![PSA Plan Sponsor Advisors - Retirement Benefit Consultants]

Re-thinking **Target Date:**
Fulfilling Fiduciary Responsibilities

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EXECUTIVE SUMMARY

Target date strategies have experienced record asset growth and are increasingly being used in defined contribution plans by participants who are usually being defaulted into these solutions. However, significant differences among target date offerings exist – asset allocation, underlying design and philosophy – presenting a challenge for plan sponsors in the selection and monitoring of target date strategies.

While historical risk and performance measures indicate how a strategy has performed in the past, they do not provide insight into the suitability of a strategy for specific participant populations. Recent Department of Labor (DOL) guidance also highlights the need for deeper evaluation. It is more important than ever for plan sponsors to conduct a detailed analysis of the target date series they offer to ensure that the choice they have made is appropriate.

In this whitepaper, PSA discusses:
- The significance of target date strategies
- The dramatic differences among options available
- The importance of target date analysis based on *glidepath suitability*
- How PSA's proprietary **TDAnalyzer™** can help fiduciaries comply with DOL guidance

69% of all plans offer a target-date solution.[1]

600% growth in target date assets since 2005.[2,3]

48% of defined contribution assets will be invested in target date by 2020. [4]

52% of younger workers choose to invest in a target date option.[5]

49% of pre-retirees are familiar with target date strategies and the majority think they're a good idea.[6]

What % *of plans comply with new DOL guidance on demographic fit?*

Significance of Target Date Strategies Today

Although target date strategies were introduced in 1993, their usage exploded after the passage of the Pension Protection Act of 2006 (PPA). This growth created significant exposure to a relatively new asset class, creating a sense of urgency among plan sponsors to identify comprehensive, yet practical ways to analyze these investment options.

The PPA encouraged the use of "auto-enrollment" and defined default investment alternatives, into which participants would be invested if they failed to make an active election. In order to obtain the safe harbor relief related to future investment outcomes associated with default options, sponsors were required to select a Qualified Default Investment Alternative (QDIA).[5]

Of the three types of investment options listed as potential QDIA's by the DOL, target date strategies have seen the highest adoption rate. According to Morningstar®, the amount of money invested in target date strategies has grown from just under $70 billion at the end of 2005 to $485 billion at the end of 2012, an increase of almost 600% (see chart 1 below). [2,3] A recent study by behavioral economists Shlomo Benartzi and Richard H. Thaler shows that 56% of companies currently use auto-enrollment in their plans, thus accelerating the flow of money into target date strategies.[7]

To minimize liability and improve participant outcomes, plan sponsors must understand the differences among target date options and determine the appropriate choice for their employee population.

CHART 1
Total Target Date Assets [2, 3, 4]
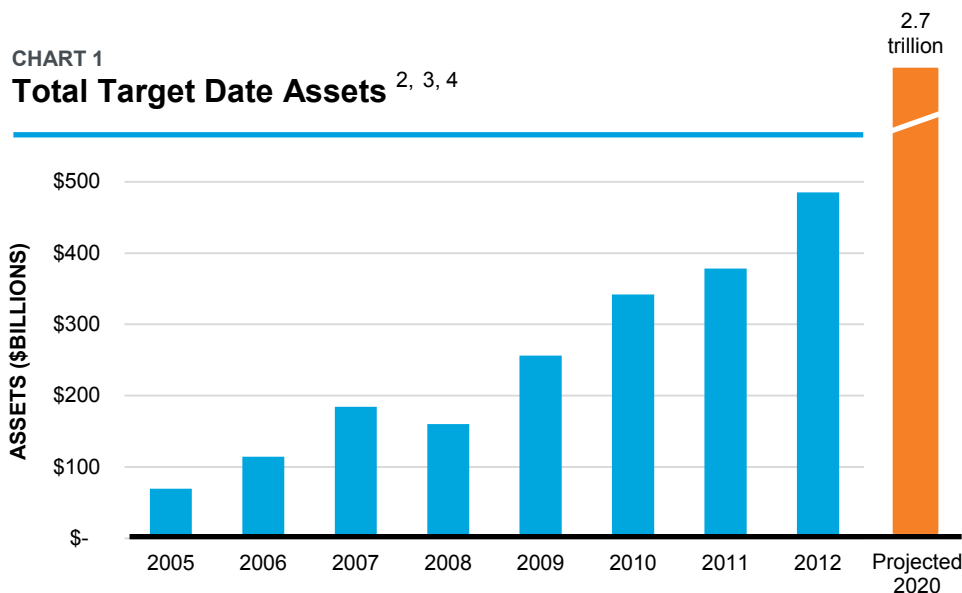
In less than a decade, target date assets have grown nearly 600%.

