



# Improving Americans' Retirement Outcomes Through the National Savings Plan

By David Madland, Alex Rowell, and Rowland Davis January 2016



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# Introduction and summary

America's current retirement system is failing its citizens. Millions of workers nearing the end of their careers likely will not be able to maintain their preretirement standard of living, and even fewer members of younger generations are on track to attain it.<sup>1</sup> American Progress has called for a host of reforms to address the retirement crisis—from improving private-sector retirement plans to strengthening Social Security to reforming retirement tax subsidies.<sup>2</sup>

One of the key ways that the Center for American Progress Action Fund has recommended improving the private-sector retirement system is by providing all workers with access to a retirement plan modeled on the Thrift Savings Plan, or TSP, the 401(k)-style retirement savings plan currently open to federal employees and members of Congress.<sup>3</sup> The TSP has many features that make it a good retirement plan, including low fees, sensible investment options, and simplicity, and it is praised by both progressives and conservatives.<sup>4</sup>

This report introduces CAP Action's proposed National Savings Plan, or NSP, providing additional details on how establishing a plan similar to the TSP for all workers would operate, as well as new estimates for how much better off workers would be if they were saving in such a plan.

Under our proposal, workers without access to a retirement plan at their workplace would be automatically enrolled in the NSP, and contributions would be defaulted into a low-fee, life cycle fund that automatically adjusts investments based on a worker's age. Upon retirement, savings would be converted into a stream of income that could not be outlived. The plan also would be open to independent contractors and the self-employed, as well as for rollovers from "myRAs," the federal government's new starter retirement savings account.

The NSP would provide access to a high-quality retirement savings account for the millions of Americans who do not currently have a workplace retirement plan. In fact, our models show that workers would be much better off saving in the NSP

than in a typical 401(k) plan. Our analysis, based on a worker earning a typical salary and contributing 12 percent of their pay each year starting at age 30 and retiring at 67 finds:

- A worker saving in the NSP would be approximately 2.3 times more likely to have a secure retirement—defined as replacing 70 percent of their preretirement income with their retirement savings and Social Security—than a worker contributing the same amount to a typical 401(k) plan.<sup>5</sup>
- In fact, to have the same likelihood of a successful retirement as the NSP offers, this hypothetical saver would need to have a 52 percent higher annual contribution in a typical 401(k) compared with the NSP—18.2 percent of pay compared with 12 percent.<sup>6</sup>
- A small business worker with an even higher-fee 401(k) plan would be 5.2 times more likely to maintain his or her standard of living in retirement by saving in the NSP than in an employer's plan.<sup>7</sup>

The need for this proposal and analysis has never been greater. The changing nature of work increasingly calls into question a system where private retirement savings are predominantly tied to one's employer. The NSP would be available to all workers, regardless of whether they have a formal employer, are an independent contractor, or are self-employed. Additionally, states such as Illinois, California, and Oregon are moving to establish retirement accounts for those workers without workplace retirement plans.<sup>8</sup> Because these plans are likely to share some features with the NSP, this analysis can help inform how those state plans are designed, as well as encourage other states to adopt similar plans. Furthermore, it should provide fuel for the federal government to adopt the NSP because many workers will live in states without such plans. Finally, the Department of the Treasury is currently deciding where savers in its new myRA program should be automatically enrolled once they exceed account limits. The NSP or a similar program would provide the best option.<sup>9</sup>

# The need for the National Savings Plan

Most Americans who save for retirement save through plans offered by their employer, but an estimated 34 percent of private-sector workers—or 38 million—lack access to a retirement plan at their workplace. Fewer than half of workers participate in such a plan.<sup>10</sup> As a result, in 2014, nearly one-third of all nonretired Americans reported having no retirement savings of any kind.<sup>11</sup> And with changing work structures, it is possible that fewer will have access to employer-sponsored retirement plans in the future.

Even those workers with access to retirement plans often end up saving in plans with features that undermine their ability to grow their nest egg over time. Many workers who are saving are putting their money in 401(k)-style defined contribution, or DC, plans that charge unnecessarily high fees, which can eat away between one-quarter and one-third of investment returns.<sup>12</sup> Workers at small businesses are especially vulnerable to the corrosive effect that retirement plan fees can have on savings. For example, BrightScope and the Investment Company Institute estimate that the average plan-weighted fee of 401(k) plans with less than \$1 million in assets is nearly five times higher than that of plans holding more than \$1 billion in assets.<sup>13</sup>

Not surprisingly, savers often fail to accumulate sufficient assets for a secure retirement. In addition to plan access and quality concerns, American families are facing a combination of stagnant wages and rising costs for key elements of the middle-class lifestyle.<sup>14</sup> For those households near retirement who actually have retirement savings, the median retirement account balance was only \$104,000 in 2013.<sup>15</sup> If that is converted to a lifetime annuity, it would only result in a monthly payment of about \$400—far below a typical household's retirement needs.<sup>16</sup>

Indeed, evidence indicates that, if anything, the savings crisis has gotten worse over time. As University of Massachusetts economist and CAP Senior Fellow Christian E. Weller explains in his book, *Retirement on the Rocks*, many employers have pulled back from retirement savings plans in recent years, resulting in employers offering fewer plans and contributing less money to those plans.<sup>17</sup>

It is clear that many employees need access to a high-quality retirement plan to which they can contribute through payroll deductions. Successfully saving for retirement should not depend on whether one is fortunate enough to work for an employer that offers a plan.



# Using Congress' own retirement plan as a model

As described in detail in a previous CAP Action report—“The Promise and Peril of a Model 401(k) Plan”—the Thrift Savings Plan is a model 401(k) plan that is superior to most options currently available in the private marketplace.<sup>18</sup> Most importantly, savers in the TSP pay extremely low administrative and investment fees,<sup>19</sup> while fees in most 401(k) plans are much higher: The average private 401(k) plan has fees of roughly 1 percent.<sup>20</sup> These low costs are largely due to the TSP's massive asset base, limited number of low-cost passively managed investment options, and governing board with no profit motive.<sup>21</sup> As plan fees effectively reduce investment returns, low plan fees are very important for savings success.<sup>22</sup>

The TSP also has put in place a number of other smart features that help workers build up their savings to the greatest degree possible over time. The TSP uses automatic enrollment, meaning that all employees who are eligible to participate are automatically entered into the plan. Even though employees may opt out of the plan, auto enrollment has been shown to greatly improve employee participation in workplace retirement plans by simply flipping the status quo from nonparticipation to participation.<sup>23</sup> When workers are enrolled, they are defaulted into a life cycle fund that will adjust their level of risk exposure over time depending on how far they are from retirement.<sup>24</sup> While investors are still able to reallocate their investments among TSP funds, setting life cycle funds as the default investment option again helps TSP take advantage of savers' natural inertia and put it to work for them.<sup>25</sup>



# The National Savings Plan

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## Structure of the NSP

The new National Savings Plan would be run in much the same fashion as the current Thrift Savings Plan. It would be administered by an independent federal agency—either the Federal Retirement Thrift Investment Board, or FRTIB, or a new sister organization modeled after it—the head of which would be a board of retirement professionals required by law to manage the plan solely in the interests of participants and their beneficiaries.<sup>26</sup> This board would then contract with private-sector companies to provide record-keeping and investment services, as the FRTIB currently does, and would monitor these contracts to ensure that participants' assets are being properly managed and that costs are being kept as low as possible.

