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Center for Retirement Initiatives

The Evolution of Target Date Funds: Using Alternatives to Improve Retirement Plan Outcomes

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Executive Summary

In the United States, workers are being asked to take responsibility for their financial well-being in retirement now more than ever. Most employers today offer defined contribution (DC) plans to their workers as their primary, and often sole, retirement program. The secure retiree income provided by defined benefit (DB) pension plans is becoming a thing of the past. With DC plans, participants must make complex investment decisions that will significantly impact the amount of money they will have available for retirement. Because most workers often do not have the information and knowledge to make these decisions, it is important for DC industry leaders and policymakers to consider the ways in which DC plan structures can improve and evolve to increase participants' chances for success.

A major concern with DC plans today is the volatility of the underlying accounts, which are invested primarily in a mix of stocks, bonds and cash. Because plan participants fully absorb the gains and losses of their accounts, market events can drastically impact their ability to retire. Consider the example of a worker ready to retire in early 2008 with $500,000 saved in her account, with 50% allocated to equities and 50% allocated to bonds. Between January 2008 and March 2009, global equities lost 41.1% of their value while U.S. bonds gained 4.3%.[1] In that environment, this worker, who was nearing retirement and thought she was invested appropriately, would have lost over 18% of her balance. Her accumulated DC wealth would have dropped to around $410,000, potentially putting her retirement at risk.

Including Alternatives in TDFs Can Improve Retirement Income Outcomes

The underlying investments in DC plans need to evolve to improve retirement income outcomes for participants. Target date funds (TDFs) have gained popularity as a DC investment option in retirement plans and as the qualified default investment alternative (QDIA) in part because of their prudent risk management and simplicity. Participants invest in the fund closest to their assumed retirement date and then the fund manager adjusts the mix of stocks, bonds and cash to invest along a glide path to that retirement target date. The glide path is a description of how the various funds that make up a target date product alter their asset allocation over time, moving from riskier assets focused on growth for younger participants into lower risk assets focused on income and capital preservation as retirement approaches.

An advantage offered by TDFs is that the underlying investments can be broadened to include asset classes that have traditionally benefitted other types of long-term investment pools, such as DB plans, without increasing complexity for the participant. Asset classes such as private equity, real estate and hedge funds can be used to create a "diversified TDF" that improves retirement outcomes by diversifying the investment portfolio with alternative asset classes and improving returns when compared with a portfolio solely composed of equities and fixed income.

The strategic use of alternative assets in a TDF structure, or a diversified TDF, demonstrates that including these asset classes can improve expected retirement income and mitigate loss in downside scenarios. As modeled for this analysis,[2] a diversified TDF increases the amount of annual retirement income that can be generated by converting a participant's DC balance into a stream of income at retirement by 17% or $9,200 for every $100,000 of pre-retirement annual wages in the expected case (50th percentile) or by 11% or $2,300 in annual retirement income in a worst-case or downside outcome scenario (5th percentile) (Table 1).

Table 1. Distribution of potential retirement outcomes for a full-career employee[3]

	Annual inflation-adjusted retirement income per $100,000 in pre-retirement annual wages	
	Baseline TDF	**Diversified TDF**
75th percentile	$77,000	$93,900
50th percentile	$53,000	$62,200
25th percentile	$36,300	$41,900
5th percentile	$21,200	$23,500

[1] Global equities are represented by the MSCI ACWI Index, a market capitalization weighted index designed to measure equity market performance in the global developed and emerging markets consisting of 45 country indices comprising 24 developed and 21 emerging market country indices. U.S. bonds are represented by the Bloomberg Barclays U.S. Aggregate Bond Index, a market capitalization weighted index composed of securities from the Barclays Government/Credit Bond, Mortgage-Backed Securities and Asset-Backed Securities indices. The Index is comprised of all publicly issued investment-grade, fixed-rate, non-convertible, taxable bonds that have at least one year to final maturity and an outstanding par value of at least $250 million.

[2] Modeling is performed using Willis Towers Watson's Capital Markets Assumptions, which are described more fully in the Appendix.

[3] A full-career employee is assumed to participate in a DC plan for 40 years (ages 25 to 65). Savings are assumed to be 4% of wages initially, increasing to 7.5% by age 55 with an employer match of 50% on the first 6% of savings. Annual wages are assumed to increase at CPI +2% until age 45, and only with CPI thereafter, broadly consistent with U.S. Census data.

Participants who retire but retain their assets in the DC plan and utilize the plan for long-term spending in retirement are considered. Including alternative assets improves the probability of not depleting assets over a long-term retirement horizon. A diversified TDF has a higher probability of maintaining positive retirement assets after 30 years of retirement spending; it also provides higher expected returns and lower downside risk at the time of retirement and 10 years post-retirement, mitigating the negative impacts of a short-term market shock for those participants at or near retirement.

Including Alternatives in TDFs: Challenges and Solutions

If alternative assets can make such an important difference in retirement income outcomes and are regularly used in other investment programs, such as DB plans, why are they not often seen in TDFs today?

While progress has been made, DC investment operations and oversight have not yet matured to the level needed to rival those of DB plans. This could be attributable to the DC plan's historical role as a supplemental savings vehicle in which participants must make more of their own investment decisions. In addition, plan sponsors may be hesitant to implement changes to their programs given the higher perceived fiduciary risks and concerns about possible litigation. The legal obligations of plan fiduciaries, such as the prudent selection of investment options or a reasonable level of fees, have been the subject of a significant number of lawsuits in recent years. However, such fiduciary obligations can be managed through a careful and prudent process focused on enhancing potential outcomes for participants. This includes addressing any concerns such as liquidity and pricing, benchmarking, fees and governance related to incorporating alternative investments into TDFs.

Liquidity and Pricing

One challenge is the unique feature in DC plans where participants direct their own investments and, in most cases, can change investments daily. Alternative investments such as private equity, real estate and hedge funds are less liquid than other investments because they generally require more time to convert to cash. DC plans typically provide daily liquidity to participants (i.e., the daily ability to access or withdraw funds).

While the need for liquidity must be managed, TDFs utilize multiple asset classes by design, providing the opportunity to easily manage liquidity needs within the TDF, including those that use alternatives, through the funds' allocations to public equities, fixed income and cash. Even over the short term and in a stressed environment, a diversified portfolio including alternative asset classes still has 71% to 76% of its assets available to satisfy daily liquidity, rising to 81% over a three-month (or quarterly) period.[4]

In addition, given the prevalence of TDFs as a default option (the option in a DC lineup that receives the assets for defaulted participants who fail to elect an investment option), since the passage of the Pension Protection Act of 2006, TDF investors tend not to reallocate their DC investments, which has led to stable inflows. Over the past 10 years, estimated flows have been strongly positive not only at the total target date industry level but also in individual funds.

Discussions about liquidity and pricing often go hand in hand, as many alternative asset classes are not valued daily (consider real estate where the actual buildings are appraised on a periodic basis, typically quarterly). Pricing can also be managed within a TDF structure through utilizing an unbiased proxy to estimate pricing daily. Some DC funds available today allocate to illiquid assets, such as real estate, which estimate pricing in between formal building appraisals within their fund structures to determine a fair value at which the funds transact. The proxy should be as accurate as possible and unbiased, so investors are not advantaged or disadvantaged relative to other investors due to a proxy's inaccuracy.

Benchmarking

Public indices are available to benchmark the performance of TDFs, but the challenge is the asset allocations are often markedly different. Reviewing the performance of TDFs against a reference glide path of market exposures with a comparable risk level provides a basis for an evaluation of the implementation efficacy of TDFs and should be judged accordingly. Each portfolio underlying the TDFs may be benchmarked to an appropriate blended reference portfolio to reveal how the funds have performed from a return, risk and risk-adjusted return standpoint. Additionally, the entire reference glide path may be used to periodically assess the strategic positioning and performance expectations for the funds.

[4] Liquidity assumptions sourced from Willis Towers Watson's Portfolio Management Group.

Fees

The rise in DC plan lawsuits, in particular those challenging plan fees, has led many plan sponsors to maintain a myopic focus on fees.[5] For example, in 2017, passively managed TDFs (those that seek to provide low-cost market exposures) received 95% of the $70 billion in estimated net TDF flows.[6] While this may help to manage investment fees, it also severely reduces the investment options available to increase returns and improve performance. It is not particularly controversial to state that participant outcomes are improved as long as the net-of-fee value proposition is positive. Using alternatives is expected to improve net-of-fee outcomes.

Governance

When creating a custom TDF to include allocations to alternative investments, the plan sponsor unbundles the responsibilities for creating the strategic glide path, determining asset allocation, building the portfolios using preferred managers, and handling all the operational and communication needs that come with creating a suite of TDFs.

With this comes increased governance needs that are not a function of any established higher regulatory standard of care, but simply an acknowledgement that the complexity of alternative strategies requires additional investment and operational due diligence. Sponsors can supplement in-house governance expertise by outsourcing remaining tasks to a delegated experienced partner. Delegating some or all of these responsibilities may be an attractive alternative as it provides expertise through a shared fiduciary partner and potentially lowers overall program costs.

Conclusion

For the foreseeable future, DC plans will determine the retirement success for most U.S. workers. Waiting until workers are in the late stages of their careers to determine how successful they have been is simply too late. The time is now to develop a framework for evaluating retirement plan participants' likelihood of achieving sufficient levels of income for retirement.

To achieve this, plan sponsors must pull all of the levers at their disposal across their organizations, including improving investment outcomes. While a number of important and effective enhancements have been made with investment vehicles (e.g., TDFs, institutionally priced vehicles), plan design (e.g., auto-enrollment, auto-escalation, improved employer match structures) and communications (e.g., administrator technology, wellness platforms), there is one area in which DC plans still lag behind other large investment pools: the use of extended and alternative asset classes. Alternative assets are used more often in other investment pools because they improve investment efficiency and the net-of-fee value proposition by improving retirement income outcomes.[7]

When DB plans were more prevalent, the need was not as strong to consider the added value generated by the use of alternatives in DC plans. With the growth of DC plans, there is now a greater need for the DC industry to support adoption of strategies that will improve expected investment performance. DC service provider capabilities have vastly improved; operational challenges, including the need for daily liquidity and daily pricing, and the participant-controlled cash flows, can be easily addressed. This can already be seen in the increased use of custom funds in DC plans.

