Design Matters

The Influence of DC Plan Design on Retirement Outcomes

On Behalf of the DCIIA Retirement Research Board

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DCIIA
Defined Contribution
Institutional Investment Association
Dedicated to Enhancing Retirement Security

This paper serves as a first report of the findings from a broader, ongoing project centered on the 401(k) industry. The mission of the project is to create a framework that provides the data and analysis necessary to inform plan sponsors in the effective design and management of their defined contribution plans, and also to more fully inform conversations between policymakers and industry participants around both how the current system is working and what enhancements will drive better retirement security outcomes. While DCIIA is getting this initiative off the ground with the help of analytics from EBRI, we invite plan sponsors, financial services and other retirement industry organizations to join this effort. Organizations can get directly involved by becoming a member of DCIIA. DCIIA also welcomes other interested associations and other groups in the financial services and retirement industry that would like to contribute to the project to inquire about joining us in this important effort.

SUMMARY

DCIIA has been working on research geared to understanding 401(k) plan contributions to the retirement readiness of American workers since 2010. DCIIA is now formally embarking on a project, which is designed to be an unbiased, fact-based assessment approach to validate or dispel assertions about defined contribution (DC) plans. The project is meant to identify and explain discrepancies and differences produced by various studies, as well as help to distinguish true policy differences from informational confusion. It does this in three ways:

First, it draws on EBRI's Retirement Security Projection Model®, which utilizes results from the nation's largest and most comprehensive retirement savings database.

Second, it focuses on the nation's 401(k) system, highlighting where it is working well and where it could be improved.

Third, it targets initiatives, behaviors, policies, and approaches that may either boost or diminish the retirement security of American workers.

In this paper, we will explore the first set of findings of this project, in which DCIIA explores the current state of the impact of 401(k) plans and other retirement savings plans on overall retirement preparedness in a post-Pension Protection Act (PPA) DC environment.

DESIGN MATTERS: SELECTED FINDINGS:

1. Automatic plan features work.

2. The current DC system can do better, even without additional legislative or regulatory action.

3. Limiting asset "leakage" works.

Introduction

Are Americans prepared for retirement? Here are some recent news headlines:

"Baby Boomers Face a Shocking Retirement Savings Shortfall"[1]

"Americans More Ready for Retirement than Ever"[2]

"Americans' Retirement Savings Improving but Still Not Great"[3]

Whether we are inclined to be alarmed or reassured about Americans' retirement income adequacy, we could easily be confused by the conflicting rhetoric, and eager to look beyond the headlines to the actual evidence. Thus, we should support fact-based efforts to bring more clarity to the issue and to inform our fellow Americans about where they stand, including – where needed – measures they can take to improve their prospects.

That's why the Defined Contribution Institutional Investment Association (DCIIA), with simulation analysis provided by the Employee Benefit Research Institute (EBRI), has developed an approach for gauging the impact of 401(k) plans on American workers' retirement savings adequacy that dispassionately tests market assumptions regarding defined contribution (DC) plans. DCIIA believes that this project will aid policy makers, plan sponsors and others interested in helping people achieve adequate retirement income, by providing insight into America's 401(k) system and its most effective options for improving lifetime security.

> **DCIIA's Project Constituents**
> - Policy makers
> - Plan sponsors
> - Industry service providers such as consultants, investment managers, recordkeepers and other interested parties

With DCIIA's project, all retirement industry stakeholders may better understand which participants are being well-served by the DC system, and which are not. The project analyzes 401(k) plans only, and DCIIA is using this as a proxy for the broader DC system. It is intended to provide a picture of the strengths and weaknesses of the current system; it also measures the significance of plan

design changes, such as those codified by the Pension Protection Act of 2006 (PPA). It signals where the retirement industry might best focus its attention when weighing various options, and deciding which will have the greatest positive impact on better outcomes. For example, the DCIIA project shows the impact of a range of implementation approaches for plans with automatic enrollment and automatic escalation.

This guide to the DCIIA project is intended to demonstrate:

1. Why it is so important to get a clear sense of workers' future retirement income adequacy

2. Where to direct specific efforts most likely to improve outcomes, and

3. How findings from this project can be used by the institutional retirement community, from plan sponsors to policymakers, to improve the private sector retirement system for the benefit of American workers

DCIIA's Project Helps Promote An Understanding Of A Key Component Of Retirement Income Adequacy

While views on the roles and responsibilities of individuals, employers, unions, plan providers and the government for facilitating sufficient retirement income can and do vary, policy and design discussions are most constructive when based on a common understanding of the facts. As the news headlines quoted in the introduction to this paper indicate, there are wide discrepancies among views on the size and nature of any retirement income shortfall,[4] as well as on the impact of policies intended to reduce shortfalls. Is this just simply the result of ideological differences, or are there ways to better inform discussions by developing a common framework?

Some attribute discrepancies in estimates of retirement income adequacy to conflicting definitions. What do we mean by retirement income adequacy? It could mean saving enough to replace all or a certain percentage of a working person's pre-retirement income for as long as they (and their spouse) live. It could also mean accumulating enough of a nest egg so that life's basic expenditures in retirement are covered. But what do we mean by basic expenditures? And how might those expenditures vary with age and other factors?

Others blame data integrity. Certain data, such as rollover data or non-qualified savings, may be difficult or impossible to obtain when attempting to determine the size of workers' nest eggs. Many workers have multiple retirement savings accounts from prior employers, which are likely to be excluded from retirement savings calculations done in the context of a single plan. Also, can we properly account for contribution gaps (e.g., unemployment) during an individual's working years?