The investment options offered would be nearly identical to those offered in the TSP and would be limited to five core funds and life cycle funds that offer age-appropriate combinations of those five core funds. The TSP's core investment options—the Government Securities Investment, or G, Fund; the Fixed Income Index Investment, or F, Fund; the Common Stock Index Investment, or C, Fund; the Small Cap Stock Index Investment, or S, Fund; and the International Stock Index Investment, or I, Fund—are passively managed and designed in such a way that they each invest in a unique part of the market.<sup>27</sup> This ensures that individuals who simply invest equal amounts in each core option—so-called naïve diversification<sup>28</sup>—will achieve a balanced investment allocation, with 60 percent of their savings allocated to equities. Savers would be defaulted into the NSP life cycle fund appropriate for their age group, though they would be free to alter their asset allocation.<sup>29</sup>

Similar to employer-based retirement accounts, NSP accounts would be tax advantaged. The default option would be a Roth account, in which after-tax dollars are contributed and grow tax free. A traditional account option, where individuals contribute with pretax dollars and pay income taxes upon withdrawal, also would be available. The NSP would have the same contribution limits as current 401(k)-style defined contribution plans, not the lower limits of an individual

retirement account, or IRA.<sup>30</sup> Allowing annual savings above the current IRA limit would provide some middle and slightly higher earners who do not currently have 401(k)s the opportunity to put away sufficient amounts of money to enjoy a secure retirement. Not subjecting the NSP to IRA income limits also would simplify compliance issues for employers.<sup>31</sup>

To help ensure that savers have sufficient incomes throughout their retirement, it is important to make distribution options that provide lifetime income streams to retirees both available and attractive. Retirees are subject to a number of risks that could be reduced by converting at least a part of their balance to lifetime income streams.<sup>32</sup> For example, retirees trying to manage their savings are vulnerable to stock and other market declines, may live longer than they expected, or may simply run out of money.

In the current DC-plan market, only just more than 1 in 20 workers convert their account balance into annuities.<sup>33</sup> To encourage savers to think about their savings as a stream of payments instead of just a lump sum, the NSP would provide lifetime income estimates on plan statements, and individuals would be defaulted into a lifetime income stream upon retirement with the option to opt out. Partial annuitization options also would be available. To help alleviate savers' fears about permanently converting a large lump sum into a stream of payments that may appear small, this default annuitization could follow a "trial" model, as suggested by William G. Gale and his colleagues at the Brookings Institution.<sup>34</sup> Under this proposal, default annuities would extend only for a specified trial period, after which individuals could choose whether to continue the monthly payments.

Over time, the NSP board could consider implementing alternative payout models that research suggests may be even more efficient and attractive to participants. For example, the payout phase could be structured using elements from collective DC plans—such as CAP's Secure, Accessible, Flexible, and Efficient, or SAFE, Plan—that pool and invest retirees' income, make monthly payments from that fund, and reduce interest rate risk because the individual is not buying an annuity upon retirement, locking in that year's interest rate.<sup>35</sup> The board also could use J. Mark Iwry and John A. Turner's model of having savers automatically purchase deferred annuities over time.<sup>36</sup>

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## Automatically enrolling savers in the NSP

Simply creating an accessible, affordable retirement savings option is not enough. It is already possible for workers without employer-provided retirement plans to seek out and save in IRAs, but the vast majority do not. In fact, an industry survey found that fewer than one in six Americans have spent two hours or more within the past year planning for an IRA investment.<sup>37</sup> Data from the Investment Company Institute show that only 14 percent of households who do not have employer-sponsored DC or defined benefit retirement plans save in an IRA.<sup>38</sup>

Saving through payroll deductions eliminates much of the hassle that keeps individuals without employer plans from contributing to IRAs. As such, employers that do not offer a retirement plan would be required to offer the NSP to their employees and automatically enroll them in the plan if the employee does not opt out of the plan. If an employer offers a retirement plan to only some employees, that employer must offer the NSP to the employees it excludes from the company plan. Employers that fail to offer private-sector retirement plans or the NSP to their employees would be subject to tax penalties.

Because nearly 30 percent of private-sector workers ages 21 to 64 who lack access to an employer-provided retirement plan work at a firm with fewer than 10 employees, addressing plan access in this portion of the market is crucial.<sup>39</sup> These small businesses face the highest costs for establishing private-sector retirement plans, with fees sometimes even topping 3 percent or 4 percent of assets annually because fixed costs can only be spread over a very small pool of participants.<sup>40</sup> By allowing these businesses to join a plan with the scale of the NSP, owners and employees alike will enjoy improved retirement savings options. If it is necessary to give the smallest firms more time to prepare for compliance, legislation could require that only firms over a certain size must initially offer the NSP, eventually lowering and eliminating that threshold over time. Policymakers can look to the states for guidance on small employer enrollment, as state retirement plans that are currently being implemented have varied in their approaches to small businesses.<sup>41</sup>

As previously discussed, automatic enrollment significantly increases retirement plan participation, especially among groups that are statistically less likely to participate, such as young, low-income, black, and Hispanic workers.<sup>42</sup> Employees would receive a notice of their new retirement plan with forms for opting out and for changing the default deferral amount.

