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Auto-Enrollment Retirement Plans for the People: Choices and Outcomes in OregonSaves

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Abstract

Insuring retirement security is an important challenge for our aging society, and many policymakers are seeking ways to help individuals save more for retirement. The state of Oregon recently launched an auto-enrollment retirement savings program for private sector workers who lack access to workplace retirement plans; many of these workers are lower-paid employees working at smaller firms. Our paper investigates early results from the OregonSaves program using data through June 2019. We find that OregonSaves is serving firms across many industries, including food services, health care, retail trade, and agriculture. In June 2019, approximately 24,000 contributing participants deposited an average of \$110 per month, or about 5% of their pay, which is the default savings rate. To date, over 40,000 individuals have accumulated combined assets over \$22.7 million. We also find that OregonSaves has provided access to workplace retirement accounts for employees of small to mid-sized firms (average firm size 36 employees), with participating employees' earning an average of \$2,182 per month.

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Introduction

Only about half of the U.S. private-sector workforce is currently covered by an employer-sponsored retirement plan. This fact has sparked debates about a national “retirement crisis,”¹ and it has also prompted over half of all U.S. states to at least consider mandating that private-sector firms offer their employees retirement saving accounts. Oregon has led the way with its OregonSaves program, launched in 2017, with the goal of increasing workers’ personal savings and strengthening retirement security beyond Social Security and means-tested social transfers.² OregonSaves works under state law by requiring private-sector firms that lack existing employer-sponsored retirement plans to register and participate in the program. By requiring employers to participate in a pre-designed program that removes employers’ fiduciary responsibility, the program reduced two barriers to employers offering a plan: set-up and monitoring costs.

OregonSaves is structured as a Roth Individual Retirement Account (IRA), with automatic enrollment, a default (after-tax) contribution rate of 5%, and employee-only contributions. Once an employer registers and provides OregonSaves with employees’ data, employees enter into a 30-day enrollment period during which time their identity is verified and employees may choose to opt out. A Roth account is created at the end of the enrollment period for each employee that has not opted out and whose identity is successfully verified. Enrollment in OregonSaves sets

¹ See for instance, Miller et al. (2015), and a rebuttal by Biggs and Scheiber (2015, 2019 a and b) and Biggs and Schieber (2015); also Bee and Mitchell (2017).

² Illinois’ Secure Choice began enrolling employees in 2017; California’s CalSavers will begin enrolling employees in 2020.

contributions levels at a 5% default contribution rate, though employees can choose to save at a different contribution rate (up to 100% of pay),³ or opt out at any time. By default, the first \$1,000 contributed into each participant's OregonSaves account is invested in a money market account. When a saver's account balance reaches \$1,000, subsequent contributions default into an age-appropriate target date fund. One appealing feature of the plan is that participants may access a substantial portion of their money without risk of penalty.⁴ Although similar to privately-managed employer-sponsored retirement plans such as 401(k) and 403(b) plans, OregonSaves differs by permitting workers' retirement savings accounts to follow them as they move from one job to another. This portability feature is potentially important to employees lacking retirement plans through their employers, since this labor market is characterized by small firms offering lower pay, typically with high worker turnover.

A key rationale for state-based auto-enrollment retirement plans is the fact that the vast majority of workers lacking access to employer-sponsored retirement plans have no dedicated retirement saving vehicles (Chen and Munnell 2017). In other words, while workers could have responded to the lack of employer-sponsored retirement plans by opening and funding their own Traditional or Roth IRAs, the vast majority have not done so.

We propose three, non-mutually exclusive explanations for this inaction. First, lower income workers at predominantly smaller firms may not be able to afford (or perceive that they cannot afford) to save for retirement. This explanation is consistent with the 2013 Survey of Consumer Finance, which found that only 4% of workers with bottom-quintile income had a defined contribution retirement plan, versus 68% for workers with top-quintile income (Morrissey

³ Up to the legal limit for Roth IRA contributions, currently \$6,000 per year (or \$7,000 for those age 50+); OregonSaves (2019).

⁴ As with other Roth IRAs, participants can withdraw contributions (but not investment returns) without penalty until age 59 ½, or in the event of a qualifying disability or for first-time home buyers.

2016). Furthermore, many households report that they have difficulty meeting even basic expenses; for example, the Board of Governors of the Federal Reserve System (2019) found that “17 percent of adults are not able to pay all of their current month’s bills in full.” Such statistics suggest that the marginal utility of income is high for many low-income workers. Moreover, the fact that these workers are so close to the margin highlights the importance of allowing savers to withdraw funds from a portable retirement savings plan.

A second rationale for employee inaction considers employees’ expectations about how they might benefit from retirement saving. In particular, the Social Security replacement rate is relatively high for low-income workers, so workers at firms lacking employer-sponsored retirement plans may rationally perceive that they have little need for additional retirement savings. These first two explanations would predict low participation rates in OregonSaves, low contribution rates among those who do participate, or both.

A third explanation for the lack of retirement saving by workers without employer-sponsored retirement plans are search costs (Brochetti et al. 2013). Specifically, it may be that workers face high search costs when they consider opening IRA accounts in the absence of an employer sponsored plan, discouraging them enrolling on their own. Research has shown that earnings, retirement planning, and financial literacy are positively correlated (e.g. Lusardi and Mitchell 2007; Clark et al. 2017); as a result, it is likely that workers at firms without an employer-sponsored retirement plan are less financially literate than other employees. In turn, less financially literate individuals may lack the confidence and knowledge required to research and select IRAs, and to successfully manage their own retirement portfolios. In such circumstances, a state-based program that reduces search costs, both in terms of the enrollment process and in offering a simple

set of default investment options, may lead to higher participation than in the absence of a plan like OregonSaves.

