

Vanguard Target Retirement Funds and Trusts

Quarterly Review | March 31, 2026

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Quarterly perspective

A conversation with Vanguard's head of Private Market Portfolio Research

Momentum is building around incorporating private assets into defined contribution (DC) plans as policymakers, plan sponsors, and consultants reconsider how retirement portfolios are constructed. Recent policy developments and regulatory guidance have renewed discussion about the role private assets could play alongside a continued focus on prudent implementation and fiduciary oversight.

In this edition of the *Quarterly Spotlight*, we examine some of the potential benefits, risks, and considerations of adding private assets to target-date funds (TDFs). I spoke with Ankul Daga, head of Private Market Portfolio Research in Vanguard's Investment Strategy Group, to get his perspective on the investment case.

BM We are seeing renewed interest in private assets across the DC landscape. What's changed in the conversation, and why is this topic resurfacing now?

AD Several trends are converging. Policy and regulatory discussions have picked up around evaluating private assets in DC plans, while the DC system has matured, with assets increasingly concentrated in professionally managed TDFs. Together, these developments make it more practical to revisit private assets, especially in structures where added complexity can be centrally managed.

BM This quarter's *Spotlight* article highlights that while the investment case may be straightforward, implementation is not. Why is that distinction so important?

AD Private assets can provide diversification and potential return benefits, but they also come with higher dispersion, less transparency, and greater operational complexity. There is no passive option, so outcomes depend heavily on manager selection, governance, and execution. In many cases, *how* private assets are implemented matters just as much as whether they're included at all.

BM Why are TDFs at the center of this discussion?

AD Given their role as a qualified default investment alternative, TDFs sit at the center of the DC landscape. This structure centralizes asset allocation, liquidity management, and governance, which are critical for private assets that require disciplined valuation, liquidity planning, and ongoing oversight. Embedding private assets within a diversified, age-based framework also helps to align their long-term nature with participant behavior rather than placing an added burden on individual investors.



Brian M. Miller,
CFA, CFP®

Head of Multi-Asset
Product Management



Ankul Daga
Head of Private Market
Portfolio Research



BM What are some of the key considerations that DC fiduciaries should focus on?

AD Historically, we think in threes, but with private assets, a fourth consideration becomes decisive. The first three are manager selection, operational readiness, and participant education. Private markets show wide performance dispersion, so strong manager access and rigorous due diligence are critical. Operations must support reliable valuation, unit pricing, liquidity management, and daily plan administration. From a participant standpoint, allocations should be appropriately sized and supported by clear, consistent education.

The fourth consideration is what I would call disaster management. Fiduciaries need to assess how the plan would respond if a private vehicle is gated, if the plan needs to transition from one provider to another, if a manager materially underperforms, or if litigation arises from any of the above. Plans that have clearly defined playbooks for these scenarios are in a much stronger position to consider private assets to add value. Those that do not should proceed more cautiously.

BM For committees evaluating these solutions today, what is the bottom line?

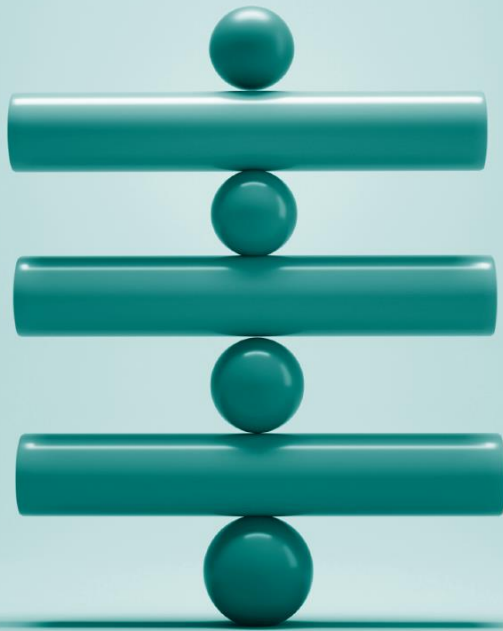
AD Private assets are not a free lunch, but they are worth exploring. The key question is not just whether to include them but whether plan design, governance, and provider capabilities can support responsible implementation within a target-date framework. That perspective should guide fiduciaries as this area continues to evolve.

Performance of key Vanguard index funds

Fund name (inception date)	2Q 2025	3Q 2025	4Q 2025	1Q 2026	1-year
Vanguard Total Stock Market Index Fund (07/07/1997)	10.99%	8.24%	2.44%	-3.96%	18.19%
Vanguard Total International Stock Index Fund (11/29/2010)	12.11%	6.96%	4.51%	1.75%	27.52%
Vanguard Total Bond Market Index Fund (09/18/1995)	1.30%	1.93%	0.99%	0.06%	4.34%
Vanguard Total International Bond Index Fund (05/31/2013)	2.02%	0.62%	0.51%	-0.42%	2.75%
Vanguard Short-Term Inflation-Protected Securities Index Fund (10/17/2012)	0.98%	1.54%	0.39%	0.97%	3.92%

Source of performance figures: Vanguard, Institutional share class, as of March 31, 2026.

The performance data shown represent past performance, which is not a guarantee of future results. Investment returns and principal value will fluctuate, so investors' shares, when sold, may be worth more or less than their original cost. Current performance may be lower or higher than the performance data cited. For performance data current to the most recent month-end, visit our website at vanguard.com. Standard performance of the funds can be located on page 33 of the Quarterly Review.



Private assets in
target-date funds:

A balanced assessment

Access to private equity, private credit, private infrastructure, and private real estate assets can potentially improve long-term investment outcomes for participants. This article outlines a fiduciary evaluation framework for defined contribution (DC) plans and target-date fund (TDF) providers, focusing on six key considerations: performance, fees, liquidity, valuation, meaningful benchmarks, and complexity.¹ Together, these considerations frame the governance and implementation approach needed to assess the appropriate role of private assets in target-date design.

Our research affirms that the investment case is straightforward. Integrating private assets may (1) enhance returns through a liquidity premium, (2) benefit from an active management skill set, and (3) improve diversification through new sources of return. Private markets have also expanded significantly, growing from less than \$1 trillion in 2006 to more than \$10 trillion today.² Currently, 85% of U.S. companies with more than \$100 million in revenue are private.³ We believe this makes private assets a worthwhile opportunity to explore and evaluate.

Implementation, however, is more complex. There is no widely available, low-cost private market index

fund. In practice, the active management required for adding private assets can potentially include higher fees, less transparency, and a wider range of outcomes. Currently, very few participants can access private assets through self-directed DC plans, though policymakers and industry stakeholders are exploring ways to extend access to everyday investors. Against this backdrop, investment managers are devoting considerable time and resources to addressing these challenges with the view that, through thoughtful design, prudent oversight, and clear guardrails, private assets can be integrated into TDFs in a way that manages risks responsibly while expanding the opportunity set for retirement savers.



For DC plans, most investment activity is concentrated in qualified default investment alternatives. Over the past decade, the percentage of participant contributions directed into TDFs rose from 46% in 2015 to 64% in 2025.⁴ Incorporating private assets into TDFs—where allocation and oversight are professionally managed—has the potential to expand adoption among DC plan participants. **Figure 1** illustrates the growing share of private investments within global equity markets, underscoring the increasing role of private assets in the broader investment landscape.

Potential benefits of and practical considerations for private assets in TDFs

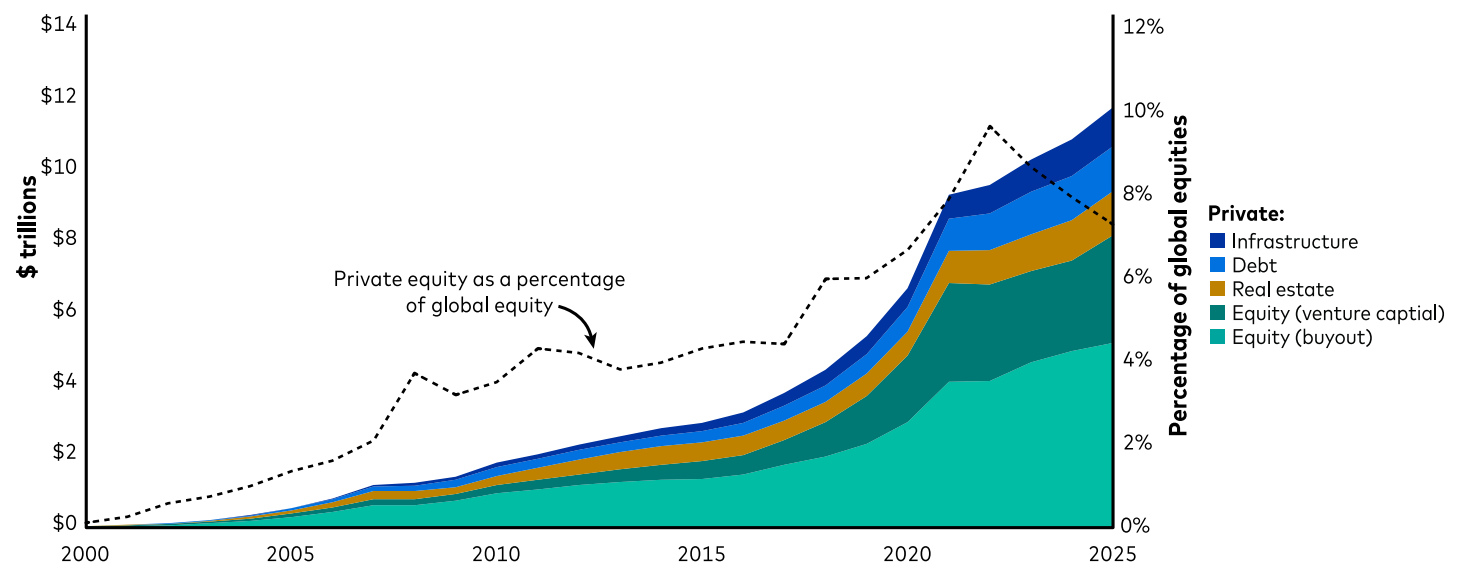
When considering whether to incorporate private assets within TDFs, DC fiduciaries and investment managers should weigh the potential for improved long-term outcomes against the practical requirements needed to achieve those benefits. The Department of Labor’s (DOL) proposed rule on fiduciary duties in selecting designated investment alternatives introduces a safe harbor for selecting DC plan investment options, including those with exposure to alternatives, while reinforcing ERISA’s

process-based standard. For any TDF investment, committees—in partnership with their consultant if one is aligned—should establish and document an objective and thorough evaluation process to satisfy ERISA’s duty of prudence. While the DOL rule is still only a proposal, the six key factors that fiduciaries are expected to consider when selecting investment options (performance, fees, liquidity, valuation, meaningful benchmarks, and complexity) provide a reasonable framework for analyzing potential plan investment options, as outlined below.

Performance

Assess return potential. Determining an appropriate allocation to private investments within a TDF requires developing an accurate view of risk. Because private asset returns are typically appraisal based and subject to reporting lags, performance can appear smoother and less volatile than that of comparable public market investments. When adjusted using statistical unsmoothing techniques, however, these returns often exhibit higher volatility, providing a more realistic picture of the underlying risk profile.

Figure 1. Growth of private investments over the past 25 years



Source: Vanguard calculations, based on data from Preqin and FactSet.

Note: The sizes of the private asset categories are based on reported year-end unrealized values from funds and co-investments. Fund-of-funds data is excluded to avoid double counting. The size of the public equity market is proxied by the total market capitalization of the MSCI ACWI IMI Index.



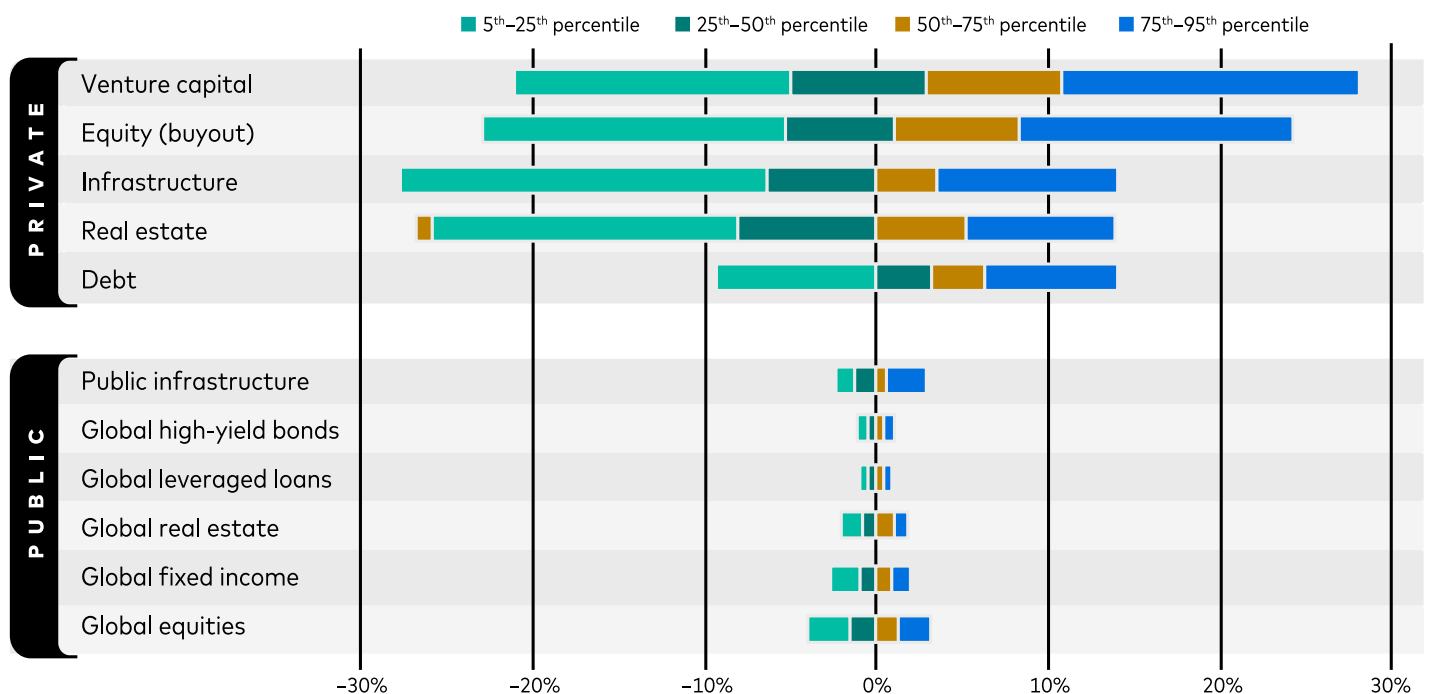
Our research suggests that incorporating a modest 10%–20% allocation to private assets within a target-date fund has the potential to meaningfully enhance long-term retirement outcomes. Over a 40-year investment horizon, such an allocation could increase cumulative retirement wealth by approximately 7%–22% on a net-of-fees basis, reflecting the benefits of an expanded opportunity set, access to less efficient markets, and the potential to earn liquidity and complexity premia.

Select managers carefully. Private assets introduce greater dispersion of outcomes than public markets, making manager selection a critical driver of success within a TDF. As **Figure 2** illustrates, this dispersion reflects both differences in manager skill and the operational realities of private investing, including valuation practices, unit pricing, and liquidity management. While these complexities raise the bar for implementation, they also create the potential for

meaningful alpha when managed well. Institutions that can leverage scale and resources—by partnering with an experienced external TDF provider with repeatable processes for sourcing, due diligence, capacity access, fee negotiation, and ongoing monitoring—are better positioned to harness these benefits. Although higher fees increase the net-of-fee performance hurdle, disciplined access to well-above-median managers, supported by rigorous selection, sizing, and ongoing oversight, ultimately determines whether dispersion becomes a headwind or a sustained source of value within a TDF.

Improve diversification through broader market exposure. Beyond return potential, private assets can enhance diversification within TDFs by expanding exposure beyond traditional public equity and fixed income markets. Private markets represent a significant and growing share of global economic activity and include companies, assets, and return

Figure 2. Dispersion of private investment alpha across various strategies



Source: Vanguard calculations using MSCI data for private funds and Morningstar data for public funds. Direct alpha for private equity (buyout) funds is computed against the S&P 500 Index; for venture capital funds against the Russell Microcap Index; for private infrastructure against the MSCI World Core Infrastructure Index; for private real estate against the MSCI World Real Estate Investment Trusts (REITs) Index; and for private debt against the MSCI USD High Yield Corporate Bond Index in U.S. dollars across all available vintages. Direct alpha is an annualized measure of excess return that compares the performance of a private investment with the hypothetical return of a public market index, assuming an identical cash-flow pattern. Performance for public infrastructure, global high-yield bond, global leveraged loans, global real estate, global fixed income, and U.S. equities are computed against the Morningstar U.S. fund categories: infrastructure, high-yield bonds, bank loans, global real estate, global bonds, and global large-stock blend equities, respectively, over the last 10 years ended December 2024.



drivers beyond public markets. When thoughtfully incorporated, private assets can add differentiated sources of return that may respond differently across economic environments, helping to smooth outcomes over long investment horizons. For long-term investors such as TDF participants, this broader opportunity can diversify risk, reduce reliance on public market drivers, and support more resilient portfolios when combined with patient capital and professional management.

