



Next Generation DC

Back to the future with LDI powered Defined
Contribution Plans.

ABSTRACT

Forward-thinking defined contribution retirement plan sponsors are recognizing the benefits of communicating to employees in a language they can understand: monthly income. Investment solutions focused on income fundamentally improve the participant experience and ultimately deliver better outcomes.

EXECUTIVE SUMMARY: A core focus on selecting investments and plan design is job one for most retirement plan advisors, but the industry is changing in not so subtle ways. Advisors need new tools and new communications strategies to educate and coach plan participants. Without a meaningful change in savings rates and plan participation, the current system will leave many employees short of their retirement goals. Forward-thinking defined contribution (DC) retirement plan sponsors are recognizing the failings of the current system and beginning to explore new Liability Driven Investing (LDI) solutions that manage to monthly retirement income, a language participants can understand. This paper examines the deficiencies of the current retirement plan system and explores alternative solutions that advisors and sponsors should be moving towards. These are necessary improvements that the retirement planning industry has an obligation to consider. The state of the retirement plan industry is such that the right combination of technology, education, coaching and monitoring can have a huge impact on participant experience and outcome.

Historical Perspective

Defined Benefit

For decades the traditional path to retirement was to find a job that offered a Defined Benefit (DB) pension and then stick around. A defined benefit pension plan promises a specified monthly benefit (i.e. income) on retirement. That amount is predetermined by a formula based on the employee's earnings history, tenure and age.

When workers retire, they need to know that their pension will not only last for the remainder of their lives but will also be robust enough to cope with the ravages of inflation. Old-style defined benefit plans did the trick, for those workers lucky enough to have them.¹ The retirement decision for employees supported by a traditional DB plan was easy:

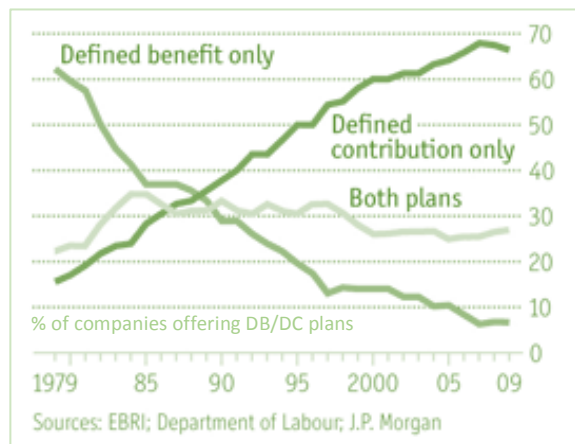
John and Debbie Smith are considering retirement. John is 63 and Debbie is 61. John has a defined-benefit pension plan from his years of service at a large pharmaceutical company that pays him and his family \$5,000 per month. Social Security adds an additional \$2,400 per month which allows John a total monthly budget of \$7,400. John and Debbie currently

¹ (Economist) Special Report on Pensions

spend around \$4,000 a month. They have **no anxiety whatsoever** about their retirement.

Easy! With a DB plan model, there's no need to worry about how the money is invested. Investors simply look for the monthly check in the mailbox and plan accordingly. That's a heck of a deal!

The only problem is that this system gave rise to significant unfunded pension liabilities on the balance sheets of corporate America. As these liabilities grew over time, a number of companies in weak industries (auto, steel, airlines) -- started to look more like insurance companies than blue chip industrials. This has



led to a major shift away from DB plans. Over

the past ten years global assets in DB plans grew by just 2.9% a year, whereas those in defined contribution plans increased by 7.5% according to a Towers Watson study.²

