ADVISOR'S ALPHA® PERSPECTIVES | 2025

Celebrating Vanguard Advisor's Alpha: Clients and their advisors thriving together for 25 years

- Over the past 25 years, Vanguard and the investment advisory community have maintained a strong partnership, with advisors widely adopting Vanguard's Advisor's Alpha framework. This collaboration has led to a significant transformation in how advisory portfolios are managed. Specifically, advisory practices have been moving to more transparent, positive-sum activities resulting in material improvement in advised clients' investment outcomes and advisory practice outcomes while also growing the advisory addressable market. While the markets will inevitably experience both bull and bear cycles, we believe it will always be a secular bull market for fee-based investment advice for advisory firms that embrace the substantial and more predictable positive value creation activities within Vanguard Advisor's Alpha.

- In 2001, we introduced the Advisor's Alpha concept, highlighting how advisors could generate substantial and more predictable value, or alpha, through financial planning, tax optimization, behavioral coaching, and relationship-oriented services. At that time, the primary value proposition for advisors was trying to outperform the market, with indexing and low-cost investing comprising less than 10% of advisory portfolios.

- In 2014, we published our *Quantifying Advisor's Alpha* research, which found that advisors following wealth management best practices can add up to, or even exceed, 3% in net returns[1] for their clients while also providing a tangible way to differentiate their skills and practice.

- During this period, various trends in investment advice—such as regulatory changes, fee structures, and technology-enabled competition (in other words, robo advisors)—that embraced the Advisor's Alpha methodology and framework continued to shape the contours of the industry and mold client satisfaction. This led to our 2018 *People with Portfolios* research, which underscores the critical importance of relationship management—an inherently time-intensive endeavor.

- Looking ahead, we are extremely optimistic that Vanguard's partnership with the advisory community will not only continue to thrive but also drive meaningful improvements in end investor outcomes. As technology, innovation, and the democratization of advisory value creation continue to accelerate, we expect ongoing technological advancements to further reduce friction costs, making a wider range of financial planning, tax and estate planning, and individualized proxy preference services accessible to a broader audience. This will enable significantly more advised clients, and their advisors, to benefit from wealth management strategies and individual preferences that were previously more exclusive to ultra-high-net-worth individuals.

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1 Like any approximation, the actual amount of value added may vary significantly, depending on clients' circumstances.

As Vanguard Advisor's Alpha celebrates its 25th anniversary, it is an opportune time to reflect on its inception, the impact it has made on the advisory industry, and its role in improving both advised client and advisory practice outcomes. The widespread adoption of this approach by advisors, coupled with the trends we will discuss, has led to a heightened focus on asset allocation and investment fund selection, financial planning and wealth management, and behavioral coaching, resulting in better outcomes for advised clients and advisory practices alike.

2001: Vanguard introduces the concept of Advisor's Alpha

Vanguard Advisor's Alpha revolutionized the traditional value proposition of financial advice. This innovative concept, first introduced in 2001, outlined how advisors could add more consistent and reliable value, or alpha, through asset allocation, a fund selection process focused on reasonable costs, financial planning, wealth management, and behavioral coaching **(Figure 1)**—rather than advisors attempting to outperform their client's benchmark portfolio, which was the dominant advisor value proposition at the time.

Figure 1: The Advisor's Alpha concept

Source: Vanguard Investment Advisory Research Center.

Advisor's Alpha brought to light that a value proposition based primarily on an advisor's attempting to outperform the market puts an advisor at a meaningful disadvantage and—using evidence as a guide—is hard to fulfill. Not only does success depend on factors outside the advisor's control, such as selecting individual securities or funds that will deliver superior returns, but the strategy can also lead to wide deviations from the client's benchmark portfolio, leading them to "drop out" if the promised outperformance does not materialize. Instead, Advisor's Alpha emphasizes the more consistent and reliable benefits of a professionally advised relationship. Advisors can add meaningful value by helping their clients with asset allocation, investment selection, rebalancing, tax-efficient strategies, cash flow management, family will and legacy planning, and behavioral coaching during periods of market volatility—each of which are well within an advisor's control.

At the time, the compensation structure for advisors was also evolving from a commission-and transaction-based system to a fee-based, asset management framework. This is highly aligned with the principles of Advisor's Alpha, reflecting a move towards aligning advisor-client interests and emphasizing long-term financial objectives over short-term transactions.

Finally, Advisor's Alpha highlighted that beyond providing clients with a more stable and disciplined investment experience, following this framework also enhances the advisory practice by reducing tracking error to the client's benchmark portfolio and building trust, which both lead to stronger client retention rates, client satisfaction, and referrals.

2014: *Putting a value on your value: Quantifying Vanguard Advisor's Alpha®*

As the advisory industry continued to gravitate toward fee-based advice, there was a great temptation to define an advisor's value-add as an annualized number. In this way, fees deducted annually for the advisory relationship could be justified by the "annual value-add." As a result, the critical question that arose at this time was, "How much value does Vanguard believe that advisors can add by following the Advisor's Alpha framework?"

That, in turn, led to our seminal research[2] paper, *Putting a Value on your value: Quantifying Advisor's Alpha*. In short, our research found that **advisors can potentially add up to, or even exceed, 3% in net returns by using the Vanguard Advisor's Alpha framework** as outlined in **Figure 2**. The table provides a high-level summary of the value we believe advisors can add by incorporating wealth management best practices.[3] For additional details, see the Vanguard Advisor's Alpha Quantification Modules beginning on page M1.

Figure 2: The value-add of best practices in wealth management[4]

Vanguard Advisor's Alpha strategy	Module	Value-add relative to "average" client experience (in basis points of return)
Suitable asset allocation using broadly diversified funds/ETFs	1	> 0*
Investment selection	2	0 to 100
Rebalancing	3	12
Behavioral coaching	4	Up to 200 or more
Asset location	5	0 to 60
Tax-efficient retirement strategy	6	Up to 100 or more
Total return versus income investing	7	> 0*
Tax-loss harvesting	8	Up to 150 or more**
Range of potential value added (basis points)		**Up to, or even exceeding, 3% in net returns**

Source: Vanguard Investment Advisory Research Center.

* Value is deemed significant but too unique to each investor to quantify.

** Tax-loss harvesting (TLH) was added to QAA modules in 2024. To understand the potential impact of TLH for an investor, the value reported must be scaled by the size of TLH assets relative to the size of the entire portfolio.

Notes: We believe implementing the Vanguard Advisor's Alpha framework can add about 3% in net returns for your clients and also allow you to differentiate your skills and practice. The actual amount of value added may vary significantly, depending on clients' circumstances. "Up to, or even exceed 3%" means 3 percentage points of additional net return over an unspecified period of time.

2 Ritholtz Wealth Management's Josh Brown has written: "Vanguard's whitepaper, The Advisor's Alpha, was the most seminal thing ever written about the ways in which financial advisors can add value to a client away from the fussing over asset management. I don't know a single serious person in our industry that hasn't read it, shared it, and internalized it."

3 The quantification of value compares the projected results of a portfolio that is managed using well-known and accepted best practices for wealth management with those that are not. Obviously, results will vary significantly.

4 Numbers represent the 2024 update of this research. In the initial version publication, there were seven modules; tax-loss harvesting was subsequently added to the table as it became a more widely applicable tool for most clients. See call-out box for more details.

Because clients only get to keep, spend, or bequest net returns, the focus of wealth management should always be on maximizing net returns. While some of the strategies herein can be expected to yield an annual benefit—such as reducing expected investment costs or taxes—the most significant opportunities present themselves not consistently but intermittently, often during periods of either market duress or euphoria. These opportunities can pique investors' fear or greed, tempting them to abandon well-thought-out investment plans. In such circumstances, the advisor may have the opportunity to add tens of percentage points of value-add, rather than mere basis points (bps)[5], and may more than offset years of advisory fees.

Similarly, we cannot hope to define here every avenue for adding value; instead, our analysis focuses on the most common advisory activities for adding value, particularly those that are widely applicable and measurable. For example, creating a will, implementing charitable-giving strategies, implementing clients preferences or values, providing individualized proxy preference services, engaging in estate planning, and business-continuation planning are just a few additional advisor activities (among hundreds more) that can add tremendous value in the right circumstances, but that may not be as universally applicable and/or are more difficult to broadly quantify. In addition, for some investors without the time, willingness, or ability to confidently manage their financial matters, working with an advisor is likely the best, and only, option. They may simply prefer to spend their time doing something—anything—else. The value of an advisor in this context is virtually impossible to quantify. Nonetheless, the overwhelming majority of fund assets are advised, indicating that investors strongly value professional investment advice. *We don't need to see oxygen to feel its benefits.*

Paying a fee to a professional who follows Vanguard's Advisor's Alpha framework described here can add value in comparison to the average investor experience, currently advised or not. Many advisors are already applying these best practices and adding this value; others have the opportunity to move closer to these outcomes for their clients. As a result, we present the potential value add as a range. Note that individual client circumstances can result in outcomes closer to the lower end of the range or even exceed the upper end of the range.

Finally, we are in no way suggesting that every advisor—charging any fee—can add value. Advisors can add value if they follow the techniques and activities which have shown a high probability of adding positive value and avoiding activities that have had negative value. Our aim was and remains to motivate advisors to adopt and embrace these best practices and to provide a framework for describing and differentiating their value propositions. In looking at how advised portfolios are managed today versus 2001, we could not have imagined how broadly this concept would be adopted and diffused.

Vanguard Advisor's Alpha: Good for advisory clients and advisory practices

The Vanguard Advisor's Alpha framework is not only good for advisory clients it also provides benefits for advisory practices. With the compensation structure for advisors evolving from a commission- and transaction-based system to a fee-based asset management framework, assets—asset retention, and referrals—are all improved following the Advisor's Alpha framework and are paramount to the economics of the advisory practice. Following this framework enhances the advisory practice by reducing the tracking error to the client's benchmark portfolio as well as return leakage, which together build trust and increase client retention, satisfaction, and referrals.

5 One basis point equals 1/100 of a percentage point.

2018: *The evolution of Vanguard's Advisor's Alpha®: People with portfolios*

In today's rapidly evolving marketplace, the intersection of cutting-edge technology and increasingly savvy consumers is reshaping industries at an unprecedented pace, and the financial advisory services industry is not immune. Clients increasingly expect transparency, reliability, and a tangible value proposition. Gone are the days where an advisor's value proposition could be based primarily on the ability to outperform the market via security selection, market timing, and/or market forecasting, yet without the ability for clients to check to see that some claimed outperformance just wasn't so. Today, investors can check and compare very easily to see just how hard and rare it has been for an advisor to consistently outperform the client's benchmark portfolio.

In addition, advancements in technology and innovation—including the rise of robo advisors and sophisticated user-friendly AI-driven software—has resulted in the automation and democratization of many advisory service activities that lowered client investment return leakage (tax-efficient rebalancing, tax-loss harvesting, optimal fund selection, and tax-efficient drawdown, to name a few). This trend toward technologically enabled advice is both friend and foe, bringing an increased opportunity for firms to profitably serve a larger number of clients and deliver Advisor's Alpha even as it brings to the market sophisticated high after-tax investment outcome client portfolios, and sets a new transparent benchmark for advisors to level up to.

Ultimately, clients will decide the value of advice, and, as our Advised Investor Insights research reveals, they clearly value and reward an advisor they highly trust. To establish this level of trust takes time and a concerted effort, and time is a limited resource. However, advisors have a number of tools and strategies to better use what time they have; they can use technology-enabled efficiencies to streamline client onboarding, portfolio construction, and ongoing management; form advisory teams to capitalize on the diverse skills and increased capacity to serve clients well; and use every contact with clients as an opportunity to make them feel valued, respected, and cared for. Advisors must judge for themselves the best use of their limited time, but the benefits from allocating more time to their client relationships may be unsurpassed by other efforts.

As illustrated by our Advisor's Alpha flywheel **(Figure 3)**, the industry evolution that we've described creates a virtuous circle, benefiting both advised clients and advisors, which has led to a massive adoption of the Advisor's Alpha framework as well as the opportunity to grow the advisory addressable market.

Figure 3: Vanguard Advisor's Alpha flywheel

Collective activity increases the probability of improving client and practice outcomes.

Source: Vanguard Investment Advisory Research Center.

2025: *Celebrating Vanguard Advisor's Alpha: Clients and their advisors thriving together for 25 years*

As we celebrate the 25-year anniversary of Advisor's Alpha, it is an opportune time to examine the evolving value proposition of financial advisors, contrasting the industry today with that of 2001.

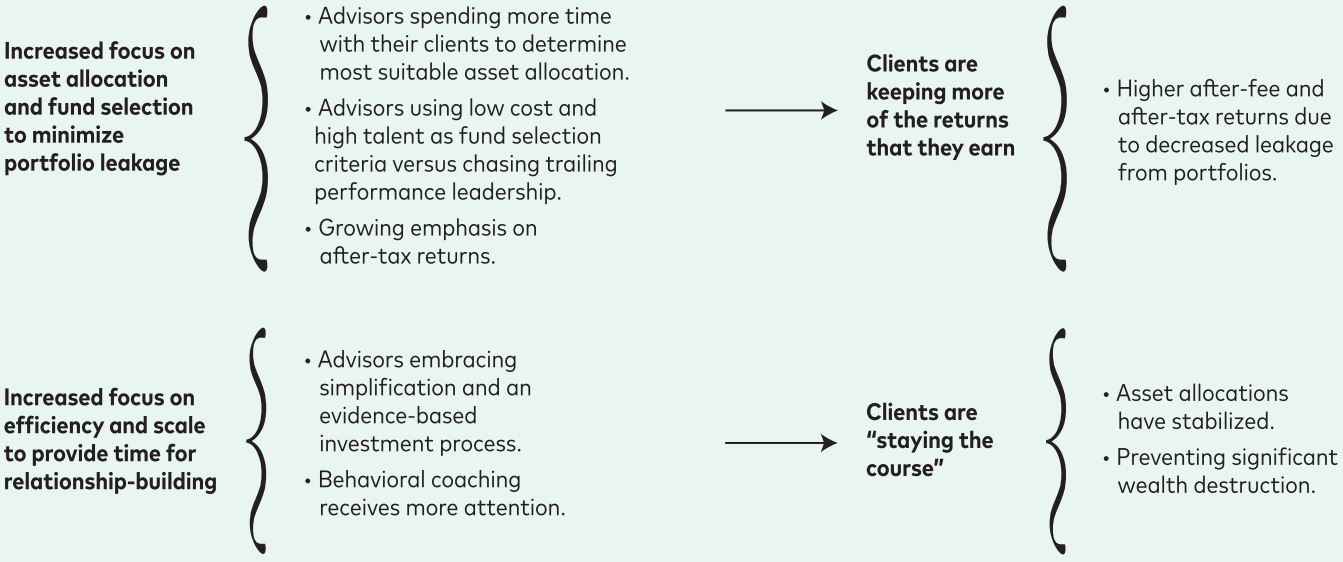
As previously discussed, in 2001 the financial advisory landscape was characterized by higher fees, sub-optimal fund selection methods, sub-optimal asset allocation drift, and a more transactional approach to client relationships. Fast forward to today, and the picture has changed dramatically. The advisory industry activities and focus have shifted away from low-probability, negative expected return activities—such as chasing hot funds and cost-agnostic attempts to outperform—towards the higher-probability, positive-expected-return activities outlined in Advisor's Alpha. ***This transition represents a fundamental change in the approach to wealth management, prioritizing evidence-based strategies that are within the advisor's sphere of influence.***

As a result, the industry has experienced:

1. Materially lower dollar-weighted mutual fund and ETF expense ratios.
2. The stabilization of asset allocations due to a focus on proactive behavioral coaching—in other words less performance chasing behavior as well as a higher commitment to rebalancing.
3. The rise of index and market-cap-weighted investing.
4. An increased focus on after-tax wealth and financial planning.

By adopting Advisor's Alpha best practices, advisors have been able to provide more consistent and reliable value to their clients, and clients are keeping more of the returns that they earn **(Figure 4)**.

Figure 4: Advisors are delivering more ... and investors are keeping more



Source: Vanguard Investment Advisory Research Center.

While so many positive developments have occurred since Advisor's Alpha was first introduced 25 years ago, these three notably stand out:

I. Minimizing return leakage

In recent years, there has been a heightened emphasis on minimizing return leakage—which is not just about lowering costs—it's about strategic enhancement of portfolio performance. This leakage often refers to preventable fund losses due to various factors, with three particularly noteworthy ones over the last 25 years:

1. Shift in advisor fund selection criteria.
2. Shift in focus from maximizing pre-tax returns to maximizing after-tax returns.
3. Advisors becoming proactive behavioral coaches.