📎 Fees

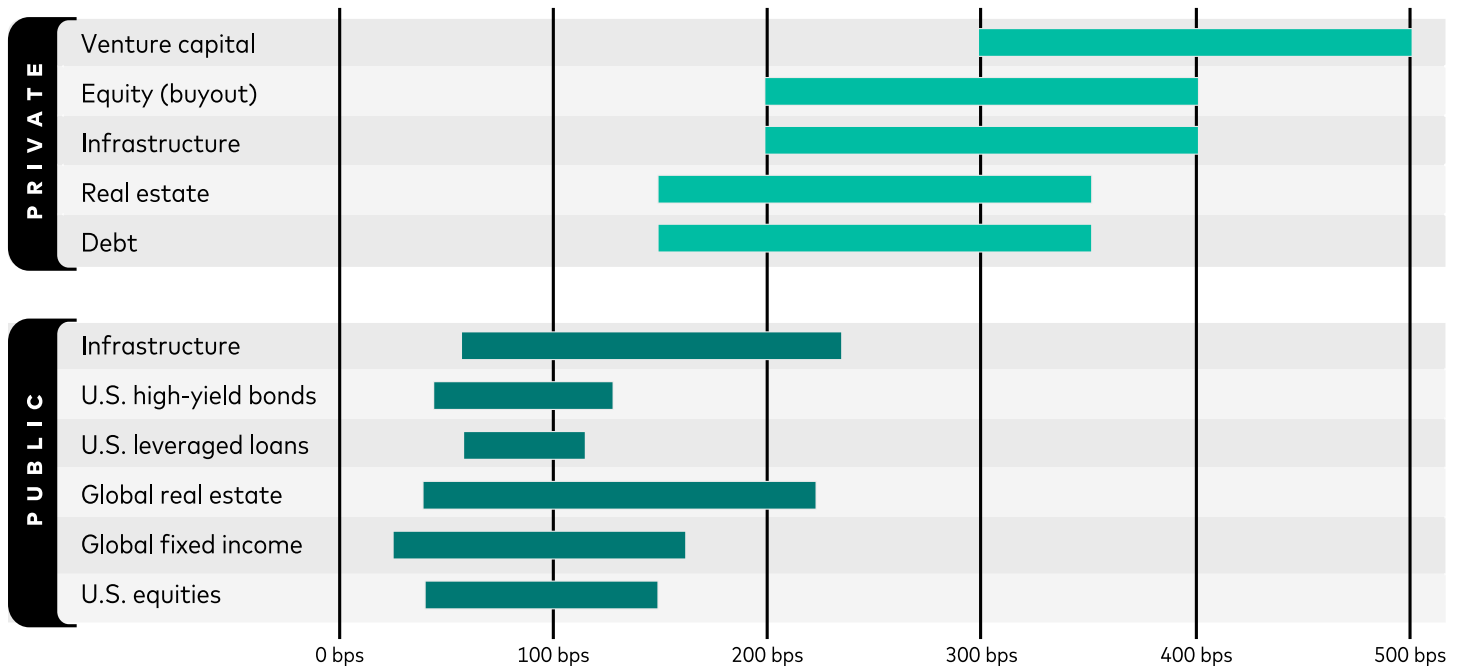
Assess fees relative to total value delivered. Private assets generally have higher stated fees than public market investments, raising the net-of-fee outperformance hurdle. In a TDF structure, however, a fiduciary can negotiate access and implement strategies at scale, which may lead to lower effective fees and institutional pricing. Committees should evaluate whether the structure provides a clear net-of-fee benefit and whether fees are aligned with the expected value delivered.

As shown in **Figure 3**, these exposures are typically associated with higher fees and a wider dispersion of outcomes, raising the bar for successful implementation and underscoring the importance of careful, well-informed decision-making.

🌊 Liquidity

Balance liquidity constraints with expected benefits. One benefit of investing in private assets is the potential for outperformance driven by the illiquidity premium of the asset class. While pooling across thousands of participants can reduce day-to-day liquidity pressure, committees should still review how the fund would operate during periods of sustained market stress. This includes evaluating the available liquidity, such as cash buffers, credit lines, rebalancing bands, and any redemption limits. Such liquidity buffers could be held either at the evergreen private vehicle⁵ level or at the TDF level. While maintaining a modest liquidity buffer within an evergreen vehicle may affect overall performance, it can also support more efficient portfolio management by facilitating rebalancing within the allocation to private markets.

Figure 3. Typical all-in fee ranges for private assets versus public assets



Source: Vanguard.

Note: Ranges show typical all-in fees (management and performance, where applicable) in basis points (bps). Fees vary by strategy, vehicle, and negotiated terms. The fees for private assets are rounded off to the nearest 50 bps. Ranges for public assets are based on 5th and 95th percentiles of the Morningstar category over the last five years.



Mechanisms such as gating or redemption limits are designed to manage short-term mismatches between contributions and withdrawals while protecting the interests of long-term investors. These features are a standard element of private investment structures, not an unexpected restriction. Importantly, during periods of market stress, such mechanisms have at times benefited investors by limiting the ability to redeem at depressed valuations, effectively reducing the risk of selling at inopportune moments and helping preserve long-term value for remaining participants.

Clear communication helps ensure that both participants and fiduciaries understand that the potential return premium associated with private assets is partly linked to accepting these liquidity management practices. When appropriately designed and governed, gating and liquidity controls can serve not only as a risk management tool but also as a behavioral safeguard that supports long-term investment objectives.

Valuation

Understand pricing limitations and valuation controls.

Infrequent pricing can dampen observed volatility, but it introduces stale-price risk and basis risk relative to public benchmarks. Committees should seek to understand whether valuation oversight is in place and whether clear escalation procedures exist.

Meaningful benchmarks

Establish benchmarking expectations for effective oversight.

Benchmarking and reporting expectations should be established up front. Committees should agree on an appropriate benchmark for evaluating the TDF, ensuring that it aligns with the fund's objectives and glide path. At the same time, committees should also understand the private asset benchmark selected by the investment manager and be comfortable with how it is used as a measurement tool for that sleeve, including net-of-fee performance and cash-flow-aware metrics, such as internal rate of return or time-weighted returns. Because private asset benchmarks and peer comparisons can be difficult to interpret, they should be used to guide oversight rather than as standalone performance hurdles—and always with appropriate context.

Complexity

Mitigate complexity through strong participant education.

Fiduciaries should communicate clearly and transparently with participants, ensuring that both the potential benefits and the risks of private assets are well understood. While these investments may enhance long-term outcomes, they can also underperform, carry higher fees, and offer less liquidity, all of which can affect overall TDF performance. Ongoing, straightforward education can help participants set appropriate expectations and better understand how these investments behave across different market environments.

Taken together, these considerations highlight the importance of a thoughtful, well-documented approach to evaluating private assets within TDFs, setting the stage for a clear assessment of their overall role and value.

The bottom line

Overall, the potential benefits of private assets in TDFs make them a worthwhile area for committees to explore and evaluate, particularly as part of the ongoing evolution of target-date design. When thoughtfully implemented, a private asset sleeve can enhance long-term participant outcomes, but success depends on more than simple inclusion. It requires a rigorous investment process, strong governance, disciplined implementation, and clear alignment with participant needs and behaviors. For many committees, this means carefully evaluating available solutions, establishing a governance framework that can remain resilient across market environments, and selecting a provider with a well-established, repeatable, and transparent implementation approach.

¹ *Private Assets in Defined Contribution Plans: Benefits, Risks, and Implications*. Vanguard, 2025.

² An estimate using MSCI for private equity and total global market capitalization for public equity suggests that private equity accounted for approximately 6% of total global equity as of December 31, 2024.

³ S&P Capital IQ, as of April 2024.

⁴ *How America Saves 2025*. Vanguard.

⁵ See Glossary section for definition.



Glossary

Evergreen fund: Usually refers to an open-ended, perpetual investment vehicle with no fixed termination date, designed to continuously raise, deploy, and reinvest capital. Unlike closed-end private funds, it generally permits periodic subscriptions and redemptions, subject to liquidity constraints. In private assets, evergreen structures enable sustained, multivintage exposure while supporting disciplined cash-flow and liquidity management.

Private equity (buyout): Typically refers to acquiring controlling stakes in companies and working to improve and grow earnings over several years. In a retirement portfolio, buyout exposure can serve as a long-term growth allocation that may enhance return potential, but it usually requires a long horizon because outcomes can vary and capital may be tied up for extended periods.

Private credit: Generally involves lending to companies outside the public bond market in exchange for contractual interest payments and repayment of principal. Private credit can play an income-oriented role in the portfolio, potentially offering a steadier return stream over equity-like private assets while still carrying meaningful credit risk that tends to emerge during economic downturns.

Private infrastructure: Usually refers to investing in long-lived, essential assets, such as utilities, transportation networks, and communications systems, where revenues are often supported by contracts or regulated pricing. In a retirement portfolio, private infrastructure can offer a long-term inflation hedge and help balance exposure to traditional stocks and bonds.

Private real estate: Typically involves owning or financing properties, with returns driven by rental income and changes in property values over time. Private real estate can provide income and real-asset exposure that may be beneficial in certain inflationary environments, but it is also sensitive to interest rates and local market conditions, underscoring the importance of diversification across property types and regions.

Because the four private asset categories differ in cash-flow patterns, valuation behavior, and liquidity, return expectations are adjusted for reduced flexibility before being incorporated into portfolio design.



About the SAAC

The Vanguard Strategic Asset Allocation Committee (SAAC) is a multiasset oversight committee composed of global investment leaders from across the firm.

The members of the SAAC are responsible for the investment methodology behind our single-fund solutions, including Vanguard LifeStrategy® Funds, Target Retirement Funds, 529 plans, and model portfolios.

The SAAC meets regularly to review its investment methodology, debate investment strategies, and coordinate any changes with the Vanguard Advice Policy Committee, thereby ensuring a consistent approach in our single-fund solutions and advice offers.

Additional perspectives from the SAAC

A primary responsibility of the SAAC is to oversee the policy allocation of Vanguard's suite of multiasset portfolios, including a formal annual review. The SAAC has also been tasked with establishing the investment methodology and portfolio construction approaches that are most appropriate for various objectives. Since its founding in 2013, the SAAC has held research meetings to discuss investment topics, seeking the best outcomes for our clients through constant debate. These meetings, often showcasing the latest research by Vanguard Investment Strategy Group, have centered on a wide range of subjects. A summary of past topics is provided below.

2014

- Equity home bias by country.
- Glide-path construction methodology.
- Inflation protection.

2015

- Approaches to retirement income.
- Factors and strategic asset allocation.
- Fixed income glide-path allocations.

2016

- Time-varying risk premia and asset allocation.
- Expansion of the Vanguard Capital Markets Model®.
- Inflation-hedging strategies over multiyear horizons.

2017

- Long-run equilibrium risk-free rates and the equity risk premia.
- Diversified versus concentrated active equity portfolios.
- Global methodology for non-market-cap-weighted ETF model portfolios.

2018

- Role of private real estate in portfolios.
- Vanguard Life-Cycle Model (VLCM) and glide-path outcomes.
- Inflation protection in a 529 college savings plan.

2019

- Vanguard Asset Allocation Model (VAAM) and optimal allocations to active and passive strategies.
- VAAM-based investment methodology for ETF-model portfolios.
- Return-targeting and time-varying asset allocation.



Top row, left to right

- Joseph Davis**, Ph.D., Global Chief Economist and Global Head of Investment Strategy Group (Committee Chair)
Roger Aliaga-Díaz, Ph.D., Chief Economist, Americas, Global Head of Portfolio Construction (Committee Vice Chair)
Greg Davis, CFA, Global Chief Investment Officer (Ex Officio)
Sujatha Srinivasan, Global Head of IMG Risk Management
Geoff Parrish, CFA, Principal, Global Head of Fixed Income Indexing

Middle row

- Duncan Burns**, CFA, Head of Investments, Asia-Pacific, and of Investment Strategy Group, Asia-Pacific
Matthew Brancato, CFA, CPA, Chief Client Officer, Workplace Solutions
Qian Wang, Ph.D., Chief Economist, Asia-Pacific, Investment Strategy Group
Dan Reyes, CFA, Head of Portfolio Review Department
Brian Wimmer, CFA, Head of Multi-Asset Solutions (Nonvoting Member)

Bottom row

- Joel Dickson**, Ph.D., Head of Enterprise Advice Methodology
Michael Roach, CFA, Senior Manager, Head of Multi-Asset Portfolio Management
Timothy Smart, Chief of Staff, Investment Strategy Group (Nonvoting Member)
Eve Cout, Principal, Head of Advisor Solutions
Rachel Aguirre, Principal, Head of Product and Portfolio Strategy

2020

- VLCM-derived glide paths for 529 college savings plans.
- Role of private equity in multiasset portfolios.

2021

- A systematic framework for validating TDF glide paths.

2022

- *Vanguard's Approach to Target-Date Funds.*
- *Revalidating the Case for International Bonds.*

2024

- *Hybrid Annuity Target-Date Funds: A New Class of Target-Date Funds Incorporating Annuities.*
- Multiasset rebalancing strategies.

2025

- *Fixed Income Disaggregation.*
- *Inflation-Hedging Strategies in Target-Date Funds.*

Source: Vanguard.



TDF industry and market overview

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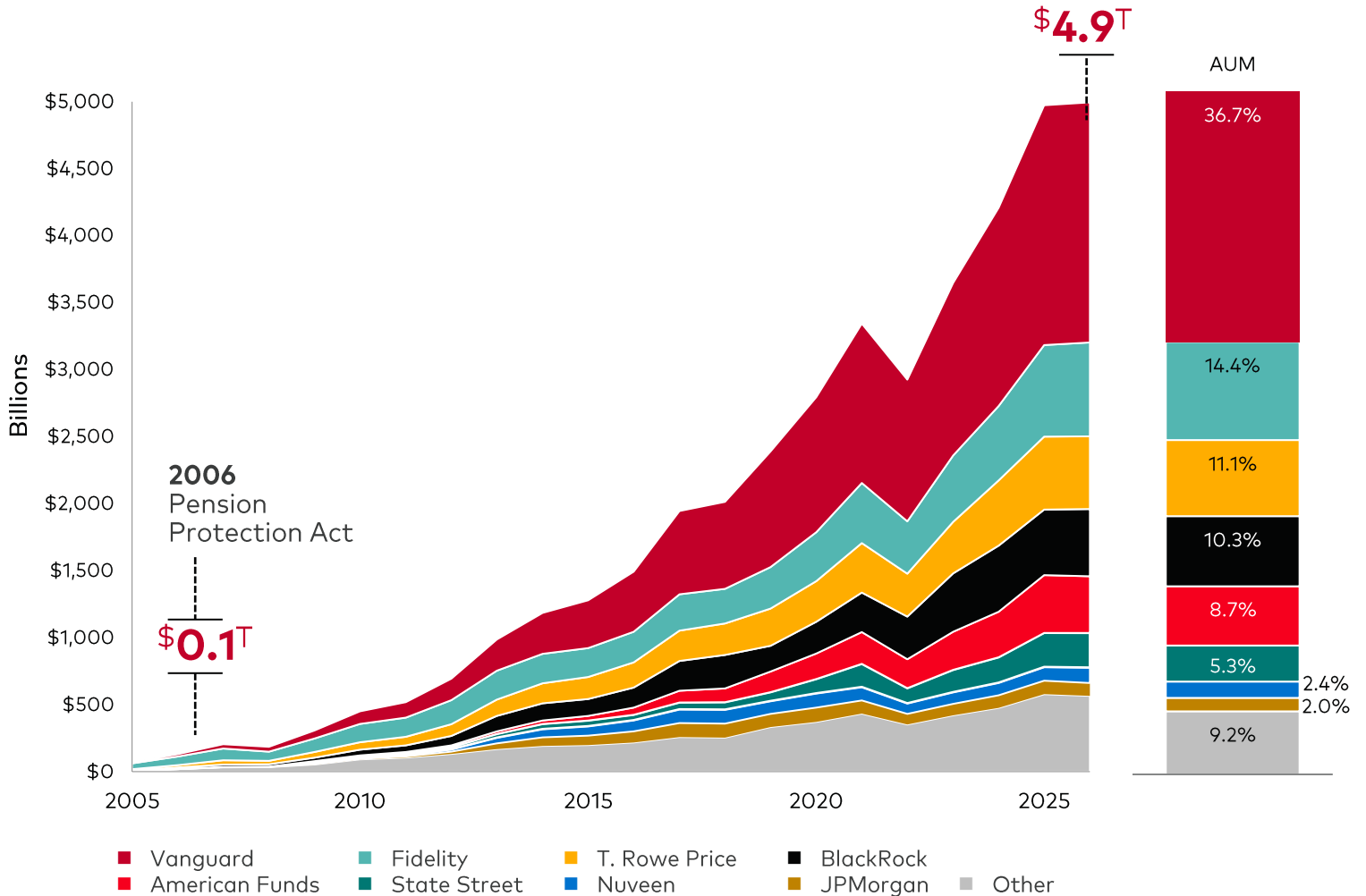
Industry growth and market share

Market environment



Industry growth and market share

Figure 13.1 Growth of target-date fund industry assets and market share



According to Morningstar combined with Vanguard’s funds and trusts data, TDF industry assets exceeded \$4.88 trillion as of the end of Q1 2026. Vanguard continued to lead the industry in cash flow and assets under management, receiving more than one-third of every dollar invested in a TDF.