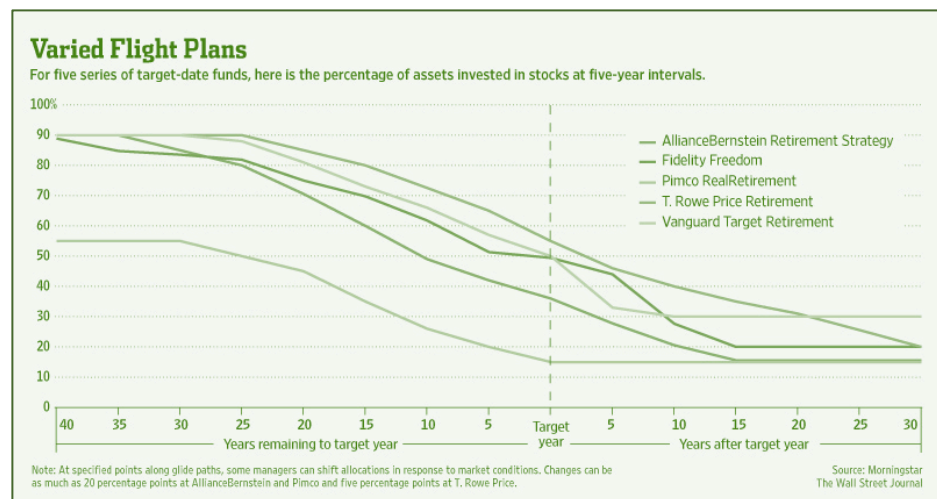
Defined Contribution

As corporate America struggled with this mounting liability, Defined-Contribution (DC) plans, which shifted the liability to the employee, began to grow in popularity. But this shift meant that workers were on their own; employers put some money into the plan but the payout was predominantly dependent upon employee engagement and investment returns. This in turn required the employee to make a set of decisions, such as contribution rate and asset allocation, for which they were not always well equipped. Recognizing the problem, Congress passed the Pension Protection Act (PPA) in 2006 which created the Qualified Default Investment Alternative (QDIA). This was the name given to certain types of investments that could be used by employers to provide retirement account management to their employees. Perhaps more importantly, however, as a result of the PPA those employers who chose NOT to implement a QDIA could be legally responsible for failing investment returns. This drove widespread adoption.

The Balanced Fund: The balanced-fund represented the first asset allocation fund and the grand-daddy of QDIAs. A single diversified portfolio of stocks and bonds that served as the default for all participants. The drawbacks here are obviously that not all investors have the same tolerance for risk.

Risk-Based Funds: Conservative, Moderate Aggressive. The balanced fund gave way to risk-based funds designed to account for differing risk tolerances. More options seemingly represented a plan improvement, the only caveat being that investors now had to choose. This introduced the likelihood that they might choose wrongly; especially considering the large proportion of the population with little time and/or willingness to educate themselves in this regard. History has shown this concern to be a valid one.

Target-date funds (TDF): TDFs represent an improvement over risk-based funds because they address the challenge employees face in selecting the right vehicle. Target Date funds are funds that follow a glide-path towards



² (Towers Watson)

retirement. For instance, if an employee's estimated retirement date is 2040, the fund will shift its assets from stocks to bonds over time to replicate a strategy whereby an investor would become more conservative leading up to retirement. The challenge is that not all target date funds are alike. Some maintain significant levels of risk through the retirement date, and almost all have material levels of equity exposure at retirement. This can be very confusing to plan participants nearing retirement in search of safety.

State of the Industry

Most QDIA options today, whether balanced, risk-based, or target date solutions, are designed to balance the risk and return appropriate for an individual plan participant. In other words, these approaches try to maximize a participant's account balance given a particular level of risk.

The problem is that most people don't know how much they need to retire. Contrast the earlier experience of John and Debbie Smith to Mark and Kimberly Jones:

Mark and Kimberly Jones are 66 and 65 and planning for retirement. Mark spent his whole career in aerospace contributing to a traditional 401(k) that now totals \$1.6mm and which represents substantially all of their retirement assets. The couple had been considering an early retirement until their TDF fell by 20% in 2008. Because Mark is very risk averse his 401(k) account has been sitting in a stable value fund ever since. They are **very concerned** about whether or not they will have enough money to live comfortably in retirement, and the challenge of finding and selecting a trustworthy advisor to help seems overwhelming. On account, they have chosen to do

exactly what they have been doing for the last six years: Nothing!

This experience is entirely too common. Just like the Smiths, Mark and Kim had a good understanding of the monthly income they would require in retirement, and their situation would have allowed for an early retirement, but their plan failed to de-risk the portfolio at the appropriate time.

