CENTER *for* RETIREMENT RESEARCH *at* BOSTON COLLEGE

Feasibility Study: Oregon Retirement Savings Plan

August 2016

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Executive Summary

The Oregon Retirement Savings Plan (ORSP) will require employers who offer no retirement plan to automatically enroll their employees in a Roth IRA. For ORSP to succeed, it has to be financially self-sufficient. The following analysis shows that ORSP will be cash-flow positive (annual revenue will be equal to annual operating costs) within four years and net positive (revenue will cover both start-up and operating costs) in seven years. These results are based on a set of initial assumptions for program design and participant behavior, and include annual fees of 1.2 percent (or 120 basis points) on asset balances. Once start-up costs are paid back, fees can be greatly reduced to as low as 30-50 basis points. These results hold under a variety of scenarios, but the number of years needed to break even would go up if the state chooses a default contribution rate that is below 5 percent, account maintenance costs are higher than expected, or initial fees are set too low. Appendix A contains a range of outcomes based on alternative assumptions. Program costs are based on discussions with Bridgepoint/Segal, other state feasibility studies, international experience, costs faced by existing IRA providers, and discussions with the ORSP Board.

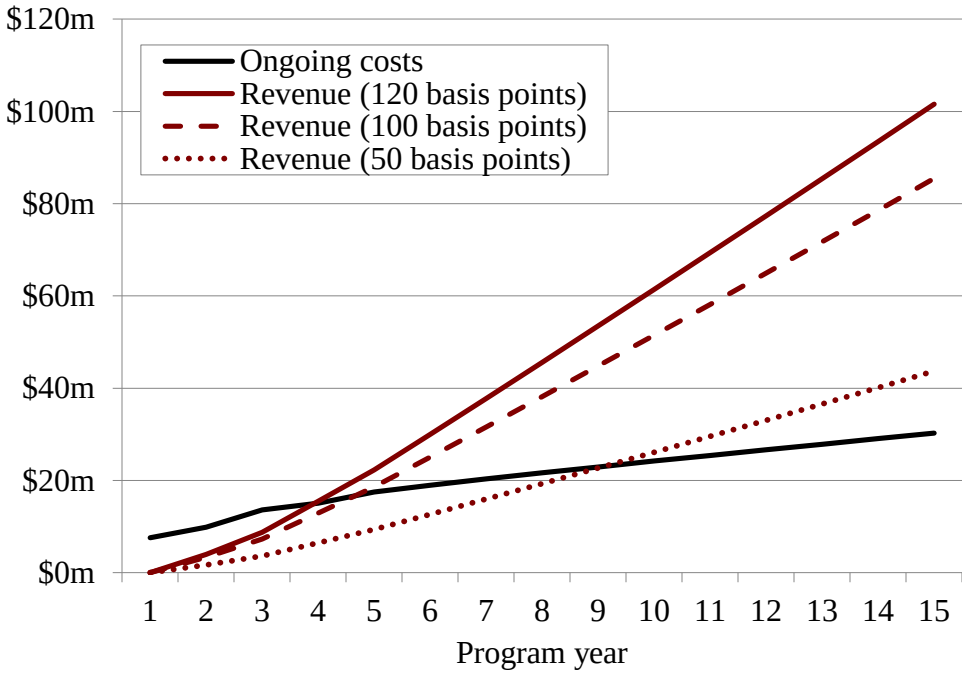
The initial assumptions regarding program design are threefold. First, the default contribution rate is 5 percent, with auto-escalation to 10 percent. Second, contributions are invested in a blended target date fund. Third, employers without a plan are enrolled in a staggered manner: Year 1, employers with 50+ employees; Year 2, employers with 10+ employees and a payroll provider; Year 3, all employers with 5 or more employees; and Year 5, employers with fewer than 5 employees.

This feasibility study first identifies the number of years that it takes the program, under the initial assumptions, to become cash-flow positive and net positive, and the maximum size of the deficit during the initial years. These results will inform the required length of a contract to attract bids from recordkeepers or, alternatively, the size of a loan that ORSP might need to cover short-term losses. The study then assesses how sensitive the program's financial performance is to changes in the underlying assumptions.

Under the program design laid out above, with revenues generated from asset management fees of 120 basis points, the program becomes cash-flow positive in Year 4. As noted, in the long run, costs as a share of assets will likely fall below 50 basis points, so the program can charge lower

fees in the longer term. These results are depicted in Figure 1, which shows program costs and revenues, with revenues estimated under three alternative fee levels: 120, 100, and 50 basis points. Clearly, higher fees cause the program to break even earlier, but – even under the lowest fee – the program is cash flow positive in Year 10.

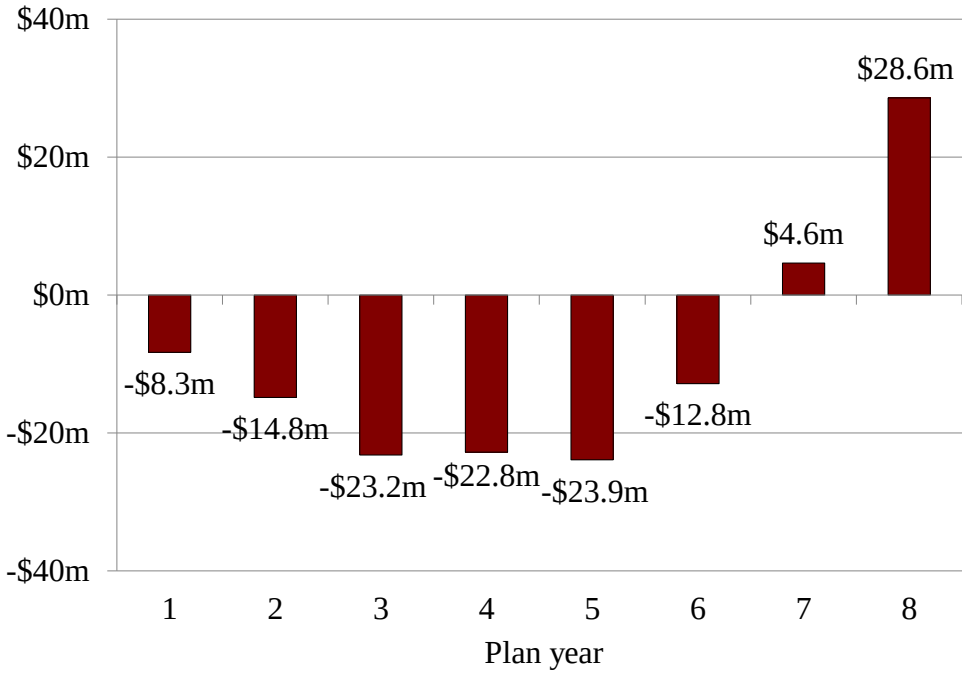
Figure 1. *Estimated Ongoing Revenue and Costs of ORSP Under Initial Scenario, in Millions*



Source: Center for Retirement Research at Boston College (CRR) calculations.

Figure 2 adds start-up costs to the analysis. It shows the program's cumulative deficit from both the ongoing costs and the fixed start-up costs, under the initial assumption of a 120-basis-point fee. Under these assumptions, the program runs up a deficit of $23.9 million by Year 5 and then begins running surpluses and paying the deficit down. The deficit is completely paid off by Year 7. This finding suggests three strategies for managing the start-up years of the program. The first alternative is to offer a recordkeeper a seven-year contract, which will allow it to use surpluses in later years to eliminate any losses in the early years. The second option is for ORSP to take out a loan to cover some of these upfront costs. ORSP could also combine these two approaches.

Figure 2. *Running ORSP Program Net Profits, in Millions, Assuming Fees of 120 Basis Points*



Note: The loss increases slightly from Year 4 to Year 5, despite ongoing costs being covered, because of the enrollment of employers with fewer than 5 employees at a per-employer cost of $200.
Source: CRR calculations.

Of course, these results could be sensitive to the underlying assumptions. The analysis shows that the program is particularly vulnerable if either: 1) contribution rates are below 5 percent, or 2) per-account costs are higher than expected. A fixed contribution rate of 3 percent increases the number of the years for the program to become cash flow positive by three years and net positive by five years. Increasing per-account costs by $10 – from $30 to $40 – has a slightly smaller effect, with an increase of one year for cash flow positive and two years for net positive. However, the program is not especially vulnerable to lower asset returns, higher-than-anticipated account leakages, or higher rates of account closures as workers change jobs. In other words, early program revenues are driven primarily by contributions and by early costs, primarily costs per account.

