA* across In-Product Intervention Conditions, by EITC Receipt (N=210,568)



Rate of clicking to learn more about *myRA* is different from non-EITC tax filers, $**p < 0.01$

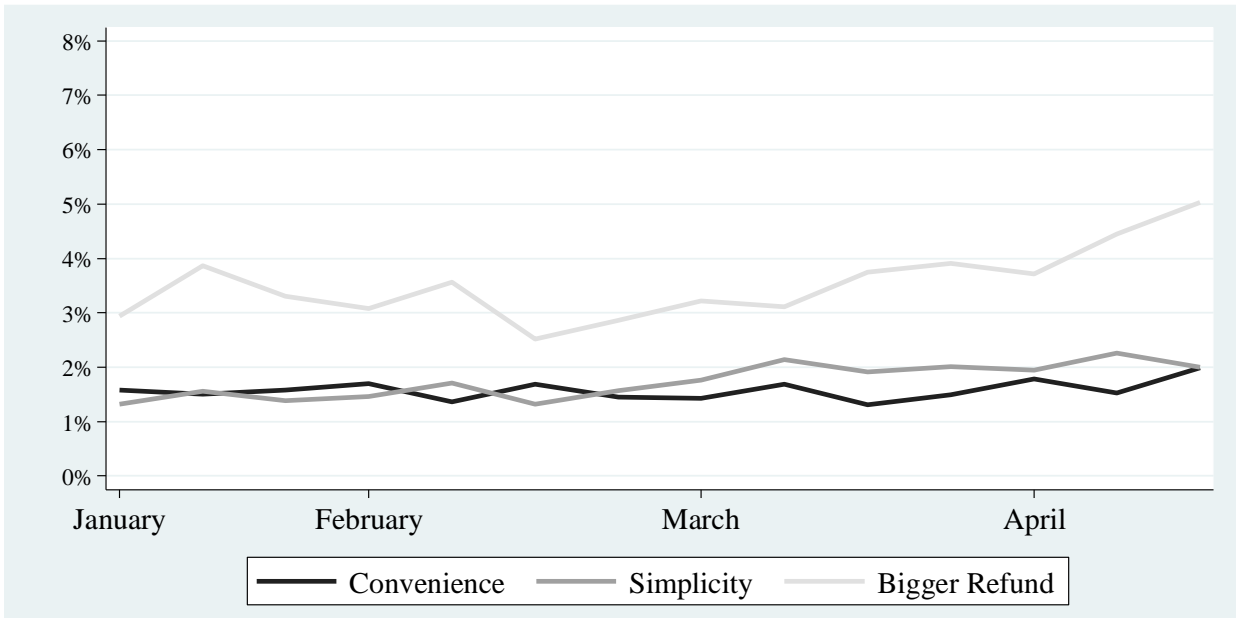
Figure 6b: Rate of Selecting to Deposit to *myRA* across In-Product Intervention Conditions, by EITC Receipt (N=210,568)



Rate of selecting to deposit is different from non-EITC tax filers, $*p < 0.05$

Figure 7 shows the effects of the in-product interventions on clicking to learn more about *myRA* for tax filers who filed in each week of the 2016 tax season. We see that the effects of the “Convenience” and “Simplicity” in-product intervention conditions were fairly stable over the tax season. However, we do observe a bit more variation in the effectiveness of the “Bigger Refund” intervention. In the sixth week of the tax season (which occurred in mid-February), just 2.5 percent of filers who saw the “Bigger Refund” screen clicked to learn more about *myRA*. By the final week of the tax season, however, the rate of clicking to learn more had risen over 5.0 percent. It is not immediately clear why the “Bigger Refund” intervention had more of an impact on later filers than it did on individuals who filed earlier in the tax season. A possible explanation for this is that late filers tend to have substantially lower refunds than early filers—households who filed their taxes in January received refunds over three times as large as those who filed in April. As such, late filers may be especially interested in products and messages that promise them a larger refund in the future, as in the “Bigger Refund” condition.

