

## What if OregonSaves Went National: A Look at the Impact on Retirement Income Adequacy

By Jack VanDerheij, Ph.D., Employee Benefit Research Institute

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### AT A GLANCE

The OregonSaves program began in July 2017 to provide defined contribution (DC) plan coverage for those workers in the state of Oregon who are not currently eligible for an employer-sponsored DC plan.<sup>1</sup> The program requires employers to automatically enroll workers into a post-tax individual retirement account (IRA). The program's default contribution rate is 5 percent; contributions automatically increase by 1 percent each year until they reach 10 percent (unless the employee opts out of automatic increases). Employees can opt out of the program or choose a savings rate of as little as 1 percent and as much as 100 percent of gross pay, up to annual Roth IRA contribution limits.<sup>2</sup>

With more than a year of experience with the OregonSaves plan, the Employee Benefit Research Institute (EBRI) asked the question: What if OregonSaves were a national program? How would that impact the retirement security of American workers? We further asked how a national version of OregonSaves would compare with nationwide implementation of 401(k) safe harbor plans among employers who do not currently offer a defined benefit (DB) or DC plan. We examined both using EBRI's Retirement Security Projection Model® (RSPM). The incremental benefit of including a full auto portability system in addition to these changes was also simulated.

We found that the "national" OregonSaves plan would provide a 16.3 percent reduction in retirement deficits (as measured by the average retirement savings shortfalls (RSS)) for the youngest age cohort simulated (those currently ages 35–39). The reduction would be smaller for those closer to age 65, with the reduction being only 3.1 percent for those currently ages 60–64. Overall, this would reduce the simulated retirement deficits by \$456 billion, or 12 percent of the \$3.83 trillion under the baseline assumptions.

In contrast, the 401(k) safe harbor plan expansion would reduce the retirement deficits for the youngest cohort by an additional 8.8 percentage points (for an overall reduction of 25.2 percent). The additional reduction for those ages 40–44 would be slightly higher (9.2 percentage points), but by ages 60–64 the additional reduction would only be 2.5 percentage points. Overall, this scenario would reduce the simulated retirement deficits by \$645 billion, or 17 percent of the \$3.83 trillion under the baseline assumptions.

Finally, we added a full auto portability scenario to both of the access expansion scenarios. Under the "national" OregonSaves plan with a full auto portability scenario, simulated retirement deficits would be reduced by \$759 billion, or 20 percent of the \$3.83 trillion under the baseline assumptions. Under the 401(k) safe harbor plan expansion with a full auto portability scenario, simulated retirement deficits would be reduced by \$1,031 billion, or 27 percent of the \$3.83 trillion under the baseline assumptions.

Jack VanDerhei is Director of Research at the Employee Benefit Research Institute (EBRI). This *Issue Brief* was written with assistance from the Institute’s research and editorial staffs. Any views expressed in this report are those of the author and should not be ascribed to the officers, trustees, or other sponsors of EBRI, Employee Benefit Research Institute-Education and Research Fund (EBRI-ERF), or their staffs. Neither EBRI nor EBRI-ERF lobbies or takes positions on specific policy proposals. EBRI invites comment on this research.

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By Jack VanDerhei, Ph.D., Employee Benefit Research Institute

## Introduction

The Employee Benefit Research Institute (EBRI) Retirement Security Projection Model<sup>®</sup> (RSPM) estimates that the aggregate national retirement deficit or Retirement Savings Shortfalls (RSS)<sup>3</sup> are \$3.83 trillion for U.S. households headed by those between the ages of 35 and 64.<sup>4</sup>

One of the major components of this deficit is generated from workers who spend a large portion of their careers working for employers who do not sponsor retirement plans.<sup>5</sup> A previous EBRI *Fast Facts* (no. 305, June 19, 2018) explored how much a federal automatic individual retirement account (IRA) proposal would reduce retirement deficits compared with a universal defined contribution system that assumes all employers not currently offering defined benefit (DB) and/or defined contribution (DC) plans start sponsoring a defined contribution plan immediately.

A federal auto-IRA proposal had been included in several versions of the Obama administration's budget, proposing that employers above a particular size threshold that do not currently offer an employment-based retirement plan would be required to automatically enroll their workers in an IRA. Not content to wait for a potential federal solution to this coverage challenge, a number of states have launched their own initiatives.

Oregon's program (OregonSaves) began in July 2017 with a small pilot group of employers.<sup>6</sup> It has been rolling out in phases since 2018 and is scheduled to finish rolling out in 2020. The employee's contributions are made post-tax and the contribution rate is defaulted to 5 percent. The rate automatically increases by 1 percent each year until it reaches 10 percent (unless the employee opts out of automatic increases). Employees can opt out of the program or choose a savings rate of as little as 1 percent and as much as 100 percent of gross pay, up to annual Roth IRA contribution limits.<sup>7</sup>

This *Issue Brief* analyzes the likely impact on retirement security of an OregonSaves version of auto-IRAs as well as a counterfactual simulation using 401(k) safe harbor plans by using EBRI's Retirement Security Projection Model.<sup>®</sup> The incremental benefit of including a full auto portability system in addition to these changes is also simulated.