Detailed Feasibility Study

Introduction

This study will evaluate the financial feasibility of the Oregon Retirement Savings Plan (ORSP) using two metrics. The first metric is the time it takes for the program to become cash positive or "self-sufficient," i.e., for the fee revenue generated by account balances to exceed the costs of creating and maintaining the accounts. The second metric is the time needed for the program to become net positive, i.e., to generate enough revenue in excess of costs to pay back the cost of starting up the program. This second metric will depend on the magnitude of the start-up costs and how start-up costs are financed – one option is to give an outside vendor a long enough contract to recoup any start-up costs and initial losses; a second option is for the ORSP to take out a loan to finance these losses, with ORSP being paid back out of program revenue. In either case, it is critical to that the program generates revenue in excess of operating costs within a short period of time, with reasonable fees, and without accumulating large losses. This study will evaluate whether the ORSP is likely to meet these goals.

Program and plan design can affect projections of costs and revenue; thus, the majority of this study presents results under an initial program design and using a set of additional assumptions on worker behavior. Under this initial design, employers who offer no retirement plan are required to automatically enroll their employees in a Roth IRA at a default contribution rate of 5 percent with auto-escalation over time to 10 percent. The initial scenario assumes that all employers without a plan will be enrolled, but in a staggered manner: in Year 1, employers with 50+ employees will be enrolled; in Year 2, employers with 10+ employees and a payroll provider; in Year 3, employers with 5 or more employees; and in Year 5 employers with fewer than 5 employees. The study initially assumes account holders' money is invested in a blended target date fund.

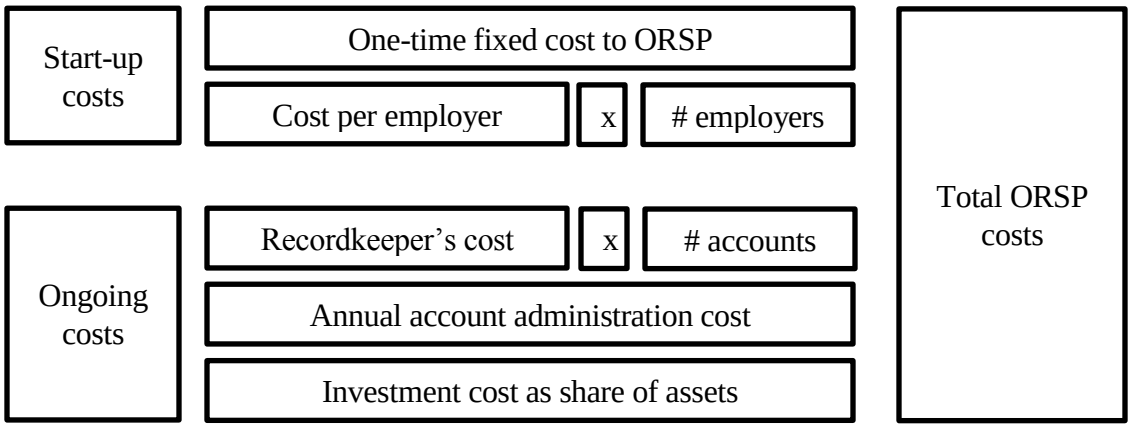
The study makes several other assumptions, including population growth, worker participation, worker mobility, and withdrawals. Perhaps the most important of these is that the majority of workers participate in the program – our Market Research Report suggests 79 percent of full-time and 76 percent of part-time workers will participate. The justifications for all of these assumptions are discussed in detail in the Appendix B to this report. Because the final program design has not been determined and because any one assumption may differ once the program is implemented, the study will also present analyses to test the sensitivity of our results to changes in participation, costs, account closures, and other assumptions that may affect program outcomes.

This study is organized as follows. The first section estimates the start-up and ongoing costs of the ORSP. The second section estimates program revenue, which is ultimately collected as a fraction of total account balances and which, in turn, depends on eligible worker participation, the contribution rate, asset returns, and account withdrawals. The third section projects how costs and revenue will interact to determine when the program becomes self-sufficient and when any initial losses will be covered, as well as how these losses might be financed. The fourth section provides insight into how alternative program designs and economic assumptions might affect estimates of costs, revenue, and the time needed to break even. The final section concludes that, under the initial assumptions for program design, revenue will equal operating costs within the first four years, and that the start-up costs and operating losses over this time period would be less than $24 million, a sum that could be paid back by Year 7 with program fees of 120 basis points.

Program Costs

ORSP's costs fall into two broad categories: 1) the start-up costs associated with creating the program and bringing on employers; and 2) the ongoing administrative costs associated with maintaining accounts, serving participants, and managing investments. Figure 1 illustrates these costs schematically, highlighting two drivers of start-up costs: 1) the number of employers that must be brought into ORSP; and 2) the number of accounts that must be administered.

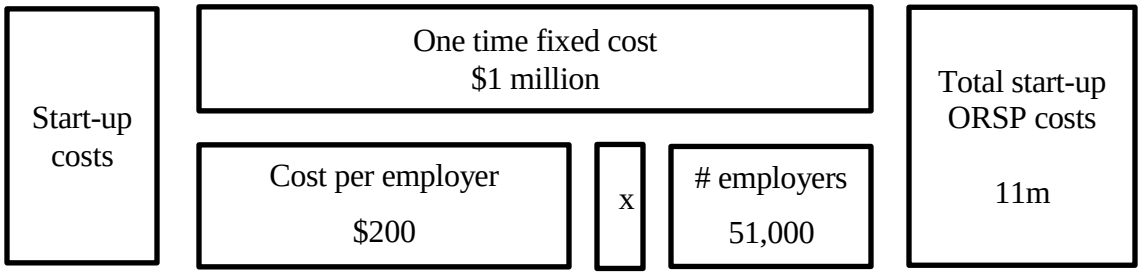
Figure 1. *ORSP Costs*



Start-up Costs

Start-up costs reflect two realities: 1) presently, an auto-IRA program like the ORSP does not exist; and 2) one of third-party recordkeepers' biggest costs is connecting to individual employers. The first fact means that an initial fixed cost of developing the program's required infrastructure will need to be paid by the ORSP or borne by a recordkeeper. Based on information from other state auto-IRA studies, as well as consultations with the ORSP Board, the fixed cost of developing the infrastructure to run the program was assumed to $993,000. The second fact means that an additional charge must be anticipated by the recordkeeper to enroll each employer. After consultation with Segal/Bridgepoint, the study assumes a cost of $200 per employer to reflect the average cost of bringing on new employers.[1] Because some of the more than 64,000 employers described in the Market Research Report who may be affected by the ORSP may choose to offer a private sector plan, the study assumes only 80 percent of eligible employers end up participating (which is projected to translate to 20 percent of eligible employees). These assumptions yield a start-up cost estimate of over $11 million – $1 million in fixed costs and $10 million to enroll the 51,000 employers affected by the program who do not switch over to a private sector plan.[2] Figure 1A updates Figure 1 to include these start-up costs.

Figure 1A. *Summary of Start-up Costs*



Ongoing Costs

The next driver of overall cost is the per-account administration cost, which the recordkeeper charges to keep track of account funds, provide statements, cover call centers, and

[1] Onboarding an employer involves getting information from an employer to a recordkeeper to auto-enroll workers and set-up accounts, and also setting up an interface between an employer's payroll system and the recordkeeping platform to process ongoing payroll deductions.

[2] The start-up costs associated with connecting employers to ORSP is paid over the first five years of the program, as it is rolled out to more employers.

maintain the program's website for account holders. The administration cost also covers transaction costs associated with money coming into the program and money going out of the program through distributions. After consultation with Segal/Bridgepoint on the operating model being considered, this report assumes a per-account cost of $30 per year.

The contribution of account administrative costs to ORSP's total costs largely depends on the number of accounts. In this study, two types of accounts exist: active and inactive. In active accounts, an individual is employed at an employer without a plan and is contributing to the plan. Inactive accounts are maintained by someone who is not employed at an eligible employer but who has not closed out their account. Given the initial scenario, the number of active accounts is presented in Table 1.[3]

Table 1. *Number of Active Full- and Part-time Participants in the ORSP*

	Year 3	Year 5	Year 10	Year 15
Full-time	265,000	297,000	304,000	312,000
Part-time	74,000	83,000	85,000	87,000
Total	**349,000**	**380,000**	**389,000**	**399,000**

Source: CRR calculations.

Inactive accounts are assumed to come from two types of employees who exit the program and do not close their accounts: 1) workers who become unemployed; and 2) workers who switch to an employer that offers a retirement plan. The rates at which individuals transition from active to unemployed and from active to ineligible are based on the *Survey of Income and Program Participation* (SIPP) and described in detail in Appendix B; the basic assumption is that each year, 85 percent of active accounts remain active, while 9 percent become inactive.[4] The number of inactive full- and part-time accounts is shown in Table 2.

[3] For a more detailed description of how these estimates were obtained, see Appendix B.

