

Retirement income strategies: Best practices for plan sponsors

Introduction

Retirement income is a hot-button issue in the defined contribution (DC) plan market, bringing together individuals' anxieties over managing their money and several long-standing trends that have been shaping the landscape. These forces include the ongoing shift from defined benefit (DB) to DC, increasing life expectancies, and the large number of baby boomers reaching retirement age. More recently, the higher level of interest rates and new regulations such as the SECURE Acts have emerged as strong catalysts for talk and action.

Participants are confronted with difficult questions: Will they run out of money? What can they spend comfortably in retirement? How should they think about Social Security and additional guaranteed-income needs? Not surprisingly, plan sponsors may feel overwhelmed and be tempted

to look for a silver bullet to address retirement income. However, a single solution is unlikely to sufficiently meet the retirement income needs of an entire participant population.



86% of participants want their employers to offer retirement income solutions.

We believe a comprehensive approach encompassing best practices in plan design, products, and services will make retirement income simpler and more straightforward for plan sponsors—and their participants. Providing a strong suite of retirement income solutions will help participants with diverse needs navigate retirement income with confidence.

According to Greenwald Research, 86% of plan participants want their employers to offer retirement income solutions, and almost all plan sponsors believe a comprehensive retirement income planning program would increase participants' comfort with income options, increase the amount they are willing to contribute, and increase their use of in-plan retirement income options.¹

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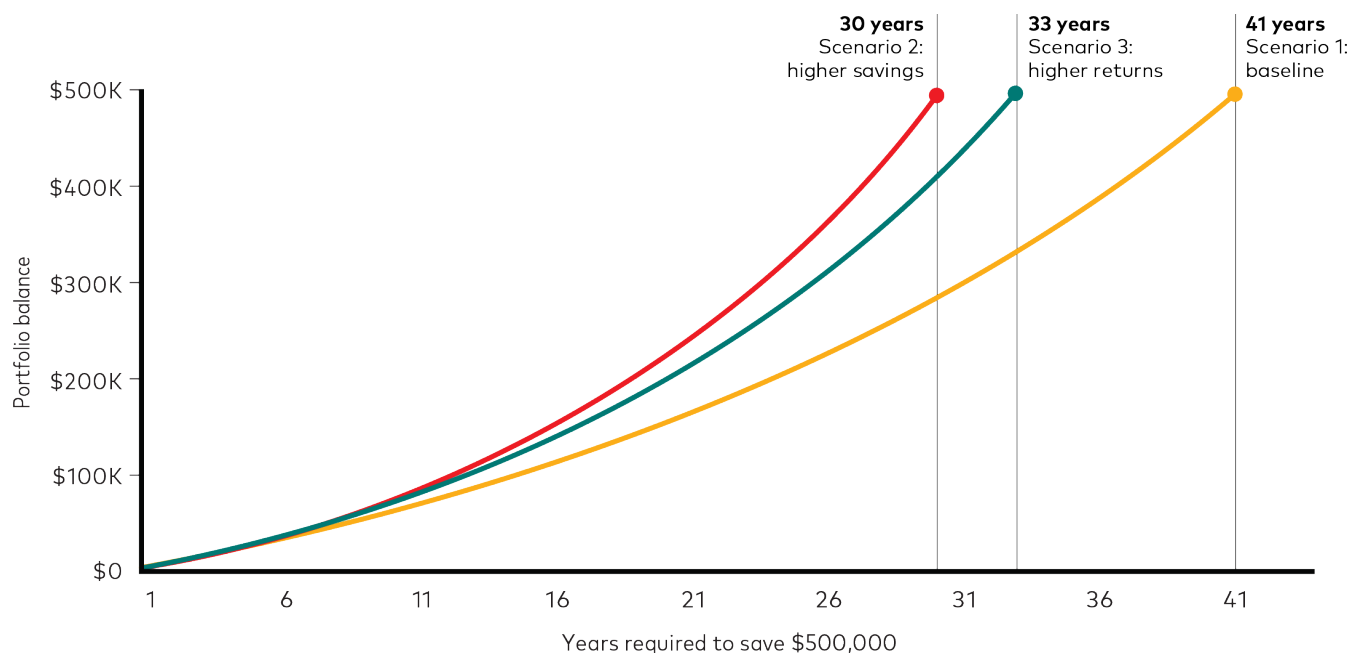
¹2024 In-Plan Insights Program. Greenwald Research, 2025.

A quick note on saving

Vanguard, whose mission is to give investors the best chance for investment success, firmly believes that having enough income in retirement starts with saving. The most significant action an individual can take to improve their expected retirement income is to save more while they are still working and harness the power of compound interest. **Figure 1** illustrates the impact of savings versus investment return on the time required to reach a specific goal.

For individuals who have saved enough, figuring out how to use their savings to support their lifestyle in retirement can feel challenging. And while there is no magic solution that will make up for a lack of savings, many DC plans include automatic features designed to make it easier for participants to save and invest. Access to these features through a DC plan can enhance retirement income and readiness. For the remainder of this paper, we will focus on best practices and strategies for plan sponsors to help their participants retire with confidence, use their savings effectively, and embrace their DC plan as a destination.

FIGURE 1. A higher contribution rate, consistently maintained, can be a powerful factor in achieving objectives



Source: Vanguard.

Notes: Each scenario starts with an initial contribution of \$10,000 made in Year 1, with the first annual contribution of \$5,000 made in Year 2. Scenario 1 assumes no increase in annual contributions (no savings increase) and annual returns of 4%. Scenario 2 assumes an annual 5% increase in contributions (savings increase) and annual returns of 4%. Scenario 3 assumes no increase in annual contributions (no savings increase) and annual returns of 6%. Annual return assumptions are over inflation. The portfolio balances shown are hypothetical and do not reflect any particular investment. There is no guarantee that investors will be able to achieve similar rates of return. The final account balances do not reflect any taxes or penalties that might be due upon distribution.

Workers with access to a DC plan are nearly



as likely to be on track for retirement as those without that access.

Sources: Vanguard calculations, based on data from the Survey of Consumer Finances, the Health and Retirement Study, and the Social Security Administration.

Notes: The population share is calculated as the portion within each specified group whose projected sustainable income exceeds their spending needs during retirement. The income for the median worker without DC plan access is \$37,000, and the income for the median worker with DC access is \$65,000. Figures are based on 2022 dollars and rounded to the nearest thousand.

Retiree-friendly plan design

Plan design—the structure and rules governing a retirement plan—is a foundational component of a successful retirement income strategy.