Since little is known about why few lower-income workers fail to set up IRAs, we evaluate how workers previously lacking access to workplace retirement plans are responding to the OregonSaves plan. Our analysis of administrative data from OregonSaves allows us to provide a preliminary look at the characteristics of eligible employees and their employers in a segment of the U.S. labor market that has not yet been studied with account-level data.⁵ These data allow us to provide preliminary data on how participation decisions, contribution rates, and account balances vary with employee and employer characteristics and, to study the reasons that employees give for opting out.

Importantly, these data allow us to explore the relative importance of the three explanations listed above. If the lack of retirement saving is mainly due to peoples' inability (or perceived lack of need) to save for retirement, then we would anticipate finding low participation in the OregonSaves program, particularly among workers with low and volatile earnings profiles.⁶ In contrast, if having no retirement savings is primarily due to search costs associated with lower levels of financial literacy, we will anticipate patterns qualitatively similar to Madrian and Shea (2001) who examined savings behavior of employees in a "large, publicly-traded Fortune 500 company in the health care and insurance industry" when the firm introduced automatic enrollment in its 401(k) plan. They found that plan participation rates averaged about 85% for new hires who joined the firm under automatic enrollment. Furthermore, the largest participation increases due to

⁵ Madrian and Shea (2001) and Stock and Wise (1990) each focused on participant behavior within the retirement plan of a single large firm. Studies of participant behavior across multiple firms, such as Carroll et al. (2009) and Mitchell and Utkus (2012), have examined firms offering company-based 401(k) or 403(b) retirement plans.

⁶ Carroll et al. (2009) pointed to the benefit of active decision-making with respect to savings rates under the assumption that desired savings rates likely vary across employees regardless of their financial literacy levels. Yet given evidence on the depth of financial illiteracy, they concluded that "[w]ell-chosen defaults are likely to be superior to active decisions in the asset allocation domain" (p. 1668).

auto-enrollment were for younger and less highly-compensated employees. More generally, studies of participant behavior in employer-provided 401(k) plans find that the younger, lower-paid, and less educated workers are more likely to adopt default savings rates and invest through default investment options, especially target date funds (e.g., Madrian and Shea 2001; Mitchell and Utkus 2012; Chalmers and Reuter 2019). Accordingly, to the extent that low levels of retirement saving are the result of high search costs, we would anticipate finding relatively high participation rates under the OregonSaves program. Moreover, to the extent that the 5% default savings rate is perceived by plan participations to be the ‘recommended’ savings rate, we expect little variation in observed savings rates, especially among younger workers with lower wages.

Our preliminary findings rely on data through June 29, 2019 and suggest the following preliminary inferences. First, OregonSaves is generating appreciable retirement savings for a substantial number of employees. Approximately 40,000 employees have contributed over \$22.7 million dollars to the program through June 2019. Second, most contributing employees (71.5%) are saving at the 5% default rate. Third, participation in the plan spans the state of Oregon and beyond, but the largest concentration of assets is located in the larger urban areas. One challenge we face in characterizing the OregonSaves outcomes pertains to how we define ‘participation’ in this program. Specifically, it is difficult to define who is eligible to contribute at any given time, given that the employers are quite heterogeneous and the employees experience frequent turnover. Moreover, participation can be measured in terms of anyone who ever participated in the program, or in terms of current contributors. In any event, given participants’ relatively low earnings levels, it is not surprising that participation rates are lower than observed in Fortune 500 firms. Indeed, a common explanation employees offer for opting out is “I cannot afford to save,” indicated by around 30% of those opting out during their 30-day enrollment period.

Institutional Details and Data

The 2015 passage of Oregon House Bill 2960 set into motion the creation of what is now known as the OregonSaves program,⁷ the first state-sponsored retirement savings program to launch in the United States. The Oregon Retirement Savings Board was given statutory authority to research and design the plan, with a target launch date of July 2017. OregonSaves mandates that all private-sector employers, including non-profit organizations, must either offer their own retirement plans or enroll their employees in OregonSaves.

OregonSaves was rolled out to employers in seven enrollment “waves:” a first wave of firms volunteered to be in the pilot program, followed by six compulsory waves. The employer wave is determined by the number of employees employed at the firm, with larger employers having to register earlier than smaller firms. For example, the largest firms (100+ employees) began the compulsory registration period on October 1, 2017, and the smallest firms (4 or fewer employees) will start enrolling May 12, 2020.⁸ In practice, however, some smaller firms did register earlier than required, and some unknown number of larger firms may not have registered to date.⁹ Since OregonSaves is still rolling out to progressively smaller employers, we remain cautious in interpreting the data, especially with respect to firm size, since smaller firms which are already enrolled elected to do so early.

⁷ The program’s official designation is the Oregon Retirement Savings Plan, referenced in the enabling legislation and Oregon Revised Statutes 178.200-178.245. See Belbase and Sanzenbacher (2018) and Bradford (2017) for additional discussion.

⁸ In the first two waves for the largest employers, OregonSaves allowed employers to opt out on behalf of employees, rather than requiring employees to opt out online, by phone, or by mail. This allowed some reticent employers to opt out all of their employees, so as to avoid the payroll deduction process. Thus, the opt out data we report must be considered in this context.