The NSP would default savers into a life cycle fund appropriate for the employee's age at a default contribution rate. The importance of the NSP's default contribution rate cannot be overstated. Research has shown that default settings of 401(k) plans substantially affect savers' investment choices, both initially and over time.<sup>43</sup> Research from Vanguard shows that 46 percent of automatically enrolled retirement plan participants remained at their default contribution rate three years after enrollment.<sup>44</sup> As defaults remain "sticky," policymakers must take care not to induce savers to remain at contribution rates that lead to inadequate retirement savings.<sup>45</sup> The NSP default initial contribution rate would be 3 percent and paired with automatic escalation. This plan feature would have savers automatically increase their contributions by 1 percent per year until they reach a set contribution rate.<sup>46</sup> We propose initially capping automatic escalation at 6 percent, but policymakers should be open to increasing this limit and the default contribution rate in the future.<sup>47</sup> Indeed, other countries have often adjusted contribution rates to their retirement programs over time.<sup>48</sup> As with their original auto enrollment decision, employees would be able to opt out of increased contributions each year.

Those who make a living outside the traditional employee-employer relationship would still be able to save in the NSP. Self-employed individuals and independent contractors could sign up for the plan online and establish automatic direct deposits from their bank accounts, just as the Treasury Department now allows for myRA contributions.<sup>49</sup> This same structure could serve individuals whose employers do not offer the NSP, giving employees whose employers offer only high-fee retirement plans an easy path to move their savings to a more cost-effective plan.

In addition to the convenience of recurring direct deposits, the self-employed and contractors should be encouraged to contribute to their NSP when making their quarterly estimated tax payments and annual tax filings. Government forms would include check-off boxes for contributions. Over time, these opt-in boxes could be converted to an opt-out policy. In addition, when companies or individuals complete the 1099 form that summarizes income paid to their regular contract workers, they could be required to also provide standardized information on the importance of saving for retirement and details on how to contribute to the NSP to their contractors.<sup>50</sup>

In short, our proposed NSP would be available to all workers regardless of what type of employer they work for, including the self-employed and contractors.

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## Including more than just employee contributions

Automatically ratcheting up employee NSP contributions to 6 percent of salary would help savers who currently lack retirement savings entirely to increase their postretirement income. Such a contribution rate is in line with the median employee 401(k) contribution rate, according to Vanguard's analysis of its 401(k) plans.<sup>51</sup> However, 401(k) plans typically include an employer contribution, which brings the median total contribution rate to about 10 percent.<sup>52</sup> Even this is on the low end of recommendations of many financial advisors, who recommend anywhere from 10 percent to 15 percent contribution rates.<sup>53</sup>

Especially considering that those who currently lack access to retirement plans tend to be lower-income workers than the country as a whole, it is unrealistic to expect most individuals to save at such a high rate in the NSP on their own. It is worth noting, though, that lower-income earners likely need to save at a lower savings rate than higher-income earners because Social Security replaces a greater share of their income than it does for high-income earners.<sup>54</sup>

Thus, both employer contributions and government assistance may be necessary to achieve adequate contribution rates. The federal government could help people increase their savings by revamping current retirement tax credits.<sup>55</sup> Today, the Saver's Credit provides a tax credit worth up to 50 percent of the first \$2,000 in retirement savings for single filers who make less than \$30,500 and joint filers who make less than \$61,000—though the maximum credit rate applies only to those making less than \$18,250 and \$36,500, respectively.<sup>56</sup> However, this credit is nonrefundable, which means those who pay low or no federal income taxes are not able to accept the full value. And many filers are not even aware of the credit; one survey shows that only 30 percent of Americans know that it exists.<sup>57</sup>

The Saver's Credit should be made into a refundable tax credit that acts more directly like a government match for low- to middle-income savers.<sup>58</sup> Instead of saving during the year and eventually getting a refund on one's tax return, an eligible saver would see this credit deposited directly into his or her NSP account—or other qualified retirement account—when saving. Such a credit was proposed in 2012 by the Aspen Institute's Initiative on Financial Security.<sup>59</sup> Instituting these refundable credits would cost a fraction of what the United States currently spends to promote retirement saving through the tax code and would be much better targeted to those who need the most assistance.<sup>60</sup>

While the NSP would not require employers to contribute to their employees' retirement accounts, they would be allowed to do so. This is a significant difference from automatic IRA proposals, as tax law prohibits employers from contributing to employees' IRAs. Traditional DC plans are subject to nondiscrimination testing to ensure that the plan benefits all employees, not only those who are highly compensated. If employers choose to contribute to their employees' plans, the NSP will simply require that employer contributions be universal—either the same flat dollar amount or percentage of pay for each employee—instead of complex nondiscrimination plan tests.

## myRA rollovers and the NSP

Savers in the newly established myRA plans would benefit greatly from the NSP. The myRA is a Roth IRA that invests a person's savings solely in risk-free government bonds that pay the same interest rate as the TSP's G Fund. Once savers reach an account balance of \$15,000 or they have held the account for 30 years, their savings must be withdrawn from myRA or rolled over into another Roth IRA.<sup>61</sup> Individuals can choose the private-sector IRA for their rollover, but the Treasury Department has yet to decide how to automatically transfer maxed-out myRA plans if individuals do not make a decision.<sup>62</sup> A logical location for this money would be the NSP.<sup>63</sup>

Before the full-scale NSP administrative structure is established, the rolling over of myRA funds into the NSP could be executed as follows: A second fund would be set up within the existing TSP as a repository for myRA funds that would keep the myRA money separate from current TSP funds. This fund would still be overseen and managed by the FRTIB, and its investment options would be identical to those in the TSP. Once the NSP is open to retirement savers, these accounts could be transferred from the separate TSP fund to the NSP.

Whenever myRA savers reached myRA account maximums, their funds would be rolled into the NSP by default, though they would retain the option of rolling their money over to a private-sector plan or withdrawing their money.<sup>64</sup> This would not only enable myRA savers to invest their savings in one of the best retirement plans available but also would illustrate just how feasible it would be to create a similar plan in which all workers without retirement plan access could be automatically enrolled.

# Modeling the impact of NSP features

To test the benefits of the various features of our proposed National Savings Plan, we use stochastic modeling that takes into account the inherent uncertainty of projecting inputs, such as market returns and inflation. Our model runs 1,000 simulations and returns a distribution of expected outcomes.

We define “sufficient retirement income” as being able to replace 70 percent of pre-retirement income when combining income from plan savings and Social Security. The precise replacement rate that retirees need to maintain their standard of living varies based on individual characteristics, but retirement experts generally agree that 70 percent to 80 percent is an appropriate target.<sup>65</sup> Unless otherwise noted, our model simulates a saver who makes \$31,200 at age 30—the median income of U.S. workers ages 25 to 34—who annually saves 12 percent of income from age 30 until the Social Security full retirement age of 67 and purchases an annuity at retirement at group rates. Additional model details are found in the Appendix.