[4] The remaining 6 percent of accounts close, which is discussed in more detail in the revenue section of this report. Once inactive, some workers do reenter the program. Each year, 5 percent of inactive workers in the covered sector are assumed to return to eligibility, and workers who become unemployed are assumed to reenter the program the next year. For more details, see Appendix B.

Table 2. *Number of Inactive Full- and Part-time Participants in the ORSP*

	Year 3	Year 5	Year 10	Year 15
Full-time	24,000	47,000	83,000	100,000
Part-time	10,000	19,000	30,000	35,000
Total	**34,000**	**66,000**	**113,000**	**135,000**

Source: CRR calculations.

Combining Tables 1 and 2 and assuming the $30 per-account administrative cost allows the calculation of total account administrative costs, as shown in Table 3. Because these administrative costs are sensitive to several assumptions made so far, Box 1 highlights how costs would change under alternative assumptions.

Table 3. *Annual Account Administrative Costs*

	Year 3	Year 5	Year 10	Year 15
Active accounts	349,000	380,000	389,000	399,000
Inactive accounts	34,000	66,000	113,000	135,000
Total accounts	**383,000**	**446,000**	**502,000**	**534,000**
x cost per	$30	$30	$30	$30
Account admin. costs	**$11.5m**	**$13.4m**	**$15.1m**	**$16.0m**

Source: CRR calculations and discussions with Segal/Bridgepoint.

Box 1. *Account Administrative Costs under Alternative Assumptions*

Because administrative costs are driven by the number of accounts, costs are lower with fewer accounts. For example, assume that participation is 50 percent, and 50 percent of workers exiting the program close their accounts (the initial case is 75-80 percent participating and 20 percent closing accounts). In this case, by program Year 15, there would be 308,000 accounts resulting in account administrative costs of $9.2 million, as opposed to $16 million under the initial scenario. Of course, these assumptions also reduce program assets substantially (see Box 2).

Should per-account costs increase from $30 to $40, administrative costs would increase substantially by Year 15, to $21.4 million, demonstrating the importance of the per-account cost.

In addition to the yearly cost per account, other yearly costs include general operating costs such as program governance, the costs of communicating with employers and employees across Oregon, and staffing. Unlike the per-account costs, these costs are not assumed to be a function of

the number of accounts and remain roughly constant over the life of the program.[5] Table 4 shows the assumed costs associated with the state's administrative operations after consultation with the ORSP. In addition to the cost per-account, the ORSP will cost roughly $1.3 million dollars per year to run.

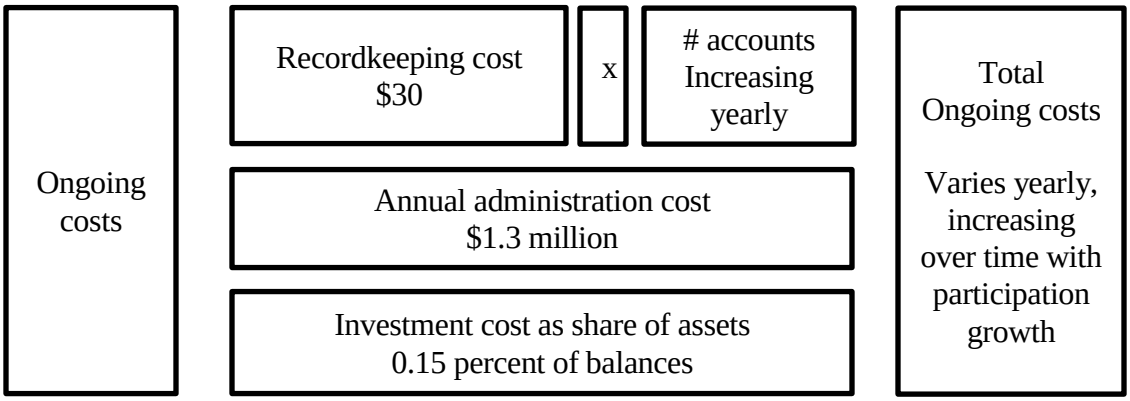
Table 4. *Yearly Program Administration Costs*

Administrative task	Yearly cost
Governance	$250,000
Communication/publications	$550,000
Staff	$500,000
Total	**$1,300,000**

Source: CRR discussions with ORSP.

The final type of cost associated with the program is the fee for investment management. This cost is simply a fraction of participants' total account assets under management. Because it is assumed the ORSP will have investment options with limited management (such as an Index Fund or a Target Date Fund), these costs are assumed to be relatively low, at 15 basis points. Figure 1B fills in the ongoing costs portion of Figure 1.

Figure 1B. *Summary of Ongoing Costs*



Figures 1A and 1B summarize the total costs of the ORSP. These costs are high initially due to fixed costs but also contain a component that increases over time with the number of

[5] In practice, we assume that the cost of governance and communication grows 1 percent faster than inflation and cost of staffing at 2 percent faster than inflation over the course of the program.

accounts. Thus, to be feasible, the ORSP must quickly generate revenue to cover its fixed costs and ultimately have higher balances per account so that the $30 fee does not represent a prohibitive cost for participation. The next section will discuss whether these conditions are likely to be met.

Program Revenue

The feasibility of the ORSP largely comes down to the program's ability to have revenue exceed ongoing costs in a relatively short amount of time. After this "break-even" point is reached, the program can pay back the start-up costs highlighted above, along with any losses incurred during the initial period when ongoing costs exceed revenue. This portion of the study estimates revenue generated by the program, given the initial assumptions laid out above and those in Appendix B. Since fees are estimated as a percentage of these assets under management, this section analyzes several drivers of these assets: 1) how much money is contributed to the program each year; 2) how much money exits the program through participant withdrawals and account closures; and 3) how much assets grow through investment returns. The section closes by describing how account balances accumulate over time.

Contributions to the Program

Contributions are generated by the active accounts laid out in Table 1 above. The total dollar amount of the contributions depends on two factors: 1) the contribution rate of each participant; and 2) the average participant's income. The initial scenario assumes participants are enrolled at a contribution rate of 5 percent, with auto-escalation to 10 percent over their first five years in the program.[6] To determine the contribution amount, the contribution rate is applied to the average income of full- and part-time workers in Oregon (based on the *Current Population Survey*) – $40,000 for full-time workers and $15,000 for part-time workers.[7] Given the number of active accounts, the contribution rate, and the average wage, Table 5 shows the projected contributions to the program by full- and part-time workers in various program years.

[6] This feature does not mean that the overall average contribution rate increases from 5 to 10 over the first five years of the program. Since new workers are always entering and some old accounts close, the average contribution rate never reaches 10 percent. For example, even by Year 10 of the program the average contribution rate is assumed to be just 7.3 percent. Alternative scenarios are presented later in the report with a fixed contribution rate.

[7] These are participation weighted averages by age, reflecting the fact that older workers have higher wages but are also more likely to opt out. If the wage were calculated as a simple average, it would be higher.

Table 5. *Estimated Annual Contributions to the ORSP*

	Year 3	Year 5	Year 10	Year 15
Full-time	$577.3m	$706.8m	$875.6m	$1,052.4m
Part-time	61.6m	75.5m	93.5m	112.4m
Total	**638.9m**	**782.3m**	**969.1m**	**1,164.8m**

Source: CRR calculations.