In a recent speech SEC Commissioner Luis Aguilar commented, "The relentless growth in target date funds is troubling because studies have shown that investors and industry professionals alike, do not fully appreciate the risks these funds present." He points out, "Target date funds, however, do not contain guarantees. Investors in these funds are not assured they will have sufficient retirement income at the target date, and there is no guarantee that investors will not lose some, or even all, of their investment." Furthermore, Aguilar says, "It is imperative that investors better understand the risks presented by target date funds." He concludes, "With the end of an historic period of low interest rates rapidly approaching, the consequences of investors continuing to be ill-informed about the inherent risks of target date funds are simply too grave."³

"People simply are not saving enough. I've said this before, but the retirement income deficit – that is, the difference between what people need for their retirement in the future and what they actually have, has been estimated to be as high as \$6.6 trillion." – Senator Tom Harkin,

³ (Aguilar)

Chairman: Committee on Health, Education, Labor, and Pensions.⁴

As further evidence that the shift from DB to DC has weakened retirement readiness consider that DB plan sponsors have historically contributed 20-25% of payroll to DB plans. The combined total of contributions (by employers and employees) to DC plans is around 9-10%. The amount put into a plan largely determines the resulting pension, so the current level of DC contributions will not deliver anything like the old final-salary pensions.⁵

The current state of the retirement plan industry leaves much to be desired. There is a broad consensus that many of today's retirees and those saving for retirement have seldom been in worse shape – with abandoned defined benefit DB plans, low savings or low DC plan balances, poor investment returns, and no workable strategy for converting assets into income.⁶ This is because individual investing for retirement is perhaps the most general and the most challenging investment problem. It requires understanding of long-run rates of return, diversification, time risk, longevity risk and annuities, demographics, taxes, laws, regulations and investor behavior.⁷

In the summer of 2014, Nobel Prize winning Professor Robert Merton wrote an article published by the Harvard Business Review that illustrated the problem: When employees try to become engaged and make decisions about their retirement they are often confronted with

very technical decisions, such as “how much debt versus equity do you want?” or “How much exposure to large-cap European stocks do you want?” It’s a bit like having salespeople ask car buyers what engine compression ratio they want. Some buyers might know that a high ratio is good, but very few understand exactly what that means: how many more miles to the gallon they’ll get, how much faster they’ll go from zero to 60 miles per hour, or how much more reliable the car will be than one with a lower ratio. But fuel efficiency, speed, and reliability are the factors that car buyers care about.⁸

Consumer education is necessary, but hardly sufficient as a remedy. You’d no more require employees to make those kinds of decisions than an automaker would dump a pile of car parts and a technical manual in the buyer’s driveway with a note that says, “Here’s what you need to put the car together. If it doesn’t work, that’s your problem.”⁹

According to research from the Pension Research Council at the Wharton School of Business, the typical DC plan is flawed in three fundamental ways. First, behavioral finance research confirms that most people are hesitant, inconsistent, and even irrational planners and decision makers in regard to their own financial future. Second, informational asymmetry and mis-aligned interests, vis-à-vis the global for-profit financial services industry, drive a material wedge between workers and the retirement money they do accumulate. The result is that many workers pay too much for retirement-related financial services. The third

⁴ (Senate Hearing)

⁵ (Economist)

⁶ (Siegel) pg. 6

⁷ (Siegel) pg. 6

⁸ (Merton) pg. 48

⁹ *ibid* pg. 48

DC plan flaw is that these arrangements leave plan members bearing the full burden of longevity risk.¹⁰

These failings are evidenced by research from the Employee Benefit Research Institute (EBRI) and TIAA-CREF showing:

- 43% of Americans are concerned they won't have enough money to live comfortably in retirement.¹¹
- 45% of workers guess how much to save for retirement, instead of using estimates or calculators.¹²
- Just 21% are planning to receive income from annuities, which generate retirement income that individuals can't outlive.¹³

Most participants need help with investment decisions, but they don't know where to turn for advice. This need is apparent in the number of DC participants who choose their plan's default investment option. Studies claim that more than 75% of participants elect not to elect, resulting in the default option for their account.¹⁴

Plan Sponsors can no longer ignore this data. DC participants need a simple, understandable approach to retirement income planning like DB participants have benefited from in the past. An alternative approach is needed that will significantly raise the probability of achieving a comfortable retirement.