Retirees can benefit most when their DC plans are easy to work with and adapt to changes throughout retirement. Flexible distribution options can encourage participants to keep their assets invested in the plan and draw them down based on their specific needs and preferences.²

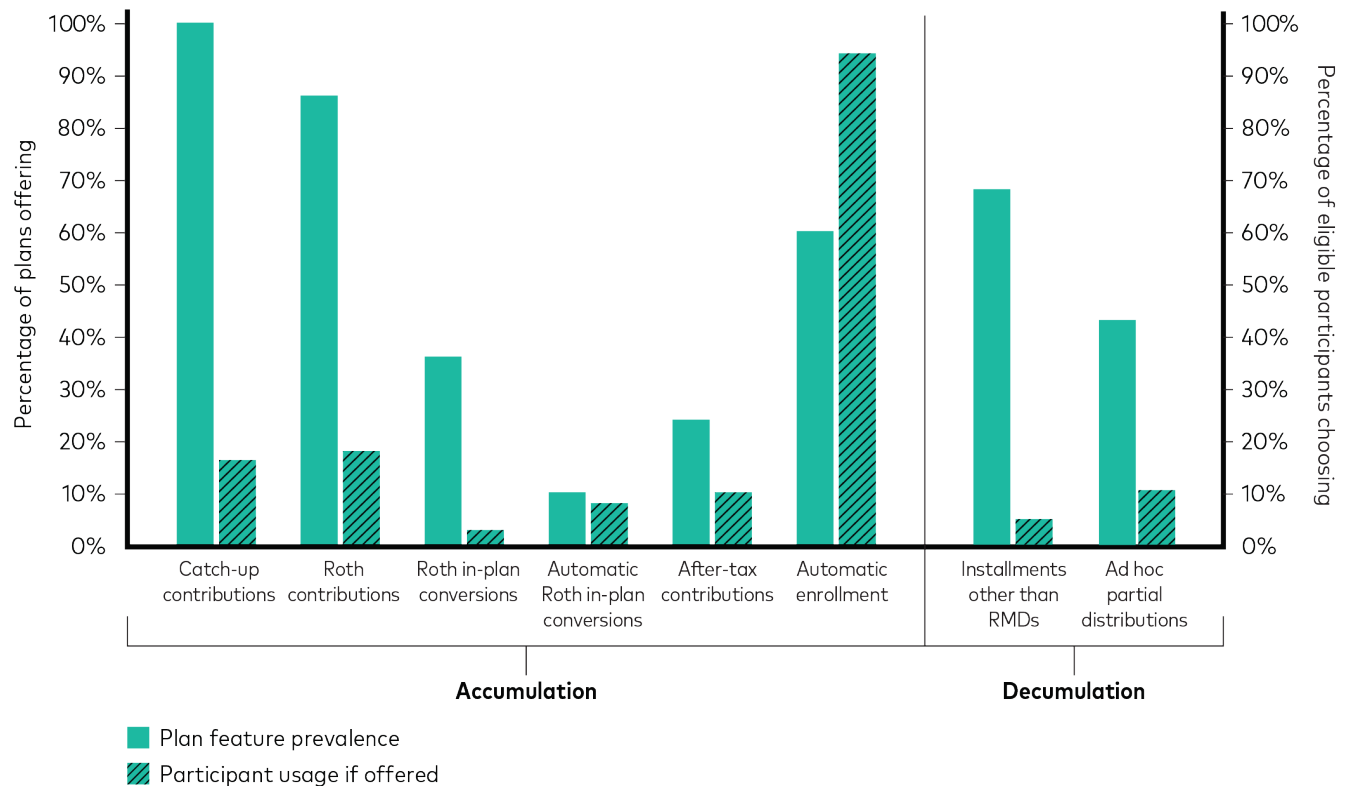
Plan sponsors who want to make their plan more retiree-friendly should consider including (or amending the plan to include) the following provisions:

- Permitting partial or ad hoc nonperiodic withdrawals that enable a participant to take out a portion of their plan savings on an as-needed basis.
- Permitting installments on a regular basis (for example, monthly, quarterly, semiannual, or annual) for a minimum period of 10 years (but preferably longer).
- Removing any age restrictions or force-outs.
- Permitting rollovers into the plan for terminated/retired participants (allows participants to consolidate accounts or take more advantage of plan investments and available services).

These provisions make accessing plan savings more flexible and can replicate the experience of receiving a regular paycheck. Participants may take advantage of similar options in their individual investment and bank accounts. Without flexible distribution options, participants could be forced to withdraw or roll over their entire balance just to access their money.

² See Clark and Walsh. *Retirement Distribution Decisions among DC Participants*.

FIGURE 2. Plan feature prevalence and participant usage



Source: Vanguard, 2025.

Notes: Eligible participants for both decumulation plan features consist of terminated participants ages 60 and older. Eligible participants for catch-up contributions consist of participants ages 50 and older.

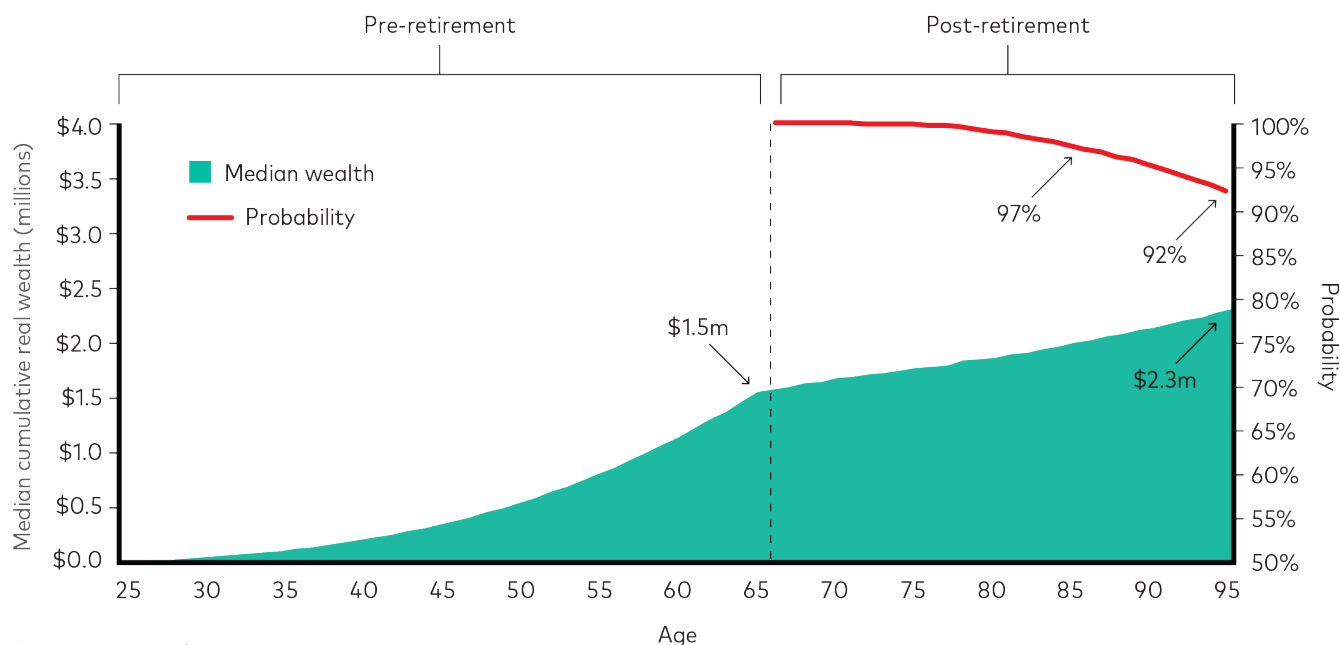
Figure 2 shows the prevalence of critical accumulation and retirement income features among plans recordkept at Vanguard and their corresponding participant usage. Offering distribution flexibility is necessary but not sufficient for driving utilization, which will be discussed in the following sections.

