

2025

NUVEEN LIFECYCLE INDEX FUNDS:

Methodology and design

INTRODUCTION

Target date funds have rapidly become an essential tool to help plan sponsors prepare their employees for retirement. These funds – representing a category of asset allocation funds – are designed to meet a range of needs: broad investment diversification, risk management and asset allocation, that become more conservative as employees approach retirement. Target date funds offer a solution for many employees seeking professional management of their investments, and others who may be overwhelmed by investment choices or unengaged. Available to serve as a plan’s default option, these funds offer fiduciaries reassurance that even employees who avoid decisions can still receive the benefits of their retirement plan.

Not all target date funds are the same — their design and impact on retirement readiness can vary significantly. With rapid adoption and widespread usage, particularly among younger employees, plan sponsors have a vital interest in understanding key differences and choosing the product best suited to their employees.

The Nuveen Lifecycle Index Series includes a total of 13 funds: 12 target retirement date funds at five-year intervals for retirement dates 2010 through 2065, and a retirement income fund for those in retirement. These funds invest in a carefully constructed selection of equity and fixed income passive investments, providing a diversified, professionally managed portfolio. The overall asset allocation of each Nuveen Lifecycle Index Fund evolves as each fund approaches and continues through its target retirement date, reaching a final “landing” allocation 30 years after retirement.

One of the key differentiators of the Nuveen Lifecycle Index Funds is the firm’s long history of managing retirement savings and providing for retirement income. For decades, Nuveen has been managing asset allocation strategies designed to provide retirement income to over five million retirement participants. The Target Date Multi-Asset Team has been able to leverage much of the expertise, modeling, analysis and actuarial and mortality guidance in the development and refinement of the Nuveen Lifecycle Index Funds.

GLIDEPATH DESIGN

Congruent with our Firm’s legacy, the Lifecycle investment philosophy emphasizes how best to equip investors to achieve favorable retirement outcomes. Reflecting this outcome-based perspective, we seek to balance market risk (depreciation of asset value due to declines in the market), inflation risk (erosion of purchasing power of assets due to inflation) and longevity risk (the risk of running out of money in retirement). To do this, our methodology aims to optimize results under a wide range of possible market scenarios, including both “normal” (high-probability) and extreme (tail risk) events that are statistically less likely to occur. Moreover, our modeling assumptions consider not only average or expected investment returns, but also the distribution of anticipated returns at different points over the course of an investor’s time horizon as well as the likelihood of maintaining various income amounts in different stages of retirement. In our view, this approach to portfolio construction makes it more likely that individuals will be able to “stay the course” in pursuing their retirement investment strategy.

An important feature of any target date investment is the structure of the glidepath, or planned progression of asset allocation changes over time. As with most target date funds, the Nuveen Lifecycle Index Funds start with a relatively high allocation to riskier assets (e.g., equities) for young individuals, and shift their asset mix to become more conservative by increasing their allocation to lower volatility assets (e.g., bonds) as the funds move closer to their target retirement date.

Exhibit 1: equity glidepath

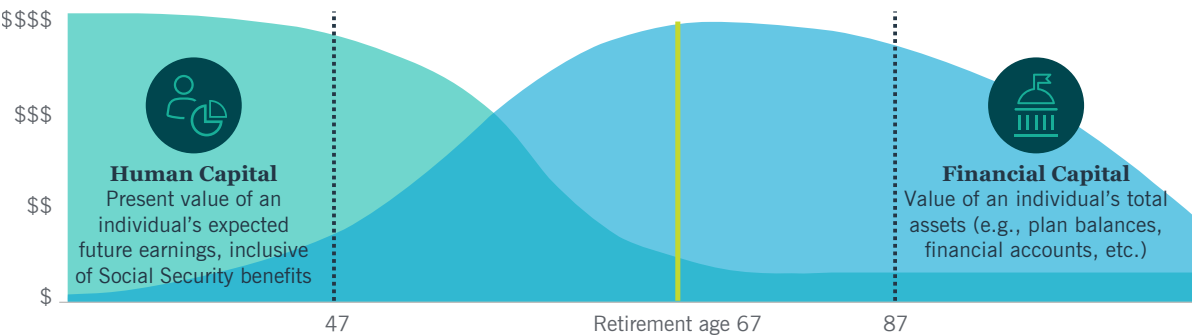


This declining equity exposure along the Nuveen Lifecycle Index Funds’ glidepath is based on a Human Capital and Financial Capital (HC/FC) framework. Human Capital, defined as the net present value of all expected future earnings, inclusive of Social Security, is highest for young investors. As a person’s career progresses, the time available to earn income declines, resulting in a gradual reduction of human capital. In contrast, financial capital (an individual’s accumulated wealth in stocks, bonds and other investment assets) is generally lower for younger people and grows over time.

Exhibit 2 below demonstrates how human capital and financial capital contribute in different proportional amounts to an individual’s total capital over the course of one’s lifetime.

For the purposes of saving for retirement, the value of human capital can be estimated throughout an individual’s lifetime based on the expected number of remaining working years, salary, contribution rates, the percent of salary replaced by Social Security, and mortality rates. Compared to human capital, financial capital

Exhibit 2: sample human capital/financial capital chart



levels respond rapidly to news and market information. Given human capital’s lower sensitivity to market-related events, its risk characteristics are considered to be closer to that of fixed income assets than to equity assets. Since younger investors — those with target retirement dates further into the future — have relatively high levels of human capital, they are able to take on greater investment risk (i.e., higher equity allocations). However, as they age and move closer to retirement, investors require a more conservative portfolio (i.e., higher fixed income allocations) to offset their declining human capital. As a result, the glidepath’s key characteristic is its downward sloping equity exposure over time. The HC/FC framework helps determine the shape and slope of the glidepath.

Another feature of the Nuveen Lifecycle Index Funds is their “through retirement” glidepath, in which the asset allocation mix evolves both during the working years, when an individual is accumulating assets (the accumulation phase), and during the retirement years, when an individual is withdrawing assets (the drawdown income phase). We believe this post-retirement glidepath is well-suited for those that may not make an active investment decision at retirement and also can be appropriate for those that may consider other investment options at retirement but choose to remain invested in the Nuveen Lifecycle Index Funds. We encourage all participants to review their savings goals and investment options as they approach retirement. For those that continue to invest in the Nuveen Lifecycle Index Funds during retirement years, we have designed the post-retirement glidepath to allow for an extended period of systematic withdrawals while reducing the likelihood of depleting resources over the course of retirement. We believe that this “through retirement” glidepath is more appropriate than a “to retirement” glidepath that may not represent an effective strategy for those remaining invested in target date funds during their retirement years.