⁹ Firms which offer their own retirement plans are exempted from the mandate to offer the OregonSaves platform. All other employers are required to register, though penalties for failing to register will only be implemented from January 2020. According to Senate Bill 164, “the Commissioner of the Bureau of Labor and Industries may assess against an employer who has engaged in an unlawful practice under section 2 of this 2019 Act a civil penalty in an amount up to \$100 for each employee who is eligible to participate in the plan developed under ORS 178.205, not to exceed an aggregate amount of \$5,000 in a calendar year.” Senate Bill 164 was signed into law by Governor Kate Brown on May 22, 2019. See <https://olis.leg.state.or.us/liz/2019R1/Downloads/MeasureDocument/SB164/Enrolled>.

Once an employer is registered, the firm submits employees' social security numbers, dates of birth, and names to OregonSaves, after which a 30-day enrollment period begins. As mentioned above, during the enrollment period, employees may opt out of the program, and if they do not opt out during the first 15 days, OregonSaves then conducts an identity verification check. Employees who are successfully identified are then deemed eligible for enrollment at the end of the 30-day window. Table 1 shows that, as of June 29, 2019, some 171,243 individuals had their data provided to OregonSaves by an employer.¹⁰ Determining which of these 171,243 individuals actually had an opportunity to enroll in the program is a nuanced decision, requiring assumptions about the eligibility process. Panel A of Table 1 itemizes the status of the 171,243 employees having a chance to enroll. During the enrollment window, 41,757 (24.4%) employees opted out, while another 21,600 (12.6%) employees opted out after the enrollment window. There are 29,332 (17.1%) employees awaiting the completion of the background check, which, in many cases, will extend their "pending" status indefinitely. There are 12,630 (7.4%) employees who are enrolled and passed their background checks but for whom their employers have yet to begin submitting payroll. Finally, 65,924 (38.5%) names have been enrolled, where the background check has been successfully completed, the employer is submitting deferrals for at least one employee, and the employee has not opted out. In one sense, these are the employees who can now participate in OregonSaves. Nevertheless, the 29,332 pending cases and the 12,630 employees still to contribute are also potential participants, and we cannot yet observe their choices. What we can say is that,

¹⁰ Because employees can be enrolled into OregonSaves by multiple employers, there can be some differences in the number of accounts depending on whether we focus on jobs or unique employees. Here we focus on a unique employees for whom we aggregate all jobs. We define an employee's participation in OregonSaves as participation with any employer. Because our data are derived from a number of sources, including data entered by employers, employees, and the record keeper, it contains some data entry errors. Our analysis filters out approximately 800 individual accounts due to errors such as age being outside the range of 18 to 100, or contributions being negative. All of the statistics that we report reflect these initial filters.

of the original 171,243 names submitted, approximately 37% elected to opt out; this does not however, imply that the complement of this group represents participants.

In principle, the program participation rate refers to the percentage of employees who are making or have made contributions to OregonSaves, as a fraction of employees eligible to participate, working, and have an employer cooperating with OregonSaves. Yet when measuring the participation rate, there are two challenges to defining the denominator. Given the data to which we have access, we have a difficult time distinguishing between someone who is working and choosing not to contribute, from someone who is not working. It is also difficult to identify those employees who are not participating because of actions taken by their employers, rather than actions they themselves took.¹¹ As result, we must define a group of potential participants that are eligible and active using a set of imperfect but necessary assumptions.

Panel B of Table 1 describes the sample of what we define as Eligible Active Workers (EAW). These are employees who are eligible for an OregonSaves account and who appear to be actively working¹² for at least one employer making payroll contributions for at least one employee. To be more precise, the EAW group includes those who have opted out of OregonSaves at the time they were actively working, plus people with a positive account balance in the past but currently a zero balance, plus people having a positive account balance currently, plus people with a positive balance and positive current contribution. This group comprises 76,438 people. In this group, 23,503 individuals received a monthly contribution to their accounts in June 2019, with a mean contribution amount of \$110. For employees with a positive contribution amount and a

¹¹ For example, during Waves 1 and 2 employers could opt employees out, and throughout the programs tenure employers can set employees status as inactive, or enter faulty data for the identity check (e.g. social security numbers like 12345678) to avoid having to send payroll deductions.

¹² In defining active, we cannot observe this variable directly for those that are not making contributions to OregonSaves; this includes people who have opted out and people who have set their deferral rates to zero. Accordingly we assume that if 1) employees are making contributions, or 2) they were eligible and opted out of OregonSaves, or 3) they were eligible and set their deferral rate to zero, they are active.

positive contribution rate, we estimate their monthly incomes (=contribution/contribution rate) to be \$2,182. By way of comparison, the March 2018 Current Population Survey reports average monthly income of \$4,843 (and median income of \$3,411) for individuals who worked in the previous year.¹³ This comparison supports the presumption that OregonSaves is serving a population with modest earnings levels.

Panel C of Table 1 presents the data for the 40,652 OregonSaves participants with a positive OregonSaves account balance. Given total assets of \$22.7 million, the average balance per account stood at \$558 as of June 2019. Panel D shows that 28,083 of the 40,652 with a positive balance are classified as eligible active workers. When averaged over accounts with a positive balance, the average account balance for EAW is \$653.20.