We will go through each of these in more detail below.

1. Shift in advisor fund selection criteria

In 2001, the financial advisory landscape was characterized by higher fees and a more transactional approach to client relationships, as seen in **Figure 5**. Since then, advisors have increasingly prioritized the fund selection criteria that have proven most critical, such as low costs and highly talented teams, rather than relying on past performance alone, which often overlooks the impact of costs.

The transformation shown in **Figure 5** is nothing short of staggering. Investors and advisors, due to a radical change in their fund selection process as outlined in Advisor's Alpha (from a non-evidence-based method of chasing trailing returns to an evidence-based method with a range of selection criteria using reasonable and lower-cost funds with talented teams), have reduced the asset-weighted expense ratios for equity and fixed income funds from 0.97% to 0.34% and 0.79% to 0.32%, representing an incomprehensible drop of 64 bps and 47 bps respectively. To put this in perspective, had expense ratios remained at 2001 levels versus where they are in 2024, ***investors would be paying $116 billion[6] more in fees annually.***

Figure 5: Advisory industry snapshot: 2001 and 2023

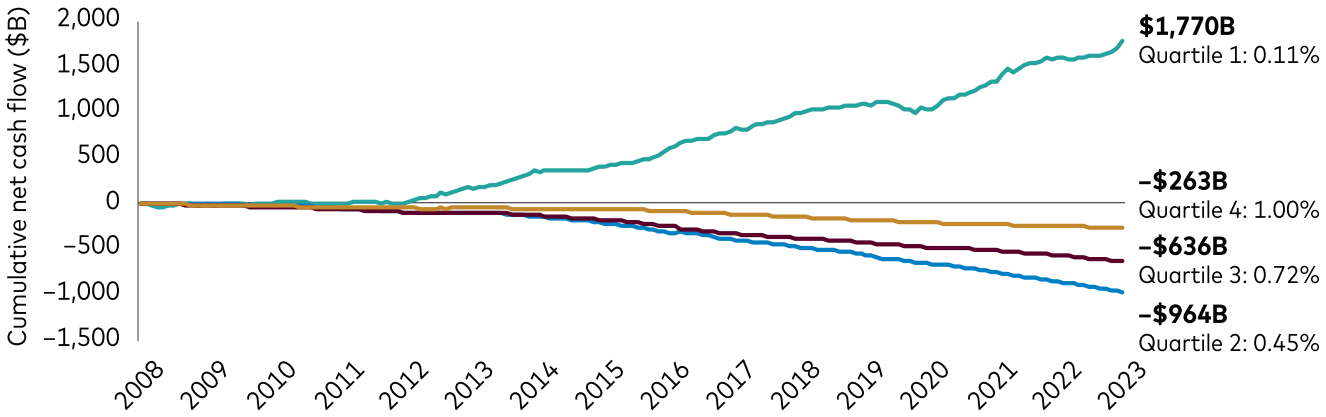
	2001	2023
Average asset-weighted expense ratio for equity mutual funds	**0.97%**	**0.34%**
% Index equity mutual fund and ETF assets	13%	58%
Average asset-weighted expense ratio for fixed income mutual funds	**0.79%**	**0.32%**
% Index fixed income mutual fund and ETF assets	4%	39%

Source: Vanguard Investment Advisory Research Center using data from Morningstar and Cerulli.

6 Based on December 31, 2023 assets under management (AUM) of $18 trillion for equity and $6 trillion for fixed income.

This unprecedented shift is also evidenced in **Figure 6,** which shows that, over the last 15 years, 100% of U.S. equity fund net cash flows have gone into the lowest-cost quartile funds, which has meaningfully reduced the cost of investing, improving client net outcomes.

Figure 6: Cumulative U.S. equity fund net cash flows by cost quartiles



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

Source: Vanguard Investment Advisory Research Center calculations, using data from Morningstar, Inc., as of December 31, 2023.

Notes: Expense-ratio quartiles were calculated annually. Shown for each quartile are the 2023 asset-weighted average expense ratios, determined by multiplying the annual expense ratios by the year-end assets under management and dividing by the aggregate assets in each quartile.

2. Shift in focus from maximizing pre-tax returns to maximizing after-tax returns

Over the last 25 years, advisors have increasingly focused on reducing tax drag via prudent financial planning techniques such as tax-efficient fund selection, asset location, tax-efficient rebalancing, tax-efficient drawdown, tax-loss harvesting and direct indexing, to name a few. In 2001, best in class implementation of most investment advisory tax-optimized strategies were less common and most often reserved for the ultra-high-net-worth advisory segment due to the time and complexity involved. However, as technology enabled tax-optimized software became more accessible and user-friendly, these services became more widely available. This democratization improved after-tax outcomes for advised clients and simultaneously bolstered the value proposition of advisory practices and their offerings. For more detailed information on each of these, see the Advisor's Alpha Quantification Modules starting on page M-1. By managing every decision and action with tax implications in mind, advisors can help their clients keep more of the returns that they earn without increasing risk.

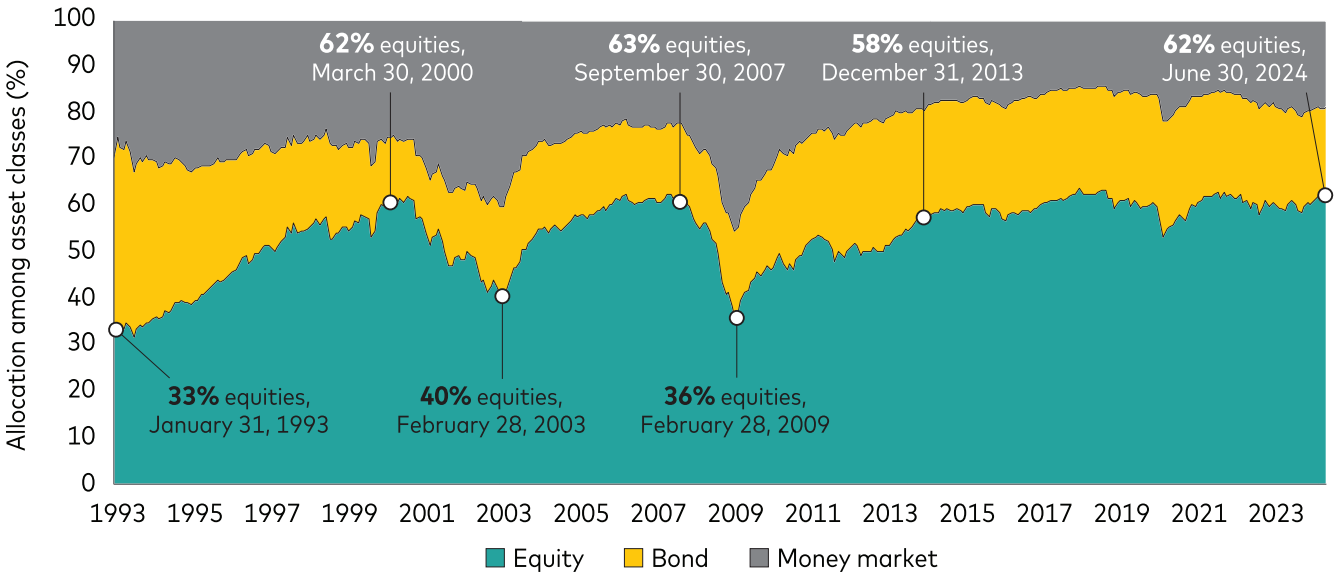
3. Advisors becoming proactive behavioral coaches

One way to gauge the impact of advisors making strides in proactive behavioral coaching is to analyze how advisors select funds, as shown previously in **Figures 5 and 6**. Another way to gauge advisors effectively operating as behavioral coaches is to examine the overall asset allocation for fund industry assets through time as seen in **Figure 7**. This chart shows the breakdown of assets between equities, bonds, and money markets from January 1, 1993, through June 30, 2024.

As you can see, for the first 20-plus years, asset allocations were trend-following; thus, implying allocators may not have been as prudent in rebalancing or were chasing performance. However, in the last seven-to-10 years, asset allocations appear very different; they have remained remarkably stable despite the fact that this period was characterized by very strong equity returns with two equity bear markets sandwiched in between. Our research[7] reveals that fund allocators—which includes financial advisors acting on behalf of their clients—remained disciplined and rebalanced their portfolios, which is a meaningful shift from prior decades.

As a result, investors have had much lower asset allocation drift, resulting in lower net return leakage compared to most of history, leading to improved outcomes for both investors and advisors. This behavior is notably different from previous bear market recoveries and aligns with our Advisor's Alpha and Risk Appetite Speedometer research.

Figure 7: Aggregate industry asset allocations from 1993 through June 30, 2024



	Maximum	Minimum	Median	June 30, 2024
Equity	63.7%	31.9%	56.5%	62.2%
Bond	40.6%	12.3%	22.1%	19.2%
Money market	45.4%	14.1%	24.1%	18.6%

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

Sources: Vanguard Investment Advisory Research Center calculations using data from Morningstar, Inc.

Potential catalysts for stabilization of aggregate industry asset allocations

We hypothesize several potential catalysts for these positive developments: 1) the movement towards a top-down versus bottom-up investing process, 2) the rapid diffusion of ETFs and a more institutional client base that may use them 3) the adoption of Vanguard's Advisor's Alpha framework by the advisory community, and 4) the penetration of investment solutions and allocators that rebalance. While the jury is still out on whether these trends are cyclical or secular, our hypothesis—that advisors have successfully helped their clients tune out the noise and stay the course—has held strong.

7 See Vanguard Risk Speedometers research, which analyzes mutual fund and ETF cash flows within the context of relative investment performance and aggregate industry asset allocations.

By steadfastly providing education, guidance, and emotional support, especially during periods of market volatility, advisors have likely prevented significant wealth destruction for their clients, potentially offsetting a lifetime of fees in the process.

Proactive behavioral coaching

Proactive behavioral coaching focuses on educating clients up front—as it is extremely difficult to educate and coach in the midst of a raging bull or bear market since emotions are naturally running high. To this end, advisors have increasingly helped their clients understand the rationale behind their asset allocation, the potential outcomes, and the inherent risks. By setting realistic expectations, advisors have helped clients be in a better position to "tune out the noise" and reach their investment goals.

This type of coaching is particularly important when materially deviating from a market-cap-weighted portfolio. Our Advisor's Alpha research has shown that consistently beating a market-cap-weighted portfolio is a formidable challenge. While it's not impossible, achieving returns that beat the market consistently over the long term without taking on excessive risk is exceptionally difficult. Investing is rife with ironies such as the paradox of skill and the fact that most engaged in the pursuit of outperforming the markets end up underperforming them. The acknowledgment and understanding of this critical insight has led many advisors to adopt Vanguard Advisor's Alpha as the framework for their advisory practices.

Consequently, many advisors are moving further into goals-based financial planning, where they have a much higher probability of adding value for their clients as opposed to trying to predict the future of the financial markets. By educating clients on how market capitalizations are formed (see text box) and explaining the potential impact of deviations from a market-cap-weighted portfolio, advisors have empowered their clients to make informed decisions and remain committed to their financial plans. This shared understanding has shaped the strategies employed, enhanced the advisor's value proposition, and deepened client relationships by more closely aligning client and advisor expectations.

How market capitalizations are formed

Market capitalization—or market cap—refers to the total dollar market value of a company's shares of stock. It represents the consensus value of a stock placed on it by all investors at each moment, taking into account what a company is currently worth on the open market as well as the forward relative expectations for the stock. The price of each security changes minute by minute to clear any supply and demand imbalances.

From the security level, this aggregates up to the sector, style, country, and global portfolio. Collectively, the market cap portfolio is the consensus future value of these combined securities as assigned by thousands of investors, many of whom are highly experienced investment professionals. Research has consistently shown that outperforming such a consensus-forward estimation of value, in a market dominated by thousands of investment management professionals, has proven difficult—certainly not impossible, but highly elusive. As such, deviations from a market-cap-weighted approach should be deliberate and strategic, aimed at helping clients "stay the course" rather than chasing higher returns, which could lead to higher risks.

Advisors acting as "emotional circuit breakers" for their clients can prevent significant wealth destruction

Behavioral coaching also focuses on advanced discussions of investment behaviors and the real-time support and guidance, particularly during periods of market volatility. In times of stress, clients often look to their financial advisors as guardians of their financial and emotional well-being. Our Advisor's Alpha research has shown that periods of uncertainty and capital losses are the "moments that matter" and "Advisor's Alpha weather." During these critical times, advisors have acted as "emotional circuit breakers" for their clients (see Vanguard's 3B Mental Model), saving them hundreds of thousands or even millions of dollars, potentially offsetting years or even a lifetime of fees, as seen in **Figures 8, 9, and 10**.

These figures demonstrate how a diversified investor has fared relatively well by sticking with a balanced portfolio even through severe market downturns. Moving to a more conservative allocation by not rebalancing or moving to all bonds or money markets is a natural response given investor risk-aversion. However, while it's understandable to want to alleviate immediate emotional pain and anxiety, deviating from one's long-term asset allocation after market declines has proven detrimental to the portfolio's long-term growth. This common reaction underscores the challenge of staying the course.

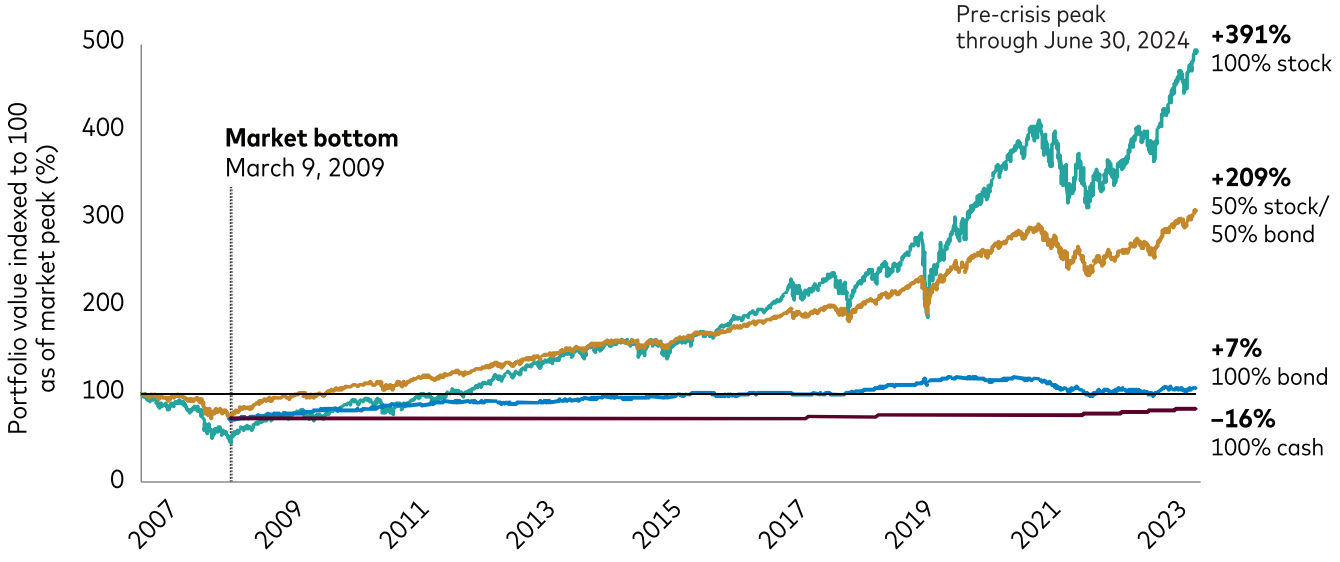
Figure 8 illustrates the cumulative value of four different portfolio mixes from the pre-global financial crisis peak in 2007 through June 30, 2024. Here's what the data show:

- **100% stocks:** Starting at the market peak in 2007, this portfolio declined during the 2008 global financial crisis but then rose steadily, resulting in a total return of 391% for the full period.
- **50% stocks/50% bonds:** Also starting at the 2007 peak, this portfolio followed a similar pattern, yielding a total return of 209% for the period.

The other two lines begin on March 9, 2009, representing an investor who shifted from a 50% stock/50% bond portfolio at the market bottom:

- **Moved to 100% bonds:** This investor would have seen a total return of 7% for the full period.
- **Moved to 100% cash:** This investor would have ended up with a total return of –16% for the full period.