Still others focus on differences in assumptions. For some, but certainly not all, the definition of adequate retirement savings includes enough money to pay for long-term care. There is also no universal agreement on how much income needs to be replaced after retirement. And how much can we expect savings and investments to earn over time? Further, how should we think about the role of Social Security? What about older workers who may have a pension from a defined benefit (DB) plan?

Taken together, discrepancies in definitions, data integrity, and assumptions can lead to large differences in views on the two most important questions about retirement income adequacy: what is needed for retirees to support themselves; and what resources might they have available to provide that support? We believe that policy discussions about the future of the 401(k) system have, in part, been inhibited by just such differences and discrepancies. Take "adequacy", for example. A national study found total mean expenditures for individuals aged 65-74 to be $42,543 (this analysis includes costs such as home, food, health care, transportation, clothing, and entertainment) for 2013.[5] This amount may be a starting point; if, however, the individual had been making $100,000 before retirement, it may not meet expectations and perceptions of what expenses comprise "the basics". On the other hand, for an individual with minimum wage earnings, that amount may represent an effective continuation of income at close to the same level. Without a common understanding of definitions, data and assumptions, it is difficult, if not impossible, to have a clear and unbiased understanding of:

1. The strengths and weaknesses of the current system, as well as the effects of improvements due to plan design changes codified by regulations such as the PPA

2. Where lawmakers and regulators should focus their attention, and

3. What guidance industry practitioners might give to plan sponsors to ensure better outcomes

The Data and the Analytics Behind DCIIA's Project

Retirement preparedness can be expressed in many ways. In this initial set of findings, DCIIA's project focuses on the ratio of projected assets from current and future 401(k) plans and IRA rollovers from future job changes at retirement to final annual salary—in other words, multiples of final earnings—in order to gauge the degree to which DC participants are "on track" for a retirement that will maintain their pre-retirement standard of living. We are using wealth expressed in terms of salary as a measure that tells us how accumulations might translate into such a goal; for most people, salary equates closely to individual/household income.

> **DCIIA's Project** uses multiples of pay for its findings because it is designed to be a simple, clear way of level setting overall retirement preparedness for the industry, policy makers, and plan sponsors. When, however, it comes to communicating individual potential retirement outcomes to plan participants, alternative approaches, such as projecting income in retirement, may be more appropriate.

Because DCIIA's project seeks to measure the strength of the current DC system for those who rely on that system, its analysis focuses on:

1. **The current private DC system.** It is important to recognize that today's DC system is dramatically different from the one that existed prior to the PPA. The PPA facilitated many enhancements to DC plans, including: automatic enrollment, automatic escalation, qualified default investment alternatives (QDIAs) such as target date funds, QDIA re-enrollment, and permanently higher contribution caps. Today, more than 10 years after enactment of the PPA, the DC system has evolved considerably to take advantage of these enhancements. Prior to 2006 and the PPA:

- 19% of DC plans had auto enrollment;[6] today more than 60% of large DC plans have this feature[7]

- 9% of plans offered automatic escalation;[8] today more than 80% of plans with automatic enrollment have automatic escalation[9]

- Stable value and money market funds were the most common default funds for plans with automatic enrollment; today, largely as a result of stable value funds being excluded as a QDIA, new default options have gained traction, including target date funds, managed accounts, and balanced funds. Today, 85.5% of plans use target date funds as the default investment alternative for non-participant-directed monies.[10]

2. **Workers will spend their entire careers in the current DC system**. People joining the workforce today face not only a very different DC plan system than those who began working a decade or more ago; they face a very different retirement system. In 1975, there were approximately twice as many participants in DB plans as there were in DC plans. In the mid-1980s, the number of participants in DB and DC plans was roughly equal. Today, the average retirement plan participant is more than four times as likely to be in a DC plan as in a DB plan. While the current DC system was originally designed to supplement other forms of retirement savings, today's workers may rely entirely on their DC plan(s) as their sole employer-sponsored source of retirement income. In practical terms, today's workers are also likely to have more than one such DC plan from prior employers. It is important to understand how such workers are likely to fare in a DC-only environment.

The DCIIA Project's Key Assumptions

The analysis behind DCIIA's project leverages EBRI's Retirement Security Projection Model®, which has the capacity to simulate multiples of earnings at age 65, based on analysis of observed participant data.[11] The variables used in the model include, inter alia, plan balance levels, participant salaries, tenure and employee contributions. More recently, EBRI has added plan-level data to this model, including data on employer-matching and non-elective contribution formulae, as well as whether a plan has adopted automatic enrollment and automatic escalation features and, if it has, the implementation date, as well as the contribution deferral and escalation rates. The modelling performed for this analysis is restricted to 401(k) plans only.