Accelerated growth is projected to continue.

[1] "Plan Sponsor Council of America's (PCSA) 55th Annual Survey of Profit Sharing and 401(k) Plans, Reflecting 2011 Plan Experience", PSCA 2012.

[2] "Target-Date Series Research Paper: 2012 Industry Survey", Morningstar Fund Research, May, 2012, Josh Charlson, Ph.D., Laura Pavlenko Lutton.

[3] "Ibbotson Target Maturity Report 4Q, 2012", Ibbotson Associates, Inc., 2013, Jeremy Stempien, Cindy Galiano.

[4] "Trends in Target Date Retirement Funds", Casey Quirk, October 5, 2011.

[5] "Regulation Relating to Qualified Default Investment Alternatives in Participant-Directed Individual Account Plans", United States Department of Labor, Employee Benefit Security Administration, www.dol.gov.

[6] "Through the Rearview Mirror, Pre-retirees share viewpoints and "do-overs", American Century Investment Services, Inc. with Mathew Greenwald and Associates.

[7] "Behavioral Economics and the Retirement Savings Crisis", Science Magazine, Shlomo Benartzi & Richard H. Thaler, March 8, 2013.

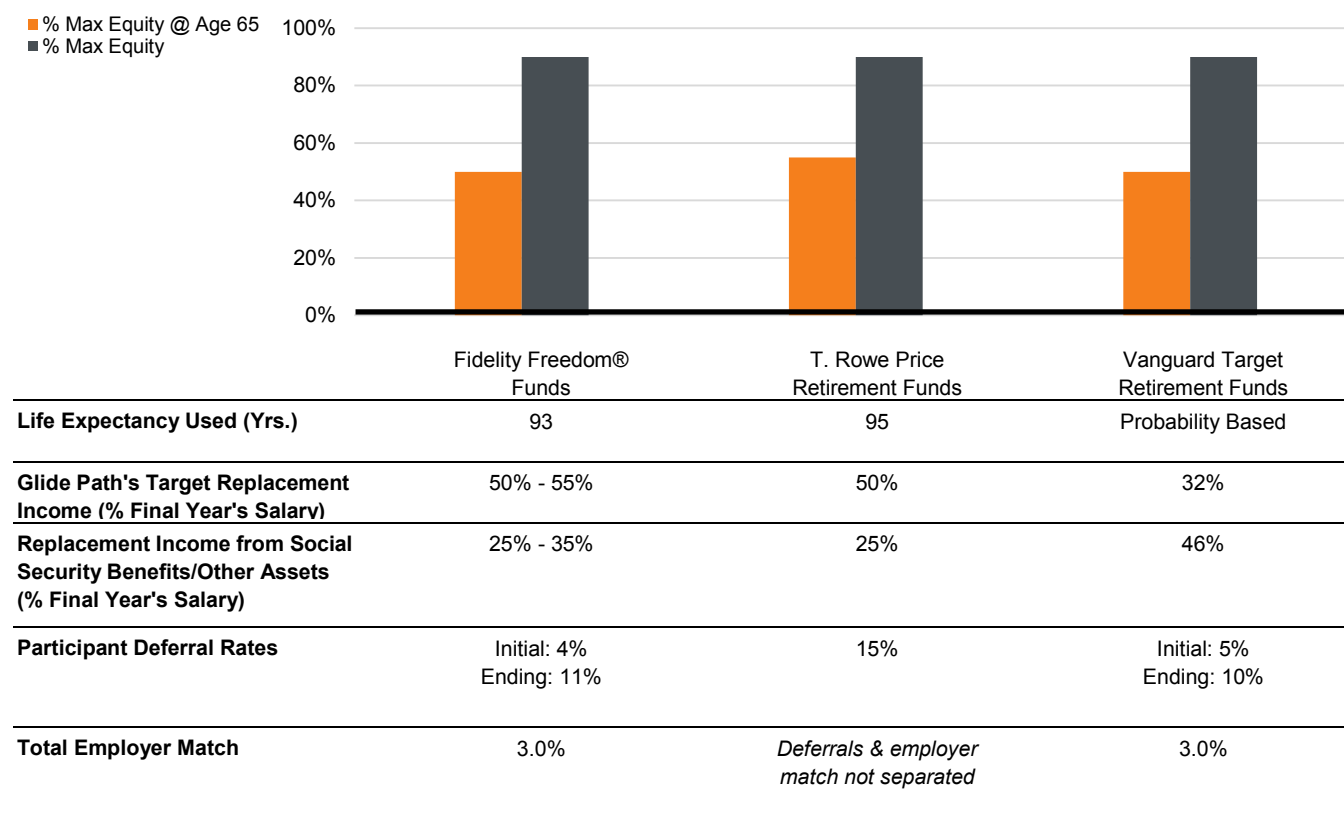# All Target Date Strategies are *Really* Not the Same