GLIDEPATH METHODOLOGY

The Nuveen Lifecycle Index Funds glidepath has been structured with the goal of replacing an investor’s income in retirement after their having consistently saved during their working years.

As noted above, the HC/FC framework informs the overall asset allocation mix along the glidepath. In order to select the strategic asset allocation along the glidepath, the Target Date Multi-Asset Team models out savings assumptions (Human Capital) and long-term expected returns for various asset classes (Financial Capital). As part of their research effort, the team:

- Evaluates optimization tests based on the HC/FC investment framework, leveraging a mean-variance optimization model
- Conducts Monte Carlo simulations of individuals saving during their working years in the Nuveen Lifecycle Index Funds and generating income through systematic withdrawals in retirement

The selected glidepath is believed to be appropriate for a large majority of our investors.

Savings assumptions

The ideal glidepath incorporates the changing human capital of an individual over their working years and in retirement, taking into account reasonable assumptions for starting salary, raises, contributions and retirement age (among other inputs), as shown in Exhibit 3.

Exhibit 3: assumptions

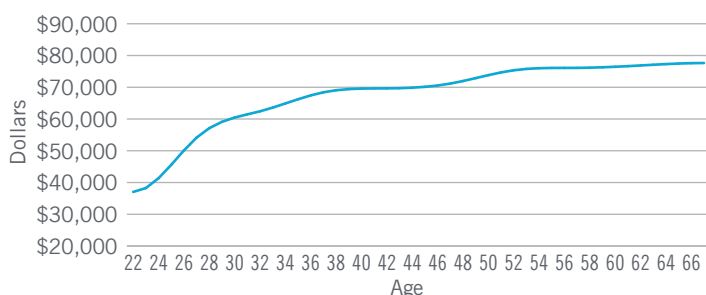
Variable	Assumptions
Starting age/retirement age	22 yrs / 67 yrs old
Starting salary	Census Bureau median by age
Salary increase	2.5% (based on inflation)
Contribution rate	Median by Age Cohort ranging from 10.0% to 13.8% (inclusive of employee contributions and employer match)
Mortality rates	Society of Actuaries
Social Security replacement rate	30 – 40%
Systematic withdrawal rate from Lifecycle	40 – 50% of ending gross salary

Start working: The team considers a person who begins saving for retirement at age 22.

Retirement age: The team’s modeling assumes age at retirement is 67 years old. This is consistent with the age at which individuals can receive full Social Security benefits. The team updates this annually based on Social Security Administration data.

Salary: The team’s modeling utilizes the median personal income by age cohort according to annually updated data from the U.S. Census Bureau. Currently, the median salary at age 22 is \$37,040, and at age 67 it is \$77,633. In the simulations, salary is assumed to follow this path over a participant’s working life. We assume the dollar amounts grow with inflation, but the shape of the curve remains the same (parallel shift in the curve) until new data is reported.

Exhibit 4: salary (current \$)



Source: US Census Bureau, Current Population Survey Tables for Personal Income 2023, released Sep 2024 and Nuveen simulation.

Inflation rate: The team’s long-run inflation assumption is based on research conducted by the Target Date Multi-Asset team, with insights from our Asset Allocation Committee. Our current “base case” forecast for the average inflation rate expected over the next 10 years is 2.5%.

Contribution rate: The team’s modeling uses median total contribution rates (inclusive of employee contribution and employer match). The employee contributions are modeled by age cohort. Research has shown that savings rates tend to gradually increase over the working years. The current savings rate ranges from 10.0% for young individuals (under 25) to 13.8% for individuals closest to retirement (over 67).

These total contribution rates combine the average individual savings rates by age cohort with a 3-year average employer matching contribution (based on Vanguard’s annual survey “How America Saves”). Model inputs are updated regularly as new data is published.

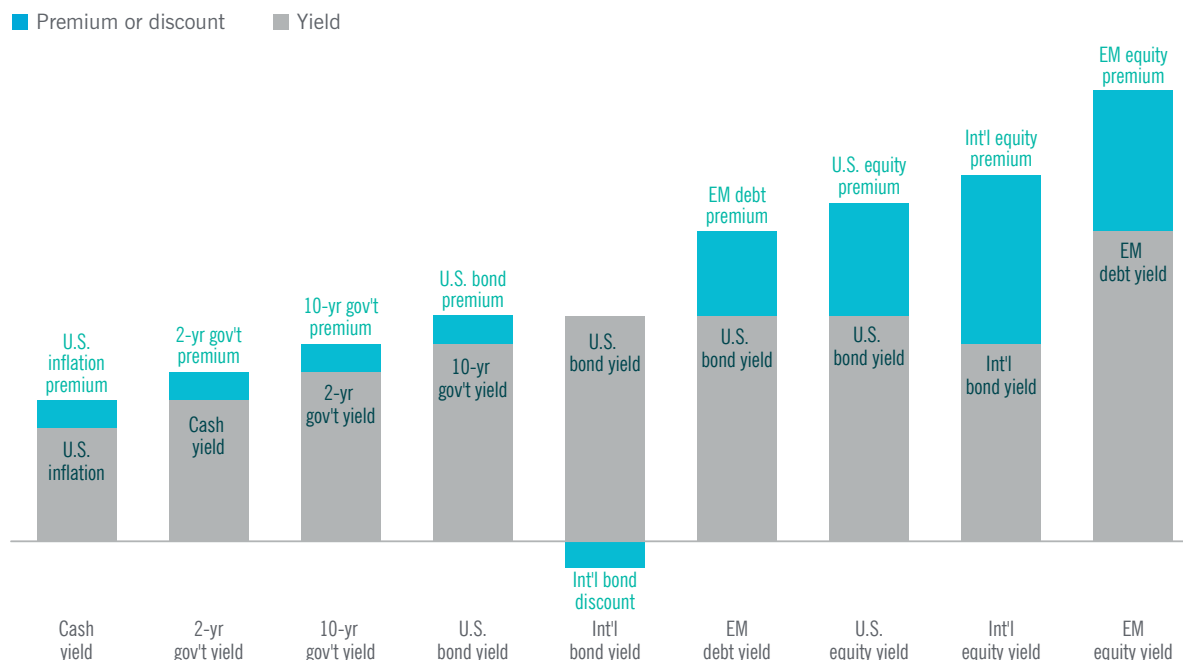
Life expectancy: The modeling uses mortality tables from the Society of Actuaries. The data reflects the probability of death for an individual at specified ages. We average male and female mortality data. We consider retirement drawdown scenarios spanning 30 years or longer during retirement.

