



Vanguard research

Vanguard's Principles for Investing Success

Vanguard

Notes on risk

All investing is subject to risk, including possible loss of principal. 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. In a diversified portfolio, gains from some investments may help offset losses from others. However, diversification does not ensure a profit or protect against a loss. Bond funds are subject to interest rate risk, which is the chance bond prices overall will decline because of rising interest rates, and credit risk, which is the chance a bond issuer will fail to pay interest and principal in a timely manner or that negative perceptions of the issuer's ability to make such payments will cause the price of that bond to decline. Stocks or bonds of companies based in emerging markets are subject to national and regional political and economic risks and to the risk of currency fluctuations. These risks are especially high in emerging markets. Prices of mid- and small-cap stocks often fluctuate more than those of large-company stocks. Funds that concentrate on a relatively narrow market sector face the risk of higher share-price volatility.

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Introduction

“Investing success” can mean different things to different investors. Determining what success means is essential to understanding what path to follow.

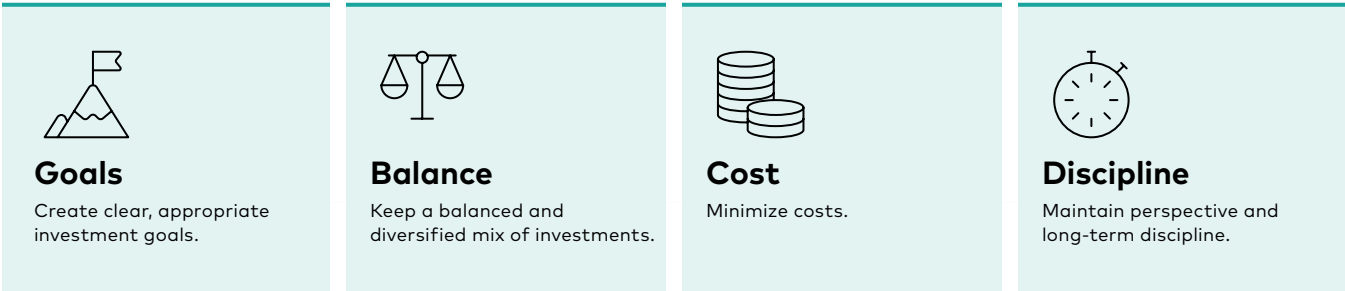
Although investing can seem perplexing and complex, success is largely within an investor’s control. And having a tailored investment strategy can go a long way toward reducing the stress and noise associated with the topic. Vanguard’s Principles for Investing Success are designed to help investors create such a strategy. Our approach has one key overarching theme: Focus on the things that are within your control.

Headlines, social media, and new investment trends can grab our attention and distract us. Although it can be tempting to react to short-

term market movements, the latest economic news, or the newest investment trend, these things are generally not conducive to making better choices or enhancing investment outcomes.

We suggest that when making any investment decision, investors focus on the four principles shown in **Figure 1**—goals, balance, cost, and discipline—which are grounded in research and described in detail later in this paper. This guide is designed to help investors focus on what’s important and give them the best chance for investment success.

FIGURE 1.
Vanguard’s Principles for Investing Success





Goals

Create clear, appropriate investment goals.

An investment goal is essentially any plan investors have for their money. Many of us aspire to achieve a certain quality of life or fund a specific business objective. Being explicit about investment goals helps investors turn aspirations into reality.

Investors take many forms: a person saving for his or her own future, a financial advisor helping clients, a pension plan manager helping ensure their fund's financial sustainability. Although goals are unique to each investor's situation, preferences, and objectives, some common ones are having a comfortable retirement, funding a big purchase in the near future, leaving a financial legacy, or setting a policy for sustainable spending from an endowment. Investment goals can also be less tangible, such as simply growing wealth to ensure future flexibility or to create a sense of financial security.

Goal constraints

Investors should understand the types of constraints they face in reaching their goals. These constraints can include how much time they have to invest (their investment horizon), as well as their level of risk tolerance, how much they can invest initially and over time, and when they need access to their investments.

Investors typically have multiple goals. Prioritizing goals can be a challenge, especially if goal-funding capacity is limited. In such cases, each

goal needs to be accounted for, and compromises may need to be made; some goals may need to be put to the side so that others can be tackled first. This normally involves understanding how much the investor may be willing to give up now to achieve a goal in the future. In prioritizing their goals, investors will benefit if they focus on what matters most to them.

The power of saving and investing

The value an investor's portfolio achieves over time is the sum of two things: their savings and their investment return. Savings is the amount invested—what the investor contributes initially and over time—and investment returns are the changes in the value of those contributions over time.

Financial market returns get reported every day. This daily "noise" is why much of the discussion about investment success inevitably focuses on returns, with far less attention paid to savings. However, the amount saved toward a goal is also extremely important for success. And while investors have no control over market movements, they have some control over the saving and spending components of building wealth.

Once investors set goals, it is important for them to understand both how much they need to save and how much they can expect the investment to grow over a given investment horizon. **Figure 2** shows how savings and investment returns contribute to the achievement of an investment goal across time, assuming a fixed investment return of 4% over inflation and no initial investment.

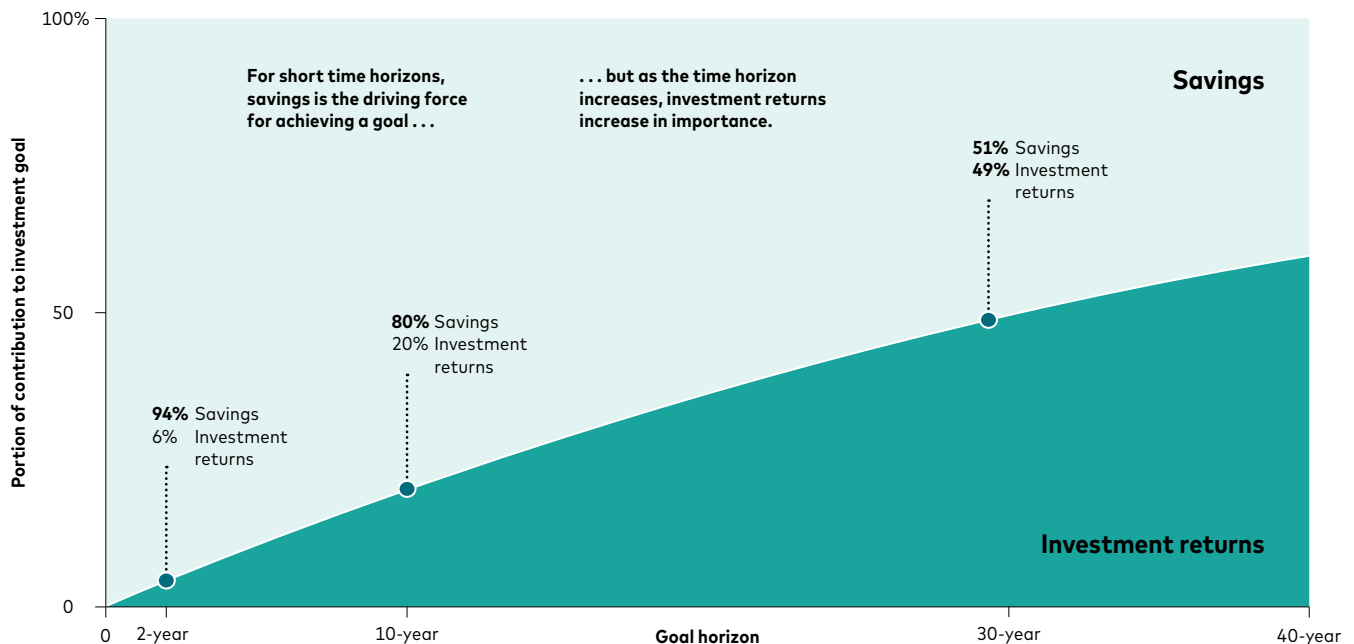
Investors will achieve their goal through savings and investment returns. Time is a key factor here. For example, for a goal with an investment horizon of two years, 94% of that goal is achieved

through savings; only 6% comes from investment returns. If that horizon is expanded to 10 years, savings contribute only 80% toward the goal, with investment returns contributing the remaining 20%. Finally, over a 30-year time horizon, investment returns and savings contribute roughly the same amount.¹