Policymakers should consider these findings about the inclusion of alternative asset classes in DC plans, specifically through target date structures. Even absent any additional action by policymakers, plan sponsors with an interest in implementing portfolios with alternative asset classes can work with their advisors, custodians and recordkeepers to implement solutions that enhance participant outcomes for a more secure retirement.

[5] George S. Mellman and Geoffrey T. Sanzenbacher, "401(k) Lawsuits: What Are the Causes and Consequences?" Center for Retirement Research at Boston College, no. 18-8 (May 2018).

[6] Morningstar's 2018 Target-Date Fund Landscape Paper

[7] **Mercedes Aguirre and Brendan McFarland, "2016 Asset allocations in *Fortune* 1000 pension plans," Willis Towers Watson Insider (January 24, 2018).**

Introduction

Defined contribution (DC) plans are increasingly becoming the primary retirement vehicles for many workers. These plans allow participants to defer income on a tax-advantaged basis through retirement. According to Willis Towers Watson's 2017 Defined Contribution Plan Sponsor Survey, 81% of sponsors offer only a DC plan to new hires. This is a shift from the original intent of DC plans as a supplement to the more secure defined benefit (DB) plans, which provide a specified benefit at retirement regardless of how the underlying plan investments perform as the employer absorbs gains and losses. With DC plan accounts, participants keep the investment earnings and absorb the investment losses. This change creates new retirement risks for U.S. workers. Consequently, DC plans require sponsors to invest more resources to assist participants in achieving successful retirement outcomes. Now more than ever, DC plans have wide-reaching implications on the retirement readiness of participants.

The migration from DB to DC plans shifts the investment risk and reward from the sponsor to the participant. With this changing responsibility, it is important to port the best practices from DB plans over to the DC marketplace. This has historically been a challenge on the investment side as DC participants determine which underlying funds and investment managers to select to meet their objectives, often resulting in money moving in and out of funds daily.

DB plans, on the other hand, have sponsor-directed investments where managers are hired to achieve long-term objectives with less day-to-day cash movement. As such, DB plans have been able to invest in alternative investments, which offer exposure to assets that can produce more attractive returns while diversifying the risk from public equities (direct ownership in public companies) and fixed income (debt contracts from companies and governments); however, alternative investments also come with complexities that have been historically difficult to implement in DC plans, such as less liquidity (ability to convert securities to cash) and less frequent pricing.

Corporate DB plans outperformed DC plans by an average of 70 basis points[8] (bps) net of fees per year between 1990 and 2012.[9] For the 10 years ended in 2016, DB plans saw annualized net returns of 5.4% compared with DC plans' annualized net returns of 4.9%, for a net return difference of approximately 50 bps.[10] Much of this dispersion is a result of asset allocation.

As of 2016, the largest corporate pension plans in the *Fortune* 1000 (assets greater than $2.1 billion) held average allocations of 4.2% to hedge funds, 3.4% to private equity, 3.0% to real estate and 3.6% to "other" asset classes.[11] That is almost 15% on average in securities other than equities, bonds and cash. Furthermore, public pensions allocate even more to alternative investments (approximately 25%) according to the National Association of State Retirement Administrators.[12]

DC plan investors have relied primarily on investment vehicles that allow for daily liquidity — which translates to mostly publicly traded equities and fixed income. Entering 2018, all-time highs were being achieved in the equity market almost daily. Equities have increased in value by over 300% since the financial crisis of 2007 to 2008. The key for plan sponsors is to look ahead to better protect their participant portfolios against the inevitable drawdown that always occurs when the equity markets turn the other way.

While the construct of DC plans has not changed over the years, what has changed are the typical investments utilized by participants, specifically, target date funds (TDFs). TDFs aim to help participants through the somewhat daunting task of determining which asset classes and managers to allocate to by creating portfolios that include multiple asset classes, labeled by a participant's intended year of retirement.

For example, a participant who plans to retire in the year 2030 can invest 100% of his or her assets in the "2030 fund," which consists of a mix of equities, bonds and potentially other asset classes whose mix changes to lower the risk level as the participant approaches retirement. Given that the participant does not need to make decisions about the composition of the TDF portfolio itself, TDFs represent a unique vehicle to potentially access the alternative strategies that have long benefitted DB plans.

This paper examines:

- The growing use of TDFs in DC plans
- How the use of alternative investments such as private equity, real estate and hedge funds can provide value to TDF solutions
- How TDFs can manage the liquidity, rebalancing and cash flows to accommodate these kinds of investments
- How allocations to these different asset classes affect projected outcomes when compared with a traditional TDF asset allocation

[8] 100 basis points = 1%

[9] **Alicia H. Munnell, Jean-Pierre Aubry, and Caroline V. Crawford, "Investment Returns: Defined Benefit vs. Defined Contribution Plans," Center for Retirment Research at Boston College, no. 15-21 (December 2015).**

[10] **Sandy Halim and Maaike van Bragt, "Defined Contribution Plans Have Come a Long Way!" CEM Benchmarking Inc. (February 2018).**

[11] **Mercedes Aguirre and Brendan McFarland, "2016 Asset allocations in *Fortune* 1000 pension plans," Willis Towers Watson Insider (January 24, 2018).**

[12] **National Association of State Retirement Administrators Website.**

We conclude that advancements in the capabilities of DC plan sponsors and providers now make significant investment portfolio construction advancements possible.

Progress Made in Plan Design and Communication, but Enhancing Investment Opportunities Remains Critical

Plan sponsors have prioritized actions intended to improve participation in their DC plans in recent years, and the results have been positive and dramatic:[13]

- Plan design changes to encourage saving using auto-enrollment, auto-escalation, and new or revised employer matching contributions have increased plan participation rates and encouraged higher savings levels.
  - 73% of sponsors auto-enrolled versus 52% in 2009 with plan participation of 90% versus 68% for those who do not auto-enroll.
  - 60% of sponsors provide an auto-escalation feature in their DC plan, up from 54% in 2014.
- The expansion of Roth 401(k)s in 2017 to 70% of sponsors versus 46% in 2012 has provided participants with the ability to save for retirement on either a pre- or post-tax basis.
- More engaging communication, education and outreach efforts have helped participants take better advantage of the benefits offered.
- Many continue to simplify their investment fund menus allowing participants to better assess their options and make better decisions.
  - 42% of sponsors streamlined their lineups over the past three years versus 18% that added options to their lineups.
  - In 2017, only 15% of sponsors offered 20 or more options in their plan lineups versus 32% in 2010.

Nevertheless, increasing plan participation is only one of the ways to improve retirement income outcomes. Another perhaps even more important step is improving the performance of the underlying investments. The use of alternatives in DB plans is an investment practice that should be considered in today's DC plans, specifically in TDFs.

Growth of TDF Adoption in DC Plans: Building Better Portfolios

Many of the trends in DC plans revolve around the default investment for participant assets when the participant has failed to indicate where he or she would like to invest. Plan sponsors subject to the Employee Retirement Income Security Act of 1974 (ERISA) and utilizing a qualified default investment alternative (QDIA) as the default investment receive safe harbor protection for the investment decision from the U.S. Department of Labor.

Since the passage of the Pension Protection Act of 2006, there have been increasing flows into the default investments in plans that auto-enroll their employee populations.[14] Increasing auto-enrollment leads to increasing numbers of participants who do not actively provide investment direction, and those assets tend to go to TDFs. In 2017, 93% of retirement plan QDIAs were TDFs versus 64% in 2009.[15]

Additionally, flows have been incredibly stable as TDF investors are often defaulted into the funds and do not reallocate their DC investments. Estimated flows have been strongly positive over the last 10 years not only at the total target date industry level but also in individual funds. For example, in 2017 all funds prior to retirement (2020 funds and those later dated) saw positive estimated flows while the in-retirement funds saw outflows.[16] Because of this combination, 49% of new contributions into DC plans are being invested into TDFs compared with just 8% in 2007.[17] While there may be sponsor-directed flows from target date funds, as in the shift from active to passive over the past few years, participant allocations have been very stable.

The growing popularity of TDFs presents the opportunity to build better portfolios within the TDF construct utilizing a custom approach. To be clear, alternative asset classes can potentially be utilized in the pre-packaged TDFs offered by asset managers in the marketplace today, but for the most part industry-wide usage of alternatives has been very limited because those asset managers do not have the internal expertise with alternatives. Therefore, if a sponsor wants to add exposure to alternatives today, building custom funds is the most effective approach.

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[13] **Statistics in bullets from Willis Towers Watson's 2017 Defined Contribution Plan Sponsor Survey.**

[14] Auto-enrolling involves automatically deferring a portion of an employee's income into the DC plan unless he or she opts out. The Pension Protection Act of 2006 provides safe harbor protection to employers that automatically enroll employees into DC plans.

[15] **Willis Towers Watson 2017 Defined Contribution Plan Sponsor Survey**.

[16] Based on information from Morningstar's 2018 Target-Date Fund Landscape Report.