Figure 8: A balanced, diversified investor has fared relatively well



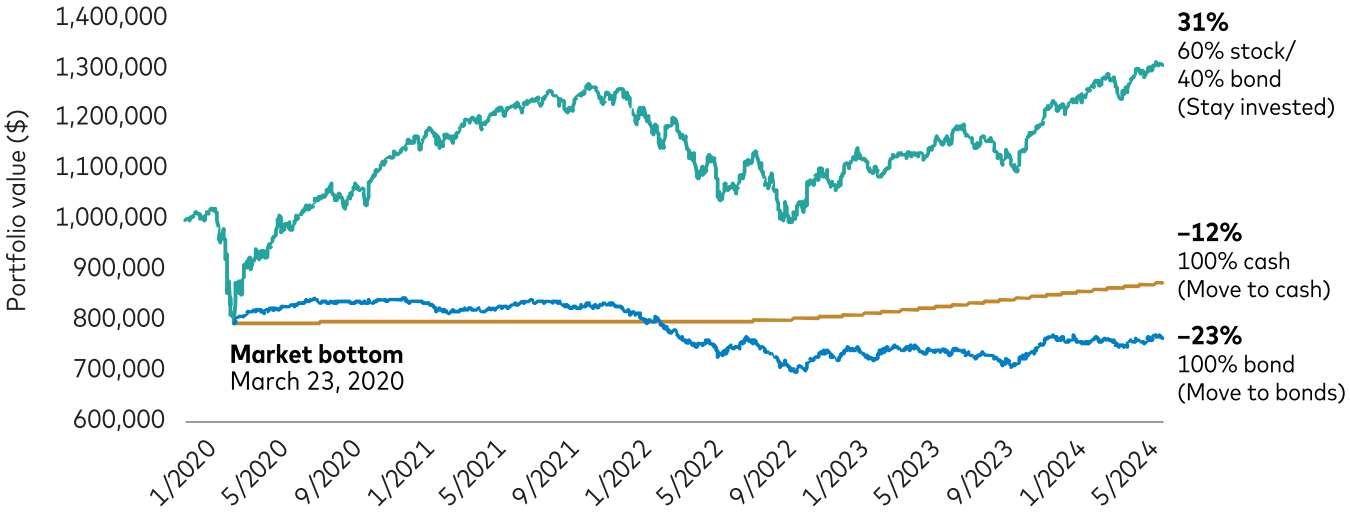
Hypothetical example. Past performance is no guarantee of future results. The performance of an index is not an exact representation of any particular investment, as you cannot invest directly in an index.

Source: S&P 500 Index and Bloomberg U.S. Aggregate Bond Index (rebalanced monthly). 100% cash represented by 3-month T-Bill, 100% bond represented by Bloomberg U.S. Aggregate Bond Index. Vanguard Investment Advisory Center calculations using data from FactSet, as of June 30, 2024.

Figure 9 is a similar analysis for a 60% stock/40% bond investor's performance from January 1, 2020, to June 30, 2024, covering the COVID-19 crisis. Here's what it shows:

- **Stayed invested:** An investor who stayed with their 60/40 allocation throughout would have earned a 31% return and their portfolio would have grown to $1,310,000.
- **Moved to bonds:** An investor who moved to 100% bonds at the market bottom (March 23, 2020) would have seen a –23% return and their portfolio would have decreased to $768,000.
- **Moved to cash:** An investor who moved to 100% cash at the market bottom would have had a –12% return and their portfolio would have decreased to $878,000.

Figure 9: The COVID-19 crisis tells the stay-the-course tale



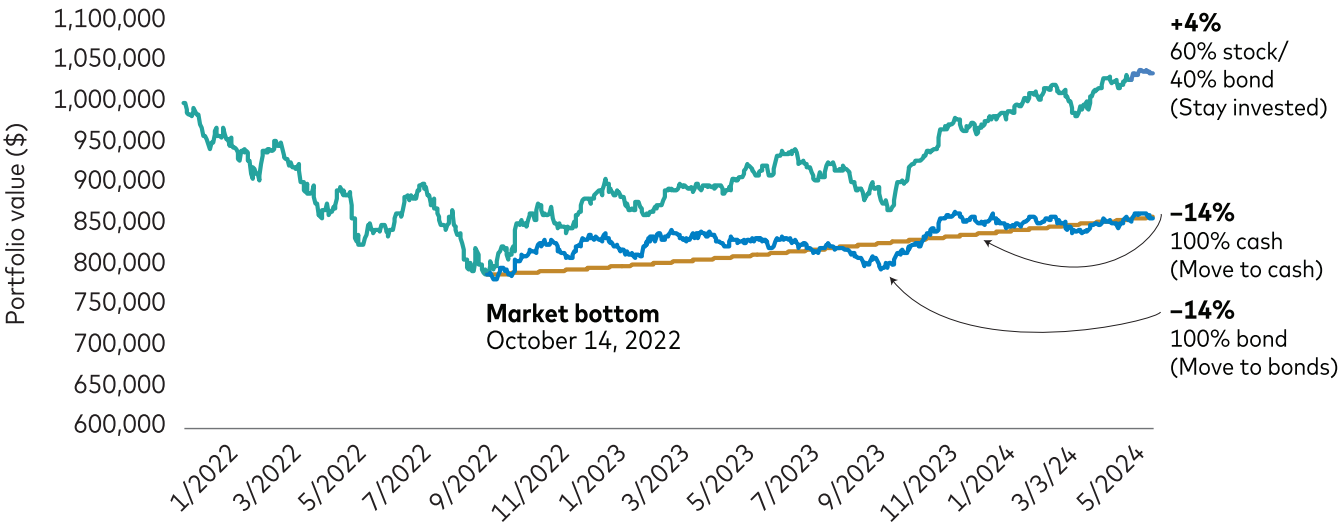
Hypothetical example. Past performance is no guarantee of future returns. The performance of an index is not an exact representation of any particular investment, as you cannot invest directly in an index.

Source: Vanguard Investment Advisory Research Center calculations through June 30, 2024, using data from FactSet. The equity portion of the 60% stock/40% bond portfolio consists of 60% CRSP US Total Market Index and 40% FTSE Global All Cap ex US Index. The bond portion consists of 70% Bloomberg U.S. Aggregate Float Adjusted Index and 30% Bloomberg Global Aggregate ex-USD Float Adjusted RIC Capped Hedged Index. Cash represented by the FTSE 3 Month US Treasury Bill Index. The 100% bonds portfolio consists of 70% Bloomberg U.S. Aggregate Float Adjusted Index and 30% Bloomberg Global Aggregate ex-USD Float Adjusted RIC Capped Hedged Index. "Stay invested" refers to keeping all assets in the 60/40 stock/bond portfolio and rebalancing monthly.

Finally, **Figure 10** examines a 60% stock/40% bond investor's performance from January 3, 2022, to June 30, 2024, during the 2022 market sell-off. Here's what it reveals:

- **Stayed invested:** An investor who stayed with their 60/40 allocation throughout would have seen a 4% return, and their portfolio would have grown to $1,037,000.
- **Moved to bonds:** An investor who moved to an all-bond portfolio on October 14, 2022, would have had a –14% return and their portfolio would have decreased to $860,000.

Figure 10: The 2022 market sell-off tells the stay-the-course tale



Hypothetical example. 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.

Source: Vanguard Investment Advisory Research Center calculations through June 30, 2024, using data from FactSet. The equity portion of the 60% stock/40% bond portfolio consists of 60% CRSP US Total Market Index and 40% FTSE Global All Cap ex US Index. The bond portion consists of 70% Bloomberg U.S. Aggregate Float Adjusted Index and 30% Bloomberg Global Aggregate ex-USD Float Adjusted RIC Capped Hedged Index. Cash represented by the FTSE 3 Month US Treasury Bill Index. The 100% bonds portfolio consists of 70% Bloomberg U.S. Aggregate Float Adjusted Index and 30% Bloomberg Global Aggregate ex-USD Float Adjusted RIC Capped Hedged Index. "Stay invested" refers to keeping all assets in the 60/40 stock/bond portfolio and rebalancing monthly.

While these are extreme examples, in our decades of analyzing risk appetite and investor cash flows through Vanguard's Risk Speedometers, we have seen the moments that matter—times of market distress and contagion—coincide with de-risking of higher-risk assets into lower-risk assets. **Figure 7** shows that throughout most of history, equity allocations have peaked at market highs and have bottomed at market lows, which has led to tangible wealth destruction.

However, the steadying of industry asset allocations during the last 7–10 years despite the very strong bull market with the two bear-market episodes in between, underscores the positive influence of the collaboration between Advisor's Alpha and the advisory community in enhancing client outcomes.

Vanguard's 3B mental model

To better manage client stress during periods of uncertainty as well as improve investment outcomes, advisors have had success when understanding and educating clients on our 3B Mental Model. The three Bs:

1. **Business model:** The incentive-based revenue model used by most in the financial media is primarily centered on grabbing your attention, promoting noise, fueling drama, and encouraging trading; their incentives are most often not aligned with the long-term best interest for investment success. Carefully curating sources of information, news feeds, readings, attention, and time is critical for long-term reduction in anxiety and stress as well as achieving long-term investment success.
2. **Biology:** Anxiety, fear, and pain shrink time horizons, shifting focus to short-term survival. Understanding this can help advisors and clients pause and evaluate decisions for long-term benefits.
3. **Behaviors:** Being acutely aware of the first two Bs, and their influence on the third B (behavior), is often the primary difference between investors reaching—or failing to reach—their goals. This is where advisors act as emotional circuit breakers for their clients and coach them through the volatility of markets, loss aversion, etc., thus, putting their clients in the best position to meet their long-term financial goals.

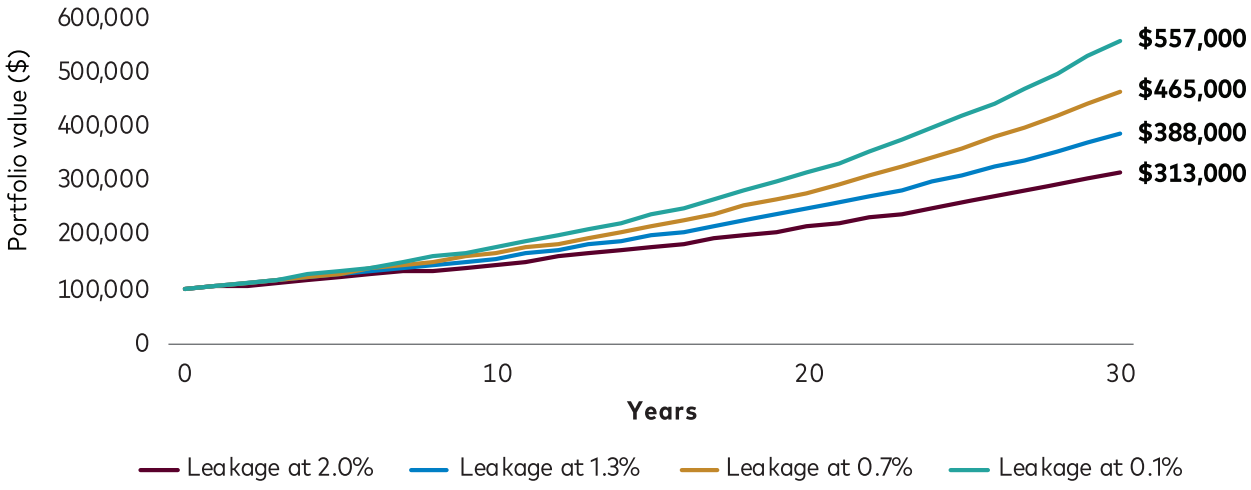
By integrating these principles, advisors have fostered stronger client relationships, reduced stress, and enhanced long-term investment success.

Impact of reducing return leakage

Figure 11 presents a hypothetical comparison of four investment leakage scenarios: 0.1%, 0.7%, 1.3%, and 2.0%. The chart shows ending balances over a 30-year period, starting with a $100,000 initial balance and a 6% annual return. With minimal leakage of 0.1%, the investment grows to $557,000, as almost all returns are reinvested. In contrast, high leakage of 2.0% results in a significantly lower ending balance of $313,000, as a substantial portion of returns is lost to fees, taxes, or other costs.

Notably, the impact of leakage magnifies over time. After 10 years, the difference in ending balances between 0.1% and 2.0% leakage is only $30,000. However, this gap widens to a striking $240,000 over 30 years, highlighting the long-term importance and compounding implications of minimizing investment leakage. These return leakages are highly controllable by advisors who are following the Vanguard Advisor's Alpha framework.

Figure 11: Hypothetical impact of reduced return leakage on client wealth and advisor book



Source: Vanguard Investment Advisory Research Center.

Notes: The portfolio balances shown are hypothetical and do not reflect any particular investment. In this example, a starting balance of $100,000 returns 6% annually, with returns reinvested, and investment costs are taken at the end of the year. The rate of return is not guaranteed. The final account balances do not reflect any taxes or penalties that might be due upon distribution. Costs are one factor that can impact returns. There may be differences between products that must be considered prior to investing.

II. Recognition that asset allocation is most effectively learned through time via deep client relationships

The IQ and EQ of asset allocation

Understanding and implementing a client's "best fit" asset allocation is arguably one of the most critical aspects of managing client portfolios—but this exercise is not as easy as it may seem. This is because truly grasping a client's goals, objectives, and risk tolerance is a journey that unfolds over time and through various market cycles, as the client-advisor relationship deepens. This journey extends beyond merely selecting asset mixes and investments. It involves understanding the risks and returns of asset classes, investments, and portfolio construction, as well as understanding a client's emotional responses, temperament, and reactions to market events, such as the fear of missing out (FOMO) and apprehension surrounding potential market declines and corrections. As such, it requires both intellectual and emotional intelligence (IQ and EQ). It involves knowing your clients, coaching them, managing their expectations, and continuously adapting their investment strategies based on deep insights gained through your ongoing relationship with them.

This process, when done correctly, is one of the most valuable services an advisor can provide, because even small differences in asset allocation can have a big impact on a client's ability to 1) meet their financial goals (outcomes) as well as 2) stick with—and rebalance to—the allocation in both the best and worst of markets.

Small differences in asset allocation when compounded have a meaningful impact on investment outcomes

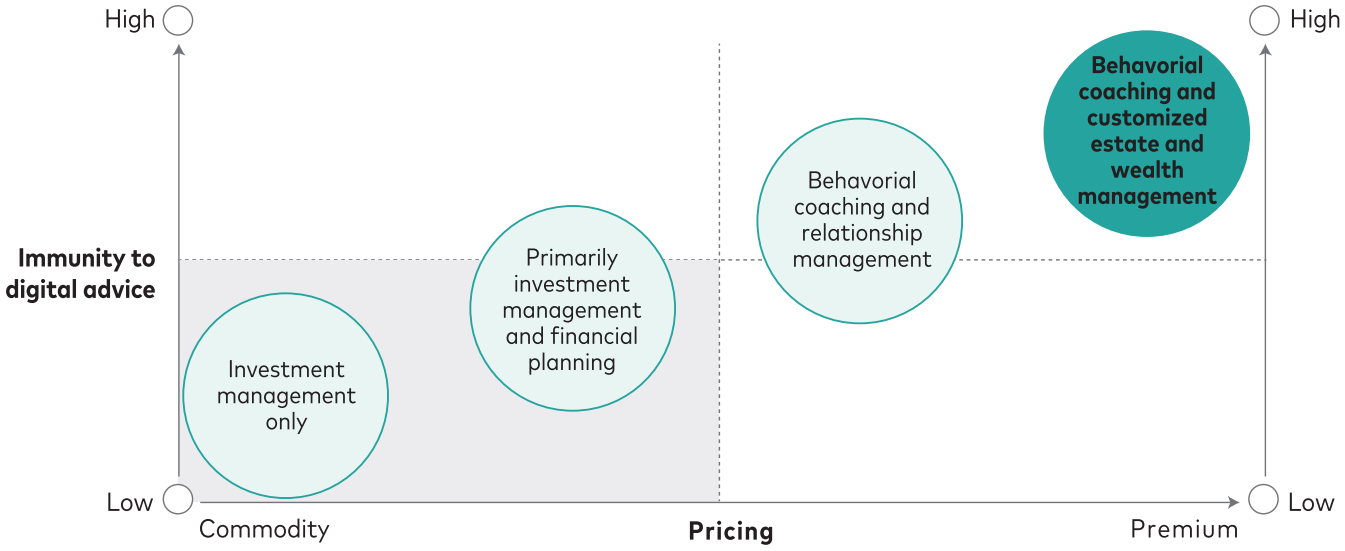
Small differences in asset allocation can have a significant impact on client outcomes—especially over longer time horizons. For example, if client is invested in a 40% stock and 60% bond portfolio or a 50% stock and 50% bond portfolio when their "best fit" allocation is 60% stocks and 40% bonds, they will likely forgo significant compounding benefits. The magnitude of this impact is closely tied to the investment time horizon. Such a discrepancy could significantly affect a client's ability to achieve their financial goals, potentially requiring them to extend their working years or reduce retirement spending. It might even dictate whether they need to downsize or relocate during retirement. The ramifications for a client's future are vast, and the importance of getting this right is immeasurable.