Figure 7: Clicking to Learn More About *myRA* across In-Product Intervention Conditions, by Week of Filing (N=210,014)



DISCUSSION

This paper presents the results of a large-scale field experiment that tested the degree to which different emails and message framings embedded in an online tax filing environment could motivate LMI tax filers to open and fund a new retirement account. There are two major conclusions to be drawn from this analysis. The first is that overall interest in opening retirement accounts at tax time is low, at least among LMI online tax filers. The best intervention condition, which referenced the potential to get additional tax credits through the Saver's Credit if filers opened a *myRA*, drove only 0.6 percent of tax filers to click to deposit to a *myRA*. For LMI tax filers who received and opened a pre-season email, that rate increased to 1.1 percent. While it is possible that this low rate of interest in *myRA* is due to the characteristics of the accounts themselves—which promised much lower rates of return (around 2 percent) than what households would receive in a typical year if they invested their tax refund in a total stock market index fund—it is also possible that most LMI households simply do not view tax time as an opportune moment to build retirement savings. This explanation seems likely, as prior research has found that only 5 percent of LMI tax filers who saved their refunds deposited their refunds into any retirement account and 18 percent of those who saved the refund reported saving it for retirement or other long-term goals (Grinstein-Weiss et al., 2015). By contrast, over three-fourths of LMI tax filers who saved their refund reported saving it for short-term concerns like emergencies. Given this, products and interventions aimed at promoting long-term and retirement savings may simply have less relevance for LMI households.

While the overall level of demonstrated interest in *myRA* was very low, the context of these results are important. TTFE serves hundreds of thousands of people each year and so even small shifts in decisions can lead to large aggregate impacts. For example, had the most effective intervention combination (any email + “Bigger Refund”) been shown to all TTFE tax filers, it would have resulted in about 36,000 participants clicking to learn more about *myRA* and 4,000 participants clicking to enroll in *myRA* in a single year. While this number is still small in absolute terms, only around 30,000 people had signed up for a *myRA* by the program's end (Bernard, 2017), and the additional *myRAs* opened at tax filing would likely have represented a substantial increase in the overall number of *myRAs*. Had the opportunity to open

*my*RA been extended to all online tax filers—including higher-income filers who may be more receptive to saving for longer-term purposes—these numbers would likely be even larger.

The second major conclusion is that LMI tax filer interest in *my*RA can be motivated by messaging. Both the email and the in-product intervention conditions with messaging about receiving additional tax credits (from the nonrefundable Saver’s Credit) through *my*RA deposits drove increased engagement with *my*RA at tax time. This finding is similar to the results of a field experiment by Bhargava and Manoli (2015), in which sending letters highlighting the maximum benefit from the EITC was associated with increased rates of claiming the EITC, relative to other messaging approaches. It is likely that this message resonated with filers because the refund is so integral to many LMI households’ finances (Roll et al., 2018) and because messaging around higher future payouts is easy to understand and has almost universal appeal. Qualitative research has also shown that LMI households—who often cannot purposively adjust their labor supply to maximize their tax refund—often seek to maximize their tax refund payouts through relatively costless changes in tax filing decisions such as adjusting their tax withholding (Edin, Tach, & Halpern-Meehin, 2014). As such, the Saver’s Credit may have appealed to these tax filers because it seemed like a way to get a larger tax refund for a minimal cost. However, while the messaging about the Saver’s Credit was simple, the credit itself is not. Relying on this credit to drive interest in *my*RA may have introduced additional complexities in the tax filing process for filers, particularly given the non-refundable structure of the credit and the fact that it would only generate potential benefits in the following tax season.

The “Bigger Refund” condition was generally more appealing across our full sample and each studied subsample in this analysis, but there was one interesting exception. Those who saw the “Bigger Refund” messaging in TTFE and sought more information about *my*RA (by clicking to learn more about the product) were much less likely to opt to deposit into a *my*RA than those who saw the “Convenience” messaging and sought more information, even as the “Bigger Refund” messaging drove higher rates of information seeking. This finding speaks to the complicated interaction between different messaging approaches. A possible explanation is that the information conveyed to tax filers if they clicked to learn

more about *myRA* focused on the simple, affordable, and safe components of *myRAs* (see Figure B4 in the Appendix), rather than any information about the additional credits filers could receive from saving in a *myRA*. Messaging about higher future payouts may thus be very salient and drive higher rates of information seeking and depositing behaviors in general, but this increased level of engagement may be relatively fragile and may not persist if the messaging about future payouts is not reinforced. By contrast, the “Convenience” messaging condition is in many ways complemented by the additional information on the “learn more” screen, which may have made the conjunction of “Convenience” messaging and information on the simplicity, safety, and affordability of *myRA* more effective.

