Voya Target Date: A Holistic Approach to Target Date Design

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Overview of Target Date Funds: Different Paths Toward a Common Goal

For plan participants, target date funds simplify the complex task of saving and investing for retirement by automatically allocating assets based on each individual's age and retirement date. This simplicity can be powerful in a world of increasingly complex financial choices and explains why target date funds are expected to capture between 56–67% of all flows[1] to defined contribution plans over the next five years.

For plan sponsors, evaluating target date funds is anything but simple. Divergent investment methodologies across target date funds have delivered dramatically different results over time. As a result, it is critical for plan fiduciaries to understand these differences in order to select the fund that best matches the needs and characteristics of their plan and its participants. We believe this evaluation process should focus on four key components.

Evaluating Target Date Funds: Four Key Components to Consider	
1. Glide Path	■ How are assets managed during the accumulation phase? ■ How are assets managed near retirement? ■ Does the glide path reach its most conservative allocation at or sometime in retirement ("to" vs. "through")? ■ How is retirement success measured?
2. Asset Allocation	■ What is the degree of diversification? ■ How is the asset allocation/asset class breadth adjusted over time? ■ Is it a tactical or strategic asset allocation process?
3. Underlying Investment Managers	■ Open versus closed architecture: Are multiple investment managers used or only proprietary managers? ■ What is the due diligence process for selection, monitoring and removal of managers? ■ Is there a dedicated team responsible for underlying manager research?
4. Portfolio Construction	■ How is the final portfolio constructed to take into account and manage all risks? ■ What is the manager's philosophy and approach to selecting all active managers, all passive managers or a blend of both?

In the following sections, we explain how Voya approaches each of these four components to build holistic solutions that help prepare investors for a successful retirement.

A target date is the approximate date when investors plan to start withdrawing their money. Glide path refers to how a target date strategy's underlying asset mix (equities and bonds) changes over the life of the strategy; i.e., from the initial investment to the target date. **Principal value fluctuates and there is no guarantee of value at any time, including the target date.**

[1] Source: Cerulli Associates, "Defined Contribution Distribution 2015"

Glide Path Design

Glide path design is the primary determinant of risk and return in target date funds (TDFs) throughout a lifecycle. Each target date manager utilizes a proprietary glide path methodology, leading to a wide dispersion of equity allocations across the industry. In 2016, the range of total equity allocation between the most aggressive and conservative glide paths was over 35% for participants aiming to retire in 2020 (Figure 1). As Figure 2 highlights, these significant differences in equity allocations are a key contributor to the wide dispersions in performance between target date providers.

Meaningful differences in equity allocation among target date managers lead to significant differences in performance

Figure 1. Meaningful Differences in Equity Allocation Among TDF Managers ...

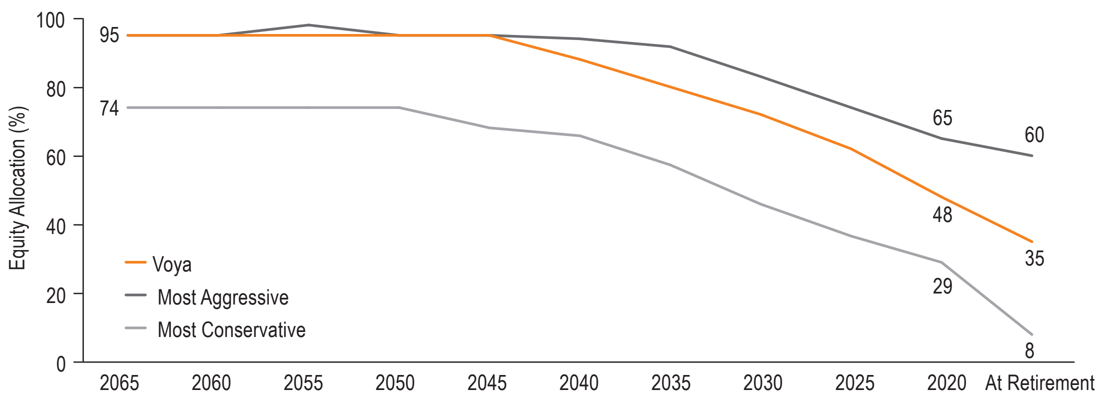
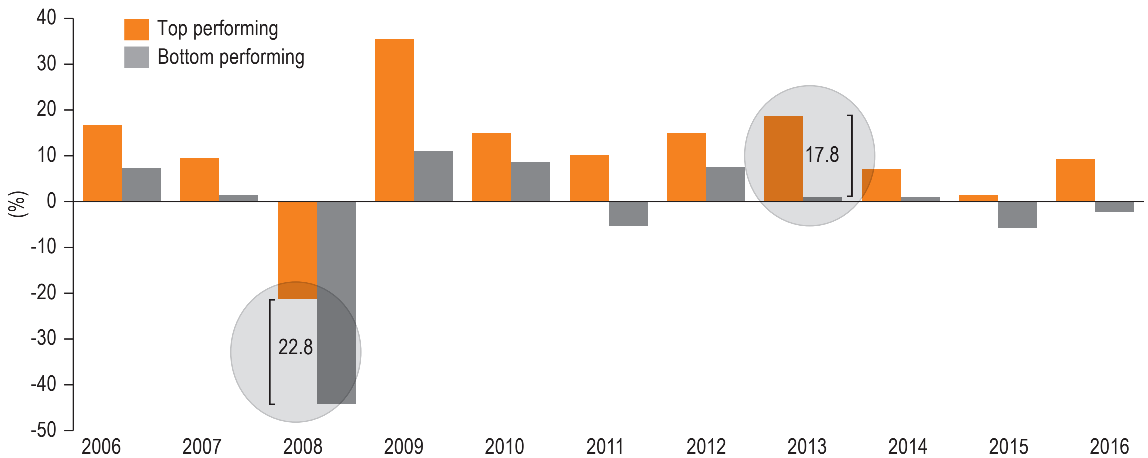


Figure 2. ...Lead to Significant Differences in Performance

Calendar Year Range of Returns for 2020 TDFs



Past performance is no guarantee of future results.