Target date families cover a wide range of glidepath strategies, philosophies and asset allocations. These differences have a profound impact on the participant experience and ultimately participant outcomes.

In charts 2 and 3, it is important to note that, while each target date solution represents a dynamic way to help participants adjust their investment strategy over time, each addresses different issues and uses different assumptions, resulting in highly variable outcomes. Some strategies focus on mitigating longevity risk or inflation, while others stress the importance of protecting investors from volatility as they near retirement. The specific objective of a target date series can significantly impact the shape of its glidepath. While the strategies in charts 2 and 3 do not represent the entire universe, they are diverse in their approach and provide a good representation of the broader asset class.

In spite of a significant rise in the importance of target date funds, it is PSA's opinion that useful methods to analyze their effectiveness have, until now, been slow to develop. Analyses have been largely focused on quantitative metrics such as historical return, volatility and fees. Consistent with recent DOL guidance, PSA believes that most target date analysis has fallen short of determining glidepath suitability for a particular employee population.

CHART 2
"Through" Strategies — Generally More Aggressive

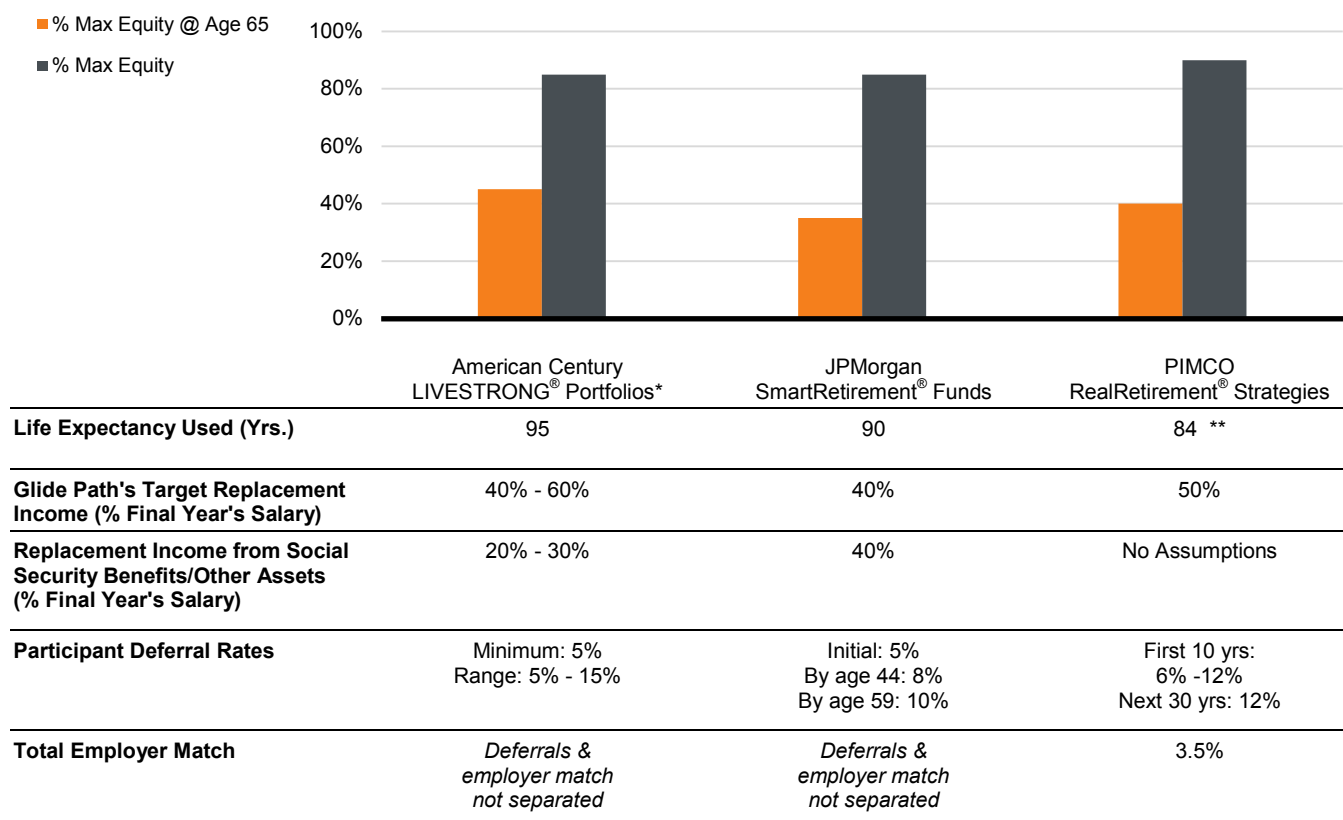|	Fidelity Freedom® Funds	T. Rowe Price Retirement Funds	Vanguard Target Retirement Funds
Life Expectancy Used (Yrs.)	93	95	Probability Based
Glide Path's Target Replacement Income (% Final Year's Salary)	50% - 55%	50%	32%
Replacement Income from Social Security Benefits/Other Assets (% Final Year's Salary)	25% - 35%	25%	46%
Participant Deferral Rates	Initial: 4% Ending: 11%	15%	Initial: 5% Ending: 10%
Total Employer Match	3.0%	*Deferrals & employer match not separated*	3.0%