For long-term goals, investing is crucial, as investment returns become more and more important over time. On the other hand, for shorter-term goals, savings—which are within the investor’s control—may have a greater impact.

FIGURE 2.
Savings and investment returns both contribute to the achievement of any investment goal

Over any given goal horizon, an investment balance is the sum of savings (the amount an investor puts into the investment portfolio) plus the investment returns on the total amount invested.



Notes: This hypothetical illustration does not represent the return on any particular investment, and the rate of return is not guaranteed. The calculation for the contribution of savings and investment returns was determined as follows: Assuming a fixed 4% real return over inflation and equal annual contributions, we calculated how much an investor needs to invest annually to achieve a given investment goal for different time horizons, varying from 0 years (when investment begins) to 40 years after investment begins. Savings represent the amount invested (the principal). Contributions (in real terms) are assumed to be the same every year relative to the year investing begins.

Source: Vanguard.

¹ Note that Figure 2 uses a fixed 4% return over inflation. For higher rates of return, the contribution of investment returns toward the achievement of the goal would increase. For lower rates of return, the contribution of investment returns would decrease.

Key takeaways about goals

- 1** Define goals clearly and create a plan based on the specific situation.
- 2** Be realistic. Recognize constraints, including risk tolerance, that may be involved in attaining a goal.
- 3** Bear in mind the importance of saving. While market movements occupy most of the headlines, the market is not within an investor's control. Saving and spending rates are.



Balance

Keep a balanced and diversified mix of investments.

Once an investor has set clear and appropriate investment goals, the next step in developing a plan is to define the mix of investments to help achieve their goals. This process is also known as defining an asset allocation.

Without a clear plan of how they will invest their money, investors may build their portfolios focusing on factors such as performance of individual investments, losing sight of their portfolio as a whole. These investors might be attracted to a particular investment and buy it without thinking about how or where it may fit into an overall portfolio. As a result, their portfolio may wind up having an unsuitable level of risk. An investor's unique situation should be considered when building a portfolio, including their risk profile and time horizon.

Understanding the investor's willingness and ability to take risks

When considering the appropriate mix of investments, investors should bear in mind the benefit of having a portfolio that matches their level of comfort with the ups and downs of markets. At the same time, investors need to earn enough returns to be able to achieve their goals. The concepts of risk tolerance and risk capacity are helpful in guiding investors to understand what an appropriate level of risk might be.

Risk tolerance is based on an investor's willingness to take on risk in their portfolio—that is, how comfortable they are with the potential

vacillations in the value of their portfolio. The higher an investor's risk tolerance, the greater the volatility they can tolerate in their portfolio. This generally translates to investors with a high-risk tolerance being able to include a greater proportion of risky assets, such as stocks, in their portfolios.

Risk capacity (also known as "capacity for loss"), on the other hand, relates to an investor's ability to withstand a loss in their portfolio. For the most part, risk capacity is determined by the investor's cash flow needs and the length of their investment horizon.

The importance of asset allocation

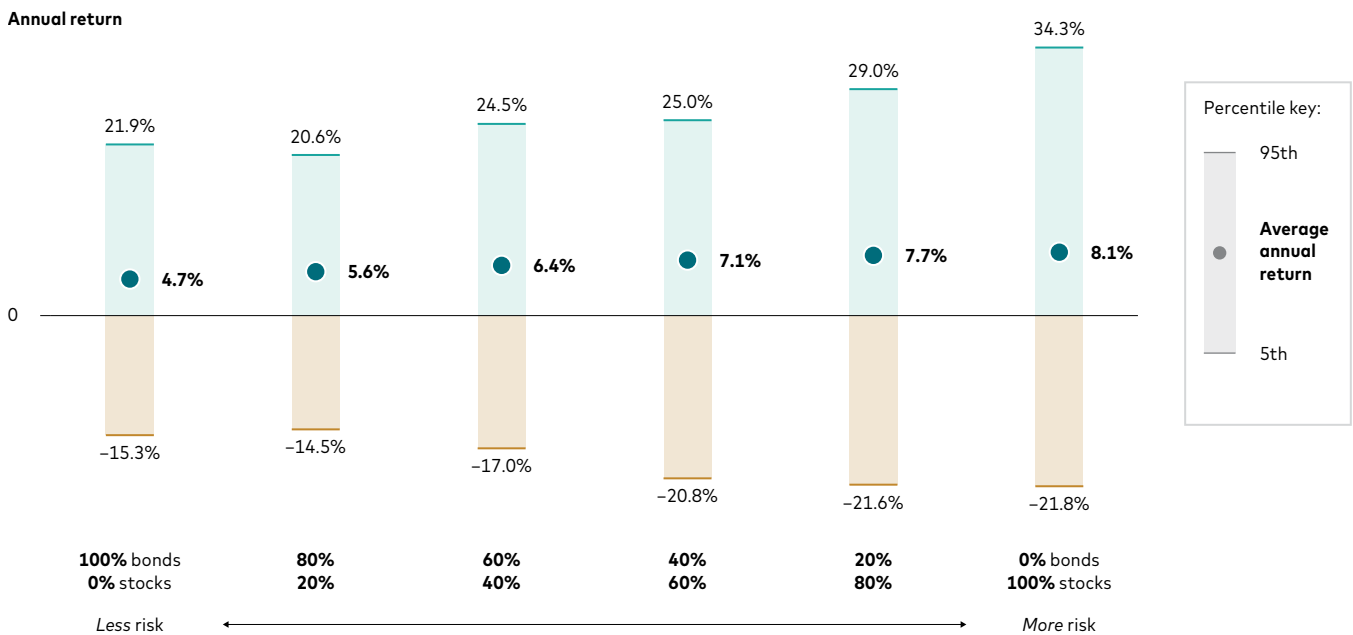
When building a portfolio to meet their goals, investors should understand that the mix of assets in the portfolio will likely define the range of returns they will get. **Figure 3** shows a simple example of this relationship using two asset classes—global stocks and global bonds—to demonstrate the impact of asset allocation on both returns and the variability of returns. The numbers in the middle of the bars in the chart show average annual returns since 1901 for various global stock/global bond allocations. The length of the bars shows the range between the top 5% and bottom 5% of annual returns of the different portfolios.