The comprehensive model and tested analytics used in the construction of DCIIA's project work together to enable the assessment of participants' projected capacity to amass sufficient savings for retirement. Some of the most important assumptions that DCIIA's project calculations are based on include:

- Real rate of return: stochastic simulation from a lognormal distribution, with an arithmetic mean of 8.6 percent for equity and 2.6 percent for non-equity investments

- Rate of return projections: based on the current asset allocation of participant balances, which changes over time

- Wage growth assumptions for 401(k) participants: based on the longitudinal EBRI/ICI 401(k) data [12]

- Cash-outs, loan defaults and hardship withdrawal behavior: proprietary industry data; model does not consider IRA withdrawals or secondary effects of eliminating loans, cash-outs and hardship withdrawals

- Job changes: stochastic simulation based on government survey data

- Employee contribution behavior: model developed from actual employee contributions for plans with plan-specific information. The contributions are a function of age, wage, tenure and incentives at each one percent of compensation provided by the employer matching formulae[13]

- Fees: for equity funds, fees are assumed to be 54 basis points; for non-equity funds, they are assumed to be 43 basis points

- DB plan assets are excluded from this analysis, and it should be noted that participants with such assets may have significantly more retirement income than this model would otherwise predict

- DCIIA's project is restricted to analysis of 401(k) participant data, and does not include other DC plan types, such as 457 plans, Thrift Savings Plan or 403(b) plans

- Social Security is not included, as this analysis is intended to measure the DC system exclusively

This paper uses the 401(k) analysis as a proxy for the broader DC market, which would also include 403(b), 457, and 401(a) plans.

3. **Middle-income workers[14] who may need the DC system the most.** It can be argued that middle-income workers are the individuals most likely to struggle to maintain their standard of living in retirement. Few employers or policy makers worry that workers on the upper end of the wage scale will face dim prospects in retirement. On the lower end of the wage scale, workers can expect much of their income to be replaced by Social Security. For the many workers, not in either of these categories who are seeking to maintain their standard of living in retirement, however, Social Security is unlikely to meet their needs. In one analysis, estimates of income replaced by Social Security for those of middle-income at a retirement age of 65, range from 35.5 to 55.5%, depending on year of birth.[15]

> **Definition:** "Middle-income worker" is defined as a person who falls into one of the middle two income-specific quartiles used in DCIIA's project.

Why focus solely on middle-income workers?

It can be argued that retirement savings adequacy is an issue across the entire income spectrum, so why does DCIIA's project focus only on the middle-income segments?

It is known that there are some key differences for those at either extreme of the income spectrum. For those in the upper-income group, or quartile, it may be true that many are not saving sufficiently to target. It is unlikely, however, that social or policy changes could be justified to ensure a continued standard of living for upper-income retirees.

In contrast, those in the lowest-income quartile face a different experience. Many retirees will receive Social Security throughout retirement, and this additional income may actually represent a large percentage of income for the lowest-income group. Furthermore, measures such as a wage replacement ratio or a multiple of final earnings may actually produce "strong" scores for this group when including Social Security. DCIIA is therefore not suggesting that such measures would necessarily be useful for assessing the retirement savings adequacy of low-income retirees, as it may be possible that one could have a high projected final multiple of earnings and still be living below the poverty line. DCIIA suggests that this issue could be directly addressed with policy changes, rather than suggesting a higher default savings rate.

DCIIA's Project as an Assessment Tool

DCIIA's project is designed to be unbiased and fact-based in validating or dispelling assertions about DC plans. It can help to identify and explain discrepancies and differences produced by various studies, as well as help to distinguish true policy differences from informational confusion. It does this in three ways:

First, as noted above, it draws on EBRI's Retirement Security Projection Model®, which utilizes results from the nation's largest and most comprehensive retirement savings database. From this model, it is possible to get a sense of how people of different ages, genders and other characteristics have fared over time.

Second, DCIIA believes that it's project is a powerful tool to project contributions and accumulations. DCIIA's project is designed to be easily understood by marketplace constituents.

Third, it focuses on the nation's 401(k) system, seeking to identify where it is working well and where it could be improved. By applying analytical tools to this comprehensive model, DCIIA's project can identify differences in plan rules and individual behavior to see what effects each might have on current conditions and projected future outcomes.

In particular, DCIIA's project focuses on middle-income workers—those retirement savers who are most likely to depend primarily on retirement income from their employer-sponsored DC plans in the current 401(k) retirement system as amended by the PPA. Using actual incomes, savings rates, account balances and asset allocations, DCIIA's project seeks to project how different groups of participants may fare in achieving the means to generate or finance an adequate retirement income

The DCIIA Project's Findings

1. **Automatic plan features work**. The difference in retirement savings for workers in plans with automatic features and those whose plans do not have auto features is dramatic. Middle-income workers who spend their entire careers in plans with auto enrollment and auto escalation are projected to experience significantly better outcomes than middle-income workers in plans without auto features.

2. **The current system can do better, even without additional legislative or regulatory action.** The DC system is already equipped with many of the tools it needs to drive improved retirement outcomes. Wider and more consistent adoption of these tools, including automatic features and adequate initial savings rates, even among companies that already sponsor DC plans, could make a significant difference for today's workers.

3. **Limiting asset "leakage" works.** While loans taken against retirement plan assets may be a better choice than other forms of consumer debt, they can be particularly problematic when an employee terminates employment with an unpaid loan outstanding.[16] Limiting plan loans, hardship withdrawals and cash-outs could increase projected retirement assets and income by as much as nearly 10 percent for participants who take advantage of these features.[17]

4. **Today's older workers are especially vulnerable.** Optimal plan design cannot necessarily ensure adequate retirement savings for workers who have not spent their entire careers in the DC system, reaping the benefits associated with auto features. Younger workers are, on average, in better shape than these older workers, who may not have a DB plan and whose DC plan, prior to implementation of the PPA, did not include automatic features and other savings-boosting measures.[18] Please note that analysis for all workers omits IRA balances and/or 401(k) balances at previous employers. As a result, the low numbers for older workers may miss a substantial percentage of their total 401(k)/IRA balances. This issue is more likely to be significant for older workers. For example, the impact on the 25-29 age cohort is expected to be de minimis.