This work is, to our knowledge, the first field experiment testing ways of driving enrollment in a new retirement savings product. Our findings make a substantial contribution to the literature on retirement savings field experiments (e.g., Carroll et al., 2009; Choi et al., 2002, 2004; Madrian & Shea, 2001; Thaler & Benartzi, 2004), which typically do not explicitly focus on promoting retirement savings in LMI households, as well as to the growing literature around the use of the tax refund to build savings, which typically focuses on general purpose or emergency savings (e.g., Roll, Davison, Grinstein-Weiss, Despard, & Bufe, 2018; Roll, Grinstein-Weiss, Gallagher, & Cryder, 2019) or bond purchases (Tufano, 2011). While there have been two other studies that focused on the intersection between tax filing and retirement savings deposits—Duflo et al. (2006) and Saez (2009)—these studies focused on an in-person tax filing context rather than online tax filing and involved the use of financial incentives to promote retirement savings contributions. In examining interventions that can be incorporated into online tax environments for little to no marginal cost (e.g., messaging changes to filing screens and emails), our work speaks to the potential (and limitations) of more affordable and scaleable efforts to promote retirement savings among LMI households.

Of course, one of our key findings is that implementing relatively costless and easily-scaled interventions to promote retirement savings among LMI tax filers may have very limited impacts on driving overall enrollment levels. Compared to the large effects seen from shifting retirement savings contributions from opt-in to opt-out (Madrian & Shea, 2001) and the somewhat large effects from

providing 20 or 50 percent contribution matches for IRA deposits at tax time (Duflo et al., 2006), the effects in our study are quite modest. These modest effects are in-line with several other studies using messaging to influence tax-related behaviors (e.g., Bergman, Denning, & Manoli, 2019; Grinstein-Weiss et al., 2017), and it is to a degree unsurprising that these interventions are less effective than providing direct financial incentives or changing decision defaults. However, the fact that simple shifts in messaging could nearly double the rate of households clicking to deposit into a *myRA* (from 0.30 percent in the “Simplicity” condition to 0.57 percent in the “Bigger Refund” condition) speaks to the utility of message-based interventions in helping households navigate complex financial decisions, thus validating and extending other work on the use of messaging to promote various financial behaviors (e.g., Berg & Zia, 2013; Bertrand et al., 2010; Hershfield et al., 2011).

Though this work makes substantial contributions to several bodies of literature, it is not without its limitations. Due to regulatory requirements, households were unable to open new accounts when filing their taxes through programs like TTFE, which was offered through the IRS’ Free File Initiative. As such, we can only measure the rate at which tax filers click to deposit to *myRAs*, and cannot measure the rate at which they actually opened the accounts or how much they contributed to these accounts. Due to the discontinuation of the *myRA* program, we cannot know if allowing tax filers to open *myRAs* at tax time would have significantly bolstered enrollment and participation in *myRA* accounts. However, the results shown here demonstrate that future efforts around driving retirement account enrollment could benefit from a change in the regulatory structure that allows for the opening of accounts (including *myRA*-type accounts) at tax time. Another limitation is the lack of a true control group. Though both the emails and in-product message components of our interventions were randomized, we did not explicitly construct a control group that would receive, for example, a generic notification or framing around *myRA*. Part of the reason for this was the newness of the *myRA* program—given that awareness of the program was likely extremely low, a neutral framing around an unknown product might not convey enough information for tax filers to understand *myRA*. Additionally, part of the purpose of this field experiment was to actually drive interest and enrollment in *myRA* to the maximum degree possible, which a neutral framing may not do. We

also cannot fully tease out the specific mechanisms driving the observed behaviors. While the screens and emails differ between interventions, we did not vary specific components of each intervention (e.g., the pictures, the text, etc.). Thus, we can assess differences in the overall impact of the interventions, but we cannot categorically identify the specific component(s) of the interventions that are driving the differences. Finally, the experiment was conducted on a population of LMI online tax filers. The observed effects of the interventions may be different if they are translated into a different setting (such as in-person tax filing) or conducted on a different population.

CONCLUSION

Though *myRA* was discontinued in 2017 due to low takeup rates, this work has broader relevance to the design and implementation of retirement savings policies and programs, as well as to the bodies of work on interventions promoting retirement savings both during tax filing and more generally. This work, in conjunction with the one other study on *myRA* enrollment (Blanco et al., 2019), can inform state-level efforts to establish public retirement savings account programs, as is currently being done in several U.S. states. The limited literature that has emerged as a result of the short-lived *myRA* program indicates that both high-touch interventions—as in the Blanco et al. (2019)—and low-touch interventions like the current study can be effective components of a broader strategy to promote public retirement account participation in LMI households. However, these findings also point to the difficulty in encouraging the vast majority of LMI households to enroll in these programs, likely because these households face a wide variety of short-term financial needs and persistent financial constraints that make retirement savings less feasible.

DISCLAIMER

Statistical compilations disclosed in this document relate directly to the bona fide research of, and public policy discussions concerning, financial security of individuals and households as it relates to the tax filing process and more generally. Compilations follow Intuit's protocols to help ensure the privacy and confidentiality of customer tax data.