The risk-return tradeoff for stocks and bonds is apparent in Figure 3, which shows that since 1901, a higher allocation to stocks has meant both higher average returns and a corresponding greater variation in returns. For the period from 1901 through 2022, the average nominal annual return for a portfolio composed solely of global stocks was 8.1%, while average annual return for

a portfolio composed solely of global bonds was 4.7%. To achieve those higher average returns, though, stock investors faced greater short-term volatility. Stocks can face substantial short-term losses—from which it may take many years to recover. Over longer periods, however, they have been more likely to outperform bonds.

FIGURE 3.
A portfolio's mix of assets defines its range of returns

Top 5%, bottom 5%, and average annual returns for various global stock/global bond allocations, 1901–2022



Notes: Data are from Dimson-Marsh-Staunton (DMS) dataset for 1901–2022. Annualized nominal geometric returns are in dark green. The 5th and 95th percentiles are plotted below and above asset mixes. Bar length indicates the range, from 5th to 95th percentile, of annual returns for each allocation; the longer the bar, the larger the variability. The numbers next to each bar represent the average nominal annual returns for that allocation for the 122 years covered.

Sources: Vanguard calculations, using DMS global returns data from Morningstar, Inc. (the DMS World Equity Index and the DMS World Bond Index, both in nominal and real terms). The dataset includes returns from Australia, Austria, Belgium, Canada, China, Denmark, Finland, France, Germany, Ireland, Italy, Japan, the Netherlands, New Zealand, Norway, Portugal, Russia, South Africa, Spain, Sweden, Switzerland, the United Kingdom, and the United States. Please see Appendix 1 for more information about the Dimson-Marsh-Staunton dataset.

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.

Investors may gain exposure to an asset class by trying to match a market's return as closely as possible, or by trying to outperform a market's return through choosing certain securities or factors they deem attractive. Indexing is an investment strategy that seeks to match the return and risk characteristics of a market or market segment, either by holding all securities that make up the index or by holding a statistically representative sample of the index. Index approaches provide broad exposure to an overall asset class or market segment. Active management tends to be more concentrated, holding only a subset of the underlying target market, as managers of active funds seek to outperform the broad market. Although active investing offers the potential for outperformance, research shows that most active strategies underperform their target market over long periods of time, often due to their higher average costs (Lawrence and Plagge, 2023). Even with those active funds that do outperform the broad market in the long run, shareholders need to be able to cope with the likelihood that active funds may underperform the market for long periods along the way (Tidmore and Hon, 2020).

Stocks are risky—and so is avoiding them

The ups and downs of the stock market may scare some investors from holding stocks as part of their portfolio. At the same time, concentrating investments in less volatile investments, such as cash, may feel safer.² But shying away from stocks may come at a cost.

When investors avoid short-term volatility by avoiding stocks, they risk not achieving sufficient growth over the long term. **Figure 4 (Panel A)** shows that cash is substantially less volatile than stocks over a one-year investment horizon. However, as Panel B shows, stocks have generally outperformed cash over a 20-year investment horizon—at times, by wide margins.

Another risk of avoiding stocks is inflation: Should their stock-light portfolio not grow as fast as prices rise, investors will lose purchasing power over time. Over the long run, despite their volatility, stocks have tended to outpace inflation.

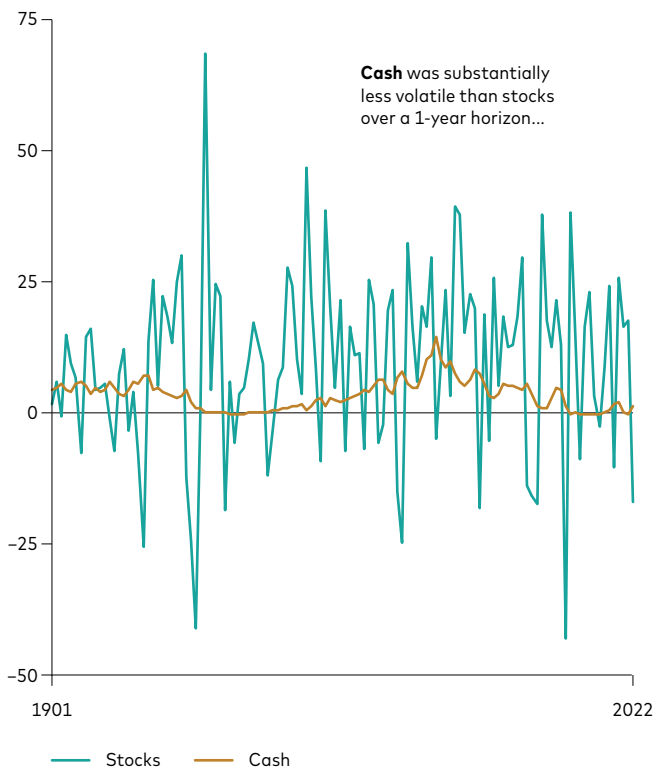
By shying away from stocks over the long term, investors will likely earn lower returns and be less likely to outpace inflation if they concentrate their investments in bonds and cash. This means that they may not be able to earn the required rate of return to achieve their investment goals, and may have to save more as a result.

² We define cash as interest-earning short-term government debt. See “cash investment” in the glossary at the end of this paper.

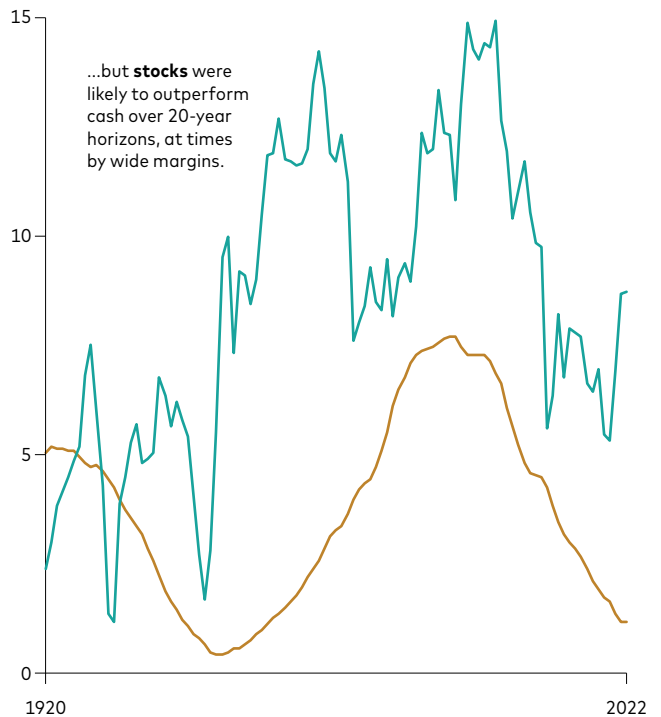
FIGURE 4.

More volatile in the short run, stocks have tended to outperform cash in the long run

Panel A. 1-year returns (%)



Panel B. Rolling 20-year returns (annualized) (%)



Notes: Data are from Dimson-Marsh-Staunton (DMS) dataset series for 1901–2022. Equity is nominal equity return, which is defined as the DMS Real World Equity Total Return adjusted by DMS World Inflation. Cash is the nominal bill return, defined as the DMS Real World Bill adjusted by DMS World Inflation. The plot on the left (Panel A) represents one-year returns of stocks and cash; the plot on the right (Panel B) represents rolling 20-year returns (annualized). In Panel B, the end point of the first rolling 20-year period is the first data point.