Source for Figure 1: Morningstar Direct, fund company prospectuses and Voya Investment Management as of 12/31/2016. Industry average reflects stock weights for mutual fund and variable annuity providers. Holdings-based data as of 12/31/16. Equity allocations based on Years to Target (YTT) Stock glidepath data in Morningstar Direct. This data may differ from Morningstar analyst reports, which combine Stock and Other. Exclusions include Invesco Balanced-Risk Retirement Series, AXA Target Allocation Series, XTF ETF Target Date SEries and Old Mutual Target Date Series. As of 12/31/2016.

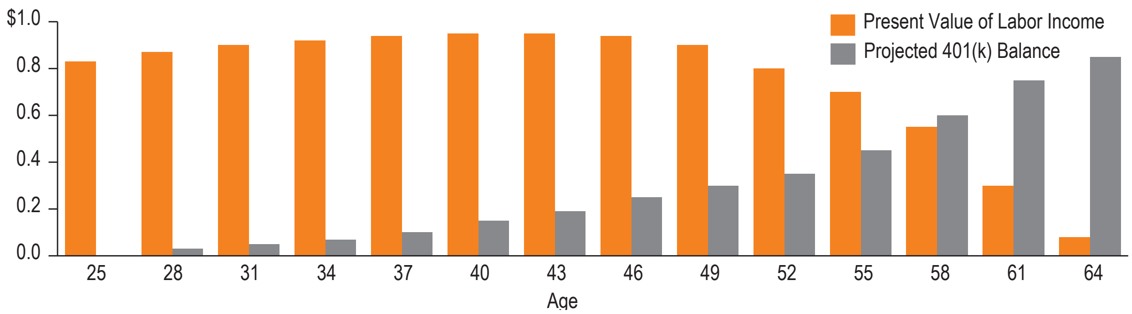
Source for Figure 2: Morningstar Direct, January 2016

At Voya, our glide path has a higher-than-average equity allocation for younger participants and a lower-than-average equity allocation for participants near and in retirement

So what is the optimal mix of equities and bonds throughout a target date lifecycle? When constructing a glide path, we believe it is critical to evaluate participants' two sources of wealth, labor income and retirement account 401(k) balance.

Figure 3. The Two Sources of Retirement Funding Shift Over a Participant's Lifetime

Hypothetical Example

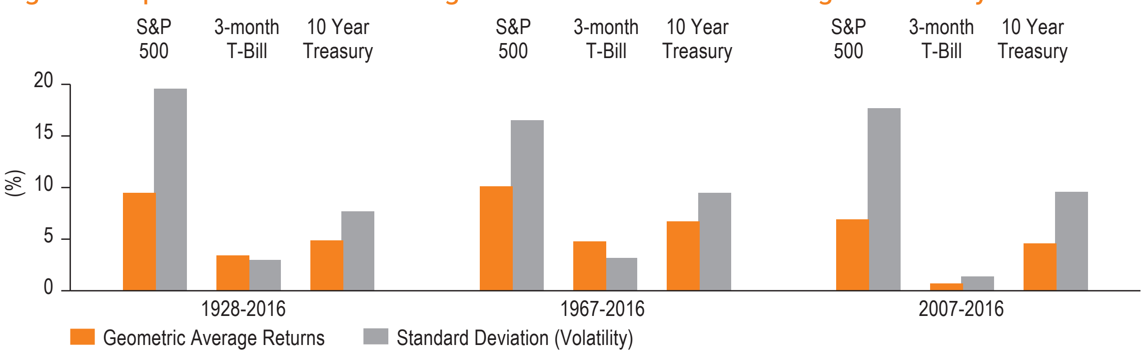


Source: Voya Investment Management

As Figure 3 shows, the amount of wealth generated from these two sources—labor income and retirement account balance—shifts over time and, as a result, impacts the shape of our glide path. Our glide path is structured not only to reflect this relationship between labor income and the retirement account balance, but also the expected risk-adjusted returns for equities and bonds. Historically, equities have produced higher returns than bonds and cash over long periods of time (Figure 4). Of course, allocations to equities also expose investors to more volatility.

During the accumulation phase, a participant's longer investment horizon provides greater capacity to withstand portfolio volatility due to a longer time horizon to recover from losses. Participants in the accumulation phase also have another buffer against volatility, their labor income profile. The present value of lifetime expected labor income, the primary source of wealth in the accumulation phase, has bond-like characteristics which allow steady contributions through market downturns that helps participants add to their holdings at a deep discount. Essentially, steady contributions allow the participant to dollar cost average into the target date funds, which significantly increases potential returns for participants as markets recover. Finally, participant account balances at this stage tend to be low, so losses are limited. For these reasons, we believe that it is appropriate for glide paths to have aggressive equity allocations at the onset of a participant's career to help maximize expected return at a time when participants are well positioned to withstand expected market volatility.

Figure 4. Equities Have Delivered Higher Historical Returns with Higher Volatility



Past performance is no guarantee of future results.

Sources: Federal Reserve Bank of St. Louis, Bloomberg

As retirement approaches, the present value of a participant's labor income rapidly declines on both an absolute basis and relative to the participant's projected retirement account balance. At retirement, labor income is discontinued and the retirement account balance becomes the participant's primary source of wealth. During these later years, the participant is far more vulnerable to market downturns as the ability to counter portfolio losses with future contributions is greatly limited because remaining labor income is small relative to the size of the retirement portfolio. This warrants a rapid decline in equity allocation as retirement nears.

A glide path with a conservative equity allocation near and at retirement is critical to protect a career's worth of accumulated wealth

As a participant enters retirement, avoiding "sequence of return" risk should be a primary driver of the glide path design. Participants are the most vulnerable to sequence of return risk, or the risk of selling during or immediately after periods of poor performance, the day they retire for a number of reasons: labor income (contribution) has discontinued, withdrawals have begun and participants now have the longest period of time to support their retirement spending without steady income from employment. As a result, a significant market downturn in the early years of retirement has a far greater impact on the longevity of assets than at any other time in a participant's retirement. To illustrate this risk, Figure 5 shows a hypothetical scenario of three investors who have the same average rate of return throughout retirement but experience a 20% loss at different ages in retirement (age 66, 75 and 85). As the table shows, a retiree who experiences a 20% loss at age 66 depletes their assets almost 10 years earlier than a retiree who experiences a 20% loss at age 85.