Beyond these distribution options, there are several nice-to-have features that can make the plan friendlier for retirees, including:

- Participant loan continuance for retired participants.
- Autoportability.
- Removal of distribution restrictions or hierarchies (for example, requiring participants to exhaust a certain source before accessing others).

Service quality is also critical for keeping retirees engaged in the plan, especially as they face practical questions around managing their retirement savings. For example, what are the processes to access plan savings? How long does a partial withdrawal take to complete? What forms, consents, and approvals are required to execute transactions? What level of human support is available among the suite of service providers, and how many representatives would a retiree need to contact? While it can be tempting to approach these operational aspects in isolation, any one of them can influence a participant's decision to stay in the plan through retirement—or to roll over their savings at the first opportunity.

FIGURE 3. Diligent participants can be well prepared for retirement with the Vanguard Target Retirement glide path



Source: Vanguard.

Notes: Analysis results are based on the Vanguard Life-Cycle Investing Model (VLCM) using 10,000 steady-state simulations from the Vanguard Capital Markets Model® (VCMM) based on market data and other information available as of December 31, 2024. Retirement spending sufficiency is based on a 79% replacement ratio of pre-retirement ending salary. Ending salary is assumed to be \$75,000. Real wealth is 50th percentile of distribution of cumulative inflation-adjusted portfolio wealth across 10,000 simulations that accounts for portfolio returns, pre-retirement contributions, and post-retirement spending. Probability of retirement spending sufficiency is the total percentage of scenarios across 10,000 simulations where the retirement spending goal, based on the 79% replacement ratio, is met by inflation-adjusted income from the portfolio and all other sources.

Investment strategies

Target-date investments are the cornerstone of most DC plans, serving as the default investment option for participants who prefer a simplified, hands-off approach to retirement planning.

These strategies offer a diversified, professionally managed portfolio that evolves over the participant's life cycle—starting with a higher equity allocation to support asset growth during the accumulation phase and gradually shifting to more conservative allocations to preserve wealth and generate income in retirement.

Vanguard constructed the Target Retirement glide path with the Vanguard Life-Cycle Investing

Model (VLCM)³ for a large, diverse population sharing limited personal information. With a 30% ending equity allocation at age 72, the glide path assumes just enough risk to help participants meet a retirement income goal of maintaining their lifestyle.

Meant to reflect the most generalized target-date participant demographics, the Target Retirement glide path assumes that the baseline participant is moderately conservative and consistently saves through their working years (from 8.8% at age 25 and continuing to 12.0% by age 65).⁴ As shown in **Figure 3**, this baseline participant could enter retirement with approximately \$1.5 million in median expected

³ The Vanguard Life-Cycle Investing Model (VLCM) is a utility-based framework that accounts for investor characteristics, preferences, and constraints and incorporates market-return projections from the Vanguard Capital Markets Model® (VCMM). It seeks to find an optimal glide path from a pool of potential thousands that best balances portfolio volatility due to market risk with maximizing the probability of achieving retirement spending and wealth goals over the investor's lifetime.

⁴ For additional details and information on the Vanguard Target Retirement participant profile assumptions, see Daga et al. *Vanguard's Approach to Target-Date Funds*. While the profile assumes a consistent, linearly increasing saving rate, Vanguard research from Greig, Hahn, and Tan (*Job Transitions Slow Retirement Savings*) found that many workers can experience their saving rate resetting to lower levels after switching jobs. Other Vanguard research/thought leadership (see Chen et al. *The Impact of Life Events on Target-Date Participants' Retirement Income Sufficiency*) have also explored the impact of certain life event-driven savings disruptions on target-date participants.

wealth. Assuming that replacing 79% of their ending salary in retirement can meet the goal of maintaining their lifestyle, the baseline participant would have a 92% probability of meeting or exceeding this goal by age 95. This underscores the importance of saving diligently during one's working years and its impact on improving retirement readiness and expected retirement income.

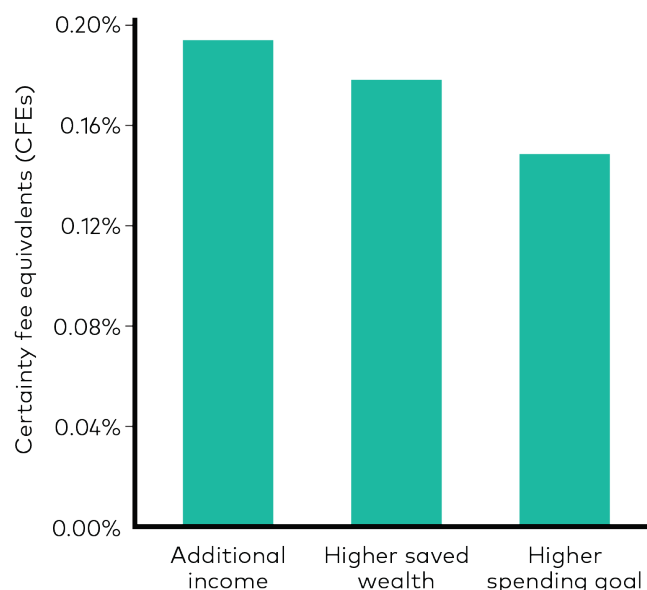
IMPORTANT: The projections and other information generated by the VCMM regarding the likelihood of various investment outcomes are hypothetical in nature, do not reflect actual investment results, and are not guarantees of future results. Distribution of return outcomes from VCMM are derived from 10,000 simulations for each modeled asset class. Simulations as of December 31, 2023, and December 31, 2024. Results from the model may vary with each use and over time. For more information, please see Appendix.