Social Security replacement rate: Replacement Rates for Hypothetical Retired Workers (updated annually in June/July), scaled for medium earnings. The Social Security replacement rate, reflecting the percentage of preretirement income that Social Security benefits replace, is added to withdrawal rate to illustrate the total percentage of working income received in retirement. We look at both the quoted Social Security replacement rate currently available, as well as analyze results for a 25% reduction of the quoted rate in the future.

Proprietary asset class expected returns

On a quarterly basis, the Target Date Multi-Asset Team, informed by views from the firm’s Global Investment Committee, generates a series of capital market assumptions across relevant asset and sub-asset classes using our analysis of premia, defined as asset yields in excess of a risk-free rate (or less risky assets). The forecasted expected returns are utilized in our investor simulation models, which are integral to the design of the strategic asset allocations for the Nuveen Lifecycle Index Funds’ glidepath.

The capital market premia analysis process follows a building block approach that considers current market information such as inflation, bond yield, earnings yield, risk premia, earnings payout, and earnings growth. The analysis generates return estimates for various time horizons — one-year, 10-years, up to 75 years — reflecting our long term approach to helping investors achieve their retirement goals.

Exhibit 5: relationship between Premia and yields

The fundamental elements in the process are the premia (or discounts) of assets, defined as the “excess yield” needed to compensate an investor for taking on the additional perceived risk of that asset class. The graph above shows the relationship between premia and yields.

The premium of each asset follows a mean-reversion process. It moves from the current premium toward our long-run view. Yields are derived from premia. We start with estimates of how inflation may evolve over time. This is followed by our estimation for cash premium (or discount) over time. Cash yield is then calculated as the sum of inflation and cash premium. We repeat this exercise for other assets, e.g., estimating short-term bond (ST Bond) premium and deriving short-term bond yield as the sum of the short-term bond premium and cash yield, then estimating U.S. bond premium and deriving U.S. bond yield as the sum of the bond premium and short-term bond yield.

For riskier assets, such as inflation linked bond (IL Bond), high yield bond (HY Bond), non-U.S. bond, emerging market debt (EM Debt), and U.S. equity, their premia are defined as the differentials between corresponding yields and the U.S. bond yield. Building on this approach, the premium of non-U.S. equity is measured

as the difference between the non-U.S. equity forward earnings yield and the non-U.S. bond yield. Similarly, the premium of emerging market equity (EM Equity) is defined as the difference between the emerging market equity forward earnings yield and the emerging market debt yield. For any period, fixed income asset returns are computed based off yield data. Equity returns are computed based off earnings yield and earnings growth rates.

Glidepath design metrics — analysis of simulated outcomes

To achieve the desired goal of balancing market risk, inflation risk and longevity risk, the Target Date Multi-Asset Team performs Monte Carlo simulation analyses of the Nuveen Lifecycle Index Funds’ glidepath. The purpose of the Monte Carlo analysis is to consider a range of possible outcomes for the selected glidepath under a variety of market conditions. The analysis accomplishes this by simulating an individual investor in his or her age-appropriate target date glidepath during the accumulation years and then making systematic withdrawals during the retirement years. In total, the model generates 20,000 sequences of returns over a 75-year period — covering the complete savings

and retirement time horizons (from age 22 through age 97).

As part of this analysis, the Target Date Multi-Asset Team examines outcomes at and in retirement to assess an individual’s ability to meet retirement income objectives.

The rationale for each of these three metrics is listed below:

1. Range of potential savings outcomes on the date of retirement

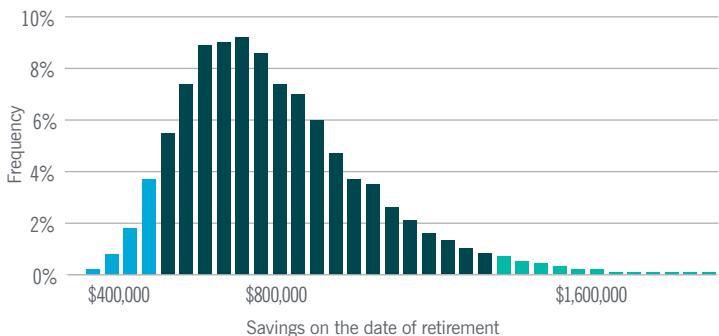
This measure of retirement wealth is used to estimate the likelihood that a Nuveen Lifecycle Index Fund investor’s projected savings accumulation on the retirement date (i.e., nest egg) is of sufficient size to support an extended period of regular withdrawals over the course of retirement without depleting savings. For these simulations, the team examines not only the median outcome, but also a full range of potential nest egg outcomes inclusive of both positive and negative events. Tail risk, the likelihood of unusual market events (more than 3 standard deviations), is also a consideration. Throughout the analysis, return outcomes are measured in relation to the level of an investor’s projected accumulated savings relative to projected ending salary. The bar chart below portrays the distribution of potential savings accumulations on the retirement date. The table provides the

median outcome, as well as the top (positive event) and bottom (negative event) decile outcomes in terms of both total dollars accumulated and as a percentage of the assumed ending salary on the retirement date.