The industry’s top providers, Vanguard, Fidelity, T.Rowe Price, BlackRock, American Funds, State Street, Nuveen, and JPMorgan, hold a cumulative 91% share of all industry assets, or more than \$4.43 trillion, as of March 31, 2026.

Sources: Vanguard, Morningstar, as of March 31, 2026. Industry estimates are based on mutual fund and CIT data reported in Morningstar. CIT data is self-reported and is updated in Morningstar as it is received. Public company data also used prior to 2020.
 Note: Organic growth measured as current period’s net new flows divided by prior period’s ending assets.



Market environment

Figure 14.1 Index returns ranked by performance

2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2Q 2025	3Q 2025	4Q 2025	1Q 2026
HYB 17.1	FTSE 27.4	IAGG 3.2	CRSP 30.8	CRSP 21.0	REIT 43.1	COM 16.1	CRSP 26.0	CRSP 23.8	FTSE 32.0	FTSE 12.4	CRSP 8.2	COM 5.9	COM 24.4
CRSP 12.7	CRSP 21.2	CASH 1.9	REIT 25.8	FTSE 11.2	COM 27.1	CASH 1.5	FTSE 15.8	REIT 8.8	CRSP 17.2	CRSP 11.0	FTSE 7.1	FTSE 4.9	REIT 4.8
COM 11.4	EMB 9.2	STPS 0.6	FTSE 21.8	AGG 7.5	CRSP 25.7	STPS -2.7	REIT 13.7	HYB 8.2	COM 15.8	HYB 3.5	REIT 4.8	EMB 2.8	STPS 0.9
EMB 9.2	HYB 7.5	AGG 0.0	HYB 14.3	HYB 7.1	FTSE 8.8	HYB -11.2	HYB 13.4	EMB 5.9	EMB 13.1	EMB 3.2	EMB 4.3	CRSP 2.5	CASH 0.9
REIT 8.6	REIT 5.1	HYB -2.1	EMB 14.1	EMB 5.6	STPS 5.3	IAGG -12.7	EMB 10.5	FTSE 5.5	HYB 8.6	IAGG 2.0	COM 3.7	HYB 1.3	AGG -0.1
IAGG 4.9	AGG 3.5	EMB -3.9	AGG 8.7	STPS 5.1	HYB 5.3	AGG -13.0	IAGG 8.8	CASH 5.5	AGG 7.3	AGG 1.2	HYB 2.5	AGG 1.1	HYB -0.5
FTSE 4.7	IAGG 2.6	REIT -4.6	IAGG 8.1	IAGG 4.7	CASH 0.1	FTSE -16.1	AGG 5.5	COM 5.4	STPS 6.1	CASH 1.1	AGG 2.0	CASH 1.0	IAGG -0.5
STPS 2.8	STPS 0.9	CRSP -5.2	COM 5.4	CASH 0.6	AGG -1.5	EMB -17.1	CASH 5.3	STPS 5.0	CASH 4.4	STPS 1.0	STPS 1.6	IAGG 0.5	FTSE -0.6
AGG 2.6	CASH 0.8	COM -13.0	STPS 4.9	COM -3.5	EMB -1.8	CRSP -19.5	STPS 4.5	IAGG 3.8	IAGG 3.0	REIT -1.1	CASH 1.1	STPS 0.4	EMB -1.8
CASH 0.3	COM 0.7	FTSE -14.6	CASH 2.3	REIT -7.6	IAGG -2.1	REIT -24.5	COM -7.9	AGG 1.3	REIT 3.0	COM -3.1	IAGG 0.7	REIT -1.7	CRSP -4.0

		Average annualized returns					
Index returns		3 months	1 year	3 years	5 years	10 years	
Target Retirement Fund building blocks	CRSP	CRSP U.S. Total Market Index	-3.96	18.21	17.86	10.78	13.68
	FTSE	FTSE Global All Cap ex U.S. Index	-0.59	25.47	14.63	7.11	8.52
	AGG	Bloomberg U.S. Aggregate Bond Index	-0.05	4.35	3.63	0.31	1.70
	IAGG	Bloomberg Global Agg ex U.S. Float Adj RIC Cap Index (Hedged)	-0.50	2.64	3.90	0.22	1.85
	STPS	Bloomberg U.S. 0-5 Year TIPS Index	0.93	3.90	4.68	3.51	3.09
Other indexes	CASH	3-Month T-Bill	0.93	4.22	4.97	3.49	2.32
	HYB	Bloomberg U.S. Corporate High Yield Index	-0.50	7.01	8.60	4.23	6.12
	EMB	Bloomberg USD Emerging Market Gov RIC Cap Index	-1.83	8.63	8.35	2.21	3.55
	REIT	MSCI U.S. REIT Index	4.84	6.79	9.13	5.80	5.56
	COM	Bloomberg Commodity Index	24.41	32.29	13.88	14.04	8.02

Past performance is no guarantee of future returns. The performance of an index is not an exact representation of any particular investment, as you cannot invest directly in an index.

Sources: Vanguard, Bloomberg Live, and Morningstar, as of March 31, 2026.

Note: Beginning 3Q 2021, the benchmark shown for the EMB category changed from Bloomberg Emerging Markets Sovereign Index USD to Bloomberg USD Emerging Market Gov RIC Cap Index.



Vanguard fund construction and performance

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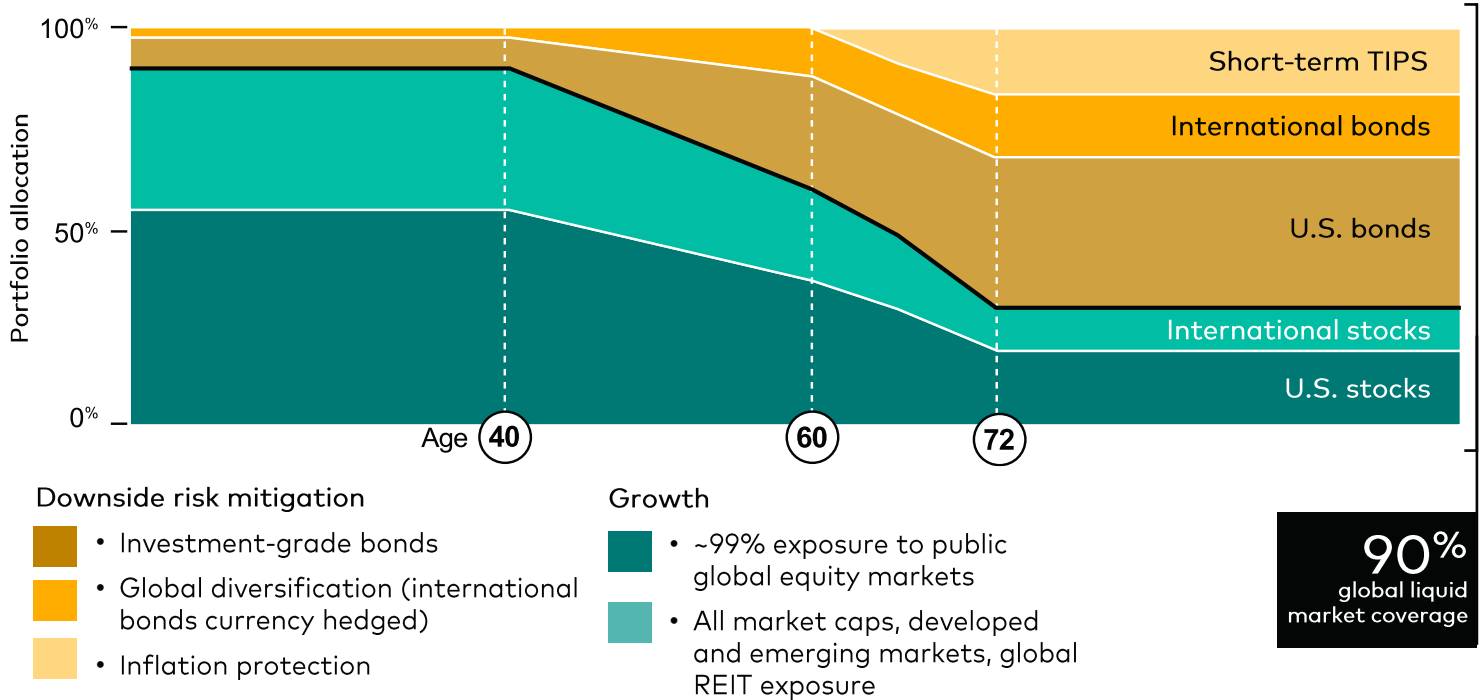
Evolution of Vanguard's glide-path design

Vanguard fund performance and attribution

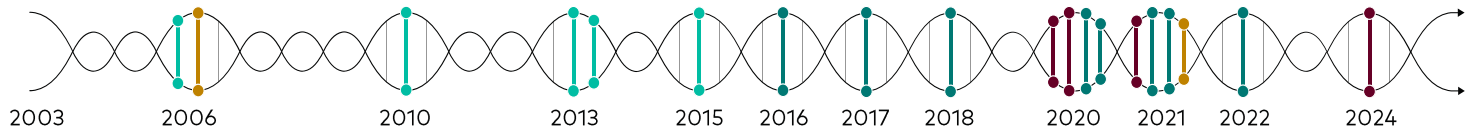


Purposeful design and evolution

Strategic asset allocation using high-quality building blocks



Meaningfully improving investor outcomes since inception



Enhanced asset allocation

- Increased equity weight in Income fund (2006).
- Added emerging markets stocks (2006).
- Added Canada and more international equity exposure (including small-caps) through Total International Stock Index replacing three regional funds (2010).
- Added international bonds (2013).
- Replaced broad TIPS fund with short-term TIPS for better responsiveness to inflation and removed money market fund (2013).
- Increased international allocations for both stocks and bonds (2015).

Lowered fees, increased access

- Lowered expense ratios (2016, 2017, 2018, 2020, and 2021).
- Reduced minimum for Institutional Target Retirement Funds (2020).
- Reduced minimum for Target Retirement Trusts (2021).
- Merged Institutional Target Retirement Funds into Target Retirement Funds (2022).

Improved fund/trust lineup

- Launched five-year vintage increments (2006).
- Added optional trust with a 50/50 allocation landing point and added enhanced retirement income services (2021).

Reduced implementation costs and tax drag

- Moved from quarterly to monthly glide-path roll down (2020).
- Across trust vintages, replaced underlying international fund with an international trust, minimizing foreign tax withholdings (2021).
- Enhanced rebalancing policies to reduce transaction costs and improve performance measurement (2024).

Sources: FactSet, Fidelity, BlackRock. Stock market measured by FactSet data derived from MSCI US Broad Market Free Float and MSCI ACWI ex USA IMI Indexes. Bond market measured by FactSet data derived from Bloomberg Global Aggregate ex-USD, U.S. Aggregate Float Adjusted, Global High Yield, and EM Hard Currency Aggregate indexes. Commodities market measured by FactSet data. Data as of December 31, 2024.



Fund performance through March 31, 2026

Vanguard Target Retirement Fund and Trust performance

Portfolio/Benchmark	Expense ratio	Average annualized return as of March 31, 2026						Since inception	Inception date
		3 months	1 year	3 years	5 years	10 years			
Vanguard Target Retirement Income and Growth Trust II									
Trust II	0.075	-0.83	13.16	10.49	—	—	5.67	1/21/2022	
Target Retirement Income and Growth Composite Index		-1.32	12.80	10.42	5.37	7.15	—	—	
Vanguard Target Retirement Income Vintage									
Fund	0.08	-0.46	9.30	7.85	3.71	5.04	5.15	10/27/2003	
Trust II	0.075	-0.42	9.41	7.87	3.74	5.08	4.96	2/29/2008	
Target Retirement Income Composite Index		-0.73	9.24	7.89	3.81	5.22	—	—	
Vanguard Target Retirement 2020 Vintage									
Fund	0.08	-0.47	10.37	8.90	4.41	6.64	6.21	6/7/2006	
Trust II	0.075	-0.49	10.39	8.92	4.44	6.68	6.12	2/29/2008	
Target Retirement 2020 Composite Index		-0.82	10.24	8.93	4.54	6.86	—	—	
Vanguard Target Retirement 2025 Vintage									
Fund	0.08	-0.75	13.02	10.64	5.36	7.63	6.90	10/27/2003	
Trust II	0.075	-0.76	13.04	10.65	5.42	7.70	6.70	2/29/2008	
Target Retirement 2025 Composite Index		-1.23	12.74	10.62	5.51	7.87	—	—	
Vanguard Target Retirement 2030 Vintage									
Fund	0.08	-1.04	14.79	11.80	6.09	8.40	7.10	6/7/2006	
Trust II	0.075	-1.03	14.82	11.83	6.15	8.47	7.12	2/29/2008	
Target Retirement 2030 Composite Index		-1.59	14.44	11.77	6.24	8.64	—	—	
Vanguard Target Retirement 2035 Vintage									
Fund	0.08	-1.13	16.16	12.83	6.79	9.16	7.81	10/27/2003	
Trust II	0.075	-1.12	16.22	12.85	6.86	9.22	7.59	2/29/2008	
Target Retirement 2035 Composite Index		-1.76	15.74	12.74	6.92	9.38	—	—	

The performance data shown represent past performance. Past performance is no guarantee of future results. Investment returns and principal value will fluctuate, so investors' shares, when sold, may be worth more or less than their original cost. Current performance may be lower or higher than the performance data cited. For performance data current to the most recent month-end, visit our website at vanguard.com/performance. Some funds assess purchase, redemption, and/or account maintenance fees. The performance data shown do not reflect deduction of these fees. If they did, performance would be lower. Details on these fees and adjusted performance figures can be found in the fund detail section.

Sources: Vanguard and Morningstar, as of March 31, 2026.