Figure 5. Investment Losses Have a Disproportionately Negative Impact on Retirees

Age	Portfolio Value ($)	Portfolio Value ($)	Portfolio Value ($)
Retirement Age 65	500,000	500,000	500,000
66	**380,000**	491,506	491,506
74	265,474	412,022	412,022
75	248,830	**309,618**	400,472
84	70,447	153,115	276,670
85	47,026	132,567	**201,336**
86	22,792	111,305	182,464
87	0	89,304	162,936
88		66,538	142,729
89		42,982	121,820
90		18,607	100,184
91		0	77,797
92			54,632
93			30,661
94			5,858
95			0
Age When Experienced -20%	**66**	**75**	**85**
Age When Savings Run Out	**87**	**91**	**95**

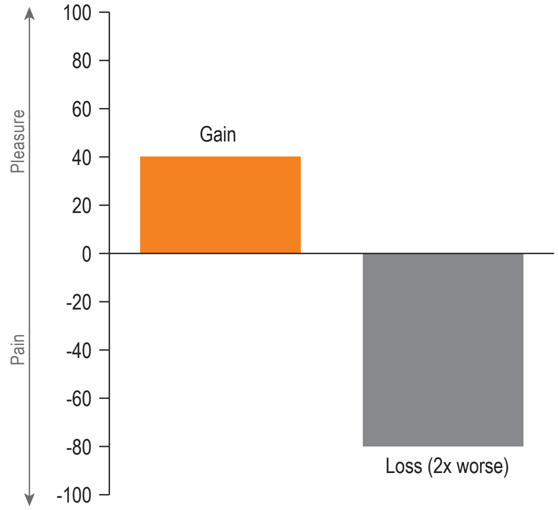
This is a hypothetical example. Assumptions used in this analysis include: account balance at retirement of $500,000, annual return of 3.5% based on an equity/bond mix of 35%/65%, annual withdrawal rate of $25,000 (5% on the initial account balance) and a shock amount of -20%.

Source: Voya Investment Management

Given participants' heightened vulnerability to sequence of return risk and loss aversion near and at retirement, we believe a conservative "to" glide path approach is the optimal structure to help participants meet their income needs through retirement

Another critical aspect we consider in our glide path design is loss aversion, one of the key tenets of behavioral finance. As studies have shown, a $1 loss has a greater emotional effect on investors than a $1 gain. In fact, the average person feels the pain of a loss twice as much as the pleasure they feel from a gain (Figure 6). This behavioral bias is a greater risk near and at retirement given that account balances are likely at the highest level and a market decline at this point would involve sizeable dollar losses. As a result, investors are more susceptible to sell at market bottoms, depriving the portfolio of the ability to recoup those losses over time. Given the heightened vulnerability to loss aversion and sequence of return risk near and at retirement, we believe a glide path that reaches its most conservative equity allocation at retirement (otherwise know as a "To" approach) is the optimal structure to help participants meet their income needs through retirement.

Figure 6. Emotional Investing: Investors are Most Susceptible to Behavioral Biases as They Approach and Enter Retirement



Source: 2007 study by AARP and the American Council of Life Insurer

Using Income Replacement Ratio to Measure Retirement Success

A final aspect to consider is the overall objective of a glide path. In other words, what defines retirement success? The investment goal of most retirement plan participants is a dual mandate. Retired participants seek to maintain their lifestyle in retirement and avoid outliving their assets. To measure this, we believe its important to examine the risk/reward tradeoff of different glide paths in an Income Replacement Ratio framework.

Income Replacement Ratio

Income Replacement Ratio is the income generated from retirement assets as a percentage of the participant's last earned salary. As an example, if Participant A earns an average of $100,000 in the years leading up to retirement, a 70% IRR would provide Participant A with $70,000 in income every year in retirement. IRR is the preferred measure because it reflects the participant's post-retirement relative purchasing power as well as his or her ability to meet their financial needs in retirement. The IRR assumes that the account value of the retirement plan at retirement will be annuitized. While not all plan participants will meet this at retirement, the IRR is a meaningful measure as it captures the purpose of the target date fund investment—saving for retirement income.

What sets Voya apart is that we do not believe a glide path should target a pre-determined IRR. Targeting a specific IRR can lead to glide paths that either are too aggressive or too conservative relative to participant risk tolerance. For example, if a participant population is not saving enough, we do not believe this savings gap can be entirely solved through a more aggressive glide path. Furthermore, a glide path based on targeted IRRs can be very sensitive to specific assumptions about market returns and inflation. If return forecasts drop in a given year, then the glide path must become more aggressive to make up for the shortfall. In both examples, targeting a specific IRR may lead to a glide path that is outside participants' risk tolerance limits.

Instead, we believe a glide path should aim to optimally balance the risk/reward tradeoff of the income replacement ratio for a given risk aversion. To do so, we evaluate glide paths based not only on the expected income replacement ratio, as defined by the median IRR over all possible IRR outcomes but also on the shortfall risk, as defined by the average of the five percent of worst-case IRR outcomes. This approach takes into account that, at a certain point, higher levels of IRRs exhibit a diminishing benefit relative to the additional risk that is assumed. That is, there is a point where the incremental benefit of a higher level of median IRR is not worth the added risk an investor would need to take. We believe this approach to IRR optimally balances key participant, plan and market assumptions. It also allows us to assess the likelihood of a successful retirement for plan participants taking into account their dual objectives: maintaining their lifestyle while not outliving their assets.

Asset Allocation

Effective target date portfolio management goes beyond determining the optimal equity and bond mix over a participant's lifecycle. Determining which sub-asset classes to use in order to implement an equity and bond mix is equally important. Accordingly, sub-asset class breadth and how the sub-asset classes are adjusted to manage the various risks that a participant faces are also critical for a plan sponsor to understand and evaluate. Similar to glide path design, target date managers diverge significantly from one another when it comes to asset allocation. Breadth of exposure can vary by 10 or more asset classes; some managers invest in as few as six dedicated asset classes, while others access 15 or more.