Conversely, if this client's "best fit" allocation was actually 30% stocks and 70% bonds, the additional risk could result in the client abandoning their asset allocation during market turmoil which could result in significant wealth destruction, as demonstrated in **Figures 8, 9, and 10,** and completely undermine the client's ability to achieve their goals.

III. Increased focus on deepening client relationships and moving up the value stack of advisory activities—both time intensive endeavors—resulting in advisors further embracing technology and scaling their practices

Over the last 25 years, advisors have increasingly focused on deepening client relationships and moving up the value stack of advisory activities. However, each of these endeavors is very time intensive, and time is an advisor's most valuable—and scarce—resource. By leveraging advanced technologies, software, and artificial intelligence (AI) for many tasks, as well as outsourcing where appropriate, advisors have been able to free up time to deepen relationships with their clients and to engage in more personalized, higher value-added activities as illustrated in the Advisor's Alpha Value Stack **(Figure 12)**.

Figure 12: Vanguard Advisor's Alpha value stack



Source: Vanguard Investment Advisory Research Center.

As a result, clients are better positioned to meet their goals and the advisor's value proposition is not only stronger but is also less susceptible to automation.

Conclusion

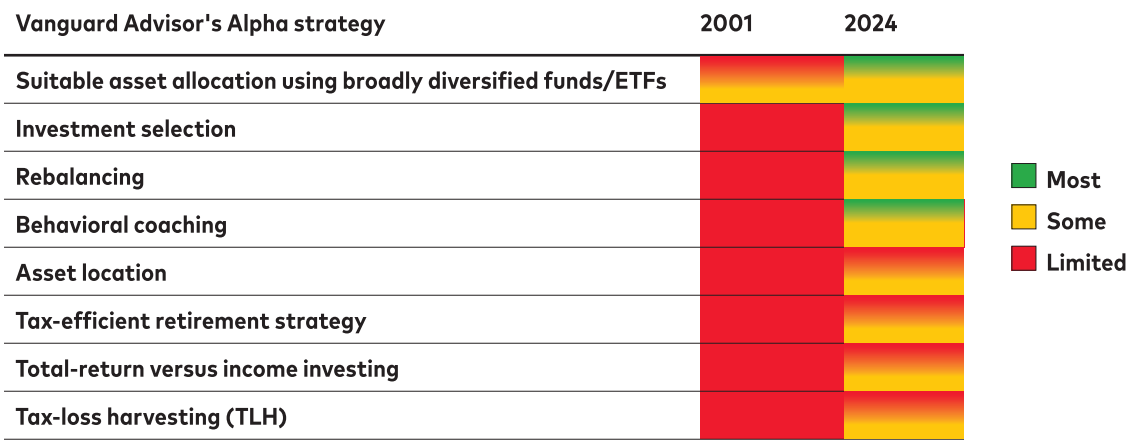
The rapid and wide-scale penetration of Vanguard's Advisor's Alpha, along with the trends in the industry, have been good for advisory client outcomes, the advisory practice, and the advisory industry. Advised clients are keeping more of the returns that they earn, they are better able to "stay the course," and they are more likely to achieve their goals. Advisors are benefiting from higher outcomes as fees are paid on assets which show lower leakage, deeper client relationships, and higher client satisfaction, retention, and referrals. The advisory industry is more respected, offering a tangible and positive value proposition based on performing high-probability positive client outcome activities that add meaningfully more value when applied relative to the fees charged. This is a stark contrast to the past, where low-probability activities often led to challenges in creating positive net client wealth outcomes.

As the investment advisory industry continues to professionalize and demonstrate value relative to their fees, public perception improves, opening up further growth opportunities within the advisory business addressable market. By focusing on evidence-based strategies that enhance client net outcomes and moving away from activities that have proven detrimental, the advisory services business opportunity has never been stronger. And even though the penetration of the Advisor's Alpha framework as a template for the enduring value proposition for fee-based advice has been material, it is still in the very early innings of transformation as seen in **Figure 13**.

While the advisory industry has made notable strides in all areas that have the potential to improve advised client outcomes, there are still plenty of opportunities for advisors to add tremendous value going forward. Cutting-edge technologies and innovations have—and will continue to—streamline the time it takes to deliver value, further unlocking new possibilities. For example, while tax-loss harvesting is not new to the industry, in recent years, technology has enabled this once paper-driven strategy to become digitized and thus more scalable and cost-effective. Likewise, incorporating individual client preferences and increased customization in areas such as portfolio design, security ownership, individualized proxy preference services, and will and estate planning can significantly enhance advised client outcomes and the overall client experience. By leveraging technology and innovations in this way, advisors can further tailor solutions to maximize each client's unique goals and objectives.

Moving forward, we expect the rapid acceleration in technological advancements and innovations to continue, further increasing the diffusion of advisory services and reducing the associated friction costs. As a result, a wider range of financial planning, tax, ownership voting choices, and will and estate planning services will be accessible to a larger audience with much lower frictions. This transformation will enable more clients and advisors to leverage advanced wealth management and unique preference strategies, previously exclusive to the ultra-wealthy. As these services become increasingly accessible, we remain very bullish on the potential for the advisor community and Vanguard's Advisor's Alpha research to further improve advised client outcomes.

Figure 13: We are still in the early innings of transformation



Source: Vanguard Investment Advisory Research Center.

Vanguard Advisor's Alpha quantification modules

This section includes a high-level summary of wealth-management best-practice tools and their corresponding modules, together with the range of potential value we believe can be added by following these practices.

The value-add of best practices in wealth management

		Benefit of moving from the scenario described to Vanguard Advisor's Alpha methodology
Vanguard Advisor's Alpha strategy	**Module**	**Typical value added for client** *(basis points)*
Suitable asset allocation using broadly diversified funds/ETFs	1	> 0*
Investment selection	2	0 to 100
Rebalancing	3	12
Behavioral coaching	4	Up to 200 or more
Asset location	5	0 to 60
Tax-efficient retirement strategy	6	Up to 100 or more
Total return versus income investing	7	> 0*
Tax-loss harvesting	8	Up to 150 or more**
Total potential value added		**Up to, or even exceeding, 3% in net returns**

Source: Vanguard Investment Advisory Research Center.

* Value is deemed significant but too unique to each investor to quantify.

** TLH was added to QAA modules in 2024. To understand the potential impact of TLH for an investor, the value reported must be scaled by the size of TLH assets relative to the size of the entire portfolio.

Notes: We believe implementing the Vanguard Advisor's Alpha framework can add about 3% in net returns for your clients and also allow you to differentiate your skills and practice. The actual amount of value added may vary significantly, depending on clients' circumstances. "Up to, or even exceeding 3%" means 3 percentage points of additional net return over an unspecified period of time.

Tax-loss harvesting (TLH)

As previously outlined in Vanguard's Quantifying Advisor's Alpha research, the "about 3%" focuses on the most common tools for adding value, encompassing both investment and relationship-oriented strategies and services. While tax-loss harvesting is not new to the industry, in recent years, technology has enabled this once paper-driven strategy to become digitized and thus more scalable and cost-effective.

Additional influences that have contributed to the heightened interest in TLH include:

- The move to zero or low commissions significantly reduces/eliminates trading costs.
- Fractional shares allow for diversification at a much lower starting minimum.
- Advancements in technology provide the ability to scale an offer to thousands of accounts in a more manageable way (for example rebalancing, risk optimization, etc.).
- Client demand for greater personalization of portfolios.
- A growing emphasis on after-tax returns.

Thus, TLH has become a widely available tool that provides the opportunity to add meaningful value in a cost-effective and scalable manner. See **Module 8** in the Appendix for additional information.

Module 1

Asset allocation

Potential value-add: Value is significant but too unique to quantify, based on each investor's time horizon, risk tolerance, and financial goals.

Asset allocation refers to the percentages of a portfolio invested in various asset classes such as stocks, bonds, and cash investments, according to the investor's financial situation, risk tolerance, and time horizon. It is the most important determinant of the return variability and long-term performance of a broadly diversified portfolio that engages in limited market timing (Davis, Kinniry, and Sheay, 2007).

We believe a sound investment plan begins with an individual's investment policy statement. This outlines financial objectives as well as any other pertinent information such as asset allocation, annual contributions, planned expenditures, and time horizon. Unfortunately, many ignore this critical effort, in part because it can be very time-consuming, detail-oriented, and tedious. But the financial plan is integral to success; it's the blueprint for a client's entire financial house and, done well, provides a firm foundation on which all else rests.

Starting with a well-thought-out plan can not only ensure that clients will be in the best position possible to meet their long-term financial goals, but can also form the basis for future behavioral coaching. Whether the markets have been performing well or poorly, you can help your clients cut through the noise they hear suggesting that if they're not making changes in their investments, they're doing something wrong. Almost none of what investors hear pertains to their specific objectives: Market performance and headlines change far more often than in previous cycles. Thus, not reacting to the ever-present noise and sticking to the plan can add tremendous value. The process sounds simple but has proven to be very difficult for investors and advisors alike.

Asset allocation and diversification are two of the most powerful tools advisors can use to help their clients achieve their financial goals and manage investment risk. Over the last 25 years, many sophisticated investors have embraced portfolios with more asset classes than in the past. This is often attributed to a trio of significant equity bear markets as well as very low yields on traditional high-grade bonds.

One way to demonstrate that a traditional long-only, highly liquid, investable portfolio can be competitive is to compare traditional stock/bond portfolios to the endowments studied by NACUBO-Commonfund (2023), as shown in **Figure I-1**. The institutions studied have incredibly talented professional staffs as well as unique access, so replicating or even coming close to their performance would be a tough task. And yet, a portfolio constructed using traditional asset classes—domestic and nondomestic stocks and bonds—held up quite well, outperforming the majority of these endowments. At the same time, the largest endowments have combined heavy doses of active and alternative investments, such as private equity, with unique access, early adoption, and professional due diligence in manager selection to improve their investment outcomes.

Although the traditional stock/bond portfolios may not hold as many asset classes as the endowments, it should not be viewed as unsophisticated. More often than not, these asset classes and the investable index funds and ETFs that track them are perfectly suitable. For example, a diversified portfolio using broad-market index funds gives an investor exposure to more than 9,000 individual stocks and more than 16,000 individual bonds—representing more than 99% and 83% of market cap coverage, respectively. Better yet, the tools for implementation, such as mutual funds and ETFs, can be very efficient—broadly diversified, low-cost, tax-efficient, highly liquid, and more accessible to the average investor.

Taking advantage of these strengths, assets can be allocated using only a small number of funds. Too simple to charge a fee for, some advisors say, but simple isn't simplistic. A portfolio that provides broad asset-class diversification, low costs, and return transparency can enable most investors to adopt the investment strategy with confidence and better endure the inevitable ups and downs in the markets.

Simple is a strength, not a weakness, and can be used to promote better understanding of asset allocation and of how returns are derived. When incorporating index funds, ETFs, and highly talented lower cost active funds as the portfolio's core, simplicity and transparency are enhanced, as the risk of portfolio tilts (a source of substantial return uncertainty) is minimized. These features can be used to anchor expectations and help keep clients invested when headlines and emotions tempt them to abandon the investment plan.

Figure I-1: Performance comparison of endowments and traditional stock/bond portfolios

	Large endowments (20% of endowments)	Medium endowments (49% of endowments)	Small endowments (31% of endowments)	60% stock/ 40% bond portfolio	70% stock/ 30% bond portfolio
1 year	5.3%	7.9%	9.2%	10.0%	11.8%
3 years	11.4	9.1	7.4	5.9	7.5
5 years	8.4	6.7	5.9	6.1	6.9
10 years	8.3	6.9	6.4	6.9	7.8
15 years	6.8	5.8	5.5	6.6	7.1
30 years	9.5	7.7	6.8	7.4	7.8

Past performance is not a guarantee of future results. The performance of an index is not an exact representation of any particular investment, as you cannot invest directly in an index.

Sources: Vanguard and NACUBO-Commonfund Study of Endowments.

Notes: Data are as of June 30 for each year through June 30, 2023. For the 60%/40% and 70%/30% stock/bond portfolios, the equity portion is split 70% U.S. equity and 30% non-U.S. equity. U.S. equity is represented by the Dow Jones Wilshire 5000 Index through April 22, 2005; the MSCI US Broad Market Index through June 2, 2013; and the CRSP US Total Market Index thereafter. Non-U.S. equity is represented by the MSCI World ex USA through December 1987 and the MSCI All Country World Index ex USA thereafter. Bonds are represented by the Bloomberg U.S. Aggregate Bond Index.

All NACUBO returns are reported net of fees. The volatility of the 60/40 and 70/30 portfolios is materially different from that of the NACUBO institutions' portfolios. NACUBO institutions may have had during the time periods noted above, and may currently have, investment objectives that are not consistent with the 60/40 and 70/30 portfolios.

Module ❷

Investment selection

Potential value-add: 0 to 100 basis points (bps) annually, by moving to low-cost funds. This is the difference between the average investor experience, measured by the asset-weighted expense ratio of the entire mutual fund and ETF industry, and the lowest-cost of these funds. This value would be larger if compared with higher-cost funds.

Investment selection is a critical component of every advisor's tool kit and is based on simple math: gross return minus costs (expense ratios, trading or frictional costs, and taxes) equals net return. As the formula states, it is not always about lowest costs, but gross returns less expenses. As such, we do not rule out active management. Over the long term, index and talent-driven active funds with higher gross returns at lower costs, such as the ones at Vanguard, have and can be expected to outperform the return of the average mutual fund in their benchmark category. For example, Vanguard active fixed income funds on an asset-weighted basis have added 26 bps over their respective index fund benchmarks and 9 bps relative to their active peers for the 10 years ended 2024.[8] So, costs matter, and superior talent with low costs matter even more.

If low costs are associated with better investment performance (and research has repeatedly shown this to be true), then costs should play a role in an advisor's investment selection process. With the recent expansion of the ETF marketplace, advisors now have many more investments to choose from—and ETF costs tend to be among the lowest in the mutual fund industry.

Expanding on Vanguard's previous research,[9] we examine net expense ratios and highly talented low-cost active funds and find that an advisor could increase their clients' returns by 0–100 bps annually by moving to lower-cost index funds or highly talented low-cost active funds, as shown in **Figures II-1 and 2**. By measuring the asset-weighted expense ratio of the entire mutual fund and ETF industry, we found that, depending on asset allocation, the average investor pays between 32 bps annually for an all-bond portfolio and 34 bps annually for an all-stock portfolio, while the average investor in the lowest quartile of the lowest-cost funds can expect annually to pay between 8 bps (all-bond portfolio) and 9 bps (all-stock portfolio). This includes only the explicit carrying cost (ER) and is extremely conservative when taking into account total investment costs, which often include sales commissions and 12b-1 fees.

8 **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. For the most recent Vanguard fund performance, visit our website at www.vanguard.com/performance. The performance of an index is not an exact representation of any particular investment, as you cannot invest directly in an index.**

Source: Vanguard Investment Advisory Research Center calculations, using data from Morningstar, Inc. Fund performance as of December 31, 2024. The performance of each non-Vanguard fund was compared with that of its benchmark as defined by Morningstar, using monthly return data ended December 31, 2024. Results will vary for other time periods. The monthly returns for all industry active equity and fixed income funds, including those that were merged or liquidated during the period, were included in the performance calculations. Annualized asset-weighted excess returns were generated by calculating the asset-weighted cross-section monthly returns and then generating a time series set of returns. All fund performance data are net of fund expense ratios.

9 See the Vanguard research paper *Investors Are "Voting With Their Feet"* on Costs (Vanguard Advisor's Alpha research team, 2019).