Fund performance through March 31, 2026

Vanguard Target Retirement Fund and Trust performance (continued)

Portfolio/Benchmark	Expense ratio	Average annualized return as of March 31, 2026						Since inception	Inception date
		3 months	1 year	3 years	5 years	10 years			
Vanguard Target Retirement 2040 Vintage									
Fund	0.08	-1.20	17.57	13.85	7.50	9.91	7.90	10/27/2003	
Trust II	0.075	-1.21	17.59	13.86	7.54	9.96	8.05	2/29/2008	
Target Retirement 2040 Composite Index		-1.90	17.05	13.72	7.59	10.11	—	—	
Vanguard Target Retirement 2045 Vintage									
Fund	0.08	-1.30	18.92	14.82	8.18	10.51	8.59	10/27/2003	
Trust II	0.075	-1.31	18.92	14.83	8.22	10.55	8.35	2/29/2008	
Target Retirement 2045 Composite Index		-2.07	18.33	14.69	8.25	10.70	—	—	
Vanguard Target Retirement 2050 Vintage									
Fund	0.08	-1.43	20.35	15.63	8.67	10.78	8.35	6/7/2006	
Trust II	0.075	-1.42	20.41	15.69	8.73	10.84	8.52	2/29/2008	
Target Retirement 2050 Composite Index		-2.27	19.77	15.53	8.76	10.99	—	—	
Vanguard Target Retirement 2055 Vintage									
Fund	0.08	-1.45	20.34	15.63	8.67	10.77	10.52	8/18/2010	
Trust II	0.075	-1.43	20.42	15.68	8.73	10.84	10.85	8/31/2010	
Target Retirement 2055 Composite Index		-2.29	19.77	15.53	8.76	10.99	—	—	
Vanguard Target Retirement 2060 Vintage									
Fund	0.08	-1.44	20.35	15.63	8.67	10.77	10.38	1/19/2012	
Trust II	0.075	-1.43	20.40	15.68	8.74	10.85	10.15	3/1/2012	
Target Retirement 2060 Composite Index		-2.29	19.77	15.53	8.76	10.99	—	—	
Vanguard Target Retirement 2065 Vintage									
Fund	0.08	-1.45	20.32	15.61	8.68	—	10.12	7/12/2017	
Trust II	0.075	-1.44	20.38	15.66	8.72	—	10.59	7/17/2017	
Target Retirement 2065 Composite Index		-2.29	19.77	15.53	8.76	10.99	—	—	
Vanguard Target Retirement 2070 Vintage									
Fund	0.08	-1.45	20.34	15.63	—	—	14.55	6/8/2022	
Trust II	0.075	-1.45	20.34	15.68	—	—	10.06	4/7/2022	
Target Retirement 2070 Composite Index		-2.29	19.77	15.53	8.76	10.99	—	—	

The performance data shown represent past performance. Past performance is no guarantee of future results. Investment returns and principal value will fluctuate, so investors' shares, when sold, may be worth more or less than their original cost. Current performance may be lower or higher than the performance data cited. For performance data current to the most recent month-end, visit our website at vanguard.com/performance. Some funds assess purchase, redemption, and/or account maintenance fees. The performance data shown do not reflect deduction of these fees. If they did, performance would be lower. Details on these fees and adjusted performance figures can be found in the fund detail section.

Sources: Vanguard and Morningstar, as of March 31, 2026.





Underlying fund performance contribution

Figure 19.1 3-month return contribution by underlying funds

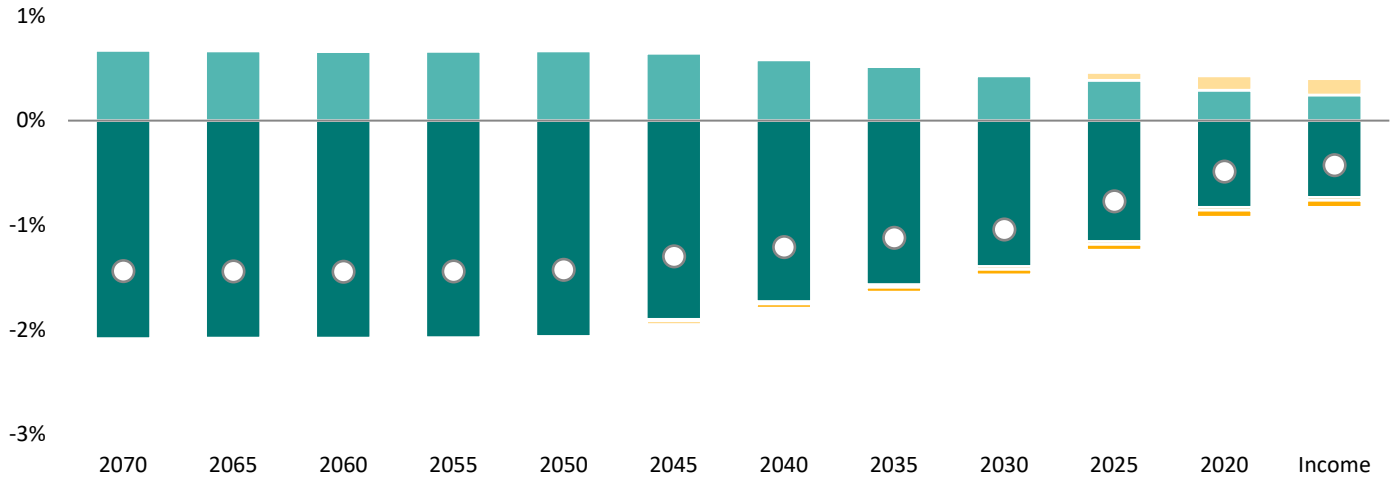
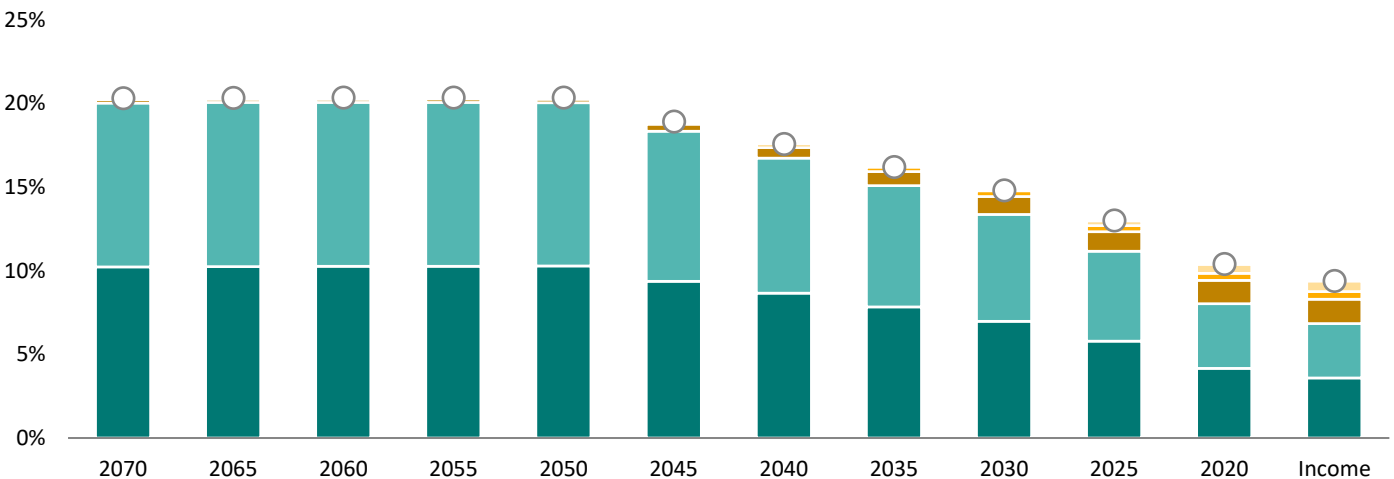


Figure 19.2 1-year return contribution by underlying funds



- Total Stock Market Index
- Total International Stock Index
- Total Bond Market II Index
- Total International Bond Index
- Cash
- Short-Term Inflation-Protected Securities Index
- Total return

Past performance is not a guarantee of future results.

Sources: Vanguard and Morningstar, as of March 31, 2026.

For institutional investor use only. Not for distribution to retail investors.



Excess return attribution

Figure 20.1 3-month return attribution

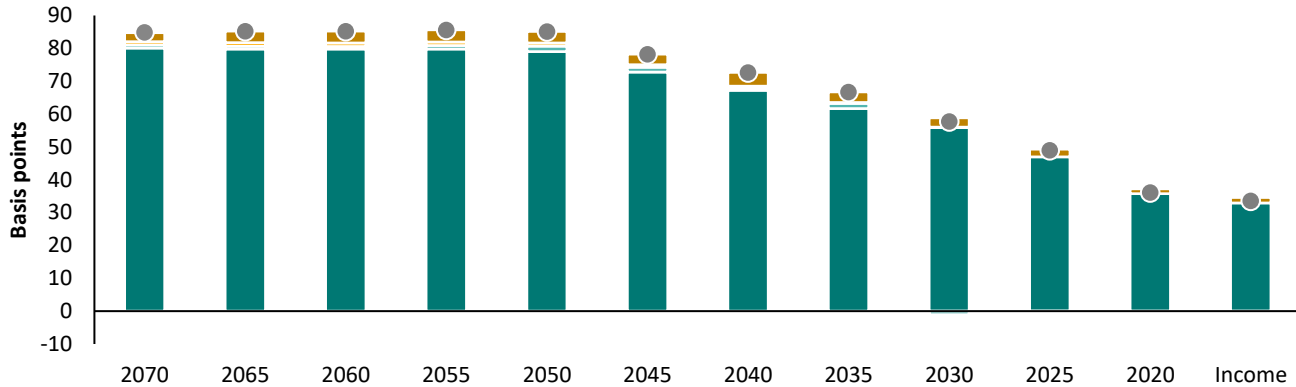
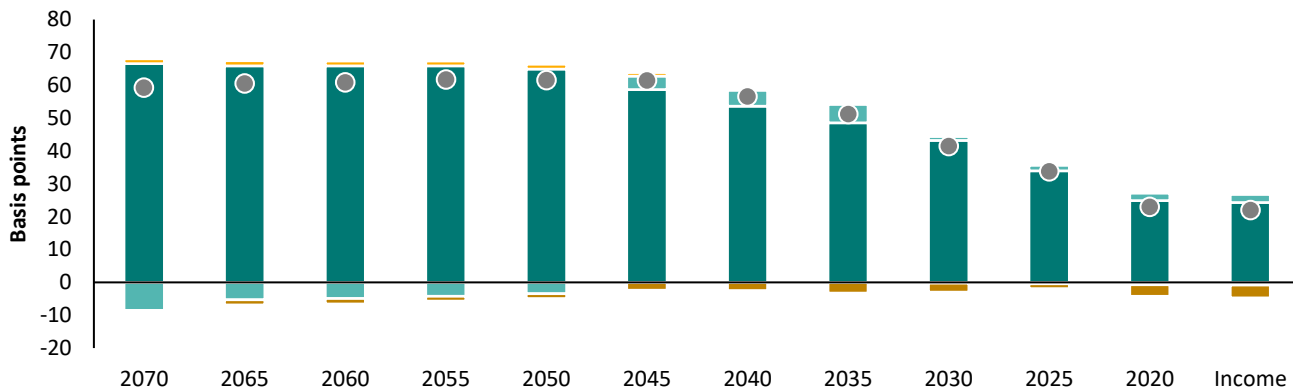


Figure 20.2 1-year return attribution



■ Allocation impact	Out/Underperformance due to differences in the strategic asset allocation of the funds versus their benchmarks. These differences can be particularly notable at times of significant market volatility as portfolio managers work to balance transaction costs against a daily rebalanced benchmark.
■ Fair-value pricing	Out/Underperformance due to the adjustment of the prices of non-U.S. equities for changes in their fair value that occur after the close of their local market but before the net asset value is calculated for each U.S. mutual fund as of 4 p.m., Eastern time. This impact is attributed to accounting and pricing policies that are outside of portfolio management control and is generally artificial and temporary.
■ Underlying fund tracking differences ex-FV	Out/Underperformance of the underlying portfolios versus their relative benchmarks. Figure is shown after controlling for fair-value pricing but is inclusive of the securities-lending impact, transaction costs associated with rebalancing the fund-of-funds portfolio, and pricing difference driven by Bloomberg (BB) indexes pricing at 4 p.m., Eastern time.*
● Residual	Out/Underperformance due to factors outside of those captured above.
● Total excess return	Indicates the total amount of fund returns that were higher or lower than benchmark returns. Calculated as the sum of the individual impacts of each of the five above drivers of benchmark-related excess return. Effect of expense ratios not included.

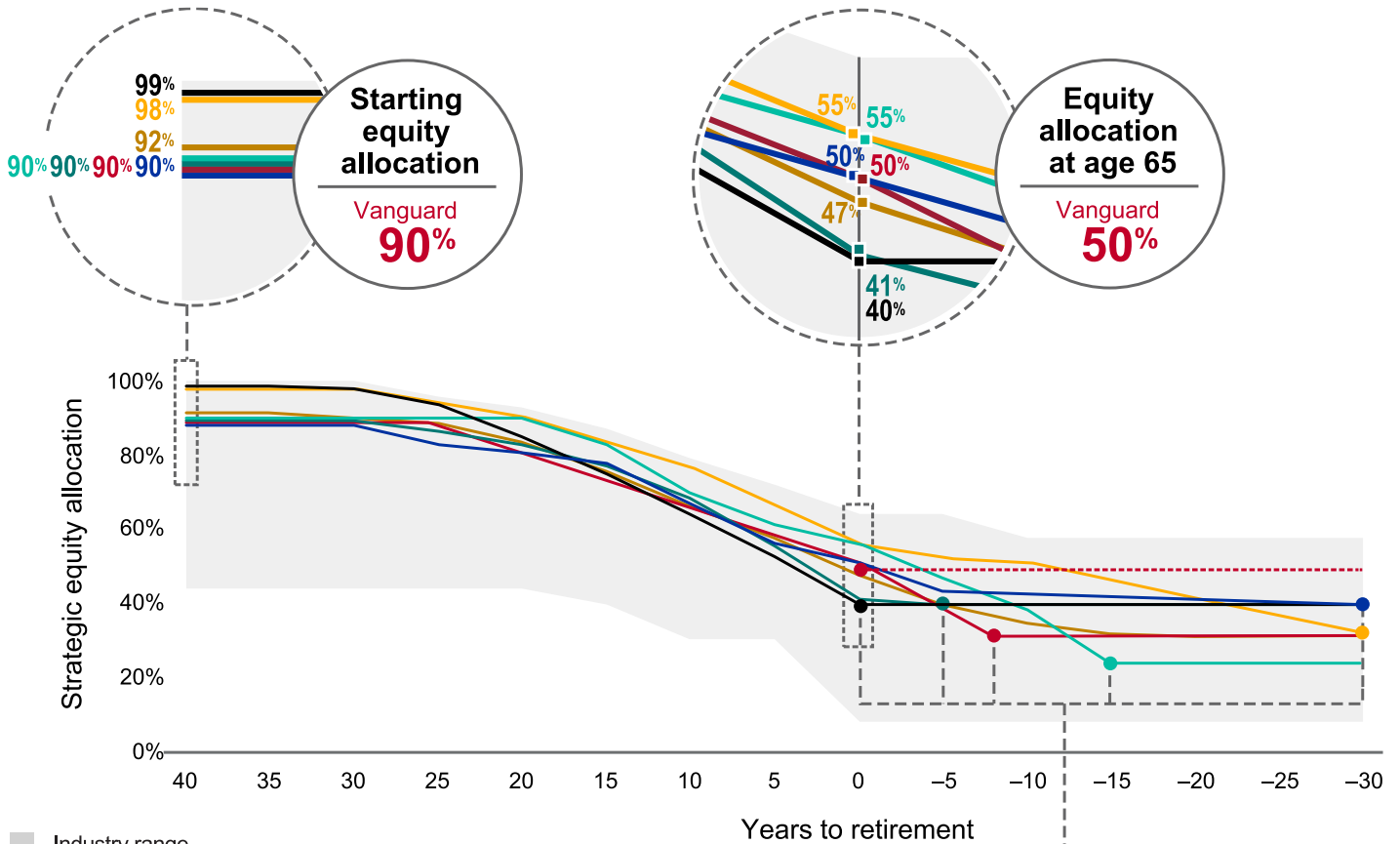
Past performance is not a guarantee of future results.

Sources: Vanguard and Morningstar, as of March 31, 2026.