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## Plan fees

The high fees typically found in IRAs and 401(k)s can substantially reduce the retirement assets that workers accumulate.<sup>66</sup> For example, a recent study from Boston College’s Center for Retirement Research found that defined contribution plans and IRAs underperformed compared with defined benefit plans, even when controlling for plan size and asset allocation, and that higher fees likely play a role.<sup>67</sup> Our modeling assumes that the NSP will have fees of 0.25 percent, far below what is paid for most retirement plans on the market, especially for those that serve small- and medium-sized businesses.<sup>68</sup> This fee estimate is reasonable based on fees available in the largest private market plans, the Thrift Savings Plan, and in the United Kingdom’s automatic enrollment-based National Employment Savings Trust, or NEST, plan, as well as estimated costs for state-based plans, as discussed in the accompanying text box.



## Keeping fees low

The size of the NSP is key to reducing costs for savers. As previously noted, the TSP's size is one of the principal reasons why its fees are so low as a percentage of assets, and a new plan that automatically enrolls workers who have no access to employer plans would almost certainly grow to be substantially larger than the current TSP.<sup>69</sup>

Critics argue that reducing plan fees to the level currently enjoyed by savers in the TSP is impossible because the government currently subsidizes the TSP in a number of minor ways.<sup>70</sup> We acknowledge that there may be new costs as a result of offering a TSP-like plan to a wide audience. The need to educate NSP participants on plan options and operations likely will be higher, as this group may have much less experience with retirement plans.<sup>71</sup> Establishing procedures to receive payroll deductions from nonfederal systems and providing guidance and support to a larger number of private-sector firms also may increase administrative costs relative to the current TSP.<sup>72</sup> As such, our modeling does not assume that NSP fees match the TSP's current 0.029 percent, assuming instead that they reach 0.25 percent.

A similar nationwide plan recently implemented in the United Kingdom—the NEST plan—charges investors 0.3 percent of assets annually and a 1.8 percent one-time contribution charge.<sup>73</sup> The contribution charge goes to paying back government loans to get the plan off the ground—loans which currently total £387 million, or \$585 million<sup>74</sup>—and is designed to be a temporary expense.<sup>75</sup>

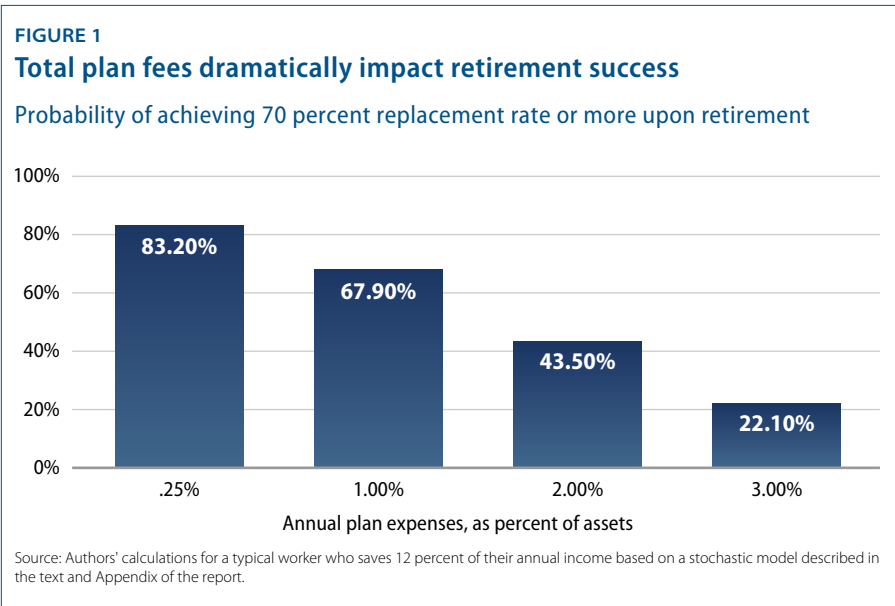
By appropriating for start-up costs instead of using loans, our NSP would avoid such an upfront temporary charge. Because the government spends more than \$100 billion annually on retirement-related tax expenditures, which accrue primarily to the richest Americans, temporarily spending a relatively small amount to expand savings options is appropriate.<sup>76</sup> We expect that the NSP could keep fees even lower than NEST in the long term given its size and more limited range of investment options.

Recent estimates for the likely costs of California's retirement plan for those who do not have workplace retirement plans also suggest that 0.25 is a reasonable fee level for a federal plan. California estimates that once the plan is fully up and running, program costs will be 0.3 percent of plan assets; the federal plan will be larger and thus likely to have lower fees.<sup>77</sup>

Finally, the largest, lowest-fee U.S. private-sector plans prove that a 0.25 percent all-in fee level is attainable.<sup>78</sup>

The figure below shows how likely our typical worker, saving 12 percent of his or her income from age 30 and retiring at age 67, is to reach at least a 70 percent replacement rate in retirement when paying:

- 0.25 percent of assets in total annual fees—our target NSP fee level
- 1 percent of assets in total annual fees—a typical fee level for 401(k) plans<sup>79</sup>
- 2 percent of assets in total annual fees—a fee level found in many small-business 401(k) plans<sup>80</sup>
- 3 percent of assets in total annual fees—a very high fee level faced by some participants in the smallest 401(k) plans<sup>81</sup>



Our typical workers saving in a plan that costs 3 percent of assets annually would have only a 22 percent chance of building enough assets to meet our 70 percent replacement rate goal. If they moved to the NSP and paid just 0.25 percent of assets instead, they would be nearly four times more likely to maintain their standard of living in retirement. Put another way, to have the same chance of a successful retirement as someone saving 12 percent of their salary in an account with 0.25 percent in fees, an individual paying 3 percent in fees would need to save 20 percent of his or her salary per year.

And even fee differences that look relatively small can have an outsized effect on retirement outcomes. A typical saver paying 1 percent annually in fees on their retirement account would accumulate an account balance worth 637 percent of their final pay. If they were instead saving in the NSP and paying just 0.25 percent in annual fees, their account balance would be worth 738 percent of their final pay.