While representing only about 20% of the total number of target date families, the six target date series shown represent approximately 80% of current target date assets invested within "off the shelf" solutions.

Sponsors and advisors alike have:

- Focused largely on historical performance and risk measures.
- Not focused enough on the potential "fit" of a strategy for participant demographics such as deferral rates, account balances, income and age, as well as participant behavior in withdrawing balances after retirement.

- Overestimated (or overlooked) the probability of a particular strategy achieving success in replacing sufficient income for retirement.
- Not focused enough on downside risk in the years near retirement.
- Not addressed the key question of whether or not a target date series is suitable for a specific participant group.

CHART 3
"To" Strategies — Generally More Conservative (At Age 65)

■ % Max Equity @ Age 65
■ % Max Equity

	American Century LIVESTRONG® Portfolios*	JPMorgan SmartRetirement® Funds	PIMCO RealRetirement® Strategies
Life Expectancy Used (Yrs.)	95	90	84 **
Glide Path's Target Replacement Income (% Final Year's Salary)	40% - 60%	40%	50%
Replacement Income from Social Security Benefits/Other Assets (% Final Year's Salary)	20% - 30%	40%	No Assumptions
Participant Deferral Rates	Minimum: 5% Range: 5% - 15%	Initial: 5% By age 44: 8% By age 59: 10%	First 10 yrs: 6% -12% Next 30 yrs: 12%
Total Employer Match	*Deferrals & employer match not separated*	*Deferrals & employer match not separated*	3.5%

*On May 31, 2013 American Century LIVESTRONG® Portfolios will change its name to American Century One Choice Portfolios as of May 2, 2013
**PIMCO assumes that an average individual reaching age 65 will live to age 84.
Sources: Data obtained through respective prospectuses, fact sheets and manager research.

Importance of Target Date Analysis Based on *Glidepath Suitability*

Analysis based on general market data and trends is simply not enough. PSA believes that in order to gauge target date suitability, a glidepath must be evaluated against specific characteristics and behavioral patterns of the participants in a plan.

Our belief has been strengthened by recent DOL guidance regarding target date selection and monitoring that cites considering, "…characteristics of the participant population, such as participation in a traditional defined benefit pension plan offered by the employer, salary levels, turnover rates, contribution rates and withdrawal patterns."[8]

Unfortunately, many plan sponsors currently fail to follow the "tips" offered by the DOL, including this one.