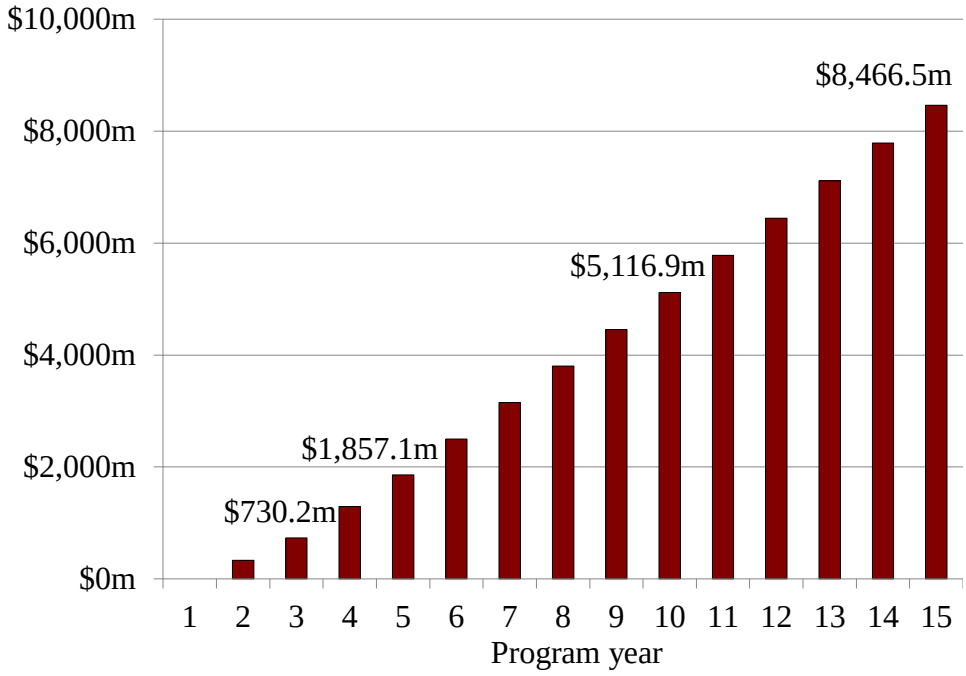
Account Withdrawals and Growth

Once contributed to an account, money can exit the plan in one of two ways: 1) through in-service withdrawals that occur even when a participant is not closing his/her account; or 2) through an account closure (cash-out). In-service leakages typically average around 1 percent in 401(k) plans and that rate is assumed here.[8] However, account closures are likely to be more frequent in the ORSP than in 401(k)s, because workers covered by the ORSP are more mobile than 401(k) participants and are more likely to become unemployed. This study assumes that 20 percent of workers entering unemployment or exiting ORSP-covered work (by switching to an employer who offers a retirement plan) close their ORSP account. Additionally, the study assumes any worker retiring or moving out of Oregon also closes their account. Estimates of the rate at which these events occur is provided in Appendix B, but the net result is that in any given year, 6 percent of ORSP accounts are likely to close.[9]

Regarding investment returns, the study initially assumes that money in the plan is invested in a blended fund with an average rate of return of 5 percent annually. The study also assumes an initial fee level of 120 basis points, so that the net-of-fees return is 3.8 percent.[10] Figure 2 shows how assets are estimated to accumulate over time in the ORSP under these assumptions regarding contributions, leakages, and investment returns.

[8] Sensitivity to this assumption is tested later in the study.
[9] The study assumes that accounts that close have balances equal to the average of all accounts. Because larger accounts are less likely to close than smaller ones, this assumption likely overstates losses due to closures.
[10] As discussed below, the initial fee level of 120 basis points is higher than is needed to cover costs in the long run. Alternative assumptions on the rate of return are also shown below.

Figure 2. *Estimated Total Assets under Management in ORSP, in Millions*



Source: CRR calculations.

Figure 2 illustrates that assets grow quickly as the program rolls out, with almost linear growth occurring thereafter. The next section highlights how the revenue generated by these assets interacts with the costs described earlier to determine the program's break-even point as well as the highest initial loss accrued by the program. Box 2 discusses how these assets change under the assumptions in Box 1, as well as under alternative assumptions of 3- and 5-percent contribution rates, higher in-service leakages, or lower investment returns.

Box 2. *ORSP Assets under Alternative Program Design and Economic Assumptions*

In Box 1, fewer participants (a 50-percent participation rate) and more account closures (a 50-percent closure rate) lead to fewer accounts and lower costs. But these assumptions also lead to lower asset levels. Under these assumptions, in Year 15 of the program there would be $4,478 million dollars in ORSP accounts from $8,446 under the initial scenario.

Other assumptions are important for asset accumulation as well. If the contribution rate is 5 percent but without automatic escalation, assets in Year 15 are reduced to $6,693 million from $8,446 million under the initial scenario. Dropping the rate to 3 percent (without escalation) assets fall to $4,067 million in Year 15.[11]

Assuming in-service leakages are 4 percent instead of 1 percent has a marginal effect on asset accumulation, reducing them to $7,041 million by Year 15 instead of $8,446 under the initial scenario. Finally, assuming a return of 1 percent (-0.2 percent net of fees) reduces assets by a similar amount, to $7,086 million in Year 15.

ORSP Finances

Front-loaded costs and back-loaded revenue pose a financing challenge for the ORSP. Given that the ORSP has the desire not to set fees too high for the early participants, the program may be financed by: 1) offering a long enough contract that the vendor ultimately makes a profit; 2) taking out a loan on some of the initial losses to be paid back through program fees; or 3) through some combination of the first two options. Understanding how long it takes to cover ongoing costs and the size of the largest deficit (amount needed to finance) will help the program make several decisions, including: 1) how much to self-finance versus finance through a long contract period; 2) how much to smooth asset fees over time; and 3) which employers to roll out the program to first.

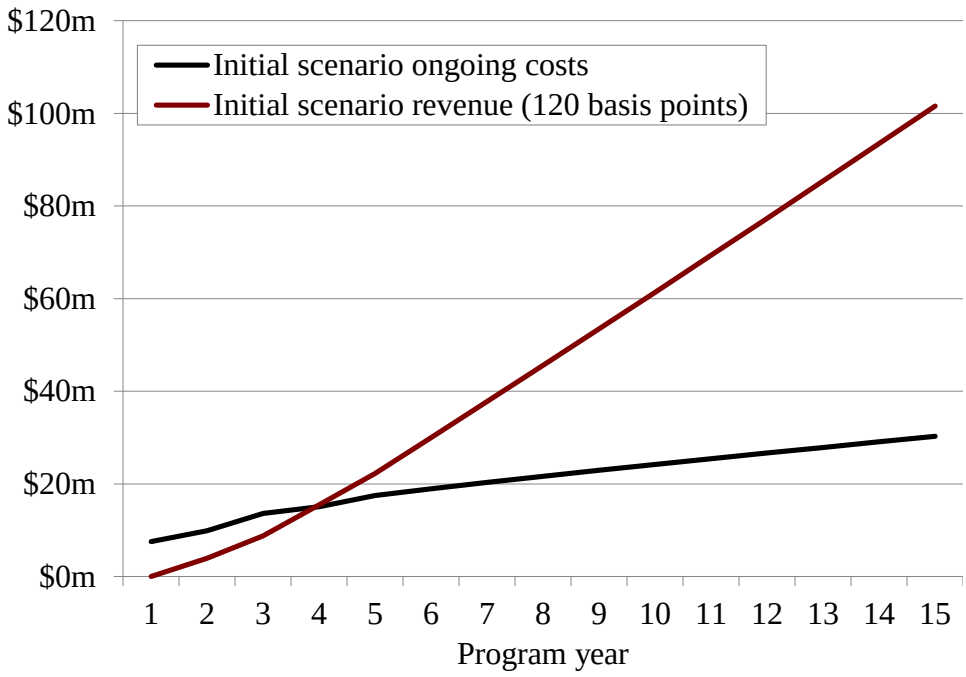
The "Break-even" Point

Ignoring fixed costs, a key driver of the program's financial status is the length of time before revenue exceeds the ongoing costs of account and program maintenance (summarized in Figure 1B). If the ORSP goes on too long with an operating deficit then, when combined with fixed costs, the program will end up with a large overall deficit. Fortunately, as Figure 3 shows, under the

[11] Since automatic escalation is associated with lower participation, these projections reflect an assumption that the number of accounts increase by about 50,000 by Year 10 due to increased participation under a fixed contribution rate versus auto-escalation.

assumptions of the initial scenario, program revenue – again defined as 1.2 percent of the asset balances shown in Figure 2 – exceed ongoing costs within 4 years.

Figure 3. *Estimated Revenue and Ongoing Costs of ORSP, in Millions*



Source: CRR calculations.

In other words, the study estimates that within 4 years of ORSP's launch, the cost of running it should fall below 120 basis points, or 1.2 percent of assets. Figure 4 shows the progression of ongoing costs as a share of asset balances and illustrates that, not only do costs fall below 1.2 percent of assets within four years, but also that long-run costs fall below 0.5 percent of assets. This longer term trend suggests that fees could be lowered for program participants once the program is up and running. Box 3 contains information on how the years to the break-even point changes based on the changes to program design and the economic assumptions outlined in Box 2 and under some alternative cost assumption.