This value-add has nothing to do with market performance. When you pay less, you keep more, regardless of whether the markets are up or down. In fact, in a low-return environment, costs are even more important because the lower the returns, the higher the proportion that is assumed by fund expenses. In comparison to higher-cost funds than the asset-weighted average shown in **Figure II-1 and 2**, the increase in value would be even higher than stated here.

Figure 11-1: Asset-weighted expense ratios versus "low-cost" investing

Stocks/Bonds	100%/0%	80%/20%	60%/40%	50%/50%	40%/60%	20%/80%	0%/100%
Asset-weighted expense ratio	0.34%	0.34%	0.33%	0.33%	0.33%	0.32%	0.32%
"Lowest of the low"	0.09	0.09	0.09	0.09	0.09	0.08	0.08
Investment selection (expense ratio bps)	0.25	0.25	0.24	0.24	0.24	0.24	0.23

Sources: Vanguard calculations based on data from Morningstar, Inc., as of December 31, 2023.

Note: "Lowest of the low" category includes funds whose expense ratios ranked in approximately the lowest 7% of funds in our universe by fund count.

Figure II-2: Vanguard active funds have delivered superior excess returns to both the index and active peer group

Annualized asset-weighted excess return over Morningstar benchmarks	10 years	15 years	20 years
Vanguard active equity funds	0.01%	−0.24%	0.08%
Vanguard active fixed income funds	0.26	0.28	0.15
Industry active equity funds	−0.80	−0.88	−0.72
Industry active fixed income funds	0.17	0.14	−0.15
Vanguard active equity excess returns relative to active peers	0.81	0.64	0.80
Vanguard active fixed income excess returns relative to active peers	0.09	0.14	0.30

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. For the most recent Vanguard fund performance, visit our website at www.vanguard.com/performance. The performance of an index is not an exact representation of any particular investment, as you cannot invest directly in an index.

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Notes: The performance of each non-Vanguard fund was compared with that of its benchmark as defined by Morningstar using monthly return data ended December 31, 2024. Results will vary for other time periods. The monthly returns for all industry active equity and fixed income funds, including those that were merged or liquidated during the period, were included in the performance calculations. Annualized asset-weighted excess returns were generated by calculating the asset-weighted cross-section monthly returns and then generating a time series set of returns. All fund performance data are net of fund expense ratios.

Module 3

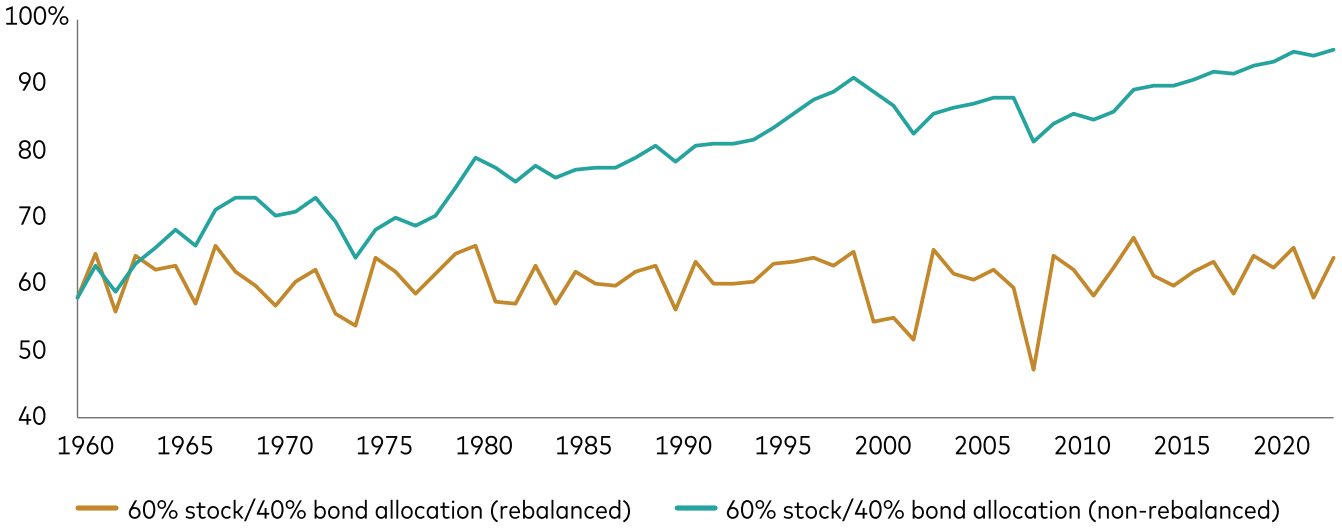
Rebalancing

Potential value-add: Up to **12 bps** when risk-adjusting a 60% stock/40% bond portfolio that is rebalanced annually versus the same portfolio that is not rebalanced (and thus drifts).

Given the importance of selecting an asset allocation, it's also vital to maintain that allocation. As investments produce different returns over time, the portfolio likely drifts from its target allocation, acquiring new risk-and-return characteristics that may be inconsistent with your client's original preferences. *Note that the primary goal of a rebalancing strategy is to adhere to the investor's risk tolerance.* Investors wishing to maximize returns, with no concern for the inherent risks, should allocate their portfolios to 100% equity to best capitalize on the equity risk premium. Investments that are not rebalanced but drift with the markets have experienced higher volatility.

In a balanced portfolio, this equity risk premium tends to result in stocks becoming overweighted relative to a lower risk-return asset class such as bonds, as shown in **Figure III-1**. Although failing to rebalance may help long-term returns as the weighting of equities rises, the true benefit of rebalancing is in controlling risk. A portfolio overweighted to equities is more vulnerable to equity market corrections, putting it at risk of larger losses compared with the 60% stock/40% bond target portfolio.

Figure III-1: Equity allocation of 60% stock/40% bond portfolio, rebalanced and non-rebalanced, 1960 through 2023



Past performance is not a 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 calculations based on data from FactSet.

Notes: Stocks are represented by the Standard & Poor's 500 Index from 1960 to 1974; the Wilshire 5000 Index from 1975 to April 22, 2005; the MSCI US Broad Market Index from April 23, 2005, through June 2, 2013; and the CRSP US Total Market Index thereafter. Bonds are represented by the S&P High Grade Corporate Index from 1960 through 1968; the Citigroup High Grade Index from 1969 through 1972; the Bloomberg U.S. Long Credit AA Bond Index from 1973 through 1975; the Bloomberg U.S. Aggregate Bond Index from 1976 through 2009; and the Bloomberg U.S. Aggregate Float Adjusted Index thereafter. Data are through December 31, 2023.

During this period (1960–2023), a 60% stock/40% bond portfolio that was rebalanced annually provided a lower return (8.90% versus 9.57%) with significantly lower risk (11.38% versus 14.22%) than a 60% stock/40% bond portfolio that was not rebalanced but drifted, as shown in **Figure III-2**.

To assign a return value for rebalancing, we found the portfolio that created a risk parity to compare the rebalancing premium.

Specifically, we searched over the same time period for a rebalanced portfolio that exhibited risk similar to that of the non-rebalanced portfolio. We found that an 80% stock/20% bond portfolio provided similar risk as measured by standard deviation (14.03% versus 14.22%) with a higher average annualized return (9.69% versus 9.57%), as shown in **Figures III-2 and Figure III-3**.

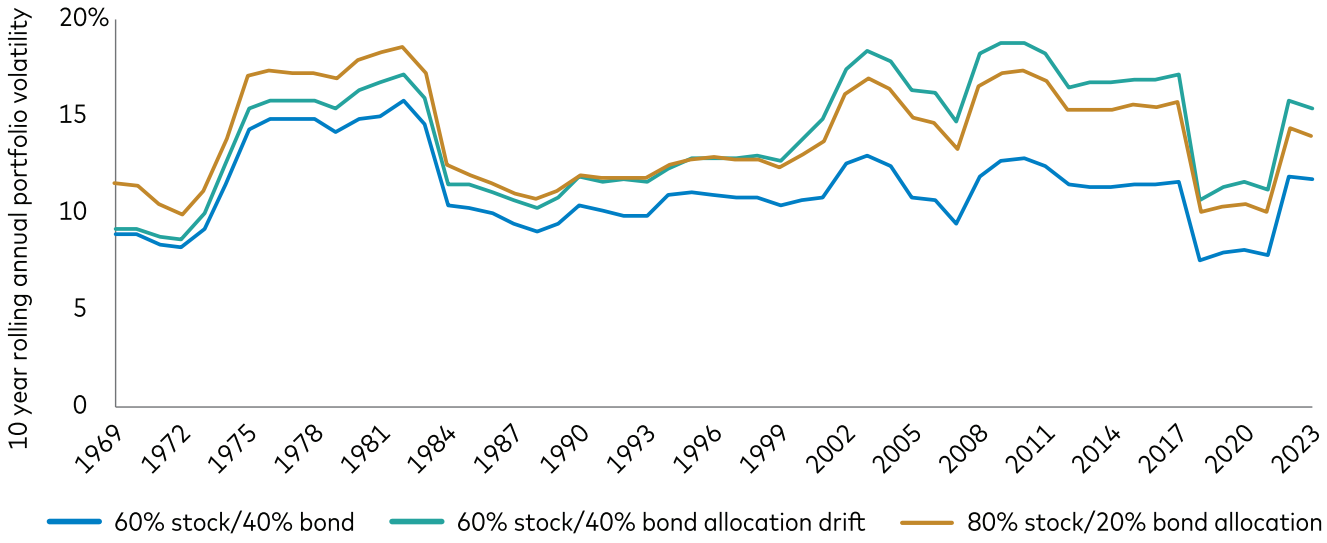
Figure III-2: Portfolio returns and risk, rebalanced and non-rebalanced, 1960 through 2023

	60% stocks/40% bonds, rebalanced	60% stocks/40% bonds (drift)	80% stocks/20% bonds, rebalanced
Average annualized return	8.90%	9.57%	9.69%
Average annual standard deviation	11.38	14.22	14.03
Sharpe ratio	0.39	0.36	0.37

Sources: Vanguard Investment Advisory Research Center calculations based on data from FactSet.

Notes: Stocks are represented by the Standard & Poor's 500 Index from 1960 to 1974; the Wilshire 5000 Index from 1975 to April 22, 2005; the MSCI US Broad Market Index from April 23, 2005, through June 2, 2013; and the CRSP US Total Market Index thereafter. Bonds are represented by the S&P High Grade Corporate Index from 1960 through 1968; the Citigroup High Grade Index from 1969 through 1972; the Bloomberg U.S. Long Credit AA Bond Index from 1973 through 1975; the Bloomberg U.S. Aggregate Bond Index from 1976 through 2009; and the Bloomberg U.S. Aggregate Float Adjusted Index thereafter. The risk-free rate used in the Sharpe ratio calculation is the U.S. cash reserve return, using the Ibbotson U.S. 30-Day Treasury Bill Index from 1960 to 1977, and the FTSE 3-Month U.S. T-Bill Index thereafter.

Figure III-3: Looking backward, the non-rebalanced (drift) portfolio exhibited risk similar to that of a rebalanced 80% stock/20% bond portfolio



Past performance is not a 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 calculations based on data from FactSet.

Notes: Stocks are represented by the Standard & Poor's 500 Index from 1969 to 1974; the Wilshire 5000 Index from 1975 to April 22, 2005; the MSCI US Broad Market Index from April 23, 2005, through June 2, 2013; and the CRSP US Total Market Index thereafter. Bonds are represented by the S&P High Grade Corporate Index from 1960 through 1968; the Citigroup High Grade Index from 1969 through 1972; the Bloomberg U.S. Long Credit AA Bond Index from 1973 through 1975; the Bloomberg U.S. Aggregate Bond Index from 1976 through 2009; and the Bloomberg U.S. Aggregate Float Adjusted Index thereafter.

Helping investors stay committed to their asset allocation strategy and remain invested increases the probability of meeting their goals. But the task of rebalancing is often an emotional challenge. Historically, rebalancing opportunities have occurred when there has been a wide dispersion between the returns of different asset classes (such as stocks and bonds). Whether in bull or bear markets, reallocating assets from the better-performing asset classes to the worse-performing ones feels counterintuitive. An advisor can provide the discipline to rebalance when it is needed most, which is often when it involves a very uncomfortable leap of faith.

Keep in mind, too, that rebalancing is not necessarily free. Associated costs can include taxes and transaction costs, as well as time and labor on the part of advisors. These could all potentially reduce a client's return. An advisor can add value by balancing these trade-offs, thus potentially minimizing costs. For example, a portfolio can be rebalanced with cash flows by directing dividends, interest payments, realized capital gains, and new contributions to the most underweighted asset class. This can keep the client's asset allocation closer to its target and limit costs.

An advisor can furthermore determine whether to rebalance to the target or to an intermediate allocation based on the type of costs. When trading costs are mainly fixed and independent of the size of the trade—the cost of time, for example—rebalancing to the target allocation is optimal because it reduces the need for further transactions. When trading costs are mainly proportional to the size of the trade—as with commissions or taxes—rebalancing to the closest boundary is optimal, minimizing the size of the transaction.[10]

Advisors who can systematically direct investor cash flows into the most underweighted asset class or rebalance to the most appropriate boundary are likely to reduce rebalancing costs and thereby increase the returns their clients keep.

10 Yan Zilbering, Colleen Jaconetti, and Francis M. Kinniry, Jr. *Best practices for portfolio rebalancing*. Vanguard, 2015.

Module 4

Behavioral coaching

Potential value-add: Vanguard research has concluded that behavioral coaching may add 0 to >200 bps in net return. The value-add could be significantly higher in periods of market volatility, in narrow segments of sub-asset classes, and at the individual fund level. Providing discipline and guidance could be the largest potential value-add of the tools available to advisors.

Because investing evokes emotion, advisors need to help their clients maintain a long-term perspective and a disciplined approach. This can add a large amount of potential value. Most investors are aware of time-tested investing principles;[11] the hard part is sticking to them in the best and worst of times. Having emotions isn't a "rational or irrational investor" issue; it's a human issue. It's normal for people to be swayed by the opinions voiced by those considered experts—the talking heads or news headlines that often recommend change. However, abandoning a well-planned investment strategy can be costly, and research has shown that some of the most significant challenges are behavioral. This is where advisors, acting as behavioral coaches, can earn their fees and then some. Recognizing that, to some clients, factors that affect their wealth are almost as serious as those affecting their health. Providing emotional detachment is one of the most overlooked benefits advisors can offer.

When clients are tempted to abandon the markets because performance has been poor or to chase the next "hot" investment, advisors need to remind them of the plan that was created before emotions were involved. The trust clients place in advisors is key. Strong relationships need to be established before bull- and bear-market periods challenge their confidence.[12] Advisors can act as emotional circuit breakers by circumventing clients' tendencies to chase returns or run for cover in emotionally charged markets. In the process, they may prevent significant wealth destruction and add percentage points—rather than basis points—of value. A single such intervention could more than offset years of advisory fees, as seen in **Figure 8**.

It is important to point out that such an evaluation is time-period dependent; results can look much different from one year to the next. Take for example **Figure 9**, which highlights the COVID-19 crisis, and then **Figure 10** depicting the 2022 market sell-off. These events underscore the importance of acting as a behavioral coach during episodic market distress.

11 See Vanguard's Principles for Investing Success for more information.

12 Donald G. Bennyhoff. *The Vanguard Advisor's Alpha Guide to Proactive Behavioral Coaching*. Vanguard, 2018; and Maria C. Quinn, Michael A. DiJoseph, Francis M. Kinniry Jr., Colleen M. Jaconetti and David J. Walker. *Right mindset, wrong market: Understanding investor decision-making and coaching for success*. Vanguard, 2023.

Module 5

Asset location

Potential value-add: On average, the value ranges from 0 to 60 bps; however, for any individual it could be in excess of this range. The primary drivers are the investor's current holdings, asset allocation, and "bucket" size—the breakdown of assets between taxable and tax-advantaged accounts. Most of the benefits occur when the accounts are roughly equal in size, the target allocation is in a balanced portfolio, and the investor is in a high marginal tax bracket. If all the assets are in one account type (that is, all taxable or all tax-advantaged), the value of asset location is 0 basis points (bps).

The allocation of assets between taxable and tax-advantaged accounts can add value each year that can compound through time.[13] From a tax perspective, optimal portfolio construction minimizes the impact of taxes by holding tax-efficient, broad-market equity investments in taxable accounts and taxable bonds in tax-advantaged accounts. This arrangement takes maximum advantage of the yield spread between taxable and municipal bonds, which can generate a higher and more certain return premium. And those incremental differences have a powerful compounding effect over the long run.

