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ADVISOR'S ALPHA® PERSPECTIVES | JULY 2022

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

Summary

- The advice industry has changed tremendously over the last 15 years. As a result, investors are in a better position to reach their desired outcomes and the advisor's value proposition has never been stronger.
- In 2001, we outlined how advisors could add value, or alpha, through relationship-oriented services, rather than by trying to outperform the market. We have since expanded the Vanguard Advisor's Alpha concept to quantify the benefits that advisors can add by following wealth management best practices.
- We believe implementing the Vanguard Advisor's Alpha framework can add up to, or even exceed, 3% in net returns for your clients and help you differentiate your skills and practice. Like any approximation, the actual amount of value added may vary significantly, depending on clients' circumstances.
- While the data in this paper is directed toward U.S. advisors, we have estimated the benefits of implementing the framework for non-U.S. investors over multiple time periods with similar results. Additionally, the global advice markets have converged and the potential value-add of up to, or even beyond, 3% remains whether using U.S. or non-U.S. data. The specific value added by each individual best practice will vary by local tax laws, regulations, and the average advised experience in each market.

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The value proposition for advisors has always been easier to describe than to define. Value is a subjective assessment that varies from individual to individual. The added value of some aspects of investment advice can be quantified, but at best this can only be estimated, because each is affected by the unique client and market environments to which it is applied.

As the industry continues to gravitate toward fee-based advice, there is a great temptation to define an advisor's value-add as an annualized number. In this way, fees deducted annually for the advisory relationship can be justified by the "annual value-add." However, although some of the strategies we describe here could 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),[1] and may more than offset years of advisory fees. However, the difference in your clients' performance if they stay invested according to your plan, as opposed to abandoning it, does not show up on any client statement.

An infinite number of alternate histories might have happened if we made different decisions; yet, we tend only to measure the outcomes of implemented decisions. For instance, most statements don't keep track of the benefits of talking your clients into "staying the course" in the midst of a bear market or convincing them to rebalance when it doesn't "feel" like the right thing to do. But their value and impact on clients' wealth creation is very real.

The quantifications in this paper compare 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.

Notes on risk and performance data

All investments, including a portfolio's current and future holdings, are subject to risk, including the possible loss of the money you invest. **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.** Diversification does not ensure a profit or protect against a loss in a declining market. 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. Be aware that fluctuations in the financial markets and other factors may cause declines in the value of your account. 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. While U.S. Treasury or government-agency securities provide substantial protection against credit risk, they do not protect investors against price changes due to changing interest rates. U.S. government backing of Treasury or agency securities applies only to the underlying securities and does not prevent share-price fluctuations.

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

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Believing *is* seeing

What makes one car with four doors and wheels worth $300,000 and another $30,000? The answer likely differs from person to person. Vanguard Advisor's Alpha is similarly difficult to define consistently. For some investors without the time, willingness, or ability to confidently handle their financial matters, working with an advisor may bring peace of mind. They may simply prefer to spend their time doing something—anything—else. Maybe they feel overwhelmed by product proliferation in the fund industry, given, for example, that the number of ETFs in the United States now exceeds 2,000.

The value of an advisor in this context is virtually impossible to quantify. Nonetheless, the overwhelming majority of mutual fund assets are advised, indicating that investors strongly value professional investment advice. We don't need to see oxygen to feel its benefits.

Investors who prepare their own tax returns probably have wondered whether an expert such as a CPA might do a better job. Might a CPA save them from paying more tax than necessary? If you believe an expert can add value, you see value, even if the value can't be well-quantified in advance.

The same reasoning applies to other household services that we pay for—such as painting, housecleaning, or landscaping. These can be considered "negative carry" services, in that we expect to recoup the fees we pay largely as emotional rather than financial benefits. You may well be able to wield a paintbrush, but you might want to spend your limited free time doing something else. Or you may suspect that a professional painter will do a better job. Value is in the eye of the beholder.

It is understandable that advisors would want a less abstract or subjective basis for their value proposition. Investment performance seems the obvious, quantifiable value-add. For advisors who promise better returns, the question is: Better than what? Those of a benchmark or "the market"? Not likely, as evidenced by the historical track record of active fund managers, who have regularly failed to consistently outperform benchmarks in pursuit of excess returns (see Rowley and Plagge, 2022). Better returns than those provided by an advisor or investor who doesn't use the value-added practices described here? Probably, as we discuss in the sections following.

Indeed, investors have already hinted at their thoughts on the value of market-beating returns. Over the 15 years ended December 31, 2021, cash flows into mutual funds have heavily favored broad-based index funds, ETFs, and lower cost active funds, rather than higher- cost, actively managed funds.[2] In essence, investors have chosen investments that are generally structured to match their benchmark's return, less management fees. They seem to feel there is great value in investing in funds whose expected returns typically trail rather than beat their benchmarks' returns.

Why would they do this? Ironically, their approach is sensible, even if "better performance" is the overall goal. Over the long term, index and lower cost active funds, such as the ones offered by Vanguard, have and can be expected to outperform the return of the average mutual funds in their benchmark categories.[3]

A similar logic can be applied to the value of advice: 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. We are in no way suggesting that every advisor—charging any fee—can add value. Advisors can add value if they understand how they can best help investors.

2 Based on calculations from the Vanguard Advisor's Alpha research team using data from Morningstar.

3 See Rowley and Plagge, 2022.

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Similarly, we cannot hope to define here every avenue for adding value. For example, charitable-giving strategies, estate planning, tax-loss harvesting, and business-continuation planning all can add tremendous value in the right circumstances, but they are not universal advisory alpha levers. The framework for advice that we describe in this paper can serve as the foundation on which to construct an Advisor's Alpha.[4]

Figure 1 is a high-level summary—organized into the seven modules detailed in the "Vanguard Advisor's Alpha Quantification Modules" section (beginning on page 10)—of the value we believe advisors can add by incorporating wealth-management best practices.

Based on our analysis, advisors can potentially add up to, or even exceed, 3% in net returns by using the Vanguard Advisor's Alpha framework.

Because clients only get to keep, spend, or bequest net returns, the focus of wealth management should always be on maximizing net returns. We do not believe this potential 3% improvement can be expected annually; rather, it is likely to be very irregular. Further, the extent of the value will vary based on each client's unique circumstances and the way the assets are managed.