[17] **Based on information from Vanguard's How America Saves 2017 report.**

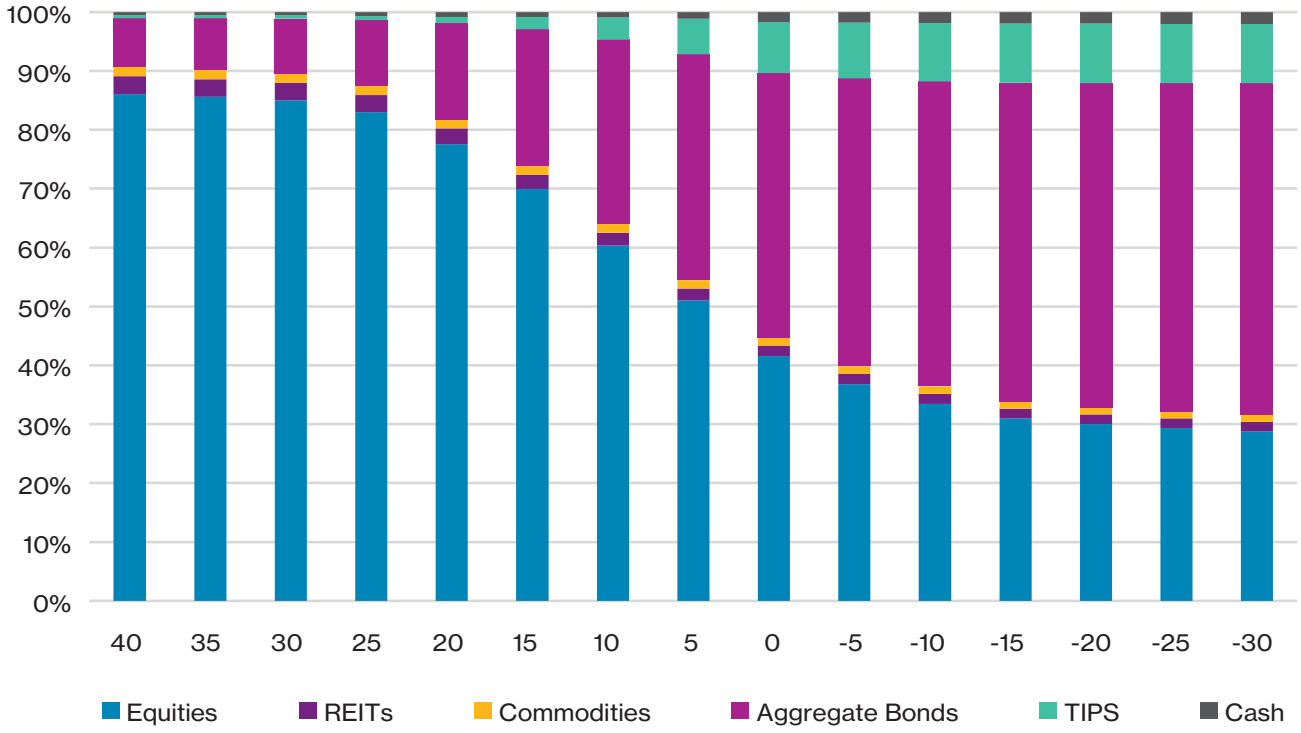
Willis Towers Watson's 2017 Defined Contribution Plan Sponsor Survey found that custom implementations were increasing in the large plan market, with 38% of plans $5 billion or greater offering custom TDFs and 66% of plans offering custom core funds. This trend is partially due to improved technology and plan administrator capabilities in implementing custom funds, giving sponsors higher confidence in DC service providers' abilities to administer portfolios that include alternatives.

Range of Retirement Outcomes in a Typical TDF

For this analysis, the baseline consists of a passively implemented glide path with a typical risk level and de-risking path often seen in off-the-shelf implementations.[18] The glide path is a description of how the various funds that make up a target date product alter their asset allocation over time, moving from riskier assets focused on growth for younger participants into lower risk assets focused on income and capital preservation as retirement approaches. The glide path in this analysis consists of a consensus of 21 fund families that offer target date products to institutional clients.[19] The building blocks in the baseline include public equities (both U.S. and non-U.S.), real estate investment trusts (REITs), commodities, aggregate bonds, treasury inflation-protected securities (TIPS) and cash.

The glide path begins with approximately 91% of total assets categorized as "return-seeking." These are assets meant to generate return as opposed to those designed to lessen volatility of returns, and they consist of public equities, REITs and commodities in the baseline. The return-seeking allocation has decreased to 64% by 10 years to retirement, and to 45% at retirement, showing a consensus that material allocations to riskier assets (relative to risk-reducing asset classes) are still appropriate at retirement to support the long-term spending horizon in retirement. Exhibit 1 is a visual representation of the baseline glide path.

Exhibit 1. Baseline glide path



[18] Off-the-shelf products are those that are designed and pre-packaged by asset managers for broad usage by many plan sponsors as opposed to a custom implementation where the glide path and portfolios are built to the objectives of one sponsor.

[19] Sourced from Willis Towers Watson's target date research glide path survey, updated annually, which is constructed using information from asset managers. To the extent an investment manager/fund family has TDF products with different glide paths, multiple glide paths may be used. The target date fund families include Alliance Bernstein, American Century, American Funds, BlackRock, Charles Schwab, Fidelity, JPMorgan, John Hancock, Mellon Capital, MFS, Northern Trust, PIMCO, Principal, Russell, SSgA, T. Rowe Price, TIAA, Vanguard, Voya, Wellington, and Wells Fargo.

We also determined representative demographic and plan design information to model a "typical" DC participant. The modeled participant begins saving in the plan at age 25 with a salary of approximately $51,000.[20] Salary trends upward at inflation plus 2% through mid-career at which point the participant receives only cost of living adjustments through retirement. The participant saves 4.0% of salary when entering the plan, trending to 6.5% at mid-career and 7.5% at late career.[21] The assumed employer match is 50% of the first 6% contributed to the plan,[22] and the assumed expected retirement age is 65.

As mentioned previously, the baseline glide path retains material exposure to growth assets at the point of retirement given that participants may remain invested in the TDFs and utilize their assets to generate lifetime income in retirement. As such, the typical TDF investor has a wide distribution of potential outcomes at retirement.

Retirement success is measured as the ability to create a stream of income in retirement through accumulating assets over a working career while invested in the baseline glide path. One example of how this can be accomplished is by converting simulated DC balances at retirement into inflation-adjusted lifetime annuities.

Table 2 shows the amount of income that can be generated by converting a full-career employee's DC balance into a stream of income at retirement. In very bad scenarios (5th percentile) the DC plan may replace $21,200 or less per $100,000 of pre-retirement annual wages; in very good scenarios (75th percentile) it may replace $77,000 or more, but the expected outcome (50th percentile) is $53,000. This again highlights the shift in risk from sponsor to participant when moving from DB to DC. For example, certain DB plans provide retirement benefits based on factors such as ending salary and years of service. To illustrate, consider a DB plan that provides a benefit of 1.4% X (salary at retirement) X (years of service). If this participant worked for 35 years and had a final salary of $100,000, she would receive $49,000 per year in retirement regardless of how markets performed. Contrast this to the volatility in the potential DC outcomes and it is clear that any improvements to add stability to those outcomes is beneficial.

Table 2. Distribution of potential retirement income for a full-career employee

	Annual inflation-adjusted retirement income per $100,000 in pre-retirement annual wages
75th percentile	$77,000
50th percentile	$53,000
25th percentile	$36,300
5th percentile	$21,200

The retirement incomes were developed first by simulating a participant's working life over 5,000 paths. In each path, the full-career employee contributes to the plan, and other key variables fluctuate around their expected values such as salary growth, market returns and inflation. At retirement, the participant has 5,000 unique ending DC balances, which are converted into annuities. The annuity conversion factor is based on simulated interest rates and assumes a 3% annual inflation adjustment.

Expanding opportunities, reducing complexity

The volatility in results is one reason DC sponsors, consultants and providers have focused heavily on the adoption of retirement income solutions in recent years to provide investment options and vehicles that can directly address the risk of poor outcomes by creating an income floor. Cost, complexity, portability, operational challenges and regulatory uncertainty are just some of the reasons retirement income remains a slow-moving trend, so improving investment efficiency by utilizing an expanded opportunity set in portfolio construction is an alternative route to improve the full distribution of outcomes (both median and downside). The growth of TDFs presents a unique opportunity to evolve the underlying building blocks within the TDF structure without increasing complexity for DC participants.

[20] **U.S. Census data: Table 1. Income and Earnings Summary Measures by Selected Characteristics: 2015 and 2016.**

[21] **Based on information from Vanguard's How America Saves 2017 report based on Vanguard 2016 defined contribution plan data.**

[22] Based on data from **Vanguard's How America Saves 2017** report based on Vanguard 2016 defined contribution plan data as well as the 59th Annual PSCA Survey of Profit Sharing and 401(k) Plans.

We explored whether including alternative investments within the TDF structure could not only improve median results but also narrow the distribution of outcomes. We note that our expectation would be that upside scenarios are lower under some of these alternative implementations given that public equities have relatively high upside potential. Foregoing strong upside results (e.g., when equities strongly outperform all other classes) to improve downside results is a reasonable objective given the evolving role of DC plans as primary retirement vehicles.

Including Alternative Investments Can Improve Retirement Income

When testing the potential inclusion of alternative investments in a TDF, we utilize the baseline glide path results discussed on the prior page as a benchmark. Our objective was to assess the use of alternatives in TDF structures not only directionally but also in terms of magnitude.

Adding Private Equity to the Glide Path

We start by considering the addition of private equity investments in the target date glide path. The box below provides a brief primer on private equity, including expectations for what the category can add from a portfolio construction perspective. Understanding the characteristics of the alternative asset categories considered is critical as it informs where to source the assets for the strategic alternative allocation. For example, assets may come from all return-seeking assets, all risk-reducing assets, specific asset categories or a combination. The decision on where to source assets from is a function of the total fund objective and the purpose of adding the alternative investments.

While private equity does provide some diversification, it primarily seeks long-term outperformance versus public equity, and as such the private equity allocation is sourced directly from public equities. Exhibit 2 on the following page shows two glide paths utilizing private equity in their strategic allocations. The more conservative of the two begins with 10% of the public equity allocation invested in private equity, trending to 0% at retirement. The second glide path starts with 20% of the public equity allocation in private equity, trending to 10% at retirement and 0% by 10 years post-retirement.

Private Equity

Private equity offers access to non-market traded investments made into companies of all sizes and offers an entry point to fast-growing small and midsize companies that are not listed on exchanges.