Managing Volatility with a Robust List of Asset Classes

At Voya, we believe our investments across a broad range of risk premiums can potentially increase risk-adjusted returns over the long term and enhance our ability to manage varying risks. While the last four years (2013–2016) have been favorable for portfolios overweighting U.S. equities, we would note that academic evidence supports the long-term effectiveness of a globally diversified portfolio. The benefit of global diversification is highlighted in Figure 7, which shows how various asset classes performed on a year-by-year basis since 2006 relative to U.S. Large Cap Core as measured by the S&P 500 Index. Over the long term, asset classes perform differently in the various phases of market cycles. A properly diversified portfolio can dampen the effects of this asset class performance volatility, which is critical in the context of a target date fund built to accumulate and preserve assets over more than 40 years.

Figure 7. Long-Term View: Ranking Asset Classes by Annual Performance Reinforces the Importance of Diversification

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Outperforming		Emerging Market Equity	Intermediate Bond								
		Commodities	Short Term Bond	Emerging Market Equity							
		TIPS	Global Bonds	High Yield Bond							
		Developed International	TIPS	Senior Debt	U.S. Small Cap		REITs				
	REITs	Global Bonds	High Yield Bond	U.S. Mid Cap	U.S. Mid Cap	TIPS	Emerging Market Equity				
	Emerging Market Equity	Intermediate Bond	Senior Debt	REITs	REITs	Intermediate Bond	Developed International				U.S. Small Cap
	Developed International	Short Term Bond	U.S. Small Cap	Developed International	Emerging Market Equity	Global Bonds	U.S. Mid Cap	U.S. Small Cap			High Yield Bond
	U.S. Small Cap	U.S. Mid Cap	Commodities	U.S. Small Cap	Commodities	High Yield Bond	U.S. Small Cap	U.S. Mid Cap	REITs		U.S. Mid Cap
U.S. Large Cap Calendar Year Returns	15.8%	5.5%	-37.0%	26.5%	15.1%	2.1%	16.0%	32.4%	13.7%	1.4%	12.0%
Underperforming	U.S. Mid Cap	High Yield Bond	U.S. Mid Cap	Commodities	High Yield Bond	Short Term Bond	High Yield Bond	Developed International	U.S. Mid Cap	REITs	Commodities
	High Yield Bond	Senior Debt	Developed International	TIPS	Senior Debt	Senior Debt	Senior Debt	High Yield Bond	Intermediate Bond	Short Term Bond	Emerging Market Equity
	Senior Debt	U.S. Small Cap	REITs	Global Bonds	Developed International	U.S. Mid Cap	TIPS	REITs	U.S. Small Cap	Intermediate Bond	Senior Debt
	Global Bonds	REITs	Emerging Market Equity	Intermediate Bond	Intermediate Bond	U.S. Small Cap	Global Bonds	Senior Debt	TIPS	Senior Debt	REITs
	Intermediate Bond			Short Term Bond	TIPS	REITs	Intermediate Bond	Short Term Bond	High Yield Bond	Developed International	TIPS
	Short Term Bond				Global Bonds	Developed International	Short Term Bond	Intermediate Bond	Senior Debt	TIPS	Intermediate Bond
	Commodities				Short Term Bond	Commodities	Commodities	Global Bonds	Short Term Bond	U.S. Mid Cap	Global Bonds
	TIPS					Emerging Market Equity		Emerging Market Equity	Global Bonds	Global Bonds	Short Term Bond
								TIPS	Emerging Market Equity	U.S. Small Cap	Developed International
								Commodities	Developed International	High Yield Bond	
									Commodities	Emerging Market Equity	
										Commodities	

Source: Morningstar Direct

Asset class correlations also help illustrate the benefits of broad diversification. Combining asset classes that have low correlation to each other minimizes the highs and lows of a portfolio's return stream, compared with the return of each asset class on its own (Figure 8).

Figure 8. The Correlation Benefits of Broad Asset Class Exposure

	U.S. Large Cap Equities	U.S. Mid Cap Equities	U.S. Small Cap Equities	Developed International Equities	Emerging Market Equities	Commodities	REITs	Intermediate Bond	High Yield	Senior Debt	Global Bonds	TIPS
U.S. Large Cap Equities	1.00											
U.S. Mid Cap Equities	0.95	1.00										
U.S. Small Cap Equities	0.83	0.92	1.00									
Developed International Equities	0.67	0.67	0.60	1.00								
Emerging Market Equities	0.71	0.73	0.68	0.74	1.00							
Commodities	0.25	0.30	0.29	0.31	0.37	1.00						
REITs	0.61	0.65	0.59	0.83	0.71	0.30	1.00					
Intermediate Bond	0.20	0.20	0.13	0.18	0.15	(0.02)	0.22	1.00				
High Yield	0.62	0.65	0.64	0.51	0.59	0.26	0.53	0.29	1.00			
Senior Debt	0.45	0.49	0.45	0.36	0.39	0.22	0.38	0.19	0.76	1.00		
Global Bonds	0.23	0.23	0.16	0.33	0.23	0.12	0.35	0.87	0.28	0.16	1.00	
TIPS	0.22	0.23	0.16	0.21	0.20	0.10	0.27	0.93	0.34	0.26	0.84	1.00

Source: Voya Investment Management.

Voya's target date series are among the most diversified in the industry, a reflection of our active approach to retirement investing

To illustrate the effect of asset class exposure, we compare two target date portfolios with the same equity and bond mix. One is a hypothetical portfolio that only invests in five traditional asset classes (U.S. equities, international equities, core fixed income, global fixed income and U.S. Treasury securities) and the other is our current 2025 Portfolio, which invests in a broader set of both traditional and non-traditional asset classes. As Figure 9 illustrates, a portfolio with more diversifying asset classes can potentially enhance risk-adjusted returns over the long term.