Traditionally, the industry standard for retirement readiness has been a large nest egg. Employees and plan sponsors alike have focused on growing savings, and retirement planning has addressed how much to save each year, what risks to assume in various investments, and how to avoid fees and other costs that chip away at employees' total return. This approach has resulted in little guidance on how employees can turn their nest eggs into retirement income that may have to last for the next 25 or 30 years.¹⁵ Shortcomings of most plans today include:

- Myopic reporting and focus on account balance leads to confusion and poor planning.
- The lack of a meaningful income goal in retirement.
- Lacking an income goal, participants cannot measure progress and may not recognize when risk should be reduced.
- Without this awareness, an employee takes the same amount of risk as everyone else in the target date fund, regardless of his or her personal progress toward the income goal.

Investors have a firm understanding of what \$4,000 or \$5,000 or \$6,000 per month means for their standard of living. But ask the same investor what \$600k or \$800k or \$1.0mm means for their standard of living in retirement and that level of comprehension just isn't there. So why does the retirement plan industry continue to focus on the wrong metric?

¹⁰ (Mitchell)

¹¹ (TIAA-CREF) – Lifetime Income Survey

¹² (Employee Benefit Research Institute (EBRI))

¹³ (TIAA-CREF) – Lifetime Income Survey

¹⁴ per Michael Lane, Dimensional Fund Advisors, Head of Retirement Income Group

¹⁵ (TIAA-CREF, Dimensional)

Next-Gen DC

Sponsors need to take a step back and examine why these systems exist. These are *Retirement* plans and -- at least for 401(k) and some 403(b) plans-- governed by the Employee Retirement Income Security Act (ERISA). The industry has lost focus on the components of *Retirement* and *Income* and *Security*. These plans were never meant to make people rich. The goal is to provide participants a level of Income that will secure their retirement.

In a brief yet farsighted polemic,¹⁶ Keith Ambachtsheer, director of the Rotman International Centre for Pension Management at the University of Toronto, suggests that the optimal system involves DC-like contributions that are used preferentially to buy life annuities but that can also be used to make non-annuitizing investments. According to Mr. Ambachtsheer a good example is TIAA-CREF, the \$844 billion retirement system for more than three million current and retired U.S. college education and research employees, in which Drucker himself was an enthusiastic participant for many years.¹⁷ Through work-life-long employer and employee contributions as high as 18% of pay, TIAA-CREFF participants have converted sufficient pension capital into life annuities to live comfortably the rest of their lives, decade after decade. Founded through an Andrew Carnegie grant in 1918, TIAA-CREF may well be the most successful workplace pension plan of all time.¹⁸

¹⁶ (Ambachtsheer)

¹⁷ *ibid* pg. 23

¹⁸ *ibid* pg. 23

Focusing on income helps working people in a number of ways. It helps the saver understand retirement planning better and informs the investment strategy. For instance, those who are close to achieving their goal will likely want to take less equity risk than someone who is far from achieving the goal. This simple principle would have allowed Mark and Kim to retire early and yet it still escapes most retirement solutions available today.

With a tangible goal firmly in mind, the participant can know when the goal is reached, which enables “de-risking” in the investment portfolio. In a DC plan, portfolio structure can help accomplish this by:

- Reducing the chances of falling short of the income goal
- Reducing the risk of investing in equities
- Reducing the risk of fluctuating income due to changing interest rates

Liability Driven Investing (LDI)

For the retirement plan industry the answer lies in the past: Liability Driven Investing (LDI). The strategy has typically been used by defined benefit (DB) plans, endowments, foundations and other plans with long-dated liabilities. It is based on identifying and managing to the amount needed to fund future liabilities.

The challenge is to properly identify the liability. Once known, the liability determines the proper allocation to fixed income assets and other risk seeking equity sleeves of the portfolio. LDI considers where the plan is today (i.e. funded status in the language of the DB plan); then calculates where the plan is going (i.e. liability stream) and then determines the appropriate

risk level (i.e. asset allocation that maximizes the likelihood of achieving that goal with the least amount of risk).

To simplify: Remember Mark and Kimberly. They needed \$6,000 per month to retire comfortably, but they had no idea whether or not their current portfolio would get them there and/or the level of risk needed in their portfolio to make that happen. Rather than trying to manage to a 6-8% rate of return which would be consistent with a conventional “balanced” approach, an LDI strategy would manage to that stream of \$6,000 monthly cash flows (i.e. Mark and Kimberly’s liability). Over time, assets are taken from the equity dominated (return-seeking) sleeve of the portfolio and placed into the fixed income-dominated (liability-hedging) sleeve of the portfolio. Whereas a conventional approach to strategic asset allocation changes based on a pre-determined age-based glide path, an LDI strategy adjusts towards a fully immunized portfolio wherein all future liabilities are paid for by a comparatively stable fixed-income portfolio.