Target-date variations: An additional equity landing point

While the Target Retirement glide path aims to help a wide range of participants maintain their pre-retirement lifestyle, Vanguard's Target Retirement Income and Growth Trust is an option for those who prefer to stop de-risking at a higher final equity allocation of 50% around age 65. The Trust may be more appropriate for certain participants with the ability and willingness to assume higher equity risk for potentially higher wealth or spending in retirement.

Figure 4 shows the additional benefits that the Target Retirement Income and Growth Trust's higher equity exposure may bring to participants with higher income, wealth, or spending needs and the willingness to tolerate the higher associated risk.⁵ The positive certainty fee equivalents (CFEs),⁶ which represent the additional utility or value of the Trust over the default glide path, indicate that for these participants, the potential for higher wealth or spending may be worth the increased risk posed by the Trust's higher-equity final landing point.

FIGURE 4. Vanguard Target Retirement Income and Growth Trust brings extra value for certain participants with higher risk tolerance and additional income, higher saved wealth, or a higher spending goal



Source: Vanguard.

Notes: Analysis results are based on the VLCMM using 10,000 steady-state VCMM simulations based on market data and other information available as of December 31, 2024. For more details, including the assumptions for the three personas represented in this figure, see Stockton and Chen. *Choice of Equity Landing Points Can Benefit Target-Date Investors*.

Target-date variations: A guaranteed-income component

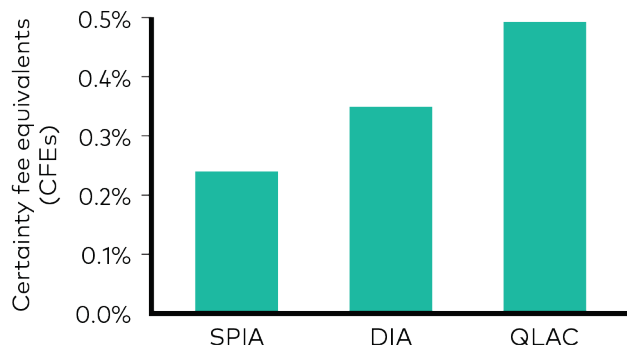
Hybrid annuity target-date funds (TDFs) are a new generation of retirement solutions that combine asset accumulation from a traditional TDF with guaranteed income from annuities. They are professionally managed products that transition automatically from a growth-focused multiasset allocation to an income-providing allocation. For some participants, hybrid annuity TDFs create investment value by providing stable consumption under multiple market and longevity scenarios. The additional value of hybrid annuity TDFs relative to a traditional target-date

⁵ For additional details and information on Vanguard Target Retirement Income and Growth Trust and assumptions used, see Stockton and Chen. *Choice of Equity Landing Points Can Benefit Target-Date Investors*.

⁶ A certainty fee equivalent, or CFE, is a metric quantifying the improvements in a participant's consumption, wealth, and portfolio stability as units of return. It can also be thought of as the additional annual fee a participant is willing to pay to be on any given glide path over a reference glide path, such as the Vanguard Target Retirement glide path. The higher the CFE, the greater the potential excess value or benefit of being on that given glide path.

strategy is quantified in the positive CFEs shown in **Figure 5** across a range of hybrid annuity TDFs of varying designs.⁷

FIGURE 5. Hybrid annuity TDFs show investment value for certain participants



Sources: Vanguard and CANNEX.

Notes: Analysis results are based on the VLCM using 10,000 steady-state VCM simulations based on market data and other information available as of December 31, 2023. The income funding strategy start age is 55, while the maximum allocation to the income funding strategy is 25%, and the share of the income funding strategy used for the annuity purchase is 100%. For more information, see Dave et al. *From Theory to Practice: Guaranteed Income and Hybrid Annuity Target-Date Funds*.

SPIA = single premium immediate annuity; DIA = deferred income annuity; QLAC = qualified longevity annuity contract.

Hybrid annuity TDFs offer many potential benefits to participants. Implementing the funds, however, presents challenges that could be mitigated through strategic planning. Plan sponsors should consider the following factors when evaluating hybrid annuity TDFs:

- The guaranteed component may not be suitable for all participants, given their diverse and evolving guaranteed-income needs, so personalization options are essential. At a minimum, participants need to have the option to opt in or out of any irrevocable guarantee.
- Because of the illiquidity and complexity of guaranteed-income solutions, extensive education and communication are needed to increase participants' financial literacy and engagement.
- There are additional, often opaque, expenses associated with the guaranteed component, so transparency on costs will be critical.

Vanguard Target Retirement Lifetime Income Trusts seamlessly blend Vanguard's industry-leading glide-path methodology with an embedded guaranteed-income option. This design provides participants with a more structured approach to managing retirement assets by facilitating an optional guaranteed-income stream in retirement. A collaboration between Vanguard, the industry-leading target-date provider,⁸ and Teachers Insurance and Annuity Association of America (TIAA), a pioneer and leader in guaranteed lifetime income, brings together deep expertise and trust to provide retirees with access to an optional secure income stream for life in a thoughtfully constructed glide-path solution.

Beyond target-date funds:

Generating income from investments

Retirement income products coming to market tend to focus on guaranteed income, with much less recognition of the role of nonguaranteed income solutions. Many of those, such as fixed income strategies, are likely already part of a plan's investment lineup. Both types of products, guaranteed and nonguaranteed, can support retirement income but with significant trade-offs.



⁷ For additional details and information on hybrid annuity TDFs and assumptions used, see Dave et al. *From Theory to Practice: Guaranteed Income and Hybrid Annuity Target-Date Funds*.

⁸ Based on AUM market share of the TDF industry. Sources: Vanguard and Morningstar, Inc., as of September 30, 2025.

FIGURE 6. Income strategies for retirees

	Guaranteed income	Nonguaranteed income
Products and strategies	<ul style="list-style-type: none"> • Income annuities (e.g., SPIA, DIA, QLAC). • Guarantee riders (e.g., GLWB). • Fixed deferred annuities (e.g., FIA). 	<ul style="list-style-type: none"> • Multiasset funds (e.g., TDFs). • Fixed income funds and bond ladders. • Stable value/money market funds.
Pros	<ul style="list-style-type: none"> • Income guaranteed for life. • Guaranteed income may NOT fluctuate. • Potential "yield" advantage over fixed income. 	<ul style="list-style-type: none"> • Account value accessible. • Account value and income fluctuate. • More responsive to future inflation.
Cons	<ul style="list-style-type: none"> • Principal may not be accessible. • Guaranteed income may NOT fluctuate. • Potentially less responsive to future inflation. 	<ul style="list-style-type: none"> • Income not guaranteed for life. • Account value and income fluctuate. • Fixed income may lag annuity "yields."
Outcome	<ul style="list-style-type: none"> • Generate guaranteed payments to support desired income. 	<ul style="list-style-type: none"> • Generate returns to support desired income (with cushion).