All TurboTax Freedom Edition screenshots used with permission from Intuit. All rights reserved.

REFERENCES

- Azurdia, G., Freedman, S., Hamilton, G., & Schultz, C. (2014). *Encouraging Low- and Moderate Income Tax Filers to Save: Implementation and Interim Impact Findings from the Save USA Evaluation*. New York: MDRC.
- Benartzi, S., & Thaler, R. H. (2007). Heuristics and biases in retirement savings behavior. *Journal of Economic Perspectives*, 21(3), 81–104. <https://doi.org/10.1257/jep.21.3.81>
- Berg, G., & Zia, B. (2013). *Financial Literacy through Mainstream Media: Evaluating the Impact of Financial Messages in a South African Soap Opera*. Washington D.C.: World Bank.
- Bergman, P., Denning, J. T., & Manoli, D. (2019). Is information enough? The effect of information about education tax benefits on student outcomes. *Journal of Policy Analysis and Management*, 38(3), 706–731.
- Bernard, T. S. (2017). Treasury Ends Obama-Era Retirement Savings Plan. Retrieved December 9, 2019, from The New York Times website: <https://www.nytimes.com/2017/07/28/business/treasury-retirement-myra-obama.html>
- Bertrand, M., Karlan, D., Mullainathan, S., Shafir, E., & Zinman, J. (2010). What’s advertising content worth? Evidence from a consumer credit marketing field experiment. *Quarterly Journal of Economics*, 125(1), 263–306. <https://doi.org/10.1162/qjec.2010.125.1.263>
- Beverly, S. G., & Sherraden, M. (1999). Institutional determinants of saving: Implications for low-income households and public policy. *Journal of Socio-Economics*, 28(4), 457–473. [https://doi.org/10.1016/S1053-5357\(99\)00046-3](https://doi.org/10.1016/S1053-5357(99)00046-3)
- Bhargava, S., & Manoli, D. (2015). Psychological frictions and the incomplete take-up of social benefits: Evidence from an IRS field experiment. *American Economic Review*, 105(11), 3489–3529. <https://doi.org/10.1257/aer.20121493>
- Blanco, L. R., Duru, O. K., & Mangione, C. M. (2019). A Community-Based Randomized Controlled Trial of an Educational Intervention to Promote Retirement Saving Among Hispanics. *Journal of Family and Economic Issues*, 1–16.
- Board of Governors of the Federal Reserve System. (2016). *Report on the Economic Well-Being of U.S. Households in 2015*. Washington D.C.
- Board of Governors of the Federal Reserve System. (2017). *Report on the Economic Well-Being of U.S. Households in 2016*. Washington D.C.: Board of Governors of the Federal Reserve System.
- Board of Governors of the Federal Reserve System. (2018). *Report on the Economic Well-Being of U.S. Households in 2017*. Washington D.C.
- Bronchetti, E. T., Dee, T. S., Huffman, D. B., & Magenheim, E. (2013). When a nudge isn’t enough: defaults and saving among low-income tax filers. *National Tax Journal*, 66(3), 609–634. <https://doi.org/10.17310/ntj.2013.3.04>
- Brown, J. E., Saad-Lessler, J., & Oakley, D. (2018). *Retirement in America: Out of Reach for Working Americans?* Retrieved from <https://static1.squarespace.com/static/5418aa2ce4b097579b5c27e5/t/5bbbe07aa4222f1603f634d5/1539039358045/FINAL-Report-.pdf>
- Carroll, G., Choi, J. J., Laibson, D., Madrian, B. C., & Metrick, A. (2009). Optimal Defaults and Active Decisions. *Quarterly Journal of Economics*, 124(4), 1639–1674.