We believe best practice for selecting an appropriate target date series requires testing for glidepath suitability and its likelihood of achieving a reasonable income replacement ratio with relatively lower volatility near retirement.

A heightened level of scrutiny is required. Over the course of the next year, PSA encourages plan sponsors to reconsider their current process for determining glidepath suitability.

How can a plan sponsor comply with new DOL guidance?

✓ Establish an objective process for comparing, selecting and reviewing target date strategies including analysis of specific participant population characteristics.

✓ Understand their investments – the allocation to different asset classes, and how they will change over time.

✓ Review the strategies' fees and investment expenses.

✓ Inquire about whether a non-proprietary target date or custom-designed target date would be a better fit for your plan.

✓ Develop effective employee communications to keep participants generally informed about their target date and to comply with disclosures required by law.

✓ Take advantage of available sources of information to evaluate the target date and the recommendations you received.

✓ Document the selection and review process, including how decisions about individual investment options are made.

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[8] Target Date Retirement Funds – Tips for ERISA Plan Fiduciaries, U.S. Department of Labor. February 2013.

Enhanced Target Date Selection through PSA's **TDAnalyzer**™

In response to insufficient target date analytical tools in the market place, PSA developed a cutting-edge proprietary modeling tool called the TDAnalyzer™. The tool is designed to evaluate target date strategies based on plan specific demographic and participant behavior data, potentially leading to better outcomes.

Fulfilling Fiduciary Responsibility

PSA's TDAnalyzer™ examines a target date series in the context of participant demographics and behavior. Based on guidance from the DOL, this could significantly help plan sponsors fulfill their fiduciary responsibilities by providing them with an objective and consistent process.

Analyzing a target date series to determine how appropriate it may be for a specific participant base involves two separate processes:

1. Determining the accumulated retirement balance participants need in order to replace a reasonable level of their final year's salary.

2. Identify the glidepath that is most likely to meet the required wealth targets *with* the lowest level of outcome volatility or uncertainty.

Determining Required Retirement Balance

Plan specific demographics represent the core input in determining the required retirement balance needed for plan participants to have a secure retirement. This requires examining participant behavior upon termination and/or retirement to decipher whether they keep their savings in the plan, or take a withdrawal.

It also requires evaluating specific participant demographic information, including:
- Age
- Salary
- Current balance
- Deferral rate
- Eligibility to receive employer contributions
- Social Security
- And more

PSA combines data collected from these evaluations with capital market assumptions (inflation, returns, etc.) to calculate an estimated required rate of return. The required rate of return is projected out over time to determine how much wealth a specific group of participants will need to accumulate ("required balance at retirement") to meet a projected retirement income replacement goal.

An important feature of TDAnalyzer™ is that it considers specific benefits available through Social Security and defined benefit plans when calculating the estimated required balance at retirement. This level of customization helps develop a more accurate estimation of the amount of wealth a participant will likely need to accumulate through their defined contribution plan.

## Identifying an Appropriate Glidepath

Using a Monte Carlo simulation process, we generate thousands of return projections for the glidepath's of various target date products. TDAnalyzer™ then plots a range of potential outcomes in the context of the required balance at retirement. The combination of these two analyses enables PSA to examine the likelihood that a specific target date series will help participants attain their retirement income replacement goals. It also allows us to identify the variability of potential outcomes.

Chart 4 provides a sample of the output produced by TDAnalyzer™. The horizontal purple line represents the projected required balance at retirement for a particular plan, while the dotted line simulates the

projected accumulation of that balance. The orange lines represent the range of potential outcomes of projected wealth for the target date series being analyzed.

As chart 4 depicts, the particular target date series shown has a relatively large range of potential outcomes. Given actual demographic data combined with the projected returns of the target date series, some participants may achieve their retirement goals (represented by the top orange line falling above the purple line). However, many may not be successful as indicated by the bottom orange line falling below the purple line.