To illustrate some challenges in defining participation rates we refer to table 1, where we have 40,652 individuals who have a positive account balance. However, some of these people are not defined as active. One might argue that the participation rate includes all people who have participated as a fraction of current EAW or 53% (40,652/76,438), which is the ratio of anyone with a positive balance relative to the EAW group. If we focus on EAW workers who are eligible for contributions and actively working, the participation rate includes EAWs who have ever had a positive balance relative to all EAWs, or 41.3% (31,573/76,438). We will use this definition of the participation rate for the following results. At the same time, in June 2019, there were 23,503 people contributing to the program. If one were interested in the number of contributing employees in June 2019 as a fraction of EAW, this would produce a contribution participation rate of 30.7% (23,503/76,438). Benchmarking the numbers of participants is difficult relative to prior studies, because we have multiple employers, multiple jobs for some employees, months in which no

¹³ See [pinc_01_3_1_1.xls](https://www.census.gov/data/tables/time-series/demo/income-poverty/cps-pinc/pinc-01.html), which is available at <https://www.census.gov/data/tables/time-series/demo/income-poverty/cps-pinc/pinc-01.html> [downloaded from link under "Worked", "Both Sexes", "All Races"].

contributions are paid, along with our limited ability to discern workers' employment status from our data, especially when people have opted out or set their contribution rates to zero.

Table 2 presents summary statistics for the eligible active workers (EAW) by industry, at the end of June 2019. Consistent with our expectations, the largest industries represented in OregonSaves are food services, which employed 26,787 employees or about one-third of the EAW employees, across 499 employers. In food services, the average participation rate as a fraction of EAW is 46.4%. The next largest industry is healthcare, which employs about 8,860 workers, across 159 employers; the participation rate in healthcare is 43.6%. It is our understanding that a large number of workers in healthcare can best be described as home-health care workers. Business support and retail trade are the next two largest industries in terms of employees; we understand that business support includes a large number of temporary employers, which explains the large number of employees per employer (69.5) and the average number of jobs being among the highest. Agriculture is noteworthy as it has the lowest participation rate (23.6%) and includes workers with the highest average number of jobs (1.2). This category includes many of the employers who hire temporary farm workers. Overall, Table 2 shows us that the firms being served are small, averaging 34.7 employees per firm, having an average participation rate of 41.3% of EAWs.

Table 3 presents program participation rates by industry and firm size. It is important to recall that firms with fewer than 10 people have not yet been required to enroll in the program. As a result, the 72.3% participation rate for firms with 1-4 people almost certainly reflects firms' choosing to enroll early, perhaps due to employee enthusiasm about the program. Across enrollment waves 1-3, the highest participation rates are evident in the largest firms, while the patterns across industry are similar to those observed in Table 2.

Figure 1 presents the geographic distribution of assets accumulated under the OregonSaves program to date, by zip code. Regions on the map that are shaded have at least \$10,000 of assets under management in OregonSaves, and the darkest red areas have up to about \$3.2 million assets under management in that zip code. Not surprisingly, the darkest regions are located in and around the largest cities in Oregon, including Portland, Salem, Eugene, Bend, Roseburg, and Medford/Ashland. Nonetheless it is also worth noting that participation is dispersed throughout the state.

Table 4 presents the distribution of contribution rates relevant to the EAW sample. The default rate of 5% is in force for 22.1% of the eligible active workers, while about 4,000 or 5.3% of the sample has contribution rates of 6%, a large fraction of which can be attributed to the auto-escalation feature of the plan.¹⁴ Of the 76,438 EAW, some 69% had contribution rates of zero, a tally that includes people who had opted out, along with EAWs who later set their deferral rate to zero. Of the remaining employees, it is notable that few have contribution rates other than 0, 5%, and 6%.

Predicting Participation

In Table 5 we present results from multivariate regressions predicting participation in the OregonSaves program. At present we are limited to three sets of characteristics to predict participation: participant age, their employers' industry and number of employees, and estimated average employee earnings for firms having at least one employee contributing to OregonSaves (the latter allows us to estimate an average wage for that firm). We estimate multinomial Logit marginal effects and OLS coefficients for a binary dependent variable equal to 1 if the employee

¹⁴ In January of 2019, workers who had contributed for six months were eligible for autoescalation.

participates, and 0 otherwise. This sample comprises EAWs employed at firms with more than 10 workers, as this group has been mandated to participate in OregonSaves; we also include firms for which we have industry classifications. In robustness analysis, we also estimate focus on the subset of employees having only one job (columns 2-4 and 6-8), a criterion that slightly reduces the sample size.

Column 1 of Table 5 indicates that, relative to the reference age variable (66+), younger workers are more likely to participate, and the point estimates are larger for younger employees. Additionally, people that already have an existing OregonSaves account are also more likely to participate. Column 4 presents the Logit results when industry controls are included and the sample is limited to employees with a single employer. The coefficient estimates for the age variables and the presence of a pre-existing OregonSaves account are similar in size and significance to those in Column 1. The industry coefficients may be interpreted relative to the reference category of wholesale trade. Thus, higher participation rates are seen in the Arts & Entertainment, Business Support, Food Services, Healthcare, Management, Other Services, and Retail Trade sectors. Our OLS estimates in Columns 5-8 are similar both in significance and in magnitude. Columns 3,4,7 and 8 report coefficient estimates on firm size (=number of employees) and monthly employee income: here the results are noteworthy in that prior research has found that firm size is significantly related to participation rates, while in our dataset, we cannot reject the null hypothesis that the coefficients are zero.