Source: Vanguard.

Notes: SPIA = single premium immediate annuity; DIA = deferred income annuity; QLAC = qualified longevity annuity contract; GLWB = guaranteed lifetime withdrawal benefit; FIA = fixed indexed annuity.

Figure 6 summarizes the key pros and cons of both guaranteed- and nonguaranteed-income products.

Every individual investor confronts the following dilemma when comparing guaranteed and nonguaranteed solutions: "Do I care more about having a guaranteed payout that could remain fixed or maintaining control with the possibility for my assets to gain or lose value?"

Guaranteed solutions generally, though not always, involve an irrevocable transfer of assets.⁹ Nonguaranteed solutions preserve control but are subject to market fluctuations.

Importantly, no product solution by itself will determine what is most appropriate for an individual participant, specific spending objectives, and implementation. Addressing these areas requires personalized support and guidance, such as from a financial wellness program or a financial advisor.

Financial wellness and guidance

Financial wellness and guidance solutions support retirement income by equipping participants to engage with their finances, understand core concepts, and know when and how to reach out for more help.

A strong plan design—one with a high default contribution rate, an automatic increase feature, and TDFs as the qualified default investment alternative (QDIA)—provides participants with a solid foundation for retirement saving. Still, participants will likely need to engage with their plans to make sure their saving strategy is aligned to their retirement spending goals and that investments are allocated appropriately.

A holistic participant experience, which includes the digital experiences of the recordkeeper and other third parties, as well as live support available over the phone or in person, should prepare participants to plan and manage their retirement income. At a minimum, the participant experience should provide retirement income, spending, and withdrawal support; education on financial wellness topics; and communications focused on retirement income.

⁹ Alternatives to being "locked in" could be significant ongoing fees or surrender charges, which could compromise a participant's return. Guaranteed solution features will be discussed later.

As shown in **Figure 7**, engaging with financial wellness and guidance solutions can help participants improve their retirement outcomes.

Retirement income and withdrawal calculators

Experiences that enable participants to estimate their future retirement income and model a sustainable withdrawal rate are essential components of a financial wellness program. Without this support, participants may struggle to translate DC plan balances into income. These calculators use inputs such as income replacement ratios, market-return projections, and spending goals to estimate how much money they could need to retire and how long it will last. Experiences that enable participants to withdraw assets and incorporate approaches they have modeled enhance the plan's retiree-friendly nature.

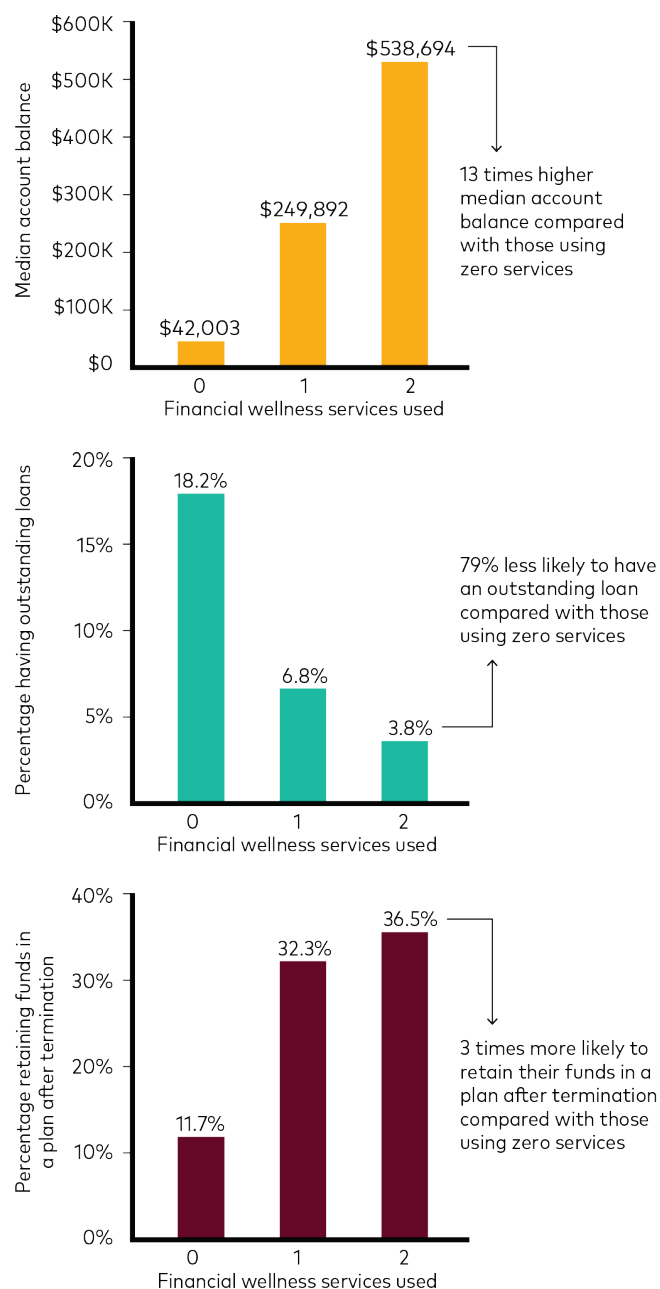
Participants in plans recordkept at Vanguard can model drawdown strategies for their retirement account using the Retirement Withdrawal Coach tool and explore different scenarios to see the impact. For example, they can see how changes in their withdrawal amount affect their monthly retirement income and how long their assets may last. With our retirement plan paychecks service, participants can convert their savings into income and initiate a retirement plan paycheck if the plan offers installments as a distribution option. They can refine payments as their needs and expenses change.

Financial wellness education

The participant experience should also provide resources on critical areas for retirement financial planning. Accessible, informative content on Social Security-claiming strategies, health care and insurance planning, and guaranteed-income solutions enables participants to explore important topics and apply guidance to their specific situation. This content could be available through the plan's recordkeeper or specific benefits providers and delivered through digital experiences, webinars, phone support, or in-person "benefits days." Participants should be able to easily locate information and should be

aware of everything available to them. Requiring participants to visit multiple sites or undergo call transfers could detract from their engagement and decrease the likelihood that they will remain in the plan throughout retirement.