Sources: Vanguard calculations, using DMS global returns data from Morningstar, Inc. (the DMS World Equity Index and the DMS World Bond Index, in both nominal and real terms). The dataset includes returns from Australia, Austria, Belgium, Canada, China, Denmark, Finland, France, Germany, Ireland, Italy, Japan, the Netherlands, New Zealand, Norway, Portugal, Russia, South Africa, Spain, Sweden, Switzerland, the United Kingdom, and the United States. Please see Appendix 1 for more information about the Dimson-Marsh-Staunton dataset.

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.

Diversify to manage risk

Diversification means spreading your money across different types of investments, and it's a powerful strategy for managing financial risks (Markowitz, 1959).

Diversifying across different kinds of investments reduces a portfolio's exposure to the risk common to an entire asset class, such as stocks, bonds, real estate, or commodities. Diversifying within an asset class reduces your exposure to risks associated with a given company, sector, segment, or location (French and Poterba, 1991). By spreading investments across and within asset classes, investors benefit from reducing the overall volatility of their portfolio, as they are not

"betting" on any one particular investment or type of investment. Although broad market diversification cannot insure an investor against losses, it can help guard against unnecessarily large losses.

Owning a portfolio with at least some exposure to many or all key market components ensures some participation in stronger areas while mitigating the impact of weaker performers.

Figure 5 shows how performance leadership is quick to change from year to year. It highlights the importance of diversification in protecting investors against the lack of predictability in future returns across different market segments.

FIGURE 5.
Performance leadership changes often and is hard to predict

Equity segments ranked by performance, 2006–2022



Notes: Equity segments are represented by the benchmarks as follows: for large-capitalization U.S. stocks (LC), the S&P 500 Index; for mid- and small-cap U.S. stocks (MS), the Wilshire 4500 Completion Index; for developed markets excluding the U.S. (DM), the MSCI World ex USA Index; for emerging markets (EM), the MSCI Emerging Market Index; for U.S. real estate (RE), the FTSE NAREIT Equity REIT Index; and for international real estate (IRE), the S&P Global ex-U.S. Property Index.

Sources: Vanguard calculations, using data from Morningstar, Inc.

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.

Key takeaways about balance

- 1 Choose an asset allocation based on your willingness and ability to take risk.
- 2 Be aware of the tradeoffs between expected returns and volatility.
- 3 Investments with higher potential for growth are typically more volatile. However, assets considered safer, such as cash, bring with them the risk of not earning returns large enough to achieve a goal.
- 4 Diversify broadly, both *across* asset classes (e.g., stocks and bonds) and *within* them (e.g., sectors and countries).



Cost

Minimize costs.

While markets and financial returns may be hard to predict, one thing investors can control is costs. There are two broad categories of costs investors should try to minimize: taxes and investment costs, which can include expense ratios, transaction costs, and sales charges. Together, these costs cut into investment returns.

What an investor gets to keep is the balance after these investment costs and taxes are taken out. Contrary to the old adage "you get what you pay for," in investing, it's lower-cost, tax-efficient funds that tend to outperform higher-cost options.

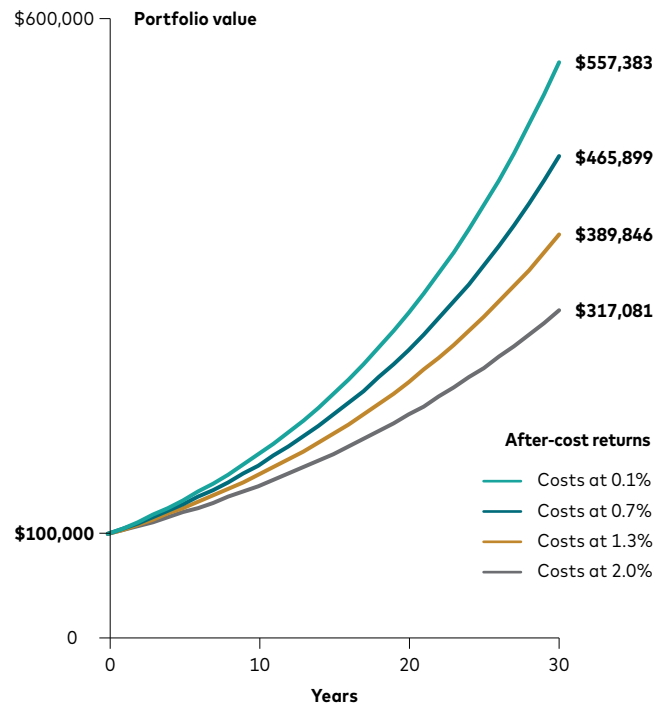
Reduce cost to help improve returns

Small costs can add up to large losses over an investor's horizon (Bogle, 2014). To illustrate the effect of costs on investment outcomes, we show a simple investment simulation to fund a goal over 30 years, varying the level of investment costs. For simplicity, we assume a fixed 6% nominal rate of return compounded annually. In all cases, investors have a starting balance of \$100,000. The results of this hypothetical example are shown in **Figure 6**.

FIGURE 6.

Higher costs can significantly depress a portfolio's growth

Assuming a starting balance of \$100,000 and a yearly return of 6%, which is reinvested



Notes: The portfolio balances shown are hypothetical and do not reflect any particular investment. In this example, the accounts return 6% annually, then 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.

Source: Vanguard calculations.

Figure 6 illustrates how much costs can affect long-term portfolio growth. In the lowest-cost scenario, the investor pays 0.1% of assets in expenses each year; in the other three scenarios, the investor pays 0.7%, 1.3%, or 2.0%. The potential impact on portfolio balances over three decades is quite large. At the end of those 30 years, owning the lowest-cost portfolio means having a balance that is \$240,302 higher than the one produced by the highest-cost portfolio. The ending balance for the lowest-cost portfolio is also strikingly higher than those of the other two portfolios. At \$557,383, its ending balance is \$91,484 higher than that of the second-lowest-cost portfolio, and \$167,537 higher than that of the second-highest-cost portfolio.

Lower-cost portfolios tend to outperform higher-cost ones

One could argue that higher-cost mutual funds may have better performance than lower-cost ones to justify their higher fees. However, the evidence is clear: Lower-cost mutual funds have historically outperformed higher-cost mutual funds after costs (Lawrence and Plagge, 2023).

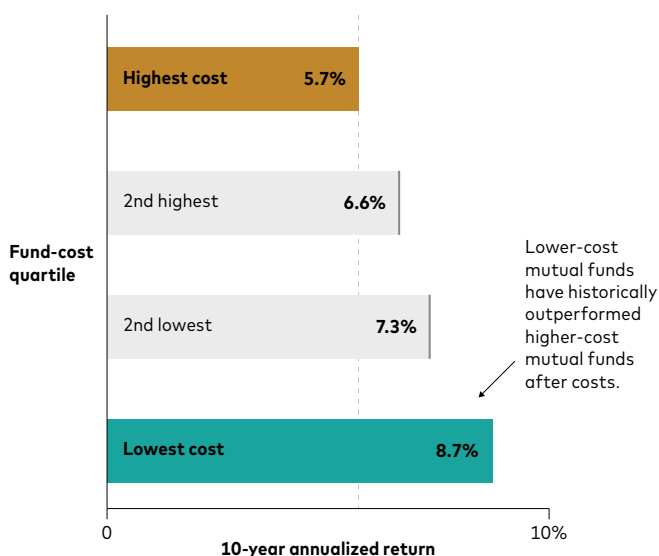
Figure 7 shows the average annualized returns of equity mutual funds for the period between 2012 and 2022 by cost quartiles.