2. Potential volatility of the portfolio under short-term market movements on the date of retirement

After the dramatic volatility during the Credit Crisis in 2008, the Target Date Multi-Asset Team decided to further refine its investment process to better assess the potential riskiness of the portfolio under short-term market movements on the date of retirement. We recognize the need to balance the long-term goal of remaining properly invested in a diversified portfolio that can generate sufficient income during the drawdown phase in retirement, with the short-term goal of having a portfolio that can withstand the volatility of a market crisis without causing investors to exit their Nuveen Lifecycle Index Funds’ portfolio in a panic if such an event were to occur. While we offer a through retirement glidepath, we recognize that some of our investors may sell their Nuveen Lifecycle Index Fund on the date of retirement and invest in other vehicles. These exiting investors will be exposed to the particular value of the market on their retirement date. For these reasons, we chose to add the additional metric of estimating the

Exhibit 6: nest egg at retirement
(Monte Carlo simulation outcomes)



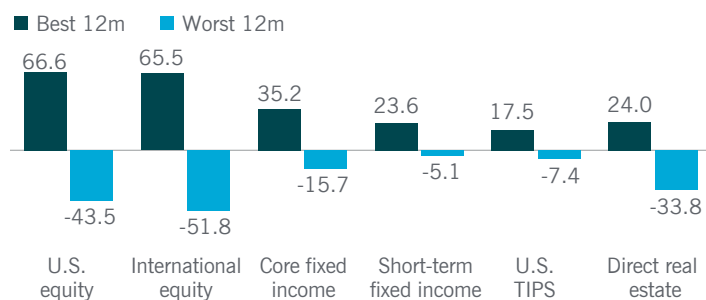
	Accumulated savings at retirement	Multiple of ending salary
Top decile outcome	\$1,252,963	16x
Median outcome	\$853,419	10.9x
Bottom decile outcome	\$588,172	7.6x

This hypothetical illustration does not represent any particular investment. Numbers in this chart represent potential accumulated savings (in today’s dollars), and as multiples of an investor’s ending salary at retirement. For example, an investor on the Nuveen Lifecycle Index glide path would accumulate assets equal to 12.1 times his or her ending salary over a 45 year investment period.

For illustrative purposes. The projections or other information generated by Monte Carlo Simulation regarding the likelihood of various investment outcomes are hypothetical in nature, do not reflect actual investment results and are not guarantees of future results. Please see the disclosures at the end of this whitepaper for additional important information.

worst possible 12-month performance of the Nuveen Lifecycle Index Fund on the date of retirement. We measure this by considering the historically worst 12-month performance

Exhibit 7: range of one-year returns by asset class



Data source: FactSet and Bloomberg. Data as of 31 Dec 2024. Asset classes measured beginning 1/31/1970 for U.S. Equity, Non-U.S. Equity and Core Fixed Income; 2/29/1976 start date for Short-term Fixed Income; 2/28/1999 for U.S. TIPS.

for each of our asset classes together with our forward-looking estimates of asset class volatility. The chart below shows the historical range of one-year returns for each of the five major asset classes used in the Nuveen Lifecycle Index Funds.

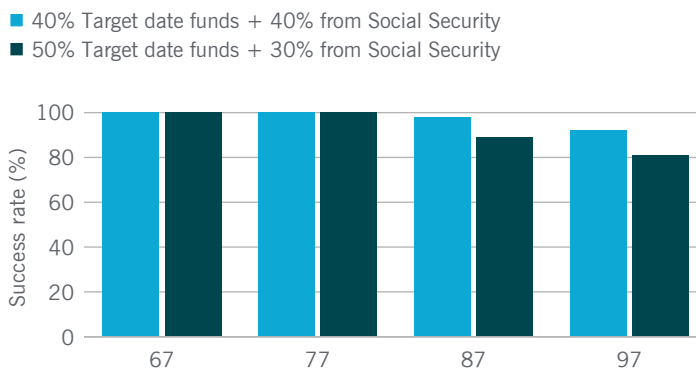
3. Probability of having income for one's lifetime in retirement if one pursues a systematic withdrawal program

The third key metric we measure is the probability of the Nuveen Lifecycle Index Funds' glidepath to be able to generate income for an individual's lifetime in retirement via a systematic withdrawal program. We acknowledge that our participants may have other sources of income in retirement, the most likely of which would be Social Security benefits. Additional simulations are run looking at income replacement ratios for each hypothetical investor's lifetime, measuring the probability of being able to meet certain income thresholds across various stages of retirement. In these cases, we not only simulate market returns, but also factor in the growing life expectancy of the U.S. population.

The chart below reflects the likelihood (probability) that an investor will be able to replace from 40% to 50% of their ending salary with a systematic withdrawal program from the Nuveen Lifecycle Index Fund. An additional 40% (in the case of the 40% systematic withdrawal scenario from Lifecycle) or 30% (in the case of the 50% systematic withdrawal scenario from Lifecycle) is added from Social Security payments, making the total income replacement rate 80% of one's ending salary. This equates to a roughly 4% systematic withdrawal rate of an individual's nest egg.

All scenarios show success in the early years after retirement as there is sufficient nest egg savings to meet withdrawal requirements irrespective of market conditions. By age 97, our scenarios show that we still have a 89.8% – 95.6% likelihood of being able to replace 80% of an individual's ending salary across the various market scenarios.