Interpreting The DCIIA Project's Findings for Middle-Income Workers

What does DCIIA's project tell us about the potential for retirement income adequacy of middle-income workers who will spend their full careers in today's corporate DC system?

Design Matters — One: The difference between multiples of final pay replaced in plans with and without auto features is dramatic.

Again, a key feature of the PPA is that it has encouraged the widespread use of auto features, such as automatic enrollment and automatic escalation, by creating safe harbors. So, how does the implementation of automatic

features play out in terms of middle-income workers' ability to save adequately for retirement over the entirety of their careers?

To answer this question, the project simulates the multiples of final-pay earnings replaced in pre-PPA-style plans that require workers to proactively sign up in order to save (voluntary enrollment plans), and compares them to projected multiples of final-pay earnings that may be replaced in post-PPA-style plans with auto features (auto enrollment plans).

DCIIA's project simulates that the median simulated multiple of final earnings from 401(k) accumulations at age 65 for middle-income 401(k) plan participants (those in the second and third quartiles of income distribution) who were eligible between the ages of 25 and 29 to save in a DC plan, and who work exclusively at companies offering DC plans without auto features, will be approximately 5 times final earnings.[19] In contrast, comparable 401(k) participants at companies that do offer DC plans with auto features will have accumulated an estimated 6.7 times their final earnings by retirement. That's more than a 30% difference in projected earnings saved, by virtue of the type of plan or plan design the worker had the opportunity to take advantage of (**Exhibit I**).

Exhibit I

401(k) participants currently 25-29 who are assumed to always work for an employer who sponsors a plan.
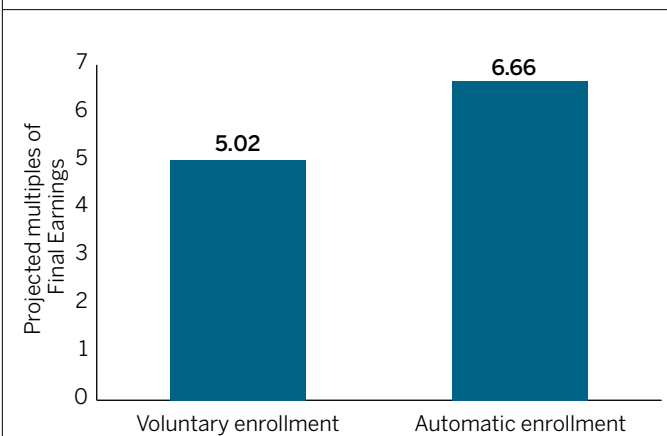
Citation: EBRI Retirement Security Projection Model® versions 2580 and 2554; Note that Voluntary Enrollment means no auto features; Automatic Enrollment means auto enrollment according to existing defaults in EBRI's model. The multiples expressed above are medians; Note that these auto enrollment plans all include auto escalation.

Challenges of Measuring Retirement Income Adequacy

Across the industry, there are differing views on the multiples of final earnings that workers need to save in order to retire comfortably. Exhibit II shows a sample of various retirement adequacy benchmarks and assumptions from the May 2015 GAO Report on Retirement Security.[20] According to the GAO report, industry estimates for such benchmarks can range as low as a 65% wage replacement ratio and as high as an 85% wage replacement ratio, depending on factors such as assumed post-retirement consumption patterns, prospective Social Security income, the retiree's medical needs, bequeathable asset requirements, and even the definition of "comfortable".

One study proposes a 70% to 80% wage replacement ratio as an appropriate target, which corresponds to an asset-to-salary ratio of 8-10 times final earnings (depending on whether Social Security payments are included),[21] while another study proposes 11 times final earnings.[22]

Exhibit II

Sample of Retirement Adequacy Measures from the GAO Report on Retirement Security (GAO-15-419), May 2015
Summary by Callan Associates, 2016

Organization (Year Of Study)	Retirement Adequacy Benchmark (Replacement Rate Unless Otherwise Specified)	Percentage Of Sample Projected To Be Below Benchmark	Other Notes And Statistics
Aon Hewitt (2012)	**85%**, or 11 times pay at age 65.	**85%** of sample	Estimates that savings shortfall relative to target for full-career contributing employee is 2.2x pay.
Biggs-Schieber (2014)	Able to maintain standard of living in retirement, but no specific target stated	N/A	For those who work to full retirement age, SS replaces 62% of final-avg earnings; income from 401(k)s and IRAs underreported by SSA.
Center for Retirement Research at Boston College (2014)	**69%** for highest-third income, **72%** for middle, **79%** for lowest.	**52%** overall **60%** of low-income and **43%** of high-income households.	Projects retirement income at age 65. Assumes annuitization of wealth, including housing equity.
Employee Benefit Research Institute (2012)	Sufficient to meet basic expenses, including health expenses, throughout retirement.	**44%** of 1948-1954 birth cohorts **87%** of lowest income quartile **13%** of highest income quartile	Assumes age 65 retirement; housing equity converted to savings only when other resources are exhausted. The model includes a stochastic decumulation module that includes the impact of longevity risk, post-retirement investment risk and long-term care risk.
Scholz-Seshadri-Khitatrakun (2006)	Wealth consistent with predictions of lifecycle model.	**16%** of households overall **30%** of lowest-income decile **5%** of highest-income decile	Sample from 1992 wave of the Health and Retirement Study. Progressive Social Security benefits, other transfers, and children leaving household account for much of lower-income savings adequacy.
Urban Institute (2012)	**75%** replacement rate at age 70.	**30-40%** of 1956-65 birth cohorts	Calculates working-years income using age 50-54 income and 35 years highest earnings.