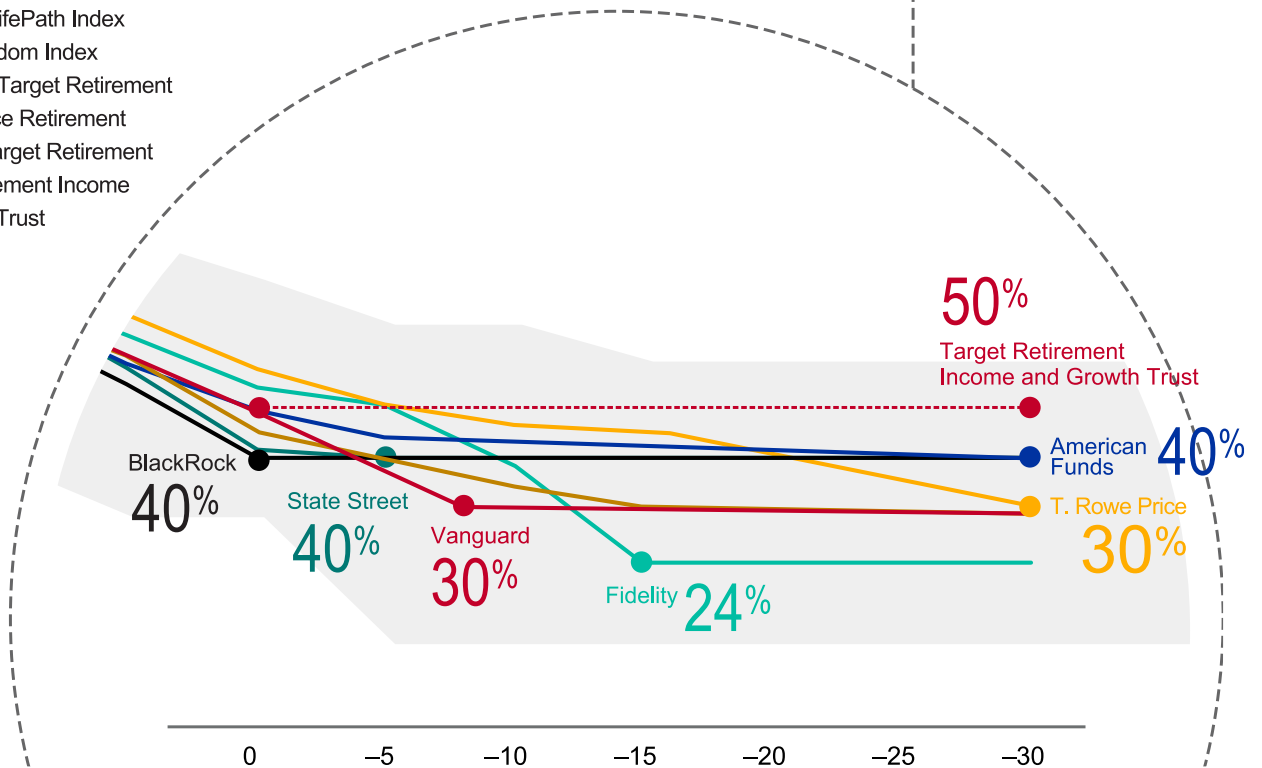
* On January 14, 2021, Bloomberg changed its index pricing time from 3 p.m., Eastern time, to 4 p.m., Eastern time. The time change affects the 1- and 3-year figures.



Glide-path comparison



- Industry range
- Industry average
- American Funds Target Date Retirement
- BlackRock LifePath Index
- Fidelity Freedom Index
- State Street Target Retirement
- T. Rowe Price Retirement
- Vanguard Target Retirement
- Target Retirement Income and Growth Trust



Sources: Morningstar; data as of March 31, 2026; Vanguard calculation for industry average.



Competitor fund construction and performance

IN THIS SECTION:

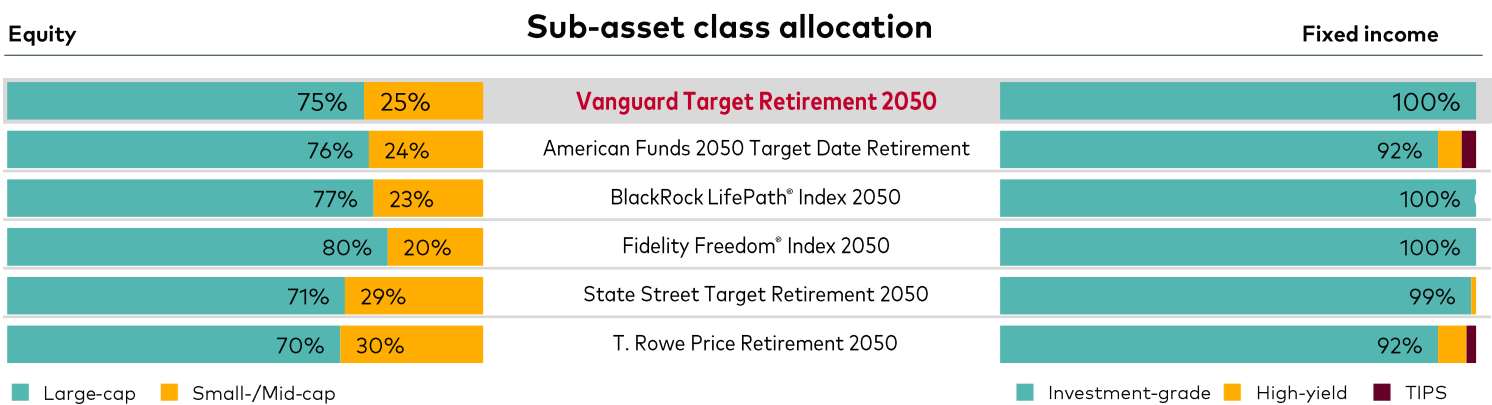
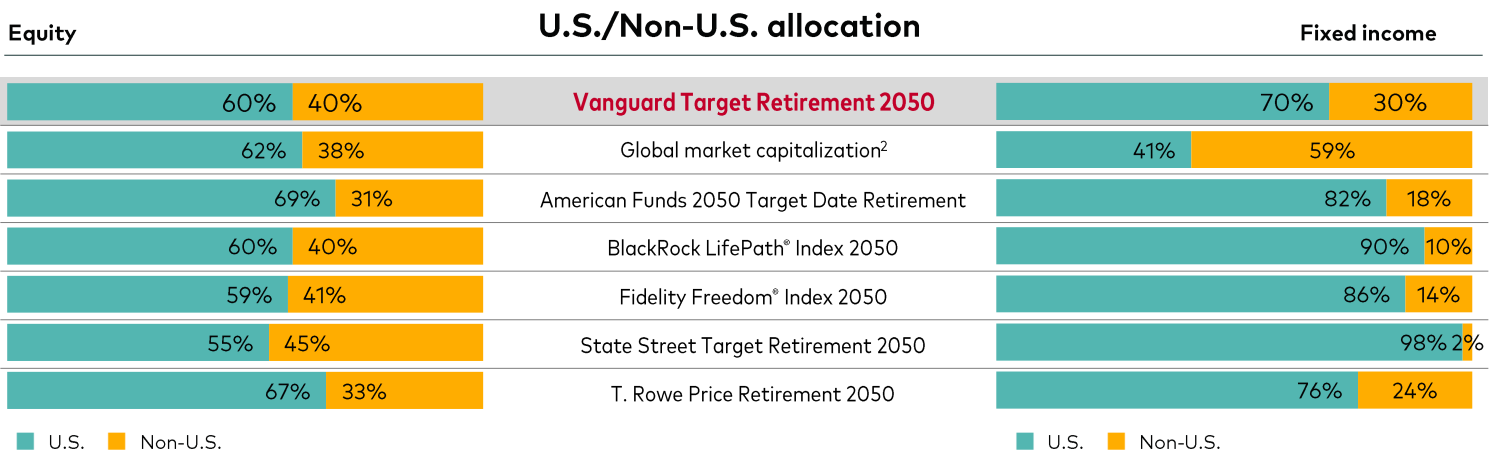
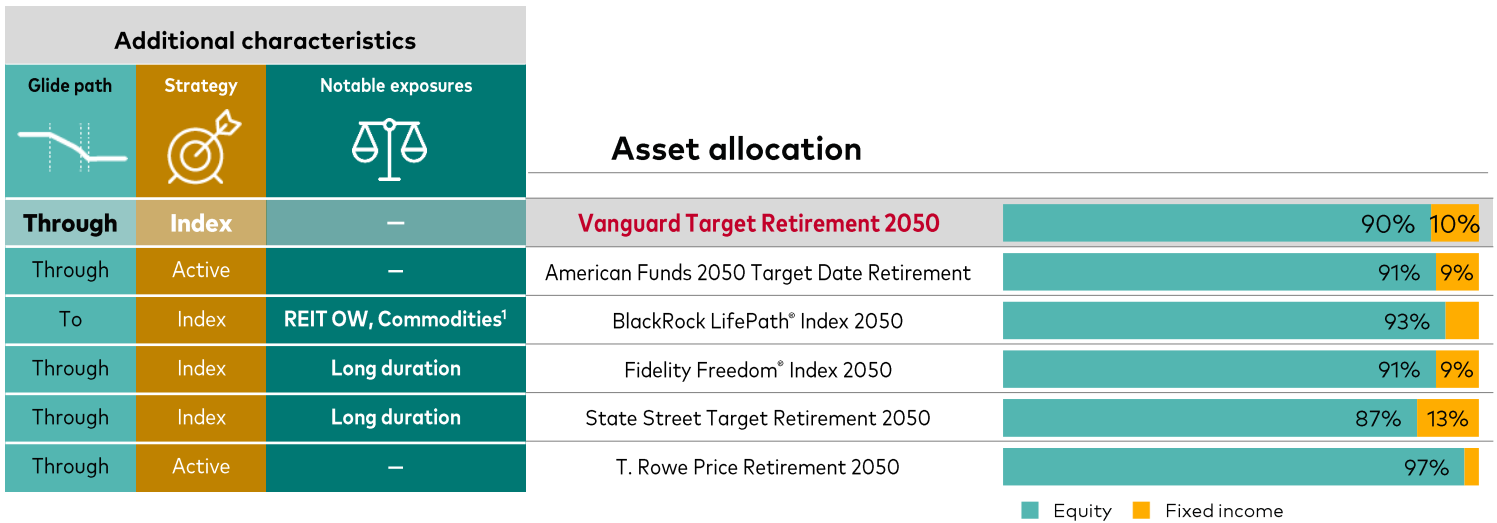
Beyond the glide path

12-month return attribution



2050 vintage: Beyond the glide path

Figure 23.1 Industry peer group asset allocation comparison



There may be other material differences between products that must be considered prior to investing.

Sources: Morningstar data, based on most recent holdings disclosure for each fund included in the calculation. As-of dates may vary depending on the timing and frequency of data made available to Morningstar. Data as of March 31, 2026.

¹Commodity exposure is present in CIT product only. Mutual fund product does not include commodity exposure.

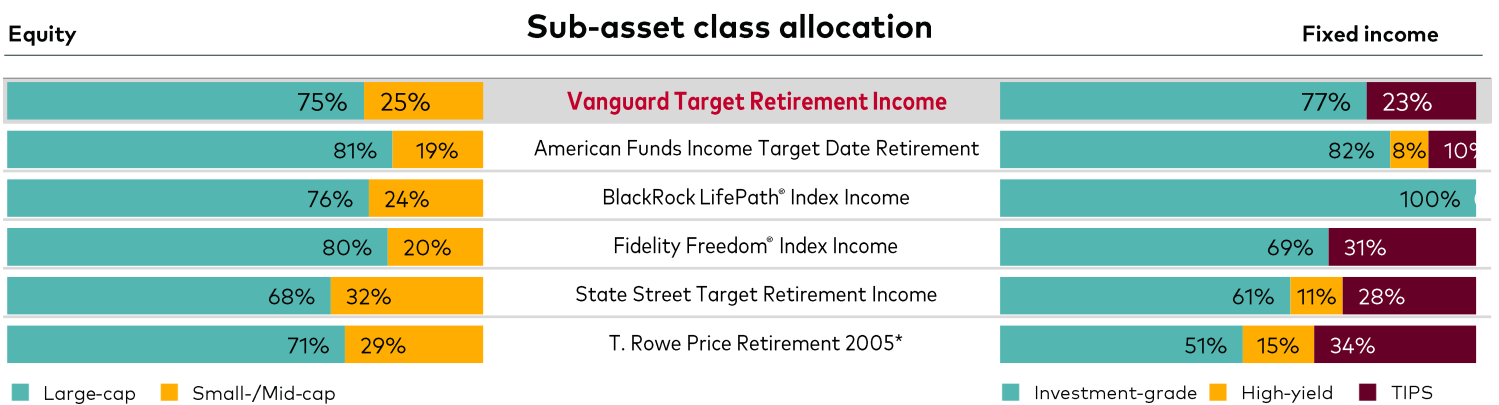
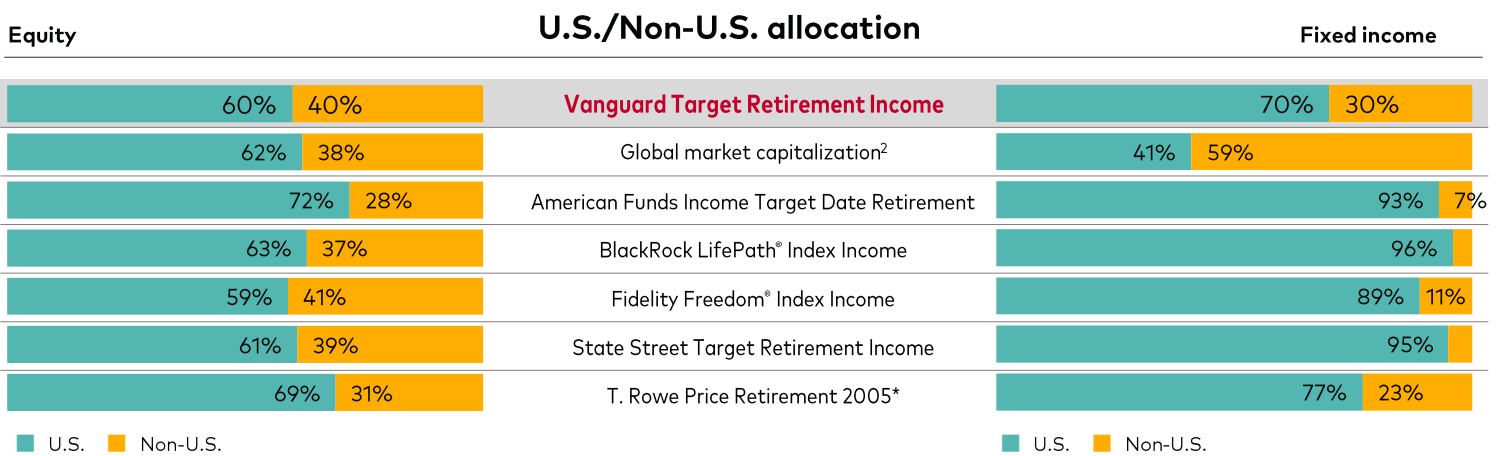
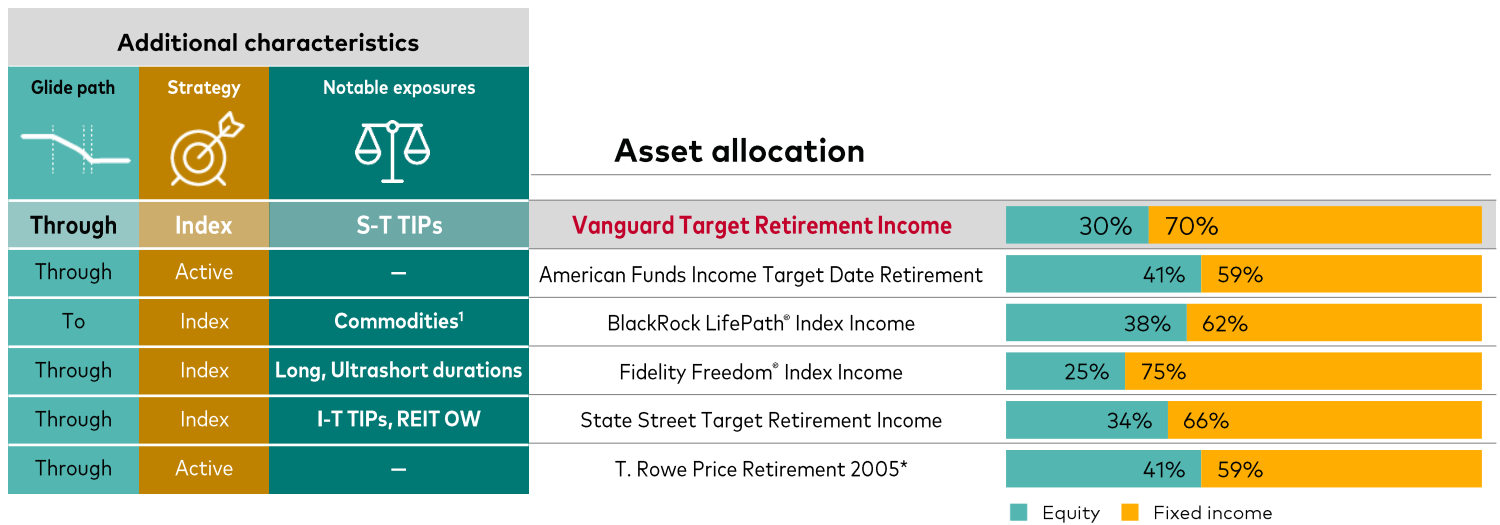
²Global market capitalization calculated using FTSE All Country Equity Index and Bloomberg Barclays Global Aggregate Bond Index.

Note: Due to spacing issues, data labels below 7% are not displayed. Due to rounding, values may not total to 100%.



Income vintage: Beyond the glide path

Figure 24.1 Industry peer group asset allocation comparison



There may be other material differences between products that must be considered prior to investing.