- Choi, J. J., Laibson, D., Madrian, B. C., & Metrick, A. (2002). Defined Contribution Pensions: Plan Rules, Participant Choices, and the Path of Least Resistance. *Tax Policy and the Economy*, 16, 67–113. <https://doi.org/10.1086/654750>
- Choi, Laibson, D., Madrian, B. C., & Metrick, A. (2004). For Better or for Worse: Default Effects and 401(k) Savings Behavior. In *Perspectives on the Economics of Aging*. <https://doi.org/10.1108/09513570310482345>
- Clark, R. L., Hammond, R. G., Morrill, M. S., & Khalaf, C. (2019). Informing Retirement Savings Decisions: A Field Experiment on Supplemental Plans. *Economic Inquiry*, 57(1), 188–205. <https://doi.org/10.1111/ecin.12731>
- Despard, M. R., Perantie, D. C., Oliphant, J., & Grinstein-Weiss, M. (2015). *Do EITC Recipients Use Their Tax Refunds to Get Ahead? Evidence From the Refund to Savings Initiative*. Retrieved from https://community-wealth.org/sites/clone.community-wealth.org/files/downloads/paper-despard-et-al_0.pdf
- Dolls, M., Doerrenberg, P., Peichl, A., & Stichnoth, H. (2018). Do retirement savings increase in response to information about retirement and expected pensions? *Journal of Public Economics*, 158, 168–179. <https://doi.org/10.1016/j.jpubeco.2017.12.014>
- Duflo, E., Gale, W., Liebman, J., Orszag, P., & Saez, E. (2006). Saving incentives for low- and middle-income families: Evidence from a field experiment with H&R block. *Quarterly Journal of Economics*, 121(4), 1311–1346. <https://doi.org/10.1162/qjec.121.4.1311>
- Duflo, E., Gale, W., Liebman, J., Orszag, P., & Saez, E. (2007). Savings incentives for low- and moderate-income families in the United States: Why is the saver's credit not more effective? *Journal of the European Economic Association*, 5(2–3), 647–661. <https://doi.org/10.1162/jeea.2007.5.2-3.647>
- Edin, K., Tach, L., & Halpern-Meehin, S. (2014). Tax code knowledge and behavioral responses among EITC recipients: policy insights from qualitative data. *Journal of Policy Analysis and Management*, 33(2), 413–439. <https://doi.org/10.1002/pam.21739>
- Federal Reserve Bank of Dallas. (2017). *Building Wealth: A Beginner's Guide to Securing Your Financial Future*. Retrieved from <https://www.dallasfed.org/~media/documents/cd/wealth/wealth.pdf>
- Fuentes, O., Lafortune, J., Riutorts, J., Tessada, J., & Villatoro, F. (2017). *Personalized Information as a Tool to Improve Pension Savings: Results from a Randomized Control Trial in Chile*.
- Goda, G. S., Levy, M. R., Manchester, C. F., Sojourner, A., & Tasoff, J. (2015). *The Role of Time Preferences and Exponential-Growth Bias in Retirement Savings* (No. w21482). <https://doi.org/10.3386/w21482>
- Grinstein-Weiss, M., Cryder, C., Despard, M. R., Perantie, D. C., Oliphant, J., & Ariely, D. (2017). *The role of choice architecture in promoting saving at tax time: Evidence from a large-scale field experiment*. Retrieved from https://behavioralpolicy.org/wp-content/uploads/2018/05/02_BSPvol3no2_Grinstein.pdf
- Hershfield, H. E., Goldstein, D. G., Sharpe, W. F., Fox, J., Yeykelis, L., Carstensen, L. L., & Bailenson, J. N. (2011). Increasing saving behavior through age-progressed renderings of the future self. *Journal of Marketing Research*, 48, S23–S37. <https://doi.org/10.1509/jmkr.48.SPL.S23>
- Internal Revenue Service. (2019). *Internal Revenue Service Data Book, 2018*. Retrieved from <https://www.irs.gov/pub/irs-pdf/p55b.pdf>