Our research has shown that constructing the portfolio in this manner can add up to 60 bps of additional return in the first year, without increasing risk **(see Figure V-1)**.

Investors or advisors who want to include active strategies[14]—such as actively managed equity funds (or ETFs), REITs, or commodities—should purchase them in tax-advantaged accounts before taxable bonds because of their tax inefficiency. However, this likely means giving up space in tax-advantaged accounts that would otherwise have been devoted to taxable bonds—thereby losing the extra return generated by the taxable-municipal spread.[15]

Purchasing actively managed equities or taxable bonds in taxable accounts frequently results in higher taxes because your client will be subject to:

1. **Paying a federal marginal income tax rate on taxable bond income.** This could be as high as 40.8% (as of 2025; rates are subject to change). One could, of course, purchase municipal bonds, but the result would be to forgo the taxable–municipal income spread.
2. **Paying a long-term capital gains tax rate as high as 23.8%, depending on income, long-term capital gains/distributions, and the client's marginal income tax rate on short-term gains (which could be as high as 37.0% or 40.8% if subjected to the 3.8% Medicare surtax on net investment income).** To the extent the portfolio includes actively managed equity funds, capital gains distributions are more likely.
3. **Paying a tax rate on qualified dividend income, also as much as 23.8%, from equities, depending on income.**

In contrast, purchasing tax-efficient, broad-market equity funds or ETFs in taxable accounts will still be subject to points 2 and 3; however, the amount of income or capital gains distributions will likely be significantly lower.

13 See Tax-Loss Harvesting module for additional ways to minimize capital gains taxes on active strategies.

14 Absent liquidity constraints, wealth-management best practices would dictate maximizing tax-advantaged savings opportunities.

15 The taxable-municipal spread is the difference between the yields on taxable bonds and municipal bonds.

Advisors may decide to incorporate active equity strategies in tax-advantaged accounts before fulfilling a client's strategic allocation to bonds for several reasons. First, active equity investments can potentially generate an excess return large enough to offset not only the yield spread but also the higher costs associated with these investments.[16] Second, they may bring sufficient benefits in other ways, such as risk reduction as a result of additional diversification. Although these outcomes are both possible, they are less probable than capturing the return premium offered by taxable bonds held in tax-advantaged registrations.

In addition, estate-planning benefits may result from placing broad-market equity index funds or ETFs in taxable accounts. Because broad-market equity investments usually provide more deferred capital appreciation than bonds over the long term, the taxable assets have the added advantage of a potentially larger step-up in cost basis for heirs.

Figure V-1: On average, asset location can add up to 60 basis points of value annually to a portfolio

Taxable accounts	Tax-deferred accounts	Pre-tax return	After-tax return	Relative to optimal (Row A)
A. Index equity (50%)	Taxable bonds (40%) and equity (10%)	6.7%	6.5%	—
B. Taxable bonds (40%) and index equity (10%)	Equity (50%)	6.7	6.0	–0.5%
C. Municipal bonds (40%) and index equity (10%)	Equity (50%)	6.4	6.3	–0.2
D. Active equity (50%)	Taxable bonds (40%) and equity (10%)	6.7	5.9	–0.6

Source: Vanguard.

Notes: Pre-tax and after-tax returns are based on the following assumptions: taxable bond return, 4.4%; municipal bond return, 3.5%; index equity, 8.3% (1.8% for dividends, 0.5% for long-term capital gains, and 6.0% for unrealized gains); and active equity, 8.3% (1.8% for dividends, 1.0% for short-term capital gains, 4.5% for long-term capital gains, and 1.0% for unrealized gains). This analysis uses a marginal U.S. income tax rate of 37.0% for income and short-term capital gains and 20.0% for long-term capital gains and includes the 3.8% Medicare tax on investment income. These values do not assume liquidation.

16 See the Vanguard research paper *Considerations for index fund investing* (Lawrence, et al. 2024).

Module 6

Tax-efficient retirement strategy

Potential value-add: Up to 100 bps or more, depending on the individual circumstance of the client household. The greatest benefits occur for more complex situations that account for Social Security claiming strategies, Roth conversions, households with roughly equal assets between taxable and tax-advantaged accounts, and a high marginal tax bracket. For those investors not currently spending from the portfolio, the value is 0 bps.

With the retiree population on the rise, an increasing number of clients are facing important decisions about how to fund their retirements while also accounting for additional goals, particularly related to legacy and estate planning. Complicating matters is the fact that many hold multiple account types including taxable, tax-deferred (such as traditional 401[k] or IRA), and tax-free (such as a Roth 401[k] or IRA). Add to that consequential decisions around Social Security claiming and advanced planning tactics such as Roth conversions, and the decisions can quickly become overwhelming for even the most knowledgeable investors.

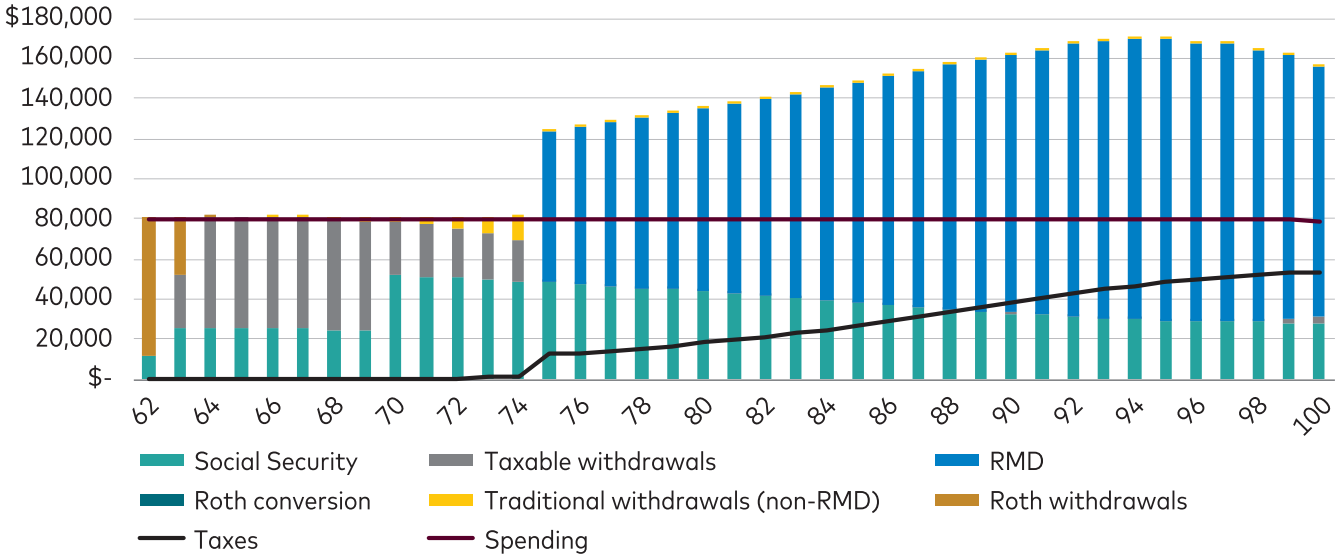
While the decisions have become more complex and the stakes higher than ever, fortunately, the technology enabling advisors to get them right has improved dramatically as well. Advisors who implement a more comprehensive approach focused on multiple goals and including Social Security, Roth conversions, and informed withdrawal-order strategies can minimize the total taxes investors will pay over the course of retirement, thereby increasing their wealth and the longevity of their portfolios. This process alone could represent the entire value proposition for the fee-based advisor.

Using Vanguard's Tax-Efficient Retirement Strategy (TERS), a proprietary retirement planning tool that combines Social Security claiming, Roth conversions, and withdrawal order into one cohesive strategy, we were able to quantify the value of the above interventions. Our research has shown that this approach can add up to 100 basis points (bps) or more of average annualized value without any additional risk.

To calculate this value, we compared thousands of possible market outcomes, life expectancy scenarios, and planning strategies to find the strategy that best balances after-tax spending and legacy goals. For Social Security claiming, our analysis considers a variety of factors, including life expectancy outcomes, to determine the optimal time for clients and their spouses to begin collecting Social Security to maximize their lifetime benefit. For Roth conversions, our analysis considers tax brackets and other details to reduce overall taxes throughout retirement to determine how much to convert and when. For withdrawal order, our analysis goes beyond the traditional rules of thumb to find the strategy that minimizes taxes when used in conjunction with the other income decisions. Previous Vanguard research has thoroughly examined the methodology and impact of converting assets into income (Jaconetti et al, 2023).

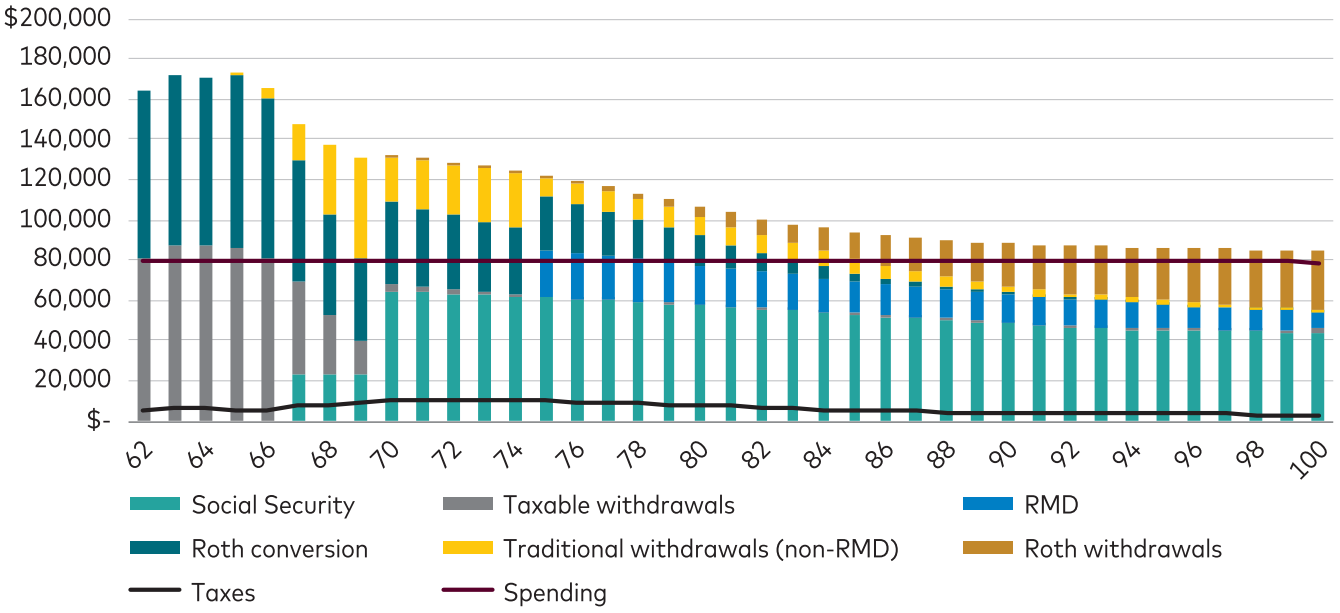
For illustrative purposes, the example in **Figures VI-a and VI-b** show just one particular case study that might be representative of a common set of client circumstances. Without advice, this couple of retiring 62-year-olds would start claiming Social Security as soon as possible and withdraw from assets in a way that would delay taxes as long as possible. Compared to the baseline strategy (VI-a), Vanguard TERS (VI-b) smooths taxes out over time instead of waiting for the tax torpedo (Reichenstein and Meyer, 2018) when RMDs (required minimum distributions) and Social Security begin. The TERS-optimized strategy does so by delaying Social Security claiming for the spouse with the higher benefit, utilizing Roth conversions, and supplementing income by spending from the taxable account in the early years of retirement. This minimizes RMDs and leaves the client with mostly Roth assets by the time they are likely to leave a bequest, thus optimizing for multiple goals. Comparing the TERS-optimized strategy with the baseline scenario shows an incremental, annualized benefit of 87 bps, expressed as a certainty fee equivalent (CFE), or the fee amount at which an investor would be indifferent between their original plan and the optimized solution.

Figure VI-A: Baseline retirement income strategy



Source: Vanguard.

Figure VI-B: TERS-optimized retirement income strategy



Source: Vanguard.

Many variables will impact the individual results of any particular household. Their ages, spending goals, health status, tax situation, risk tolerance, and account balances are all major factors that influence the outcome of a TERS optimization. The value could be more or less for any individual household and the solutions are too unique to generalize. The sheer level of personalization and complexity involved in the decisions underscores the importance of utilizing the technology that advisors have at their disposal or seeking a solution to do so.

Module 7

Total return versus income investing

Potential value-add: Value is significant but unique and unquantifiable, based on each investor's desired level of spending and portfolio composition.

With yields on balanced and fixed income portfolios at historically low levels and expected to remain low relative to past standards, the value of advice has never been more critical for retirees.

Historically, retirees holding diversified equity and fixed income investments could have easily lived off the income generated by their portfolios.

Unfortunately, that is no longer the case. Investors who wish to spend only the income generated by their portfolio, referred to here as the "income-only" approach, have three choices if their current cash flows fall short. They can spend less, they can reallocate to higher-yielding investments, or they can spend from the total return on their portfolio, which includes not only the income or yield but also the capital appreciation.

As your clients' advisor, you can help them make the right choice. For many investors, moving away from broad diversification could put their portfolio's principal value at higher risk than spending from it. **Figure VII-1** outlines several common techniques for increasing a portfolio's yield, along with their impacts.

Figure VII-1: Income-only strategies and potential portfolio impact

Strategy	Impact on a portfolio (compared with a market-cap-weighted portfolio at the sub-asset-class level)
1. Overweighting of high-yield bonds and/or underweighting of U.S. Treasury bonds.	Increases credit risk and raises overall volatility.
2. Increasing exposure to dividend-centric equity.	Decreases diversification of equity portfolio by overweighting certain sectors and/or increases overall volatility and risk of loss if it reduces the bond portfolio.
3. Increasing the portfolio's exposure to alternative asset classes.	• Increases the portfolio's overall volatility and risk of loss. • Decreases the tax-efficiency of the portfolio.

Source: Vanguard Investment Advisory Research Center.

5. **Overweighting high-yield bonds**
   Another strategy to increase yield is to increase the allocation to higher-yielding bonds exposed to marginal or even significant credit risk.[17] However, credit risk tends to be correlated with equity risk, which tends to be magnified when investors move into riskier bonds at the expense of U.S. Treasury bonds. Treasury bonds are a proven diversifier during periods of equity market duress, when diversification is needed the most.

   Vanguard research has shown that replacing broad-market, investment-grade fixed income holdings with high-yield bonds historically has increased the volatility of a balanced portfolio. This is because high-yield bonds are more highly correlated with the equity markets and are more volatile than investment-grade bonds. Investors who employ such a strategy are sacrificing diversification benefits in hopes of receiving higher current income.

6. **Increasing exposure to dividend-centric equity**
   An often-advocated equity approach to increase income is to shift some or all of a fixed income allocation into higher-yielding, dividend-paying stocks. But stocks are not bonds. At the end of the day, they will perform like stocks—they have higher volatility and the potential for greater losses. Moreover, dividend stocks are correlated with stocks in general, whereas bonds typically show little to no correlation with either of these. If you view fixed income as providing not just yield but also diversification, dividend-paying stocks fall well short as a substitute.

   A second approach is to shift from broad-market equity to dividend- or income-focused equity. However, this may inadvertently change the portfolio's risk profile, because dividend-focused equities tend to display a bias toward value stocks.[18] Although value stocks are generally considered to be a less risky subset of the broader equity market, the risks nevertheless can be substantial.[19] Portfolios focused on dividend-paying stocks tend to be overly concentrated in certain individual stocks and sectors.

   In addition, in an income-only approach, asset location is typically driven by access to income at the expense of tax efficiency. As a result, investors and advisors are more likely to purchase taxable bond funds or income-oriented stock funds in taxable accounts to gain access to their income (yield). This approach will most likely increase taxes, resulting in a direct reduction in spending.

7. **Increasing the portfolio's exposure to alternative asset classes**
   Alternative asset classes, such as private equity, can be an integral part of a well-designed financial plan under the right conditions; however, any allocation should be done following a total-return approach—as opposed to an income-focused approach—for the reasons previously discussed.

