

Planning for tax-time savings

Innovation Insights



This is another in an occasional series of publications from the Consumer Financial Protection Bureau’s Office of Research. These publications are intended to further the Bureau’s objective of providing an evidence-based perspective on consumer financial markets, consumer behavior, and regulations to inform the public discourse. See 12 U.S.C. §5493(d).¹

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Executive summary

This report presents the results of a large-scale field experiment that the tax preparation company H&R Block (the Company) conducted in collaboration with the Consumer Financial Protection Bureau (the CFPB). The field experiment investigated whether customers could be encouraged, through consumer communications with and without the offer of a small financial incentive, to use a savings feature on a prepaid card to save a portion of their tax refunds from all sources, including state and federal refunds. Consistent with its charge to provide opportunities for consumers to access “wealth building and financial services during the [tax] preparation process,”² the CFPB was particularly interested in whether consumers who receive the Earned Income Tax Credit (EITC) would be receptive to messages about saving.

The Company encouraged tax-time saving through consumer communications. In December, 2016, before the tax filing season, the Company sent two different types of emails to its prepaid card customers: (1) an email simply encouraging customers to use the savings feature on the prepaid card at tax time; and (2) an email offering small monetary incentives (\$5.00) to encourage customers to use the same feature at tax time. The Company used randomization as part of the trial in order to send either one of the two emails to its prepaid card customers. As part of the randomization, some customers were assigned to not be sent any savings-related emails, and these customers served as a comparison for those who did receive savings-related emails.

While take-up of the savings feature was low, results show the savings-related emails from the Company increased customers’ likelihood of using the prepaid card savings feature. These savings persisted beyond the end of the tax filing season, with about 24 percent of customers who deposited into the savings feature during the trial period maintaining savings about eight months after the tax season ended. Among the subset of customers who deposited during the trial period and consented to provide their tax data, those who used a RAC were significantly less likely to deposit into the savings feature at any point during the trial than those who did not use a RAC, and those with larger EITC were more likely to save during the trial period.

The results from this study suggest that simple, timely messages and small incentives can be effective at encouraging consumers interested in non-traditional savings vehicles to save.

² Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, Sec. 1013(d)(2)(F), codified at 12 U.S.C. 5493(d)(2)(F)

1. Introduction

The Consumer Financial Protection Bureau (CFPB), through its Office of Financial Education, is charged with empowering consumers to make informed financial decisions and improving the financial literacy of consumers through activities including providing “opportunities for consumers to access ... savings, borrowing, and other services found at mainstream financial institutions.”³ The CFPB’s “Start Small, Save Up” initiative, which helps promote the importance of building a basic savings cushion and savings habits, is a recent example of the Bureau’s commitment to this mandate.⁴ The CFPB also seeks to address the needs of traditionally underserved consumers and communities for inclusion and financial security,⁵ and the Office of Financial Education’s specific charges for financial literacy include “provid[ing] opportunities for consumers to access ... wealth building and financial services during the [tax] preparation process to claim earned income tax credits and Federal benefits.”⁶

To further these objectives, the CFPB engages in research to identify effective tools and strategies that can help consumers build and strengthen the skills to manage their money and plan for their future. This includes research pilots, which explore financial companies’ innovations and new approaches to engaging consumers in activities that support consumers in improving their financial well-being. These pilots can provide insights into how consumers respond to various interventions, with the goal of understanding what strategies may help empower consumers in their financial lives.

1.1 Research collaboration

In 2015, the CFPB and H&R Block (Company) launched a three-year pilot to research whether certain types of consumer communications and incentives would increase the saving rates of customers who received a tax refund. H&R Block is one of the largest tax preparers in the

³ Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, Sec. 1013(d)(2)(C).

⁴ See “CFPB Announces Start Small, Save Up Initiative.” February 25, 2019.
<https://www.consumerfinance.gov/about-us/newsroom/cfpb-announces-start-small-save-initiative/>

⁵ The Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 (“Dodd-Frank Act”), Pub. L. 111-203 § 1013(b)(2), codified at 12 U.S.C. 5493(b)(2); see also “Bureau of Consumer Financial Protection Strategic Plan: FY 2018-2022” https://files.consumerfinance.gov/f/documents/cfpb_strategic-plan_fy2018-fy2022.pdf.

⁶ The Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 (“Dodd-Frank Act”), Pub. L. 111-203 § 1013(d)(2)(F), codified at 12 U.S.C. 5493(d)(2)(F).

country, filing more than 20 million tax returns annually.⁷ As such, the Company was able to test certain strategies at scale, allowing the CFPB to gain insight into which potential practices may be effective at encouraging consumers to save. However, the current research pilot was not meant to endorse the Company or its products to the exclusion of other comparable products. In fact, one aim of the current research was to learn about and disseminate findings regarding potentially effective strategies to encourage saving. Other providers of comparable products and services can use the findings from this research to consider whether they would want to provide similar opportunities.

The Company has previously engaged in product innovation and research to help its customers save or invest during the process of filing their tax returns.⁸ The research collaboration described here provided the CFPB with an opportunity to learn if certain messages and incentives from a company could encourage consumers with lower incomes, many of whom are less likely to have savings,⁹ to choose to save a portion of their tax refunds. In 2014, the year prior to the CFPB's initial engagement with the Company, the Company reported that 72 percent of its customers had an adjusted gross annual income¹⁰ of less than \$50,000. Nearly half (47 percent) of its customers reported that they were unbanked or underbanked, and of consumers reporting, three-quarters (75 percent) said they had subprime credit scores.¹¹ The Company executed the pilot and shared de-identified data with the CFPB for analysis.

The pilot focused on a savings feature that the Company provides through its *Emerald Card*, a general use reloadable prepaid card. A prepaid card is not linked to a checking account, but instead enables the cardholder to spend money that he or she has loaded onto the card in advance. The cardholder can also load additional money on to the card.¹² Customers are able to

⁷ In 2014, H&R Block filed 23 million income tax returns, representing around 16 percent of all tax returns filed.

⁸ 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. *The Quarterly Journal of Economics*, 121(4), 1311-1346.

⁹ Federal Deposit Insurance Corporation. *2017 FDIC National Survey of Unbanked and Underbanked Households*. P.44. https://economicinclusion.gov/downloads/2017_FDIC_Unbanked_HH_Survey_Report.pdf

¹⁰ Adjusted Gross Income (AGI) is defined as gross income minus adjustments to income. Taxpayers can subtract certain expenses, payments, contributions, fees, etc. from their total income. The adjustments, subtracted from total income on Form 1040, establish the AGI. <https://www.irs.gov/e-file-providers/definition-of-adjusted-gross-income>

¹¹ Statistics provided by the Company.