- Jones, L. E., & Michelmore, K. (2018). The Impact of the Earned Income Tax Credit on Household Finances. *Journal of Policy Analysis and Management*. <https://doi.org/10.1002/pam.22062>
- Kahneman, D., & Tversky, A. (1979). Prospect Theory: An Analysis of Decision under Risk. *Econometrica*, *47*(2), 263. <https://doi.org/10.2307/1914185>
- Key, C., Tucker, J. N., Grinstein-Weiss, M., & Comer, K. (2015). Tax-time savings among low-income households in the \$aveNYC program. *Journal of Consumer Affairs*, *49*(3), 489–518. <https://doi.org/10.1111/joca.12070>
- Laibson, D. (1997). Golden Eggs and Hyperbolic Discounting. *Quarterly Journal of Economics*, *112*(2), 443–477. <https://doi.org/10.1162/003355397555253>
- Madrian, B. C., & Shea, D. F. (2001). The power of suggestion: Inertia in 401(k) participation and savings behavior. *Quarterly Journal of Economics*, *116*(4), 1149–1187. <https://doi.org/10.1162/003355301753265543>
- McKenzie, C. R. M., & Liersch, M. J. (2011). Misunderstanding savings growth: Implications for retirement savings behavior. *Journal of Marketing Research*, *48*(SPL), S1–S13. <https://doi.org/10.1509/jmkr.48.SPL.S1>
- Mendenhall, R., Edin, K., Crowley, S., Sykes, J., Tach, L., Kriz, K., & Kling, J. R. (2012). The role of earned income tax credit in the budgets of low-income households. *Social Service Review*, *86*(3), 367–400. <https://doi.org/10.1086/667972>
- Mitchell, O., & Lusardi, A. (2011). Financial Literacy and Planning: Implications for Retirement Well-being. In O. Mitchell & A. Lusardi (Eds.), *Financial Literacy: Implications for Retirement Security and the Financial Marketplace* (pp. 17–39). <https://doi.org/10.1093/acprof:oso/9780199696819.003.0002>
- O’Donoghue, T., & Rabin, M. (2001). Choice and procrastination. *Quarterly Journal of Economics*, *116*(1), 121–160. <https://doi.org/10.1162/003355301556365>
- Pew Charitable Trusts. (2016). *Employer-sponsored retirement plan access, uptake and savings: Workers report barriers and opportunities*. Retrieved from <http://www.pewtrusts.org/en/research-and-analysis/issue-briefs/2016/09/employer-sponsored-retirement-plan-access-uptake-and-savings>
- Roll, S. P., Davison, G., Grinstein-Weiss, M., Despard, M. R., & Bufe, S. (2018). *Refund to Savings 2015–2016: Field Experiments to Promote Tax-Time Saving in Low- and Moderate-Income Households*. <https://doi.org/https://doi.org/10.7936/K72J6BD5>
- Roll, S. P., Grinstein-Weiss, M., Gallagher, E. A., & Cryder, C. E. (2019). *Can Pre-Commitment Increase Savings Deposits? Evidence from a Tax Time Field Experiment*. <https://doi.org/http://dx.doi.org/10.2139/ssrn.3464634>
- Roll, S. P., Russell, B. D., Perantie, D. C., & Grinstein-Weiss, M. (2019). Encouraging tax-time savings with a low-touch, large-scale intervention: evidence from the Refund to Savings experiment. *Journal of Consumer Affairs*, *53*(1), 87–125. <https://doi.org/10.1111/joca.12194>
- Saez, E. (2009). Details Matter: The Impact of Presentation and Information on the Take-up of Financial Incentives for Retirement Saving. *American Economic Journal: Economic Policy*, *1*(1), 204–228. <https://doi.org/10.1257/pol.1.1.204>
- Samuelson, W., & Zeckhauser, R. (1988). Status quo bias in decision making. *Journal of Risk and Uncertainty*, *1*(1), 7–59. <https://doi.org/10.1007/BF00055564>

- Scott, J., & Blevins, A. (2018). Are Auto-IRA Plans a Good Deal for Savers? Retrieved December 11, 2019, from <https://www.pewtrusts.org/en/research-and-analysis/articles/2018/02/26/are-auto-ira-plans-a-good-deal-for-savers>
- Shah, A. K., Mullainathan, S., & Shafir, E. (2012). Some consequences of having too little. *Science*, 338(6107), 682–685. <https://doi.org/10.1126/science.1222426>
- Shah, A., Osborne, M., Lefkowitz, J., Fishbane, A., & Soman, D. (2019). *Can Making Family Salient Increase Financial Savings? Quantifying Heterogeneous Treatment Effects in Voluntary Retirement Contributions Using a Field Experiment in Mexico*. <https://doi.org/10.2139/ssrn.3460722>
- Smyrnis, G., Bateman, H., Dobrescu, L. I., Newell, B. R., & Thorp, S. (2019). *Motivated Saving: The Impact of Projections on Retirement Saving Intentions*. <https://doi.org/10.2139/ssrn.3464813>
- Sykes, J., Križ, K., Edin, K., & Halpern-Meehin, S. (2015). Dignity and dreams: What the Earned Income Tax Credit (EITC) means to low-income families. *American Sociological Review*, 80(2), 243–267. <https://doi.org/10.1177/0003122414551552>
- Thaler, R. H., & Benartzi, S. (2004). Save more tomorrow: Using behavioral economics to increase employee saving. *Journal of Political Economy*, 112(1), S164–S187. <https://doi.org/10.1086/380085>
- Thaler, R. H., & Shefrin, H. M. (1981). An Economic Theory of Self-Control. *Journal of Political Economy*, 89(2), 392–406. <https://doi.org/10.1086/260971>
- Thaler, R. H., & Sunstein, C. R. (2008). *Nudge: Improving decisions about health, wealth, and happiness*. Retrieved from <http://psycnet.apa.org/record/2008-03730-000>
- Tufano, P. (2011). Just keep my money! Supporting tax-time savings with US Savings Bonds. *American Economic Journal: Economic Policy*, 3(4), 172–200. <https://doi.org/10.1257/pol.3.4.172>
- U.S. Department of the Treasury. (2015). U.S. Treasury Launches myRA (my Retirement Account) to Help Bridge America's Retirement Savings Gap. Retrieved December 9, 2019, from <https://www.treasury.gov/press-center/press-releases/Pages/jl0250.aspx>