That goal is accomplished by considering the duration of the portfolio. Mark and Jenny’s retirement liability goes up and down with interest rates & inflation, as do the prices of long duration inflation-protected bonds. This correlation works to the participant’s advantage and combinations of longer duration bonds are often used in LDI strategies to hedge against increases in liabilities. The net result would have been early retirement as their assets were fully re-allocated to fixed income by 2008, effectively shielding them from the great recession.

Nobel Prize winner Robert Merton said of this strategy: Unlike mechanical rule asset allocations, the approach advocated here takes on risk only when it improves the chance of achieving the desired income goal. And it takes as much risk out of the portfolio as possible once the goal is achieved, avoiding a scenario in which the saver achieves his goal only to fall below it if the markets subsequently go down.¹⁹

Implementation

In implementing an LDI approach, plan sponsors need to consider several things. At the participant level, today’s leading solutions are drawing on a variety of plan census data and other key assumptions. These inputs are typically a collaborative effort between the investment committee and the advisor who is knowledgeable about the workings of the proposed solution. They include:

- Age (this is where TDFs draw the line)
- Retirement Date
- Current Account Balance
- Contributions (Savings Rate)
- Company Match
- Income Replacement Ratio (Liability)

Determining the income replacement ratio or % of final year’s income, requires current salary data, estimates of inflation expectations and a salary growth curve. This number serves as a proxy for the monthly income needed in retirement and can vary widely. Nevertheless, participants are likely to agree that a reasonable goal would be a standard of living more or less

¹⁹ (Merton)

the same as they'd be experiencing in the last five years or so of retirement.²⁰

Obviously there are many other considerations to a holistic financial plan, but sponsors need to keep the target audience in mind. Employees who earn over \$150,000 can afford personalized holistic wealth management solutions that go well beyond retirement planning inside of a 401(k) or 403(b) plan. So, the target audience is predominantly comprised of those individuals earning less than \$150,000 a year; the vast majority of participants.

Plan sponsors should be focused on meeting the retirement income needs of the average participant while considering additional financial planning resources for higher earners. The key factors in determining retirement readiness for the average employee are savings rate, retirement date, and investment return.

As a component of plan design plan sponsors should consider an appropriate annuity option for plan participants. In the face of so many risks, fixed annuities are one of the few investment vehicles that can guarantee lifetime income. Putting the annuity option inside the plan accomplishes several goals: 1) it gives employees a vehicle to realize their income goals 2) it eliminates the confusion of shopping for an additional solution at retirement and 3) it allows the employee to benefit from the economies of scale and the buying power of the plan, which results in more cost effective solutions than a participant could find alone. Moreover, this helps advance the Obama administration's goal of promoting "guaranteed

lifetime income products, which transform at least a portion of retirees' savings into guaranteed future income, reducing the risk that retirees will outlive their savings."²¹

In implementing an LDI approach, plan sponsors need to consider a thorough review of the Investment Policy Statement (IPS). The IPS will require a full description of the framework and, ideally, provide a roadmap for the future (e.g. – details on glide paths, triggers for rebalancing, etc.). Furthermore, benchmarking and selecting an investment manager to manage the assets is particularly difficult for an LDI strategy. LDI strategies are typically customized to individual plans, so there are fewer standards for comparisons. With fewer objective benchmarks, the due diligence bar for plan fiduciaries is, by necessity, higher.

Lastly, plan sponsors need to re-visit more traditional components of plan design to be used in conjunction with an LDI strategy. These might include the use of automatic features, offering professionally structured investment solutions and making advice services available.

Beyond Next-Gen

Heart disease is the leading cause of deaths in America. Why? Poor diet, lack of exercise, stress, etc. There are many lifestyle and behavioral causes. The complexity of the problem has led to volumes of medical studies and journals. America's retirement system is sick and beginning to show the signs of heart disease!

²⁰ (Merton)

²¹ (White House Task Force on the Middle Class 2010, p27)

Think of the current menu of target-date funds as Aspirin. For quite a while Aspirin was prescribed as a virtual cure-all. Aspirin's properties as a blood thinner served to reduce heart attacks and even the effects of stroke, but it didn't directly address the cause of the problem [at least for many]: LDL cholesterol. Similarly, target-date funds attack the symptoms of today's retirement problem by reducing risk over time, but fail to fully address the main issue: retirement readiness and income replacement.