The figure shows that lower-cost mutual funds have outperformed higher-cost funds. Over the past 10 years on average, the lowest-cost fund quartile had an average annualized return of 8.7%. For the second-lowest-cost quartile, this figure was 7.3%; for the second-highest-cost quartile, it was 6.6%. Lastly, the average annualized return for the highest-cost quartile was 5.7%—substantially lagging its lowest-cost counterpart.

Index funds tend to be convenient, low-cost ways to invest, and they enable investors to reap the benefits of diversification. This is because they tend to have low expense ratios and low turnover and are generally tax-efficient. However, the principle of managing costs does not preclude active management. Rather, actively managed funds with the lowest costs have also outperformed their higher-cost competitors (Miller, 2007).

FIGURE 7.
Lower costs can support higher returns

Average annualized returns of equity mutual funds, 2012–2022



Notes: We considered all equity mutual funds available in Morningstar Direct that survived the period of December 31, 2012, to December 31, 2022, regardless of where they were available for sale. In total, there were 8,192 funds. Each fund is represented by its oldest share class. Returns are net of expenses, excluding loads and taxes. We relied on prospectus expense ratios when they were reported; otherwise, we approximated the expense ratio using the annual expense net ratio, which is based on the actual fee charged. By cost quartile, the average expense ratios are 0.57% (lowest-cost quartile), 1.20% (second-lowest-cost quartile), 1.62% (second-highest-cost quartile), and 2.47% (highest-cost quartile). The cutoffs for the equity mutual fund expense ratios are: 0.90% (25th percentile; lowest quartile), 1.36% (50th percentile; between second-lowest and second-highest quartiles), and 1.83% (75th percentile; highest quartile).

Sources: Vanguard calculations, using data from Morningstar, Inc.

Past performance is no guarantee of future returns.

Tax management strategies can enhance after-tax returns

Taxes are potentially another significant cost investors may face. Investors should look for potential ways to reduce their tax bill over their lifetime through wealth-management strategies. There are many investing and planning strategies that can add to an investor's take-home return without even really changing their investments. It's all in how they do it.

Investors around the globe often have access to accounts that provide tax incentives for certain types of savings. Maximizing these opportunities can go a long way toward generating long-term after-tax wealth. Tax-advantaged investment accounts such as retirement accounts are examples of strategies that can help some investors build their wealth by benefiting from a lower overall rate of tax relative to holding the same assets in taxable accounts. If investors have multiple investment accounts, the value of asset location—the thoughtful placement of assets across different investment accounts according to tax efficiency—may add further value to their portfolios (Padmawar and Jacobs, 2022).

Investor behavior may also play a role in reducing taxes and cost in general. By reducing the amount of transaction activity, investors may be less likely to pay transaction costs and may be able to defer or even avoid future tax costs in some cases. It may also be possible to reduce the impact of taxes by trading in a tax-advantaged investment account.

There can be substantial value to investors in exploring the tax-efficient opportunities available to them. But how these opportunities can be used depends on where an investor lives, what's available in their country, and their personal situation. For example, a tax-advantaged investment vehicle that requires monies be invested for a specific period of time may not suit someone who wants to reach a goal before that period ends.

A simple example of the benefits of tax-planning strategies

A simple hypothetical example may help illustrate the power of using tax-planning strategies. Note that this hypothetical example does not reflect any particular type of taxation of accounts and rates of return are not guaranteed.

As a base case, we assume an investor with a starting balance of \$100,000 earning an annual return of 6% for 30 years. The investment cost is 0.10% a year.

We assume an effective tax rate of 25% over the investment period when a tax-advantaged account is not used. The effective tax rate may include capital gains tax, dividend tax, or transfer tax, among other taxes. (For simplicity, we impose the effective tax rate at the end of the investment period.) At the end of the period, this investor would have amassed \$418,736.

Now consider the scenario in which the same investor uses a tax-advantaged account instead, which would bring down the effective tax rate to 10%. Over the same 30 years, the investor would have amassed \$502,483. Put another way: Using a tax-advantaged account would have earned the investor an additional \$83,747. This difference in wealth is equivalent to an additional 0.64 percentage points in average annual returns.

In a hypothetical situation in which an investor can completely shield investments from taxes through a tax-advantaged account or other tax-planning strategies, they would have amassed \$558,314. In this case, the tax-advantaged account would have earned an additional \$139,579 compared to a taxable account with an effective tax rate of 25%. This difference in wealth is equivalent to an additional 1.01 percentage points in average annual returns.

As shown in this example, planning for your future goals with an eye to controlling tax costs may provide significant benefits over time in terms of after-tax wealth.

Key takeaways about cost

- 1 Investors cannot control market movements, but they can keep more of their returns by reducing investment costs and taxes.
- 2 The lower the investment cost, the greater the share of returns investors get to keep.
- 3 Lower-cost investments have historically outperformed higher-cost alternatives.
- 4 To hold on to even more of market returns, manage for tax efficiency.



Discipline

Maintain perspective and long-term discipline.

Discipline in investing is the ability to adhere, over time, to an investment plan. Once investors have created a plan by defining their goals, choosing an appropriate asset allocation, and minimizing costs, discipline is what will help them get closer to achieving their objectives.

Investing evokes strong emotions that can lead to impulsive decisions—panic selling during market volatility, for example. Emotional reactions to market ups and downs are natural, and to some degree, they are outside our control (Lo, Repin, and Steenbarger, 2005). What we can control, however, is whether to act on these emotions or not. When investors can arm themselves with a long-term perspective and remain disciplined in executing their investment strategy, they can avoid potentially harmful emotional decisions.

Four core components of remaining disciplined with an investment strategy include:

1. Making regular investment contributions.
2. Staying invested through volatile times.
3. Rebalancing to manage risks and maintain a suitable asset allocation.
4. Having a plan for disciplined spending of the investment portfolio.

Over the course of the investment plan, we believe that investors should periodically monitor and review their plans to ensure that their goals remain relevant and realistic.

The power of regular and increasing contributions

Making regular contributions to a portfolio, and increasing them over time, can have a powerful impact on long-term results (Bruno and Zilbering, 2011.) It's widely known that compound interest is one of the most powerful engines for wealth accumulation. However, less talked about is the power of increasing contributions over time. By allocating to an investment account a part of an increase in salary, an annual bonus, a gift to an institution, or any extra income earned, an investor is taking advantage of the opportunity to earn investment returns on these additional savings. The combination of compound interest and increasing contributions is a powerful lever in achieving financial goals.

To understand the effect of regular and increasing contributions on the balance of an investment portfolio, we ran a simulation of three cases to fund a goal of \$500,000 (in today's dollars, adjusted for inflation). All cases start with an initial investment of \$10,000 and additional annual contributions of \$5,000. Differences are then added, to create three scenarios:

Scenario 1 (baseline). No increase in annual contributions (no savings increase); annual return of 4% over inflation.

Scenario 2 (higher savings). Annual 5% increase in contributions (savings increase); annual return of 4% over inflation.

Scenario 3 (higher investment return). No increase in annual contributions (no savings increase); annual return of 6% over inflation.