¹² The CFPB provides additional information about prepaid cards and tools for consumers at <https://www.consumerfinance.gov/consumer-tools/prepaid-cards/>.

apply for an *Emerald Card*, and, when using the Company to prepare their income tax returns, may choose to receive all or a portion of their tax refund on the card.

The Company's prepaid card provides customers with the option of setting up a non-interest bearing savings feature on the card, called the *ePocket*.¹³ The *ePocket* enables *Emerald Card* customers to separate the money they want to save from the money they want to use for everyday spending. The pilot entailed encouraging the Company's *Emerald Card* customers to save part of their tax refunds using the *ePocket* feature.

1.2 Encouraging savings at tax time

Many households have low liquid savings: in its 2018 Survey of Household Economics and Decisionmaking, the Federal Reserve Board found that 61 percent of adults would choose to cover a \$400 emergency expense using cash or its equivalent; the remaining 39 percent would borrow or sell something to cover the expense, or not be able to pay for the expense at all.¹⁴ Liquid savings have been shown to be an important factor for households' ability to weather financial shocks.¹⁵ The CFPB's National Financial Well-Being Survey demonstrated that liquid savings is an important factor for financial well-being, finding that consumers with different levels of liquid savings had the largest disparities between groups in financial well-being.¹⁶ Other research also shows that having even a small amount of liquid savings can affect downstream financial outcomes, including a reduction in the reported use of alternative financial services and an increase in financial stability as a means to reduce household hardship.^{17,18}

The tax filing process provides an opportunity to support American households in building their savings. Previous research suggests that consumers may be more likely to save rather than

¹³ H&R Block rolled out the *ePocket* feature to its *Emerald Card* customers in 2015.

¹⁴ Board of Governors of the Federal Reserve System. (2019). Report on the Economic Well-Being of U.S. Households in 2018. Washington, DC.

¹⁵ Fulford, S. L. (2015b). The Surprisingly Low Importance of Income Uncertainty for Precaution. *European Economic Review*, 79, 151-171; Gallagher, E., & Sabat, J. (2017). Cash on Hand Is Critical for Avoiding Hardship. In the Balance, (18), 1-3.

¹⁶ Consumer Financial Protection Bureau. (2017). Financial Well-Being in America. Retrieved from <https://www.consumerfinance.gov/data-research/research-reports/financial-well-being-america/>

¹⁷ Consumer Financial Protection Bureau. (2016). Tools for saving: Using prepaid accounts to set aside funds. Washington, DC: Cooper, C., Knoll, M., Sieminski, D., Zimmerman, D.

¹⁸ Mills, G., & Amick, J. (2010). Can Savings Help Overcome Income Instability? Perspectives on Low-Income Working Families Brief, 18.

spend money they receive as a lump sum, making tax time a promising opportunity for consumers who wish to do so to put money away for emergencies or other future expenses.¹⁹ In the 2017 tax filing season, the year in which the current study took place, 101.6 million tax returns, or 73.2 percent of all returns filed, resulted in a refund. The average refund was \$2,771, and refunds tended to be even higher for low-income consumers receiving the Earned Income Tax Credit (EITC).^{20,21} As the JPMorgan Chase Institute reports, “for 40 percent of account holders, a tax refund payment represents the largest single cash infusion into their accounts for the whole year.”²² The federal government provides ways for tax filers to save some or all of their refunds, including purchasing savings bonds with their tax refunds or electing for the IRS to directly deposit some or all of their refund into up to three separate accounts, including savings accounts; however, these government-provided mechanisms for tax-time saving are not widely used.²³ For *Emerald Card* customers, opening an *ePocket* provides a simple and easily accessible mechanism for saving that these consumers can use to set aside some or all of their refunds.

The Refund to Savings study,²⁴ which explored saving behavior among low-income customers of the Turbo Tax Freedom Edition software, suggests another way consumers may be saving a portion of their tax refunds: in their checking accounts. Specifically, about a third of the households in their sample that “saved” did so by “earmarking” money for specific purposes and mentally keeping this money separate from general spending money, even though the money remained in their checking accounts. While keeping savings in a checking account makes the money easily accessible in case of an emergency, it also makes the money intended for savings readily available for general spending. Set-aside features, such as the *ePocket*, provide

¹⁹ Shapiro, M. D., & Slemrod, J. (2003). Consumer Response to Tax Rebates. *American Economic Review*, 93(1), 381-396; Shefrin, H. M., & Thaler, R. H. (1988). The Behavioral Life-Cycle Hypothesis. *Economic Inquiry*, 26(4), 609-643; Thaler, R. H. (1994). Psychology and Savings Policies. *The American Economic Review*, 84(2), 186-192.

²⁰ Treasury Inspector General for Tax Administration. (2018) Results of the 2017 Filing Season. Retrieved from <https://www.treasury.gov/tigta/auditreports/2018reports/201840012fr.pdf>

²¹ As defined by the Internal Revenue Service (IRS), the EITC “is a benefit for working people with low to moderate income. To qualify, you must meet certain requirements and file a tax return, even if you do not owe any tax or are not required to file. EITC reduces the amount of tax you owe and may give you a refund.” <https://www.irs.gov/credits-deductions/individuals/earned-income-tax-credit>

²² Farrell, D., Greig, F., & Hamoudi, A. (2018). “Deferred Care: How Tax Refunds Enable Healthcare Spending.” JPMorgan Chase Institute.

²³ Treasury Inspector General for Tax Administration. (2015) Results of the 2015 Filing Season. <https://www.treasury.gov/tigta/auditreports/2015reports/201540080fr.pdf>.