Exhibit 8: probability of income in retirement¹

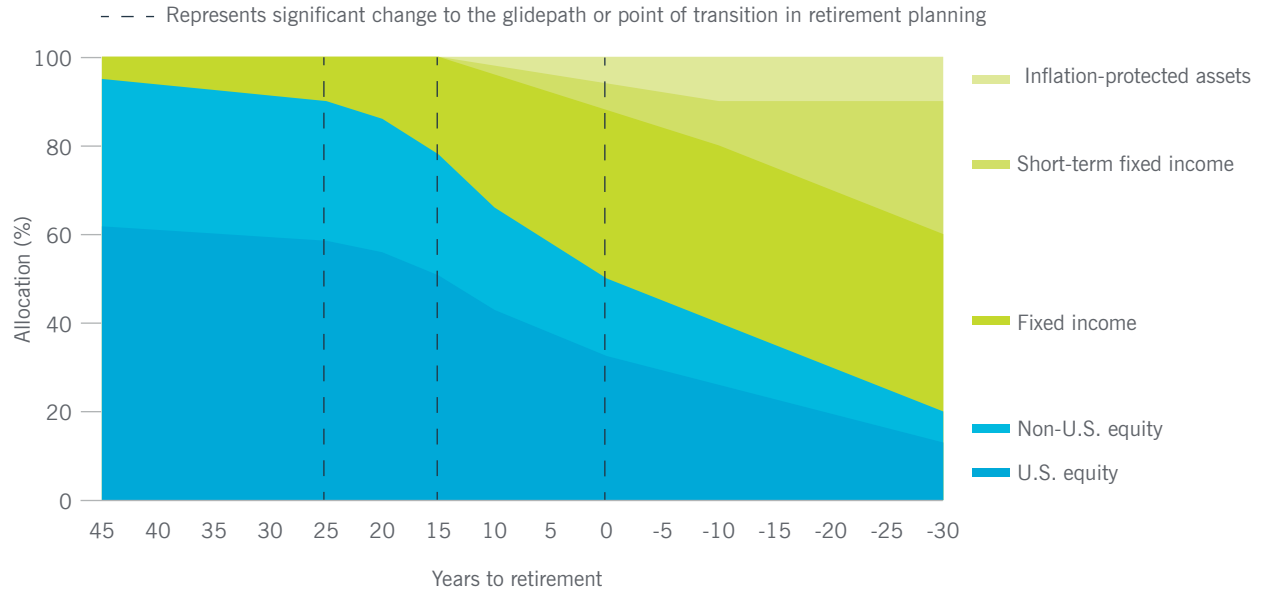


When considering a change to the glidepath, such as adding a new asset class or altering the shape of the glidepath, the Target Date Multi-Asset Team examines its impact on all three measures described above: the distribution of outcomes, the worst 12-month analysis, and the probability of sustaining income objectives throughout retirement.

PLANNED PROGRESSION OF ASSET ALLOCATION CHANGES

The glidepath for the Nuveen Lifecycle Index Funds, both in graphical and tabular format, is shown below.

Exhibit 9: Nuveen Lifecycle Index Funds glidepath



Note: The glidepath illustration may not be drawn to scale.

Years to retirement	U.S. equity	Non-U.S. equity	Fixed income	Short-term fixed income	Inflation protected assets
45	61.8%	33.3%	5.0%	0.0%	0.0%
40	60.9%	32.8%	6.3%	0.0%	0.0%
35	60.1%	32.4%	7.5%	0.0%	0.0%
30	59.3%	31.9%	8.8%	0.0%	0.0%
25	58.5%	31.5%	10.0%	0.0%	0.0%
20	55.9%	30.1%	14.0%	0.0%	0.0%
15	50.7%	27.3%	22.0%	0.0%	0.0%
10	42.9%	23.1%	30.0%	2.0%	2.0%
5	37.7%	20.3%	34.0%	4.0%	4.0%
0	32.5%	17.5%	38.0%	6.0%	6.0%
-5	29.3%	15.8%	39.0%	8.0%	8.0%
-10	26.0%	14.0%	40.0%	10.0%	10.0%
-15	22.8%	12.3%	40.0%	15.0%	10.0%
-20	19.5%	10.5%	40.0%	20.0%	10.0%
-25	16.3%	8.8%	40.0%	25.0%	10.0%
-30	13.0%	7.0%	40.0%	30.0%	10.0%

At 45 years to the target retirement date, a Nuveen Lifecycle Index Fund begins with a 95% allocation to equity, and a 5% allocation to fixed-income investments. From a HC/FC framework perspective, this beginning asset allocation reflects the greater human capital and longer time horizon of investors in their 20s and 30s.

Over the first 20 years of the glidepath, the equity allocation is very gradually reduced by 0.25% per year, and replaced by an offsetting fixed-income allocation. Our research shows, at about 25 years from retirement, the decline in human capital requires the portfolio of financial capital to become increasingly more conservative, thus the rate of reallocation of assets from equity to fixed-income starts to accelerate. At 10 years from retirement, the slope of the glidepath starts to be reduced. On the target retirement date, the allocation to equity and fixed income is split evenly at 50%/50%.

The Nuveen Lifecycle Index Funds have what is known as a “through retirement” glidepath. The asset allocation mix continues to evolve 30-years post the target retirement date as the individual begins to withdraw assets (the drawdown income phase). This portion of the glidepath was determined to reflect consideration of the need for both capital appreciation as well as income in order to balance market, inflation and longevity risk in the retirement years.

The pace of the decline in the equity allocation is further reduced beyond the target date in order to address continued longevity risk throughout the retirement years, while also addressing sequence of return risk. A steep decline in the equity allocation, particularly during a time when savings contributions are no longer expected, could result in locking in large losses if a market volatility event occurs as the portfolio may not have sufficient equity to take advantage of a rebound in the markets.

During the initial years of retirement (first 10 years), equity exposure is reduced by 1% per year and fixed income exposure is increased by an offsetting amount. From 10 to 30 years past the target retirement date, equity exposure continues to be reduced by 1% per year with offsetting

increases for the short term fixed income allocation. At 30 years past the target retirement date, the glidepath reaches its final allocation of 20% equity and 80% fixed income.

Increasing the allocation to short term fixed income by 1% per year from 10 years to 30 years past the target retirement date provides individuals in the latter stages of retirement with diversification from equities that further reduces interest rate risk and overall volatility and downside risk. This helps achieve the goal of reducing the risk of outliving your money. When reviewing the goal of balancing market, longevity and inflation risk, the risks tilt somewhat as an investor moves through retirement: as an investor’s life expectancy declines, the longevity risk similarly declines with age, and the impact of market volatility becomes more of a concern.

To reduce trading costs and to limit exposure to market movements that could cause a Nuveen Lifecycle Index Fund to drift from its intended risk profile, the transition from one target asset allocation to the next is carried out on a monthly basis, making use of available fund cash flows to the extent possible to realize the desired change in allocation.

COMPOSITION OF PORTFOLIO OF UNDERLYING INVESTMENTS

The asset allocation strategy and selection of underlying investments for the Nuveen Lifecycle Index Funds have been determined on the basis of their contribution to return outcomes during periods of savings and over the course of an individual’s retirement. When considering the composition of funds to ultimately include within the equity and fixed-income asset classes, we categorize funds into one of five market sectors:

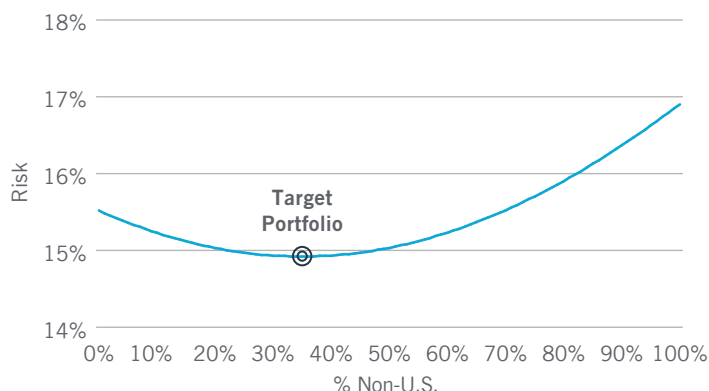
- Domestic equity
- Non-U.S. equity (including both developed and emerging markets)
- Fixed income
- Short-term fixed income
- Inflation-protected assets