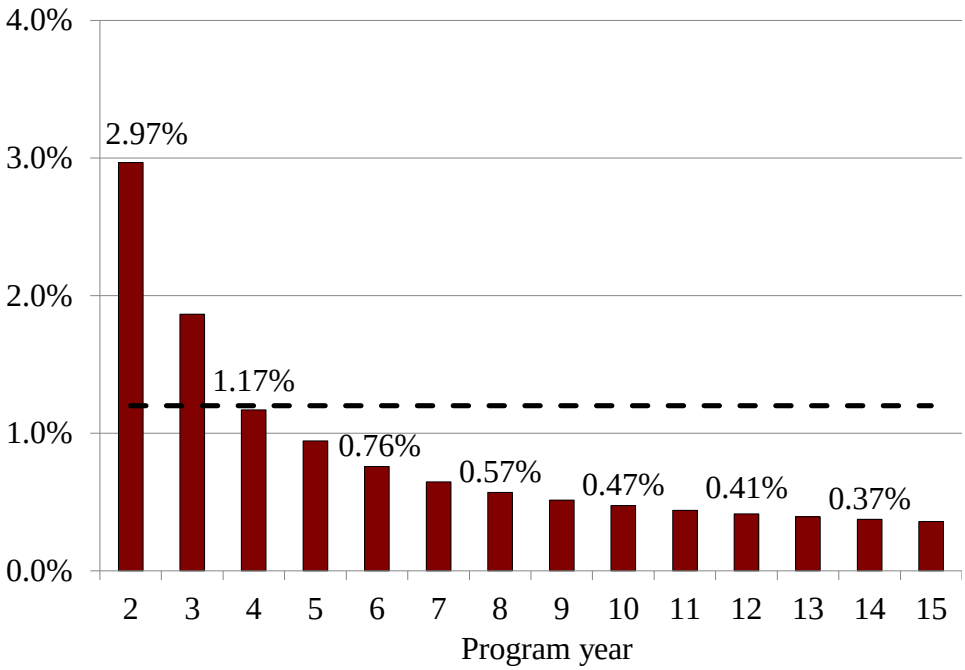
Box 3. *ORSP Time to Break Even Under Alternative Program and Economic Assumptions*

Should participation be lower than anticipated (50 percent) and account closures higher (50 percent), the time to breakeven is 5 years, since lower revenue is generally offset by lower account administrative costs.

A fixed contribution rate of 5 percent also increases the break-even mark by just 1 year (since, early in the program, the average contribution rate is close to 5 even under auto-escalation), but a fixed rate of 3 percent increases the time to 7 years. Quadrupling leakages to 4 percent or reducing stock returns to 1 percent also increase the break-even point by just 1 year. This result stems from the fact that early ORSP asset growth is driven primarily by contributions.

Increasing recordkeeping costs per account to $40 also increases the breakeven year from 4 to 5 as does doubling the yearly cost of program administration (e.g., communication, governance).

Figure 4. *Ongoing Costs as a Share of Assets*



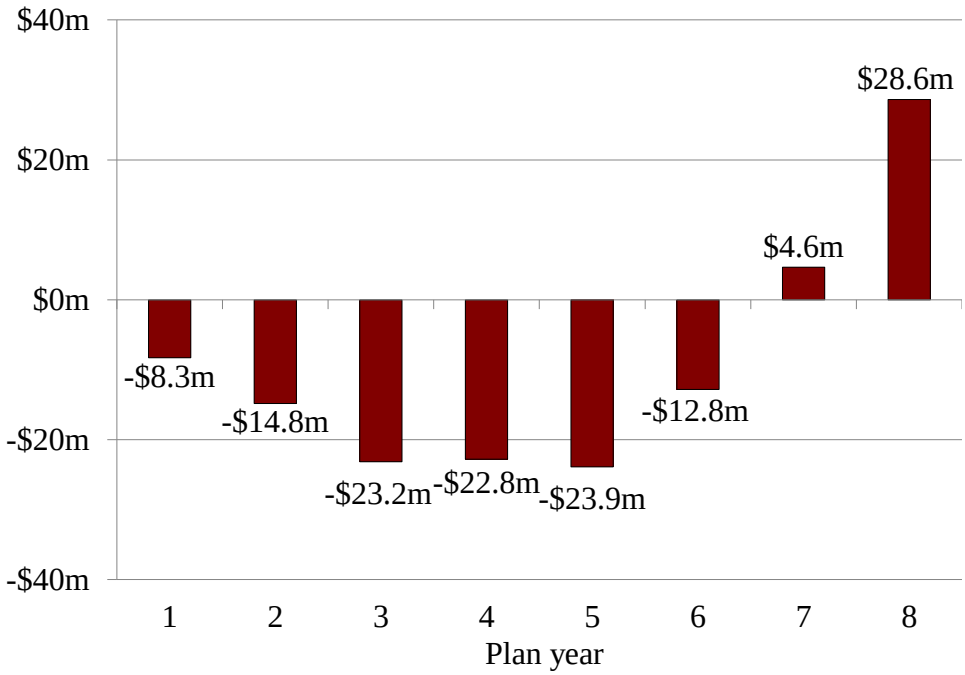
Source: CRR calculations.

Paying Off Initial Losses

Initially, the program will operate at a deficit because of the start-up costs and the fact that ongoing costs exceed revenue. The ORSP will likely consider some combination of offering a long enough contract that a vendor ultimately makes a profit or taking out a loan to finance some of the initial losses, paid back out of fees on program participants.

As ORSP considers these options, two numbers are important: 1) the length of time it would take for the recordkeeper to offset initial losses with gains; and 2) the largest loan ORSP would have to take on, i.e., the maximum deficit accumulated by the program. Calculating these two quantities is relatively straightforward – the financial model developed by the Center for Retirement Research (CRR) keeps a running sum of the program's start-up costs and each year's losses and reduces the loss total by the amount that revenue exceeds costs until the total loss is zero. Figure 5 shows this calculation for the initial scenario, again under the assumption that fees are 1.2 percent of assets under management.

Figure 5. *Running ORSP Program Net Profits, in Millions*



Source: CRR calculations.

Figure 5 shows that the program achieves a positive running profit by Year 7. This finding suggests that a recordkeeper that absorbs the initial start-up costs and operating deficit would be willing to accept no less than a 7-year contract to be the first recordkeeper for the ORSP. It also shows that the highest total loss is $23.9 million. If the ORSP took on a portion of these losses through a loan to be paid back later, then a shorter contract could be offered (and less-risk averse vendors might bid to serve the program). In any case, the findings suggest that under the initial

scenario, the program achieves the break-even point relatively quickly and with a manageable initial deficit. Box 4 shows how these quantities vary under the alternative assumptions from Box 3.

Box 4. *Length to Repay Starting Costs and Maximum Deficit under Alternative Program Design and Economic Assumptions*

If participation is low (50 percent) and account closures are also high (50 percent), ORSP will take 8 years to pay off the initial loss instead of 7, but with an overall smaller maximum deficit of $18.2 million, as opposed to $23.9 million. The reason for a smaller deficit is that while fewer accounts exist to generate revenue to pay off the deficit, the costs of a smaller account base are also lower.

However, a fixed contribution rate of 5 percent increases the time to pay off the loss by one year – to 8 years in total – and increases the maximum deficit to $27.2 million due to more accounts (lower contribution rates increase participation slightly) and less revenue. A fixed contribution rate of 3 percent has larger consequences, increasing the payoff period to 12 years and the largest deficit to $47.0 million.

Quadrupling leakages or reducing the assumed rate of return on stocks have small effects – they increase the payoff period by 1 year and increase the maximum deficit to $26.4 million and $25.3 million respectively.

Changing the cost assumptions has predictable effects on these results. Doubling start-up costs and increasing employer onboarding costs from $200 to $250 per account does not increase the payback period but does increase the maximum deficit to $26.3 million. If the administrative cost of individual accounts is increased from $30 to $40, the time to payoff initial losses increases to 9 years and the maximum deficit increases to $40.7 million. On the other hand, if yearly administrative costs (e.g., communication, governance) double, the effect is smaller with a one-year increase in the payoff period and with an increase in the maximum deficit to $30.5 million.

Alternative Scenarios

So far, results have been presented for an initial scenario, with Boxes 1 to 4 presenting one-off changes to these assumptions. This section presents the cumulative effect of several program changes that, taken together, could alter the financial status of the ORSP, including changes in the rollout of the program and changes in the fees charged and the default contribution rate. Table 6 provides alternative assumptions for the rollout of the program. Because ORSP is interested in covering as many workers as possible as soon as possible, there has been discussion of rolling out the program to employers with fewer than five employees in Year 3 instead of Year 5. This line of thinking has led ORSP to also consider allowing workers at employers that have a retirement savings plan in which they are not covered (e.g., because they are part-time workers) to opt into the

ORSP, along with the self-employed, in Year 4 after the initial rollout. Although ORSP has also considered allowing workers with a plan at work who are not included to be automatically enrolled, this study, to be conservative, has assumed only opt-in status is achieved by these workers.

Table 6. *Outcomes under Alternative Program Rollouts*

	Initial scenario	Add employers under 5 employees in year 3	Add employers under 5 in year 3 and allow opt in of other uncovered workers in year 4
Year 15 accounts	533,000	534,000	627,000
Year 15 assets	$8,467m	$8,547m	$10,315
Year 15 assets/account	$16,000	$16,000	$16,000
Breakeven year	4	5	5
Payoff year	7	7	7
Max deficit	$23.9m	$30.3m	$32.6m
Year 15 cost/assets	0.36%	0.36%	0.34%

Note: Opt-in of workers not included in a plan offered by their employer and the self-employed are assumed to opt in at a rate of 20 percent, much lower than the participation rate of those auto-enrolled.
Source: CRR calculations.