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 are presenting the potential value add of all seven modules as a range based on the observed dollars allocated in portfolios. 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.

Obviously, our suggested strategies are not universally applicable. Our aim is to motivate advisors to adopt and embrace these best practices and to provide a framework for describing and differentiating their value propositions. This paper focuses on the most common tools for adding value, encompassing both investment and relationship-oriented strategies and services.

Figure 1. **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*
Cost-effective implementation (expense ratios)	2	30
Rebalancing	3	14
Behavioral coaching	4	0 to > 200
Asset location	5	0 to 60
Spending strategy (withdrawal order)	6	0 to 120
Total return versus income investing	7	> 0*
Range of potential value added (basis points)		Up to, or even exceed, 3% in net returns

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

Notes: We believe implementing the Vanguard Advisor's Alpha framework can add up to, or even exceed, 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 client circumstances and time horizon.

Source: Vanguard.

4 As 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."

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Vanguard Advisor's Alpha: Good for your clients and your practice

For many clients, entrusting their future to an advisor is both a financial and an emotional commitment. As they would when finding a new doctor or other professional service provider, they typically enter the relationship based on a referral or other due diligence. They put their trust in someone and assume he or she will keep their best interests in mind.

Yet, trust can be fragile. Typically, it is established when the relationship is new. Once it has been established and the investment policy has been implemented, we believe the key to asset retention is keeping that trust.

First and foremost, clients want to be treated as people, not portfolios. This is why beginning the client relationship with a financial plan is so essential. Not only does it promote complete disclosure about investments, but more important, it provides a perfect way for clients to share what is of most concern to them: their goals, feelings about risk, family, and charitable interests. All this information is emotionally based, and a client's willingness to share it is crucial in building trust.

Another important aspect is delivering on your promises—which begs another question: How much control do you actually have over the services promised? At the start of the relationship, expectations are set regarding services, strategies, and performance. Some aspects, such as personality and service levels, are entirely within your control. Research suggests that clients want more contact and responsiveness from their advisors (Kinniry et al., forthcoming).

The research cited not being proactive in contacting clients and not returning phone calls or e-mails in a timely fashion as among the top reasons investors changed financial advisors. In fee-based practices, advisors are paid the same whether they make a point of calling clients just to ask how they're doing or call only when suggesting a change in their portfolio. A client's perceived value-add from the "hey, how are you doing?" call is likely to be far greater.

This is not to say that performance is unimportant. Although advisors cannot control performance, they can choose the strategies on which they build their practice. For example, they can decide how strategic or tactical they want to be with their investments or how far they are willing to deviate from a broad-market portfolio.

As part of this decision process, it's important to consider how committed you are to a strategy, why a counterparty may be willing to commit to the other side of the strategy, which party has more knowledge or information, and the holding period necessary to see the strategy through. For example, opting for an investment process that deviates significantly from the broad market may work extremely well when you are "right" but could be disastrous if your clients lack the patience to stick with it during difficult times.

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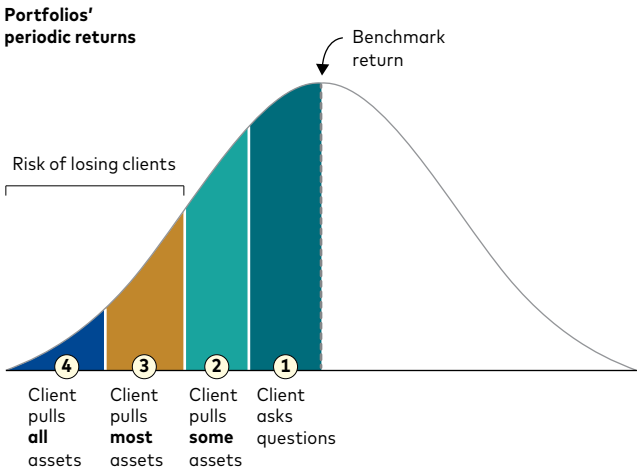
Many people do not like change. They tend to have an affinity for inertia and, absent a compelling reason not to, are inclined to stick with the status quo. What would it take for a long-time client to leave your practice? The return distribution in **Figure 2** illustrates where, in our opinion, the risk of losing clients increases. Although outperformance of the market is possible, history suggests that underperformance is more probable.

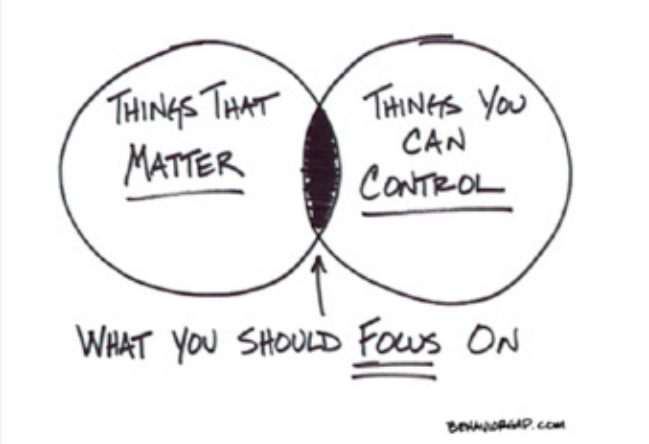
Significantly tilting your clients' portfolios away from a market capitalization weighting or engaging in large tactical moves can result in meaningful deviations from the benchmark return. As shown in Figure 2, the farther a portfolio return moves to the left—that is, the amount by which the return underperforms the benchmark return—the greater the likelihood that a client will remove assets from the advisory relationship.

Figure 2. Hypothetical return distribution for portfolios that significantly deviate from a market cap-weighted portfolio



Source: Vanguard.

Carl Richards, CFP®, a popular author and media figure in investor education, is known for creating illustrations that bring immediate clarity to complex financial issues. The sketch shown at right encapsulates not only the basic framework of Vanguard Advisor's Alpha but the essence of how we believe investors and advisors should view the entire investing process. Understand what's important, understand what you can control, and focus your time and resources accordingly.



Source: Carl Richards, behaviorgap.com. Reproduced by permission.