Equity portfolio composition

The allocation to equities within each Nuveen Lifecycle Index Fund is divided among domestic and non-U.S. equities, with a split of 65% domestic and 35% non-U.S. as a percentage of total equity assets. The non-U.S. equity component is inclusive of both developed- and emerging-markets equities across market capitalization ranges. While equity markets around the globe have become more correlated, opportunities to benefit from non-U.S. diversification continue to exist. Based on studies covering a range of time periods, the Nuveen Lifecycle Index Funds selected a level of non-U.S. diversification associated with minimizing the volatility of an equity portfolio. Historically, portfolio risk is minimized when non-U.S. equity represents between 25% and 35% of total equity exposure (Exhibit 10). In our analysis, an allocation at the upward end of this range currently represents improved risk-adjusted returns, increased diversification and enhanced retirement outcomes.

Within the two equity market sectors (domestic and non-U.S.), the Nuveen Lifecycle Index Funds seek to maintain diversified, style-consistent exposure across the glidepath. While the overall equity allocation is reduced as the investor moves toward retirement and in retirement, the proportion of the total equity exposure invested in each of the sub-asset classes remains constant. In our experience, the risk and return profiles of the various size and style segments of the equity markets are not consistent over time. For instance, certain segments of the equity market that have “historically” been touted as lower volatility have been shown to experience large rises in valuations and then extended periods

Exhibit 10: portfolio risk as function of % non-U.S. equity (1979 – 2024)

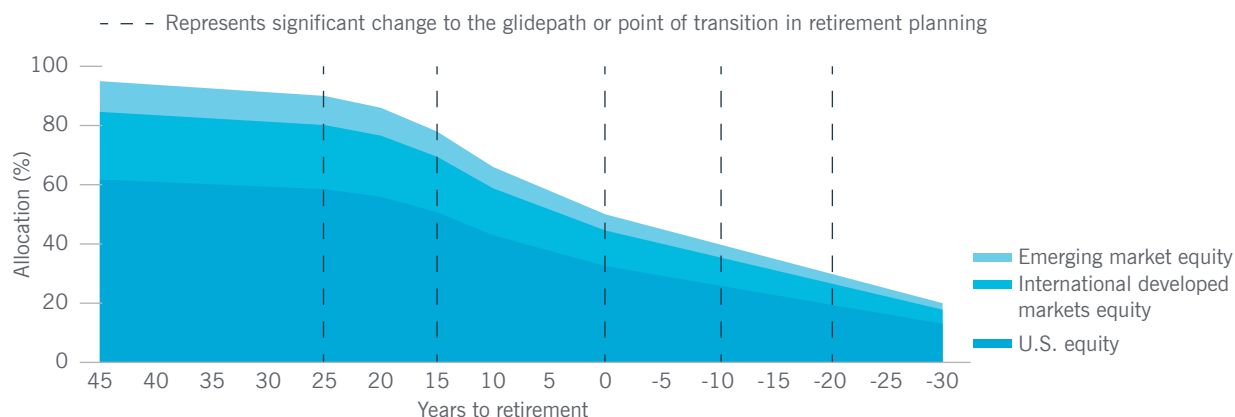


Note: Source: Blend of indexes used; 1970- MSCI EAFE; 1988- MSCI ACWI ex-US; 1994- MSCI ACWI ex-US IMI. As of 31 Dec 2024.

of underperformance. The markets have not consistently favored one investment style versus another during periods of volatility. As such, the Nuveen Lifecycle Index Funds strategically maintain broad exposure to all segments across the glidepath, preferring to remain diversified and participate regardless of which style the market may be favoring at any given point in time. The selection and relative weightings of the mutual funds in the domestic equity market sector are designed to represent an overall exposure similar in market capitalization (large-, mid- and small-cap stocks), style (growth- and value-oriented stocks), and risk characteristics of the broader domestic equity market, as represented by the Russell 3000 Index. Similarly, the non-U.S. equity portion provides exposure to developed and emerging-markets foreign equities, and is designed to provide overall regional and market capitalization similar to stocks contained in the MSCI EAFE + Emerging Markets Index.

The Nuveen Lifecycle Index Funds Equity glidepath is shown below:

Exhibit 11: equity sub-asset class glidepath



The Nuveen Lifecycle Index Funds may invest in the following domestic and non-U.S. equity funds:

	Asset class category	Benchmark
Nuveen Funds — U.S. Equity		
Equity Index	U.S. equity	Russell 3000® Index
Nuveen Funds — Non-U.S. Equity		
International Equity Index	Non-U.S. equity	MSCI EAFE Index
Emerging Markets Equity Index	Non-U.S. equity	MSCI Emerging Markets Index

Fixed income portfolio composition

The fixed income portion of the Nuveen Lifecycle Index Funds is initially allocated to core fixed income. When an investor reaches age 50, the portfolio begins to pare back exposure to credit, interest rate and inflation risks by purchasing investments in the Short-Term Bond Index Fund (categorized in a market sector of a similar name) and the Inflation-Linked Bond Fund (categorized in a market sector called Inflation-Protected Assets).

The Nuveen Lifecycle Index Funds will continue to increase their fixed income allocations deep into retirement, while decreasing equities. The Target Date Multi-Asset Team has evaluated the post retirement period, particularly the latter two-decade period, finding that an increase in short-term fixed income provides the greatest benefit to aging investors. The short-term fixed income allocation thus increases from 10% reached 10 years after retirement, to 30% to