   When it comes to alternative asset classes, manager access, due diligence, and selection are critical; however, many who allocate to this space may not have the resources and staff necessary to dedicate to the effort of selecting strategies that could effectively improve client outcomes. In such cases, it is often prudent to work with a large asset manager who has the required level of resources necessary to access, perform due diligence on, and select talented managers. If this is not an option, the best approach is often to forego alternative asset classes and managers, given the empirical evidence of suboptimal performance. In this case, a portfolio consisting of traditional global market classes that is market-cap aware has proven to be extremely competitive.

17 The term "high-yield bonds" refers to fixed income securities rated as below investment grade by the primary ratings agencies (Ba1 or lower by Moody's Investors Service; BB+ or lower by Standard & Poor's).

18 See the Vanguard research paper *From assets to income: Vanguard's Advisor's Alpha guide to retirement income.* (Jaconetti et al., 2023).

19 "Less risky" should not be taken to mean "better." Going forward, value stocks should have a risk-adjusted return similar to that of the broad equity market, unless there are risks that are not recognized in traditional volatility metrics.

Benefits of a total return approach to investing

Some may feel that the income strategies described above will reward them with a more certain return and therefore less risk. But in reality, such strategies will increase the portfolio's risk. It will become too concentrated in certain sectors, with less tax efficiency and a higher chance of failing to provide for long-term financial goals.

Vanguard believes in a total return approach, which considers both income and capital appreciation. This has the following potential advantages over an income-only method:

- **Less risk.** It allows better diversification instead of concentrating on certain securities, market segments, or industry sectors to increase yield.
- **Better tax efficiency.** It offers more tax-efficient asset locations (for clients who have both taxable and tax-advantaged accounts). An income approach focuses on access to income, resulting in the need to keep tax-inefficient assets in taxable accounts.
- **A potentially longer lifespan for the portfolio.**

Designing tax-efficient total return strategies when investors require specific cash flows to meet their spending needs involves substantial analysis, experience, and transactions. To do this well is not easy and could well represent the entire value proposition of an advisory relationship.

Module 8

Tax-loss harvesting

Potential value-add: up to 150 bps or more[20] assuming daily loss monitoring, harvesting in a direct-indexed portfolio (direct ownership of individual securities), reinvestment of tax savings, and on-going contributions.

While tax-loss harvesting[21] is not new to the industry, in recent years, technology has enabled this once paper-driven strategy to become digitized and thus more scalable and cost effective (see page M2). Consequently, most advised investors can now benefit from a tax-loss harvesting program to defer or even eliminate capital gains taxes. This allows more capital to remain invested, thereby improving after-tax portfolio returns and client outcomes.

The success of a TLH program depends on the ability to:

1. **Create losses, which can vary based on the number of loss-harvesting opportunities:**
   - A TLH program can be implemented with either mutual funds/ETFs or direct ownership of individual securities via a direct/personalized indexing program. Direct ownership of individual securities provides exponentially more TLH opportunities than owning mutual funds/ETFs.
   - **Frequency of loss monitoring:** how frequently a portfolio is monitored (daily, monthly, quarterly, annually) significantly impacts the potential number of TLH opportunities. As expected, daily tax-loss harvesting maximizes the opportunity to harvest losses relative to the other frequencies.
2. **Convert losses into tax savings, which is critical.**
   - To add value, the harvested losses need to be used to provide tax savings for the individual. Capital losses can be used to offset short-term and/or long-term capital gains—currently or in the future—which reduces capital gain taxes. In addition, capital losses can be used to offset up to $3,000 of ordinary income each year and any remaining realized losses can be carried forward for use in future tax years. **Figure VIII-1** provides more specific scenarios on clients who would likely benefit from a TLH program.
3. **Reinvest the tax savings into the portfolio.**
   - Consistently reinvesting the tax savings into the portfolio provides additional opportunities for growth as well as potential future harvests.

Figure VIII-1: Advised investors who can benefit from a tax-loss harvesting (TLH) program

Clients who:	Possible reasons:
Have recurring capital gains	• Rebalancing, capital gain realization from investments, etc. • Retirees spending from appreciated assets in their taxable accounts.
Hold appreciated investment(s) they are seeking to liquidate in a tax-sensitive manner	• To reduce a concentrated position. • To improve diversification. • Found better investment with lower cost and/or better performance. • Investment no longer fits within the portfolio etc.
Have a future capital gain event they would like to plan for	• Future sale of appreciated company stock. • Sale of a business. • Sale of a rental property. • Sale of a principal residence.

Source: Vanguard Investment Advisory Research Center.

20 These numbers reflect the projected excess return from TLH as measured by the increase in internal rate of return. To understand the potential impact of TLH for an investor, the value reported must be scaled by the size of TLH assets relative to the size of the entire portfolio. See Paradise, et al., 2024.

21 Tax-loss harvesting is the process of selling an investment that has experienced a loss and replacing that investment with a different holding to maintain a client's asset allocation.

Vanguard's research has found that effective implementation of a TLH program—which includes daily harvest screening, reinvestment of tax savings, direct ownership of individual securities, and ongoing contributions—can add up to 150 bps or more annually (on the TLH assets). This range was determined by examining key investor attributes using client net worth and associated demographic data from the Survey of Consumer Finances (SCF)[22] to create realistic representations of different client profiles across net-worth groups **(Figure VIII-2a)**.

Figure VIII-2a: Four profiles representing net-worth groups

Group number	1	2	3	4
Net-worth group (percentiles)	75th to 90th	90th to 95th	95th to 98th	Top 2%
Ordinary income tax rate	22%	24.0%	41.3%	48.3%
Long-term capital gains tax rate	15%	15.0%	24.3%	31.3%
Offsettable income	2%	4%	6%	9%

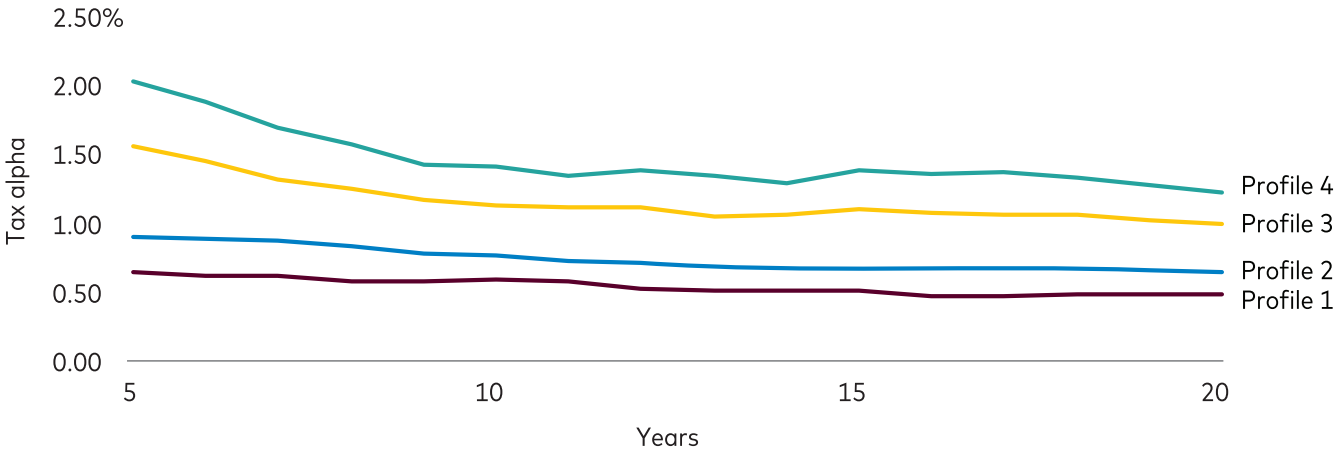
Sources: Vanguard calculations, using data from the Survey of Consumer Finances.

Notes: Profiles 1 and 2 are assumed to have no additional state income taxes. Profile 3 is assumed to be subject to a 32.0% federal marginal income tax rate, a 15.0% federal marginal long-term capital gains tax rate, and a 9.3% California marginal capital gains tax rate. Profile 4 is assumed to be subject to a 37.0% federal marginal income tax rate, a 20.0% federal marginal long-term capital gains tax rate, and an 11.3% California marginal capital gains tax rate.

By modeling TLH alpha for these profiles, realistic expectations for investors within these net-worth categories across different historical economic conditions can be established. **Figure VIII-2b** illustrates the expected outcomes for effective implementation of a TLH program through time.

22 The SCF is a longitudinal study conducted (most recently in 2022) by the Federal Reserve that provides comprehensive data on the financial conditions of U.S. households including income, net worth, and asset ownership. It is used to create realistic representations of different investor profiles across net-worth groups (Figure VIII-2a).

Figure VIII-2b: Range of TLH alpha by net-worth group



Sources: Vanguard calculations, using data from Axioma.

Notes: The results are for hypothetical investor profiles, are shown for illustrative purposes only, and are not a guarantee. The TLH simulations use historical market returns from January 1982 through March 2023. The distribution of projected outcomes is determined using rolling time periods of the same length. This chart uses profile assumptions described in Figure VIII-2a. Tax savings are calculated assuming that two-thirds of offset income are subject to long-term capital gains tax rates and one-third is subject to ordinary income tax rates. This analysis assumes scanning for harvests daily, reinvesting all tax savings in the portfolio, making quarterly contributions equal to 2.5% of the initially invested principal, and harvesting in a direct-indexed portfolio of 400 securities. TLH alpha numbers are annualized over the simulation period.

As expected, all four profiles can materially benefit from a TLH program, and the benefits increase as an investor's wealth and tax rates increase. Over the 20-year period, the projected annualized TLH alpha ranged from 0.44% for the lowest net worth profile to 2.00% for the highest net worth profile; the median 15-year values across the four net-worth profiles were 0.48%, 0.65%, 1.07%, and 1.36%, respectively, in the context of their taxable equity portfolio.

Finally, it is important to note that even those investors who might not see immediate benefits from TLH should consider engaging in loss harvesting if they anticipate becoming suitable candidates for such strategies in the future. For example, an individual who will be spending from appreciated assets in taxable accounts in retirement or an individual who is compensated in the form of company stock and anticipates material capital gains upon liquidation in the future could benefit later from planning a TLH program now. For these individuals, starting a TLH program well in advance of the anticipated future capital gains event(s) is critical as building up a reserve of losses large enough to offset the anticipated capital gains could take several years or more.

Modules conclusion

Where should you begin? We believe you should focus on those areas in which you have control, at least to some extent, such as:

- Helping your clients select the asset allocation that is most appropriate to meeting their goals and objectives given their time horizon and risk tolerance.
- Implementing asset allocation using low-cost investments and, to the extent possible, asset-location guidelines.
- Limiting deviations from the market portfolio, and thus benefiting your clients and your practice.
- Concentrating on behavioral coaching and spending time communicating with your clients.

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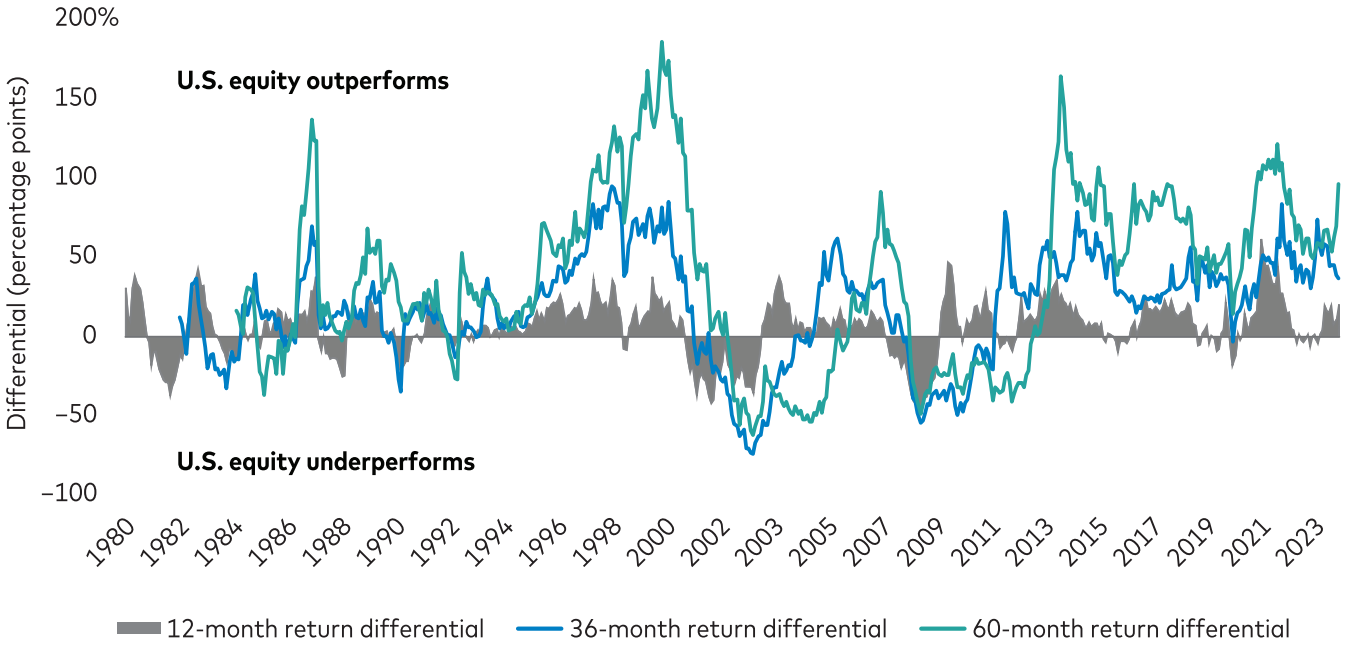
Appendix 1. Relative performance charts

Figure A-1. Relative performance of U.S. equity and U.S. bonds

Rolling cumulative total return differentials, in percentage points over various periods



Largest performance differentials (Cumulative, in percentage points)	One month	12 months	36 months	60 months
U.S. equity outperforms	12.1%	62.0%	95.4%	186.0%
U.S. equity underperforms	−25.1	−45.3	−73.8	−61.7

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

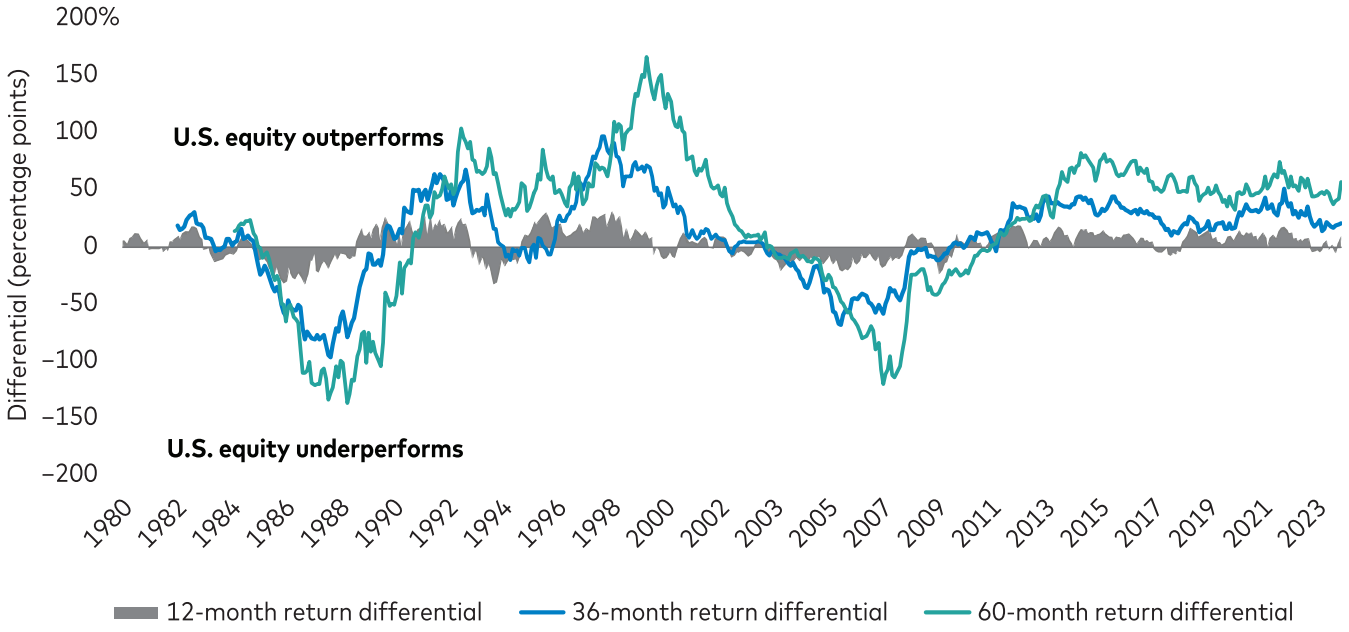
Sources: Vanguard calculations based on data from FactSet.