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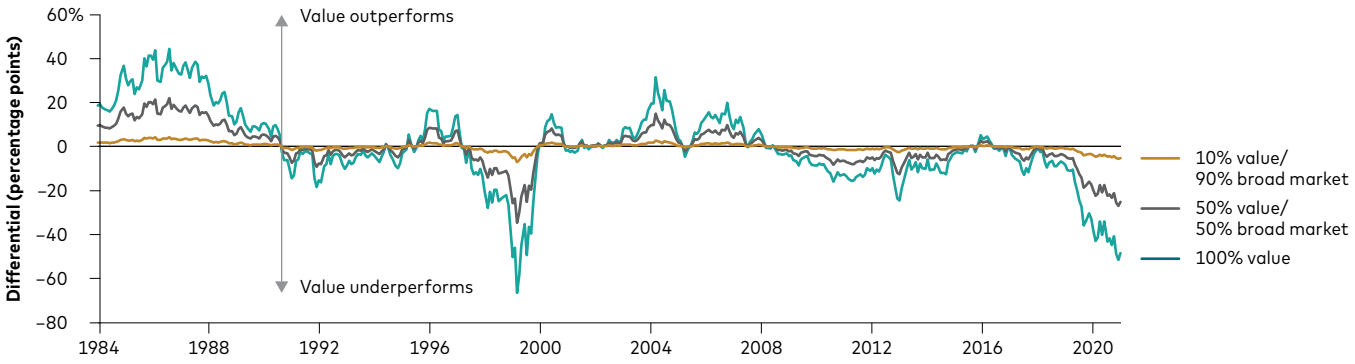
The markets are uncertain and cyclical—but your practice doesn't have to be. To take one example, an advisor may believe that a value-tilted stock portfolio will outperform over the long run. However, he or she will need to keep clients invested for this belief to have the possibility of paying off. Historically, there have been periods—sometimes protracted—in which value has trailed the broad market (see **Figure 3**).

It's reasonable to expect this type of cyclicality. But remember, your clients' trust is fragile. Even if you have a deep relationship with well-established trust, periods of large underperformance—such as the 12- and 60-month return differentials shown in Figure 3—can undermine this trust. (**Appendix 1** highlights performance differentials for market areas such as sectors, countries, size, duration, and credit.)

We are not suggesting that market deviations are unacceptable, but rather that you should carefully consider the size of those deviations, in light of the markets' cyclicality and investor behavior. As Figure 3 shows, there is a clear performance differential between allocating 50% versus 10% of a broad-market U.S. equity portfolio to value. As expected, the smaller the deviation from the broad market, the tighter the tracking error and performance differential. With this in mind, consider allocating a significant portion of your clients' portfolios to the "core," which we define as broadly diversified, low-cost, market cap-weighted investments (see **Figure 4**). Limit the deviations to a level that aligns with average investor behavior and your comfort as an advisory practice.

Figure 3. Relative performance of value versus broad U.S. equity

Rolling five-year cumulative total return differentials, in percentage points



Largest performance differentials (Cumulative, in percentage points)	12 months		60 months	
	Outperformed	Underperformed	Outperformed	Underperformed
100% value	28.3%	–19.1%	44.4%	–66.6%
50% value/50% broad market	13.4%	–9.9%	22.0%	–34.7%
10% value/90% broad market	2.6%	–2.0%	4.4%	–7.2%

Notes: Broad 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. 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. The line graph reflects monthly observations of five-year cumulative total return differentials, starting with the period ended December 31, 1984, and concluding with the period ended December 31, 2021.

Sources: Vanguard calculations based on data from FactSet.

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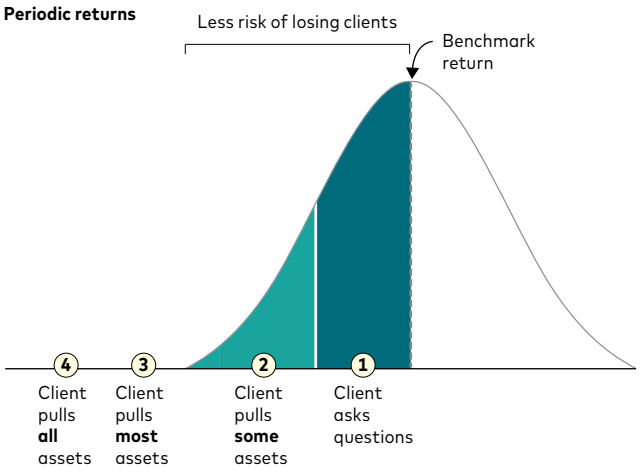
For advisors in a fee-based practice, substantial deviations from a core approach to portfolio construction can have major implications and result in an asymmetric payoff. Because investors commonly report that they hold the majority of their investable assets with a primary advisor (Cerulli, 2021), the advisor has less to gain from outperformance than lose if the portfolio underperforms instead. Although the advisor might gain slightly more assets from success, he or she might lose some or even all of the client's assets in the event of a failure. So when considering deviations from the market, make sure your clients and practice are prepared for all the possible implications.

Figure 4. Hypothetical return distribution for portfolios that closely resemble a market cap-weighted portfolio

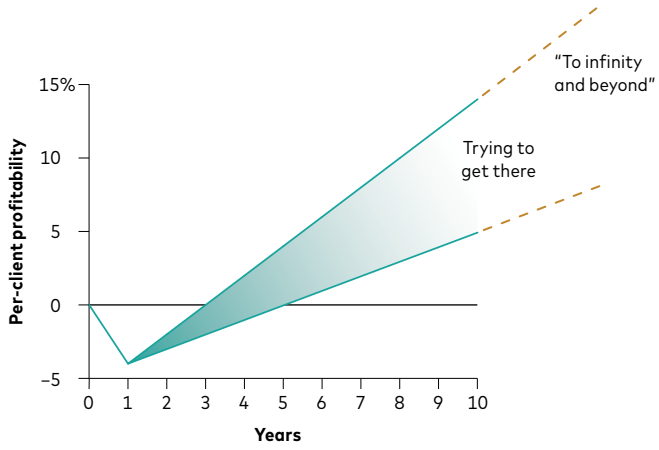


Source: Vanguard.

"Annuitizing" your practice "to infinity and beyond"

In a world of fee-based advice, assets reign. Why? Acquiring clients is expensive, requiring a large investment of your time, energy, and money. Developing a financial plan can take many hours and require multiple meetings. **Figure 5** demonstrates that these costs tend to be concentrated at the beginning of the relationship, if not before (in terms of the advisor's overhead and preparation), then moderate over time. In a transaction-fee world, this is where most revenues occur, more or less as a lump sum. However, in a fee-based practice, the same assets would need to remain with an advisor for several years to generate the same revenue. Hence, assets—and asset retention—are paramount.