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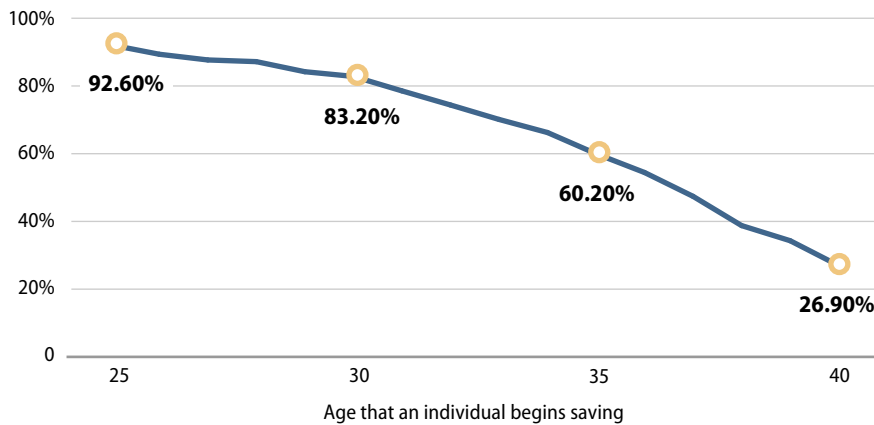
## Encouraging earlier saving

The power of compounding returns means that early saving for retirement dramatically increases one's retirement savings. Unfortunately, individuals often put off saving until they reach an age that does not leave them enough time to build up a comfortable nest egg.<sup>82</sup> By ensuring that all Americans have access to a retirement plan in their workplace and automatically enrolling savers, the NSP would encourage people to start saving early. Additionally, the NSP also would encourage individuals to save more consistently. Changing jobs to an employer that does not offer a retirement plan, and potentially losing years of savings, would become a thing of the past.

There is evidence from the private sector that automatic enrollment features cause individuals with plan access to save earlier. For example, Vanguard found that while only 26 percent of eligible employees under age 25 participated in workplace retirement plans with voluntary enrollment, 90 percent participated in plans with automatic enrollment.<sup>83</sup> The figure below shows the likelihood that our typical saver will reach a replacement rate of 70 percent in retirement based on the age they begin saving. While our model individual who started saving at age 25 will have an estimated 92.6 percent chance of a successful retirement, delaying that start by 10 years will result in only a 60.2 percent chance of success.

**FIGURE 2****Early saving is crucial for retirement success**

Probability of achieving a 70 percent replacement rate or more upon retirement



Source: Authors' calculations for a typical worker who saves 12 percent of their annual income based on a stochastic model described in the text and Appendix of the report.

To match the chance of success of a 25-year-old saving 12 percent of his or her income, those who start saving later must severely boost their contribution rates. Just a five-year delay in savings, from age 25 to age 30, means that an individual would have to contribute 2.3 percentage points more of his or her salary annually—a 19 percent increase—to have an equal likelihood of successfully meeting a 70 percent replacement rate. And the cost of delaying savings only increases as one gets older and the time for contributions to compound dwindles: Waiting to save until age 40 means that an individual would have to contribute 20.4 percent of salary annually to match the success of a 25-year-old saving 12 percent.

## Contribution rates

Regardless of how a DC plan is structured, a higher contribution rate will increase one's chances for a successful retirement. The more workers save each year, the more they will have when they retire.

As previously noted, retirement advisors recommend that individuals save anywhere from 10 percent to 15 percent of their income per year.<sup>84</sup> Depending on an individual's personal finances, such a high savings rate may not be possible. Indeed, research indicates that many Americans would have a hard time saving at

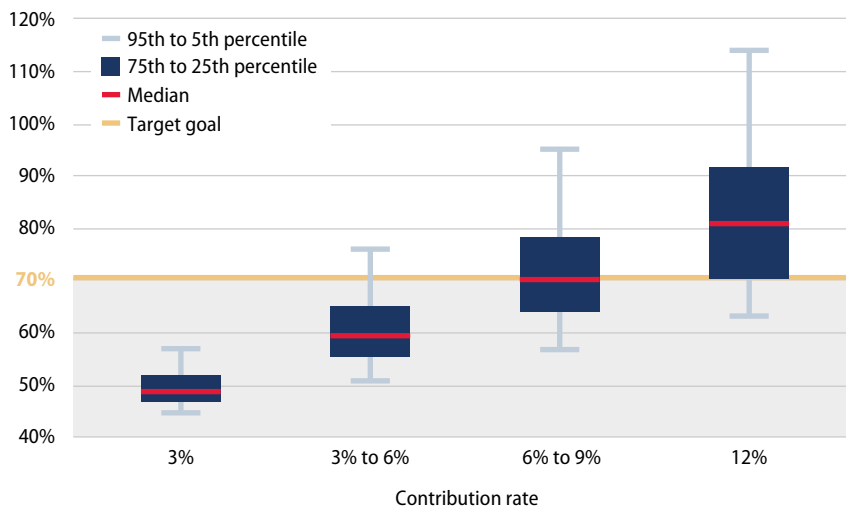
such high rates.<sup>85</sup> When policymakers decide at what level to set a plan's default contribution rate, they must work to balance the likelihood that a saver will be able to adequately save for retirement at that level and the likelihood that a saver will choose to opt out of the plan.

The figure below shows the likelihood of a typical worker reaching a 70 percent replacement rate upon retirement when contributing:

- Total annual contributions of 3 percent of pay—the default in many reform proposals and state IRA proposals<sup>86</sup>
- Annual contributions that begin at 3 percent of pay and increase by 1 percentage point per year until reaching 6 percent of pay—the NSP's proposed employee contribution default
- Annual contributions that begin at 6 percent of pay and increase by 1 percentage point each year until reaching 9 percent of pay—the NSP's proposed employee contribution default plus a flat 3 percent employer contribution
- Total annual contributions of 12 percent of pay—a contribution rate within recommended ranges from financial advisors<sup>87</sup>

**FIGURE 3**  
**Low contribution rates will not provide adequate retirement savings for a median-income saver**

Retirement income as a percent of final salary



Source: Authors' calculations for a typical worker based on a stochastic model described in the text and Appendix of the report.

Our model confirms the importance of contribution rates in achieving retirement security. Those who save even a relatively little bit each year are much better off than those who save nothing. And of course, the more people save, the more they will have in retirement. Still, not everyone is financially capable of saving at high rates. As a result, there is a balance to strike between setting savings defaults that are feasible for most families to achieve and savings defaults that are high enough to provide a very high likelihood of retirement security.

More specifically, our model estimates that the typical saver saving at 3 percent would build a nest egg worth 184.6 percent of his or her final pay. However large this amount may sound, though, it would still provide only a median replacement rate of 49 percent alongside Social Security.