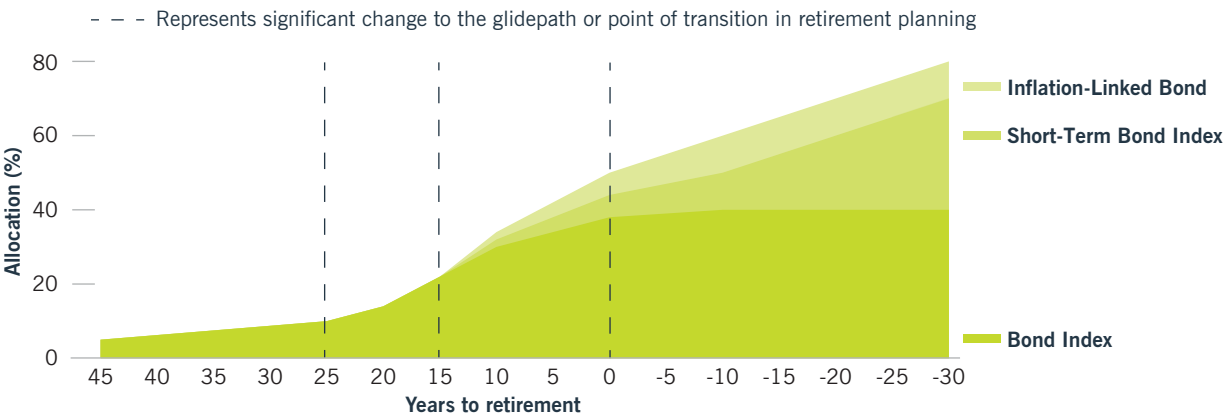
be reached at 30 years after retirement. The benefits include:

- Significant diversification from equities
- Lower duration (thus reducing sensitivity to changes in interest rates)
- Relatively attractive expected yields and lower volatility (generating high risk-adjusted returns)
- Historically little downside risk

In contrast, core fixed income maintains an allocation of 40% reached 10 years after retirement for the latter two decades. Inflation-protected fixed income investments reach an allocation of 10% ten years post retirement and remain there until the funds reach their final landing point 30 years post retirement. This static allocation provides inflation hedging benefits while not taking on excessive duration (e.g., interest rate) risk.

The changing composition of fixed-income investments from early periods of saving through retirement reflects investors’ greater need for interest-rate and inflation protection and seeks to provide stability of returns for investors as they approach retirement and during their retirement years. The Nuveen Lifecycle Index Funds fixed-income glidepath is shown below:

Exhibit 12: fixed income sub-asset class glidepath



The Nuveen Lifecycle Index Funds invest in the following fixed-income funds:

Asset class category		Benchmark
Nuveen Funds — Fixed-Income		
Bond Index	Intermediate-term bond	Bloomberg U.S. Aggregate Bond Index
Nuveen Funds — Short-Term Fixed-Income		
Short-Term Bond Index	Short-term bond	Bloomberg U.S. 1-3 Year Gov't/Credit Bond Index
Nuveen Funds — Inflation-Protected Assets		
Inflation-Linked Bond	Inflation-protected bond	Bloomberg U.S. Treasury Inflation Protected Securities (TIPS) 1-10 Year Index

COMPOSITION OF BENCHMARK

The performance of the Nuveen Lifecycle Index Funds is evaluated in relation to a series of composite benchmarks that consist of five indexes that represent the five equity and fixed-income market sectors in which each of the Funds invests.

The composite benchmark is created by applying the performance of the five indexes in proportion to each Fund’s target allocations to those market sectors. The weights of each market sector within the composite benchmarks evolve over time, moving in tandem with the changing allocations of each Nuveen Lifecycle Index Fund as it moves along its glidepath. The five market sectors and

the related benchmark indexes for the Nuveen Lifecycle Index Funds are as follows:

- *U.S. equity* (Russell 3000® Index)*
- *Non-U.S. equity* (MSCI EAFE + MSCI EM)*
- *Fixed income* (Bloomberg U.S. Aggregate Bond Index)*
- *Short-term fixed income* (Bloomberg 1-3 Year U.S. Government/Credit Index)*
- *Inflation-protected assets* (Bloomberg U.S. Treasury Inflation Protected Securities 1-10 Year Index)*

*You cannot invest directly in these indexes.

TARGET DATE MULTI-ASSET TEAM

Today, the Target Date Multi-Asset Team is able to harness our legacy in the retirement space to bring about industry leading retirement solutions.



John Cuniff
Head of Target Date Multi-Asset Team
Investment experience: 33 years
Location: New York, NY



Steve Sedmak
Portfolio Manager, Target Date Multi-Asset
Investment experience: 25 years
Location: New York, NY



Nga Nguyen
Associate Portfolio Manager, Target Date Multi-Asset
Investment experience: 27 years
Location: Los Angeles, CA



Jyh-Huei Lee
Associate Portfolio Manager, Target Date Multi-Asset
Investment experience: 24 years
Location: San Francisco, CA



Jeff Sun, CFA
Associate Portfolio Manager, Target Date Multi-Asset
Investment experience: 16 years
Location: New York, NY

Asset allocation committee

While members of the Target Date Multi-Asset Team are the primary decision-makers for the Nuveen Lifecycle Index Funds, all changes affecting strategy, asset allocation or product design are vetted through an approval process with the Lifecycle & Lifecycle Index Asset Allocation Committee. In addition, the Funds’ Board of Trustees is apprised of all key decisions.

Specifically, with respect to the Asset Allocation Committee, the committee oversees strategic enhancements for the Nuveen Lifecycle Index Funds. The members of the committee, along with those individuals providing input to the committee, discuss the recommendations put forth by the portfolio management team and make ultimate decisions on strategic glidepath changes and underlying fund allocation changes.

Lifecycle Asset Allocation Committee

Chair	John Cuniff, CFA Head of Target Date Multi-Asset Team Portfolio Manager
Member	<ul style="list-style-type: none">• Steve Sedmak, CFA Portfolio Manager• Stuart Brunet Chief Compliance Officer, Nuveen• Brian Heffernan Head, Public Markets Risk• Richard Biegen Chief Compliance Officer, TIAA• Rachael Zufall Assoc General Counsel, Nuveen
Oversight of	<ul style="list-style-type: none">• Strategic allocation enhancement recommendations• Tactical asset allocation program
Input from	<ul style="list-style-type: none">• Senior leaders from equities, fixed income and real estate investment areas• Head of Public Market Risk• Underlying portfolio managers supporting capital market assumptions and fund monitoring• Senior members of legal and compliance teams

MONITORING OF UNDERLYING FUNDS

The Target Date Multi-Asset Team closely monitors the portfolios, relative performance, and portfolio compositions of the underlying funds. In addition, the team monitors how well the underlying portfolios track their respective indices and ensure that their fees remain in line with expectations. As part of the process, individual fund performance is discussed with the Asset Allocation Committee during monthly meetings. CIOs of both Equity and Fixed Income businesses are present at meetings to address any concerns/issues. Performance is discussed in relation to individual fund investment objectives and risk parameters.