Figure 5. Advisor's alpha "J" curve



Source: Vanguard.

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Conclusion

"Putting a value on your value" is as subjective and unique as each individual investor. For some, the value of working with an advisor is peace of mind. For others, we found that working with an advisor can add up to, or even exceed, 3% in net returns through following the Vanguard Advisor's Alpha framework for wealth management, particularly for taxable investors. This increase should not be viewed as an annual value-add but is likely to be intermittent. Some of the best opportunities to add value occur during periods of market duress or euphoria when clients are tempted to abandon their well-thought-out investment plans.

Although the strategies discussed in this paper are available to every advisor, the applicability—and resulting value added—will vary by client circumstance (time horizon, risk tolerance, financial goals, portfolio composition, and marginal tax bracket, to name a few) and advisor implementation. Our analysis and conclusions are meant to motivate you to adopt and embrace these best practices as a framework for describing and differentiating your value proposition.

The Vanguard Advisor's Alpha framework is not only good for your clients but also good for your practice. With the compensation structure for advisors evolving from a commission- and transaction-based system to a fee-based asset management framework, assets—and asset retention—are paramount. Following this framework can provide you with additional time to spend communicating with your clients and can increase client retention by avoiding large deviations from the broad-market performance—thus taking your practice "to infinity and beyond."

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Vanguard Advisor's Alpha Quantification Modules

This section includes our supporting analysis and a chart providing 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.

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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*
Cost-effective implementation (expense ratios)	2	30
Rebalancing	3	14
Behavioral coaching	4	0 to > 200
Asset location	5	0 to 60
Spending strategy (withdrawal order)	6	0 to 120
Total return versus income investing	7	> 0*
Total potential value added		Up to, or even exceed, 3% in net returns

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

Notes: We believe implementing the Vanguard Advisor's Alpha framework can up to, or even exceed, 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 client circumstances and time horizon.

Source: Vanguard.

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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. 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-TIAA (2021) 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

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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 (19% of endowments)	Medium endowments (50% of endowments)	Small endowments (31% of endowments)	60% stock/ 40% bond portfolio	70% stock/ 30% bond portfolio
1 year	37.3%	30.7%	26.5%	25.0%	29.3%
3 years	14.2%	11.7%	10.7%	12.2%	13.2%
5 years	13.0%	11.2%	10.3%	11.1%	12.4%
10 years	9.5%	8.1%	7.7%	8.9%	9.7%
15 years	8.1%	6.9%	6.4%	7.7%	8.2%
30 years	10.4%	8.6%	7.7%	8.5%	8.8%

Notes: Data are as of June 30 for each year through June 30, 2021. 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. 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-TIAA Study of Endowments.

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Module 2

Cost-effective implementation

Potential value-add: 30 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.

Cost-effective implementation 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.

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,[5] we examine net expense ratios and find that an investor could save from 27 to 30 bps annually by moving to low-cost funds, as shown in **Figure II-1**. 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 34 bps annually for an all-bond portfolio and 38 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 7 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.

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 (34 to 38 bps), the increase in value would be even higher than stated here.

Figure II-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	0.38%	0.37%	0.37%	0.36%	0.36%	0.35%	0.34%
"Lowest of the low"	0.09	0.09	0.08	0.08	0.08	0.08	0.07
Cost-effective implementation (expense ratio bps)	0.30	0.29	0.28	0.28	0.28	0.27	0.27

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.
Sources: Vanguard calculations based on data from Morningstar, Inc., as of December 31, 2021.

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

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Module 3

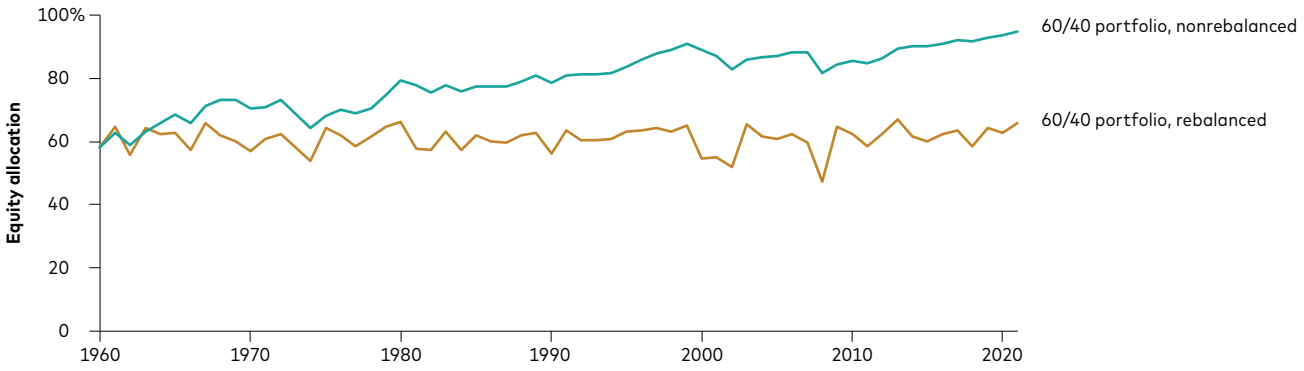
Rebalancing

Potential value-add: Up to 14 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 nonrebalanced, 1960 through 2021



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, 2021.

Sources: Vanguard calculations based on data from FactSet.

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During this period (1960–2021), a 60% stock/40% bond portfolio that was rebalanced annually provided a marginally lower return (9.23% versus 9.88%) with significantly lower risk (11.00% versus 13.81%) 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 nonrebalanced portfolio. We found that an 80% stock/20% bond portfolio provided similar risk as measured by standard deviation (13.69% versus 13.81%) with a higher average annualized return (10.02% versus 9.88%), as shown in Figures III-2 and **Figure III-3**.