FIGURE 7. Financial wellness programs can help participants improve outcomes



Source: Vanguard analysis of use of student debt services, health savings accounts, 529 education savings accounts, and competitive yield saving accounts among 3.9 million active participants and 11.2 million terminated participants from 1,411 active plans. Data as of July 31, 2025.

Communications

Plan communications, such as emails, physical mail, statements, forms, or other media, are a powerful channel for driving awareness of retirement income. Additionally, the recordkeeper may initiate communications or behavioral “nudges” embedded in the participant experience to drive engagement. For example, Vanguard’s digital participant experience incorporates nudges to encourage participants to take a positive action, such as using retirement planning tools or reviewing their beneficiaries.

Retirement income requires a sustained engagement strategy, starting well before participants reach retirement, to build awareness and facilitate planning. Recordkeepers and financial wellness providers likely have dedicated communications and outreach strategies for retirement income.

Beyond driving engagement, communications can also prepare participants for the big decisions awaiting them once they retire, such as keeping assets in the plan, working with an advisor, or considering an income annuity. Even a simple reminder to active participants of their options in retirement can be beneficial.

Together, these three components of a financial wellness program—income and withdrawal tools, education, and communications—can dispel perceptions that participants need to look elsewhere for financial services once they retire.

Advice

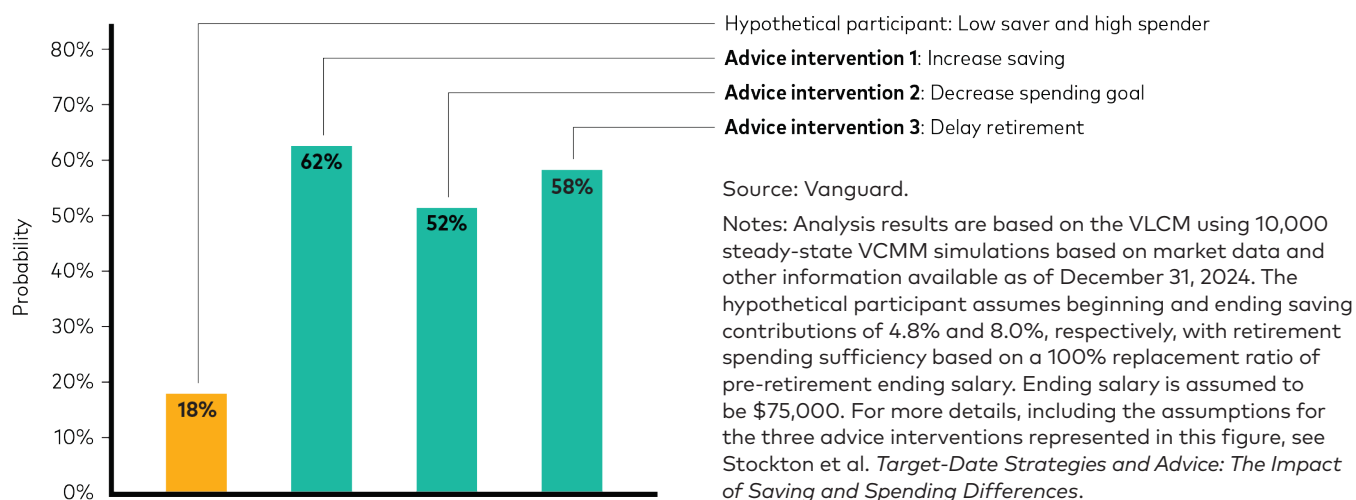
While financial wellness programs can offer valuable resources to help participants navigate retirement income, some may need additional support. Advice services complement financial wellness programs by providing tailored, hands-on help for retirees.

Advice can be delivered through a situational or ongoing program. Situational advice offering onetime consultations can help participants navigate discrete decisions and life events, such as financial windfalls, job changes, and growing families, without the commitment of continuous engagement. Ongoing advice, such as through a managed account, can provide personalized planning and recommendations as participants’ lives and financial circumstances change.

Vanguard makes available two industry-leading advice and managed account packages designed to give plan sponsors flexibility in meeting the diverse needs of their employees:

- Advice from Vanguard, our proprietary advice solution, with three comprehensive services leveraging Vanguard funds and methodology.
- Advice powered by Edelman Financial Engines, our independent solution, offering two personalized services guided by Edelman’s methodology.

FIGURE 8. Impact of advice interventions on probability of meeting retirement spending needs at age 95



Each solution can help employees and retirees take control of their finances and confirm that they're on the right track for retirement and beyond.

Given the prevalence of TDFs in DC plans, it is natural for plan sponsors to compare advice with TDFs. Areas such as spending and withdrawal strategy, Social Security claiming, tax-aware asset location, and insurance support are crucial for retirees and represent opportunities for advice programs to provide differentiated value to participants.

Figure 8 illustrates how advice can support a hypothetical participant who is not on track for sufficient retirement income due to a high spending goal and a lifetime of low savings.¹⁰ Each advice intervention—whether encouraging the participant to save more, lowering their spending expectations, or delaying retirement and Social Security claiming—can improve their likelihood of sustaining income throughout retirement.

Even participants who have accumulated substantial savings and are well prepared for retirement may benefit from working with an advisor to consider legacy goals and evaluate their spending potential, including options like enhancing their retirement lifestyle or retiring earlier. These interventions go well beyond one's portfolio, incorporating financial planning and behavioral dimensions to improve a participant's outcomes.

Advice can also help investors stay the course when market volatility increases. Ongoing behavioral coaching, combined with personalized portfolios tailored to key individual characteristics, goals, preferences, and constraints, can help participants avoid chasing performance or panic selling, two actions that are hazardous to wealth.¹¹ Participants can also gain peace of mind knowing that they are receiving guidance from a trusted advisor. Vanguard research found that 86% of advised clients reported having more peace of mind compared with managing their finances on their own.¹²

Guaranteed income

Retirement plans can provide participants with guaranteed-income solutions that may have feature or cost advantages over retail offerings. The challenges for plan sponsors will be selecting and managing guaranteed-income solutions for participants.

It is impossible to discuss retirement income without mentioning guaranteed solutions. Long-standing trends such as the shift away from DB plans, increasing life expectancies, and baby boomers entering retirement have collided with product proliferation, increased regulatory support via the SECURE Acts, and higher interest rates. Although guaranteed income is often equated with retirement income, we believe that guaranteed-income solutions are an important component of a plan's overall retirement income approach.