Figure 8 shows the results: Increasing your savings contributions can be more powerful than relying on taking additional risk for the potential of higher performance.

Figure 8 shows that in Scenario 1, with a 4% annual real return and a constant investment of \$5,000 a year, it would take the investor 69 years to achieve their goal. However, in Scenario 2, which keeps the same annual return but increases savings by 5% each year, the investor would achieve their goal in 39 years, reducing the time to goal achievement by 30 years.

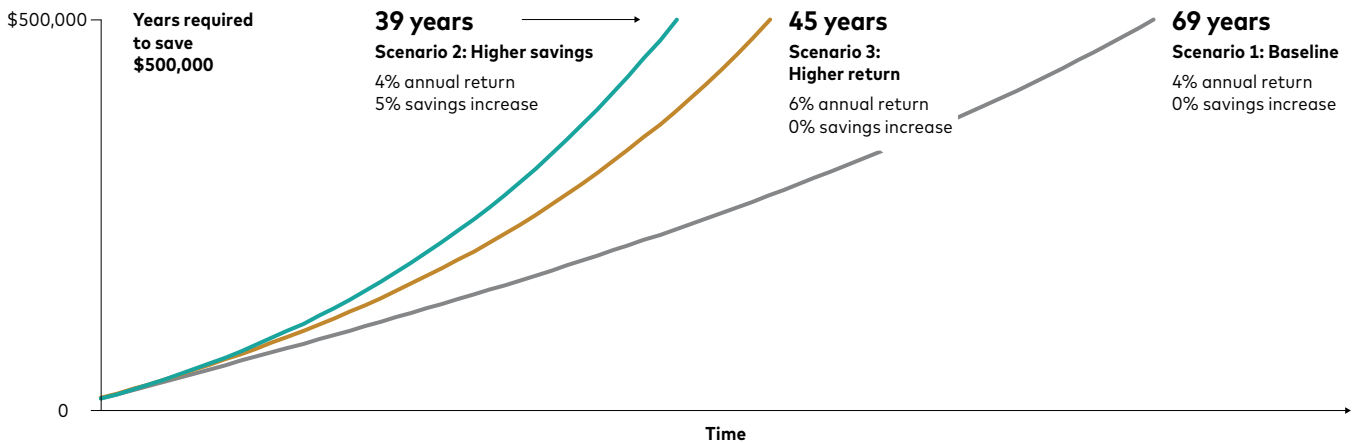
Interestingly, Scenario 3—where the investor keeps the annual contribution at \$5,000 and assumes more risk to earn a 6% annual real return, but still takes 45 years to achieve their goal—underperforms Scenario 2.

Together, these three scenarios show that saving more is a powerful lever to achieve financial goals.

FIGURE 8.

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

Years needed to reach \$500,000 using different contribution rates and market returns (assuming an initial contribution of \$10,000 and annual contributions of \$5,000 to start)



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

Source: Vanguard.

Staying invested through volatile times

The financial media constantly report on investment returns and often with more emphasis on losses rather than gains. Naturally, people tend to associate investment success with strong investment returns. However, short-term market returns are unpredictable and outside an investor's control. So, tuning out the noise helps maintain discipline.

In volatile markets, with very visible winners and losers, switching investment plans is another dangerous temptation. The appeal of altering a portfolio's asset allocation in response to short-term market developments can be strong. This is the danger of hindsight: "Opportunities" tend to be clear in retrospect and rarely visible before then. Many investors chase performance and focus on market movements to buy the "winners" and sell the "losers," which rarely ends in success (Odean, 1999). However, this behavior can be avoided by sticking to an established investment plan that includes balanced and diversified asset allocation coupled with steady, recurrent contributions.

The recent past has given a classic example of the cost of exiting the market during volatile periods. **Figure 9** shows the impact of fleeing a 60/40

stock-bond asset allocation during the COVID market decline in March 2020. We assume that some investors abandoned their original asset allocation of 60% stocks and 40% bonds in March 2020 at the bottom of the market and moved to 100% cash until the market recovered in July 2020, when they moved back to their starting asset allocation. Figure 9 shows the drag in returns that investors experienced if they abandoned their investment plan.

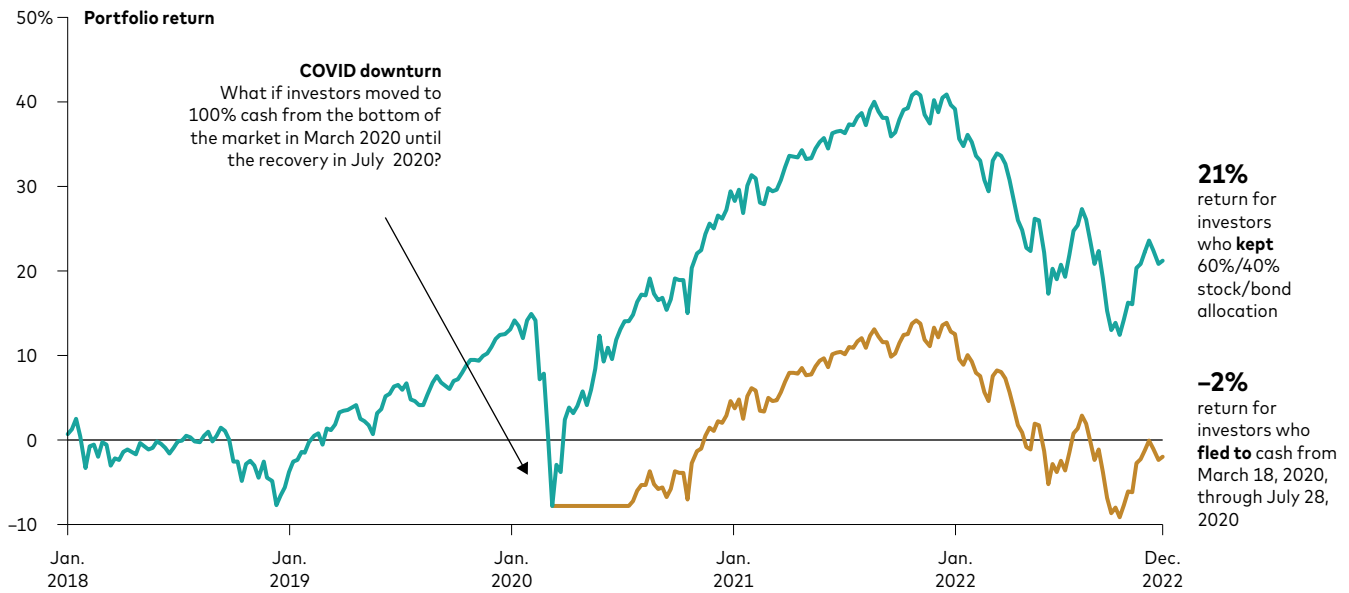
Figure 9 shows two paths: (1) sticking to one's asset allocation and (2) abandoning one's plan, if only for a few months. Investors who stuck to their original asset allocation during the March 2020 sell-off recovered more quickly and earned superior returns than investors who moved to 100% cash for those months.

The emotional impact of trying to time the market should also be considered. The investor who abandons their investment strategy can end up with stress over how to "best" time their reentry into the market—and they often endure this stress at a time when valuations are higher than when they exited, meaning their account is lower than it would have been had they stayed invested. Essentially, the time and stress of trying to time markets does not guarantee a better outcome.

FIGURE 9.