There has been a 50% drop in publicly listed companies between 1996 and 2016 and a rise in privately held companies. This makes it increasingly difficult for investors to get diversified exposure to the U.S. economy, and to real economic value creation, without tapping private equity.[23]

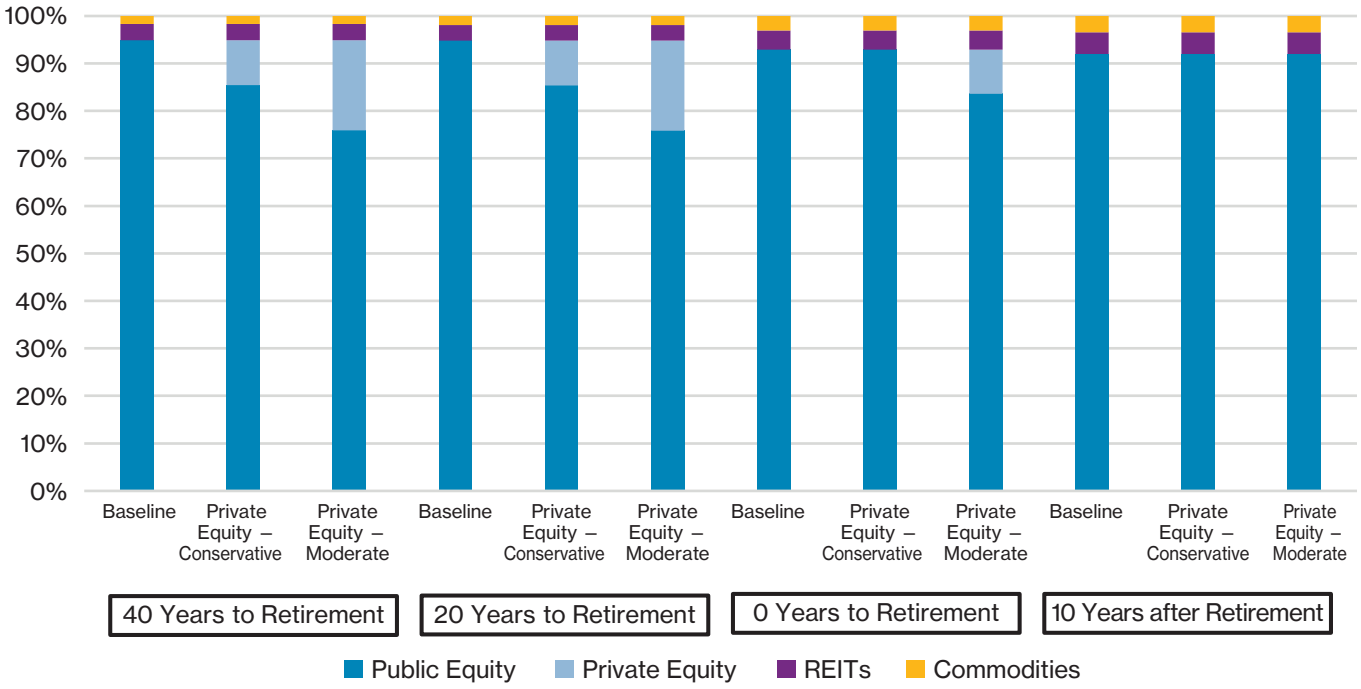
Private equity allows investors to access various excess return-generating strategies, including such areas as sector specialists, turnarounds, growth capital, venture capital and buyouts.

Investors should expect higher returns in private equity because of the information premium, ability to actively improve strategic and operational inefficiencies, and ability to arbitrage pricing between the public and private equity markets.

Due to the illiquid nature of the asset class and less frequent valuations, private equity can exhibit less volatility than public equities, though on a mark-to-market basis, volatility is comparable to, if not higher than, public equities. This shows the flaw with using volatility as a risk measure in TDF valuations. Importantly, when included in a TDF glide path, private equity can improve expected and downside results.

[23] **The National Bureau of Economic Research Website.**

Exhibit 2. Percentage of total return-seeking assets (adding private equity)



The expected performance differential between the best-performing and average private equity managers is wider than in many other categories, and by its nature private equity is an asset class that would be actively implemented. Oversight and management of a private equity portfolio may be handled by the plan sponsor or with the assistance of an external partner; for this analysis, we assumed the implementation of high-skill/high-conviction managers. The active management component and the nature of the asset class also lead to higher fees. A typical fee structure includes a management fee charged on all committed capital in the range of 1.5% to 2.0% as well as a performance fee. Sponsors should be aware of these higher fees but should also note that the value received for fees — the net of fee results — is more relevant.

Implementing a private equity strategy within the TDF with high-skilled managers over a long time horizon improves the entire distribution of accumulation metrics. The ability to shift the distribution comes from broadening the investment opportunity set to include higher returning investments, which take advantage of participants' ability to bear investment and illiquidity risk. Younger participants are able to withstand the additional volatility of higher private equity weights given their long time horizons (low financial capital relative to human capital, or future earnings). As participants age the relative weighting to private equity decreases because market risk becomes a larger concern when participants transition into the retirement spending phase. These results, as with all of our analyses, assume that when participants experience large drawdowns in their accounts in any one period, they will remain in the TDF and not transfer assets out at an inopportune time. These behavioral assumptions are supported by data on how participants act when they are invested in TDFs (often as defaulters in auto-enrollment scenarios) where money tends to be "sticky."

Table 3 on the following page shows that a full-career employee retiring with $100,000 in pre-retirement annual wages could be expected to have DC savings that would allow him or her to convert that DC balance into a $53,000 inflation-adjusted annuity using the baseline glide path. Implementing private equity at conservative and more moderate weights increases median (50th percentile) retirement income by 6% ($3,100) and 13% ($6,700), or $56,100 and $59,700 versus $53,000, while the downside (5th percentile) results are also improved by 6% ($1,200) and 12% ($2,500), or $22,400 and $23,700 versus $21,200, respectively, from the baseline.

Table 3. Distribution of potential retirement income for a full-career employee

	Annual inflation-adjusted retirement income per $100,000 in pre-retirement annual wages		
	Baseline	**Private equity – conservative**	**Private equity – moderate**
75th percentile	$77,000	$82,000	$88,400
50th percentile	$53,000	$56,100	$59,700
25th percentile	$36,300	$38,400	$41,100
5th percentile	$21,200	$22,400	$23,700

Adding Core Real Estate to the Glide Path

Unlike private equity, which seeks to enhance expected returns, real estate offers diversification and downside protection. Therefore, unlike private equity, which is sourced from public equity allocations, real estate is sourced from both return-seeking and risk-reducing allocations. Core real estate offers both an income and capital appreciation component, and when sourced from the total portfolio it may be expected to reduce risk without a commensurate decrease in expected return.

As shown in Exhibit 3, the two glide paths tested were a more conservative implementation that allocated 5% of total assets to real estate, trending to 0% at retirement, and a more moderate allocation of 10% of assets, trending to 5% at and through retirement. The return-seeking and risk-reducing allocations were reduced pro rata in each of the scenarios.

Real Estate

Core real estate is part of the real assets category, which includes assets that derive an income stream from the use of physical assets, physical goods or services derived from those assets.

The spectrum of ways to implement real asset strategies includes core, value-added and more opportunistic strategies. Core real estate would be expected to provide diversity and sit at the lower end of the risk and return spectrum.

Core real estate consists of high-quality income-generating buildings with high occupancy rates diversified across four major property types: office, retail, industrial and multifamily.

Unlike more opportunistic implementations, core real estate is expected to provide lower returns with significantly lower volatility than traditional growth assets.

Exhibit 3. Percentage of total return-seeking assets (adding real estate)

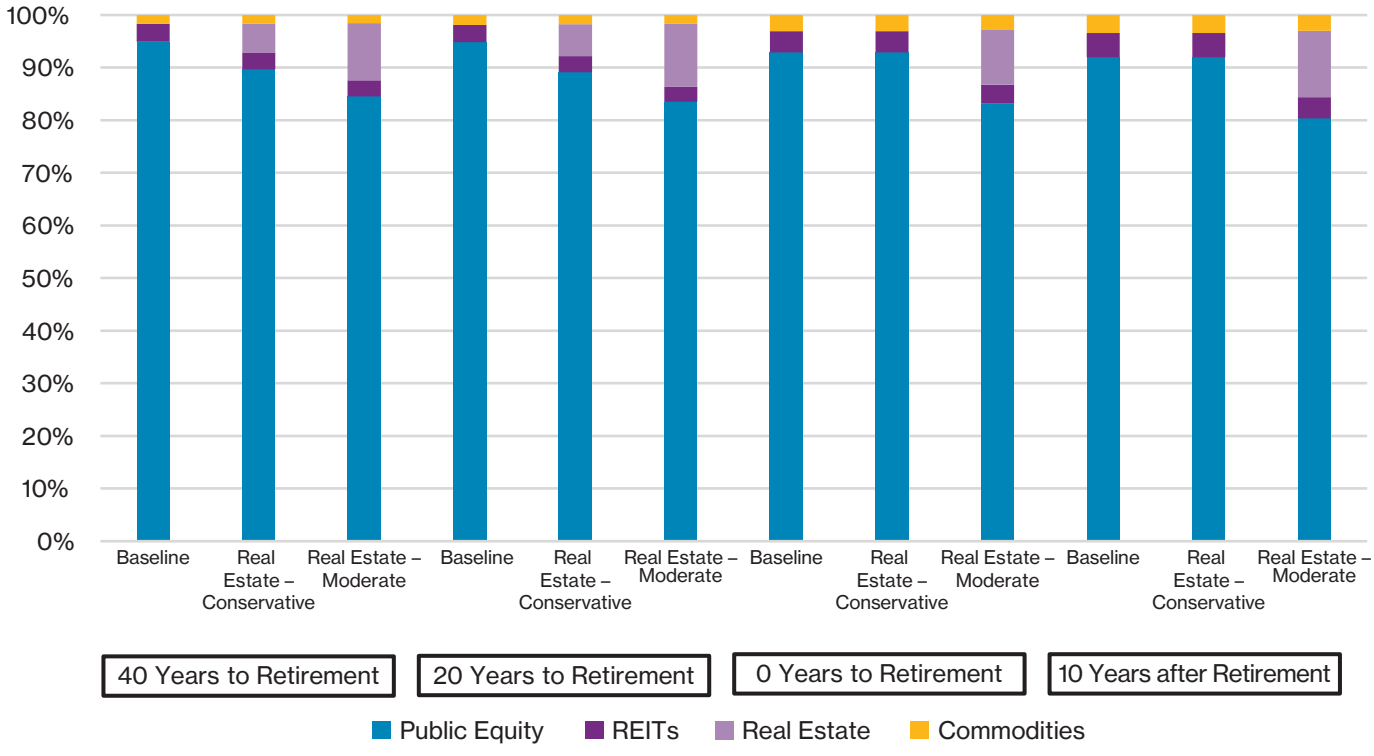


Table 4 shows that for a full-career employee, implementing real estate at conservative and more moderate weights leads to downside improvements of 2% ($400) and 3% ($600), or $21,600 and $21,800 versus $21,200, in retirement income for a participant with $100,000 in pre-retirement annual wages. The "cost" of this is a similarly modest reduction in median results. The takeaway is that over long time horizons implementing real estate is expected to have larger risk-reduction benefits (both in an absolute sense and more so in a relative sense) than reductions in expected case.