APPENDIX

Appendix A: Pre-Tax Season myRA Emails Sent to Previous Year's TTFE Filers

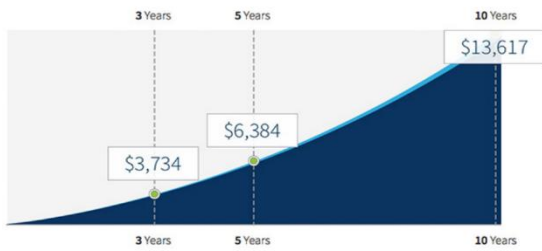
Figure A1. Display of “Starter Account” email



Start saving with your tax refund and watch it grow.

TurboTax has partnered with the United States Department of Treasury to tell you about their new program—myRA.® Developed to remove common barriers to saving and help people take the first step toward a more secure retirement, myRA is the perfect way to start saving for tomorrow. [Sign up today.](#)

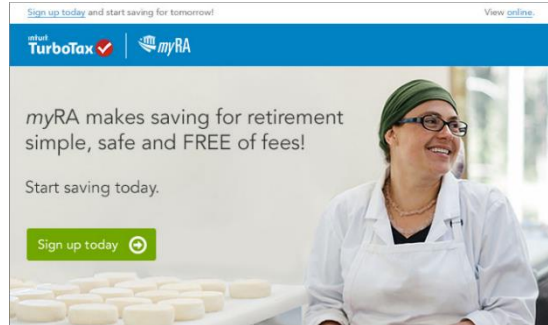
Even a portion of your refund can generate real savings



- ✓ No cost to open and no fees
- ✓ No complicated investment options
- ✓ No risk of losing money

Sign up today

Figure A2. Display of “Simplicity” email



NEW! myRA—the perfect starter retirement account.

TurboTax has partnered with the United States Department of Treasury to tell you about their new program—myRA.® Developed to remove common barriers to saving and help people take the first step toward a more secure retirement, myRA is the perfect way to start saving for tomorrow. [Sign up today.](#)

myRA is a good option to start saving.



It's simple. You take control.



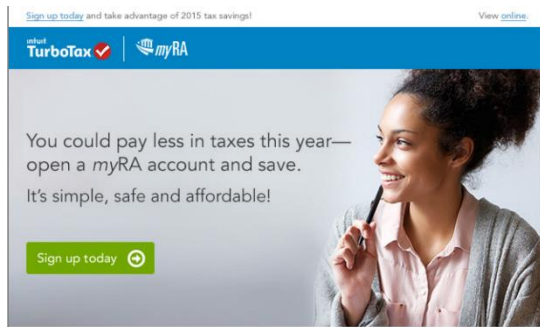
It's safe. No need to worry about your investment.



It's affordable. Budget friendly—no costs or fees.

Sign up today

Figure A3. Display of “Bigger Refund” email



NEW! myRA—the perfect starter retirement account.

TurboTax has partnered with the United States Department of Treasury to tell you about their new program—myRA.® Developed to remove common barriers to saving and help people take the first step toward a more secure retirement, myRA is the perfect way to start saving for tomorrow. [Sign up today.](#)

Contribute to myRA before April 18, 2016

to take advantage of the Saver's Tax Credit—[sign up today.](#)



You could pay less in taxes
by opening a *myRA* account.