> **Some Considerations around Savings Adequacy**
>
> The exact number will vary by individual based on several important considerations, including the following:
>
> **Social Security.** Social Security can contribute 20%–30% of pre-retirement income for a middle-income worker.
>
> **Family makeup.** Is the retiree married? Does the spouse have a pension? Are children still in the mix?
>
> **Location.** Is the retiree staying in the same house, or moving to a less expensive (or more expensive) location?

Other spending needs. Other things being equal, retirees often spend less than they did when they were working, on food (e.g., eat out less often) and other expenses. Long-term care, however, can be a significant cost for some retirees.

Longevity risk. Retirees may run out of money if they have not budgeted for increased life expectancy.

Changes in consumption. Some individual retirees and their families may have the ability to adjust their consumption in response to lower retirement income; others may not.

However, the reality is that auto features are not always implemented by DC plan sponsors in a manner that focuses on retirement outcomes. Indeed, the average default contribution rate under automatic enrollment is 4% of salary; the median is 3%.[23] And while the median and most common cap under automatic escalation is now 10% of earnings, as recently as 2014, the most common cap was only 6% of earnings. Some plans with automatic enrollment do not even offer automatic escalation.[24]

Years of research by behavioral economists has found that the power of inertia is a driving force in retirement savings outcomes. Workers who are defaulted into a DC plan stay there because of inertia.[25] On the other hand, because of inertia, these workers will also remain within the default investment fund and at the default contribution rate for many years.[26] Given this finding, one clear area for focus in facilitating high savings rates is robust defaults under auto features.

Design Matters — Two: The current DC system can do much better, even without additional default safe harbors.
A number of policymakers have noted the power of defaults and have sought to introduce legislation that might encourage plan sponsors to increase the defaults under automatic enrollment and automatic contribution escalation; they have done so by proposing changes to the existing safe harbor regulations, or an introduction of new safe harbors.

DCIIA believes, however, that current regulation is supportive of robust defaults, such setting as auto enrollment levels at more than 3 percent, and allowing for auto escalation default increases of 1% to 2%, up to a maximum of 15%, of salary. (Individual plan design should consider the needs and objectives of each plan.) Indeed, there is currently no regulatory reason not to

implement robust defaults, unless the DC plan is among the small group of plans that adheres to the PPA's non-discrimination testing safe harbor.

What happens when auto features are implemented more robustly? DCIIA's project finds that when the automatic enrollment contribution rate default is increased from the current, commonly low levels of 3% to 6% of earnings, and automatic escalation contribution rate caps are universally increased to 10% of earnings, projected savings in retirement increases to 7.9 times final earnings (**Exhibit III**).

Exhibit III

401(k) participants currently 25-29 who are assumed to always work for an employer who sponsors a plan
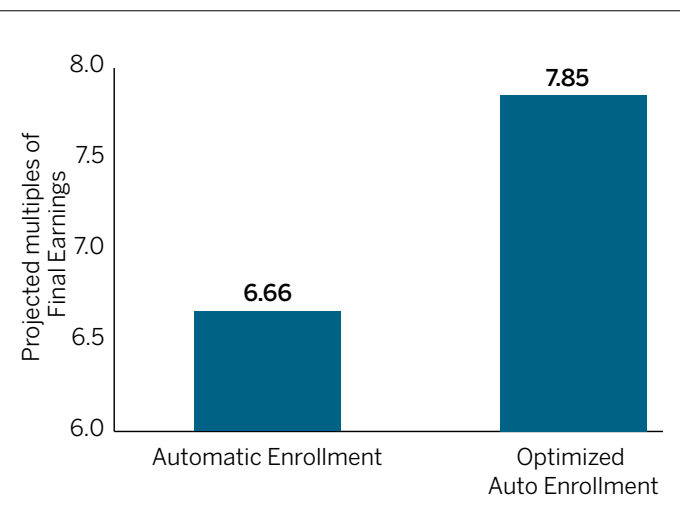
Citation: EBRI Retirement Security Projection Model® versions 2580 and 2558. Note that Automatic Enrollment means auto enrollment according to existing defaults in EBRI's model. Optimized Auto Enrollment means assumed default deferral rate of 6% of earnings and automatic contribution escalation is capped at 10% of earnings. The multiples expressed above are medians; Note that these auto enrollment plans all include auto escalation.

If the automatic escalation cap is increased even further — say, to 15% of earnings—projected savings in retirement reaches nearly 8 times final earnings.[27] In other words, by optimally implementing auto features under the existing regulatory environment, plan sponsors can potentially move the dial on retirement savings adequacy by nearly 20 percent.