²⁴ Grinstein-Weiss, M., Perantie, D. C., Russell, B. D., Comer, K., Taylor, S. H., Luo, L., Key, C., & Ariely, D. (2015). Refund to Savings 2013: Comprehensive report on a large-scale tax-time saving program (CSD Research Report No. 15-06). St. Louis, MO: Washington University, Center for Social Development.

customers with a way to keep their prepaid card spending money separate from savings, potentially helping these customers achieve their savings goals more easily. This *ePocket* feature represents a particular difference between the current study and the Refund to Savings study. Specifically, customers in the Refund to Savings study who chose to receive their refund via a paper check (which may indicate that they were likely unbanked) were not provided with a similar savings feature to help them save part or all of their tax refund. Rather, they were offered a US savings bond as a way to save some of their tax refund, which few customers in the study opted to purchase.²⁵

In addition to the provision of the savings feature, the timing of information that a company provides to its customers about the savings feature could also help them save more at tax-time than they would otherwise. Previous research suggests that advanced messages to promote saving could support some consumers who want to save in following through on their intentions or goals.²⁶ Studies of consumers' use of their tax refunds suggest that some consumers tend to "mentally spend" their refunds before they receive them.²⁷ Individuals who expect to receive a refund may make plans for how to use the money well in advance of actually receiving their refunds. Encouraging or incentivizing individuals to consider saving as one intended purpose of the money while they are making these plans could result in consumers choosing to save more.²⁸ In addition, opening an *ePocket* prior to receiving a tax refund may serve as a type of "pre-commitment" to saving. Enrolling in the savings feature before tax time may help customers take an early concrete step toward saving. Research on pre-commitment strategies suggests that taking such an early step could increase a customer's likelihood of following through on his or her goal to save.²⁹

²⁵ 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*, Spring 2019, 87-125.

²⁶ Ashraf, N., Karlan, D., & Yin, W. (2006). Tying Odysseus to the Mast: Evidence from a Commitment Savings Product in the Philippines. *The Quarterly Journal of Economics*, 121(2), 635-672.

²⁷ Wilson, A., Wang, I., Banerji, I., Carlson, K. (2015) *The 2015 Tax Refund Consumer Spending Report*. Georgetown Institute for Consumer Research; Smeeding, T. M., Phillips, K. R., & O'Connor, M. (2000). The EITC: Expectation, Knowledge, Use, and Economic and Social Mobility. *National Tax Journal*, 1187-1209.

²⁸ Jones, D., & Mahajan, A. (2015). *Time-Inconsistency and Saving: Experimental Evidence from Low-Income Tax Filers* (No. w21272). National Bureau of Economic Research.

²⁹ Soman, D., & Cheema, A. (2011). Earmarking and Partitioning: Increasing Saving by Low-Income Households. *Journal of Marketing Research*, 48(SPL), S14-S22.

2. Study design and methodology

To explore the potential for communications and incentives to encourage consumers to use a prepaid card savings feature, the Company deployed consumer communications in advance of the 2017 tax filing season.³⁰ The emails encouraged *Emerald Card* users to save a portion of their tax refunds using the *ePocket*. To evaluate the effectiveness of these efforts in a rigorous way, the Company used a randomized controlled trial (RCT) methodology in which it sent savings-related emails to a randomized subset of prepaid card customers (treatment groups), while others were sent no savings-related emails (control group). The control group served as a comparison for those who were sent savings-related emails during the trial. This methodology enabled the CFPB to determine the causal impact of the consumer communications on a) whether customers deposited into the savings feature during the trial period, and b) the proportion of customers who deposited into the savings feature each month. The CFPB also conducted descriptive (i.e., not causal) analyses on a) customers' balances in the savings feature over time, and b) customer characteristics associated with saving in the *ePocket*. These analyses are described in the Findings section below.

2.1 Randomization design

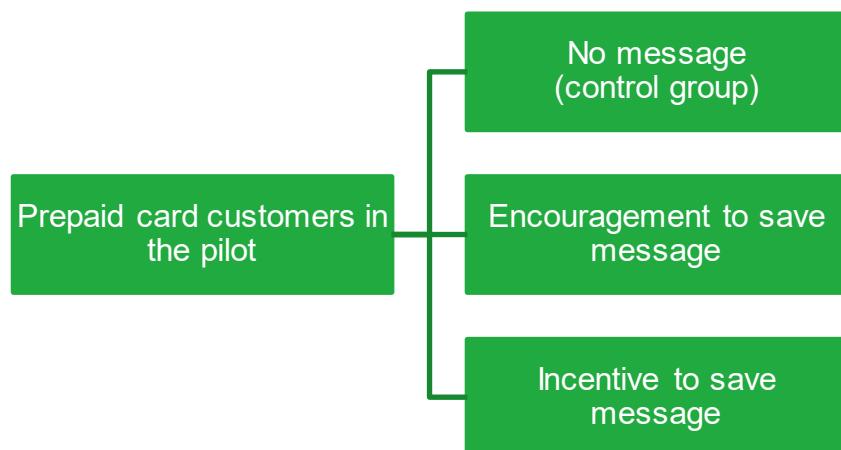
The Company randomized the customers in the research pilot into three groups: two treatment groups and a control group. Section 2.2, below, describes the customers that the Company included in the pilot. Customers in each of the two treatment groups were sent a savings-related email from the Company on December 28, 2016, before the tax filing season.³¹ As shown in Figure 1, one treatment group was sent an **encouragement to save message**: an email encouraging customers to open an *ePocket* and save a portion of their refunds when they receive them. The other treatment group was sent an **incentive to save message**: an email offering

³⁰ The Company implemented various mechanisms to promote saving during tax seasons 2015, 2016, and 2017, including sending targeted email messages to their customers and providing on-site information via tax professionals. Learnings from the first two years resulted in the Company a) narrowing the approach to the direct-to-consumer email communications that were ultimately employed during the 2017 tax season, b) focusing the communications on customers who had an *Emerald Card*, and c) timing the communications such that customers would be most receptive to the messages. This report provides findings from the final year of the pilot, in 2017.

³¹ The Company also sent a second set of savings emails to a subset of its customers during the tax filing season as part of the pilot. However, due to technical and data limitations related to the second batch of emails, this report is limited to the subset of customers who either did not receive any savings-related emails (the control group) or who received an email only before tax season.

customers a \$5 monetary incentive to create an *ePocket* by January 13, 2017 to save a portion of their refunds when they receive them (see Appendix for examples of the savings-related emails). Customers were required to create the *ePocket* to receive the incentive, but they did not have to make a deposit into the *ePocket*. The Company deposited the monetary incentive to the customer's *Emerald Card* by February 15, 2017.

FIGURE 1: STUDY RANDOMIZATION DESIGN



2.2 Sample

The Company included *Emerald Card* customers in the pilot who did not yet have an *ePocket* at the launch of the pilot and for whom the Company had an email address. The CFPB's analysis includes the customers in the pilot who (1) had activity on their *Emerald Card* in the 13 months prior to the beginning of the pilot,³² and (2) had also filed their taxes with the Company at some point in the three years prior to the beginning of the pilot.³³

The sample includes 258,434 customers, which the Company randomized to one of the groups outlined in Figure 1: 86,603 customers in the "control" group, 85,827 customers in the

³² Specifically, the analysis includes customers who had at least one transaction on their *Emerald Card* between December 1, 2016 and December 31, 2017.