Table 4. Distribution of potential retirement income for a full-career employee

	Annual inflation-adjusted retirement income per $100,000 in pre-retirement annual wages		
	Baseline	**Real estate – conservative**	**Real estate – moderate**
75th percentile	$77,000	$75,900	$74,500
50th percentile	$53,000	$52,700	$52,600
25th percentile	$36,300	$36,600	$37,000
5th percentile	$21,200	$21,600	$21,800

Hedge Funds

Hedge funds may be the most challenging category to define as it is not technically considered a separate asset class. Hedge funds encompass a wide range of investment strategies involving traditional asset classes, including equities and bonds, and often utilizing derivatives.

Hedge funds aim to provide diversification, with a low correlation to equity and credit markets, providing protection in changing market conditions. Additionally, they look to produce systematic returns and access to genuine manager skill.

The category attempts to strike a balance between downside protection and upside potential through delivery of asymmetric returns that strive to capture a disproportionate amount of the upside returns in good market environments, while minimizing losses in more challenging periods.

Some typical characteristics include the ability to short securities, less constrained investment guidelines and additional breadth in the investment opportunity set.

While there are several ways to implement a hedge fund strategy, building a portfolio designed to provide diversification would typically focus less on equity strategies (e.g., multi-strategy, sector-focused) and more on credit, event-driven, macro and other strategies.

Adding Hedge Funds to the Glide Path

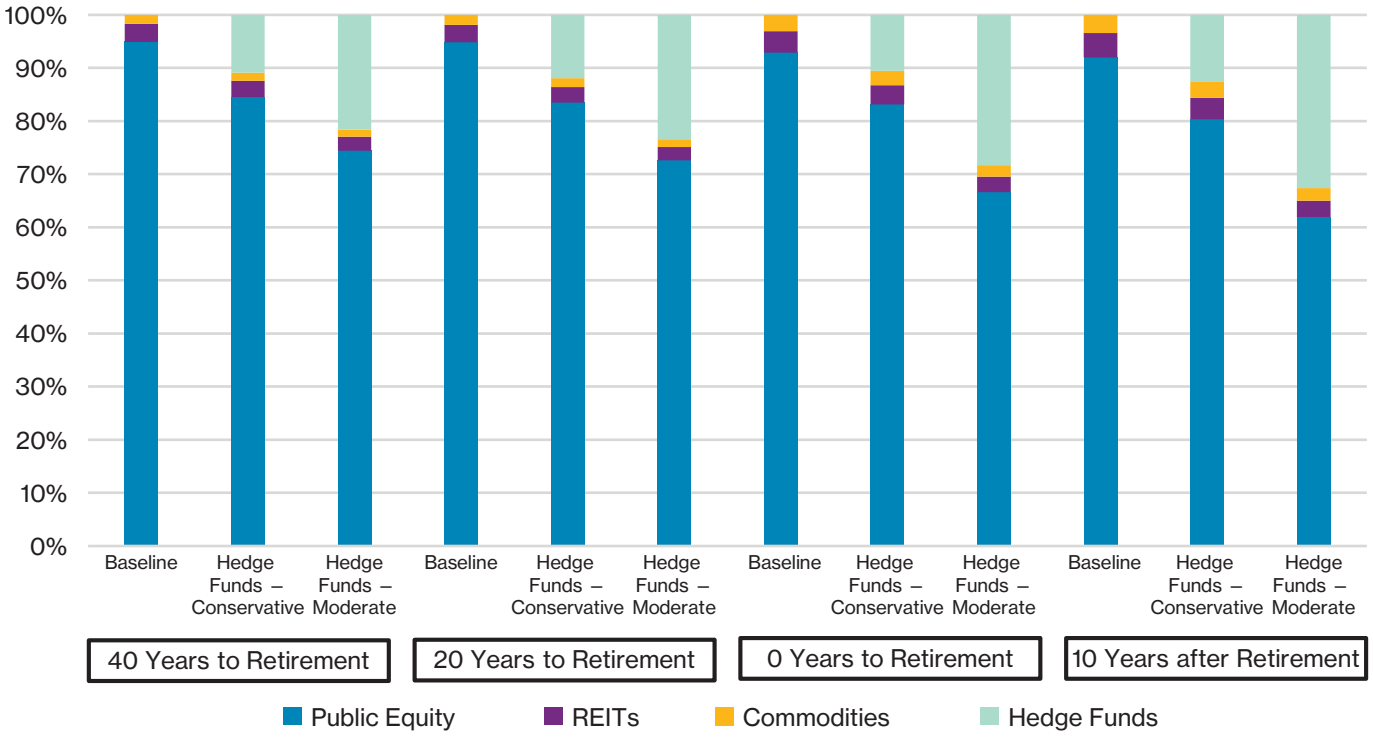
Hedge fund strategies, by definition, include a broad opportunity set that may include both equity and fixed-income instruments. As such, we source the hedge fund allocation from both return-seeking and risk-reducing assets (similarly to how real estate was handled). Similar to private equity, the expected performance differential between the best-performing and average managers is relatively wide, and a hedge fund portfolio must be actively implemented. As such, we assumed the implementation of high-skill/high-conviction managers.

While we would similarly expect improved net-of-fee performance, the active management component and esoteric strategies used within hedge funds also lead to higher fees. A typical fee structure, like in private equity, includes a management fee in the range of 1.5% to 2.0% as well as a performance fee. Total fees can be managed through including some lower cost alternative beta[24] strategies in the implementation.

A skilled hedge fund portfolio can be implemented with higher liquidity than some of the other strategies we've discussed thus far, so strategic weights can be higher while still retaining the ability to manage the fund both in normal and stressed time periods. As shown in Exhibit 4 on the following page, the conservative hedge fund implementation starts at 10% of the total fund and transitions to 5% at retirement, while the moderate implementation starts at 20% of the total fund and transitions to 15%. The return-seeking and risk-reducing allocations were reduced pro rata in each of the scenarios.

[24] Alternative beta are risk premia often accessed through hedge fund structures with a systematic process to capture the premia (e.g., reinsurance, merger arbitrage, volatility and momentum).

Exhibit 4. Percentage of total return-seeking assets (adding hedge funds)



The nature of the underlying assets can have a material impact on results, so we again use our income replacement framework to evaluate these alternatives. While maintaining a portfolio of hedge fund managers requires heightened governance related to manager oversight and implementation, doing so successfully can improve the total distribution of outcomes during the accumulation phase.

As shown in Table 5, for a full-career employee, implementing hedge funds at conservative and more moderate weights increases median (50th percentile) retirement income by 2% ($900) and 4% ($2,000), or $53,900 and $55,000 versus $53,000, while the downside (5th percentile) results are also improved by 4% ($800) and 8% ($1,700), or $22,000 and $22,900 versus $21,200, respectively, from the baseline.

Table 5. Distribution of potential retirement income for a full-career employee

	Annual inflation-adjusted retirement income per $100,000 in pre-retirement annual wages		
	Baseline	**Hedge funds – conservative**	**Hedge funds – moderate**
75th percentile	$77,000	$79,200	$81,200
50th percentile	$53,000	$53,900	$55,000
25th percentile	$36,300	$37,800	$38,700
5th percentile	$21,200	$22,000	$22,900

While the previous examples look attractive in isolation, we now turn to considering how these strategies contribute to a diversified implementation that includes allocations to all these assets. Not only do these alternative asset classes provide diversification or differentiated return drivers relative to equities and fixed income, but they also provide attractive cross-correlation benefits when viewed in combination with each other (meaning they outperform and underperform at different times from one another). The next section examines the impact on results of implementing a diversified portfolio including alternative assets.

Adding a Combination of Diversifying Investments to the Glide Path

Exhibits 5 and 6 review a diversified implementation that utilizes alternative asset classes to a higher degree than any of the alternative glide paths previously reviewed. From a diversification of returns perspective, the total diversified portfolio is expected to have lower risk than some of the individual asset class glide paths considered in prior sections.

The diversified glide path starts at 97% return-seeking assets and trends to 63% at retirement versus 91% trending to 45% for the baseline. It may appear the diversified glide path is materially riskier than the baseline given that the glide path holds approximately 18% more return-seeking assets at retirement; however, the diversified portfolio holds only 33% in public equities (38% total when considering private equity as well) versus 42% for the baseline. This suggests potentially lower market risk for the diversified glide path, which was the main driver of results in recent stressed market environments (e.g., global financial crisis, dot-com bubble burst).