Figure 9. Asset Class Diversification has the Potential to Enhance Risk-Adjusted Returns

Hypothetical Portfolio – 5 Asset Classes (62.5% Equity)		
	10 Yr Forecast (Arithmetic) (%)	Weight (%)
S&P 500	6.3	37.0
MSCI EAFE	4.6	25.5
Barclays U.S. Aggregate	2.7	25.0
Barclays Global Aggregate	0.8	10.2
Barclays U.S. Treasury TIPS	2.2	2.3
Potential Return	**4.3**	
Standard Deviation	**3.2**	

Expanded Portfolio (62.5% Equity)		
	10 Yr Forecast (Arithmetic) (%)	Weight (%)
S&P 500	6.3	17.0
Russell 1000 Growth	6.0	7.5
Russell 1000 Value	7.3	7.5
Russell Mid Cap	8.4	7.0
Russell 2000	9.8	3.0
MSCI EAFE	4.6	14.0
MSCI Emerging Markets	9.6	3.0
Bloomberg Commodity	3.7	1.5
MSCI U.S. REIT Net	8.2	1.0
FTSE/EPRA NAREIT Developed Net	6.9	1.0
Barclays U.S. Aggregate	2.7	18.5
Barclays U.S. Treasury 20+ Year	1.4	0.8
Barclays U.S. High Yield	4.5	3.0
S&P/LSTA Leveraged Loan	6.4	5.0
Barclays Global Aggregate	0.8	6.0
Barclays U.S. Treasury TIPS	2.2	0.0
Barclays 1-3 Yr Gov/Credit	2.4	4.3
Potential Return	**5.2**	
Standard Deviation	**3.3**	

Source: Voya Investment Management's 2017 Capital Market Assumptions:
https://investments.voya.com/Institutional/Research-Insights/Markets/Preliminary-2017-Capital-Market-Assumptions.htm
For illustrative purposes only to show the potential benefits of asset class diversification. This table does not project future returns of any particular investment product and actual results will vary. Investing involves risk and may result in loss of invested principal value. Asset allocation and diversification do not ensure a profit and they do not fully protect against losses in declining markets.

Every asset class and style used in our strategic allocation is subject to rigorous analysis prior to inclusion. Each asset class is expected to be additive to risk-adjusted return or to otherwise increase the probability of reaching the portfolios' objectives. In general, asset classes are only included within our target date portfolios when they provide a statistically significant increase in risk-adjusted return.

In Figure 10, we provide a rationale for the inclusion of non-traditional asset classes used in the majority of our target date suites.

Figure 10. Voya's Disciplined Approach to Incorporating "Non-Traditional" Asset Classes

Recommended Asset	Potential Benefits	Potential Drawbacks	Solution for Drawback
High Yield Bonds	■ Ability to exploit a credit risk premium	■ High volatility, credit risk ■ Current spreads lower than typical levels	■ Modest allocation paired with lower volatility fixed income asset classes
Floating Rate Bonds	■ Low duration risk, low correlations to other asset classes, interest rate resets allow potential outperformance in a rising rate environment	■ Left tail risk particularly during a credit event ■ Current spreads lower than typical levels	■ Allocation reviewed on an ongoing basis to assess market/ credit environment
TIPS	■ Provides protection of real purchasing power, minimal credit/default risk, downside protection of nominal value of investment	■ Duration risk ■ Deflation risk given already low level of real yields	■ Duration risk can be managed by combining with short duration instruments ■ Combined with other inflation hedges reduces impact of current negative real rates
International Bonds	■ Diversification benefits, different inflation and currency patterns	■ Sovereign credit risk	■ Modest allocation paired with $ denominated fixed income
REITs	■ Potential inflation hedge, high yielding asset class, significant income component of return	■ Left tail risk, high volatility	■ Modest allocation that is reviewed on an ongoing basis
Commodities	■ Potential inflation hedge, low correlation to other asset classes	■ Left tail risk, high volatility	■ Modest allocation that is reviewed on an ongoing basis

Source: Voya Investment Management
Note: Left tail risk refers to a greater than average likelihood of an extremely negative return.

As participants move closer to retirement, Voya's target date funds address the need to preserve wealth—not only in the glide path but also by shifting to less-volatile asset classes

Flexible Asset Allocation to Meet Changing Risks

Target date funds span an investor's entire life cycle. Accordingly, they must adapt to the evolving risks participants face as they work, save and retire. Voya's active approach to asset allocation manages sub-asset class exposures to mitigate these different risks as they rise and fall over time.

In our discussion about glide path design, we highlighted how participants are well positioned to both withstand and benefit from portfolio volatility early in their career. Accordingly, our glide path delivers greater exposure to equities to help maximize returns in the accumulation phase of investing. With our flexible asset allocation, we are also able to deliver broader exposure across equity asset classes as our target date funds provide access to U.S. small cap and emerging markets. Despite the possibility for short-term volatility, these investments also offer the potential for attractive returns, given a sufficiently long investment horizon (Figure 11).

Figure 11. Maximizing Returns in the Accumulation Phase: Broader Exposure to Equity Asset Classes Delivers Potential Outperformance

10 Year Risk & Return Forecasts

S&P 500		U.S. Small Cap		Emerging Market	
Return	Risk	Return	Risk	Return	Risk
5.0%	16.7%	7.2%	23.4%	5.8%	27.7%

Source: Voya Investment Management's 2017 Capital Market Forecasts:
https://investments.voya.com/Institutional/Research-Insights/Markets/Preliminary-2017-Capital-Market-Assumptions.htm

As participants move closer to retirement, Voya's target date funds address the need to preserve wealth—not only in the glide path but also by shifting to less-volatile asset classes such as U.S. large cap equities, and simultaneously emphasizing income-producing assets such as high yield bonds and other forms of corporate credit. Our near-dated portfolios also use asset classes that have a positive sensitivity to inflation to ease purchasing power erosion for participants close to retirement (Figure 12).