Sources: Morningstar data, based on most recent holdings disclosure for each fund included in the calculation. As-of dates may vary depending on the timing and frequency of data made available to Morningstar. Data as of March 31, 2026.

¹Commodity exposure is present in CIT product only. Mutual fund product does not include commodity exposure.

²Global market capitalization calculated using FTSE All Country Equity Index and Bloomberg Barclays Global Aggregate Bond Index.

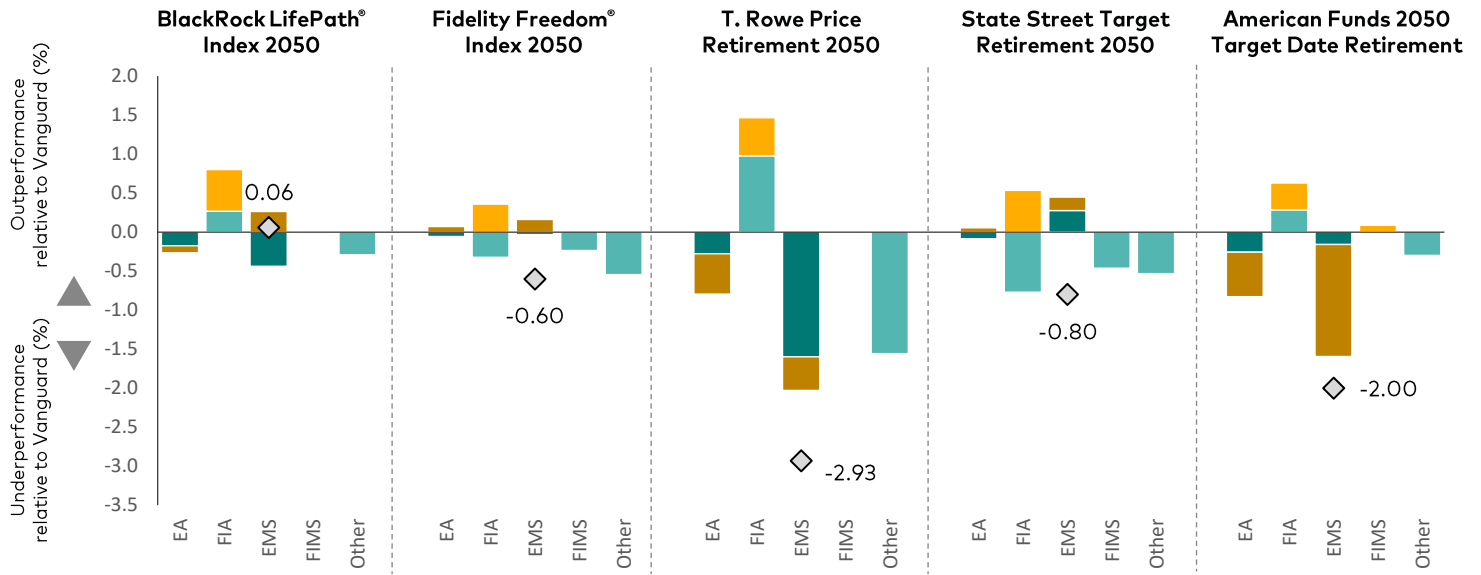
* No explicit income vintage in lineup. 2005 represents the most conservative asset allocation, as a proxy.

Note: Due to spacing issues, data labels below 7% are not displayed. Due to rounding, values may not total to 100%.



12-month return attribution

Figure 25.1 Relative to top five industry 2050 funds



Element	Description
Equity allocation (EA)	Vintage allocation to asset classes and sub-asset allocation to U.S. vs. non-U.S.
Fixed income allocation (FIA)	
Equity manager selection (EMS)	Benchmark construction differences (cap and/or style tilts), securities lending, fair-value pricing, building block expense ratios
Fixed income manager selection (FIMS)	
Other	Compounding effect (residual) due to nondaily holdings availability
Total excess return	The sum of the above relative performance differences between Vanguard Target Retirement Fund and competitors' similar vintage

■ U.S. equity
 ■ Foreign equity
 ◆ Total relative return
■ U.S. fixed income
 ■ Foreign fixed income

- **BlackRock LifePath Index 2050:** Performance was largely in line with Vanguard, with modest differences across fixed income allocation and selection that broadly netted out over the period.
- **Fidelity Freedom Index 2050:** Underperformance relative to Vanguard was driven primarily by a higher U.S. equity weight, partially offset by fixed income selection.
- **T. Rowe Price Retirement 2050:** Underperformance relative to Vanguard was driven by poor active equity selection particularly within U.S. equities.
- **State Street Target Retirement 2050:** Underperformance was led by a more defensive fixed income allocation, including an overweight to long duration fixed income.
- **American Funds 2050 Target Date Retirement:** Underperformance was driven by poor international equity selection, alongside a higher U.S. equity allocation relative to Vanguard.

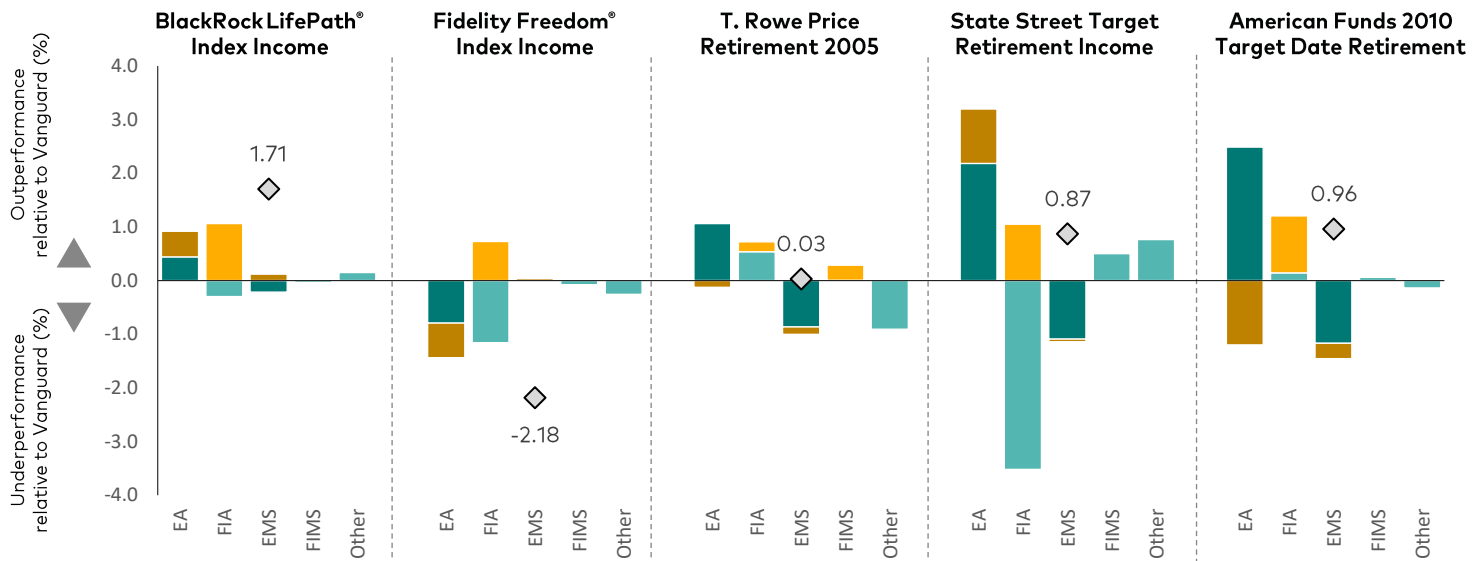
Past performance is not a guarantee of future results.

Sources: Vanguard and Morningstar, as of March 31, 2026.



12-month return attribution (continued)

Figure 26.1 Relative to top five industry income (or equivalent) funds*



Element	Description
Equity allocation (EA)	Vintage allocation to asset classes and sub-asset allocation to U.S. vs. non-U.S.
Fixed income allocation (FIA)	
Equity manager selection (EMS)	Benchmark construction differences (cap and/or style tilts), securities lending, fair-value pricing, building block expense ratios
Fixed income manager selection (FIMS)	
Other	Compounding effect (residual) due to nondaily holdings availability
Total excess return	The sum of the above relative performance differences between Vanguard Target Retirement Fund and competitors' similar vintage

■ U.S. equity
 ■ Foreign equity
 ◇ Total relative return
■ U.S. fixed income
 ■ Foreign fixed income

- **BlackRock LifePath Index Income:** Outperformance relative to Vanguard was driven by lower fixed income exposure, including the exclusion of international fixed income.
- **Fidelity Freedom Index Income:** Underperformance relative to Vanguard was driven by a lower aggregate equity allocation and higher allocation to cash and cash equivalents.
- **T. Rowe Price Retirement 2005:** Outperformance was primarily attributable to a higher equity weight, partially offset by U.S. poor active equity selection.
- **State Street Target Retirement Income:** Outperformance driven by U.S. equity selection, partially offset by a higher fixed income allocation.
- **American Funds 2010 Target Date Retirement:** Outperformance relative to Vanguard was driven by a higher overall equity allocation and the absence of international fixed income.

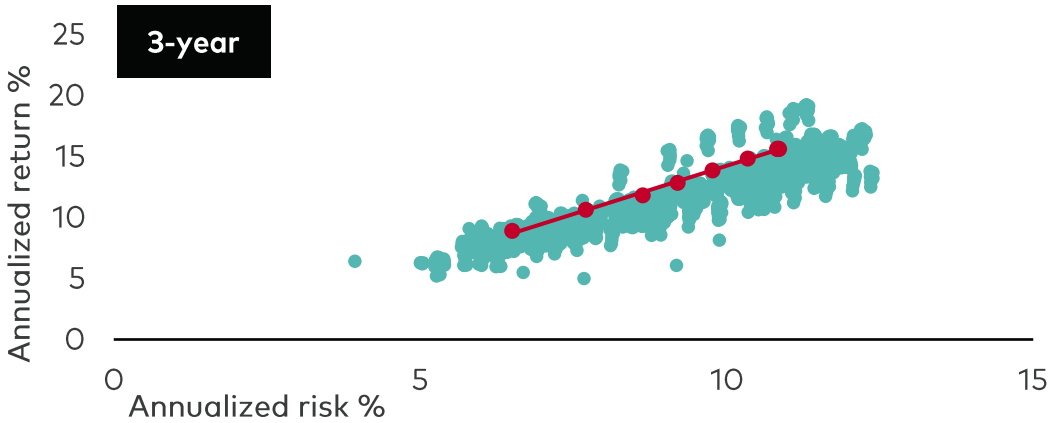
Past performance is not a guarantee of future results.

Sources: Morningstar and Vanguard calculations; data as of March 31, 2026.
 * The 2005 fund is used as a proxy for T. Rowe Price and the 2010 fund is used as a proxy for American Funds, as there is no terminal income fund currently.



A history of consistently strong risk-adjusted performance

● TDF peers in Morningstar universe ● Vanguard Target Retirement Funds



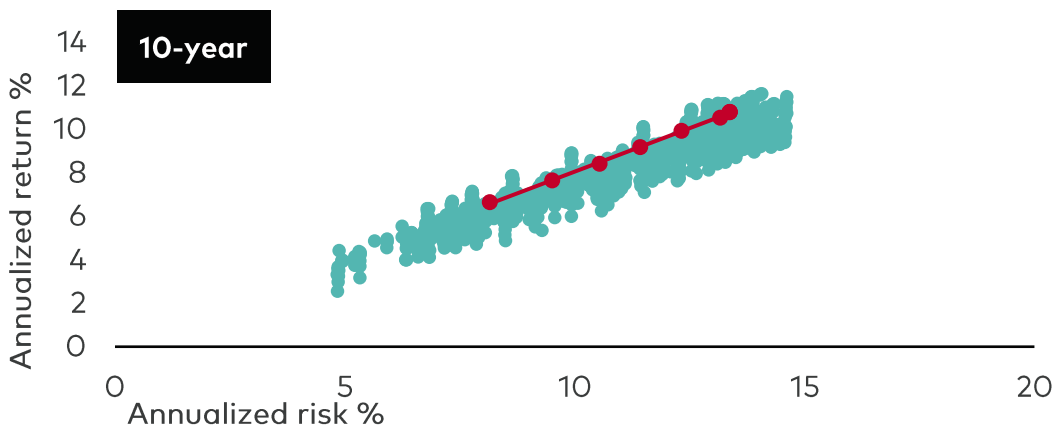
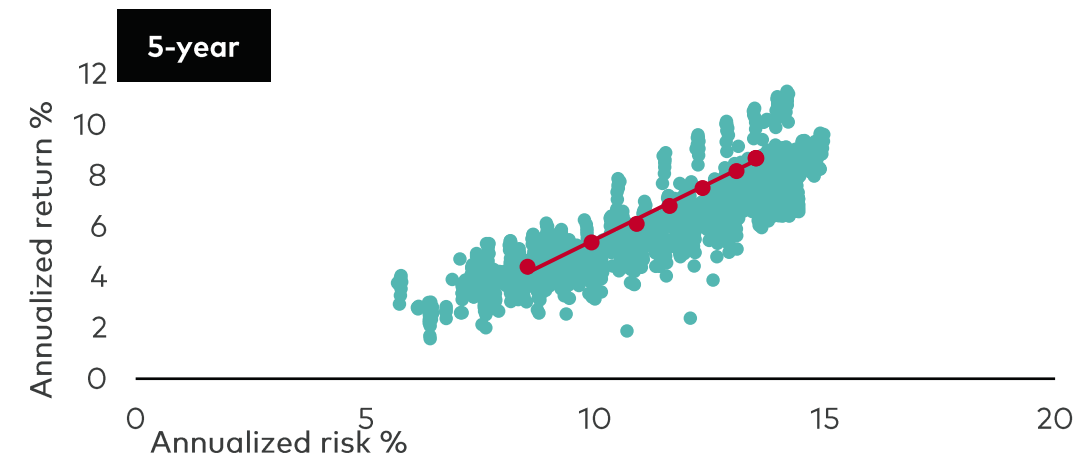
Investors may be in TDFs for decades. Consistent performance across all market environments is critical.

Standard deviation was used for annualized risk. Results will vary for other time periods. All funds in the Morningstar peer group with a minimum 3-, 5-, or 10-year history, respectively, were included in the comparison. There may be other material differences between products that must be considered before investing.

Note that the competitive performance data shown represent past performance, which is not a guarantee of future results, and that all investments are subject to risks. Investment returns and principal value will fluctuate, so investors' shares, when sold, may be worth more or less than their original cost. Current performance may be lower or higher than the performance data cited. For the most recent performance, visit our website at vanguard.com/performance.

Sources: Vanguard and Morningstar, Inc., as of March 31, 2026.

Vanguard Target Retirement Funds highlighted.