Because individuals who are automatically enrolled at a static contribution rate are less likely to increase their savings rates than those who voluntarily opt-in to save in a 401(k),<sup>88</sup> it is important to aim higher for automatic default contribution rates. The NSP would automatically escalate its initial default salary deferral rate of 3 percent by 1 percentage point per year until reaching an initial cap of 6 percent. If a typical individual saved at exactly this default with no employer contributions, he or she would build an estimated account balance of 369.2 percent of final pay. The savings for the median individual in our model would provide for a 59.6 percent replacement rate when combined with Social Security benefits.

It is important to note that for lower-income individuals, the NSP's default contribution rate would be more likely to lead to meeting a 70 percent replacement rate. For example, when we model a full-time worker earning the federal minimum wage at age 30, we find that at the NSP's default contribution rate, he or she would have a median replacement rate of 72.5 percent at retirement and thus meet many retirement planners' targets.<sup>89</sup>

Our model also shows that for workers earning above the minimum wage, total contributions above the NSP's default rates are likely to be necessary. If an employer contributed a flat 3 percent of salary to its employees, the total contribution rate at our plan's default settings would escalate to a combined 9 percent.<sup>90</sup> The median individual in our model saving at this rate would achieve a replacement rate of 70.3 percent and build a nest egg of 553.8 percent of his or her final salary.

Finally, we show that middle-income individuals should save even more than our proposed default contribution rates to improve their retirement prospects. A total contribution rate of 12 percent would result in a median replacement rate of 80.9 percent, and our model estimates that individuals would face only a 16.8 percent chance of falling below a 70 percent replacement rate in retirement.

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## Contribution limits

We have set the NSP annual contribution limits at the level of 401(k)-style plans rather than at IRA limits because a significant number of workers likely would be prevented from accumulating sufficient assets at the lower IRA limits.<sup>91</sup> It is possible, however, that a middle-ground contribution limit between IRAs and DC plans could be used. While the IRA annual contribution limit is currently \$5,500, savers in 401(k)-style DC plans can save up to \$18,000 of their own money each year, with their employers able to contribute an additional \$35,000.<sup>92</sup> These amounts are indexed to inflation. Savers ages 50 and older also can contribute additional “catch-up contributions,” which cannot exceed \$1,000 for IRA savers or \$6,000 for those in 401(k)-style DC plans.<sup>93</sup> These limits do not make our current retirement savings incentives progressive—the system still favors higher-income workers.<sup>94</sup> Furthermore, very few savers ever get near the 401(k) limits, and those who do are typically the highest-income earners.<sup>95</sup>

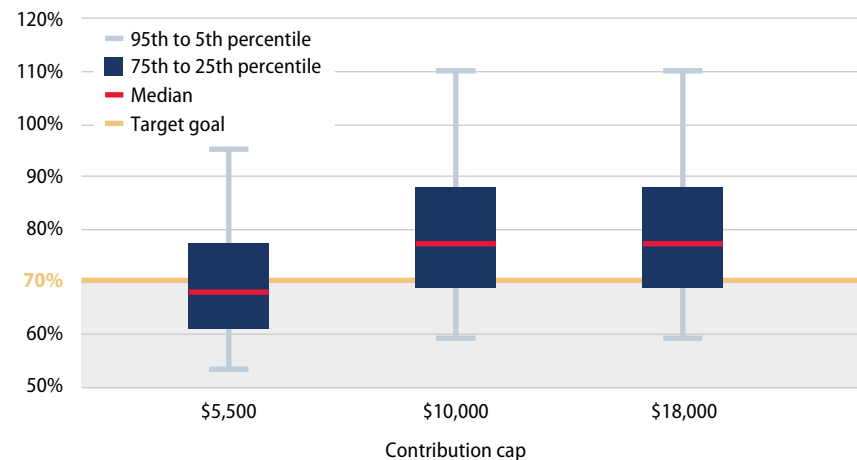
Still, a plan with IRA contribution limits could reduce the ability for some middle-income workers to save a sufficient amount for retirement. To illustrate the effect of contribution caps, we deviate from our main model and use a worker making 50 percent more than our median income earner at age 30—\$46,800.<sup>96</sup> We then model the impact of saving in a plan with the \$5,500 IRA contribution limit, a \$10,000 contribution limit, and the \$18,000 employee contribution limit on 401(k)-style DC plans.<sup>97</sup>



FIGURE 4

## IRA contribution caps can impede savings for upper-middle-class workers

Retirement income as a percent of final salary



Source: Authors' calculations for a worker earning a \$46,800 annual salary at age 30 who saves 12 percent of their income based on a stochastic model described in the text and Appendix of the report.

Our model shows that for a modestly higher-income individual, the IRA contribution cap significantly limits the chance of maintaining a standard of living in retirement. An individual making \$46,800 at age 30 would see his or her chance of reaching a 70 percent replacement rate drop from 71 percent to 42.3 percent. As such, the NSP should feature a higher employee contribution limit than IRAs.

## Payout phase

When individuals reach retirement, they face a number of risks and challenges in managing their assets to provide income through retirement. One of the key risks they face is “longevity risk”—the possibility that they will live longer than their assets do. This risk can be avoided by converting lump-sum savings into a lifetime stream of assets by purchasing an annuity.

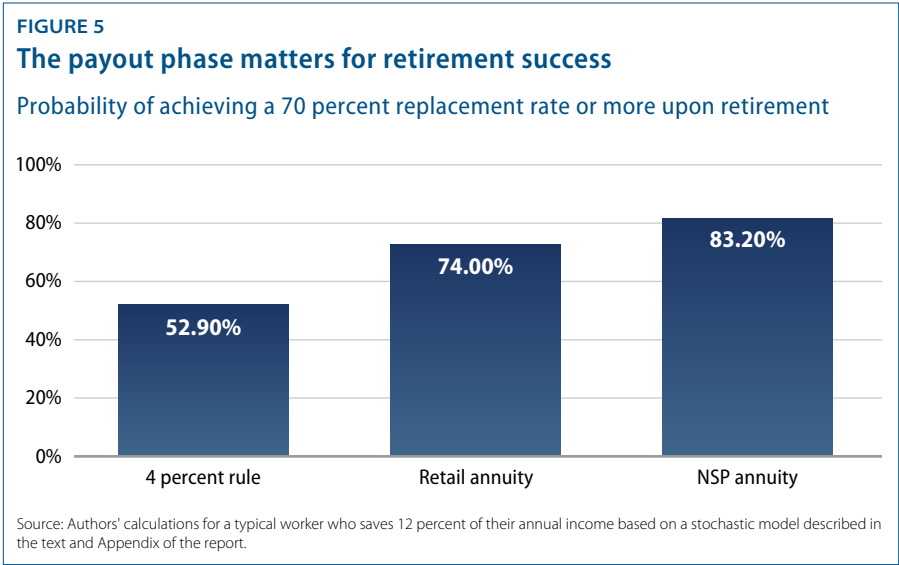
However, in-plan annuity options are not very prevalent in today’s DC market. Only 5 percent of DC plan sponsors surveyed by Deloitte in 2015 offered an annuity purchase option or software to help savers select an annuity.<sup>98</sup> Only 15

percent of Vanguard’s DC plans offer an annuity option for their plan assets.<sup>99</sup> And a 2011 Government Accountability Office report found that only 6.1 percent of retiring workers between 2000 and 2006 annuitized their DC assets.<sup>100</sup>