Notes: U.S. bonds are represented by the Bloomberg U.S. Aggregate Bond Index. U.S. equity is represented by the Dow Jones Wilshire 5000 Index through April 22, 2005; the MSCI US Broad Market Index from April 23, 2005, through June 2, 2013; and the CRSP US Total Market Index thereafter. The line graph reflects monthly observations of cumulative total return differentials, starting with the 12 months ended November 30, 1980, and concluding with the 12-, 36-, and 60-month periods ended December 31, 2023.

Appendix 1. Relative performance charts continued

Figure A-2. Relative performance of U.S. equity and non-U.S. equity

Rolling cumulative total return differentials, in percentage points over various periods



Largest performance differentials (Cumulative, in percentage points)	One month	12 months	36 months	60 months
U.S. outperforms	12.6%	31.5%	98.0%	167.1%
U.S. underperforms	−15.7	−32.6	−96.6	−136.9

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

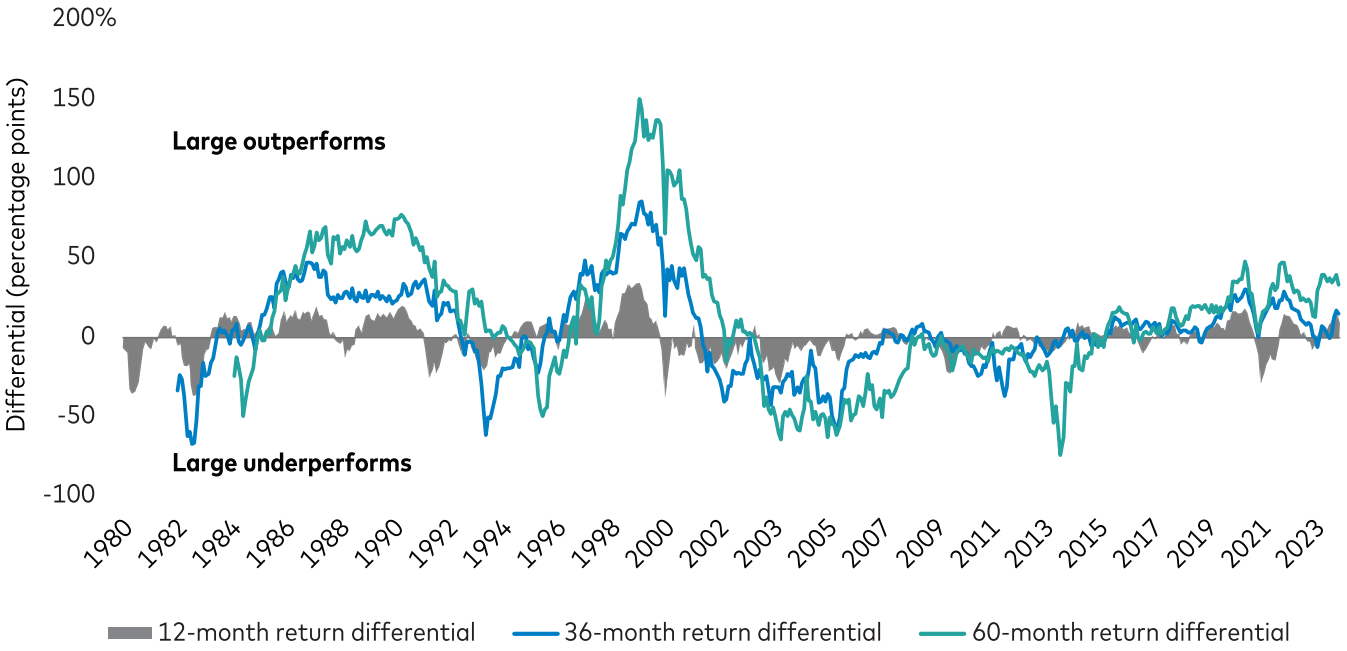
Sources: Vanguard calculations based on data from FactSet.

Notes: U.S. equity is represented by the Dow Jones Wilshire 5000 Index through April 22, 2005; the MSCI US Broad Market Index from April 23, 2005, through June 2, 2013; and the CRSP US Total Market Index thereafter. Non-U.S. equity is represented by the MSCI World Index through December 31, 1987, and the MSCI AC World ex US Index thereafter. The line graph reflects monthly observations of cumulative total return differentials, starting with the 12 months ended November 30, 1980, and concluding with the 12-, 36-, and 60-month periods ended December 31, 2023.

Appendix 1. Relative performance charts continued

Figure A-3. Relative performance of large-cap U.S. equity and small-cap U.S. equity

Rolling cumulative total return differentials, in percentage points over various periods



Largest performance differentials (Cumulative, in percentage points)	One month	12 months	36 months	60 months
Large-cap U.S. equity outperforms	16.4%	34.7%	85.8%	150.5%
Large-cap U.S. equity underperforms	–18.4	–37.5	–66.9	–74.0

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

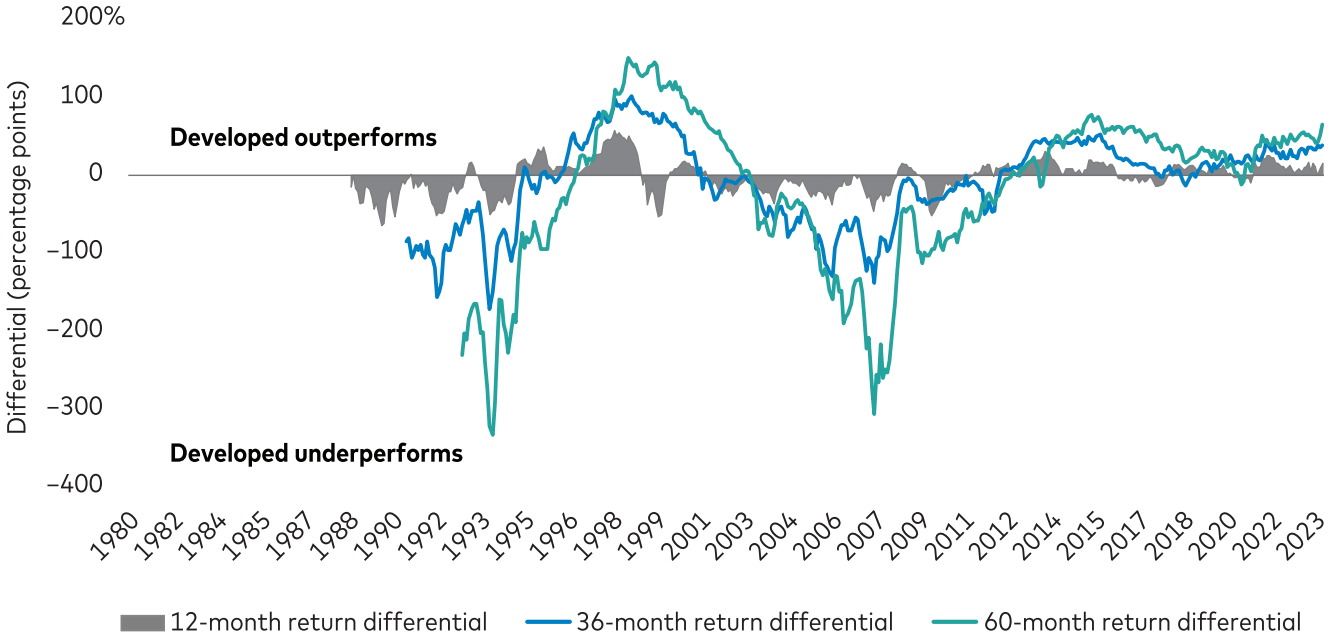
Sources: Vanguard calculations based on data from FactSet.

Notes: Large-cap U.S. equity is represented by the S&P 500 Index through December 31, 1983; the MSCI US Prime Market 750 Index from January 1, 1984, through January 31, 2013; and the CRSP US Large Cap Index thereafter. Small-cap U.S. equity is represented by the Russell 2000 Index through May 16, 2003; the MSCI US Small Cap 1750 Index from May 17, 2003, through January 31, 2013; and the CRSP US Small Cap Index thereafter. The line graph reflects monthly observations of cumulative total return differentials, starting with the 12 months ended November 30, 1980, and concluding with the 12-, 36-, and 60-month periods ended December 31, 2023.

Appendix 1. Relative performance charts continued

Figure A-4. Relative performance of developed-market equity and emerging-market equity

Rolling cumulative total return differentials, in percentage points over various periods



Largest performance differentials (Cumulative, in percentage points)	One month	12 months	36 months	60 months
Developed-market equity outperforms	15.6%	56.5%	101.7%	150.3%
Developed-market equity underperforms	–16.7	–64.7	–171.8	–333.4

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

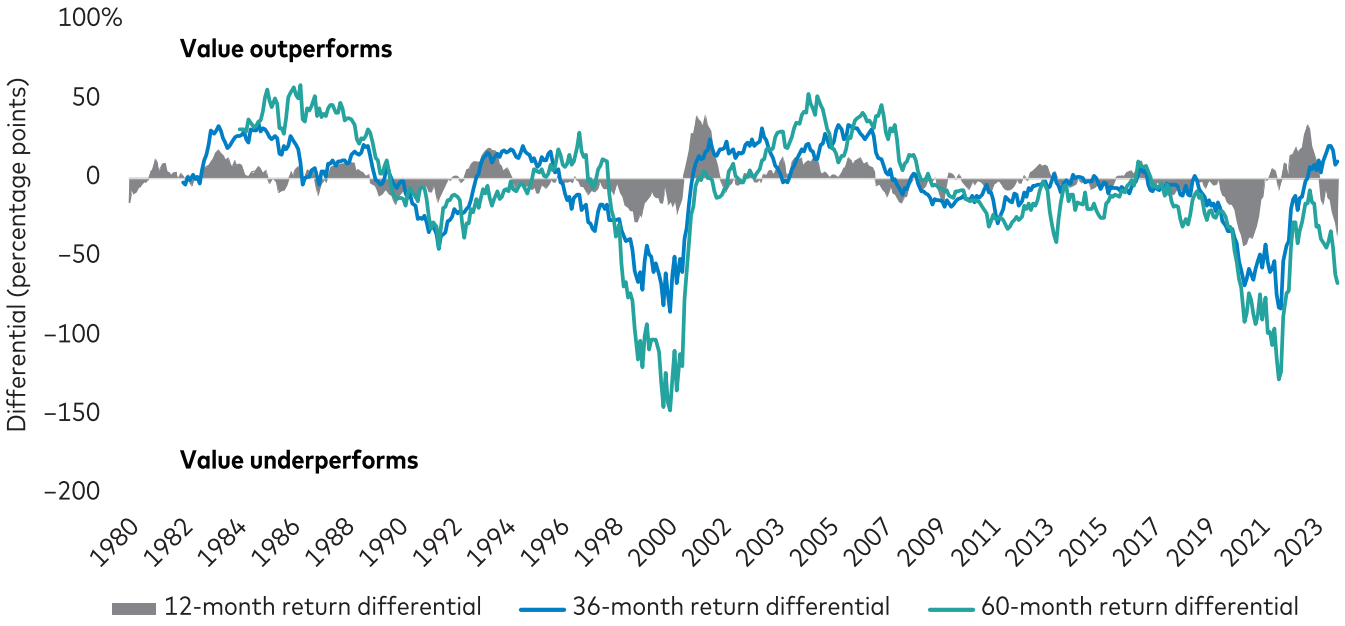
Sources: Vanguard calculations based on data from FactSet.

Notes: Developed-market equity is represented by the MSCI World Index. Emerging-market equity is represented by the MSCI Emerging Markets Index. The line graph reflects monthly observations of cumulative total return differentials, starting with the 12 months ended December 31, 1988, and concluding with the 12-, 36-, and 60-month periods ended December 31, 2023.

Appendix 1. Relative performance charts continued

Figure A-5. Relative performance of value U.S. equity and growth U.S. equity

Rolling cumulative total return differentials, in percentage points over various periods



Largest performance differentials (Cumulative, in percentage points)	One month	12 months	36 months	60 months
Value U.S. equity outperforms	9.7%	40.4%	35.0%	58.7%
Value U.S. equity underperforms	−12.0	−43.3	−84.7	−147.3

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

Sources: Vanguard calculations based on data from FactSet.

Notes: Value U.S. equity is represented by the S&P 500/Barra Value Index through May 16, 2003; the MSCI US Prime Market Value Index from May 17, 2003, through April 16, 2013; and the CRSP US Large Cap Value Index thereafter. Growth U.S. equity is represented by the S&P 500/Barra Growth Index through May 16, 2003; the MSCI US Prime Market Growth Index from May 17, 2003, through April 16, 2013; and the CRSP US Large Cap Growth Index thereafter. The line graph reflects monthly observations of cumulative total return differentials, starting with the 12 months ended November 30, 1980, and concluding with the 12-, 36-, and 60-month periods ended December 31, 2023.

Appendix 2. About the Vanguard Capital Markets Model

The Vanguard Capital Markets Model® (VCMM) is a proprietary financial simulation tool developed and maintained by Vanguard's Investment Strategy Group. Part of the tool is a dynamic module that employs vector autoregressive methods to simulate forward-looking return distributions on a wide array of broad asset classes, including stocks, taxable bonds, and cash. For the VCMM simulations in **Figure V-1**, we used market data available through June 30, 2013, for the U.S. Treasury spot yield curves. The VCMM then created projections based on historical relationships of past realizations among the interactions of several macroeconomic and financial variables, including the expectations for future conditions reflected in the U.S. term structure of interest rates. The projections were applied to the following Bloomberg U.S. bond indexes: 1–5 Year Treasury Index, 1–5 Year Credit Index, 5–10 Year Treasury Index, and 5–10 Year Credit Index. It is important to note that taxes are not factored into the analysis.

Limitations: The projections are based on a statistical analysis of December 31, 2021, yield curves in the context of relationships observed in historical data for both yields and index returns, among other factors. Future returns may behave differently from the historical patterns captured in the distribution of returns generated by the VCMM. It is important to note that our model may be underestimating extreme scenarios that were unobserved in the historical data on which the model is based.

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. 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 VCMM 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 VCMM 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 several time horizons. Forecasts are obtained by computing measures of central tendency in these simulations.

Important Information about NACUBO performance

NACUBO stands for the National Association of College and University Business Officers. The 2023 NACUBO-TIAA Study of Endowments® (NCSE) shows data gathered from 688 U.S. Colleges and universities.

The NACUBO institutions' portfolios performance was reported to NACUBO voluntarily by NACUBO member institutions' and the performance reported may have been affected by changes in conditions, objectives, or investment strategies during the time period of performance displayed. Seventy-nine percent of study participants reported rebalancing at least once in 2023.

NACUBO portfolios performance is net of fees. The fees deducted from NACUBO portfolios include: (i) management fees paid to direct asset managers for investment and management services excluding performance fees which can vary widely and may not be indicative of expected rates for a given period; (ii) fund-of-fund fees, which represent aggregate blended management fee rates paid directly to fund-of-fund providers; (iii) advisory fees, which may include consulting fees in addition to fees for investment advisor services; (iv) fund operating expenses; and (v) custody fees. The NACUBO Report notes that individual institutions may pay more or less in fees than is represented by the performance figures set forth above and that NACUBO's fee deduction method is intended to provide a representation of average fee levels rather than what any individual institution pays.

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All investing is subject to risk, including possible loss of principal. Be aware that fluctuations in the financial markets and other factors may cause declines in the value of your account.

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.

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. Investments in bonds are subject to interest rate, credit, and inflation risk. Although the income from municipal bonds held by a fund is exempt from federal tax, you may owe taxes on any capital gains realized through the fund's trading or through your own redemption of shares. For some investors, a portion of the fund's income may be subject to state and local taxes, as well as to the federal Alternative Minimum Tax.

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Tax-loss harvesting involves certain risks, including, among others, the risk that the new investment could have higher costs than the original investment and could introduce portfolio tracking error into your accounts. There may also be unintended tax implications. We recommend that you carefully review the terms of the consent and consult a tax professional before taking action.

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