This *Issue Brief* starts with a short background on the simulation model used to provide the analysis (EBRI's Retirement Security Projection Model<sup>®</sup>). This is followed by an analysis of the reduction in retirement deficits that would likely result from auto-IRAs if the OregonSaves program were in place on a national basis. A similar analysis is provided for a scenario in which a 401(k) safe harbor with matching contributions were to be adopted by all employers who do not currently sponsor a defined benefit or a defined contribution plan. The additional enhancement of retirement income adequacy from a full auto portability scenario is then simulated for both of these alternatives. The final section provides a summary and avenues for additional research on this topic.

## Background: EBRI's Retirement Security Projection Model<sup>®</sup>

RSPM<sup>®</sup> simulates retirement income adequacy for all U.S. households between the ages of 35 and 64. The model's accumulation module reflects the real-world behavior of 27 million 401(k) participants as well as 20 million individuals with IRAs.<sup>8</sup>

RSPM<sup>®</sup> produces two important metrics for evaluating retirement income adequacy:

- The EBRI Retirement Readiness Ratings<sup>™</sup> (RRRs) show the probability that households will NOT run short of money in retirement.

- Retirement Savings Shortfalls (RSS) give the size of the deficits that households are simulated to generate in retirement.

### **EBRI Retirement Security Projection Model® Methodology**

One of the basic objectives of RSPM® is to simulate the percentage of the population at risk of NOT having retirement income to adequately cover average expenses and uninsured health care costs (including long-term-care costs) at ages 65 or older throughout retirement in specific income and age groupings. RSPM® also provides information on the distribution of the likely number of years before those at risk run short of money as well as the percentage of preretirement compensation they will need in terms of additional savings in order to have a 50, 70, or 90 percent probability of retirement income adequacy.

VanDerhei and Copeland (2010) describe how households are tracked through retirement age and how their retirement income/wealth is simulated for the following components:

- Social Security.
- Defined contribution (DC) balances.
- Individual retirement account (IRA) balances.
- Defined benefit (DB) annuities and/or lump-sum distributions.
- Net housing equity.

A household is considered to run short of money in this model if aggregate resources in retirement are not sufficient to meet average retirement expenditures, defined as a combination of deterministic expenses from the Consumer Expenditure Survey (as a function of income) and some health insurance and out-of-pocket, health-related expenses, plus stochastic expenses from nursing-home and home-health care (at least until the point such expenses are covered by Medicaid). This version of the model is constructed to simulate retirement income adequacy, as noted above. Alternative versions of the model allow similar analysis for replacement rates, standard-of-living calculations, and other ad hoc thresholds.

The baseline version of the model used for this analysis assumes all workers retire at age 65; that they immediately begin drawing benefits from Social Security and defined benefit plans (if any); and, to the extent that the sum of their expenses and uninsured medical expenses exceed the projected, after-tax annual income from those sources, immediately begin to withdraw money from their individual accounts (defined contribution and cash balance plans as well as IRAs). If there is sufficient money to pay expenses without tapping into the tax-qualified individual accounts, those balances are assumed to be invested in a non-tax-advantaged account where the investment income is taxed as ordinary income. Individual accounts are tracked until the point at which they are depleted. At that point, any net housing equity is assumed to be added to retirement savings in the form of a lump-sum distribution (not a reverse annuity mortgage (RAM)). If all the retirement savings are exhausted and the Social Security and defined benefit payments are not sufficient to pay expenses, the individual is designated as having run short of money at that point.

### **Previous Research on Automatic IRAs**

In recent years, three studies have been undertaken to analyze the potential long-term impact of auto-IRAs on retirement income.<sup>9</sup> Butrica and Johnson (2011) used Urban Institute's Dynamic Simulation of Income Model (DYNASIM3) to analyze workers born between 1987 and 1996 and found a 3 to 5 percent increase in family income at age 70 after a lifetime of experience in the auto-IRA scenario. The range of outcomes resulted from the uncertainty involved in enrollment assumptions inherent in any type of research for a program that does not currently exist. To

address this uncertainty, the authors chose two contrasting enrollment assumptions: a low enrollment assumption of 36 percent<sup>10</sup> and a high enrollment assumption of 70 percent.

Holmer (2012) used PENSIM<sup>11</sup> to replicate the results from Butrica and Johnson (2011) and then conducted a series of sensitivity analyses. He found that relaxing the assumption that the auto-IRA reform would be accompanied by an expanded and refundable saver's tax credit resulted in a 24.3 percent reduction in the reform-induced gain in family income.

In 2013, the Government Accountability Office (GAO) used PENSIM to project median changes in household annuity income under automatic IRAs for those born in 1995. Specifically, it assessed the distributional effects of HR 506, which would have established auto-IRAs such that 3 percent of the employee's salary would be automatically contributed to an IRA through payroll deduction unless the employee elected to terminate his or her participation.<sup>12</sup>

The GAO study assumed an aggregate participation rate centered around a target participation rate of 69 percent in the year 2035 when the cohort would be age 40. A default contribution rate of 3 percent was made to traditional IRAs, and target-date funds (TDFs) were used as the default investment, with a nonstochastic, nominal rate of return of 9.2 percent for stocks and 5.7 percent for government bonds used. At retirement, workers were assumed to use their entire defined contribution and auto-IRA balances to purchase a single-life, non-inflation-adjusted annuity. Workers were assumed to either roll over their account balances or cash them out as a function of the relative size of their account balances at job change.