Table 6 offers a summary of the reasons people give for opting out of the OregonSaves program. Panel A tallies answers provided by users where they must select one of a set of choices, and here we see that the most common reason given is that people feel they cannot afford to save: 29% of those who opt out offer that explanation. Another 20.6% of those opting out say that they

already have their own retirement plan, and 25% give “other” reasons. Additionally, 14% suggest they are not interested in contributing through their current employer.

Panel B offers additional insights into the more than 5,000 responses given when an employee elected the “other” category indicated in Panel A. The three most prominent rationales for opting out include that fact that they were no longer employed, were not interested, and were already near or in retirement. Other themes included opposition to the government and to auto-enrollment plans, as well as anti-social comments such as “none of your dam business.” Example comments are provided as-is with the exception that curse words have been slightly disguised.

Discussion

Our preliminary analysis has indicated that OregonSaves does provide access to workplace retirement accounts for employees of small to mid-sized firms, with the average participant monthly earnings estimated at about \$2,100. Accordingly, this program is serving a demographic that has not traditionally been served by retirement saving accounts. Employees making contributions in June 2019 contributed an average of \$110, representing approximately 5% of their pay. While the opt out rates in the program are on the order of 35% relative to the total number of employees who entered their 30-day enrollment windows, the participation rates relative to eligible and active workers are approximately 41% using our definitions. We have also outlined challenges in characterizing participation rates, namely defining who the relevant group of potential participants is, and who participates. We offer our definitions with the understanding that these ratios are subjective. The number of participants is much easier to characterize: as of June 2019, approximately 40,000 people have participated in OregonSaves and almost 24,000 made

contributions that month. In the absence of OregonSaves, it is likely that these participants would not have otherwise chosen to begin saving in a retirement account.

By way of comparison, the United Kingdom's National Employment Savings Trust (NEST) program is also an auto-enrollment retirement plans targeted at firms lacking retirement plans. Yet NEST has a significantly longer history relative to OregonSaves: large U.K. firms were required to begin enrolling workers in NEST (or another plan) in October 2012, and there was a staged rollout for smaller firms. A recent analysis of NEST members' behavior by Vanguard (2019, p. 15) reported that between March 2013 and January 2018, "a total of a total of 612,000 employers and over 6 million unique members joined NEST." That program's overall opt-out rate for ongoing enrollments was 6%; opt-out rates were 3% for those younger than age 25 to over 30% for those age 65+; and they stood at 13% for the smallest firms (1-4 employees) rising to 6% for the largest firms (5000+) (NEST Insights 2018).¹⁵ Nevertheless, participation rates were much higher in the U.K. (around 94%), compared to the OregonSaves program (around 40%).

As the present report is preliminary, we leave several important questions for future research. First, we will investigate whether OregonSaves participants use the first \$1,000, allocated to the Capital Preservation Fund, as a form of rainy-day account to cover unexpected expenses. To address this question, we will analyze the timing and magnitude of withdrawals from OregonSaves accounts, including the link between job turnover and partial withdrawals. Second, we seek to investigate whether participation in OregonSaves helps improve household balance sheets. Beshears et al. (2019) used administrative information linked to credit bureau data to study

¹⁵ Cribb and Emmerson (2019) summarize two studies on auto-enrollment in the United Kingdom. Similar to Madrian and Shea (2001), they find larger effects of auto-enrollment on the participation rates of younger and lower-income employees. They also find a positive correlation between firm size and participation rates. They conclude that the U.K. reform "substantially increased participation rates—to about 90 percent at medium and large employers and 70 percent at small employers" (which they define as having 2-29 employees).

whether automatic enrollment of federal civilian employees into the Thrift Savings Plan was associated with greater debt. If we are able to link credit bureau data (while retaining anonymity of the individual records), we will study the effect of OregonSaves participation on the borrowing levels and credit scores of participants with different earnings and/or in different industries. We will start by comparing OregonSaves participants (or eligible employees) to a matched sample of Oregonians not covered by the program. We will also exploit any variation in opt out rates between large and small firms within the same industry, under the assumption that this variation is more likely to reflect differences in the intensity of firm-level outreach and education, rather than within-industry variation in employee preferences.

Another important question is whether participation in OregonSaves boosts workers' total retirement savings. To answer this question, we will exploit longitudinal survey data on the level of retirement assets outside of OregonSaves. And, in the longer-term, we would like to evaluate whether and to what extent OregonSaves reduces workers' reliance on other social welfare programs, along the lines of Bernheim et al. (2015).¹⁶

Finally, in the introduction we suggested three reasons that an auto enrollment plan may or may not work. Currently, we can offer observations but only interim conclusions. With respect to 1) Not enough money to save: we find substantial evidence that this is a common reason given by approximately 30% of the people who opt out of OregonSaves. With respect to 2) Replacement rates from Social Security will be closer to current income: we observe that income for the contributors in our sample are on the order of \$2,000 per month. As a result, Social Security payments will very likely represent a larger proportion of \$2,000, than they will compared to

¹⁶ Several consulting firms have proposed that state-run retirement plans will save future taxpayers money, insofar as low-earning workers may become more self-sufficient in retirement and not require means-tested benefits; see Segal Consulting (2017) for instance.

average workers' retirement incomes. With respect to 3) Search costs deter enrollments: we do find that participants land on the default deferment rate of 5% with the highest frequency when we observe a positive contribution. Overall, the rate of 0% is most common and applies to those with an explicit rate of 0% and those that opt out. This suggests that participants who desire a retirement plan, benefit from the lower search costs embedded in the OregonSaves default structures. Nevertheless, it is also encouraging to see that many potential participants are able and willing to make a choice not to participate, while others contribute above the default rate. These facts suggest that reducing search costs while allowing a sufficiently clear path to opting out has the potential to generate a larger social benefit. In other words, OregonSaves is reducing the costs of building retirement saving for those that wish to save, but it also allows those who do not wish to save the opportunity to avoid participation.