Once the medical community realized that cholesterol was at the root of the problem, it didn't take long before a new blockbuster class of drugs called statins was introduced. Statins, best known by popular Pfizer Inc. drug Lipitor, are among the most widely prescribed products ever developed by the pharmaceutical industry. That success was achieved by attacking the problem rather than simply treating the symptoms.

Think of LDI strategies as Lipitor; a solution which addresses the problem. That is: having enough income to last through retirement. Ask yourself, *"If I was diagnosed with high cholesterol and knew I was at risk for heart disease, would I want Aspirin or Lipitor?"*

Target date or Income replacement?

As the retirement planning industry looks beyond next gen, advisors and sponsors will seek to improve upon today's LDI strategies. It's never too early to begin planning for the next-generation solution. Technology is advancing that will soon

"I SKATE TO WHERE THE
PUCK IS GOING TO BE,
NOT WHERE IT HAS
BEEN"

allow plan participants to incorporate elements of LDI both inside and outside the plan.

It was noted that higher earners likely have the resources to engage advisors outside the plan and thereby incorporate concerns beyond the current generation of DC plans. As plan sponsors look to the horizon, it will be important to consider low-cost and scalable solutions for ALL plan participants that factor in these various components of comprehensive financial planning such as:

- Other household assets / income
- Social Security income
- Insurance needs
- Healthcare and other needs
- Inheritance
- Kids' education

By combining an LDI strategy with technology that will include a variety of assets and liabilities both inside and outside the plan, participants can expect a much more holistic approach to retirement planning.

Financial Wellness

Today, these "Beyond Next-Gen" solutions come in the form of financial wellness programs. Just like heart disease is related to poor diet and exercise and other lifestyle issues, so too is today's retirement crisis directly related to the poor financial behaviors of plan participants. But, employees engaged in financial wellness programs tend to take action. More than half of employees (54%) who used an online advice service between February 2012 and January 2013 saved more, changed their

future allocations or rebalanced their portfolios.²²

Financial Wellness goes well beyond retirement planning though. A comprehensive wellness program will touch on other components of a complete financial plan such as budgeting, insurance, understanding your credit report, etc. It will also serve as an ongoing coach to help employees strengthen their financial situation over time.

Summary

Too many DC participants today are saving too little. The industry is challenged to increase engagement and change behaviors in a way that will better serve to create secure retirement income.

The tail has been wagging the dog for too long. An income approach expressed empirically solves for the value of the annuity which would lock in the monthly cash flow payments guaranteeing a certain standard of living:

$$PV_{\text{Annuity}} = PMT * \left[\frac{1 - (1 + i)^{-n}}{i} \right]$$

But rather than try to maximize this present value (i.e. managing to an absolute dollar value), an LDI approach like the ones discussed here simply re-arranges this equation to solve for (and manage to) income:

²² (TIAA-CREF) 2013 Proprietary research of 17,741 TIAA-CREF participants who used TIAA-CREF Retirement Advisor (online advice) from February 2012 through January 2013 and took action.

$$PMT = \frac{iPV}{1 - (1 + i)^{-n}}$$

By simply changing focus and managing to payment or monthly income in this case, an LDI strategy allows advisors and sponsors to deliver an experience to participants they can truly understand. People intuitively know what \$4,000 or \$5,000 or \$6,000 per month feels like. That is a lifestyle that investors can grasp. Once this understanding is created, participants are empowered to change their behavior in meaningful ways. By planning for this number the retirement plan industry can dramatically change the experience of plan participants for the better!

Next-Gen LDI powered strategies will re-focus today's DC plan in ways that help people invest and relate to their retirement savings much like DB plans did a generation ago.

To most effectively increase the likelihood of participant retirement readiness, a good plan investment solution needs to:

- Help participants establish personal retirement income goals.
- Monitor progress toward that goal and make savings adjustments accordingly.
- Manage the portfolio based on income goals rather than accumulation.
- Reduce income risk when the goal appears to be within reach.
- Provide meaningful advice on retirement income solutions to participants who are nearing retirement age.
- Include a Financial Wellness program to complement and maximize plan benefits, increase engagement and empower employees.



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