Table 6 shows that changing the rollout to expand coverage has the long-run benefit of increasing accounts and assets. But a shorter-term cost also occurs, since more employers and employees with small balances are brought on during the low revenue period of ORSP. Under both of these alternative rollout scenarios, the maximum deficit increases to over $30 million.

The ORSP also has an interest in keeping fees low, even during the initial period when account balances are low. Table 7 shows three scenarios that build off of fees of 100 basis points on assets under management: 1) the initial scenario but with fees of 100 basis points, rather than 120 basis points; 2) the initial scenario with fees of 100 basis points and a default contribution of 5 percent without the auto-escalation assumed in the initial scenario; and 3) the initial scenario with fees of 100 basis points and a default contribution rate of 3 percent, also without auto-escalation. The second and third scenarios are meant to reflect concerns that auto-escalation may be difficult to implement and that even a 5 percent contribution may be high for some uncovered workers.

Table 7. *Outcomes under Alternative Fees and Default Contributions*

	Initial scenario	100 basis points with auto-escalation from 5 to 10 percent	100 basis points and 5-percent default	100 basis points and 3-percent default
Year 15 accounts	533,000	533,000	584,000	591,000
Year 15 assets	$8,467m	$8,545	$6,762	$4,109
Year 15 assets/account	$16,000	$16,000	$12,000	$7,000
Break-even year	4	5	6	8
Payoff year	7	8	9	15
Max deficit	$23.9m	$32.2m	$35.9m	$56.8m
Year 15 cost/assets	0.36%	0.36%	0.43%	0.62%

Source: CRR calculations.

Table 7 makes it clear that while fees of 100 basis points slightly increase the break-even period than do fees of 120 basis points, combining these lower fees with a lower default of 3 percent increases the time it takes to pay off the initial losses and the largest deficit substantially. As a final exercise, and because ORSP has an interest in financial outcomes under various fee structures, Table 8 shows the results of the initial scenario, but with fees at 50, 75, and 150 basis points.

Table 8. *Outcomes under Alternative Fees*

	Initial scenario: 120 basis points	50 basis points	75 basis points	150 basis points
Year 15 accounts	533,000	533,000	533,000	533,000
Year 15 assets	$8,467m	$8,746m	$8,645	$8,350
Year 15 assets/account	$16,000	$16,000	$16,000	$16,000
Break-even year	4	10	7	4
Payoff year	7	>15	11	6
Max deficit	$23.9m	$66.9m	$42.8m	$20.0m
Year 15 cost/assets	0.36%	0.35%	0.35%	0.36%

Source: CRR calculations.

Table 8 illustrates that when fees are very low the maximum deficit can be substantial, and at 50 basis points the program will not pay off initial losses within 15 years. Higher fees obviously reduce the payoff time and reduce the maximum deficit. With fees of 150 basis points, the largest deficit the program achieves is just under $20 million. In addition to these scenarios, Appendix A

lays out the range of outcomes under several alternative program setups that impact ORSP finances.

Conclusion

Under the initial set of assumptions – 75 to 80 percent participation, contributions equal to 5 percent of pay with auto-escalation to 10 percent, and 120 basis point fees – this study suggests that the ORSP should be able to generate revenue to cover its costs within four years and pay back initial losses within seven years. This result suggests the plan is feasible. Furthermore, as Appendix A shows, the program is still feasible even under assumptions less favorable than the initial ones discussed in the main body of this study.

However, several caveats are in order. The program will perform worse financially if contribution rates are set low or per account costs are high, and a combination of these factors could lead to a program that is either financially unsustainable or requires fees that are too expensive to be beneficial to participants. The program is less vulnerable to the risk of low participation rates, high rates of withdrawals, low returns on investment, or high rates of account closure when workers transition from job-to-job or out of the labor force. The reason is simple: early program revenue is driven primarily by contributions and early costs primarily by costs per account. Although fixed costs are important, due to the anticipated scale of the program, higher initial costs are not prohibitive in the long run, even though they can lead to high deficits that will need to be covered in the ORSP's early years. In short, it is anticipated that the ORSP will be financially feasible under the initial scenario presented.

Appendix A

This Appendix lays out the range of outcomes that occur under the alternative program designs that ORSP has expressed an interest in. These are laid out in Table A1 along with the inputs used and ordered from lowest deficit to highest deficit. Costs may also vary and alternative scenarios with respect to costs are laid out in Table A2 given the initial program assumptions made throughout the report.

Table A1. *Alternative Outcomes under Various Program Assumptions*

	Scenario							
	1	2	3	4	5	6	7	8
Inputs								
Rollout to under 5 employees	Year 5	Year 5	Year 5	Never	Year 3	Year 3	Year 3	Year 3
Fees	150	120	120	100	120	100	100	100
Cont. rate	5 to 10	5 to 10	5 to 10	5 to 10	5 to 10	5 to 10	5	3
Employees	No plan	No plan	No plan, others opt in	No plan	No plan	No plan	No plan	No plan
Outputs								
Year 15 accounts	533,000	533,000	627,000	480,000	534,000	534,000	585,000	592,220
Year 15 assets ($m)	$8,350	$8,467	$10,235	$7,788	$8,547	$8,627	$6,842	$4,158
Year 15 assets/account	$16,000	$16,000	$16,000	$16,000	$16,000	$16,000	$12,000	$7,000
Break-even year	4	4	5	5	5	5	5	8
Payoff year	6	7	7	8	7	8	9	15
Max deficit	$19.9m	$23.9m	$27.0m	$27.4m	$30.2m	$35.1m	$37.9m	$57.5m
Year 15 cost/assets	0.36%	0.36%	0.35%	0.36%	0.36%	0.35%	0.43%	0.62%

Source: CRR calculations.

Table A2. *Alternative Outcomes under Various Cost Assumptions*

	Scenario		
	1	2	3
Inputs			
Start-up costs	Double start-up $250 per employer	Initial assumptions	Double start-up $250 per employer
Ongoing costs	Initial assumptions	Double admin. $40 per account	Double admin. $40 per account
Outputs			
Year 15 accounts	533,000	533,000	533,000
Year 15 assets ($m)	$8,467	$8,467	$8,467
Break-even year	4	6	6
Year 15 assets/account	$16,000	$16,000	$16,000
Payoff year	7	9	9
Max deficit	$26.3m	$47.4m	$49.9m
Year 15 cost/assets	0.36%	0.44%	0.44%

Source: CRR calculations.

Appendix B

This Appendix lays out the assumptions used to derive the number of active and inactive accounts, as well as the number of account closures. These assumptions drive program costs through the ongoing administrative cost per account and drive program revenues.

Number of Active Participants

The number of participants in the ORSP is driven by two factors: 1) the pool of eligible workers; and 2) the rate of participation of eligible workers. As Table B1 shows, three groups of uncovered workers may be eligible for the ORSP and either automatically enrolled in the program or allowed to opt in: 1) workers without any retirement plan at work; 2) workers with a retirement plan at work; and 3) workers who are self-employed and do not have a retirement savings plan.

Table B1. *Uncovered Workers in Oregon by Reason for Lack of Coverage, 2014*

Reason for not having coverage	Number of workers	Share of total workforce
All Oregon workers	**1,746,000**	**100 %**
Uncovered workers	*1,051,300*	*60*
Employer does not offer plan	591,000	34
Employer offers plan, not included	259,000	15
Self-employed without plan	202,000	11

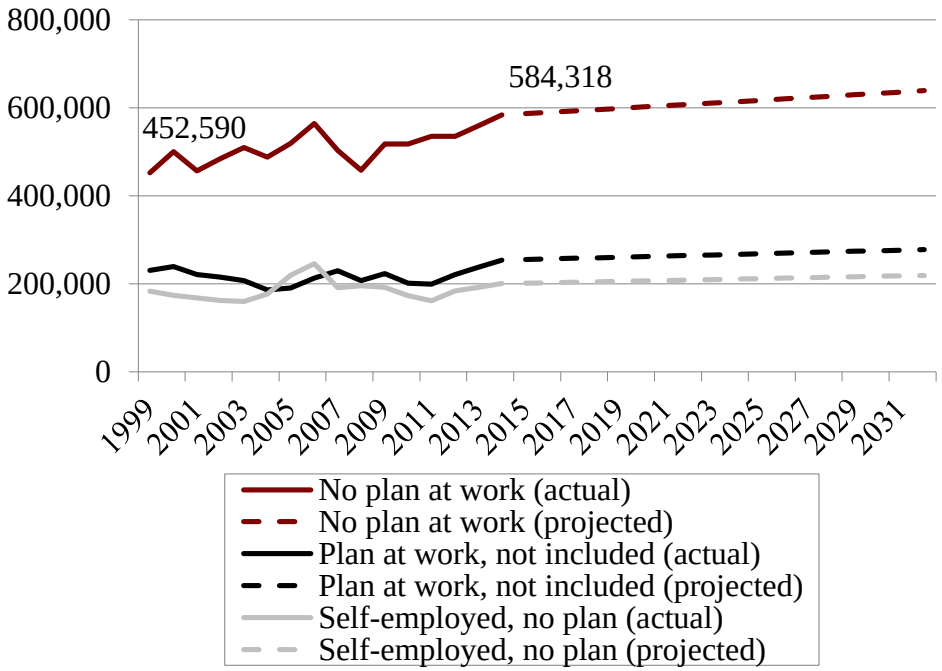
Note: Weighted using the *Current Population Survey March Supplement* weights. Includes both private and public sector workers. All public sector workers are considered as working for an employer offering a plan in which they are not included.
Source: CRR calculations from *Current Population March Supplement*, 2015 (reflecting calendar year 2014).