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Table 1: Summary statistics on individuals in OregonSaves, June 2019*Panel A: All individuals with identifying information transmitted to OregonSaves by Employer*

	N	Percent (%)
Total unique individuals entered by employers	171,243	100.0
Immediate opted-out individuals	41,757	24.4
Delayed opted-out individuals	21,600	12.6
Pending individuals	29,332	17.1
Enrolled individuals w/o payroll info	12,630	7.4
Enrolled individuals with payroll info	65,924	38.5

Panel B: Eligible active workers (EAW): Eligible for contributions from at least 1 ER & actively working at the same ER(s).

	N	Percent (%)	\$
Total eligible active workers (EAW)	76,438	100.0	
Immediate opted-out workers	27,743	36.3	
Delayed opted-out workers	17,122	22.4	
EAWs with no balance	6,793	8.9	
Suspended contributors	1,277	1.7	
Contributors	23,503	30.7	
Average monthly contributions if > 0, June 2019 (1)			110.0
Average Monthly Income			2,182.4

Panel C: All individuals with a positive balance

	N	\$
All individuals with a positive balance	40,652	
Opted-out individuals with a positive balance	3,409	
Participating individuals with a positive balance	37,243	
Average balance if positive		558.8
Total assets		22.7 mm

Panel D: Eligible active workers (EAW) with a positive balance

	N	\$
EAWs with a positive balance	28,083	
Opted-out EAWs with a positive balance	3,303	
Participating EAWs with a positive balance	24,780	
Average balance if positive		653.2

Notes: Data from anonymized administrative records as of June 29, 2019. Eligible active workers (EAW, N=76,438) are individuals who were eligible for contributions through at least one employer and we infer are actively working at the same employer(s). Individuals who are eligible for contributions satisfy all of the following conditions: (a) individuals have passed the background check, (b) have passed the 30-day enrollment window through the same employer(s), (c) the same employer(s) have provided payroll for at least one employee at the firm. The EAW includes workers that have opted out or have been enrolled in the program. (1) 24,386 individuals (active and inactive) made a nonzero monthly contribution in June 2019. Median monthly contribution is \$87.50.

Table 2: Summary statistics on firms employing eligible active workers, June 2019

	Number of Employers	Average firm size (N. active EEs)	N. Eligible Active Workers	Average participation Rate (%) (1)	Avg Num Jobs
Agriculture	88	36.6	3,856	23.6	1.2
Arts/Entertainment	58	28.7	2,187	43.4	1.1
Business Support	89	69.5	7,901	39.1	1.1
Construction	96	17.7	2,153	37.9	1.0
Education	48	24.4	1,499	41.2	1.1
Finance and Insurance	2	2.0	4	50.0	1.0
Food Services	499	37.8	26,787	46.4	1.1
Health Care	159	40.2	8,860	43.6	1.0
Information	17	13.4	284	38.7	1.0
Management	5	45.4	153	58.2	1.0
Manufacturing	132	34.7	5,389	38.5	1.0
Other Services	101	26.0	3,080	42.1	1.0
Professional/Scientific	48	30.2	1,503	31.7	1.0
Real Estate	38	21.4	867	34.3	1.0
Retail Trade	172	28.5	6,773	37.3	1.0
Transportation/Storage	30	26.1	1,209	34.7	1.0
Wholesale Trade	32	40.3	1,330	28.0	1.0
Not specified	53	33.6	2,603	46.9	1.1
Total (2)	1,667	34.7	76,438	41.3	1.1

Notes: (1) Average participation rate in each industry equals the number of eligible active participants (EAW with no balance + EAW suspended contributors + EAW contributors) / the number of eligible active workers in each industry. (2) 4,970 employers have registered their business in OregonSaves. Median firm size is 16. Mean firm size is 31. 1,667 firms have at least 1 eligible active workers.

Table 3: Average participation rates by firm size and industry (%)

<i>Industry</i> / <i>Firm size</i>	100+	50-99	20-49	10-19	5-9	1-4	All
Agriculture	16.1	22.4	27.3	31.2	46.4	82.4	23.6
Arts/Entertainment	46.5	45.8	43.2	32.5	50.6	70.8	43.4
Business Support	42.1	26.8	32.8	39.7	44.1	70.3	39.1
Construction	45.2	20.9	34.7	47.9	45.1	71.8	37.9
Education	45.8	43.5	39.1	41.9	37.1	55.6	41.2
Finance and Insurance						50.0	50.0
Food Services	49.0	41.2	44.1	48.1	54.4	68.6	46.4
Health Care	48.4	36.7	42.8	37.8	52.3	75.0	43.6
Information		39.7	34.3	43.5	20.0	53.3	38.7
Management	61.4		50.0		40.0	25.0	58.2
Manufacturing	43.4	33.2	35.6	35.2	38.5	74.4	38.5
Other Services	48.9	38.4	40.2	37.5	43.7	85.3	42.1
Professional/Scientific	25.5	31.2	27.8	38.7	46.2	74.1	31.7
Real Estate	23.1	44.9	30.8	23.8	61.4	75.0	34.3
Retail Trade	35.6	39.8	33.9	37.9	57.9	79.0	37.3
Transportation/Storage	28.1	38.3	28.7	50.8	35.5	71.4	34.7
Wholesale Trade	43.2	13.5	20.8	26.7	58.1	0.0	28.0
Not specified	48.9	38.5	46.7	45.7	71.0	75.0	46.9
Total	43.8	36.9	38.7	41.4	50.0	72.3	41.3

Note: The average participation rate equals the number of eligible active participants (EAW with no balance + EAW suspended contributors + EAW contributors) / the number of eligible active workers in each industry and each firm size category.