CHART 4
Sample Target Date Series Analysis
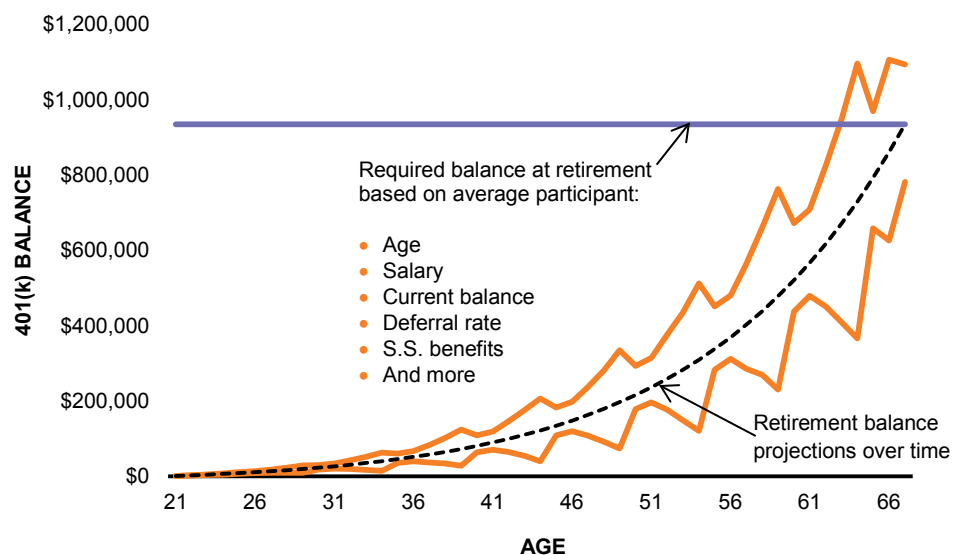
By completing analyses similar to the example provided, PSA can examine multiple target date products to find a glidepath that will provide a specific participant base the greatest opportunity for success. Our analysis also helps identify the glidepath that is likely to produce the lowest projected "drawdown" during the final years of a participant's work life, as well as the optimal auto-default rate for a plan that will increase the likelihood of participant success.

Once an appropriate glidepath is identified, we gauge the execution of that glidepath. Utilizing TDAnalyzer™, PSA measures the performance of the underlying investment portfolios relative to a custom benchmark. The benchmark is designed to determine whether or not the selected glidepath could be better executed through a passive strategy, or a different active approach. We further review the costs associated with a given strategy to help sponsors determine whether or not their fees are reasonable. Should a suitable glidepath not be found, TDAnalyzer™ allows PSA to create a customized glidepath for an individual client.

Conclusion

Target date strategies are being used by millions of participants today. It is safe to say that no comprehensive investment product has ever been so widely accepted, nor have so many people ever been so dependent upon its success. These strategies offer dramatic differences in designs and assumptions, leading to a wide array of outcomes for participants who invest in them.

Participants who invest in them, rightly or wrongly, have an expectation that investing in these products will lead to a healthy outcome at retirement. Therefore, it is crucial that plan sponsors thoroughly analyze potential target date strategies in the context of their participant's demographics and behavior to improve the potential for positive outcomes.

While reviewing and understanding historical risk and return data is important, PSA believes that focusing on these metrics is not sufficient in target date selection and monitoring. TDAnalyzer™ was designed to fill this gap, as part of PSA's commitment to bringing plan sponsors well-thought out solutions for their retirement benefit plans.

About the Authors

Angelo Auriemma, CFA®
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Plan Sponsor Advisors

Angelo is Director of Investments at PSA. With over 20 years of industry experience, he is responsible for the day-to-day management of the firms' investment research team. Angelo consults regularly with the firm's largest clients on a broad range of investment issues, including efficiency of investment plan menus.

Prior to joining PSA, Angelo was an analyst and portfolio manager for a boutique investment company where he created an independent advisory firm to select and monitor investment options offered within qualified retirement plans. Angelo began his career as an administrative officer, counseling plan sponsors on compliance and investment-related matters. Over the next decade, he worked with institutional asset management groups for several large banks in portfolio management, plan administration and sales.

Angelo co-developed PSA's proprietary TDAnalyzer™ to provide an in-depth analysis of target-date funds utilizing participant demographics. He has a Bachelor of Science degree in economics from Purdue University.

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Preet is an Investment Analyst at PSA. He has nearly a decade of industry experience and is responsible for investment manager due diligence and menu re-design. He has extensive experience analyzing defined benefit plans with a focus on hedge funds. His expertise includes manager research and due diligence, portfolio performance reporting and asset allocation studies.

Prior to joining PSA, Preet worked as an analyst for a Wallstreet wirehouse, focusing on defined benefit plans. His background in the investment management industry includes manager research and due diligence, portfolio performance reporting, and asset allocation studies. Prior to being in the investment industry, Preet spent over a decade in management consulting and engineering.