Appendix

IN THIS SECTION:

Absolute performance results

Standardized returns

Absolute performance results

Average annualized return
as of March 31, 2026

Fund	Expense ratio	3 months	Year-to-date	1 year	3 years	5 years	10 years	Since inception	Inception date
Vanguard Target Retirement Income Fund	0.08	-0.46	-0.46	9.30	7.85	3.71	5.04	5.15	10/27/2003
Target Retirement Income Composite Index	—	-0.73	-0.73	9.24	7.89	3.81	5.22	—	—
Lipper Target Target Consvr Funds Average	—	-0.33	-0.33	8.91	7.56	3.50	4.81	—	—
Fidelity Freedom Income	0.46	0.45	0.45	8.49	6.51	2.82	4.26	4.58	10/17/1996
Fidelity Freedom Index Income Investor	0.12	-0.05	-0.05	7.13	6.20	2.75	3.93	3.81	10/2/2009
T. Rowe Price Retirement 2005	0.49	-0.40	-0.40	9.34	8.77	4.18	5.98	5.73	2/27/2004
American Funds 2010 Trgt Date Retire R5	0.33	0.16	0.16	10.27	9.06	5.27	6.30	5.41	2/1/2007
BlackRock LifePath Index Retire K	0.12	0.20	0.20	11.01	8.77	3.97	5.79	5.50	5/31/2011
State Street Target Retirement K	0.26	0.61	0.61	10.17	8.52	4.47	5.66	5.11	9/30/2014
JPMorgan SmartRetirement® Income R5	0.46	-0.79	-0.79	10.19	8.81	4.10	5.47	5.18	5/15/2006
JPMorgan SmartRetirement® Blend Income R5	0.49	-0.45	-0.45	11.19	9.25	4.36	5.56	5.30	7/2/2012
Nuveen Lifecycle 2010	0.56	-0.87	-0.87	9.45	8.31	4.12	6.06	5.40	1/17/2007
Vanguard Target Retirement 2020 Fund	0.08	-0.47	-0.47	10.37	8.90	4.41	6.64	6.21	6/7/2006
Target Retirement 2020 Composite Index	—	-0.82	-0.82	10.24	8.93	4.54	6.86	—	—
Lipper Target 2020 Funds Average	—	-0.38	-0.38	10.81	8.93	4.36	5.99	—	—
Fidelity Freedom 2020	0.55	0.13	0.13	13.13	9.77	4.51	7.16	6.70	10/17/1996
Fidelity Freedom Index 2020 Investor	0.12	-0.53	-0.53	11.26	9.13	4.30	6.73	6.84	10/2/2009
T. Rowe Price Retirement 2020	0.51	-0.56	-0.56	10.60	9.83	4.88	7.47	8.01	9/30/2002
American Funds 2020 Trgt Date Retire R5	0.35	-0.35	-0.35	11.26	9.89	5.62	7.08	5.99	2/1/2007
Nuveen Lifecycle 2020 R6	0.58	-1.11	-1.11	10.46	9.02	4.50	6.86	5.75	1/17/2007
Vanguard Target Retirement 2025 Fund	0.08	-0.75	-0.75	13.02	10.64	5.36	7.63	6.90	10/27/2003
Target Retirement 2025 Composite Index	—	-1.23	-1.23	12.74	10.62	5.51	7.87	—	—
Lipper Target 2025 Funds Average	—	-0.55	-0.55	11.16	9.17	4.49	6.54	—	—
Fidelity Freedom 2025	0.59	-0.07	-0.07	14.71	10.80	5.12	7.83	6.70	11/6/2003
Fidelity Freedom Index 2025 Investor	0.12	-0.79	-0.79	12.60	10.06	4.87	7.38	7.54	10/2/2009
T. Rowe Price Retirement 2025	0.53	-0.62	-0.62	11.14	10.40	5.16	8.11	7.26	2/27/2004
American Funds 2025 Trgt Date Retire R5	0.36	-0.62	-0.62	11.57	10.29	5.71	7.80	6.59	2/1/2007
JPMorgan SmartRetirement 2025 R5	0.47	-0.86	-0.86	10.55	9.34	4.44	6.72	5.91	7/31/2007
JPMorgan SmartRetirement® Blend 2025 R5	0.47	-0.44	-0.44	11.75	9.87	4.77	6.85	7.08	7/2/2012
Nuveen Lifecycle 2025 R6	0.58	-1.25	-1.25	11.25	9.68	4.87	7.50	6.04	1/17/2007
State Street Target Retirement 2025 K	0.22	0.31	0.31	12.21	10.18	5.31	7.88	7.01	9/30/2014

The performance data shown represent past performance. Past performance is no guarantee of future results. Investment returns and principal value will fluctuate, so investors' shares, when sold, may be worth more or less than their original cost. Current performance may be lower or higher than the performance data cited. For performance data current to the most recent month-end, visit our website at vanguard.com/performance. Some funds assess purchase, redemption, and/or account maintenance fees. The performance data shown do not reflect deduction of these fees. If they did, performance would be lower. Details on these fees and adjusted performance figures can be found in the fund detail section.

Sources: Vanguard and Morningstar.



Absolute performance results *(continued)*

Average annualized return
as of March 31, 2026

Fund	Expense ratio	3 months	Year-to-date	1 year	3 years	5 years	10 years	Since inception	Inception date
Vanguard Target Retirement 2030 Fund	0.08	-1.04	-1.04	14.79	11.80	6.09	8.40	7.10	6/7/2006
Target Retirement 2030 Composite Index	—	-1.59	-1.59	14.44	11.77	6.24	8.64	—	—
Lipper Target 2030 Funds Average	—	-0.81	-0.81	12.01	10.13	5.12	7.45	—	—
Fidelity Freedom 2030	0.61	-0.15	-0.15	16.11	11.83	5.82	8.81	7.21	10/17/1996
Fidelity Freedom Index 2030 Investor	0.12	-0.93	-0.93	13.80	11.00	5.52	8.36	8.24	10/2/2009
T. Rowe Price Retirement 2030	0.55	-0.72	-0.72	12.63	11.56	5.75	8.88	8.95	9/30/2002
American Funds 2030 Trgt Date Retire R5	0.38	-1.32	-1.32	13.06	11.48	6.33	8.84	7.26	2/1/2007
JPMorgan SmartRetirement 2030 R5	0.46	-1.21	-1.21	12.40	10.76	5.35	7.73	6.76	5/15/2006
JPMorgan SmartRetirement® Blend 2030 R5	0.45	-0.69	-0.69	13.96	11.41	5.77	7.90	8.01	7/2/2012
Nuveen Lifecycle 2030 R6	0.60	-1.56	-1.56	12.51	10.63	5.45	8.24	6.35	1/17/2007
BlackRock Lifepath Index 2030 K	0.13	-0.16	-0.16	12.89	10.60	5.35	7.75	7.16	5/31/2011
State Street Target Retirement 2030 K	0.19	-0.71	-0.71	14.36	11.54	5.91	8.70	7.72	9/30/2014
Vanguard Target Retirement 2035 Fund	0.08	-1.13	-1.13	16.16	12.83	6.79	9.16	7.81	10/27/2003
Target Retirement 2035 Composite Index	—	-1.76	-1.76	15.74	12.74	6.92	9.38	—	—
Lipper Target 2035 Funds Average	—	-1.13	-1.13	14.07	11.75	6.12	8.59	—	—
Fidelity Freedom 2035	0.64	-0.17	-0.17	18.05	13.45	6.92	10.02	7.70	11/6/2003
Fidelity Freedom Index 2035 Investor	0.12	-1.09	-1.09	15.50	12.50	6.56	9.56	9.14	10/2/2009
T. Rowe Price Retirement 2035	0.58	-0.81	-0.81	14.51	12.92	6.48	9.63	8.07	2/27/2004
American Funds 2035 Trgt Date Retire R5	0.39	-1.85	-1.85	14.61	12.92	7.15	10.04	7.86	2/1/2007
JPMorgan SmartRetirement 2035 R5	0.50	-1.44	-1.44	13.66	12.24	6.33	8.79	7.03	7/31/2007
JPMorgan SmartRetirement® Blend 2035 R5	0.48	-0.85	-0.85	16.02	12.83	6.82	8.85	8.86	7/2/2012
Nuveen Lifecycle 2035 R6	0.61	-1.84	-1.84	13.71	11.68	6.10	8.99	6.77	1/17/2007
BlackRock Lifepath Index 2035 K	0.13	-0.66	-0.66	14.78	12.07	6.39	8.76	7.91	5/31/2011
State Street Target Retirement 2035 K	0.17	-1.11	-1.11	16.19	12.46	6.35	9.26	8.18	9/30/2014
Vanguard Target Retirement 2040 Fund	0.08	-1.20	-1.20	17.57	13.85	7.50	9.91	7.90	6/7/2006
Target Retirement 2040 Composite Index	—	-1.90	-1.90	17.05	13.72	7.59	10.11	—	—
Lipper Target 2040 Funds Average	—	-1.41	-1.41	16.22	13.23	7.01	9.31	—	—
Fidelity Freedom 2040	0.66	-0.30	-0.30	21.32	15.62	8.27	10.97	5.96	9/6/2000
Fidelity Freedom Index 2040 Investor	0.12	-1.32	-1.32	18.25	14.42	7.84	10.46	9.71	10/2/2009
T. Rowe Price Retirement 2040	0.59	-0.90	-0.90	15.95	14.06	7.09	10.28	9.61	9/30/2002
American Funds 2040 Trgt Date Retire R5	0.41	-2.49	-2.49	17.39	14.66	8.09	10.85	8.29	2/1/2007
JPMorgan SmartRetirement 2040 R5	0.50	-1.72	-1.72	14.84	13.25	7.00	9.53	7.75	5/15/2006
JPMorgan SmartRetirement® Blend 2040 R5	0.47	-0.97	-0.97	17.62	13.97	7.58	9.62	9.47	7/2/2012
Nuveen Lifecycle 2040 R6	0.64	-2.28	-2.28	15.62	13.00	6.95	9.84	7.28	1/17/2007
BlackRock Lifepath Index 2040 K	0.13	-0.73	-0.73	16.80	13.62	7.43	9.71	8.61	5/31/2011
State Street Target Retirement 2040 K	0.15	-1.26	-1.26	17.47	13.21	6.79	9.74	8.55	9/30/2014

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Sources: Vanguard and Morningstar.



Absolute performance results *(continued)*

Average annualized return
as of March 31, 2026

Fund	Expense ratio	3 months	Year-to-date	1 year	3 years	5 years	10 years	Since inception	Inception date
Vanguard Target Retirement 2045 Fund	0.08	-1.30	-1.30	18.92	14.82	8.18	10.51	8.59	10/27/2003
Target Retirement 2045 Composite Index	—	-2.07	-2.07	18.33	14.69	8.25	10.70	—	—
Lipper Target 2045 Funds Average	—	-1.59	-1.59	17.52	14.06	7.56	9.90	—	—
Fidelity Freedom 2045	0.68	-0.44	-0.44	23.13	16.51	8.79	11.22	7.81	6/1/2006
Fidelity Freedom Index 2045 Investor	0.12	-1.52	-1.52	19.78	15.23	8.31	10.70	9.90	10/2/2009
T. Rowe Price Retirement 2045	0.60	-0.98	-0.98	17.09	14.87	7.59	10.70	8.69	5/31/2005
American Funds 2045 Trgt Date Retire R5	0.42	-2.85	-2.85	18.21	15.14	8.26	11.07	8.40	2/1/2007
JPMorgan SmartRetirement 2045 R5	0.50	-1.85	-1.85	15.76	14.02	7.55	9.98	7.75	7/31/2007
JPMorgan SmartRetirement® Blend 2045 R5	0.45	-1.12	-1.12	18.71	14.78	8.16	10.05	9.78	7/2/2012
Nuveen Lifecycle 2045 R6	0.65	-2.47	-2.47	16.97	13.90	7.48	10.41	7.30	11/30/2007
BlackRock Lifepath Index 2045 K	0.14	-0.93	-0.93	18.63	15.00	8.34	10.50	9.19	5/31/2011
State Street Target Retirement 2045 K	0.16	-1.32	-1.32	18.60	13.90	7.15	10.16	8.88	9/30/2014
Vanguard Target Retirement 2050 Fund	0.08	-1.43	-1.43	20.35	15.63	8.67	10.78	8.35	6/7/2006
Target Retirement 2050 Composite Index	—	-2.27	-2.27	19.77	15.53	8.76	10.99	—	—
Lipper Target 2050 Funds Average	—	-1.65	-1.65	18.19	14.48	7.79	10.05	—	—
Fidelity Freedom 2050	0.68	-0.49	-0.49	23.11	16.49	8.79	11.23	7.71	6/1/2006
Fidelity Freedom Index 2050 Investor	0.12	-1.55	-1.55	19.75	15.23	8.30	10.70	9.93	10/2/2009
T. Rowe Price Retirement 2050	0.62	-1.02	-1.02	17.41	15.10	7.75	10.79	8.11	12/29/2006
American Funds 2050 Trgt Date Retire R5	0.42	-3.06	-3.06	18.35	15.26	8.20	11.12	8.43	2/1/2007
JPMorgan SmartRetirement 2050 R5	0.51	-2.01	-2.01	16.29	14.41	7.73	10.07	7.81	7/31/2007
JPMorgan SmartRetirement® Blend 2050 R5	0.44	-1.21	-1.21	19.45	15.21	8.40	10.20	9.89	7/2/2012
Nuveen Lifecycle 2050 R6	0.66	-2.67	-2.67	17.59	14.33	7.71	10.60	7.39	11/30/2007
BlackRock Lifepath Index 2050 K	0.14	-1.21	-1.21	20.40	16.11	9.04	10.99	9.58	5/31/2011
State Street Target Retirement 2050 K	0.16	-1.34	-1.34	19.54	14.50	7.47	10.41	9.06	9/30/2014
Vanguard Target Retirement 2055 Fund	0.08	-1.45	-1.45	20.34	15.63	8.67	10.77	10.52	8/18/2010
Target Retirement 2055 Composite Index	—	-2.29	-2.29	19.77	15.53	8.76	10.99	—	—
Lipper Target 2055+ Funds Average	—	-1.73	-1.73	18.48	14.70	7.93	10.24	—	—
Fidelity Freedom 2055	0.68	-0.48	-0.48	23.14	16.49	8.79	11.23	9.56	6/1/2011
Fidelity Freedom Index 2055 Investor	0.12	-1.61	-1.61	19.66	15.20	8.29	10.69	9.20	6/1/2011
T. Rowe Price Retirement 2055	0.63	-1.01	-1.01	17.56	15.19	7.76	10.78	8.10	12/29/2006
American Funds 2055 Trgt Date Retire R5	0.43	-3.29	-3.29	18.83	15.44	8.17	11.11	10.71	2/1/2010
JPMorgan SmartRetirement 2055 R5	0.51	-2.05	-2.05	16.21	14.38	7.72	10.06	9.86	1/31/2012
JPMorgan SmartRetirement® Blend 2055 R5	0.45	-1.22	-1.22	19.39	15.19	8.40	10.18	9.85	7/2/2012
Nuveen Lifecycle 2055 R6	0.68	-2.70	-2.70	17.79	14.46	7.79	10.69	9.34	4/29/2011
BlackRock Lifepath Index 2055 K	0.14	-1.30	-1.30	21.42	16.66	9.36	11.16	9.77	5/31/2011
State Street Target Retirement 2055 K	0.17	-1.35	-1.35	19.98	14.67	7.57	10.47	9.11	9/30/2014

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Sources: Vanguard and Morningstar.



Absolute performance results *(continued)*

Fund	Expense ratio	Average annualized return as of March 31, 2026							
		3 months	Year-to-date	1 year	3 years	5 years	10 years	Since inception	Inception date
Vanguard Target Retirement 2060 Fund	0.08	-1.44	-1.44	20.35	15.63	8.67	10.77	10.38	1/19/2012
Target Retirement 2060 Composite Index	—	-2.29	-2.29	19.77	15.53	8.76	10.99	—	—
Lipper Target 2060+ Funds Average	—	-1.82	-1.82	18.93	14.96	8.09	—	—	—
Fidelity Freedom 2060	0.68	-0.52	-0.52	23.10	16.50	8.78	11.21	9.77	8/5/2014
Fidelity Freedom Index 2060 Investor	0.12	-1.58	-1.58	19.73	15.22	8.30	10.69	9.28	8/5/2014
T. Rowe Price Retirement 2060	0.64	-1.05	-1.05	17.58	15.17	7.75	10.77	9.13	6/23/2014
American Funds 2060 Trgt Date Retire R5	0.44	-3.37	-3.37	18.93	15.48	8.16	11.08	9.90	3/27/2015
JPMorgan SmartRetirement 2060 R5	0.53	-2.05	-2.05	16.18	14.37	7.72	—	9.93	8/31/2016
JPMorgan SmartRetirement® Blend 2060 R5	0.47	-1.26	-1.26	19.46	15.22	8.45	—	10.03	8/31/2016
Nuveen Lifecycle 2060 R6	0.70	-2.71	-2.71	17.97	14.61	7.89	10.79	9.43	9/26/2014
BlackRock Lifepath Index 2060 K	0.14	-1.36	-1.36	21.51	16.68	9.36	11.17	11.92	2/29/2016
State Street Target Retirement 2060 K	0.19	-1.32	-1.32	20.02	14.69	7.58	10.46	9.10	9/30/2014
Vanguard Target Retirement 2065 Fund	0.08	-1.45	-1.45	20.32	15.61	8.68	—	10.12	7/12/2017
Target Retirement 2065 Composite Index	—	-2.29	-2.29	19.77	15.53	8.76	10.99	—	—
Lipper Target 2060+ Funds Average	—	-1.82	-1.82	18.93	14.96	8.09	—	—	—
Fidelity Freedom 2065	0.68	-0.51	-0.51	23.13	16.49	8.79	—	11.40	6/28/2019
Fidelity Freedom Index 2065 Investor	0.12	-1.60	-1.60	19.75	15.21	8.30	—	10.47	6/28/2019
T. Rowe Price Retirement 2065	0.64	-0.95	-0.95	17.60	15.19	7.83	—	10.46	10/13/2020
American Funds 2065 Trgt Date Retire R5	0.44	-3.42	-3.42	18.87	15.47	8.15	—	14.59	3/27/2020
JPMorgan SmartRetirement® Blend 2065 R5	0.87	-1.30	-1.30	18.96	14.96	—	—	16.07	11/1/2022
Nuveen Lifecycle 2065 R6	0.86	-2.74	-2.74	18.09	14.69	8.01	—	10.99	9/30/2020
BlackRock Lifepath Index 2065 K	0.14	-1.38	-1.38	21.48	16.67	9.38	—	11.52	10/30/2019
State Street Target Retirement 2065 K	0.24	-1.36	-1.36	19.94	14.61	7.55	—	13.50	3/30/2020
Vanguard Target Retirement 2070 Fund	0.08	-1.45	-1.45	20.34	15.63	—	—	14.55	6/28/2022
Target Retirement 2070 Composite Index	—	-2.29	-2.29	19.77	15.53	8.76	10.99	—	—
Lipper Target 2060+ Funds Average	—	-1.82	-1.82	18.93	14.96	8.09	—	—	—
Fidelity Freedom 2070	0.68	-0.57	-0.57	22.78	—	—	—	14.53	6/28/2024
Fidelity Freedom Index 2070 Investor	0.12	-1.62	-1.62	19.58	—	—	—	13.61	6/28/2024
T. Rowe Price Retirement 2070	0.64	-1.08	-1.08	—	—	—	—	11.59	6/18/2025
American Funds 2070 Trgt Date Retire R5	0.44	-3.41	-3.41	18.95	—	—	—	13.79	5/3/2024
BlackRock Lifepath® Index 2070 K	0.33	-1.43	-1.43	21.35	—	—	—	12.68	9/24/2024
State Street Target Retirement 2070 K	0.32	-1.41	-1.41	19.88	—	—	—	17.34	12/31/2024

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Sources: Vanguard and Morningstar.