The typical alternative to purchasing an annuity is for individuals to draw down their assets at a fixed rate. Advisors commonly cite the “4 percent rule,” where retirees withdraw 4 percent of their savings in the year they retire and then try to maintain a similar level, adjusted for inflation, each subsequent year.<sup>101</sup>

Our analysis shows how much more efficient annuitization is compared with simply withdrawing a fixed amount of assets per year. The figure below shows that retirement outcomes are affected by the following payout options:<sup>102</sup>

- No annuitization, using the 4 percent rule
- Buying an annuity on the retail market, priced at individual annuity rates
- Buying an annuity through the NSP, priced at group annuity rates



Annuitization improves the likelihood of meeting a 70 percent replacement rate over drawing down an account by a set percentage each year. A saver following the 4 percent rule would have only a 52.9 percent chance of meeting this target replacement rate, while savers who annuitize their assets, even at the expensive retail option, would have a 74 percent chance of meeting this goal. Lower fee annuities further increase the chances of success.

Still, it is important to note that other payout strategies may be even more efficient than a group annuity. Retirees face many other risks besides longevity. There is investment risk that their assets will not increase in value, as well as interest rate risks that inflation could eat away at the value of their incomes, or that interest rates could be particularly unfavorable when they retire and thus reduce the value of the annuity they purchase. Indeed, our modeling (not shown) finds that a payout structure based on CAP's SAFE Plan, where the plan seeks to provide a high probability of a certain level of retirement income, leads to a more than 90 percent chance of meeting target replacement rates.<sup>103</sup> As a result, the NSP board may ultimately want to institute a payout structure inspired by CAP's SAFE Plan or using trial or incremental annuity purchases, as discussed earlier, to help mitigate interest rate risk.<sup>104</sup>

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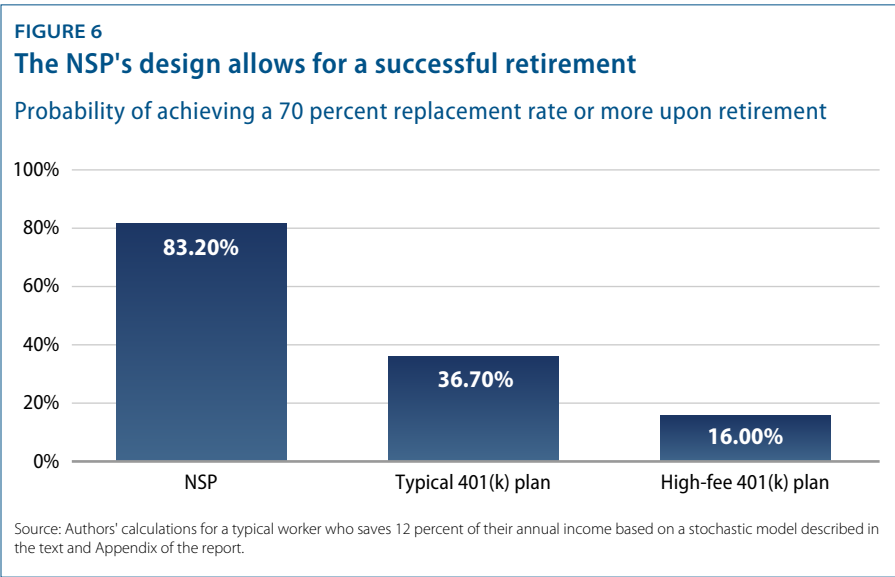
## Putting it all together: NSP vs. the alternatives

When all the advantages described above are combined, the NSP's performance dramatically outdistances the typical 401(k) plan. To model the combined advantages of the NSP, we focus on two key advantages, lower fees and an annuity. We compare the NSP, assuming fees of 0.25 percent of assets managed and that an individual purchases an annuity at group rates upon retirement, to two 401(k) plans. For the typical 401(k), we model a fee of 1 percent of assets managed; for the high-fee 401(k), we model a fee of 2 percent of assets. For both types of 401(k)s, our model saver withdraws his or her assets upon retirement using the 4 percent rule. Our model saver begins saving at age 30 when making \$31,200 annually, contributes 12 percent of income, and retires at age 67.

Importantly, in our effort to show the superiority of the NSP, we take a conservative modeling approach that ignores certain advantages of the NSP, such as encouraging individuals to start saving earlier through automatic enrollment and more easily allowing continuous saving between jobs than do 401(k) plans.

The NSP is focused on providing a high-quality plan to those who have no retirement plan at their workplace. As policymakers seek to increase access to retirement plans, they should focus on ensuring that workers without plans can save in a high-quality plan such as the NSP.

As our modeling shows, the NSP results in much better retirement outcomes than the typical 401(k) plan. A saver has an 83.2 percent likelihood of meeting a 70 percent replacement rate when saving 12 percent of pay in the NSP, nearly 2.3 times higher than the 36.7 percent success rate when saving in a typical 401(k) plan. When compared with a plan that is representative of many available to those who are working for a small business, an individual saving in the NSP would be more than five times more likely to save for retirement successfully. The NSP’s lower fees would enable this saver to build an account totaling 7.4 times his or her final income, while he or she would be able to accumulate only 5.3 times his or her income when saving in the high-fee 401(k).



# Conclusion

Many of today's policymakers understand that our retirement system leaves behind too many Americans. Important steps are being taken to build Americans' retirement savings, from the Obama administration's myRA retirement starter account to state-led efforts to create automatic payroll deduction IRAs. The time is right for a program that would allow and encourage all Americans, no matter their employer, to save for retirement effectively.