³³ In addition, the CFPB dropped from its analysis any customers who received savings-related emails during tax time due to technological and data limitations; see footnote 26, above. The exclusion of these customers is unlikely to bias estimates of the impact of the emails sent before tax time, as customers were randomly assigned to receiving or not receiving emails during tax time.

“encouragement to save message” group, and 86,004 customers in the “incentive to save message” group.³⁴ The Company provided the CFPB with de-identified account-level prepaid card data for all of these customers. These data are aggregated monthly data on *Emerald Card* and *ePocket* balances and activity, which the Company collects in the normal course of business. They cover the period from December 1, 2016 through December 31, 2017, which enables the CFPB to explore differences in customer activity on the *Emerald Card* for the year following the consumer communications. The prepaid card data was used to analyze savings rates and deposits into the saving feature for all customers in the research pilot.

Of the 258,434 customers in the research pilot, a subset of 73,475 customers in the sample also consented to share with the CFPB their de-identified tax information for research purposes when filing their taxes in 2017. These tax data include each customer’s income, tax refund amount, tax return file date, and whether they claimed credits such as the EITC and the Saver’s Credit.³⁵ These data also include customers’ use of the Company’s proprietary tax filing-related products,³⁶ such as a RAC, which was taken out by 94 percent of customers in the sample who consented to provide their tax data. The tax data helped the CFPB to analyze customers’ characteristics associated with depositing into the savings feature during the research pilot.

Also among those who consented to provide their tax return data,³⁷ the average prepaid card customer in the sample was about 38 years old, had an adjusted gross income of \$27,197, a refund amount of \$4,920, and claimed approximately two dependents. Further, 91 percent of these filers had adjusted gross incomes below \$50,000, and 62 percent of filers reported having neither a checking nor a savings account. In this sample, 99 percent of filers received a tax refund, and 73 percent of these filers received the EITC.³⁸ Compared to all tax filers in the US in 2017, customers providing tax data in our sample were more likely to receive a tax refund (approximately 99 percent versus 73 percent), and the average size of the refund was substantially larger (\$4,920 versus \$2,771). However, since the CFPB did not receive tax data

³⁴ The small differences in the sizes of the groups can be attributed to customer attrition from the *Emerald Card* that occurred between the time customers were assigned to the treatment and control groups and the beginning of the pilot, when messages were sent.

³⁵ According to the IRS, the “Retirement Savings Contributions Credit” or “Saver’s Credit” allows some tax filers to take a tax credit for making eligible contributions to an IRA or employer-sponsored retirement plan.
<https://www.irs.gov/retirement-plans/plan-participant-employee/retirement-savings-contributions-savers-credit>

³⁶ The Company offers a variety of products associated with the tax return filing process such as audit protection or refund anticipation checks.

³⁷ All tax and prepaid card data were anonymized by the Company before they were sent to the Bureau for analysis.

³⁸ Given that the CFPB did not receive tax data for customers who did not consent to their tax information being used for research purposes, the CFPB could not analyze differences in tax data between these two sets of customers. Therefore, it is possible that these statistics in the full sample differ from those in the sample of customers who consented.

from all customers in the sample, it is possible that those who did consent to provide this information differ in important ways from those who did not.

3. Findings

The results below focus on the effects of the savings-related messages on customers' likelihood of making a deposit to the savings feature. The CFPB did not receive information about when a customer enrolled in the *ePocket*; the data the Company provided only included the date when a customer first made a deposit into the savings feature. Therefore the CFPB used deposits into the savings feature, rather than enrollment into the savings feature, in its analyses.

The random assignment of customers by the Company to treatment and control groups enabled the CFPB to identify whether differences between these groups were caused by the email messages with encouragement and with incentives. Further, this methodology allowed the CFPB to identify differences between the encouragement to save and incentive messages in how effective they were at encouraging customers to save. The CFPB also explored the timing of deposits, the amount of deposits, and how savings balances changed over time.

The data show that small incentives and early messaging from the Company well before receipt of the lump sum tax refund encouraged more of their customers to save using the savings feature on the prepaid card relative to their customers who received no savings-related message. However, few customers in the pilot made use of the savings feature overall. Customers who did make a deposit to the savings feature between December 28, 2016 and May 1, 2017 contributed an average of \$1,131 to the savings feature, and many of these customers maintained a balance in the savings feature through the end of the year. Additionally, customers with a larger EITC were more likely to make a deposit into the *ePocket*, while those taking out a refund anticipation check (RAC)³⁹ when filing their taxes were less likely to deposit into the *ePocket*.

3.1 Use of savings feature

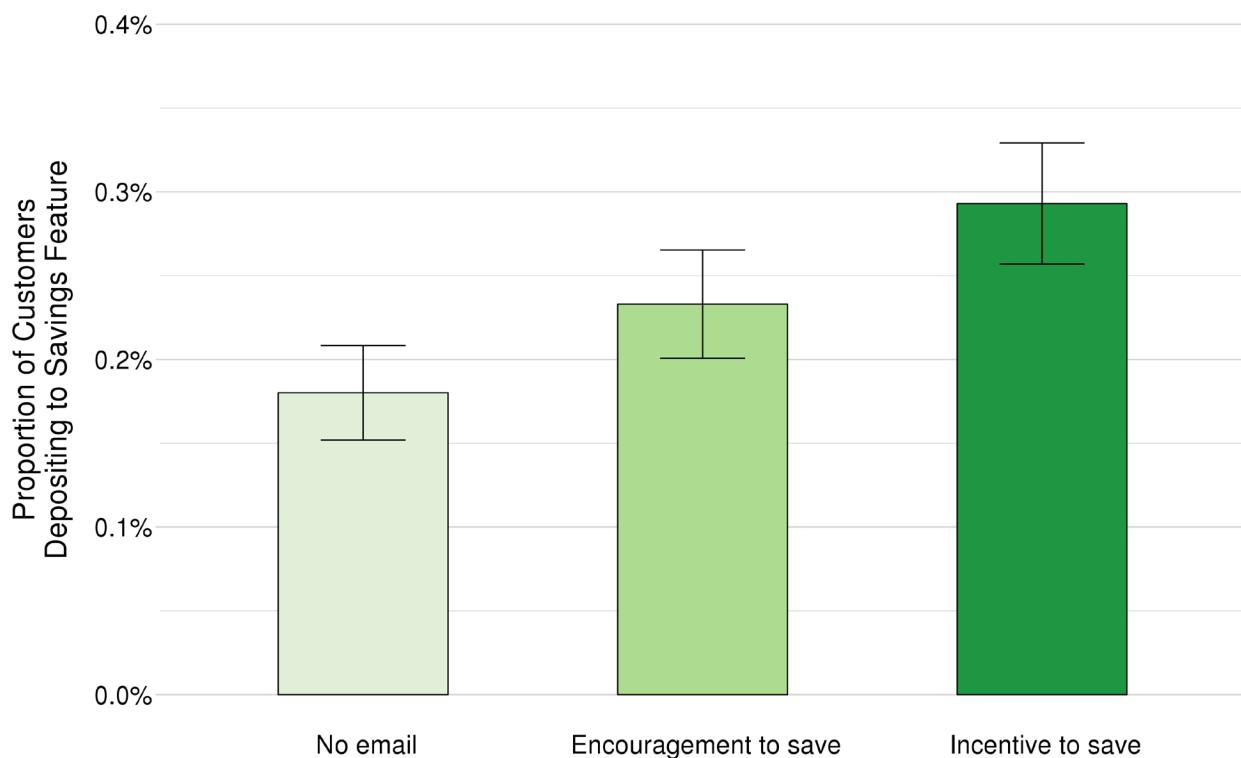
First, the CFPB explored whether the Company's savings-related consumer communications increased the number of its customers who made a savings deposit to the *ePocket* feature on the *Emerald Card*. For the analyses that follow, "the trial period" is defined as the period between December 28, 2016 and May 1, 2017;⁴⁰ this period encompasses the time between the deployment of the consumer communications and the end of "tax time." "Tax time" specifically