Figure 12. Asset Allocation Designed to Help Preserve Wealth as Participants Approach Retirement

	2060	2055	2050	2045	2040	2035	2030	2025	2020	Income
% of Equity in Lower Beta	51	51	50	50	50	52	54	51	57	68
% of Equity in Higher Beta	10	10	11	11	11	11	10	10	4	–
% of Portfolio in positive inflation-sensitive asset classes	5	5	6	6	7	10	10	9	16	18

Source: Voya Target Solution Trusts as of 12/31/16

Given the long-term nature of retirement portfolios, we do not believe a static approach is appropriate. Voya's dedicated asset allocation team and portfolio managers take risk-aware, tactical asset allocation positions throughout the year to reflect short- to intermediate-term market views. These tactical shifts allow participants to benefit from active risk management and potentially higher returns. However, our tactical shifts do not offset our longer-term strategic views as they are limited to 100 basis points of tracking error relative to our strategic asset allocations.

Note: Beta is a measure of a stock's risk compared to the market. A stock with higher beta is riskier than the market; a stock with lower beta is less risky than the market.

Screening and Selecting Underlying Investment Managers

When it comes to underlying managers, plan fiduciaries should evaluate target date funds based on three key considerations:

1. To what extent are the underlying managers diversified across investment philosophies and firms?
2. What is the due diligence process for selecting and monitoring managers?
3. Is there a dedicated team responsible for underlying manager research?

Voya's Open Architecture Approach

Few plan sponsors would ever consider constructing their core investment menu using just one investment manager. Plan sponsors recognize that an investment menu that offers a diversified roster of investment managers, including both active and passive styles, can help better serve their participants and meet their fiduciary responsibility. Voya's target date funds are constructed with that in mind. Unlike target date funds that are limited to using only proprietary products, Voya's target date funds select from a universe of managers from across the industry utilizing both active and passive strategies. We believe this approach offers the following advantages:

Access to Top Managers

- Flexibility to add and replace managers over time, since many factors—style headwinds, firmwide issues, manager turnover, etc.—can impact a manager's ability to outperform over long periods and different market conditions.

Diversification Across Managers Reduces Single Manager Risk

- The benefits of diversification extend well beyond asset classes, geographies or styles and should also include diversification across the investment managers.

No Capacity Constraints

- Ability to add additional managers when the size of an underlying fund reaches the point where executing transactions begins to influence the prices at which it can buy or sell. Closed architecture strategies are particularly vulnerable to such capacity issues, as they may have no other investment options when an underlying strategy grows too large.

Easy Addition of New Asset Classes

- Closed architecture target date strategies are unlikely to have strategies available in all asset classes, especially in more specialized areas. An open architecture approach allows us to invest in any asset class or style that we believe will enhance our risk-adjusted returns.

Unlike target date funds that are limited to using only proprietary products, Voya's target date funds select from a universe of managers from across the industry utilizing both active and passive strategies

While open architecture has many benefits to investors, implementation requires a rigorous selection process and close coordination between asset allocation and manager selection teams

Required Framework for Successful Implementation of Open Architecture

While implementation of open architecture has many benefits to investors, it can be a challenge to implement successfully. Finding managers that deliver consistent alpha requires in-depth analysis, establishment of clear objectives, a repeatable selection process and the means to perform ongoing monitoring of selected managers and their portfolios. Additionally, thoughtful portfolio construction must be performed across multiple managers and strategies and then integrated into the asset allocation framework. Close coordination between asset allocation and manager selection is also critical.

Dedicated Manager Research and Selection Team

In order to successfully deliver on an open architecture solution, our target date team employs a dedicated manager research and selection team (MR&S) that is responsible for due diligence, selection and ongoing monitoring of the underlying managers within our target date portfolios. This team has over 10 years of experience working within an open architecture target date framework, and consists of career research analysts who average more than 20 years of industry experience. Voya's manager research and selection team members are assigned specific asset class responsibilities and are supported by three quantitative analysts. The team also provides oversight to Voya's entire mutual fund platform, which totals over $86 billion assets as of December 31, 2016. Overseeing a pool of nearly $100 billion in assets provides access to the industry's most respected investment managers as well as leverage when negotiating fees.

Independence is granted to these teams to drive unbiased decision-making, which helps to ensure an optimal combination of diverse managers and styles are used to achieve consistent results over time. To ensure independence in selecting between proprietary and non-proprietary funds, our analysts' compensation is directly impacted by the performance of the underlying managers they recommend.

Proprietary Scoring Methodology to Help Ensure Consistency Over Time

Recognizing that our analysts will likely exhibit different inherent biases in how they evaluate the managers they follow, we utilize a comprehensive proprietary scoring methodology to evaluate underlying managers and ensure consistency. Analysts assign a numeric score to 57 factors assessed as part of our due diligence. The factors include both quantitative and qualitative metrics. We believe this disciplined approach helps ensure consistency in analysis over time and across analysts. Each firm and strategy conviction score that an analyst submits will be reviewed and discussed with their peers and the head of the MR&S. The factors include rolling period analysis of risk and return characteristics relative to benchmark and peer, as well as holdings-based multi-factor performance and risk analysis. In addition, our analysts conduct quarterly review meetings with their managers and perform on-site due diligence visits annually, to confirm conviction in the manager. Below is a summary of broad key factor categories in our scoring methodology. These roll up to two main scores, an investment strategy score and a firm score. The scores are then used to evaluate managers over time as well as relative to each other (Figure 13).

Figure 13. Voya's Rigorous Evaluation of Underlying Investment Managers

Investment Strategy Score (43 Factors)		Firm Score (14 Factors)
Qualitative	Quantitative	Business management (5)
Philosophy (2)	Performance consistency (9)	Organizational culture (6)
Process (10)	Style consistency (2)	People (3)
Strategy personnel (7)	Source of excess return (3)	
Risk management (10)	Volatility	

Flexibility to Replace Underlying Managers is Critical

While the underlying strategies are intended to be long-term investments, we will replace a manager if we lose confidence in the firm or investment strategy, or if a higher conviction manager may be available. Portfolio construction reasons, such as changes in asset allocation or changes in our outlook on the performance of active versus passive management, can also cause us to replace underlying managers. When we lose conviction in a strategy or investment firm, we will place that manager on our watch list. The watch list process is formal and well documented so that discipline and consistency is maintained across analysts. Placing a manager on the watch list indicates heightened oversight and monitoring, but does not automatically result in the removal of the manager.