Exhibit 5. Diversified glide path

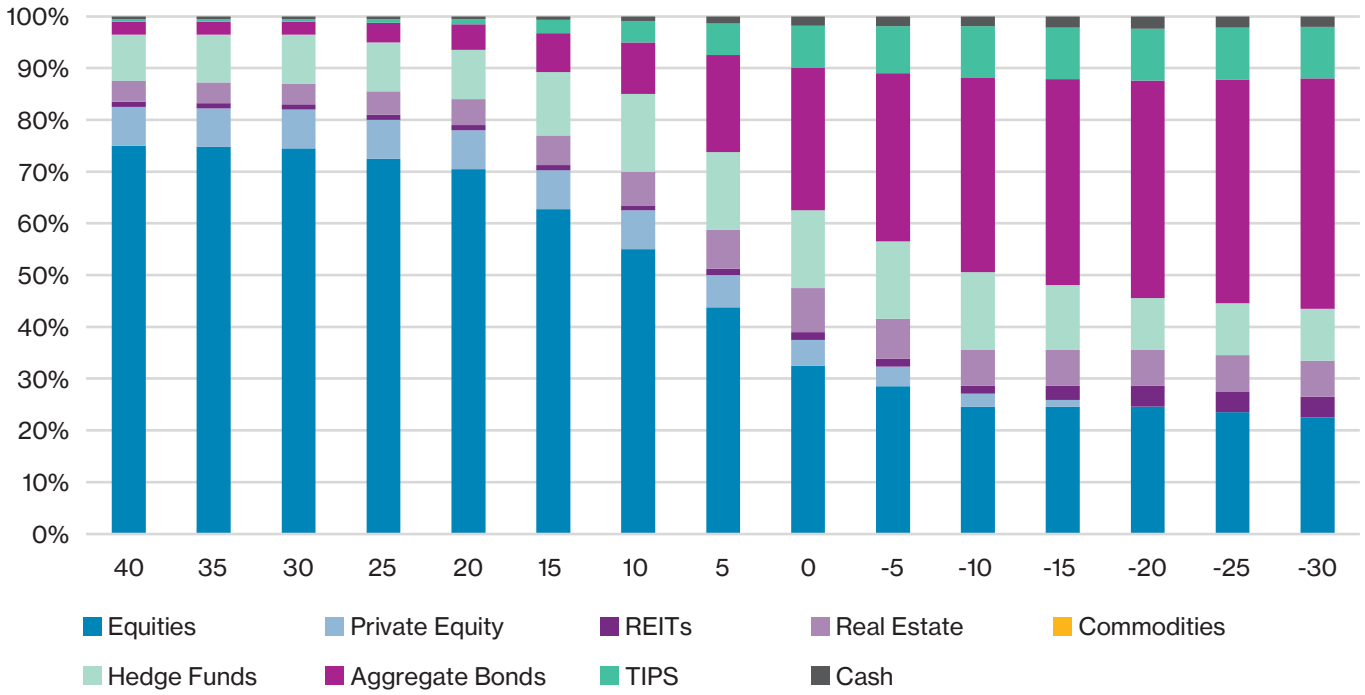
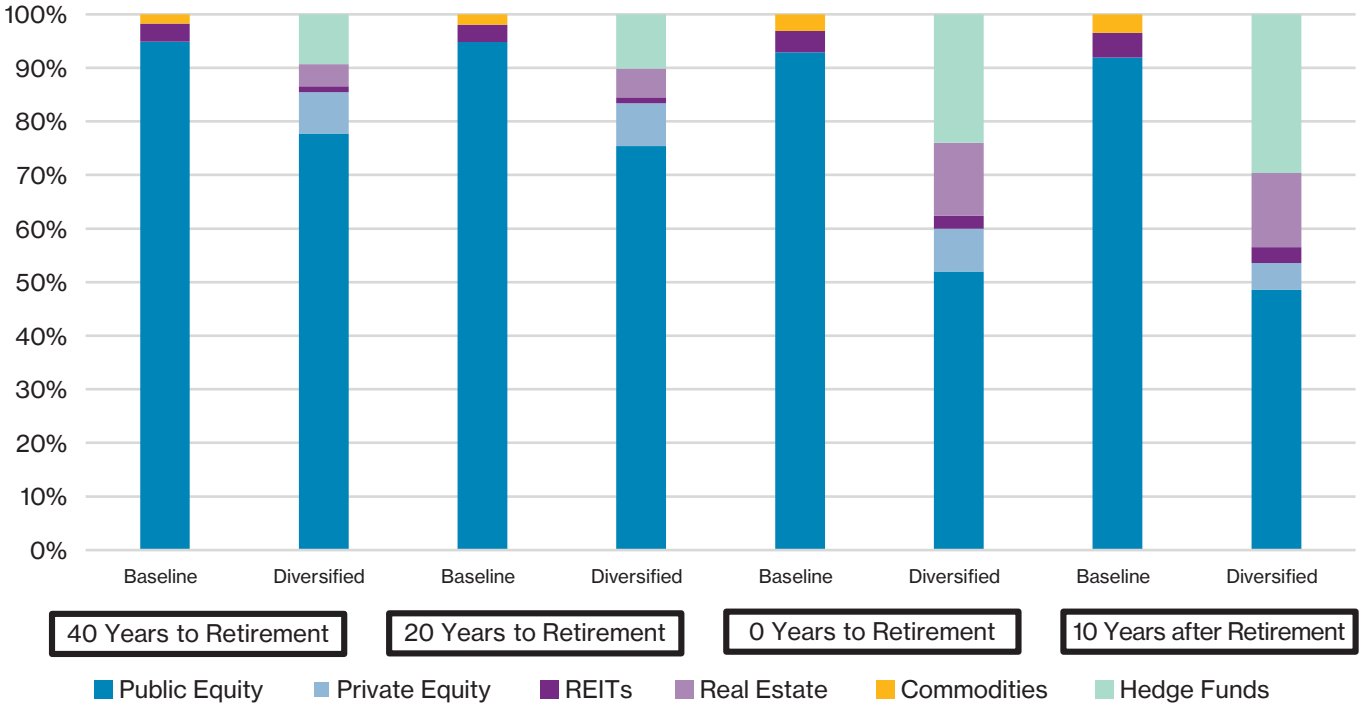


Exhibit 6. Percentage of total return-seeking assets



With the objective in mind of creating similar risk portfolios to the baseline, we produced a diversified glide path that improves median (50th percentile) retirement income by approximately 17% ($9,200) ($62,200 versus $53,000) for a full-career employee as shown in Table 6. The downside outcome (5th percentile) was also improved by 11% ($2,300) as the diversified glide path produced $23,500 in retirement income versus $21,200 for the baseline.

While the portfolios were constructed to be of similar risk along the glide path, the increased diversification provides risk benefits over time versus the baseline. While diversification is utilized marginally in the products offered today, there is still a lot of room to enhance DC participant outcomes through greater usage of alternative investments.

Table 6. Distribution of potential retirement income for a full-career employee

	Annual inflation-adjusted retirement income per $100,000 in pre-retirement annual wages				
	Baseline	**With private equity**	**With real estate**	**With hedge funds**	**Diversified glide path**
75th percentile	$77,000	$88,400	$74,500	$81,200	$93,900
50th percentile	$53,000	$59,700	$52,600	$55,000	$62,200
25th percentile	$36,300	$41,100	$37,000	$38,700	$41,900
5th percentile	$21,200	$23,700	$21,800	$22,900	$23,500

Adding Alternatives Boosts Long-Term Retirement Spending

Several emerging trends in the marketplace may lead to more participants staying in DC plans post-retirement in the future, including:

- Potential regulations redefining fiduciary roles and responsibilities, though the proposed rules remain in a state of flux
- Plan sponsor focus on retirement readiness
- Benefits of maintaining scale and institutional buying power

As such, long-term retirement spending metrics were tested to assess how well the alternative glide path constructions support retirement spending relative to the baseline glide path.

We utilized inflation-adjusted spending rules to assess the probability of asset depletion over longer-term retirement spending horizons. Specifically, we assume that at retirement, a participant takes his or her accumulated balance and spends a certain percentage in the first year. Each subsequent year, that amount is increased for realized inflation so the participant's retirement spending profile assumes constant spending in real (inflation-adjusted) terms.

A typical retirement spending heuristic is a 4% spending rule, which was reviewed along with a more aggressive 5% spending rule. In each of these scenarios, the spending amount plus inflation serves as a hurdle rate for the investments to avoid erosion of the principal balance over time. The objective is to support lifetime retirement spending, so some erosion of principal over time is acceptable as long as assets remain positive.

Table 7

Probability of having positive assets under various spending levels and time horizons in retirement						
	Number of years after retirement	**Baseline**	**With private equity**	**With real estate**	**With hedge funds**	**Diversified glide path**
4% spending	15 years	**100%**	**100%**	**100%**	**100%**	**100%**
	20 years	**99%**	**99%**	**99%**	**99%**	**99%**
	25 years	**92%**	**93%**	**93%**	**95%**	**96%**
	30 years	**80%**	**82%**	**81%**	**86%**	**89%**
5% spending	15 years	**99%**	**100%**	**100%**	**100%**	**100%**
	20 years	**89%**	**90%**	**90%**	**93%**	**94%**
	25 years	**66%**	**68%**	**67%**	**73%**	**78%**
	30 years	**45%**	**47%**	**46%**	**53%**	**60%**

When reviewing the likelihood of retirement success, we note the diversified glide path outcomes are improved over any of the alternative asset classes used in isolation. As shown in Table 7 the single alternative asset class scenario that offered the best long-term results was hedge funds, though each alternative in isolation offered improvements over the baseline. At a 4% spending level, all glide paths offered high probabilities of success over shorter time horizons, but over longer time horizons the diversified glide path offered probabilities of success between 4% and 9% better than the baseline. With a more aggressive 5% spending rate, the diversified glide path offers a 5% higher probability of success than the baseline over a relatively short 20-year retirement spending horizon. Over longer-term 25- and 30-year horizons, the diversified glide path outperforms by 12% and 15% respectively.

The diversified glide path performed well relative to the baseline over long-term retirement spending horizons, but DC plans support broad populations with varying objectives, so one might ask how participants who roll their money out of the plan may be impacted. As such, sponsors will want to review not only long-term success metrics but also shorter-term metrics given that certain participants will withdraw their full balances from the plan at or shortly after the point of retirement.

Adding Alternatives Can Mitigate Short-Term Risks Near Retirement

As we discussed previously, TDFs are designed based on assumptions about participant behavior, typically assuming participants will remain invested post-retirement (particularly for "through" glide paths, which continue to de-risk post-retirement). In reality, many participants do not remain in the DC plan post-retirement, either rolling over to an outside account or cashing out.

Our goal in this section is to determine how a custom TDF allocation and glide path that includes alternative investments needs to be adjusted to reflect this reality. To assess the magnitude of these risks we examine several metrics, including expected and downside returns at and through retirement, the probability and magnitude of real return shocks (i.e., loss of a participant's purchasing power) at retirement, and the likelihood of multiple years of poor investment results approaching retirement. We look at the impact of adding each alternative asset class in isolation and in combination. We note that the diversified glide path utilizes all these asset classes strategically in an attempt to increase portfolio efficiency at a comparable risk level, specifically, by earning more return for each unit of risk taken.

At retirement as shown in Table 8 on the next page, the baseline glide path offers a projected return of approximately 5.1% with downside (5th percentile) results of –7.9%. The glide path continues to de-risk so that by age 75 the portfolio offers a projected return of 4.7% and a 5th percentile return of –6.2%. While the projected case provides reasonable growth, the downside scenarios represent material shocks to participant portfolios as participants are about to transition into retirement. The challenge in mitigating these downside risks stems from the multiple objectives of target date users.

One straightforward way to mitigate downside risk is to shift more equities into fixed income, though that approach would materially lower expected returns and adversely impact participants who intended to utilize the funds as a source for income throughout retirement. Additionally, shifting from equities to core fixed income lessens equity risk but increases other risks such as interest rate and inflation. Instead, participants may be better off by further diversifying their portfolios.