³⁹ A Refund Anticipation Check (RAC) directs the refund to a financial institution which disburses fees to the tax preparation firm providing the return preparation and filing service and the balance is then directed to the taxpayer.

⁴⁰ The savings feature was also available outside of these dates; however, for the following analyses, customers who deposited into the savings feature after the trial period are treated identically to customers who never deposited into the *ePocket*.

denotes the period between February 1, 2017 and May 1, 2017, which are the months when customers were most likely to have received their tax refunds. Deposits into the savings feature in December and January are considered for the analysis as occurring before “tax time.”

FIGURE 2: PROPORTIONS OF CUSTOMERS MAKING SAVINGS FEATURE DEPOSITS



Overall, 608 customers out of all customers in the trial deposited into the savings feature within the trial period, which includes the months before and during tax-time. Figure 2 shows overall use of the savings feature for each of the groups the customers were randomized into at the start of the research study. To determine whether the consumer communications had any effect, we looked at the differences between those who were sent the consumer communications and those who were not (control group) and assessed whether outcomes differed in a systematic way. The RCT methodology allowed us to determine whether the observed outcomes were caused by the intervention.

Both the incentive and the encouragement to save messages from the company caused a statistically significant increase in its customers who saved using the *ePocket* compared to its

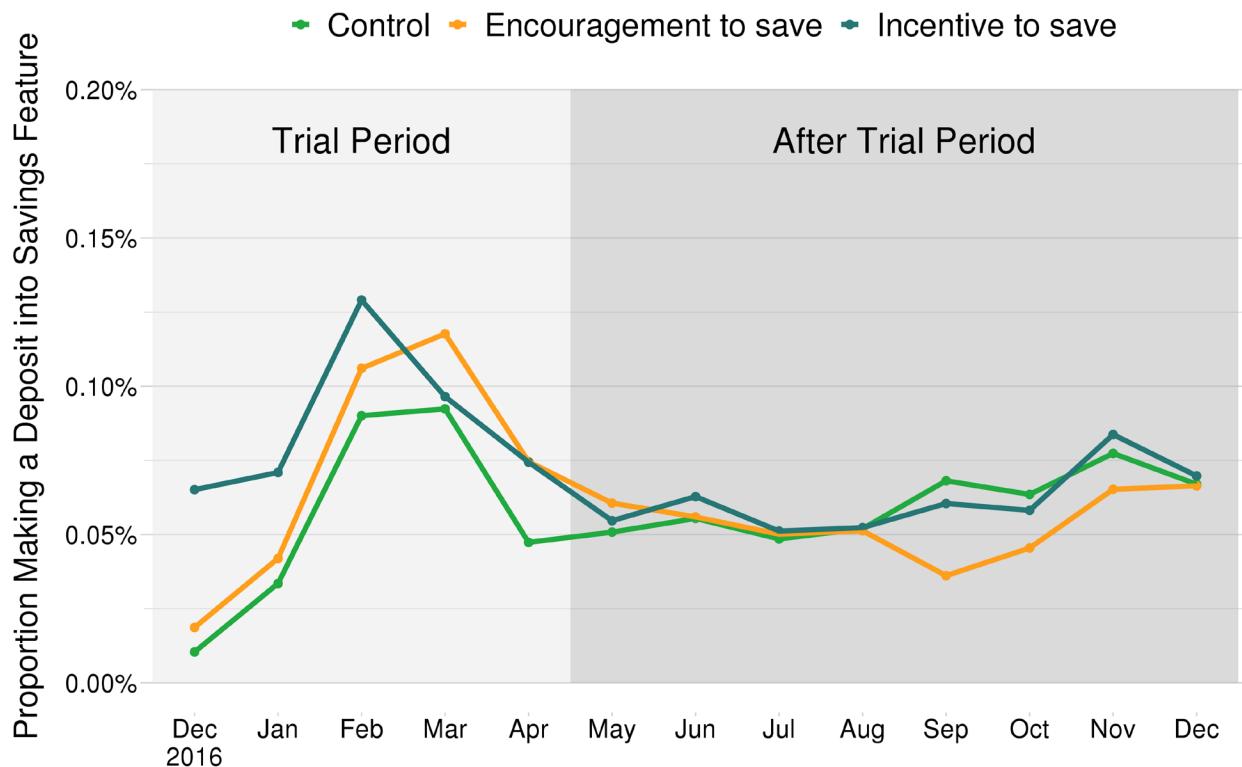
customers in the control group who did not receive the messages.⁴¹ In addition, the incentive message caused significantly more customers to deposit into the savings feature than the encouragement to save message did. As shown in Figure 2, 0.18 percent, 0.23 percent, and 0.29 percent of customers in the control, encouragement to save, and incentive groups, respectively, deposited into the savings feature during the trial period.