When a strategy is placed on the watch list, the analyst conducts further due diligence on the manager. The manager is given nine months to demonstrate that significant progress has been made on remedying the watch list items or a replacement search will be recommended. In certain situations, a one-time three-month extension may be granted if the portfolio managers believe additional time is necessary. To ensure a timely replacement of an existing manager, our analysts maintain an active bench of candidates across all asset classes. As with other aspects of our target date design, we do not believe a static approach is appropriate. Therefore, having the flexibility to add or replace managers is an important part of our risk management and portfolio construction process.

Having the flexibility to add or replace managers is an important part of our risk management and portfolio construction process

Portfolio Construction—Putting It All Together

Effective portfolio construction is more nuanced than simply including the best performing strategies in a target date manager's available universe. To arrive at the optimal manager allocation for each asset class as well as the overall portfolio, it is critical for the manager to take into account all aspects of target date design, including the glide path, asset allocation and underlying managers, as well as evaluate overall risk relative to portfolio objectives and constraints.

Separating Manager Selection from Portfolio Construction

Given the complex nature of target date portfolio construction, we believe that satisfying the constraints of the glide path, strategic asset allocation and manager (or index) choices simultaneously requires skill, experience and a unique toolkit. As a result, we have a separate and distinct portfolio construction team who has oversight over the portfolios and is responsible for the final manager allocations within the target date portfolios. This team utilizes a state of the art portfolio construction process employing proprietary tools to optimize manager allocations. Our quantitative tools integrate views from the asset allocation team, investment manager inputs and fund-specific considerations from the MR&S team to build portfolios tailored for specific objectives and constraints. Key considerations include:

- Manager and index alpha expectations
- Asset class return expectations
- Active vs. Passive
- Upside/downside capture
- Factor risks
- Fee budgets
- Risk constraints
- Manager concentration
- Fundamental insights
- Scenario analysis

The Great Debate: Active or Passive? Research shows that the answer depends largely on the asset class, market environment and a participant's proximity to retirement

The Advantage of Blending Active and Passive Styles

One of the critical decisions for our portfolio construction team is the active/passive approach within each asset class as well as within each vintage. At Voya, we believe there is an advantage to utilizing a mix of both active and passive managers within our target date suites. The decision to gain active or passive exposure depends on the asset class, market environment and a participant's proximity to retirement.

When determining the active and passive mix for our target date fund for each asset class, we analyze:

- **Alpha opportunity set within each asset class –** Historically, how has active management performed relative to the passive alternative after fees? Do certain market environments favor active vs. passive in a particular asset class?
- **Up/down capture management across the glide path –** Do active or passive managers tend to provide better upside or downside capture ratios and, if so, how can we take advantage of that within different target date vintages?
- **Liquidity management –** Does the active or passive vehicle offer enough liquidity?
- **Fee constraints –** What are the overall fee constraints of the target date suite?
- **Availability and effectiveness of passive replication strategies –** How effective is the passive vehicle at replicating the benchmark returns (high or low tracking error?) and at what cost?
- **Credit exposure management –** How effective are the fixed income managers at adjusting their credit exposure throughout the business cycle?

The Active vs. Passive Debate: What Does the Research Show?

To assess the benefits of active versus passive approaches, we conducted an in-depth study for a wide range of asset classes based on academic and industry research as well as 20 years of historical data.

One of the key findings of our research is that certain equity and alternative asset classes offer more alpha potential. As a result, we typically will allocate a higher portion to passive managers in asset classes where alpha potential has historically been low—such as U.S large and mid-cap equities. Alternatively, we tend to favor active managers in small cap equities, international developed equities, emerging markets, real estate and commodities as they have historically provided more alpha opportunities for active managers, even when taking fees into account.

Equity Exposure: When To Go Active vs. Passive Depends on the Market Environment

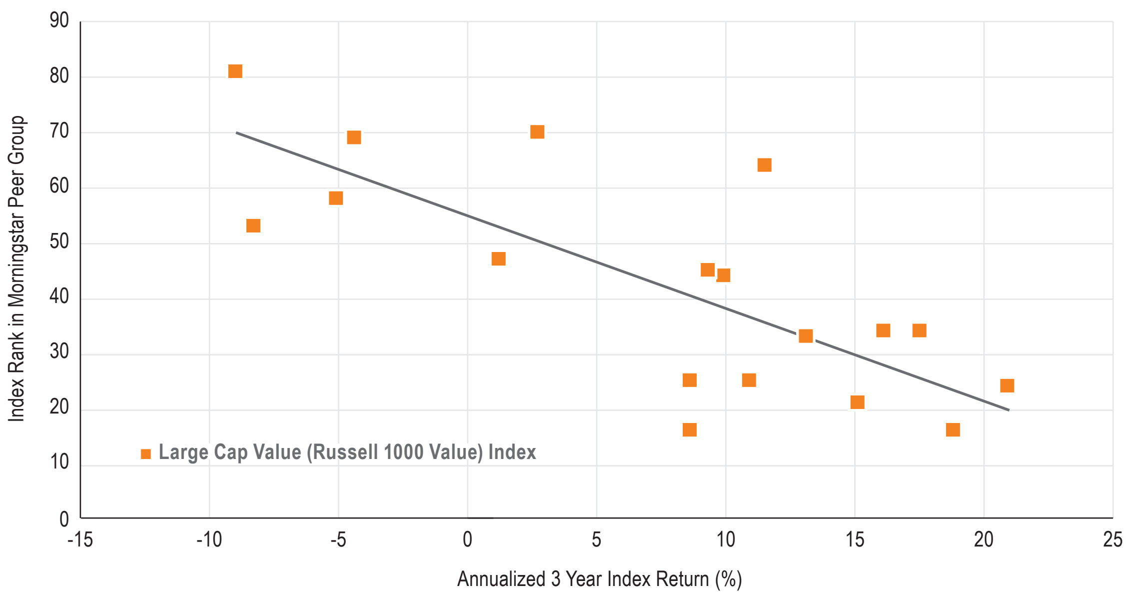
Our research also found that Dunn's Law can provide insights into the market environments that are favorable for active vs. passive management. According to "Dunn's Law," when an asset class does well, an index fund in that asset class does even better and vice versa. In other words, passive is more likely to outperform active managers when the index return is high and underperform when the index return is negative or more modest (Figure 14). We have found that this is statistically significant in certain asset classes such as large cap value, but not significant for other asset classes like emerging market equities. These results, in part, impact our approach to portfolio construction. The reasons why Dunn's Law exists for certain asset classes might be due to the following two reasons:

- Dunn's Law exists in part because many active managers, particularly in the large cap space, tend to invest outside their index constituents, either by moving lower or higher in market capitalization or adding international exposure in their portfolios. As a result, we favor active equity managers who are bottom-up stock pickers and who utilize strong risk controls to minimize top-down macroeconomic bets.
- Bottom-up active managers have a general bias towards high quality companies that boast strong balance sheets and consistent or growing earnings. This inherent quality bias becomes a headwind to index-relative performance during strong equity markets, where lower quality, higher beta stocks (typically underrepresented in active portfolios funds) generally tend to outperform their higher-quality counterparts. However, passive funds will typically underperform (more) active funds during periods of low or negative returns when higher quality, lower beta stocks perform better. We have found that actively managed funds feature better downside capture due to their higher quality, lower beta portfolios. Given this relationship, we tend to favor passive (for certain asset classes) in the far-dated Target Date Portfolios and active managers with attractive downside capture ratios in the near-dated portfolios. Younger participants can handle the risk that high upside capture managers tend to have, while those near retirement are better served by the risk reducing effects of good downside protection.

Passive equity strategies tend to outperform when markets rally but underperform when markets sell off

Figure 14. Research Supports a Blend of Passive and Active Equity Exposure

Dunn's Law: Three Year Rolling Index Return vs. Index Rank (1999-2016)



Source: Morningstar Direct as of 12/31/2016

In the accumulation phase, the majority of our core fixed income exposure is gained through active strategies, which have proven to generate alpha over longer time periods

Fixed Income Managers Tend to Overweight Credit

For core fixed income strategies, there is less of a debate when it comes to active versus passive. Over long periods of time, active fixed income managers have demonstrated an ability to outperform the index. However, active core fixed income managers tend to overweight credit relative the index in the search for alpha opportunities. Currently, the average manager with Morningstar Intermediate-Term Bond Peer Group has a 15% underweight to government securities and a close to 17% overweight to corporate and securitized credit (Figure 15). As a result of this credit bias, many active core fixed income managers tend to outperform the index during an economic expansion but tend to underperform during an economic contraction, particularly in its initial stages, as they are likely to hold onto credit for too long. This observation has impacted our portfolios in two ways:

- We tend to favor active fixed income managers who have demonstrated the ability to successfully generate alpha during different stages of the business cycle.
- We tend to blend active and passive fixed income near and in retirement to better manage the portfolio's credit exposure for those participants with shorter time horizons. For portfolios farther away from retirement, we favor active fixed income managers that offer greater alpha opportunities over the long term.

Figure 15. Active Fixed Income Managers Tend to Overweight Credit

Name	Morningstar Intermediate-Term Bond Peer Group (%)	Passive Index Fund (%)	Difference
Government	25.8	41.6	-15.8
Municipal	0.6	0.7	-0.1
Corporate	33.0	24.6	8.5
Securitized	37.5	29.4	8.1
Cash and Equivalents	2.7	2.0	0.7
Derivatives/Other	0.3	1.7	-1.4

Source: Morningstar Direct, run as of February 2017. Passive Index Fund is represented by the Voya U.S. Bond Index Fund.

While the above analysis on active and passive is used to inform our manager allocation decisions, our portfolio construction process also directly takes into account our alpha expectations for the specific underlying active managers our manager research and selection team recommends. Therefore, we may use an active manager in a highly efficient asset class or in a historically challenging market environment for active managers, if our team has high conviction in that manager's ability to consistently outperform peers and the benchmark over time. Finally, active/passive is only one input into our portfolio construction process. The other critical components mentioned above (i.e., fee budget, risk constraints, manager concentration, fundamental insights, etc.) are all taken into account and will affect the overall manager allocations.

Conclusion

Evaluating target date funds is a multi-faceted process that involves a deeper dive into the four key aspects of target date design—glide path, asset allocation, underlying managers, and portfolio construction—to select one that is best aligned with a plan's objectives, philosophy and participants. This also allows the plan fiduciary to evaluate fees relative to the value that the target date manager provides.

With over 30 years of experience in investing on the behalf of defined contribution participants, Voya's disciplined approach to each of these four components is directly focused on helping its investors prepare for a successful retirement.

We believe this holistic approach delivers the following benefits to plan sponsors and ultimately participants:

- **Glide path** design that seeks to maximize risk-adjusted returns throughout the accumulation phase and preserve accumulated assets in the preservation and withdrawal phases of the investor's life cycle
- **Asset allocation** that is diversified across a broad range of risk premiums in order to enhance risk-adjusted returns over the long term and augment our ability to manage varying risks based on the investor's proximity to retirement
- **Underlying manager** construct that reflects retirement plan best practices by granting exposure to respected investment managers across the industry, providing an additional layer of diversification that may be beneficial to investors
- **Portfolio construction** that thoughtfully builds a target date suite balancing all aspects of target date design with the changing risks that an investor faces throughout an entire lifecycle

Investment Risks

There are no guarantees a diversified portfolio will outperform a non-diversified portfolio.

All investing involves risks of fluctuating prices and the uncertainties of rates of return and yield inherent in investing. **Investors should consult the funds' Prospectuses and Statements of Additional Information for a more detailed discussion of the funds' risks.**

A target date is the approximate date when investors plan to start withdrawing their money; **principal value fluctuates and there is no guarantee of value at any time, including the target date.**

All investing involves risks of fluctuating prices and the uncertainties of rates of return and yield inherent in investing. Price volatility, liquidity and other risks accompany an investment in equity securities of foreign, smaller capitalized companies. International investing does pose special risks including currency fluctuation, economic and political risks not found in investments that are solely domestic. Risks of foreign investing are generally intensified for investments in emerging markets.

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