Table 4: Contribution rate distribution for eligible active workers (EAW), June 2019

Contribution Rate (%)	N. EAW	Percentage of EAW (%)
0	52,852	69.1
1	512	0.7
2	546	0.7
3	824	1.1
4	181	0.2
5	16,875	22.1
6	4,038	5.3
7	80	0.1
8	90	0.1
9	14	0.0
10	332	0.4
>10	94	0.1
N	76,438	100

Note: The contribution rate refers to the average contribution rate of all current employees where the employees are eligible and active workers. These include employees who have opted out in the zero contribution rate bin if they are EAW.

Table 5. Regressions of participation by eligible active workers (EAW), June 2019

	Participation decision (=1 if participating, =0 not)							
	Marginal Logit effects				OLS coefficient estimates			
	<i>all EAW</i>	<i>EAW working for 1 ER</i>			<i>all EAW</i>	<i>EAW working for 1 ER</i>		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
Age 18-25	0.22*** (0.02)	0.22*** (0.02)	0.22*** (0.02)	0.19*** (0.02)	0.21*** (0.01)	0.20*** (0.01)	0.20*** (0.01)	0.18*** (0.01)
Age 26-45	0.20*** (0.02)	0.19*** (0.02)	0.20*** (0.02)	0.18*** (0.02)	0.18*** (0.01)	0.18*** (0.01)	0.18*** (0.01)	0.17*** (0.01)
Age 46-65	0.15*** (0.02)	0.15*** (0.02)	0.15*** (0.02)	0.15*** (0.02)	0.13*** (0.01)	0.13*** (0.01)	0.14*** (0.01)	0.13*** (0.01)
Working >1 ER	0.18*** (0.01)				0.18*** (0.01)			
Had OS account prior to current ER(s)	4.38*** (0.07)	4.45*** (0.04)	4.26*** (0.03)	4.44*** (0.23)	0.59*** (0.01)	0.60*** (0.01)	0.59*** (0.01)	0.60*** (0.01)
Ln (firm-level monthly income)			-0.00 (0.01)	0.02 (0.01)			-0.00 (0.01)	0.02 (0.01)
Ln (firm size)			0.01 (0.01)	0.01 (0.01)			0.01 (0.01)	0.01 (0.01)
Agriculture				-0.04 (0.06)				-0.04 (0.06)
Arts & Entertainment				0.16*** (0.05)				0.16*** (0.05)
Business Support				0.10* (0.06)				0.10* (0.06)
Construction				0.10* (0.06)				0.10* (0.06)
Education				0.16*** (0.05)				0.16*** (0.05)
Food Services				0.17*** (0.05)				0.17*** (0.05)
Health Care				0.16*** (0.05)				0.16*** (0.05)
Information				0.13** (0.06)				0.13** (0.06)
Management				0.29*** (0.05)				0.29*** (0.05)
Manufacturing				0.10* (0.05)				0.10* (0.05)
Other Services				0.15*** (0.05)				0.15*** (0.05)
Professional & Scientific				0.02 (0.06)				0.02 (0.06)
Real Estate				0.07 (0.06)				0.07 (0.06)
Retail Trade				0.10** (0.05)				0.10** (0.05)
Transportation & Storage				0.07 (0.06)				0.08 (0.06)
Intercept					0.22*** (0.01)	0.22*** (0.01)	0.20** (0.10)	-0.11 (0.11)
N	71,335	68,258	66,808	66,808	71,335	68,258	66,808	66,808
R-squared/Pseudo R-squared	0.042	0.038	0.037	0.046	0.048	0.043	0.041	0.053
Mean of Dep Var.	0.41	0.4	0.40	0.40	0.41	0.4	0.40	0.40
SD of Dep Var.	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49

Note: Sample includes eligible active workers (EAW) at firms with ≥ 10 EEs and nonmissing industry. Reference categories for (1) - (8): Age 66+, first-time access to OregonSaves thru current ER(s), wholesale trade (industry ref), and working for 1 ER (only columns 1 and 5). Standard errors in parentheses, clustered by firm. Coefficient significant at * $p < 0.1$, ** $p < 0.05$ *** $p < 0.01$.

Table 6: Why some employees say they opted out
A. Reasons for opting out provided by EAW, June 2019

	N	Percent (%)
I can't afford to save at this time	13,142	29.3
I don't qualify for a Roth IRA due to my income	214	0.5
I don't trust the financial markets	1,230	2.7
I have my own retirement plan	9,236	20.6
I would prefer a Traditional IRA	488	1.1
I'm not interested in contributing through this employer	6,468	14.4
I'm not satisfied with the investment options	773	1.7
Other	11,269	25.1
Did not specify	2,045	4.6
Total	44,865	100.0

Note: Opted-out workers (N=44,865) include eligible active workers who opted out during the first 30-day enrollment window through all employers (immediate opted-out workers, N=27,743) and those who opted out anytime through all employers (delayed opted-out workers, N=17,122).