The diversified glide path aims to increase portfolio efficiency at a comparable risk level. As shown in Table 8, the diversified implementation offers the highest Sharpe ratio, or expected return per unit of risk. With the objective of creating a portfolio of similar risk to the baseline, we looked both at the volatility of returns and the worst-case scenario, which is defined as a 5th percentile result. At retirement, the expected return of the diversified portfolio is projected 1.0% higher than the baseline, and while volatility (standard deviation) is 0.3% higher, the worst-case outcome, which is arguably a more meaningful risk measure for participants, is improved by 0.4%. Ten years after retirement, the diversified portfolio provides a materially lower risk level (worst case of –5.3% versus –6.2%) while still providing an additional 0.6% of projected return relative to the baseline.

The main takeaway is that there are several risk and return drivers in the marketplace and most TDFs offered today are overly exposed to equity risk as a primary driver, with interest rate and inflation as secondary factors. Diversifying asset exposures and broadening the investment opportunity set allows access to alternate return drivers (e.g., skill, illiquidity, credit) and provides benefits in scenarios where markets are stressed.

Table 8. Increased efficiency through diversified implementation leads to potential for both higher expected returns and lower downside risk

At retirement (age 65)	Projected return	Volatility	Sharpe ratio	5th percentile "bad scenario" single-year return
Baseline	5.1%	8.0%	0.28	–7.9%
With private equity	5.3%	7.9%	0.31	–7.7%
With real estate	5.2%	7.8%	0.29	–7.6%
With hedge funds	5.5%	7.7%	0.33	–7.0%
Diversified glide path	6.1%	8.3%	0.38	–7.5%
10 years after retirement (age 75)				
Baseline	4.7%	6.7%	0.27	–6.2%
With private equity	4.7%	6.7%	0.27	–6.2%
With real estate	4.7%	6.6%	0.28	–6.1%
With hedge funds	5.1%	6.5%	0.33	–5.6%
Diversified glide path	5.3%	6.5%	0.37	–5.3%

Given the transition into retirement and the spending of accumulated savings, participants are also concerned with inflation risk, or the ability of a portfolio to protect against the erosion of real (inflation-adjusted) purchasing power. If a participant's portfolio increases by 3% but costs increase by 6%, he or she has lost value on a real basis. TDFs today often utilize Treasury inflation-protected securities to manage this risk. TIPS are bonds that are contractually set to adjust for realized inflation. Given this low-risk inflation "insurance," TIPS also tend to come with the "cost" of lower expected portfolio returns relative to other assets that may have a positive relationship with inflation (e.g., the inflation pass-through from real estate investments). As such, we review whether TDFs utilizing alternative assets can also help protect against inflation risk while maintaining higher expected returns.

To help assess this risk in the context of participants who may be leaving the plan, we looked at real return shocks at retirement. We want to understand the frequency and magnitude of the drawdown relative to inflation (which again is a hurdle rate that retirees care about greatly) if a participant were to experience a market shock right before he or she retired. Our baseline glide path has a 4.9% probability of losing 10% or more on a real basis the year of retirement, or about a one-in-20 chance. As shown in Table 9, inclusion of private equity, real estate and hedge funds modestly mitigate inflation risks for participants at the point of retirement. Given the construction of the diversified glide path to target a similar risk level to the baseline at retirement, we see that the probabilities of large real-return shocks are comparable, but the probabilities of modest negative real returns are materially lower.

Table 9

Probability of real return below x% the year prior to retirement			
	–10%	**–5%**	**0%**
Baseline	4.9%	13.2%	33.2%
With private equity	4.8%	12.3%	31.7%
With real estate	4.7%	12.7%	32.8%
With hedge funds	4.3%	11.1%	30.4%
Diversified glide path	4.6%	11.0%	28.1%

Finally, we reviewed the probability of sustained negative returns as retirement approaches. We analyzed the probability of negative three-year annualized returns prior to retirement for different thresholds and compared how our alternate glide paths fared as illustrated in Table 10.

The probability of our baseline glide path experiencing average returns of –5% or worse per year for the three years preceding retirement is 5.0%. That means there is about a one-in-20 chance that a participant's portfolio loses more than 15% over the three years before he or she is set to retire. There is also just under a 1% chance (0.9%) that the participant loses 10% or more per year (30% or more cumulative) as he or she approaches retirement, a significant outcome that puts the participant's retirement readiness at risk. The diversified glide path lowers the risk of losing 5% or more per year by 0.7% with the probability of losing 10% or more per year being comparable to the baseline.

Table 10

Probability that the average return will be less than X% for the three years prior to retirement		
	–10%	**–5%**
Baseline	0.9%	5.0%
With private equity	0.7%	4.3%
With real estate	0.6%	4.0%
With hedge funds	0.5%	3.5%
Diversified glide path	0.9%	4.3%

Including Alternatives in TDFs: Challenges and Solutions

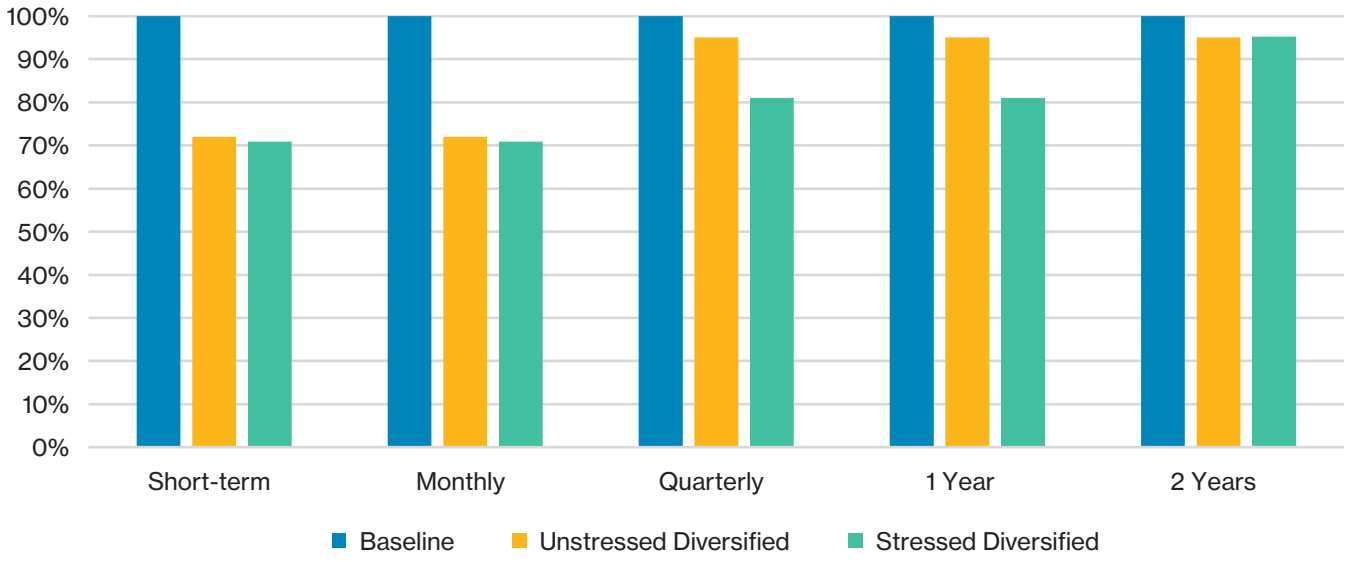
If alternative assets can make such an important difference in retirement income outcomes and are regularly used in other investment programs today, such as DB plans, why are they not often seen in TDFs today?

While progress has been made, DC investment operations and oversight have not yet matured to the level needed to rival those of DB plans. This could be attributable to the DC plan's historical role as a supplemental savings vehicle in which participants must make more of their own investment decisions. In addition, plan sponsors may be hesitant to implement changes to their programs given the higher perceived fiduciary risks and concerns about possible litigation. The legal obligations of plan fiduciaries, such as the prudent selection of investment options or a reasonable level of fees, have been the subject of a significant number of lawsuits in recent years. However, such fiduciary obligations can be managed through a careful and prudent evaluation process focused on enhancing potential outcomes for participants. This includes addressing any concerns, such as liquidity and pricing, benchmarking, fees and governance, related to incorporating alternative investments into TDFs.

Liquidity, Rebalancing and Cash Flow Management

Liquidity management within a TDF is essential as the participant cash flows have variability though are generally predictable. The key question is whether the level of illiquidity accessed within a TDF is manageable especially near retirement where participant cash flows are less predictable. As illustrated in Exhibit 7, the diversified glide path has over 70% expected short-term liquidity in both normal and stressed scenarios. Quarterly liquidity is materially higher in a normal market (approximately 95%) while falling to approximately 81% in a stressed environment. Still, under both scenarios material liquidity remains within the fund structure, and even in a stressed environment, 95% of the assets are expected to be liquid within two years.

Exhibit 7. Liquidity profile of portfolio at retirement



Sponsors may have also heard of the availability of liquid alternative strategies and wondered whether these may mitigate the illiquidity risk when including alternatives in a TDF. A liquid alternatives portfolio is a combination of hedge funds and/or alternative betas. Most hedge fund and alternative beta strategies offer monthly or quarterly liquidity, which is more than sufficient to be categorized as liquid for the average institutional investor, especially compared with many private market strategies. Therefore, while we still acknowledge that liquidity needs to be managed within a TDF utilizing alternatives, as Exhibit 7 shows, a diversified TDF is expected to have ample liquidity whether the hedge fund allocation is implemented through direct hedge fund investments or a combination of hedge funds and alternative betas.

Fees

The rise in DC plan lawsuits, in particular those challenging plan fees, has led many plan sponsors to maintain a myopic focus on fees leading to tremendous growth and fee compression in indexed products. A typical fee range for passive off-the-shelf TDFs for a large institutional plan was 10 bps to 15 bps about five years ago. Today, that fee range is closer to 5 bps to 10 bps.[25]

As an example of this recent trend in DC, in 2017 passive target date series attracted almost 95% of the $70 billion in estimated net flows to target date funds. This is a relatively recent phenomenon as active TDFs saw higher flows than passive for seven of the eight years between 2007 and 2014. In fact, in 2007 active saw inflows of more than $40 billion while passive saw only $16 billion in net flows, which represents a strong reversal from recent history.[26]

To include the potential benefits of alternatives in TDFs, plan sponsors need to be comfortable increasing total fund fees, which can be accomplished through a prudent process focused on enhancing potential outcomes for participants. The fee compression in TDFs has come at the expense of the potential increased returns, lower volatility and portfolio efficiency alternatives could provide. Recall that a participant spending his or her career invested in the diversified glide path is expected to have 17% more ($9,200) per year in annual income per $100,000 of pre-retirement income compared with the baseline and 11% ($2,300) more per year in annual income in a bad economic scenario.