Looking only at households who benefited from auto-IRAs, GAO found a median dollar change in annual household retirement annuity of \$1,046, a 13 percent increase in median annual household retirement annuity (not counting Social Security). When they conducted sensitivity analysis using an aggregate auto-IRA-participation rate of 48 percent, the value was reduced to \$1,019.

GAO's analysis includes the caveat that they do not model behavioral responses that the introduction of auto-IRAs may produce. For example, some individuals may choose to contribute more to their pension plans or may choose to start saving in a pension plan or auto-IRA. Also, individuals enrolled in auto-IRAs may decide to increase their contributions in the future.

While these studies provide valuable insights into the likely values that would be accumulated at retirement age as a result of the introduction of auto-IRAs, they stop short of analyzing the impact on retirement security in that they assume that these values will be annuitized at retirement age. While this may happen for some of the individuals, the actual annuitization rates of defined contribution and/or IRA balances are quite low.<sup>13</sup>

In contrast, RSPM<sup>®</sup> does not assume that defined contribution and IRA balances are annuitized at retirement age but, consistent with commonly observed, current-participant behaviors, assumes that these amounts are invested until they are needed during retirement.

## **Previous EBRI Research on Auto-IRAs Included in the 2015 Version of the Obama Administration's Budget**

A federal auto-IRA was included in the 2015 version of the Obama administration's budget, proposing that employers with more than 10 employees that do not currently offer an employment-based retirement plan would be required to automatically enroll their workers in an IRA.<sup>14</sup> A similar program has been introduced by Sen. Sheldon Whitehouse (D-RI) and Rep. Richard Neal (D-MA) in their proposed Automatic IRA Act in 2015 (H.R. 506 in the House, S. 245 in the Senate).<sup>15</sup>

Previous EBRI research<sup>16</sup> simulated the likely impact of this program on RSS under several opt-out assumptions. When a 25 percent opt-out was assumed (as well as a 100 percent auto-correlation for employer size), the average RSS

reduction for households currently 35–39 was 7.8 percent. As expected, the RSS reductions were lower for older cohorts since they had less time to benefit from the new programs. The RSS reductions for the older cohorts were:<sup>17</sup>

- 7.4 percent for those 40–44.
- 5.9 percent for those 45–49.
- 3.9 percent for those 50–54.
- 2.4 percent for those 55–59.
- 1.4 percent for those 60–64.

## Previous EBRI Research on OregonSaves

Previous EBRI research<sup>18</sup> simulated the reduction in average RSS for Oregon, by age, from introducing OregonSaves under two alternative scenarios. Under Scenario A, we assumed a 25 percent opt-out initially but then assumed in the second year that no one who is still contributing will opt out. Moreover, we assumed that once the auto-escalation process starts, it will continue without opt-out until it reaches the 10 percent auto-escalation maximum (or the applicable Roth contribution constraint, if less). Under Scenario B, we used more realistic assumptions: Not only do we have a 25 percent opt-out initially but we also modeled the distribution of individuals who chose a (nonzero) deferral other than 5 percent. We also started the auto-escalation process in year two in this scenario; however, we used survey data to predict whether — and if so, how soon — employees will opt out of the auto-escalation.

Whether one believes Scenario A or B is the more appropriate set of assumptions, it was clear from this research that younger age cohorts will benefit more from OregonSaves. For those currently ages 35–44, the average RSS reduction was 16.1 percent for Scenario A and 11.6 percent for Scenario B. The reductions stayed approximately the same for those currently ages 45–54;<sup>19</sup> the average RSS reduction was 15.5 percent for Scenario A and 10.7 percent for Scenario B. However the reductions fell to less than half of those numbers for those currently ages 55–64 (reflecting how little time they have to benefit from these modifications); the average RSS reduction was 4.8 percent for both Scenario A and Scenario B.