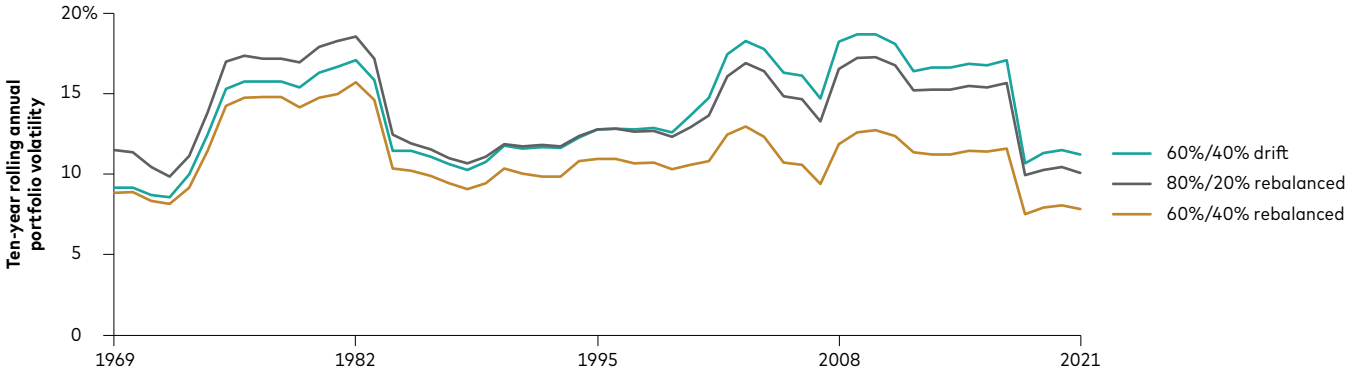
Figure III-2. Portfolio returns and risk, rebalanced and nonrebalanced, 1960 through 2021

	60% stocks/40% bonds, rebalanced	60% stocks/40% bonds (drift)	80% stocks/20% bonds, rebalanced
Average annualized return	9.23%	9.88%	10.02%
Average annual standard deviation	11.00%	13.81%	13.69%
Sharpe ratio	0.43	0.39	0.40

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.

Sources: Vanguard calculations based on data from FactSet.

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



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.

Sources: Vanguard calculations based on data from FactSet.

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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.[6]

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.

6 Source: Vanguard research paper *Best Practices for Portfolio Rebalancing* (Jaconetti, Kinniry, and Zilbering, 2010).

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Module 4

Behavioral coaching

Potential value-add: Vanguard research and other academic studies have concluded that behavioral coaching may add 100 to 200 bps in net return. 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 these time-tested principles; 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. Abandoning a well-planned investment strategy can be costly, and research has shown that some of the most significant challenges are behavioral. That is where you, as a behavioral coach, can earn your 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 you can provide.

When clients are tempted to abandon the markets because performance has been poor or to chase the next "hot" investment, you need to remind them of the plan you created before emotions were involved. The trust they have in you is key: Strong relationships need to be established before bull- and bear-market periods challenge their confidence.[7] 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.

To analyze fund investor behaviors, we compared investor returns (internal rates of return, or IRRs) to fund-reported total returns (time-weighted returns, or TWRs). A fund's TWR represents the performance of its assets under management for a defined period and is generally the industry standard for reporting returns. The IRR approximates the return earned by the average dollar invested in the fund over the same period, rather than the result of any specific investor. The two results tend to differ to various degrees and in various directions. The IRR differs from the TWR because of cash flows in and out of the fund; absent any cash flows, the TWR and IRR should be the same. All funds should expect return drags versus their benchmark over longer periods as money continually enters a (generally) rising market. However, larger differences can be a sign of performance-chasing (Kinniry and Zilbering, 2012).

7 Sources: Vanguard research papers *The Vanguard Advisor's Alpha Guide to Proactive Behavioral Coaching* (Bennyhoff, 2018) and *Reframing Investor Choices: Right Mindset, Wrong Market* (Kinniry et al. 2016).

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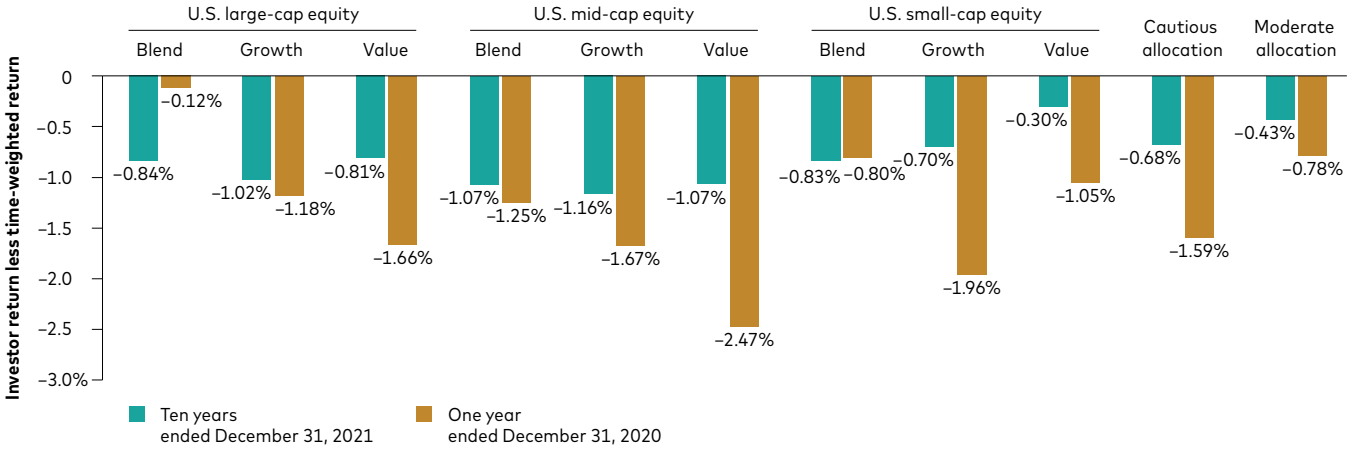
Investors and the funds they invest in commonly receive much different returns (see **Figure IV-1**). For the 10-year period ending December 31, 2021, investors received lower returns than the funds they invested in, demonstrating that these funds' cash flows tended to be attracted, rather than followed, by higher returns. History suggests that, on average, this gap is most evident in fund categories that are more concentrated, narrow, or different from the overall market. It is less negative in the more broadly diversified categories, which typically include a varying mix of equity and fixed income. The Vanguard Advisor's Alpha framework was built with a significant allocation to a core portfolio that is broadly diversified, low-cost, and market cap-weighted, with satellite allocations limited to levels appropriate for each investor and practice.