Interestingly, although the savings-related emails focused on tax-time saving, the data show that some customers who were sent the savings-related messages made deposits into the savings feature before tax time. Because the data the Company provided included the date when a customer first made a deposit into the savings feature, the CFPB was able to identify which deposits made in December occurred after the deployment of the savings-related messages on December 28th. In the four days of December immediately after the Company sent its customers the savings messages, the proportion of their customers making an initial deposit into the savings feature was more than six times larger and three times larger for the customers who were sent the incentive to save message than for customers who received no email from the

⁴¹ The encouragement to save caused a 29 percent increase in customers making savings deposits relative to customers in the control group ($p = 0.02$). The incentive to save caused a 63 percent increase in customers making savings deposits relative to customers in the control group ($p < 0.0001$).

Company or the encouragement to save email, respectively. Since this was before tax refunds were available, these funds must have been from other sources.

FIGURE 3: MONTHLY SAVINGS FEATURE DEPOSIT RATES BY GROUP



As shown in the left side of Figure 3, customers made deposits into the *ePocket* in December and January, the months before tax time; further, customers continued to make deposits throughout the trial period. In fact, in December, January, February, and April, a statistically significantly higher proportion of customers made deposits into the savings feature if they were sent the incentive email than customers in the control group. Statistically significantly more customers to whom the Company sent an email encouraging them to save made deposits into the savings feature in April than customers in the control group, that is, customers to whom the Company did not send messages.

As described above, the RCT methodology used in the current study allowed the CFPB to determine that messages from the Company caused its customers to deposit into the savings feature in December and January. But, the CFPB was also interested in understanding descriptive (i.e., not causal) relationships related to when customers made deposits onto the savings feature. Specifically, the CFPB looked at whether making deposits into the *ePocket* before tax time was related to a higher likelihood of depositing into the *ePocket* between February and April, or “tax-time depositing.” Indeed, the 191 customers who made a deposit into

the savings feature *before* tax time were 375 times more likely to make a deposit *at* tax time than the 258,243 customers in the trial who did not make a deposit into the savings feature before tax time (these results are not shown in Figure 3). When the data were broken down by each month of the tax season, customers who made a deposit into the *ePocket* before tax time were 580 times more likely to make a savings deposit in February than customers who did not make a deposit before tax time, and in March and April, this factor was 336 and 344 times more likely, respectively. These results suggest that a company encouraging its customers to pre-commit to tax-time saving, or providing them with a ready place to deposit money if they are already committed to saving a portion of their refund, might result in large increases in tax-time saving. However, given that this relationship between opening an *ePocket* before tax time and tax-time deposits is correlational, not causal, there may be other explanations for the results described above. For example, a general propensity to save could explain saving both before and during tax time.

3.2 Savings deposit amounts and balances

To understand how the consumer communications may have impacted customers' deposits into the savings feature, first the CFPB examined the causal relationship between the email messages and savings deposit amounts. Among all 258,434 customers in the trial, the customers who were sent the incentive to save message made statistically significantly larger deposits into the savings feature over the course of the trial period than customers who were assigned to the control condition.⁴² However, customers who were sent the encouragement to save message had savings deposit amounts that were statistically indistinguishable from customers assigned to the control condition.

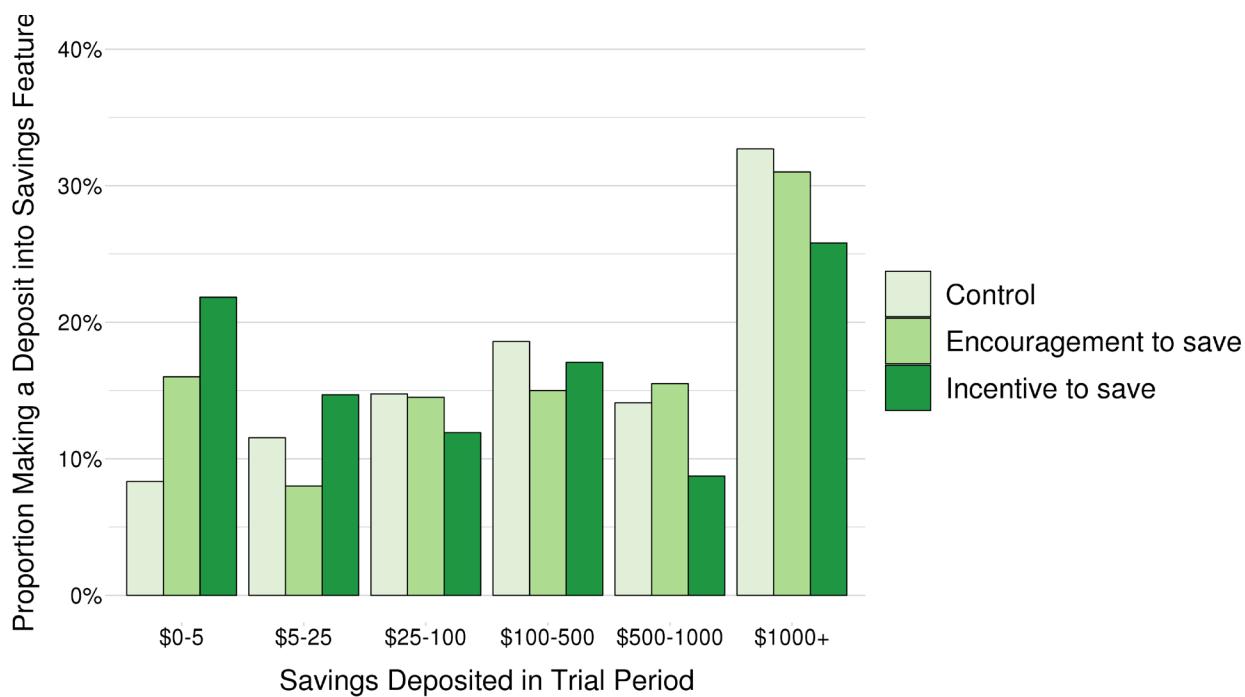
Again, the RCT methodology used in the current study allowed the CFPB to determine that the message from the Company that contained the incentive caused its customers to deposit more into the savings feature during the trial period compared to the control group. But, the CFPB was also interested in understanding descriptive (i.e., not causal) findings related to the size of customers' deposits into the saving feature given that they made any deposit into the *ePocket* during the trial period. For the 156 customers in the control group who deposited into the *ePocket* during the trial period, the average savings deposit during the trial period was \$1,342, which was not statistically larger than \$1,266, the average deposit made by the 200 customers

⁴² Since many customers did not make a deposit into the *ePocket* over the trial period, the distribution of total savings deposits is right skewed. To meet the normality assumptions of the hypothesis test, the CFPB used an inverse hyperbolic sine transformation on savings deposits as the outcome measure.

who received an encouragement to save and deposited into the *ePocket*.⁴³ However, the 252 customers who received the incentive to save and deposited into the *ePocket* made an average deposit of \$894, which was statistically *smaller* than the average deposits made by the two other groups. In other words, although customers in the incentive group were more likely to deposit into the savings feature, the amount they deposited was smaller, on average, than it was for the other groups.