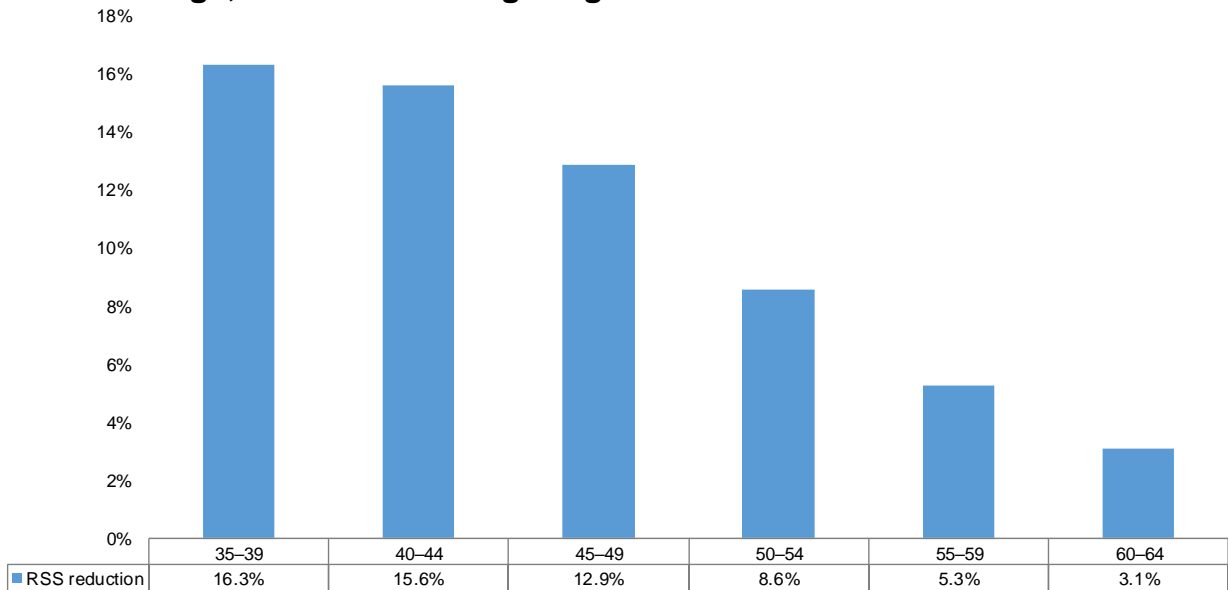
## What Would Happen if OregonSaves Were Applied on a National Basis?

Given that the federal auto-IRAs modeled by EBRI in 2015 did not include an auto-escalation provision, we have had several requests to apply the OregonSaves structure on a federal basis. Figure 1 provides the reduction in average RSS by age that would be expected from introducing OregonSaves to all U.S. households between the ages of 35 and 64. For this analysis we are using only the Scenario B assumptions from the OregonSaves analysis described above (a 25 percent opt-out initially as well as a distribution of individuals who chose a nonzero deferral other than 5 percent and survey data to predict whether — and if so, how soon — employees will opt out of the auto-escalation).

When a 25 percent opt-out was assumed (as well as a 100 percent auto-correlation for employer size), the average RSS reduction for households currently 35–39 was 16.3 percent. The RSS reductions for the older cohorts were:

- 15.6 percent for those 40–44.
- 12.9 percent for those 45–49.
- 8.6 percent for those 50–54.
- 5.3 percent for those 55–59.
- 3.1 percent for those 60–64.

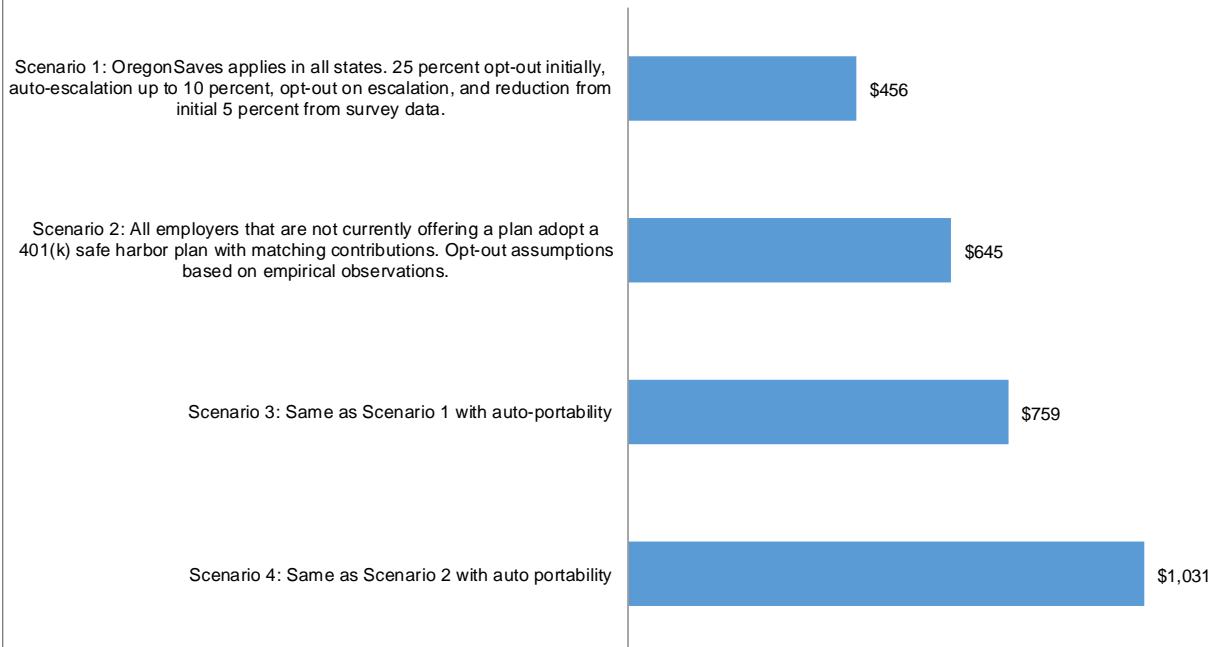
**Figure 1**  
**Reduction in Average Retirement Savings Shortfalls (RSS), by Age, From Introducing OregonSaves for All US Households**



Source: EBRI Retirement Security Projection Model® Version 2258.