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. For example, Figure IV-1 shows that the behavior gap during the year of a recent equity bear market, 2020, increased meaningfully relative to the longer-term average. This underscores the importance of acting as a behavioral coach during episodic market distress.

Figure IV-1. Annualized shortfalls of investor returns (IRR) versus fund or time-weighted returns (TWR)



Notes: The time-weighted returns underlying this figure represent the average fund return in each category. Investor returns assume that the growth of a fund's total net assets for a given period is driven by market returns and investor cash flow. An internal rate-of-return function calculates the constant growth rate that links the beginning total net assets and periodic cash flows to the ending total net assets. Discrepancies in the return difference are due to rounding. Fund categories include fund-of-fund assets and cash flows to best capture investors' experience when that structure is common.

Sources: Vanguard calculations based on data from Morningstar, Inc.

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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 bps.

The allocation of assets between taxable and tax-advantaged accounts can add value each year that can compound through time.[8] 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—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.[9]

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%

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% for income and short-term capital gains and 20% for long-term capital gains and includes the 3.8% Medicare tax on investment income. These values do not assume liquidation.

Source: Vanguard.

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

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

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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%. 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.** 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.**

By 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.

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.[10] 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.

10 See the Vanguard research paper *The Case for Low-Cost Index Fund Investing* (Rowley and Plagge, 2022).

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Module 6

Withdrawal order for client spending from portfolios

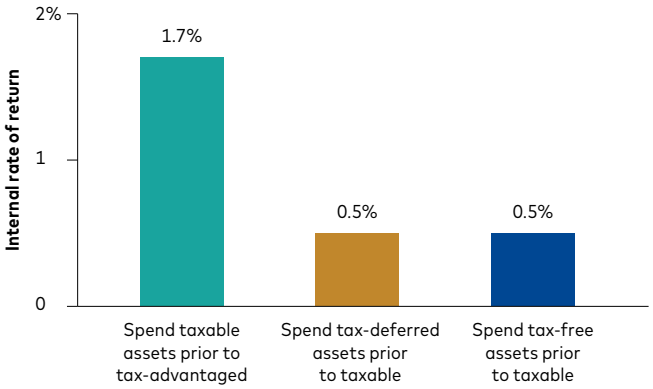
Potential value-add: Up to 120 bps, depending on the investor's bucket size—the breakdown of assets between taxable and tax-advantaged accounts—and marginal tax bracket. The greatest benefits occur when the accounts are roughly equal in size and the investor is in a high marginal tax bracket. If the assets are all in one account type (that is, all taxable or all tax-advantaged), or the investor is not currently spending from the portfolio, the value of the withdrawal order is 0 bps.

With the retiree population on the rise, an increasing number of clients are facing important decisions about how to spend from their portfolios. Complicating matters is the fact that many hold multiple account types, including taxable, tax-deferred (such as a traditional 401(k) or IRA), and tax-free (such as a Roth 401(k) or IRA). Advisors who implement 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.

The impact of taxes can be minimized by spending from the portfolio in the following order: required minimum distributions (RMDs), if applicable, followed by cash flows on assets held in taxable accounts, taxable assets, and finally tax-advantaged assets (see **Figure VI-1a** and **Figure VI-1b**).[11] Our research has shown that this can add up to 120 basis points of average annualized value without any additional risk.[12]

To calculate this value, we compared the IRR of this spending order to that of two alternatives in which tax-advantaged assets were tapped first: (1) spending from tax-deferred assets before taxable assets and (2) spending from tax-free assets before taxable assets. Both cases resulted in lower terminal wealth.

Figure VI-1a. Average internal rate of return of different withdrawal-order strategies



Notes: These hypothetical data do not represent the returns on any particular investment. Each IRR is calculated by running the same 10,000 VCMM simulations through three separate models, each designed to replicate the stated withdrawal-order strategy.

Source: Vanguard.

IMPORTANT: The projections and other information generated by the Vanguard Capital Markets Model regarding the likelihood of various investment outcomes are hypothetical in nature, do not reflect actual investment results, and are not guarantees of future results. Distribution of return outcomes from VCMM are derived from 10,000 simulations for each modeled asset class. Simulations are as of December 31, 2021. Results from the model may vary with each use and over time. For more information, see Appendix 2 on page 29.

Assumptions for our analysis

Portfolio	50% stocks/50% bonds
Equtiy allocaiton	60% domestic/40% international
Fixed income allocaiton	70% domestic/30% international
Time horizon	35 years
Marginal U.S. income tax rate	40.8%
Long-term capital gains tax rate	23.8%

11 Tax-advantaged assets include both tax-deferred and tax-free (Roth) accounts.

12 Clearly, an investor's specific financial plan may warrant a different spending order, but this framework can serve as a prudent guideline for most investors. See *From Assets to Income: A Goals Based Approach to Retirement Spending* (Jaconetti et al., 2020) for a more detailed analysis.

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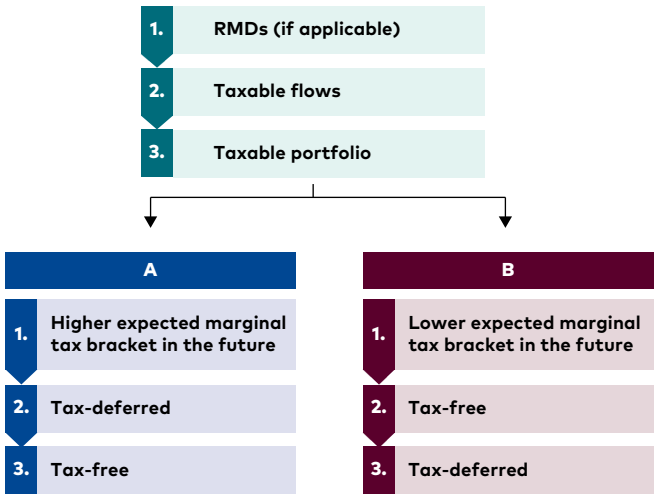
Figure VI-1b. Detailed spending order and explanation



Source: Vanguard.

RMDs are the first assets to spend because they are required by law for retired investors more than 70½ years old (or 72 for those born after July 1, 1949) who own assets in tax-deferred accounts. For those who are not subject to RMDs or who need additional money, the next source should be cash flows from assets held in taxable accounts, including interest, dividends, and capital gains distributions, followed by assets held in taxable accounts.