Figure 4 shows the difference in the distribution of savings amounts between treatment groups. Even though more customers in the incentive group made savings deposits than customers in each of the other groups, the average size of these deposits was smaller because a larger proportion of customers made deposits at or below \$25.

FIGURE 4: DISTRIBUTION OF TOTAL SAVINGS DEPOSIT AMOUNTS AMONG SAVERS



A possible explanation for the difference in average savings deposits between those in different email groups could relate to customers' propensity to save absent a message encouraging or incentivizing them to do so. An intervention that causes more customers with a smaller capacity or a weaker desire to save is likely to decrease the average savings amount for that group. In the current study, customers who were sent the incentive message and then made deposits into the savings feature may be responding to the message when they would not have chosen to save

⁴³ The median savings deposits in the trial period were \$423.50, \$407.50, and \$143.00 for the control group, the encouragement to save group, and the incentive to save group, respectively.

otherwise. If that is the case, the message containing the incentive, which caused the most customers to deposit into the savings feature, would result in the lowest average savings deposit compared to the message containing the encouragement to save or no message at all. The encouragement to save message, which also likely moved people to save who would not have otherwise, was not as effective as the incentive message at prompting customers to deposit into the savings feature; therefore, it is not surprising that the average savings deposit for this group was not as low as that for the incentive group. While not statistically significantly larger than the average savings deposit of the encouragement to save group, the control group had the largest average savings deposit.

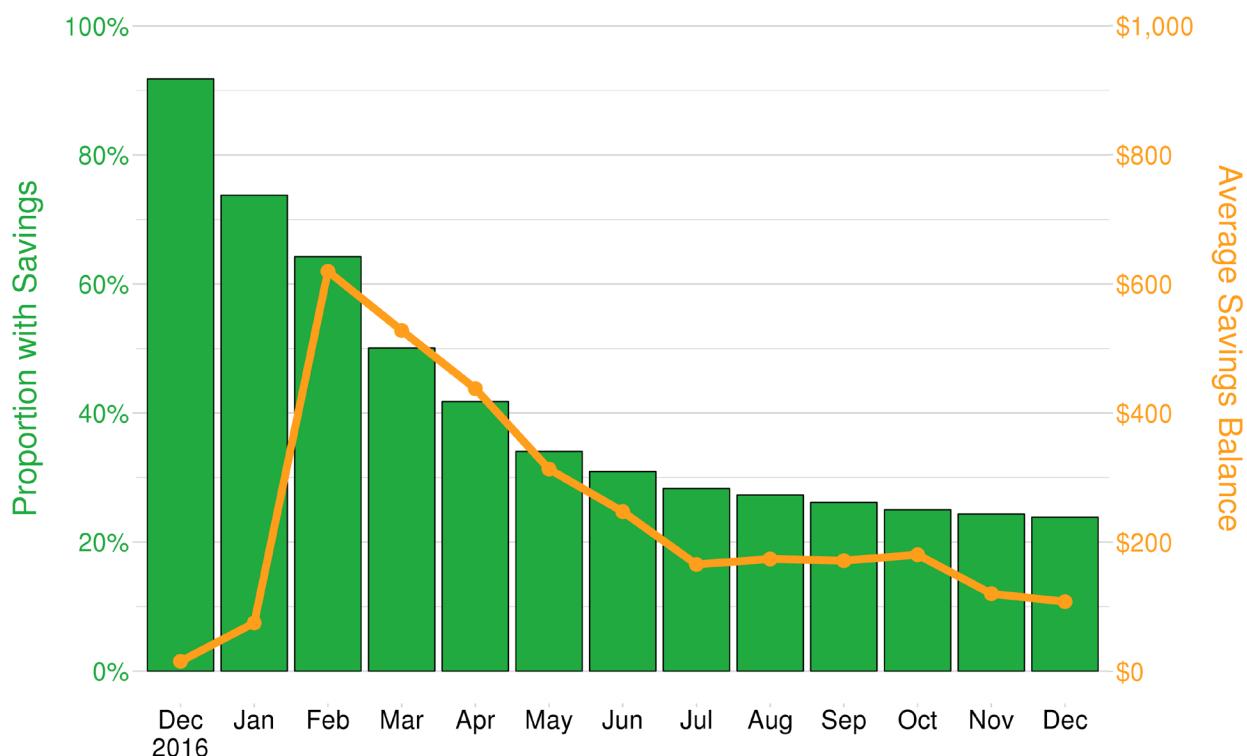
Next, the CFPB examined the causal relationship between the email messages and savings balances maintained on the *ePocket*. When examining all 258,434 customers in the trial, customers who were sent savings-related messages and customers in the control group all had statistically equivalent balances in the savings feature in December 2017, eight months after the end of the trial period.⁴⁴ When considering how customers may be using the money they deposit into the savings feature, the finding that the different email groups did not differ in the size of their *ePocket* balances may not be surprising. For example, it may be the case that customers, regardless of what prompted them to save or how much they deposited, use the money in their *ePocket* for similar purposes, such as an emergency or other liquidity shortfall. Therefore, it may be the case that customers in all the email groups generally tended to save up and spend down the money in their *ePockets* in similar ways, regardless of the actual amounts they deposited. If all customers in the trial are using the savings feature in the same way—that is, to create a buffer to weather a financial emergency or other liquidity shortfall—balances at the end of December, 2017 should be similar for customers in all three email groups.