If policymakers adopt the National Savings Plan, millions of Americans who currently do not save for retirement would gain access to a simple and high-quality way to save at work. The advantages of the NSP are dramatic, as our modeling shows. Allowing workers to save in a plan based on the Thrift Savings Plan currently offered to members of Congress and federal employees will ensure that their contributions go further than in the high-fee plans often offered to smaller businesses: A typical saver is more than five times more likely to successfully retire in the NSP than in a high-fee plan.<sup>105</sup> And since the NSP is portable and encourages saving at younger ages, workers have more time to let their savings grow.

Workers' retirement prospects should not depend on which employer they work for—or if they work for a traditional employer at all. By bringing plan features of the best 401(k)-style plans to Americans who currently lack employer-provided plans—including automatic enrollment and escalation, low fees, lifetime payment options, and high-quality, passively managed investments—the NSP helps level the playing field for retirement savers. Policymakers should build upon the emerging consensus at the state and national levels and act to ensure that all Americans are able to retire with security and dignity by adopting the NSP.

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## About the authors

**David Madland** is a Senior Fellow and the Strategic Director of the American Worker Project at the Center for American Progress Action Fund. He has written extensively about the economy and American politics on a range of topics, including the middle class, economic inequality, retirement policy, labor unions, and workplace standards such as the minimum wage. His book, *Hollowed Out: Why the Economy Doesn't Work without a Strong Middle Class*, was published by the University of California Press in July. Madland has a doctorate in government from Georgetown University and received his bachelor's degree from the University of California, Berkeley.

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# Appendix

It is impossible to predict retirement outcomes with certainty, as these outcomes rely on uncertain values such as investment returns, inflation, wage growth, and interest rates. We therefore use a Monte Carlo simulation technique to allow for varying inputs, running 1,000 simulations. This simulation model requires that variables be given a mean expected value and a standard deviation that determines the volatility of the variable over time. Our model uses the following assumptions for its variables.

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## Price inflation

We assume the expected value of price inflation to be 2.5 percent, in line with long-term expectations.<sup>106</sup> The standard deviation of the annual inflation rate is assumed to be 1.6 percent. The inflation model used is nonlinear, meaning that inflation will revert to the mean, simulating the actions of the Federal Reserve and including random bouts of inflation that can become reinforcing.

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## Wage inflation

We assume that wage inflation will have an expected value of 3 percent per year and a standard deviation of 1.3 percent. This is a 0.5 percent real wage growth rate, in line with the Social Security Administration's long-term, high-cost assumption of 0.55 percent real wage growth and more consistent with recent experience for lower- and middle-income workers.<sup>107</sup>

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## Fixed-income returns

We assume that fixed-income assets return an expected nominal value of 4.5 percent and a standard deviation of 5 percent. This expected 2 percent real return is consistent with historical experience.<sup>108</sup>



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## Equity returns

We assume that the returns on equities have an expected nominal value of 8 percent and a standard deviation of 20 percent. This is based on an estimated portfolio of 75 percent U.S. domestic stocks and 25 percent international stocks. This expected return assumes a 3.5 percentage-point equity risk premium level compared with the bond portfolio, consistent with historical results.<sup>109</sup> The standard deviation is consistent with historical experience but uses a non-normal distribution. Our model allows for markets to become turbulent, and the probability of large negative returns is higher than in a normal distribution. This fat-tailed distribution captures extra downside risk. The model also reflects long-term reversion to the mean.

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## Target date fund glide path

We assume that individuals invest in a target date fund that changes its allocation between equities and fixed income assets over time. The fund invests 90 percent of assets in equities until the saver reaches age 40, drops to 60 percent equities by age 60, and reaches a final equity allocation of 50 percent at age 65. This is in line with funds available on the private market.

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## Career pay progression

We assume that individuals, on average, earn additional merit pay increases of 1.59 percent until age 50, 0.58 percent until age 65, and remain flat until retirement at age 67. Wage growth also includes the random wage inflation described above. The starting pay for our median income earner is \$31,200 at age 30, in line with Current Population Survey data.<sup>110</sup>

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## Mortality rates

The base mortality table used is the Retirement Plan-2014 mortality table, which was released by the Society of Actuaries in October 2014.<sup>111</sup> The rates contained in this table were then projected forward to 2052 and adjusted using the recommended Scale MP2014 projection factors to account for expected improvements in mortality rates over time. The rates utilized are a unisex set of rates for blue-collar workers based on 50 percent male and 50 percent female rates. Using these rates, the expected future lifetime for an individual retirement at age 67 is 24 years—to age 91. This relatively high age is a consequence of projected mortality improvements

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## Endnotes

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- 3 Davis, Kazzi, and Madland, "The Promise and Peril of a Model 401(k) Plan."
- 4 Indeed, Sen. Marco Rubio (R-FL) has called for providing access to the Thrift Savings Plan, with its "shockingly low costs and high rates of return," to those without access to an employer-sponsored retirement plan. See Office of Sen. Marco Rubio, "FACT SHEET: Reforms To Ensure A Secure Retirement For 21st Century Seniors," Press release, May 13, 2014, available at <http://www.rubio.senate.gov/public/index.cfm/press-releases?ID=fcd59947-235b-4220-b622-03cdb08dc389>.
- 5 This example compares the likelihood of achieving a 70 percent replacement rate success through the National Savings Plan—0.25 percent fee, group annuity with a flat 2 percent cost-of-living adjustment and a 15-year certain period priced at market interest yields from our simulation model—to a 401(k) plan charging a 1 percent fee and using the 4 percent rule to spend down assets. Full details on our model are available in the Appendix.
- 6 This example calculates how much more people saving in a 401(k) plan charging a 1 percent fee and using the 4 percent rule to spend down assets would have to save in their plan to have the same likelihood of retirement success as people saving in the NSP with a 0.25 percent fee and group annuity. Full details on our model are available in the Appendix.
- 7 This example compares the likelihood of achieving a 70 percent replacement rate success through the NSP—0.25 percent annuity fee, group annuity—to a 401(k) plan charging a 2 percent fee and using the 4 percent rule to spend down assets. Full details on our model are available in the Appendix.
- 8 Pension Rights Center, "State-based retirement plans for the private sector," available at <http://www.pension-rights.org/issues/legislation/state-based-retirement-plans-private-sector> (last accessed December 2015).
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- 19 TSP fees are approximately 0.029 percent of assets managed per year. Note that there are additional TSP fees, which can be found here: Thrift Savings Plan, “Expense Ratio,” available at <https://www.tsp.gov/investmentfunds/fundsoverview/expenseRatio.shtml> (last accessed December 2015).
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## Our Mission

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