Scenario descriptions: 25 percent opt-out initially, auto escalation up to 10 percent, opt-out on escalation, and reduction from initial 5 percent from VanDerhei, Jack, "The Expected Impact of Automatic Escalation of 401(k) Contributions on Retirement Income," *EBRI Notes*, vol. 28, no. 9 (Employee Benefit Research Institute, September 2007).

**Figure 2**  
**Reductions in Aggregate Retirement Savings Shortfalls (in Billions)**



Source: EBRI Retirement Security Projection Model® Version 2258. Baseline Retirement Savings Shortfalls = \$3.83 trillion.

When aggregated across the age cohorts, application of OregonSaves on a national basis would result in a 12 percent reduction of the \$3.83 trillion retirement deficit for all U.S. households between the ages of 35 and 64 (Figure 2).

## **An Alternative Approach: What Would Happen if Non-Sponsors Adopted a Safe Harbor 401(k) Plan Instead?**

Previous EBRI research<sup>20</sup> compared a federal auto-IRA proposal with a universal defined contribution scenario that assumed all employers not currently offering defined benefit and/or defined contribution plans start sponsoring a defined contribution plan immediately. This analysis assumed employers will choose a type of plan and a set of generosity parameters similar to employers in their size range. Unlike the auto-IRA analysis, the universal defined contribution scenario is based on observed contribution rates and demonstrated opt-out behavior when simulating employee behavior.

Although this analysis served as a useful benchmark to determine a limit as to how much of the savings shortfalls could be reduced under the defined contribution system, it had a fundamental limitation in terms of interpreting the results from a public policy perspective.

We take a different approach in this *Issue Brief* and assume as a counterfactual that all employers not currently offering defined benefit and/or defined contribution plans start sponsoring a safe harbor 401(k) plan immediately.<sup>21</sup> Specifically, we are assuming that employers satisfy the safe harbor requirements using the basic match alternative (as opposed to the nonelective alternative): the employer matches each eligible employee's contribution, dollar-for-dollar, up to 3 percent of the employee's compensation, and 50 cents on the dollar for the employee's contribution that exceeds 3 percent, but not 5 percent, of the employee's compensation.<sup>22</sup>

Figure 3 shows the improvement in deficit reduction for the safe harbor 401(k) plan (based on empirical observations) vs. a national application of OregonSaves.

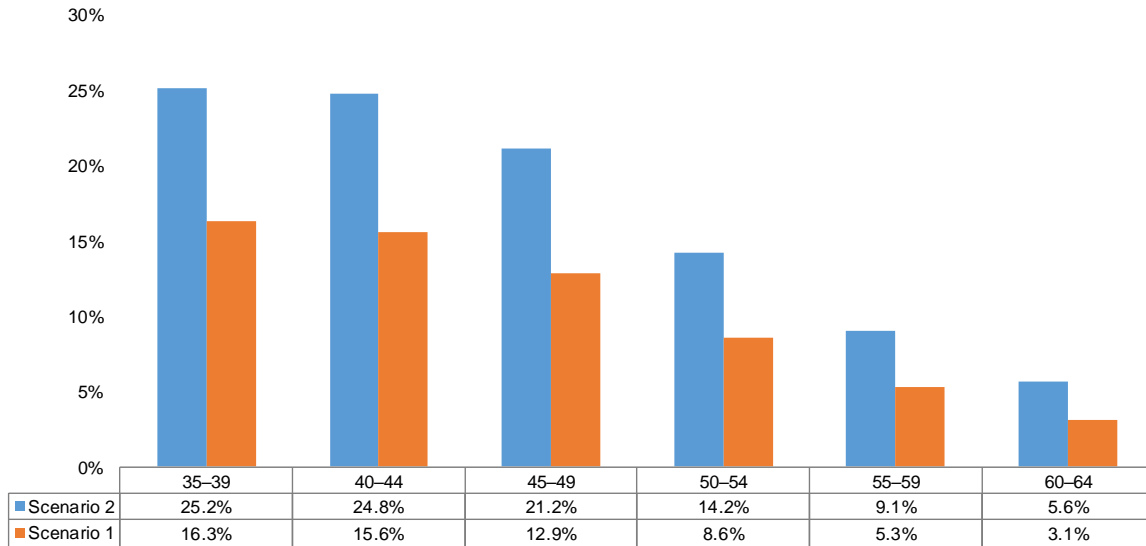
In this case, the average RSS reduction for households currently 35–39 was 25.2 percent. The RSS reductions for the older cohorts were:

- 24.8 percent for those 40–44.
- 21.2 percent for those 45–49.
- 14.2 percent for those 50–54.
- 9.1 percent for those 55–59.
- 5.6 percent for those 60–64.