Plan sponsors will encounter dissonance when taking the temperature on usage of guaranteed-income solutions. In contrast to the momentum building among sponsors, consultants, and product providers, participant usage has remained low. **Figure 9** presents the percentage of households with an annuity in the Federal Reserve Board's Survey of Consumer Finances (SCF).

We believe participants should consider the following factors regarding guaranteed income:

- **How flexible is their financial situation?** Products such as income annuities generally involve an irrevocable (and potentially sizable) transfer of assets.
- **How concerned are they with outliving their assets?** Products that provide a guaranteed-income stream for life mitigate the risk that participants will run out of money while they are still alive.
- **How long do they expect to live?** Guaranteed products such as income annuities incorporate life expectancy into the payout, which can make their yield appear higher than those of pure fixed income investments.

¹⁰ For more information, see Stockton et al. *Target-Date Strategies and Advice: The Impact of Saving and Spending Differences*.

¹¹ For more information, see Stockton, Seegers, and Chen. *Target-Date Funds and Financial Advice: Behavioral and Portfolio Considerations*.

¹² For more information, see Costa, Martino, and de la Fuente. *The Emotional and Time Value of Advice*.

Participants would want to be comfortable with their answers to these questions before making any irreversible decisions (or paying higher fees). Ultimately, the decision to annuitize will depend on personal circumstances and require balancing these trade-offs. For example, participants who expect to live a long time may see greater benefits from income annuities versus portfolio withdrawals alone. However, those who would be unable to cover a surprise medical or housing expense after purchasing an annuity may want to reconsider.

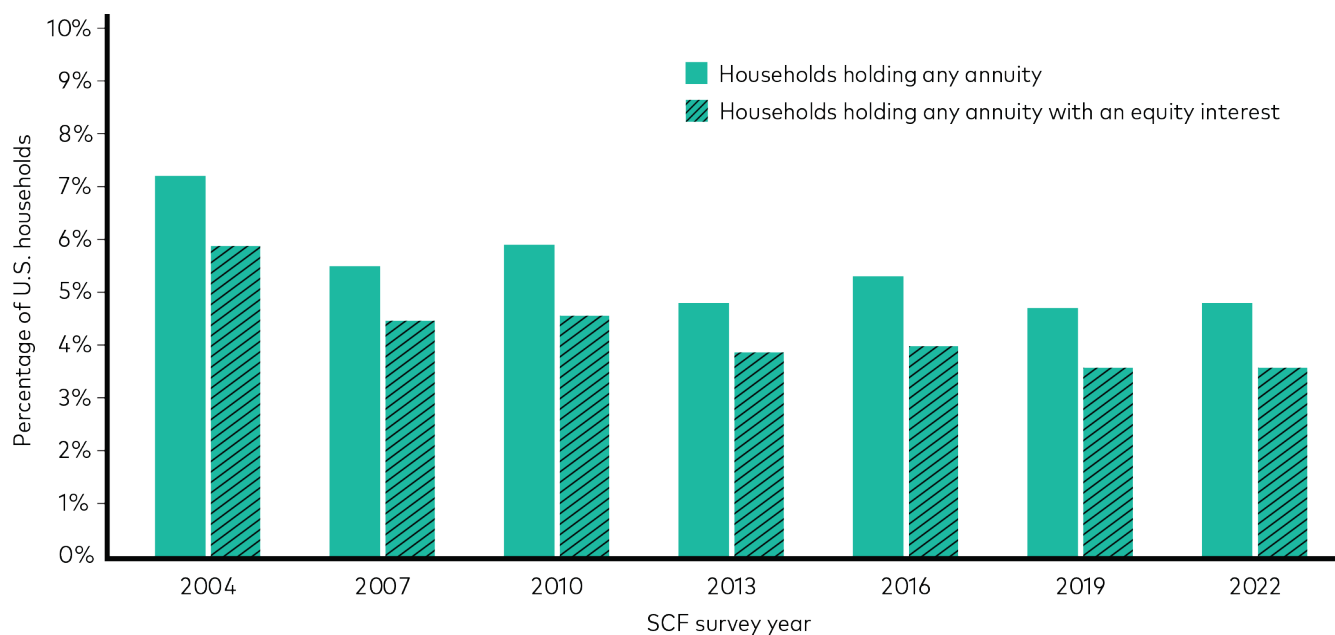
Plan sponsors may not be familiar with insurance vocabulary as they explore guaranteed-income solutions. Below is a "cheat sheet" for sponsors:

- **Cost:** Solutions can be either an "explicit fee" (cost disclosed, akin to an expense ratio) or an "implicit fee" (cost not disclosed, typically embedded in the payout or return received).

- **Structure:** Generally, guaranteed solutions will either be "in plan" (specific to or a provision of the retirement plan, that is, a distribution option; the plan sponsor is a fiduciary in choosing the guaranteed product solution) or "out of plan" (not specific to or a provision of the retirement plan; the plan sponsor is likely not a fiduciary over the solution).¹³
- **Type:** Annuities can be immediate (payments generally start soon after purchase), deferred (payments generally start later), or withdrawal based (payments are based on a percentage of assets instead of a fixed purchase amount).

Seeking perspectives and guidance from their investment consultant, external experts, or defined benefit administrators (if applicable) will help plan sponsors navigate this growing space, compare products, and identify ones that could be appropriate for their plan.

FIGURE 9. Percentage of households owning an annuity since 2004



Sources: Vanguard and Federal Reserve Board's Survey of Consumer Finances.

Notes: Data extracted from Federal Reserve Bulletin summary result articles for surveys released in 2004, 2007, 2010, 2013, 2016, 2019, and 2022. The Survey of Consumer Finances is a triannual interview survey of U.S. families, with the most recent one conducted in 2022. The percentage of households holding any annuity includes all households who responded that they do receive income from or have assets in an annuity, excluding job pensions. The percentage of households holding any annuity with an equity interest includes the subset of households who responded that they do have an equity interest in any of the annuities; that is, they could cash in any of these annuities if they wanted to.

¹³ Several safe harbors exist for plan sponsors providing guaranteed solutions to their participants, and regulation may continue to evolve to support usage. Plan sponsors should consult with their ERISA counsel and investment consultant to understand the implications of structure on their fiduciary responsibilities to the plan and its participants.

Participant engagement and education on guaranteed-income solutions will be critical to raising awareness, explaining how they work, and ensuring proper usage. Plan sponsors and their product and service providers will need to invest in the participant experience and communications to support any solution they implement to encourage engagement and utilization.

Vanguard provides access to Hueler's Income Solutions® platform for recordkeeping clients and their participants on an out-of-plan basis. Through the Income Solutions® platform, retiring participants looking to purchase annuities with a portion of their retirement savings can get competitive quotes from a range of leading insurance providers without conflict or bias.