B. Sample explanations of "Other" reasons employees opted out

Characterization of Responses	% of Other	Verbatim quote
Left Employment	Large	Quit Job
Not Interested	Large	Nunca
Retiring Soon or Already	Large	85 Years Old
Anti Government	Nonzero	Babylon is falling. One Love. One Heart. What was built on the sand will not stand.
Anti Opt Out Plan	Nonzero	Because you have no g*#\$*am right to automatically sign me up for this bulls***.
Anti-Social	Nonzero	not your dam buisness
Confused by plan	Nonzero	Because I dont want the government's ROTH IRA. Its going to be terrible compared to what I could get for the price with another competitor.
Fees are too high	Nonzero	1.01% return on my money. but a 1% yearly fee....no thanks

A few other comments: (verbatim)

I will be investing MY hard earned money where ever I choose to.

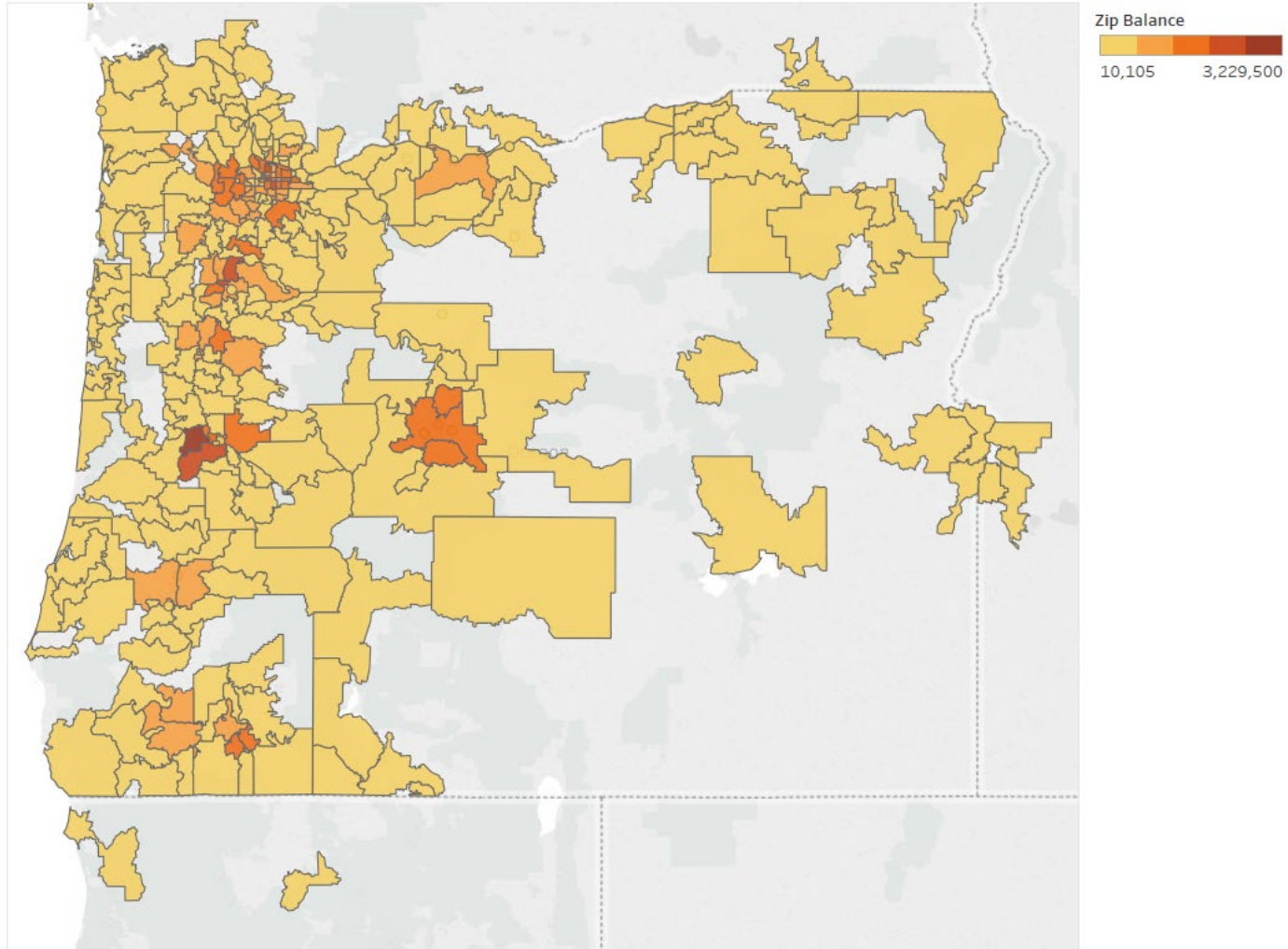
Any state agency that oveses a pension fund that is (sic) \$25.3 B of unfunded liability will never ever be responsible for my retirement plan.

Name spelled incorrectly! I do not wish to participate in anything.

No reason to charge the 1% fee as a penalty for not finding a better broker.

Figure 1: Total OregonSaves participant assets by employee zip code, June 2019

Sheet 1



Map based on Longitude (generated) and Latitude (generated). Color shows sum of Zip Balance. Details are shown for Ee Zip. The view is filtered on sum of Zip Balance, which ranges from 10,000 to 3,229,500.