When aggregated across the age cohorts, if all employers not currently offering defined benefit and/or defined contribution plans start sponsoring a safe harbor 401(k) plan with matching contributions immediately, there would be a 17 percent reduction of the \$3.83 trillion retirement deficit for all U.S. households between the ages of 35 and 64 (Figure 2).



**Figure 3  
Reduction in Average Retirement Savings Shortfalls, by Age:  
Scenario 2 vs. Scenario 1**



Scenario 1 descriptions: OregonSaves applies in all states. 25 percent opt-out initially, auto-escalation up to 10 percent, opt-out on escalation, and reduction from initial 5 percent from VanDerhei, Jack, "The Expected Impact of Automatic Escalation of 401(k) Contributions on Retirement Income," *EBRI Notes*, vol. 28, no. 9 (Employee Benefit Research Institute, September 2007).

Scenario 2 descriptions: All employers that are not currently offering a plan adopt a 401(k) safe harbor plan with matching contributions. Opt-out assumptions based on empirical observations.

## What Is the Incremental Impact of a Full Auto Portability System?

Auto portability provides a system where a participant's account from a former employer's retirement plan would be automatically combined with their active account in a new employer's plan. This would help keep the DC assets in the retirement system and — in theory — reduce leakage from cashouts upon employment termination. This is important because studies have found that cashouts are the most significant form of leakage from DC plans, especially among workers with low plan balances. Previous EBRI research<sup>23</sup> simulated the impact of defined contribution cashouts on the retirement outcomes as well as the beneficial impact from an auto portability system.

Figure 4 shows the incremental impact of adding a full auto portability system to a scenario where OregonSaves was applied on a national basis. The average RSS reduction for households currently 35-39 under the combined system was 26.6 percent. The RSS reductions for the older cohorts were:

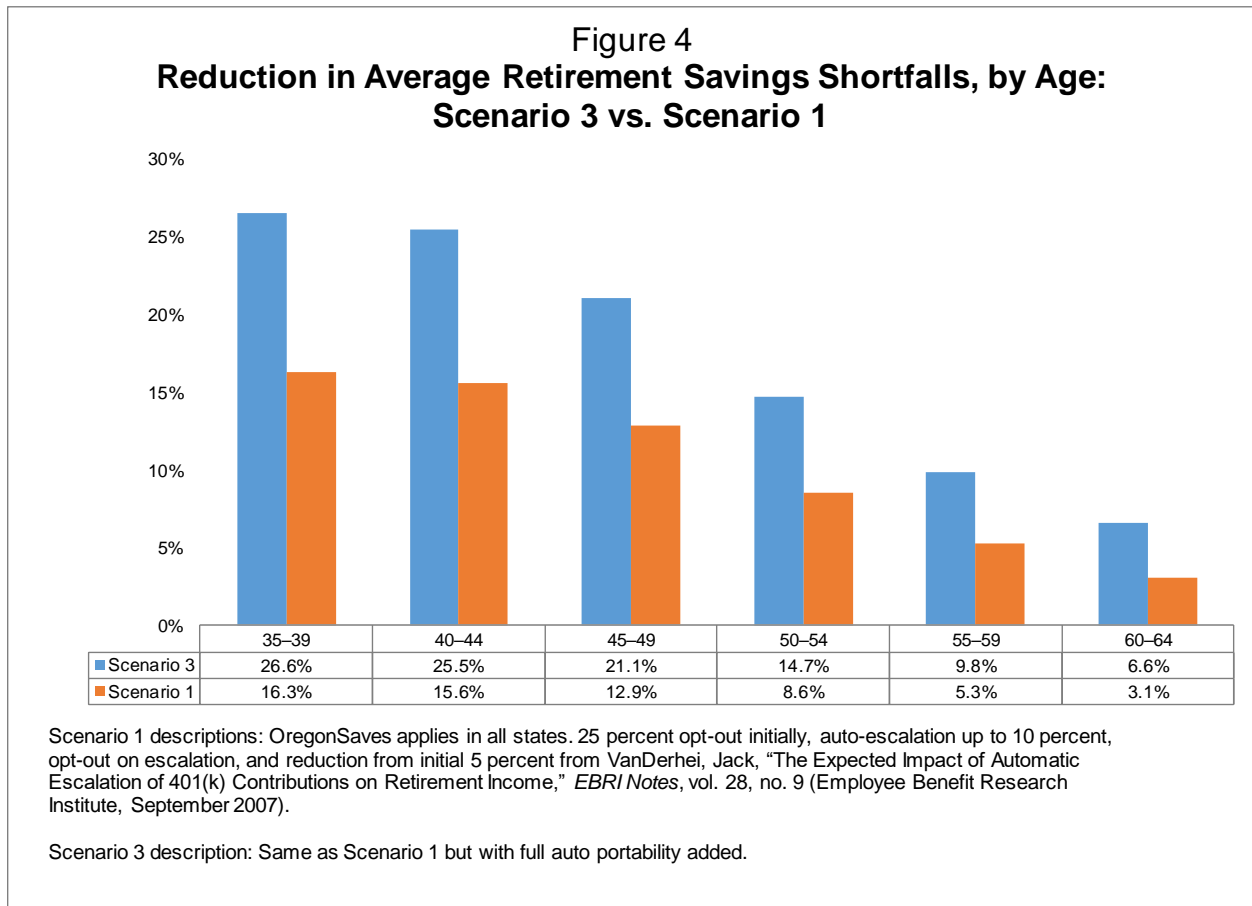
- 25.5 percent for those 40-44.
- 21.1 percent for those 45-49.
- 14.7 percent for those 50-54.
- 9.8 percent for those 55-59.
- 6.6 percent for those 60-64.