Design Matters — Three: There are plan design elements in addition to auto features that can have a considerable impact when it comes to helping workers reach retirement goals under the current system.
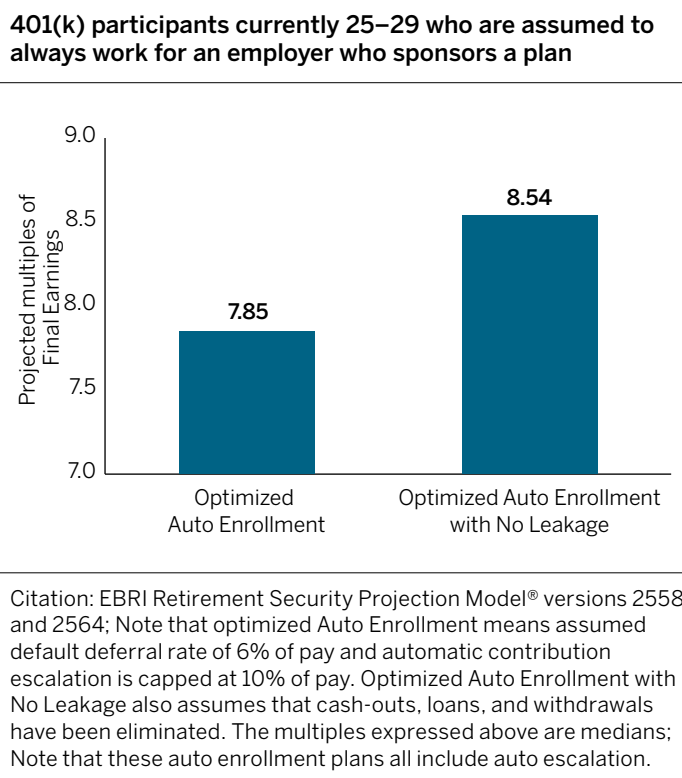
The typical DC plan offers its participants numerous opportunities to withdraw their account balances prior to retirement, resulting in "leakage" from the retirement system. This leakage can come in the form of loans (which may go unpaid, especially in the event of job loss), hardship withdrawals, cash-outs from in-service with-drawals, or cash-outs upon termination or retirement.

- **Loans:** 86.3% of DC plans offer loans to plan partici-pants, with nearly half (45.6%) allowing more than one loan at a time.[28] From 2004 to 2014, loan utilization ranged from a low of 17% of eligible 401(k) participants with outstanding 401(k) loans to a high of 21%.[29] While retirement plan loans may often be a better alternative than revolving debt, many participants with such loans report defaulting on them upon job termination.

- **Hardship withdrawals:** 87.4% of plans offer hardship distributions for reasons including purchase of a primary residence, preventing eviction or foreclosure, covering medical expenses,[30] and paying post-secondary education expenses. In 2015, 3% of participants took a hardship withdrawal, with the average percentage of account assets withdrawn standing at 32%.[31]

- **Cash-outs:** Just 11.2% of plans allow participants to keep their monies in the DC plan regardless of plan balance; more than half allow participants to retain balances in the plan only if they exceed $5,000 (54.4%). And just over one-third of plans (38.4%) provide educational materials beyond required government forms (such as ones concerning required minimum distributions) to participants when they take a distribution.[32] Partly as a result of plan designs that in certain ways may encourage cash-outs, 15% of plan participants took a cash distribution upon termination in 2015.[33]

- **Rollover process:** Many participants report that cashing out is easier than moving DC assets to a new employer plan. A 2015 survey of plan participants reported that 40% of those who did roll over assets into their new employer's plan upon changing jobs found that the process took over a month.[34]

DCIIA's project analyzed the impact of all potential sources of plan leakage on projected savings levels, finding that if—through a combination of plan design and communication—plan sponsors successfully prevented all plan leakage, savings at retirement under optimized automatic enrollment would increase 9%, to a projected multiple of 8.5 times final earnings, over the course of an entire career. (**Exhibit IV**)

In other words, by not only optimizing auto features within the plan, but also eliminating plan leakage, plan sponsors can potentially nudge participants' retirement income adequacy more than 25% higher compared to the current state of auto enrollment.[35]

Exhibit IV

401(k) participants currently 25–29 who are assumed to always work for an employer who sponsors a plan

Citation: EBRI Retirement Security Projection Model® versions 2558 and 2564; Note that optimized Auto Enrollment means assumed default deferral rate of 6% of pay and automatic contribution escalation is capped at 10% of pay. Optimized Auto Enrollment with No Leakage also assumes that cash-outs, loans, and withdrawals have been eliminated. The multiples expressed above are medians; Note that these auto enrollment plans all include auto escalation.

Design Matters — Four: Nevertheless, even optimal plan design cannot necessarily facilitate high savings levels for older workers. Consider the most optimal scenario in which the DC system's best features are fully implemented by plan sponsors:

- Automatic enrollment is in place, with a default contribution rate of 6% of earnings

- Automatic escalation places a cap on contributions only when they reach 15% of earnings

- There is no leakage from the system, due to effective plan design and communication efforts

Exhibit V shows that given such ideal plan execution, over their full careers, workers can be expected to replace nearly nine times final earnings through a combination of their own savings and employer contributions. The good news is that this is a third higher than the current state.

However, the bad news is that even in this fully optimized state, as **Exhibit V** also shows, workers who have not spent their entire career in the DC system cannot expect high savings levels. Indeed, workers in the oldest cohort—ages 60 to 64—are projected to replace less than three times final earnings, according to DCIIA's project. Please note that this projection does not take into account already existing IRAs and 401(k) accounts at previous employers. As such, the aggregate retirement savings adequacy of older workers will be understated.