The importance of maintaining discipline: Reacting to market volatility can jeopardize returns

What if investors shifted to cash at the bottom of the COVID downturn and stayed there until the market recovered?



Notes: Stocks are represented by the MSCI All Country World Index; bonds are represented by the Bloomberg Global Aggregate Bond Index (USD Hedged). Cash is represented by the Bloomberg U.S. Treasury 1–3 Month U.S. Treasury Bill Index. Returns are in nominal terms.

Sources: Vanguard calculations, using data from Morningstar, Inc.

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.

Rebalancing to manage risks and maintain a suitable asset allocation

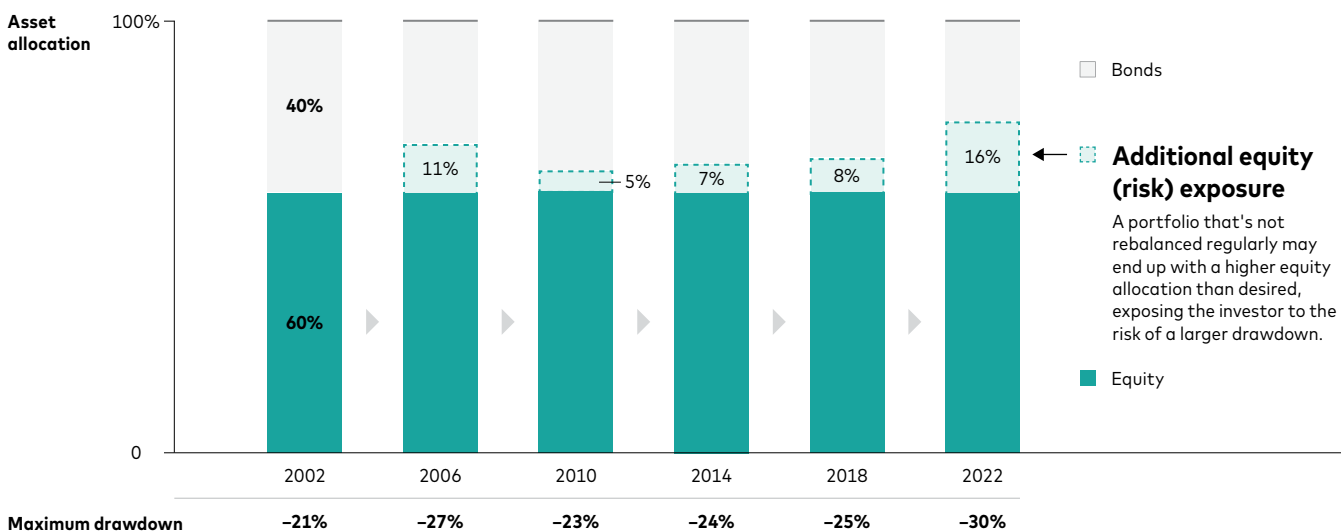
Asset allocation is one of the most crucial decisions for achieving an investment goal. But it's only effective when the allocation is adhered to over time and through varying market environments. Rebalancing is the process designed to help keep portfolios in balance. It may involve selling out of some assets and buying others to achieve the desired balanced asset

allocation—ensuring that the investor doesn't end up with a portfolio that differs from its original allocation because of market movements.

An investor's risk exposure can grow unintentionally when a portfolio is left to drift during periods of strong performance of the equity market (Brennan and Woerth, 2021).

Figure 10 shows a portfolio that has not been rebalanced since its initial 60/40 allocation in 2002; in the 20 years since then, its equity portion has increased.

FIGURE 10.
Failing to rebalance a portfolio could result in higher drawdowns



Notes: The initial allocation for the portfolio is 60% stocks/40% bonds as of December 31, 2002. Equity is nominal equity return, which is the DMS Real World Equity Total Return adjusted by DMS World Inflation. The allocation's maximum drawdown is taken from the period with the greatest equity drawdown during the period between 2002 and 2022, which happened in 2008. A drawdown refers to the decline in value of an investment from its peak to its subsequent trough.

Sources: Vanguard calculations, using DMS global returns data from Morningstar, Inc. (the DMS World Equity Index and the DMS World Bond Index, in both nominal and real terms). The dataset includes returns from Australia, Austria, Belgium, Canada, China, Denmark, Finland, France, Germany, Ireland, Italy, Japan, the Netherlands, New Zealand, Norway, Portugal, Russia, South Africa, Spain, Sweden, Switzerland, the United Kingdom, and the United States. Please see Appendix 1 for more information about the Dimson-Marsh-Staunton dataset.

From 2002 to 2006, the equity exposure of the portfolio has increased to 71%, resulting in an additional equity allocation that is 11 percentage points above the desired target of 60%. If not rebalanced, the same portfolio would have reached a 76% equity and 24% bond allocation in 2022. This increase in equity exposure may result in the investor experiencing greater swings of volatility in the value of their portfolio than originally planned, potentially exposing the investor to larger losses in the short run than would be expected from their initial asset allocation of 60% equity and 40% bonds.

For most broadly diversified portfolios, we recommend checking the mix of investments at least once a year (Zhang et al., 2022) and rebalancing if the asset allocation has deviated meaningfully from the target asset allocation (Jaconetti, Kinniry, and Zilbering, 2015).

The power of disciplined spending

For investors drawing down their investment portfolio who may have an investment goal of meeting a specific target to fund their objective, it's important to ensure that the targeted spending amount remains in check over time (Jaconetti et al., 2021).

Unfortunately, spending more than the targeted amount may derail the reaching of longer-term goals. The more that is withdrawn each year in excess of the target, the less that remains available to be invested and to generate returns to support the ongoing drawdown requirements (Khang and Pakula, 2022).

It can be especially difficult to remain disciplined with spending targets during periods of heightened inflation or when faced with challenging situations. But by maintaining a conscious spending plan, investors can help ensure that the wealth they've accumulated remains sufficient to achieve their goals.

If spending targets can't be maintained, it may be necessary to review the longer-term goals and then adjust the investment strategy accordingly.

Regularly monitor and review investment goals

Investors should review their goals at regular intervals, to make sure the goals are still relevant and realistic, and that they are on track to reach them. A regular monitoring and review of goals is important for all investors—both those who are building their wealth, and those who are drawing on their wealth. The frequency of this monitoring depends on how actively an investor wants to manage their investment plan. An annual review should be the minimum, but major events or transitions may also be occasions for these check-ins.

In the end, reviewing an investment plan provides investors with a clear opportunity to change course as needed and ensure that they are giving themselves the best chance for investment success.

Key takeaways about discipline

- 1** Investors should keep a long-term perspective grounded on discipline by:
 - Making regular investment contributions to achieve their goals.
 - Staying invested through volatile times.
 - Rebalancing to manage risks and maintain a proper asset allocation.
 - Having a targeted spending plan from their investment portfolio.
- 2** Over time, investors should also review the progress made toward their goals, ensure that these goals remain relevant and realistic, and adjust course, if needed, following the principles outlined here.

Conclusion

We believe that Vanguard's Principles for Investing Success can provide a solid framework for any investor to improve their chances of investment success—whether they are new to investing, very experienced in it, or somewhere in between.

Headlines and emotions can be distracting, especially when there's so much information and so many opinions about how to invest and what to invest in.

These four principles have guided many investors through the numerous ups and downs of market cycles. They are designed to help investors stay on track to achieve investment success by focusing on things within their control.