You could get a bigger refund
with the Saver's Tax Credit

Sign up today

Appendix B: myRA-Related In-Product Screen Displays

Figure B1. Display of “Convenience” screen

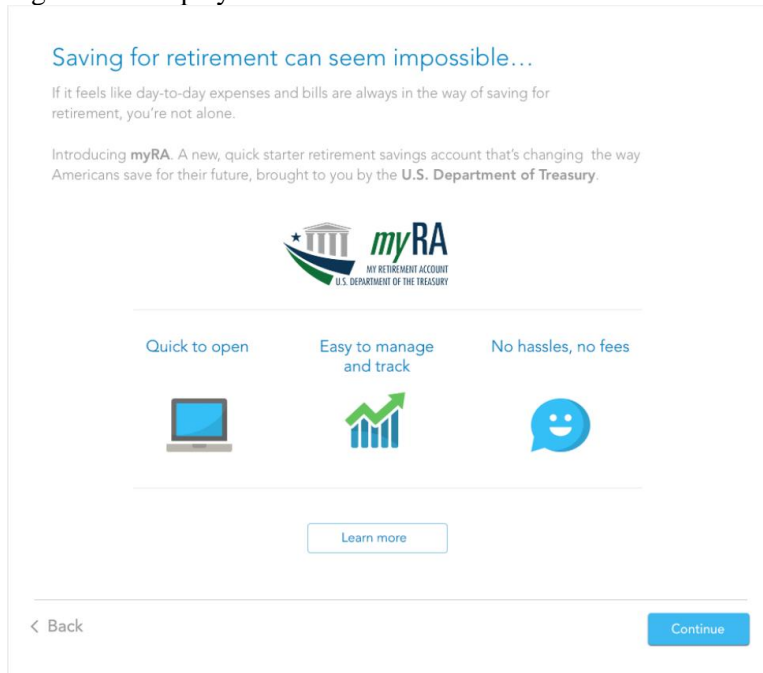


Figure B2. Display of “Simplicity” screen

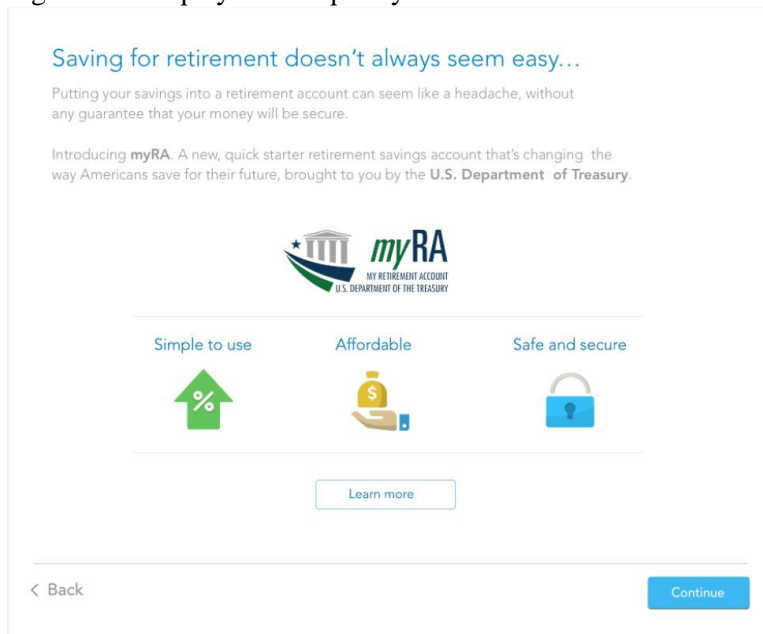


Figure B3. Display of “Bigger Refund” Screen

Like an even bigger refund next year?

Get up to \$1,000 added to your refund next year by setting money aside for retirement.



Introducing myRA. A new quick starter retirement account that's making it easier and more affordable than ever to start saving today.

And it's brought to you by the U.S. Department of Treasury, so you'll never lose money from risky investments or be penalized if you need to make a withdrawal.

[Learn more](#)

< Back

Continue

Figure B4. “Learn More” Expansion Screen Shown if Tax Filers Clicked on the “Learn More” Button

Saving for retirement doesn't always seem easy...

Putting your savings into a retirement account can seem like a headache, without any guarantee that your money will be secure.

Introducing myRA. A new, quick starter retirement savings account that's changing the way Americans save for their future, brought to you by the U.S. Department of Treasury.



Simple to use



- You choose how much to save
- Option to set up payroll deductions to save automatically
- Penalty-free withdrawals of money whenever you need
- Directly deposit some or all of your refund to start earning more, faster

Affordable



- FREE to open
- No fees of any kind
- No minimum balances

Safe and secure



- Safely earn interest on your money
- Backed by the U.S. Treasury
- No risk of losing money

< Back

Continue

Appendix C: myRA-Related Refund Screen Displays

Figure C1: Display of Tax Refund Deposit Screen

Choose how you'd like your refund

- Deposit some or all of my refund into a **myRA** | my Retirement Account

- Direct deposit my entire refund into my savings account

- Direct deposit some of my refund into my savings account, and put some into another bank account or onto U.S. Series I Savings Bonds

- Direct deposit my entire refund into a checking or other bank account

- Mail me a paper check

< Back

Continue

Figure C2. Pop-Up Screen Shown if Tax Filers Clicked to Deposit to myRA Retirement Account