Investors should deplete their taxable assets before spending from their tax-deferred accounts because swapping the order would accelerate the payment of income taxes. Taxes on withdrawals from tax-deferred accounts will likely be higher than those on withdrawals from taxable accounts, for two reasons. First, investors will pay ordinary income taxes on the entirety of their withdrawals (assuming the contributions were made with pre-tax dollars), rather than just paying capital gains taxes on capital appreciation. Second, ordinary income tax rates are currently higher than capital gains tax rates, so investors would have to pay higher tax rates if they spent from the tax-deferred accounts first. Over time, the acceleration of income taxes and the resulting loss of tax-deferred growth can negatively affect the portfolio, resulting in lower terminal wealth values and success rates.

Investors should likewise consider spending from their taxable accounts before their tax-free accounts to maximize the long-term growth of their overall portfolio. Reducing the amount of assets with tax-free growth potential can result in lower terminal wealth values and success rates.

Once the order of withdrawals has been determined, the next step is to specifically identify which asset or assets to sell to meet spending needs. Within taxable portfolios, investors should first spend portfolio cash flows, because this money is taxed regardless of whether it's spent or reinvested. Reinvesting and then selling the assets later to meet spending needs could result in short-term capital gains, which are currently subject to ordinary income tax rates.

Next, the investor should consider selling the asset or assets that would produce the lowest taxable gain or realize a loss. This should continue until the spending need has been met or the taxable portfolio has been exhausted.

Once their taxable accounts have been depleted, investors must decide whether to spend next from tax-deferred or tax-free (Roth) accounts. This decision should be based on future tax-rate expectations. If future tax rates are expected to be higher, spending from tax-deferred accounts should take priority. This allows investors to lock in the lower tax rates on the tax-deferred withdrawals, rather than allowing tax-deferred accounts to continue to grow and be subject to higher future tax rates.

Conversely, for investors who anticipate lower future tax rates, spending from tax-free assets should take priority. This will result in lower taxes over the entire investment horizon.

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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 longer-term bonds (extending the duration)	Increases exposure to changes in interest rates
2. Overweighting of high-yield bonds and/or underweighting of U.S. Treasury bonds	Increases credit risk and raises overall volatility
3. 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

Source: Vanguard.

1. Overweighting longer-term bonds (extending the duration)

Extending the duration of the bond portfolio will likely increase the current yield but will also increase sensitivity to changes in interest rates. Generally speaking, the longer the bond portfolio's duration, the greater the decline in prices when interest rates rise (and the greater the gain when rates fall).

2. 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.[13] 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.

13 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).

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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.

3. 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.[14] Although value stocks are generally considered to be a less risky subset of the broader equity market, the risks nevertheless can be substantial.[15] 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.

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.

14 See the Vanguard research paper *From Assets to Income: A Goals Based Approach to Retirement Spending* (Jaconetti et al., 2020).

15 "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.

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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 the 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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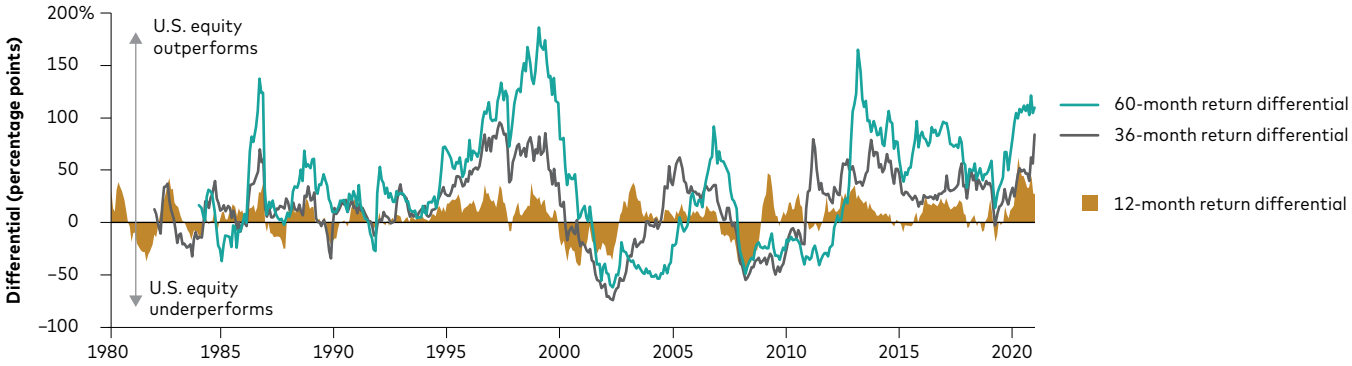
Appendix 1. Relative performance charts

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

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



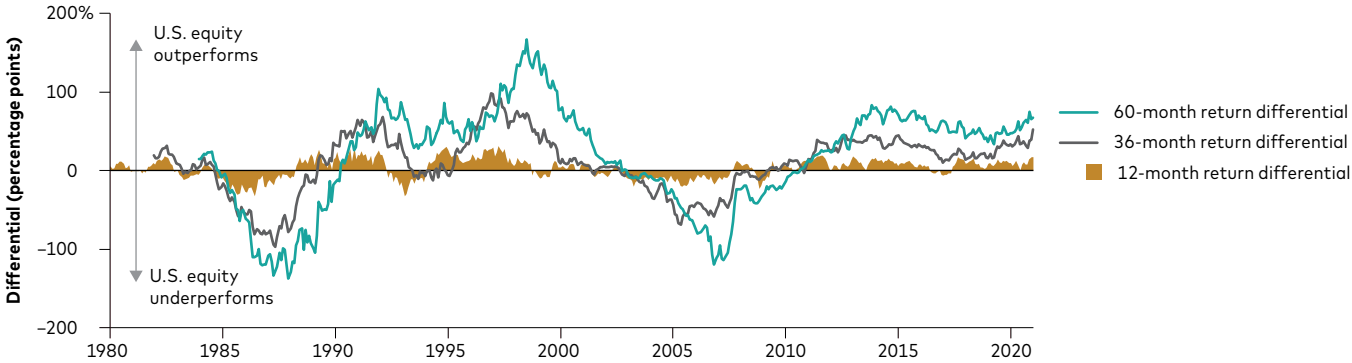
Largest performance differentials (Cumulative, in percentage points)	One month	12 months	36 months	60 months
U.S. equity outperforms	12.1%	62.0%	95.4%	186.0%
U.S. equity underperforms	−25.1%	−45.3%	−73.8%	−61.7%

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, 2021.