This has profound implications for workers in that age demographic if they have no other source of retirement income (besides Social Security), such as DB income, or outside savings in IRAs or taxable accounts. DCIIA's project shows that for older workers who have not had access to the post-PPA DC system throughout their careers, even the most optimal implementation of the DC plan under the current system cannot alone facilitate high savings levels.

Exhibit V

Fully optimized auto enrollment with no leakage: projected multiples of final earnings
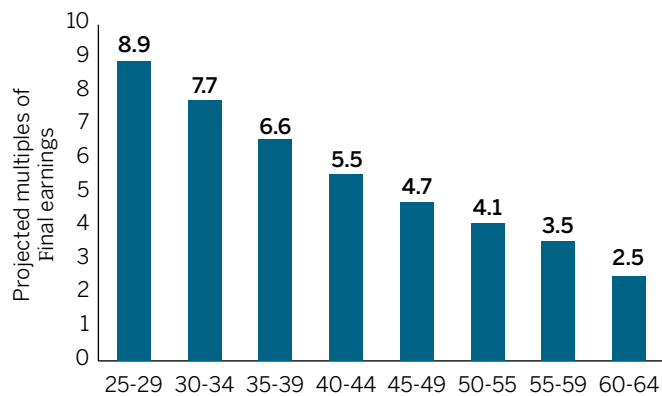
Citation: EBRI Retirement Security Projection Model® version 2562. Note that Fully Optimized Auto Enrollment with No Leakage means assumed default deferral rate of 6% of earnings and automatic contribution escalation is capped at 15% of earnings, with assumption of no cash-outs, loans or withdrawals. The multiples expressed above are medians; Note that these auto enrollment plans all include auto escalation.

Practical Recommendations — Design Matters

As industry practitioners work to better demonstrate what retirement income adequacy looks like, we need to embrace solutions that set people up for success. There are three important steps that plan sponsors, DC plan advisors, and the retirement plan provider community can implement now to continue helping Americans build a secure financial future for tomorrow:

1. Leverage auto features

2. Minimize money out due to leakage

3. Eliminate barriers to retirement savings

1. Leverage Auto Features

From decades of examining how DC plans have generated success, a common factor has consistently emerged: When an action is taken on participants' behalf that is good for their savings, they probably won't take action to stop it.

Retirement plans with auto features use this concept of inertia to help employees generate greater savings with less effort. An evolution has been occurring within the DC industry in terms of methods of implementing auto features in order to optimize the results of employee inertia:[36]

A. **Auto enrollment.** When auto enrollment programs first began to gain traction post-2006, employers most often implemented them at a 3% default contribution rate for all new employees. The subsequent lack of participant outrage about automatic saving programs surprised many employers. We later learned that enrolling participants at even higher rates generated better participant outcomes with similarly minimal disruption. In 2015, 52% of employers who offered automatic enrollment set the initial savings rate at 4% or more.[37]

B. **Auto enrollment sweep.** The pattern of inertia also holds when plans begin automatically enrolling—or sweeping in—existing employees who have historically not participated in the plan. Thirty-five percent of employers who utilize auto enrollment report that they have also swept existing employees into the plan.[38]

C. **Auto escalation.** A higher savings rate will help individuals better prepare for retirement, but that higher rate can't always be implemented in one fell swoop. To help address this, recordkeepers offer participants the option of stepping up their retirement savings rate on a periodic basis. The default savings rate can be set to increase annually: on the anniversary of the employee's hire date, when a raise is anticipated, or on any other date a participant chooses. Eight in ten employers with automatic enrollment also offer automatic escalation.[39] Auto escalation programs typically increase savings rates from 1% to 2% of earnings at a time. A full 64% of employers set the maximum cap or threshold at 10% or more.[40] In fact, some employers do not impose any cap, allowing participants to determine the ultimate maximum contribution.

> **How to Leverage Auto-Feature Best Practices:**
> - Implement auto enrollment, with a default of at least 6% of earnings
> - Implement auto escalation to increase the contribution by at least 1% of earnings annually
> - Allow the auto escalation contribution cap to be at least 10% of earnings
> - Do an auto enrollment sweep of all employees periodically

2. Minimize Money Out

A recent survey of 5,000 retirement plan participants showed that many of the survey's participants withdrew money from their retirement plan when transitioning to a new job, instead of keeping the funds invested in the plan. These "cash-outs" occurred at all income levels, but more frequently among those with lower wealth levels.[41]

Employees typically take money out of their retirement savings for the following reasons:

A. **A job change:** to plan participants, cashing out may appear to be the easiest option. Sometimes it is in fact required by plan design; this applies to both voluntary and involuntary terminations. A recent study found that in 2013 more than 30% of 401(k) participants cashed out their account balances when leaving their jobs. The average cash-out value was reported to be nearly $16,000.[42]

B. **An emergency:** many workers do not have emergency savings accounts. A 2011 study found that one-quarter of households would be unable to raise $2,000 in a 30-day period.[43]

C. **A major purchase, such as buying a home:** workers often do not have substantial savings in other accounts; a payroll deduction, automatically deposited into a retirement plan account, is frequently the only savings American workers can achieve.[44]

And then there are loans. According to research, when a plan sponsor permits multiple loans—rather than only one—although each sequential loan tends to be smaller than the previous one, the probability of the employee borrowing from their plan again nearly doubles, and the aggregate amount borrowed rises by 16%. A natural conclusion is that employees perceive easier loan access as an actual incentive to borrow. It is estimated that loan defaults from retirement savings total $6 billion annually.[45]