Standardized returns

	Average annualized return as of March 31, 2026								
	Expense ratio	3 months	Year- to-date	1 year	3 years	5 years	10 years	Since inception	Inception date
Vanguard Total Stock Market Index Fund Institutional Shares	0.03	-3.96	-3.96	18.19	17.86	10.77	13.68	9.15	7/7/1997
Vanguard Total International Stock Index Fund Institutional Shares	0.06	1.75	1.75	27.52	15.30	7.51	8.74	6.54	11/29/2010
Vanguard Total Bond Market Index Fund Institutional Shares	0.025	0.06	0.06	4.34	3.62	0.34	1.70	4.24	9/18/1995
Vanguard Total International Bond Index Fund Institutional Shares	0.03	-0.42	-0.42	2.75	3.80	0.20	1.74	2.39	5/31/2013
Vanguard Short-Term Inflation-Protected Securities Index Fund Institutional Shares	0.02	0.97	0.97	3.92	4.69	3.51	3.07	2.24	10/17/2012

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Sources: Vanguard and Morningstar.

Notes

Notes

Important information

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The Vanguard Capital Markets Model® is a proprietary financial simulation tool developed and maintained by Vanguard's primary investment research and advice teams. The model forecasts distributions of future returns for a wide array of broad asset classes. Those asset classes include U.S. and international equity markets, several maturities of the U.S. Treasury and corporate fixed income markets, international fixed income markets, U.S. money markets, commodities, and certain alternative investment strategies. The theoretical and empirical foundation for the Vanguard Capital Markets Model is that the returns of various asset classes reflect the compensation investors require for bearing different types of systematic risk (beta). At the core of the model are estimates of the dynamic statistical relationship between risk factors and asset returns, obtained from statistical analysis based on available monthly financial and economic Sources: as early as 1960. Using a system of estimated equations, the model then applies a Monte Carlo simulation method to project the estimated interrelationships among risk factors and asset classes as well as uncertainty and randomness over time. The model generates a large set of simulated outcomes for each asset class over several time horizons. Forecasts are obtained by computing measures of central tendency in these simulations. Results produced by the tool will vary with each use and over time.

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Target Income Composite Index: An index derived by applying the fund's target asset allocation to the results of the following benchmarks: for international stocks of developed markets, the MSCI EAFE Index through December 15, 2010, the MSCI ACWI ex USA IMI Index through June 2, 2013, and the FTSE Global All Cap ex U.S. Index thereafter; for emerging-market stocks, the Select Emerging Markets Index through August 23, 2006, the MSCI Emerging Markets Index through December 15, 2010, the MSCI ACWI ex USA IMI Index through June 2, 2013, and the FTSE Global All Cap ex U.S. Index thereafter; for U.S. bonds, the Bloomberg U.S. Aggregate Bond Index through December 31, 2009, and the Bloomberg U.S. Aggregate Float Adjusted Index thereafter, as well as the Bloomberg U.S. Treasury Inflation-Protected Securities Index through June 2, 2013, and the Bloomberg U.S. Treasury Inflation-Protected Securities (TIPS) 0-5 Year Index thereafter; for short-term reserves, the Citigroup Three-Month Treasury Bill Index through June 2, 2013; for international bonds, the Bloomberg Global Aggregate ex-USD Float Adjusted RIC Capped Index; and for U.S. stocks, the Dow Jones U.S. Total Stock Market Index (formerly known as the Dow Jones Wilshire 5000 Index) through April 22, 2005, the MSCI U.S. Broad Market Index through June 2, 2013, and the CRSP U.S. Total Market Index thereafter. International stock benchmark returns are adjusted for withholding taxes.

Target 2015 Composite Index: An index derived by applying the fund's target asset allocation to the results of the following benchmarks: for international stocks of developed markets, the MSCI EAFE Index through December 15, 2010, the MSCI ACWI ex USA IMI Index through June 2, 2013, and the FTSE Global All Cap ex U.S. Index thereafter; for emerging-market stocks, the Select Emerging Markets Index through August 23, 2006, the MSCI Emerging Markets Index through December 15, 2010, the MSCI ACWI ex USA IMI Index through June 2, 2013, and the FTSE Global All Cap ex U.S. Index thereafter; for U.S. bonds, the Bloomberg U.S. Aggregate Bond Index through December 31, 2009, and the Bloomberg U.S. Aggregate Float Adjusted Index thereafter, as well as the Bloomberg U.S. Treasury Inflation-Protected Securities Index through June 2, 2013, and the Bloomberg U.S. Treasury Inflation-Protected Securities (TIPS) 0-5 Year Index thereafter; for international bonds, the Bloomberg Global Aggregate ex-USD Float Adjusted RIC Capped Index; and for U.S. stocks, the Dow Jones U.S. Total Stock Market Index (formerly known as the Dow Jones Wilshire 5000 Index) through April 22, 2005, the MSCI U.S. Broad Market Index through June 2, 2013, and the CRSP U.S. Total Market Index thereafter.

Target 2020, 2030, 2040, and 2050 Composite Indexes: Indexes derived by applying the fund's target asset allocation to the results of the following benchmarks: for international stocks of developed markets, the MSCI EAFE Index through December 15, 2010, the MSCI ACWI ex USA IMI Index through June 2, 2013, and the FTSE Global All Cap ex U.S. Index thereafter; for emerging-market stocks, the Select Emerging Markets Index through August 23, 2006, the MSCI Emerging Markets Index through December 15, 2010, the MSCI ACWI ex USA IMI Index through June 2, 2013, and the FTSE Global All Cap ex U.S. Index thereafter; for U.S. bonds, the Bloomberg U.S. Aggregate Bond Index through December 31, 2009, and the Bloomberg U.S. Aggregate Float Adjusted Index thereafter; for international bonds, the Bloomberg Global Aggregate ex-USD Float Adjusted RIC Capped Index; and for U.S. stocks, the MSCI U.S. Broad Market Index through June 2, 2013, and the CRSP U.S. Total Market Index thereafter. International stock benchmark returns are adjusted for withholding taxes.

Target 2025, 2035, and 2045 Composite Indexes: Indexes derived by applying the fund's target asset allocation to the results of the following benchmarks: for international stocks of developed markets, the MSCI EAFE Index through December 15, 2010, the MSCI ACWI ex USA IMI Index through June 2, 2013, and the FTSE Global All Cap ex U.S. Index thereafter; for emerging-market stocks, the Select Emerging Markets Index through August 23, 2006, the MSCI Emerging Markets Index through December 15, 2010, the MSCI ACWI ex USA IMI Index through June 2, 2013, and the FTSE Global All Cap ex U.S. Index thereafter; for U.S. bonds, the Bloomberg U.S. Aggregate Bond Index through December 31, 2009, and the Bloomberg U.S. Aggregate Float Adjusted Index thereafter; for international bonds, the Bloomberg Global Aggregate ex-USD Float Adjusted RIC Capped Index; and for U.S. stocks, the Dow Jones U.S. Total Stock Market Index (formerly known as the Dow Jones Wilshire 5000 Index) through April 22, 2005, the MSCI U.S. Broad Market Index through June 2, 2013, and the CRSP U.S. Total Market Index thereafter. International stock benchmark returns are adjusted for withholding taxes.

Important information

Target 2055 Composite Index: An index derived by applying the fund's target asset allocation to the results of the following benchmarks: for international stocks of developed markets, the MSCI EAFE Index through December 15, 2010, the MSCI ACWI ex USA IMI Index through June 2, 2013, and the FTSE Global All Cap ex U.S. Index thereafter; for emerging-market stocks, the MSCI Emerging Markets Index through December 15, 2010, the MSCI ACWI ex USA IMI Index through June 2, 2013, and the FTSE Global All Cap ex U.S. Index thereafter; for U.S. bonds, the Bloomberg U.S. Aggregate Float Adjusted Index; for international bonds, the Bloomberg Global Aggregate ex-USD Float Adjusted RIC Capped Index beginning June 3, 2013; and for U.S. stocks, the MSCI U.S. Broad Market Index through June 2, 2013, and the CRSP U.S. Total Market Index thereafter. International stock benchmark returns are adjusted for withholding taxes.

Target 2060 Composite Index: An index derived by applying the fund's target asset allocation to the results of the following benchmarks: for international stocks of developed markets, the MSCI ACWI ex USA IMI Index through June 2, 2013, and the FTSE Global All Cap ex U.S. Index thereafter; for emerging market stocks, the MSCI ACWI ex USA IMI Index through June 2, 2013, and the FTSE Global All Cap ex U.S. Index thereafter; for U.S. bonds, the Bloomberg U.S. Aggregate Float Adjusted Index; for international bonds, the Bloomberg Global Aggregate ex-USD Float Adjusted RIC Capped Index beginning June 3, 2013; and for U.S. stocks, the MSCI U.S. Broad Market Index through June 2, 2013, and the CRSP U.S. Total Market Index thereafter. International stock benchmark returns are adjusted for withholding taxes.

Target 2065 Composite Index: An index derived by applying the fund's target asset allocation to the results of the following benchmarks: the FTSE Global All Cap ex U.S. Index for international stocks, the Bloomberg U.S. Aggregate Float Adjusted Index for U.S. bonds, the Bloomberg Global Aggregate ex-USD Float Adjusted RIC Capped Index for international bonds, and the CRSP U.S. Total Market Index for U.S. stocks. International stock benchmark returns are adjusted for withholding taxes.

Target 2070 Composite Index: An index derived by applying the fund's target asset allocation to the results of the following benchmarks: the FTSE Global All Cap ex US Index for international stocks, the Bloomberg U.S. Aggregate Float Adjusted Index for U.S. bonds, the Bloomberg Global Aggregate ex-USD Float Adjusted RIC Capped Index Hedged for international bonds, and the CRSP US Total Market Index for U.S. stocks. International stock benchmark returns are adjusted for withholding taxes.

Product guarantees are subject to the claims-paying ability of the issuing insurance company.

Deferred variable annuities are long-term vehicles designed for retirement purposes and contain underlying investment portfolios that are subject to investment risk, including possible loss of principal.

Immediate variable annuities contain underlying investment portfolios that are subject to investment risk, including possible loss of principal.

The Vanguard Life-Cycle Investing Model (VLCM) is designed to identify the product design that represents the best investment solution for a theoretical, representative investor who uses the target-date funds to accumulate wealth for retirement. The VLCM generates an optimal custom glide path for a participant population by assessing the trade-offs between the expected (median) wealth accumulation and the uncertainty about that wealth outcome, for thousands of potential glide paths. The VLCM does this by combining two set of inputs: the asset class return projections from the VCMM and the average characteristics of the participant population. Along with the optimal custom glide path, the VLCM generates a wide range of portfolio metrics such as a distribution of potential wealth accumulation outcomes, risk and return distributions for the asset allocation, and probability of ruin, such as the odds of participants depleting their wealth by age 95.

The VLCM inherits the distributional forecasting framework of the VCMM and applies to it the calculation of wealth outcomes from any given portfolio.

The most impactful drivers of glide path changes within the VLCM tend to be risk aversion, the presence of a defined benefit plan, retirement age, savings rate and starting compensation. The VLCM chooses among glide paths by scoring them according to the utility function described and choosing the one with the highest score. The VLCM does not optimize the levels of spending and contribution rates. Rather, the VLCM optimizes the glide path for a given customizable level of spending, growth rate of contributions and other plan sponsor characteristics.

A full dynamic stochastic life-cycle model, including optimization of a savings strategy and dynamic spending in retirement is beyond the scope of this framework.

Vanguard ETF® Shares are not redeemable with the issuing fund other than in very large aggregations worth millions of dollars. Instead, investors must buy or sell Vanguard ETF Shares in the secondary market and hold those shares in a brokerage account. In doing so, the investor may incur brokerage commissions and may pay more than net asset value when buying and receive less than net asset value when selling.

Any guarantees under annuities issued by TIAA are subject to TIAA's claims-paying ability.

All investing is subject to risk, including the possible loss of the money you invest. There is no guarantee that any particular asset allocation or mix of funds will meet your investment objectives or provide you with a given level of income. Diversification does not ensure a profit or protect against a loss.

Investments in bond portfolios are subject to interest rate, credit, and inflation risk.

Investments in stocks or bonds issued by non-U.S. companies are subject to risks including country/regional risk and currency risk.

Investments in bond funds are subject to the risk that an issuer will fail to make payments on time and that bond prices will decline because of rising interest rates or negative perceptions of an issuer's ability to make payments.

Important information

With private equity (PE) investments, there are five primary risk considerations: market, asset liquidity, funding liquidity, valuation, and selection. Certain risks are believed to be compensated risks in the form of higher long-term expected returns, with the possible exceptions being valuation risk and selection risk. For selection risk, excess returns would be the potential compensation; however, limited partners (LPs) must perform robust diligence to identify and gain access to managers with the skill to outperform. PE investments are speculative in nature and may lose value.

Market risk: Private equity, as a form of equity capital, shares similar economic exposures as public equities. As such, investments in each can be expected to earn the equity risk premium, or compensation for assuming the nondiversifiable portion of equity risk. However, unlike public equity, private equity's sensitivity to public markets is likely greatest during the late stages of the fund's life because the level of equity markets around the time of portfolio company exits can negatively affect PE realizations. Though PE managers have the flexibility to potentially time portfolio company exits to complete transactions in more favorable market environments, there's still the risk of capital loss from adverse financial conditions.

Asset liquidity risk: Various attributes can influence a security's liquidity; specifically, the ability to buy and sell a security in a timely manner and at a fair price. Transaction costs, complexity, and the number of willing buyers and sellers are only a few examples of the factors that can affect liquidity. In the case of private equity, while secondary markets for PE fund interests exist and have matured, liquidity remains extremely limited and highly correlated with business conditions. LPs hoping to dispose of their fund interests early—especially during periods of market stress—are likely to do so at a discount.

Funding liquidity risk: The uncertainty of PE fund cash flows and the contractual obligation LPs have to meet their respective capital commitments—regardless of the market environment—make funding risk (also known as commitment risk) a key risk LPs must manage appropriately. LPs must be diligent about maintaining ample liquidity in other areas of the portfolio, or external sources, to meet capital calls upon request from general partners (GPs).

Valuation risk: Relative to public equity, where company share prices are published throughout the day and are determined by market transactions, private equity net asset values (NAVs) are reported quarterly, or less frequently, and reflect GP and/or third-party valuation provider estimates of portfolio fair value. Though the private equity industry has improved its practices for estimating the current value of portfolio holdings, reported NAVs likely differ from what would be the current "market price," if holdings were transacted.

Selection risk: Whether making direct investments in private companies, PE funds, or outsourcing PE fund selection and portfolio construction to a third party, investors assume selection risk. This is because private equity doesn't have an investable index, or rather a passive implementation option for investors to select as a means to gain broad private equity exposure. While there are measures an investor can take to limit risk, such as broad diversification and robust manager diligence, this idiosyncratic risk can't be removed entirely or separated from other systematic drivers of return. Thus, in the absence of a passive alternative and significant performance dispersion, consistent access to top managers is essential for PE program success.

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