The initial assumption of the feasibility study is that only workers who do not have a plan at work will be automatically enrolled in the ORSP and that other workers will not be given the opportunity to opt in. It is also assumed that workers under the age of 18 are not eligible for the program – this assumption eliminates just over 6,000 workers from the 590,581 eligible workers shown in Table B1. The net result is a population today of roughly 584,000 eligible workers.

Of course, projecting the feasibility of the ORSP requires not just the population of eligible workers today, but also the eligible population over the next 15 years. According to the Bureau of Labor Statistics, the U.S. labor force is expected to grow at a rate of 0.5 percent per year over the next decade, and this rate was assumed for the feasibility study. The net result of that assumption

is shown in Figure B1: by 2032, an estimated 642,000 workers will be eligible for auto-enrollment in the ORSP. Figure B1 also shows projections for the other two groups of uncovered workers.

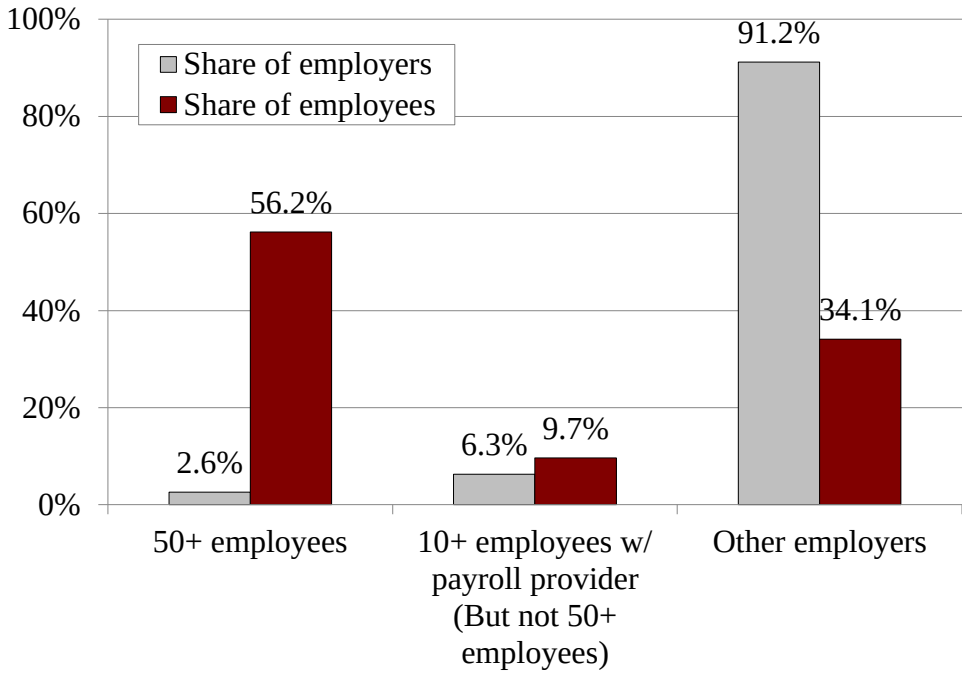
Figure B1. *Actual and Projected Number of Uncovered Workers Over 18, 2000-2032*



Source: CRR calculations from *Current Population Survey March Supplement*, 2000-2015 (representing calendar years 1999-2014).

Although all workers without a retirement plan at work shown in Figure B1 will ultimately be eligible for the ORSP, to ensure the plan functions smoothly, the ORSP roll out is planned in stages: first to employers with 50 or more employees, then to employers with 10+ employees and a payroll provider, then to employers with 5 or more employees, and finally to the remainder of employers. This roll out will ensure that in the early years of the program, few employers are affected, as is illustrated in Figure B2. At the same time, the rollout strategy includes a majority of Oregon workers in the first stage.

Figure B2. *Share of Employers and Employees by Size and Payroll Management*



Sources: Oregon Employment Division, 2015; and *Current Population Survey March Supplement*, 2015 (representing calendar year 2014).

Once the number of workers without a plan at work whose employers are eligible for the ORSP is determined, the feasibility model divides this population between those who are full-time and those who are part-time workers. This division of workers is important for three reasons stemming from the market research: 1) part-time workers are more likely to opt out than full-time workers; 2) part-time workers are more mobile than full-time workers; and 3) part-time workers earn less than full-time workers. Based on the market research, the feasibility study assumes that roughly 75 percent of workers without a plan at work are full-time workers (30 or more hours per week) and the remainder are part-time workers.

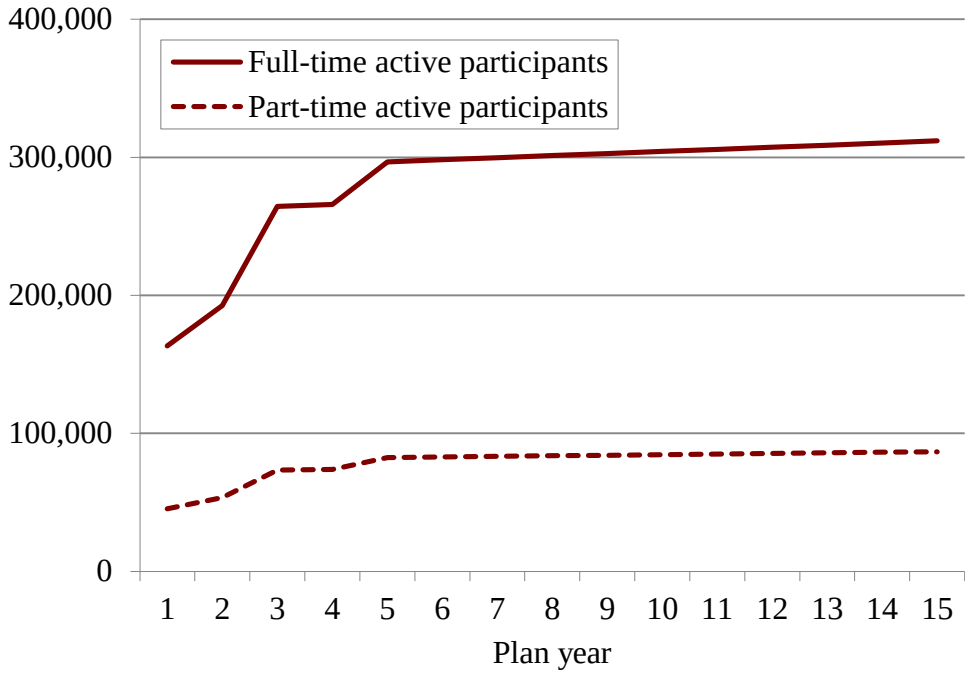
Of course, not all of these workers will participate in the plan. For one, employers currently without a plan may decide they would rather offer a private-sector alternative to the ORSP. Until the program is actually rolled out, it is unclear how often this will occur. The study has assumed that 20 percent of employers currently not offering a plan take this alternative course and that there is not a relationship between the number of employees at a firm and the firm deciding to offer a private sector alternative. This combination of assumptions means that the number of potential participants highlighted in Figure B1 is reduced by 20 percent in the study.

Next, some workers who are eligible for the plan and whose employer chooses the ORSP will opt out. Under the plan design currently being considered – a Roth IRA with a default contribution of 5 percent, auto-escalating to 10 percent – the Center for Retirement Research (CRR) estimates that roughly 79 percent of full-time and 76 percent of part-time workers will participate in the program. This estimate is based on a nationwide survey of uncovered workers, with the results weighted to reflect the Oregon population distribution of income and age.[12] These participation rates reflect the fact that auto-escalation is predicted to decrease the probability of participation by about 5 percentage points. The rates also reflect the age and income distribution of Oregon workers – older workers are less likely to participate in the ORSP and higher-income workers are more likely to participate. Although other relevant variables do influence participation – for example, Hispanic and black workers are more likely to participate than whites – the most significant are income and age. Because these participation rates are estimates, the feasibility model is also tested under lower assumed rates of participation, with results presented in the main body of the report.