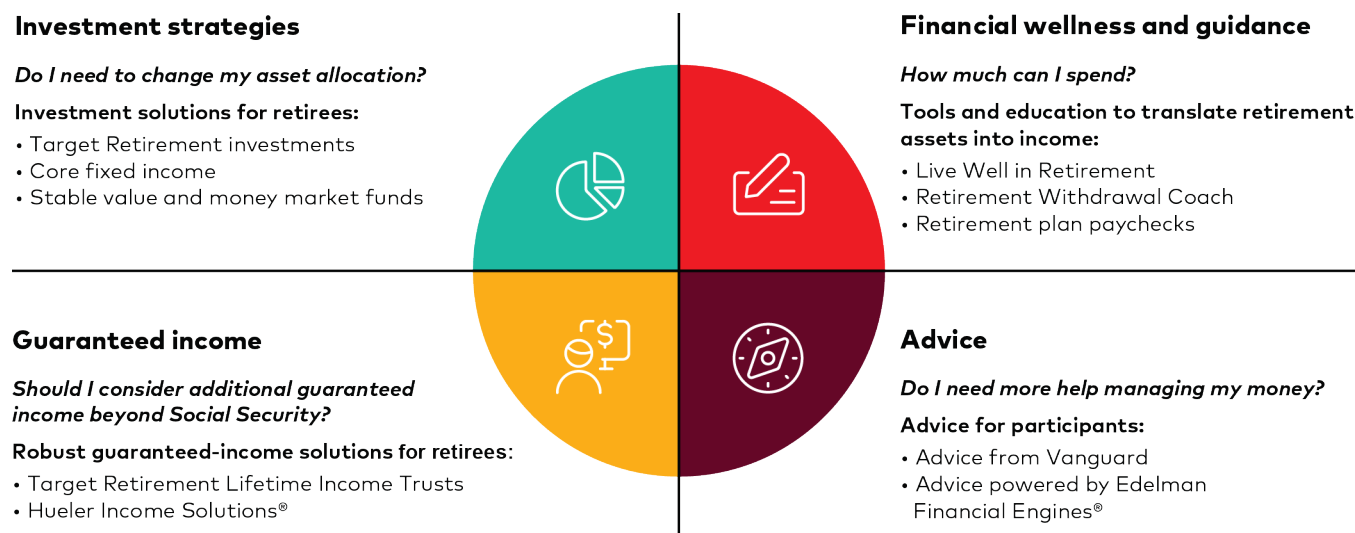
Bringing it all together: A retirement income framework

Successfully navigating retirement income requires a comprehensive approach. Vanguard's framework can serve as a playbook for plan sponsors to review their plan design, products, and services to meet the specific needs of their participants.

We think about retirement income holistically, pairing investment and guidance-based solutions to make retirement simpler and more straightforward for participants and plan sponsors. **Figure 10** presents our framework and suite of solutions currently available to our clients. As our approach—and the retirement industry's perspectives on retirement income—evolve, we will use this framework to identify the value of potential new products and services relative to the features already available to our clients.

Many of these features are already present in retirement plans, effectively hiding in plain sight, and simply require a conversation to refresh on what is already available. This framework can also help plan sponsors and consultants perform gap analysis and focus on bringing targeted solutions to their plan. Each component of our framework plays a specific role in helping plan sponsors address the factors that matter most to meet their participants' diverse needs and set them up for retirement success.

FIGURE 10. Vanguard's approach to retirement income



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Source: Vanguard.

References

Aliaga-Díaz, Roger A., Zachary Rayfield, Ankul Daga, and Marcos Dinerstein. [Vanguard's Life-Cycle Investing Model \(VLCM\): A General Portfolio Framework for Goals-Based Investing](#). Vanguard, May 2025.

Chen, Vivien, Jeffrey Seegers, Kimberly Stockton, and Scott Larsen. [The Impact of Life Events on Target-Date Participants' Retirement Income Sufficiency](#). Vanguard, July 2025.

Clark, Jeffrey W., and Joseph C. Walsh. [Retirement Distribution Decisions Among DC Participants](#). Vanguard, February 2023.

Costa, Paulo, Marsella Martino, and Malena de la Fuente. [The Emotional and Time Value of Advice](#). Vanguard, June 2025.

Daga, Ankul, Roger Aliaga-Díaz, Nathan Zahm, Victor Zhu, Bryan Hassett, and Greg Banis. [Vanguard's Approach to Target-Date Funds](#). Vanguard, November 2022.

Dave, Vibhor, Ankul Daga, Kimberly A. Stockton, Brian Miller, and Joseph Schisselbauer. [From Theory to Practice: Guaranteed Income and Hybrid Annuity Target-Date Funds](#). Vanguard, June 2024.

Greig, Fiona, Kelly Hahn, and Fu Tan. [Job Transitions Slow Retirement Savings](#). Vanguard, September 2024.

Greig, Fiona, Kelly Hahn, Fu Tan, and Nicky Zhang. [The Vanguard Retirement Outlook: Strong National Progress, Opportunities Ahead](#). Vanguard, October 2025.

[How America Saves 2025](#). Vanguard.

Stockton, Kim, and Vivien Chen. [Choice of Equity Landing Points Can Benefit Target-Date Investors](#). Vanguard, May 2025.

Stockton, Kim, Jeffery Seegers, and Vivien Chen. [Target-Date Strategies and Advice: Behavioral and Portfolio Considerations](#). Vanguard, January 2024.

Stockton, Kim, Vivien Chen, Jeffrey Seegers, and Scott Larsen. [Target-Date Strategies and Advice: The Impact of Saving and Spending Differences](#). Vanguard, September 2024.

[Vanguard's Principles for Investing Success](#). Vanguard, November 2023.

Appendix

Asset returns: Vanguard Capital Markets Model®

IMPORTANT: The projections and other information generated by the Vanguard Capital Markets Model (VCMM) regarding the likelihood of various investment outcomes are hypothetical in nature, do not reflect actual investment results, and are not guarantees of future results. VCMM results will vary with each use and over time.

The VCMM projections are based on a statistical analysis of historical data. Future returns may behave differently from the historical patterns captured in the VCMM. More importantly, the VCMM may be underestimating extreme negative scenarios unobserved in the historical period on which the model estimation is based.

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, U.S. municipal bonds, 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 data from 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 time. Forecasts represent the distribution of geometric returns over different time horizons. Results produced by the tool will vary with each use and over time.

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 sets 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 DB plan, retirement age, saving 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.

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

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