Sources: Vanguard calculations based on data from FactSet.

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%

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, 2021.

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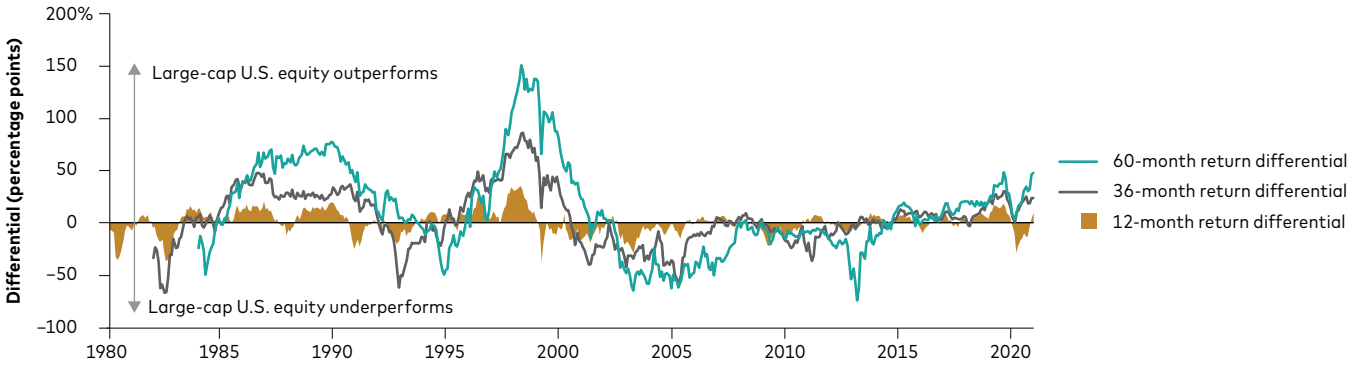
Figure A-3. Relative performance of large-cap U.S. equity and small-cap U.S. equity

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



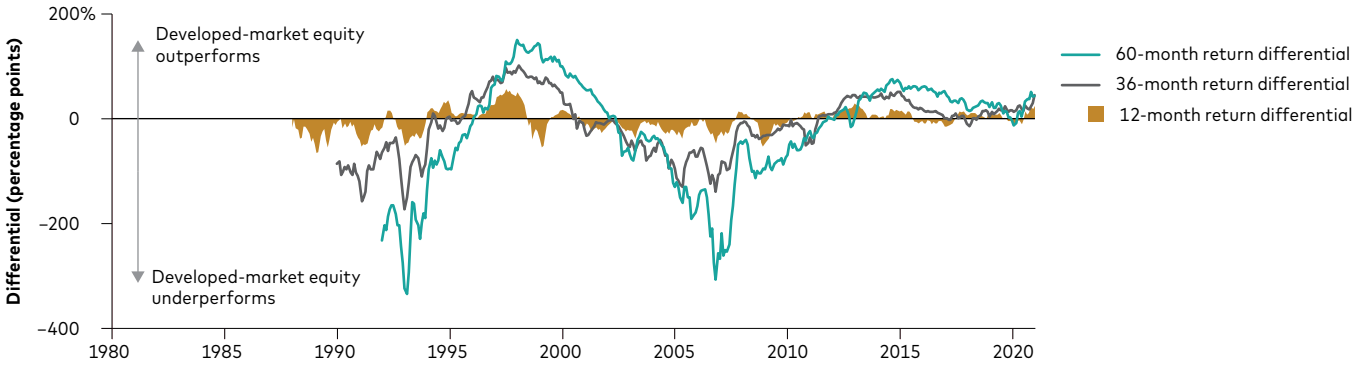
Largest performance differentials (Cumulative, in percentage points)	One month	12 months	36 months	60 months
Large-cap U.S. equity outperforms	16.4%	34.7%	85.8%	150.5%
Large-cap U.S. equity underperforms	–18.4%	–37.5%	–66.9%	–74.0%

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, 2021.

Sources: Vanguard calculations based on data from FactSet.

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%

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, 2021.

Sources: Vanguard calculations based on data from FactSet.

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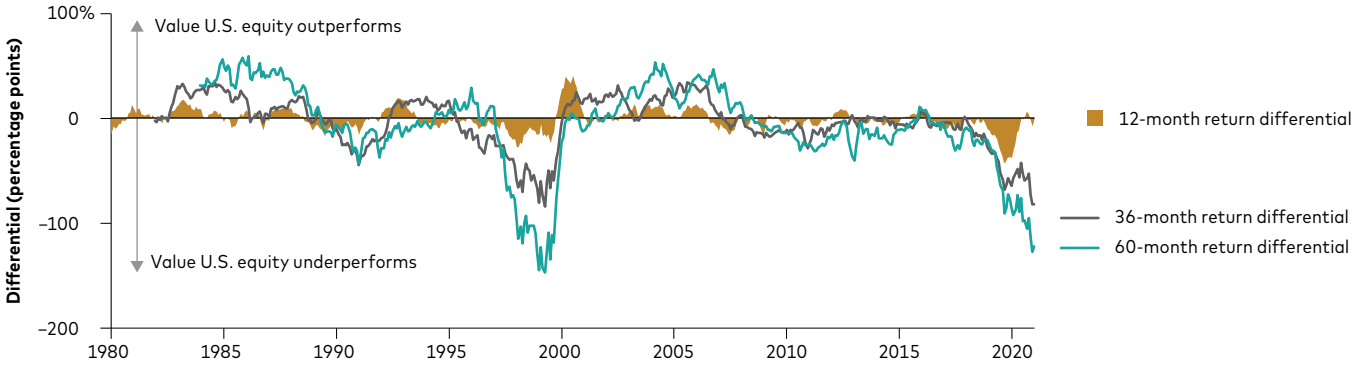
Figure A-5. Relative performance of value U.S. equity and growth U.S. equity

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%

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, 2021.

Sources: Vanguard calculations based on data from FactSet.

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.

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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.

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