> **How To Minimize Money Out:**
> - Determine if your plan design requires people to cash out at termination or at retirement; consider altering the plan to keep those retirement savings in-plan or enable participants to convert their savings to guaranteed retirement income at the point of retirement
> - Consider allowing your participants access to fiduciary advice to help them determine if — instead of cashing out when they retire or change jobs — they should keep their money in-plan or roll over to a new retirement plan
> - To minimize emergency distributions, encourage employees to use a payroll deduction program to establish their own goal-oriented and emergency savings accounts — in addition to saving for retirement
> - Work with your service providers to facilitate efficient employee roll-ins and rollovers for new and departing employees
> - Ask your plan provider to invest in tools and resources to highlight the negative impact that borrowing from the plan will have on long-term savings potential, so that the information can be shared with participants when they are considering taking out a loan
> - Consider changing your plan design to minimize the number of loans each participant is allowed, and to permit outstanding loans to be repaid even after job termination

3. Eliminate Barriers To Retirement Savings

A clear majority of plan sponsors (75%) believe that helping to ensure a financially secure retirement for employees is an extremely important goal.[46] For many, this sense of responsibility extends beyond retirement outcomes alone; nearly all of them (74%) also feel a somewhat-to-very high level of responsibility for employees' overall financial wellness. (This latter number is up from 59% in 2013).[47] In 2016, 9.2% of plan sponsors reported that they provide financial wellness advisory services.[48]

While retirement education in some form has been offered for decades, employee utilization of it has been low, and it has therefore had a less-than-desired impact on participant plan engagement. Plan sponsors and other industry participants are working to solve this challenge by delivering more targeted, meaningful messages at times when people actually need the information. This level of customization is offered via online interactions, as well as through phone support, and during group and one-on-one meetings.

There is growing interest in financial wellness programs that encompass non-retirement issues. While plan education traditionally has focused on getting participants into the retirement plan, there is an increasing demand for educational material that addresses more complex fund concepts and for programs to help near-retirement-aged employees navigate Social Security, as well as plan for retirement. Today's financial wellness programs have expanded to help people create emergency savings, manage credit card debt, pay off student loans, and create strategies for major purchases, including buying a first home. Employers are beginning to consider connecting such programs with the companies' existing health and wellness offerings, in order to generate efficiencies and secure employee participation.

Historically, the barrier to offering this level of education has been a plan sponsor concern that service providers would try to sell products to employees, or that providing such programs might be viewed as a fiduciary responsibility, or both. Employers are, however, beginning to see the tangible financial benefits of offering employees options to help them solve the financial issues that create stress and reduce their productivity at work. The American Psychological Association reports that 72% of adults feel stressed about money, with 25% experiencing extreme stress about it.[49] It is plausible that both the employers and employees benefit when solutions are appropriate and offer employees the support they need.

How to Eliminate Barriers

- Work with your plan advisors and service providers to ensure that educational content is delivered to employees who need it, and timed to coincide with critical decision-making junctures in their lives

- Survey employees to prioritize which financial issues are of most concern to them

- Consider plan demographics; for example, younger workers may have greater interest in student loan repayment options, while older workers may need more at retirement support

- Ask retirement advisors and/or plan providers to help deliver financial wellness programs (group, web-based, and one-on-one sessions) to address employee needs by age and demographics

- Consider facilitating dedicated employee direct deposit payments into an emergency savings fund

- Consider service providers who specialize in facilitating plan "roll-ins" on behalf of a plan; these providers assist new and current employees to consolidate legacy retirement plans. According to research conducted by Boston Research Technologies in 2015, 83% of Millennials, 83% of Gen Xers and 78% of Baby Boomers would take advantage of a free plan sponsor roll-in service.[50]

Conclusion

Future retirement income adequacy requires much more than demonstrating where people are with their savings. Leveraging auto features, minimizing money out and helping to eliminate the barriers to long-term retirement savings are three additional important steps we can take today to help Americans prepare for a financially secure tomorrow.

Too often, the policy debate surrounding retirement security is driven by faulty assumptions and suppositions about how the current system is working, and the "gaps" that it creates. We see DCIIA's project as a critical tool that can enhance the debate with models based on real data and informed strategies. We are now positioned to take major steps forward in our understanding of how the retirement savings system is working, and how it can work even better. The insights gleaned from this new analysis will be invaluable in refining public policy approaches and designing retirement savings plans that advance retirement security.

DCIIA is optimistic that this project will lead to a better understanding of the health of the current retirement savings system in this country, while also highlighting opportunities for improvement in both the structure of the system and plan design practices that will drive even greater success. DCIIA's project, and the predictive analytics that have become possible because of it, will help inform legislators, regulators and other policy makers, as they consider how best to support the evolution of the retirement savings system. It can also serve as a catalyst for ongoing innovation and outcomes-focused enhancements from both the plan sponsor and provider communities, as we all work toward the common goal of enhancing the retirement security of every American.

Endnotes

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About DCIIA

The Defined Contribution Institutional Investment Association (DCIIA) is a nonprofit association dedicated to enhancing the retirement security of American workers. Toward this end, DCIIA fosters a dialogue among the leaders of the defined contribution community who are passionate about improving defined contribution outcomes. DCIIA members include investment managers, consultants, law firms, record keepers, insurance companies, plan sponsors and others committed to the best interests of plan participants.

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