When aggregated across the age cohorts, application of OregonSaves on a national basis combined with full auto portability would result in a 20 percent reduction of the \$3.83 trillion retirement deficit for all U.S. households between the ages of 35 and 64 (Figure 2).

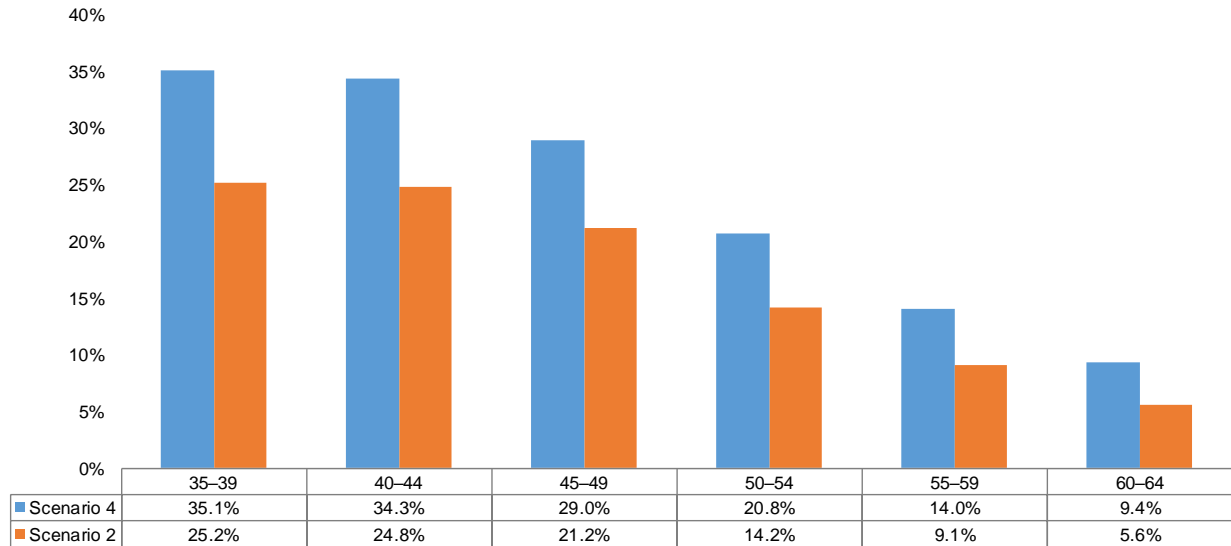
Figure 5 shows the incremental impact of adding a full auto portability system to a scenario where all employers not currently offering defined benefit and/or defined contribution plans start sponsoring a safe harbor 401(k) plan with matching contributions immediately. The average RSS reduction for households currently 35–39 under the combined system was 35.1 percent. The RSS reductions for the older cohorts were:

- 34.3 percent for those 40–44.
- 29.0 percent for those 45–49.
- 20.8 percent for those 50–54.
- 14.0 percent for those 55–59.
- 9.4 percent for those 60–64.

When aggregated across the age cohorts, if all employers not currently offering defined benefit and/or defined contribution plans start sponsoring a safe harbor 401(k) plan with matching contributions immediately and a full auto portability system is in place, there would be a 27 percent reduction of the \$3.83 trillion retirement deficit for all U.S. households between the ages of 35 and 64 (Figure 2).



**Figure 5**  
**Reduction in Average Retirement Savings Shortfalls, by Age:**  
**Scenario 4 vs. Scenario 2**



Scenario 2 descriptions: All employers that are not currently offering a plan adopt a 401(k) safe harbor plan with matching contributions. Opt-out assumptions based on empirical observations.

Scenario 4 description: Same as Scenario 2 but with full auto portability added.

## Summary and Conclusions

A “national” OregonSaves plan would provide a significant reduction in retirement deficits, as measured by the average RSS, for the youngest age cohort simulated (those currently ages 35–39). Overall, a “national” OregonSaves is projected to reduce the simulated retirement deficits by \$456 billion, or 12 percent of the \$3.83 trillion under the baseline deficit projection.

However, a nationwide implementation of 401(k) safe harbor plans among employers not currently offering a DB or DC plan would reduce the retirement deficits for the youngest cohort even further — by an additional 8.8 percentage points, for an overall reduction of 25.2 percent. Overall, this scenario would reduce the simulated retirement deficits by \$645 billion, or 17 percent of the \$3.83 trillion under the baseline projection.