Preet co-developed PSA's proprietary TDAnalyzer™ to provide an in-depth analysis of target-date funds utilizing participant demographics. He holds a Bachelors of Science in Mechanical Engineering and a Masters in Business Administration from the University of Rochester, New York.

Past performance is no guarantee of future results.

This piece is intended for use with institutional audiences. Before making investment decisions, individual investors should consult with a financial advisor on topics discussed in this paper.

Data Assumptions:

Participant Data and Behavior: PSA obtains data from record keepers of terminated and retired employees. Sample sizes will vary based on individual plans. Based on plan specific data, if withdrawals are common near retirement age, TDAnalyzer™, will select a target date family that should minimize down market risk near and after retirement.

Plans with populations (or subsets) that generally have higher salaries, will typically result in lower relative contributions from Social Security (SS) benefits during retirement. Consequently, a more narrowed choice of target date families can generally meet their requirements and affect income replacement objectives. Benefits received from defined benefit plans will also affect income replacements requirements. Plans with populations (or subsets) that generally have lower salaries will typically result in higher relative contributions from SS benefits. Consequently, a wider choice of target date families can generally meet their requirements and affect income replacement. Benefits received from defined benefit plans will also affect income replacements requirements.

Disclaimer:

Results generated by TDAnalyzer™ are based on our assumptions of participant behavior and forward-looking capital market returns. The results from TDAnalyzer™ do not guarantee that a participant will meet his or her target retirement goals. Expected future wealth accumulation (such as target DC balance) is based on forward-looking returns, which are based on current market and economic conditions and are subject to change. Our estimates represent our projection of the central tendency (going out over a very long time-period) around which market returns may fluctuate, because they reflect what we believe is the value inherent in each market. It is possible that actual returns will vary considerably from this equilibrium for a number of years. References to future wealth accumulation are not promises or estimates of actual results that a client portfolio may achieve. Future wealth accumulation does not consider the impact of taxes.

The retirement age used in our analysis may not coincide with a participant's actual retirement age. It is intended only as a general guide. A participant's life-span used in our analysis is within the range of time-periods currently used in the target date industry which is anywhere from 83 – 95. The actual life-span of a participant may differ from our estimate. In addition, a participant's actual need for income during retirement will depend on his/her lifestyle, and may not match our estimate of income needed during retirement. All of these factors may impact a participant's ability to meet his/her retirement objectives and may differ from our analysis.

The output in this report is generated using data provided by various target date families, MPIStylus, Social Security Administration and index service providers. This data is subject to unintentional errors and omissions. Our opinions and estimates offered constitute our judgment and are subject to change without notice. We believe the information provided in our analysis is reliable, but do not warrant its accuracy or completeness.

About Plan Sponsor Advisors

PSA is a Chicago based retirement benefit consulting firm focused on helping plan sponsors re-think their retirement plans to improve participant outcomes.

Founded in 2002 by Don Stone and Jennifer Flodin, PSA has advised on over $80 billion in retirement assets. Companies from small, to Fortune 500, to not-for-profit health care organizations have come to rely upon our well thought out retirement plan solutions.

Unlike most consultancies, PSA takes a distinctive approach by looking at retirement plan consulting and investment advisory services holistically, instead of as individual projects. Our proprietary **R21 Process** is designed to re-engineer retirement plans for the 21st century™ by addressing plan sponsors' complete ERISA requirements, including:

- Investments
- Fees
- Plan administration and design
- Communication strategy
- Operational compliance

Ultimately, PSA looks to provide more targeted advice, less fiduciary risk for clients and better outcomes for participants.

PSA has been consistently recognized for our industry expertise and leadership. In 2004, PSA was one of the first firms to raise the issue of fee reasonableness and is also a founding member of the Defined Contribution Institutional Investment Association (DCIIA). The firm has been recognized seven years in a row by *PlanAdviser Magazine* as one of the top 100 advisory firms in the country. In 2012, PSA won the ASPPA/Morningstar 401(k) Leadership Award, recognizing leadership, innovation and influence by a leading financial advisor in the 401(k) marketplace.

To learn more about PSA's views on target date strategies and our TDAnalyzer™, please contact us at 312.214.1500 or info@PSAretire.com.

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