The Target Date Multi-Asset Team will replace an underlying fund if it has serious concerns about that fund's portfolio management team, their investment process, or performance record, and Nuveen senior management does not have plans to remedy the situation.

MONTHLY REBALANCING

Consistent management of portfolio allocations in relation to strategic target allocations helps reduce the funds' vulnerability to market bubbles and avoids significant drift of the funds' risk profiles from their targeted levels. On a monthly basis, the Target Date Multi-Asset Team rebalances the relative weights of each Nuveen Lifecycle Index Fund's holdings to within approximately 1% to 2% (depending on market volatility) of its target allocation as appropriate per the planned glidepath. For example, at the end of each month, the Lifecycle Retirement Income Fund is rebalanced to an allocation near its 40% equities and 60% fixed-income target. Monthly rebalancing is achieved using cash

flows to the extent possible, in order to minimize portfolio turnover.

If sufficient rebalancing cannot be achieved using daily contributions and redemptions, the Target Date Multi-Asset Team will, on approximately a monthly basis, implement trades to bring each fund back toward its target allocation. These trades leverage the use of a daily mean-variance optimization process that assists in allocating cash inflows each day. To the largest extent possible, the optimization algorithm lowers the tracking error of the portfolio relative to its target benchmark using available cash inflows. For instance, rather than simply filling the positions that are furthest from their target allocations first, the optimizer takes into account the relative risk of various positions. Each Nuveen Lifecycle Index Fund is considered on an individual basis in the optimizer relative to fund-specific risk characteristics. Over time, the daily optimization process helps minimize trading as well. Use of this daily optimizer allows for more consistent performance within the Nuveen Lifecycle Index Funds through effective allocation of available cash flows.

CASH MANAGEMENT

On days when the Nuveen Lifecycle Index Funds receive large cash inflows, the Target Date Multi-Asset Team invests the cash to be allocated to the U.S. and foreign-developed equity markets in ETFs that follow these markets. At the market close, the ETFs are sold and the proceeds are invested in our underlying mutual funds as appropriate. This ensures that the Nuveen Lifecycle Index Funds remain as fully invested as possible.

CONCLUSION

The Nuveen Lifecycle Index Funds are designed to accommodate the needs of a broad range of investors seeking an effective yet convenient tool with which to achieve retirement savings objectives. Depending on an investor's personal situation and risk profile, the Nuveen Lifecycle Index Funds can be appropriately used as a standalone investment that serves as an exclusive means of retirement savings, or as a component within a broader retirement plan that includes retirement income from additional sources. All elements incorporated in the Nuveen Lifecycle Index Funds' design, including the glidepath and mix of underlying investments, are structured to seek high returns while maintaining targeted, risk-managed exposure across a wide range of asset classes and market segments. These qualities make the Nuveen Lifecycle Index Funds an excellent solution for investors at all stages of retirement planning to pursue favorable investment outcomes over a range of investment time horizons.

The Nuveen Lifecycle Index Funds reflect the vast resources of the firm across Nuveen's investment areas, as well as the experienced portfolio management team. The team continually strives to ensure that the funds reflect our best thinking. Accordingly, the funds may well continue to evolve over time.

As with all mutual funds, the principal value of your investment is not guaranteed at any time, including at the target date. Also, please note that the target date is an approximate date when investors are expected to begin withdrawing from the fund. In addition to the fees and expenses associated with the Nuveen Lifecycle Index Funds, there is exposure to fees and expenses associated with the underlying funds.

1 Assumes 40% income replacement from Lifecycle plus prevailing Social Security replacement rate. 81.1% reflects the percent of ending pre-retirement salary that would be replaced, which also equals a 3.8% annual withdrawal rate from the median retirement accumulation balance.

Effective 01 May 2024, the TIAA-CREF Lifecycle Index Funds have been renamed the Nuveen Lifecycle Index Funds and underlying funds in the suite have been renamed from TIAA-CREF to Nuveen. These changes did not impact the Funds' investment strategy or portfolio management. Please see the Fund's prospectus supplement dated 22 Jan 2024 for more details where applicable.

This material is not intended to be a recommendation or investment advice, does not constitute a solicitation to buy, sell or hold a security or an investment strategy, and is not provided in a fiduciary capacity. The information provided does not take into account the specific objectives or circumstances of any particular investor, or suggest any specific course of action. Financial professionals should independently evaluate the risks associated with products or services and exercise independent judgment with respect to their clients.

Mutual fund investing involves risk; principal loss is possible. There is no guarantee the Fund's investment objectives will be achieved and the **target date** is an approximate date when investors may begin withdrawing from the Fund. Target date mutual funds are actively managed, so the **asset allocation** is subject to change and may vary from that shown. After 30 years past when the target-date has been reached, the funds may be merged into another target-date fund with the same asset allocation. A portfolio that tracks an **index** is subject to the risk that it may not fully track its index closely due to security selection and may underperform when factoring in fees, expenses, transaction costs, and the size and timing of shareholder purchases and redemptions. The Fund is a fund of funds subject to the risks of its **underlying funds** in proportion to each Fund's allocation. These risks include those of **fixed-income** underlying funds risks which may be susceptible to general movements in the bond market and are subject to credit and interest rate risks as well as those of **equity** underlying funds risks, such as foreign investment and issuer risks. **Credit risk** arises from an issuer's ability to make interest and principal payments when due, as well as the prices of bonds declining when an issuer's credit quality is expected to deteriorate. **Interest rate risk** occurs when interest rates rise causing bond prices to fall. The Fund's **income** could decline during periods of falling interest rates. **Non-U.S. investments** involve risks such as currency fluctuation, political and economic instability, lack of liquidity and differing legal and accounting standards. These fixed-income underlying funds risks, such as call, extension, and income volatility risks as well as other risk considerations, such as active management risk, equity underlying funds risks and direct real estate risks, are described in detail in the Fund's prospectus. The principal value of the funds is not guaranteed at any time, including at the target-date. Diversification does not assure a profit or protect against loss.

Before investing, please advise your clients to carefully consider fund investment objectives, risks, charges and expenses. For this and other information that should be read carefully, please request a prospectus or summary prospectus from your Nuveen Advisor Consultant at 800.688.3365 or visit nuveen.com.

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