The analysis also clearly shows that increased coverage is not the only impactful way of reducing the retirement deficit. Adding a full auto portability scenario to both of the access expansion scenarios, we found that under the “national” OregonSaves plan with a full auto portability scenario, simulated retirement deficits would be reduced by \$759 billion, or 20 percent of the \$3.83 trillion under the baseline projection. Adding auto portability to the 401(k) safe harbor plan expansion scenario, we found that simulated retirement deficits would be reduced by \$1,031 billion, or 27 percent of the \$3.83 trillion under the baseline projection.

OregonSaves and other state-sponsored DC plans provide a valuable experiment of approaches that can potentially reduce the nation’s projected retirement deficit. EBRI will continue to study such approaches.

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## Endnotes

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<sup>1</sup> The program was rolled out with a small pilot group of employers. It has been rolling out in phases since 2018 and is scheduled to finish rolling out in 2020. For more see: <https://www.oregonsaves.com/home/overview/faqs.html>

<sup>2</sup> For 2019, you can save up to \$6,000 per year if you're younger than 50 and \$7,000 per year if you're 50 or older, as long as you have that much in compensation and are under certain income levels based on your modified adjusted gross income.

<sup>3</sup> The Retirement Savings Shortfalls are present values at age 65 and represent the additional amount that individuals will have to save by age 65 to eliminate their expected deficits in retirement (which, depending on the simulated life-path, could be a relatively short period or could last decades).

<sup>4</sup> VanDerhei (March 2019).

<sup>5</sup> See Figure 4 of VanDerhei (May 2018) for an analysis of how retirement deficits are related to future years of eligibility in defined contribution plans.

<sup>6</sup> <https://www.oregonsaves.com/home/overview/faqs.html>

<sup>7</sup> For 2019, you can save up to \$6,000 per year if you're younger than 50 and \$7,000 per year if you're 50 or older, as long as you have that much in compensation and are under certain income levels based on your modified adjusted gross income.

<sup>8</sup> RSPM<sup>®</sup> was derived from efforts in the late 1990s on behalf of certain states to determine whether their residents would have sufficient income when they reached retirement age. After conducting studies for Oregon, Kansas, and Massachusetts, a national model was developed in 2003. It was updated in 2010 to incorporate several significant changes, including the impacts of DB plan freezes, automatic enrollment provisions for 401(k) plans, and the crises in the financial and housing markets. New versions of the model have been generated on a periodic basis since then to include updates for financial and real estate market performance, employee demographics, etc.

<sup>9</sup> Harris and Johnson (2012) analyzed the auto-IRA and found that, under the intermediate-cost scenario, it would have boosted new contributions to retirement saving accounts by \$26.9 billion in 2015.

<sup>10</sup> See Holmer (page 14) for a discussion of the low-enrollment assumptions in light of the results from a field experiment conducted by Dufflo et al (2006).

<sup>11</sup> PENSIM is a dynamic microsimulation model developed by the Policy Simulation Group for analysis of the retirement income implications of government policies affecting employer-sponsored pensions, employer offerings of pensions, and employee behavior with respect to pensions.

<sup>12</sup> Employers that do not have more than 10 employees who received at least \$5,000 of compensation from the employer in the preceding calendar year and employers that were not in existence at all times during the calendar year and the preceding calendar year would be exempt. Employers would be permitted to exclude certain employees, including those under the age of 18 and employees who have not completed at least three months of service with the employer.

<sup>13</sup> For example, see Austin and Evens (2013) showing that in 2013, 17 percent of the plans surveyed offered an annuity option while an average of 9 percent of participants chose that option.

<sup>14</sup> The White House (2015).

<sup>15</sup> Automatic IRA Act of 2015 (S. 245, H.R. 506), Whitehouse (D-RI) and Neal (D-MA). This bill would also allow employers that do not have more than 100 employees a tax credit for costs associated with establishing an automatic IRA arrangement and increase the dollar limitation on the tax credit for small-employer pension plan start-up costs.

<sup>16</sup> VanDerhei (June 2015).

<sup>17</sup> Additional simulations are available at zero, 10, 50, and 75 percent opt-out assumptions as well as a 6 percent employee contribution.

<sup>18</sup> VanDerhei (October 2018).

<sup>19</sup> This is primarily due to the impact of the catch-up limits at age 50.

<sup>20</sup> VanDerhei (May 2018).

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<sup>21</sup> A safe harbor 401(k) plan is similar to a traditional 401(k) plan, but, among other things, it must provide for employer contributions that are fully vested when made. These contributions may be employer matching contributions; limited to employees who defer; or employer contributions made on behalf of all eligible employees, regardless of whether they make elective deferrals. The safe harbor 401(k) plan is not subject to the complex annual nondiscrimination tests that apply to traditional 401(k) plans. Safe harbor 401(k) plans that do not provide any additional contributions in a year are exempted from the top-heavy rules of section 416 of the Internal Revenue Code.

<sup>22</sup> We are also assuming that enhanced matches are not utilized in this simulation.

<sup>23</sup> VanDerhei (August 2019).