As described above, the RCT methodology allowed the CFPB to determine that there were no statistical differences in savings balances between the 258,434 customers in the trial regardless of what email group they were in. Figure 5, however, provides evidence that some of the 608 customers who did deposit into the savings feature at any point during the trial continued to save in the *ePocket* over time. The green bars in Figure 5 show the *proportion* of the 608 customers who saved during the trial period that had some savings in their *ePocket* at the end of a given month. The yellow line in Figure 5 shows the *average balance* at the end of the month for customers who had money in the *ePocket* at the end of a given month. At the end of May—one month after the trial period ended—nearly one-third of customers who deposited into the savings feature during the trial period still held savings in the *ePocket*; the average *ePocket*

⁴⁴ To correct for the right skew in the distribution of savings balances, the CFPB used an inverse hyperbolic sine transformation on savings balances for the outcome measure in the hypothesis test.

balance for these customers at this time was still over \$300. While the proportion of savers with money in savings decreased over time, at the end of December—eight months after the end of the trial period—the 24 percent of savers that still had money in their *ePocket* averaged over \$105 in savings.⁴⁵

FIGURE 5: PROPORTION AND AVERAGE SAVINGS BALANCES OF DEPOSITORS WITH SAVINGS



3.3 Characteristics of consumers who saved

To learn more about the customer-level characteristics associated with making deposits into the *ePocket*, the CFPB, with the help of the Company, matched the prepaid card data to the tax data for customers who consented to provide their de-identified tax data to the CFPB. For the following analysis, the CFPB used the sample of the 73,475 customers for whom the Company

⁴⁵ Not shown in the figure, there were no statistically significant differences between the control group and the treatment groups in their savings rates or average balances at the end of December. The median savings balances for customers who saved during the trial period were \$20.00 and \$5.00 at the end of May and end of December, 2017, respectively.

provided data from both of these sources. Among this sample, 138 customers made a deposit into the *ePocket* at some point during the trial period, and 115 of those 138 customers made a deposit into the *ePocket* during tax time.

The CFPB identified characteristics associated with higher and lower likelihoods of depositing into the *ePocket* at any point in the trial period for the 138 customers who deposited during the trial period and consented to provide tax data.⁴⁶ Of this subset of customers, those who used a RAC were significantly less likely to deposit into the savings feature at any point during the trial than those who did not use a RAC. Use of a RAC was associated with a 73 percent decrease in the likelihood of making a savings deposit relative to not using a RAC within this subset of customers. In addition, customers in this subset with a larger EITC were more likely to save during the trial period; specifically, a \$1000 increase in a customer's EITC was associated with a 30 percent relative increase in their likelihood of depositing into the savings feature during the trial period. Further, a ten percent increase in income was associated with a one percent decrease in the relative likelihood of depositing into the savings feature.⁴⁷

When using the same methodology to identify characteristics associated with savings that took place specifically during tax time,⁴⁸ the data showed that, for the 115 customers who made a deposit into the savings feature during tax time, RAC usage remained a significant negative predictor and the size of the EITC remained a significant positive predictor of tax-time saving. Income, however, did not remain a significant predictor of tax-time saving. In other words, RAC usage and EITC amount are robust predictors of the likelihood of saving for this subset of customers, but the data are less consistent with regard to the direct association between these

⁴⁶ The characteristics the CFPB reports are the variables that were chosen by a forward stepwise regression, which used the Akaike information criterion as a selection criterion and stopping rule. The stepwise regression iteratively selected variables from a pool of covariates which included whether the customer was unbanked, took out a RAC, the customer's age, the customer's number of dependents claimed, the inverse hyperbolic sine transformation of the customer's adjusted gross income (transformed income), whether the customer filed taxes in a rural or urban zip code, whether the customer enrolled in the Peace of Mind program, the size of the customer's refund, and the size of the customer's EITC. The final model selected EITC, the use of a RAC, and transformed income as covariates. A regression table reporting results from the model can be found in the Appendix.

⁴⁷ After bootstrapping the regression with selected covariates of EITC, the CFPB found that the coefficient for transformed income (see footnote 46) varied considerably. In 1000 bootstraps, the bounds for the 90 percent confidence interval for the transformed income coefficient were -0.175 and 0.028.

⁴⁸ The CFPB again used a forward stepwise regression to identify significant characteristics, and used the Akaike information criterion as a selection criterion and stopping rule. The pool of variables includes the same variables listed in footnote 46 above. The final model selected EITC and the use of a RAC as covariates. A regression table reporting results from the model can be found in the Appendix.

customers' income and their likelihood of saving, perhaps due to the fact that EITC eligibility is based partly on income.

4. Conclusion

The large lump sum that many households receive at tax time provides an opportunity for individuals to build a savings cushion to help them weather financial shocks during the year, which is an important component of financial well-being. However, previous research has indicated that most individuals do not save their tax refunds, for a variety of reasons. The current research pilot explored one potential reason consumers may not save at tax-time: not having a plan in advance for saving. Specifically, this research pilot employed a Company’s prepaid card customer base to encourage its customers—in advance of the tax filing season—to consider saving part of their tax refund and provided the Company’s customers with an opportunity to set up and use a savings feature on their prepaid cards.

In a large-scale randomized controlled trial with H&R Block’s prepaid card customer base, sending the Company’s prepaid card customers a message before tax time that included a small monetary incentive to save or a message encouraging savings before tax time increased deposits into a savings feature on the Company’s prepaid card compared to a control group. Results also showed that customers who saved generally deposited a substantial amount into the savings feature, and almost a quarter of these customers kept a portion of the savings there for months beyond the end of the tax season. Although the data indicate that only a small number of customers in the trial chose to use the savings feature as a result of the email messages sent to them by the Company, the controlled nature of this study allowed the CFPB to better understand how savings-related messages from a company to its customers may support tax-time saving.

The data also suggests that lower income consumers are able to save if they choose to do so. Specifically, data from the current study showed that a larger EITC is associated with customers being more likely to deposit into the savings feature and make tax-time deposits. Given that there are income limits dictating which households can receive the EITC, these findings suggest that some low-income consumers not only have the capacity to save a portion of their tax refund, but also that some of these consumers are willing to make use of a savings vehicle when they are encouraged to do so through small incentives or messaging from a company with which they have done business.

Taken together, the results of the current study highlight strategies that may increase tax-time saving: a company encouraging its customers to save before the tax season begins and incentivizing its customers to use a savings feature. The strategies used in this pilot are low-cost, easy ways a company may help its customers who desire to save at tax time achieve their goals.

5. Appendix

MULTIVARIATE LOGISTIC REGRESSION OF CHARACTERISTICS ASSOCIATED WITH DEPOSITING INTO THE SAVINGS FEATURE

	Deposited in trial period	Deposited at tax time
EITC (in thousands of dollars)	0.256*** (0.042)	0.248*** (0.046)
Use of a RAC	-1.302*** (0.276)	-1.100*** (0.321)
Transformed income (inverse hyperbolic sine)	-0.112* (0.062)	-
Constant	-4.677*** (0.685)	-6.198*** (0.298)
Observations	73,475	73,475
Log Likelihood	-979.795	-841.380
Akaike Information Criterion	1,967.59	1,688.76

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

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