There is no fiduciary requirement that sponsors implement the lowest cost option available, and it is not particularly controversial to state that participant outcomes are improved as long as the net-of-fee value proposition is positive. One way to manage the headline fee consideration is to engage in a formal fee budgeting process. This process effectively involves determining a reasonable all-in fee target and then building an efficient portfolio within those fee constraints. For example, as of December 31, 2017, the median institutional active target date fee was just under 50 bps.[27] If sponsors set a similar fee budget, they can determine how best to add value through the inclusion of diversifying strategies with an all-in fee cap of 50 bps or less. As opposed to primarily using the fee budget on more expensive active management, which is often what off-the-shelf active TDF providers focus on, sponsors can index more efficient asset classes and use those savings to fund alternative strategies that provide unique exposures and active management in less efficient asset classes.

Fund Pricing

Determining daily pricing is also a concern as many alternative strategies do not price daily. A price needs to be established to allow participants to trade daily. Pricing estimates can be established for alternative strategies without a public mark using market proxies, which can help smooth out the potential price jumps each time an underlying fund valuation is updated. Having a diligent pricing process is paramount to having faith in the program's implementation and ensuring that all participants are treated fairly.

Benchmarking

Public indices are available that may serve as benchmarks, but the challenge with these is that the asset allocations are often markedly different from the sponsor's; therefore, the strategies run at different risk levels. Similar to the analysis in this paper, reviewing the performance of the TDFs versus a reference glide path of market exposures with a comparable target risk level provides a basis for an evaluation of the TDFs' implementation efficacy and should be judged accordingly. Each portfolio underlying the TDFs may be benchmarked to an appropriate blended reference portfolio to understand how the funds have performed from a return, risk and risk-adjusted return standpoint. Additionally, the entire reference glide path may be used to periodically assess the strategic positioning and expectations for the funds.

[25] Based on Willis Towers Watson research findings.

[26] Based on information from Morningstar's 2017 and 2018 Target-Date Fund Landscape reports.

[27] Fee data sourced from eVestment Alliance analytics services.

Governance and Oversight

Throughout this paper we have mentioned the need for increased governance and oversight to implement a best-in-class alternatives program, so it is worth spending some time discussing the various implementation models. First, it's important to choose an implementation model that provides:

- Fund selection, including sourcing and diligence of funds backed by written recommendations
- Customized portfolio construction, including allocation sizes and investment guidelines
- Quarterly and annual reporting providing detailed performance and risk attributions as well as in-depth qualitative research on each manager
- Authority to direct custodian and managers on intra-trust asset transfers and transfers out of trust to fund mandates and pay expenses

ERISA does not apply a higher standard of care for sponsors utilizing alternatives; rather, the increased governance is a function of the complexity of the asset classes. For example, sponsors utilizing alternatives should perform operational due diligence on top of their investment due diligence. This includes steps such as reviewing various due diligence documentation (e.g., offering memorandum, limited partnership agreements or articles of association, or audited financial statements), onsite discussions with key operational staff, creation of operational due diligence reports and manager ratings, and ongoing monitoring.

Table 11

In-house	Cosourced/outsourced
Sponsor has the ability to retain internal knowledge	Firms with a global scale leveraged across all clients
Internal objectives can be adhered to more closely because the internal team works directly with the investment committee	Additional support from asset class specialist teams — support with top-down views and portfolio construction philosophies
An internal team allows for more control over the portfolio	Shared fiduciary responsibility under the discretionary outsourced management relationship
	Dedicated operational due diligence team to evaluate non-investment risks
	Potential to access a more mature portfolio, which may lessen some of the early-stage return issues with some private investments

The two main methods for achieving this oversight are in-house and cosourced/outsourced models. Each has its benefits and considerations (see Table 11).

It is important to acknowledge the challenges above, but we feel strongly that these challenges can be effectively managed to allow plan sponsors to take steps toward enhancing potential retirement outcomes for their population base. However, given the concerns about fiduciary risks and litigation, many plan sponsors may need additional guidance from policymakers to encourage such innovation.

Conclusion

It is important to emphasize why improving DC retirement readiness is of such critical importance in the current market environment. Today, U.S. workers are primarily relying on DC plans to serve as the primary retirement vehicles for their retirements — a purpose for which they were never intended.

In order to improve retirement income outcomes, plan sponsors must pull all of the levers at their disposal across their organizations. While a number of enhancements have been made with investment vehicles (e.g., TDFs, institutionally priced vehicles), plan design (e.g., auto-enrollment, auto-escalation, improved employer match structures) and communications (e.g., administrator technology, wellness platforms), DC plans still lag behind other large investment pools in the use of alternative asset classes. There is a reason why alternative assets are used more often in other investment pools: They can improve investment efficiency and the net-of-fee value proposition.

Given this realization, we tested the efficacy of adding three main asset categories — private equity, real estate and hedge funds — to TDFs given the stability and wide utilization of TDFs within DC plans.

While each was found to provide benefits to participant outcomes, consistent with the objectives and risk/reward profiles of each asset category, we also found that:

- Private equity provides access to higher risk/reward assets through a skill-based implementation, which is balanced by the high diversification benefits in core real estate.
- Hedge funds provide exposure to manager skill as well as downside protection, with the added benefit of having low correlations with other asset classes due to the flexibility afforded to hedge fund managers.
- The combination of all these categories in a diversified portfolio provided improved results relative to the categories in isolation due to the synergies among the alternative asset categories.

The diversified implementation improved accumulation metrics, long-term retirement spending metrics, short-term risk and reward metrics, and asset-only metrics as summarized in Table 12.

Table 12

Summary of key metrics showing improvements from utilizing alternatives in TDFs		
	Baseline	**Diversified glide path**
Expected retirement income	**$53,000**	**$62,200**
"Bad scenario" retirement income	**$21,200**	**$23,500**
Probability of positive assets after 30 years of spending at 4%, adjusted for inflation	**80%**	**89%**
Probability of positive assets after 30 years of spending at 5%, adjusted for inflation	**45%**	**60%**
Age 65 expected return	**5.1%**	**6.1%**
Age 65 "bad scenario" single-year return	**–7.9%**	**–7.5%**
Age 75 expected return	**4.7%**	**5.3%**
Age 75 "bad scenario" single-year return	**–6.2%**	**–5.3%**
Probability of one-year inflation-adjusted return < 5%	**13.2%**	**11.0%**
Probability of one-year inflation-adjusted return < 10%	**4.9%**	**4.6%**
Probability of three-year annualized return < 5%	**5.0%**	**4.3%**
Probability of three-year annualized return < 10%	**0.9%**	**0.9%**

We believe the widespread adoption of DC plans over time, along with the increased prevalence of TDFs, provides an opportunity for DC plan sponsors to enhance outcomes for their participants by including alternative investments. When DB plans were more prevalent there was not as strong a need to consider the added value generated by the use of alternatives in DC plans.

Because DC plans have become much more common, we must look at ways to improve the performance of investments. But this also requires addressing operational challenges, including the need for daily liquidity and daily pricing, to encourage wider adoption by sponsors. These challenges are now being addressed by alternative investment managers, and improvements in DC service provider capabilities can be seen today in the prevalence of custom funds in DC platforms.

In Willis Towers Watson's 2017 Defined Contribution Plan Sponsor Survey, 66% of sponsors with over $5 billion in assets responded that they are utilizing custom white label funds, which represent custom fund structures utilized as either TDF building blocks or as standalone core investment options. With the increasing prevalence of these structures, DC service providers now have the experience and capabilities necessary to manage the operational issues (liquidity, rebalancing and cash flow management) directly through the fund structure.

Policymakers should consider these findings about the inclusion of alternative asset classes in DC plans and specifically through target date structures. Even absent any additional action by policymakers, plan sponsors with an interest in implementing portfolios with alternative asset classes can work with their advisors, custodians and recordkeepers to implement solutions that can potentially enhance participant outcomes for a more secure retirement.

Appendix: Willis Towers Watson capital market assumptions as of January 1, 2018

	First-year arithmetic mean	10th-year arithmetic mean	10-year geometric returns	Annual standard deviation
Global equities – unhedged	7.3	8.9	6.6	18.3
REITs	6.0	7.6	5.7	15.9
Commodities	3.7	5.3	3.7	14.9
Private equity[28]	12.0	13.6	9.7	25.4
Real estate	4.7	6.3	5.2	9.8
Hedge funds[29]	6.4	8.0	6.9	9.9
High yield	2.4	5.4	3.8	10.0
Emerging market debt	1.0	5.1	3.1	9.5
Bank loans	3.6	5.2	4.3	7.9
Infrastructure	6.2	7.7	5.8	17.0
Aggregate bonds	0.8	3.9	2.6	4.2
TIPS	1.5	3.9	2.9	5.7
Cash	1.9	3.5	2.9	2.6

With the exception of private equity and hedge funds, the asset class assumptions above assume net-of-fee performance for large institutional investors implementing passively. For strategies where passive implementation is not possible, assumptions represent median results.

Active management premiums were included for private equity and hedge fund investments as these asset classes are ideally implemented through high-conviction, skilled, active managers, and the spread between best-performing and average managers is large. The assumptions were sourced from Willis Towers Watson's Portfolio Management Group based on its forward-looking views and corroborated by market data.

- According to Preqin data for all private equity funds, the average annual spread between first quartile and median managers for the 10 years from 2005 to 2014 was 6.1%.
- According to a PIMCO Hedge Fund report from June 2017, sourcing seven years of data (through 2016) from Eurekahedge and Bloomberg, the spread between 75th percentile and median hedge fund returns was 3.5%.

[28] Assumptions include 10-year geometric returns of 5.1% and standard deviation of 23.4% plus net-of-fee alpha of 4.7% with a 10.0% tracking error.

[29] Assumptions include 10-year geometric returns of 4.8% and standard deviation of 8.5% plus net-of-fee alpha of 2.2% with a 5.2% tracking error.

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