The number of "active accounts' is arrived at by multiplying the number of eligible workers and the participation – i.e., the number of accounts where an individual is currently contributing from their paycheck. Based on the estimates contained in Figures B1 and B2 and the participation rates discussed above, Figure B3 shows the number of full- and part-time active participants over the first 15 years of the plan. Participation quickly increases during the first three years of the program as more employers are reached by the roll-out and then continues to grow in line with population growth.

[12] See the Market Research Report for more detail on how these estimates were maintained.

Figure B3. *Estimated Number of Full- and Part-time Active Participants*



Source: CRR calculations.

Number of Inactive Participants

Inactive participants are participants formerly eligible and participating in the ORSP but who have either become unemployed or switched to a job not covered by the ORSP (because the employer offers a qualified plan), but maintained their account. Three factors influence the number of inactive accounts. The first is the level of job-to-job and job-to-nonemployment mobility amongst active participants. The second is the rate at which participants who switch jobs end up employed at an employer offering a qualified plan. The third is the rate at which workers making these transitions close their accounts.

To estimate the first two quantities, longitudinal data are required to follow individual workers who would currently be eligible for ORSP to see their transition rates. For this purpose, the *Current Population Survey* used throughout much of this study is inadequate, since it contains the required longitudinal data for only a subset of its sample. Instead, the study turns to the *Survey of Income and Program Participation*, a study that follows individuals for two to five years and asks detailed information about retirement plans and tracks an individual's place of employment. In particular, the study identifies a sample of workers who would be eligible for ORSP and then follows them for 1 year to see if they: 1) remain at the same job; 2) switch jobs; 3) become

nonemployed; or 4) exit the state of Oregon. The study assumes workers who switch jobs or become non-employed have the chance to become inactive participants, while workers exiting the state will close their accounts (see below). Table B2 shows the estimated rates of mobility obtained.

Table B2. *One-Year Job Mobility Rates for Oregon and U.S. Workers by Coverage and Hours Worked, 1997, 2005, and 2009*

	Full-time			Part-time		
	Covered at work	Employer does not offer plan	Employer offers plan, not included	Covered at work	Employer does not offer plan	Employer offers plan, not included
I. Oregon						
Same employer	82.2%	62.7%	59.3%	81.5%	56.1%	46.2%
New employer	11.2	23.1	28.8	11.1	26.3	30.8
Not working	5.1	11.8	8.5	7.4	15.8	23.1
Exit Oregon	1.5	2.4	3.4	0.0	1.8	0.0
II. Rest of U.S.						
Same employer	79.9	67.7	65.0	68.3	53.4	53.9
New employer	14.8	23.1	26.4	21.3	28.3	30.1
Not working	3.8	7.8	6.4	8.9	16.8	13.6
Exit state	1.4	1.3	2.3	1.5	1.5	2.4

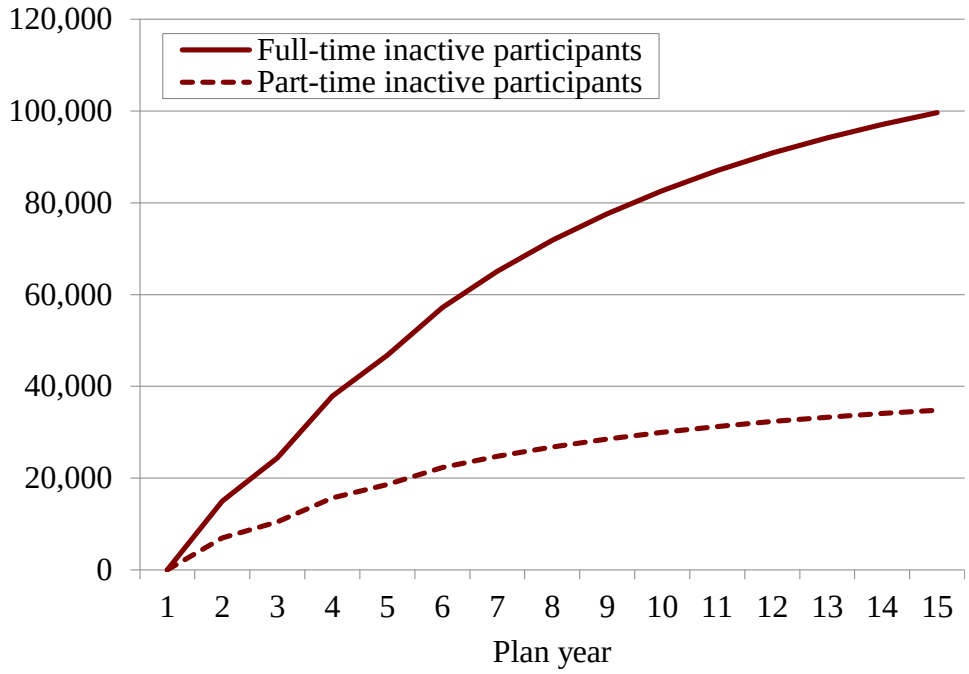
Source: Survey of Income and Program Participation, 1996, 2004, and 2008 Panels (representing data on mobility for 1997, 2005, and 2009).

Because the sample of workers from any one state in the SIPP is small, Table B2 shows the needed results for both U.S. workers and Oregon workers. The results are fairly similar and indicate that workers affected by ORSP are more mobile than workers covered by a plan with part-time workers especially so. Because the sample of Oregon workers is relatively small, U.S. estimates were used in the study. Although the table above uses several panels of the SIPP to increase sample sizes, the 2008 data has a special feature: it asks people two different times one year apart about their employer's pension offerings while the other panels only ask these questions once. This allows the study to estimate the second quantity above, the rate at which employees who switch jobs end up at an employer offering a qualified plan. This was accomplished by examining the pension coverage of workers who were not covered by a plan in 2009 when they were first interviewed about retirement plans, but who said they were covered in 2010. The study finds that 74 percent of eligible workers who switched jobs still did not have a retirement savings plan at their second job.

These numbers can be used to estimate the rate at which workers either remain covered by ORSP or transition out of the program. Because 68 percent of eligible workers remain at the same job and another 17 percent (0.23*0.74) switch jobs but remain eligible for ORSP, the study assumes 85 percent of active accounts remain active.[13] Of the remaining 15 percent, 6 percent of workers are assumed to switch jobs to employers ineligible for the ORSP. Of these, and in the absence of reliable data on the likely rate account closures, the study assumes 20 percent close their account and 80 percent maintain it. An additional 8 percent of workers are assumed to leave their job for nonemployment. Of these, we assume 30 percent retire (based on the age profile of Oregon workers), while 70 percent look for work and have a choice as to whether to maintain their account. Again, we assume 20 percent of these workers close their accounts while 80 percent maintain them. The net result of these assumptions is that in any period, about 5 percent (0.23*0.26*0.80) become inactive due to switching to an ineligible employer while 4 percent (0.08*0.70*0.80) of active accounts will become inactive due to nonemployment.[14] The end result is shown in Figure B4.

[13] This number is for full-time workers. Part-time workers have a rate of 74 percent remaining active, which is lower than for full-time workers due to part-time workers higher rates of job mobility and transitions to not working.
[14] This number is for full-time workers. Part-time workers have a rate of 15 percent becoming inactive, which is higher than for full-time workers due to part-time workers higher rates of job mobility and transitions to not working.

Figure B4. *Estimated Number of Full- and Part-time Inactive Participants*



Source: CRR calculations.

Account Closures

Workers who transition to an ineligible employer or who cease working temporarily can also close their accounts. The numbers presented above can be used to calculate the rate of account closures in a straightforward way. Because 20 percent of workers who move to an ineligible employer close their accounts, a little over 1 percent (0.06*0.20) of active accounts will be closed by these workers. Another 1 percent (0.08*0.70*0.20) will be closed by workers who cease working temporarily. Finally, we assume all workers retiring or leaving the state of Oregon close their accounts. This results in an additional 4 percent of active accounts closing – 2 percent due to retirement (0.080*0.30) and 2 percent due to moving out of Oregon. On the whole, about 6 percent of active accounts are assumed to close each year.[15]

[15] This is the number for full-time workers. Part-time workers have a rate of 10 percent closing, which is higher than for full-time workers due to part-time workers higher rates of job mobility and transitions to not working.

Inactive Accounts Returning to Active

The last transitional feature of the model is that some inactive accounts become active. In particular, the model assumes that all unemployed workers "churn" back into the market the next year, since typically spells of not working are brief. Of inactive accounts held by workers at ineligible employers, a small fraction re-enter the ORSP each year as they transition back to the covered sector. In the *Survey of Income and Program Participation* analysis described above, about 11 percent of workers with a plan at work switch jobs in a given year and, of these, about 33 percent switch to a job without a plan. Thus, each year about 4 percent of inactive accounts held by workers outside of ORSP reenter the program.