These principles are:

- 1 Goals.** Create clear, appropriate investment goals.
- 2 Balance.** Keep a balanced and diversified mix of investments.
- 3 Cost.** Minimize costs.
- 4 Discipline.** Maintain perspective and long-term discipline.

Glossary

Active management

An investment strategy that seeks to outperform the average returns of the financial markets. Active managers rely on research, market forecasts, and their own judgment and experience in selecting securities to buy and sell.

Asset

Any property that has monetary value. Personal assets include securities, real estate, jewelry, and bank accounts.

Asset class

A major category of financial securities. The three major asset classes are cash investments (also called cash reserves or money market instruments), bonds, and stocks.

Asset allocation

The apportioning of investments among various asset classes, such as short-term reserves, bonds, and stocks. Also known as "asset mix" or "investment mix."

Benchmark

An unmanaged group of securities whose overall performance is used as a standard to measure investment performance.

Bill

A short-term discounted security issued by governments, usually with a maturity of one year or less.

Bond

A debt security (IOU) issued by a corporation, government, or government agency in exchange for the money the bondholder lends it. In most instances, the issuer agrees to pay back the loan by a specific date and make regular interest payments until that date.

Capital gain/loss

The difference between the sale price of an asset—such as a mutual fund, stock, or bond—and the original cost of the asset.

Cash investment

A short-term debt instrument—such as commercial paper, a banker's acceptance, or a government bill—that matures in less than one year. Cash instruments are also known as "money market instruments" or "cash reserves."

Cash position

The percentage of an investment fund's assets invested in short-term reserves, such as government bills or other money market instruments.

Country allocation

The percentages of a fund's net assets allocated to securities of various countries. These percentages serve as an indicator of a fund's diversification and its vulnerability to fluctuations in foreign financial markets or currency exchange rates.

Country diversification

The percentages of a global or international portfolio's assets invested in securities of various countries.

Diversification

The strategy of investing in different asset classes and among the securities of many issuers in an attempt to lower overall investment risk.

Drawdown

The decline in value of an investment from its peak to its subsequent trough.

Emerging market fund

An investment fund that invests primarily in countries with developing economies (that is, those that are becoming industrialized). Emerging markets funds tend to be more volatile than domestic stock funds because of currency fluctuation and political instability. Consequently, fund prices can fluctuate dramatically.

Equity

In investing, ownership in a company. Often used as a synonym for "stock." (See "Stock.")

Expense ratio

The percentage of a portfolio's average net assets used to pay its annual expenses.

Fixed income security

An investment, such as a bond, that has specific interest rates.

Index

An unmanaged group of securities whose overall performance is used as a standard to measure investment performance.

Index fund

A passively managed investment fund that seeks to parallel the performance of a particular market index.

Indexing

An investment strategy that seeks to match, rather than outperform, the return and risk characteristics of an index, by holding all securities that make up the index or a statistically representative sample of the index. Also known as "passive management."

Inflation

A general rise in the prices of goods and services.

Inflation risk

The possibility that increases in the cost of living will reduce or eliminate the returns on a particular investment.

Long-term capital gain

A profit on the sale of a security or mutual fund share that has been held for more than one year.

Market capitalization

A determination of a company's value, calculated by multiplying the total number of company stock shares outstanding by the price per share. Also called "capitalization."

Market risk

The possibility that stock or bond prices overall will decline over short or even extended periods. Stock and bond markets tend to move in cycles, with periods of rising prices and periods of falling prices.

Market timing

An investment strategy based on predicting market trends. The goal is to anticipate trends, buying before the market goes up and selling before the market goes down.

Mid-capitalization ("mid-cap") stock

Generally, a mid-cap stock is a stock issued by companies with market capitalizations between \$2 billion and \$15 billion. The cutoffs between large-, mid-, and small-cap companies fluctuate with market conditions.

Nominal return

The return on an investment before adjustment for inflation.

Portfolio

All the securities held by an investment fund or the total investment holdings of an individual or an institution.

Portfolio diversification

The strategy of investing in different asset classes and among the securities of many issuers in an attempt to lower overall investment risk and to avoid the chance that a portfolio's performance would be hurt by the poor performance of a single security, industry, or country.

Principal

The amount of money originally put into an investment.

Real return

The return on an investment after adjustment for inflation.

Rebalancing

Obtaining the desired fund makeup in a plan account by shifting the balance to match the contribution allocation percentages already chosen. May involve selling out of some funds and buying others to achieve the desired balance.

Return

The change in the value of an investment, expressed as a percentage, over a specified period. Return can be calculated in several ways; for example, to account for the reinvestment of dividends and capital gains (total return), to account for inflation (real return), or to account for risk (risk-adjusted return).

Risk

The potential to lose money (principal and any earnings) or not to make money on an investment.

Risk-return trade-off

The tendency for potential risk to vary directly with potential return, so that the more risk is involved the greater the potential return, and vice versa.

Risk tolerance

An investor's ability or willingness to endure declines in the prices of investments while waiting for them to increase in value.

Sales charge

Cost to access a given fund.

Security

Any stock, bond, money market instrument, or other investment vehicle.

Short-term capital gain

A profit on the sale of a security or mutual fund share that has been held for one year or less.

Small-capitalization ("small-cap") stock

The stock of a company whose market value, according to Vanguard, is less than \$1.7 billion. Small-cap companies tend to grow faster than large-cap companies and typically use any profits for expansion rather than for paying dividends. They also are more volatile than large-cap companies and have a higher failure rate.

Standard deviation

A measure of the degree to which a fund's return varies from its previous returns or from the average of all similar funds. The larger the standard deviation, the greater the likelihood (and risk) that a security's performance will fluctuate from the average return.

Stock

A security that represents part ownership, or equity, in a corporation. Each share of stock is a proportional stake in the corporation's assets and profits, some of which could be paid out as dividends.

Target asset mix

The percentage mix of stocks, bonds, and short-term reserves that an investor considers appropriate based on personal objectives, time horizon, risk tolerance, and financial resources.

Transaction cost

Expenses incurred when buying or selling a security.

Transaction fee

A charge assessed by an intermediary, such as a broker-dealer or a bank, for assisting in the sale or purchase of a security.

Volatility

The degree of fluctuation in the value of an asset. The greater an asset's volatility, the wider the fluctuations between its high and low prices.

Withdrawal

Money taken out of an account.

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Appendix 1

Vanguard's *Principles for Investing Success* is a body of research that intends to capture important and evergreen considerations for investors across regions and with a robust view of the markets. To capture evergreen consideration, Vanguard selected the Dimson-Marsh-Staunton dataset to further this research because it provides a long-time series on annual returns on stocks, bonds, bills, inflation and currencies for 35 markets. Of the 35 markets covered, 23 (the DMS 23) have 124-year histories from 1900 to 2023. The remaining 12 markets have start dates in the second half of the 20th century, with either close to or more than 50 years of data. Together with the DMS 23, these make up the DMS 35. Vanguard believes the unrivalled breadth and quality of its underlying data as a global authority on long-run asset performance.

Contemporaneous data for several well-known US and ex-US indices (S&P500, Bloomberg Agg, MSCI ex-US and Bloomberg Global ex-US) is only available going back to 2000. The last 25 years was a period of lower interest rates, which may not offer a full picture of the role of stocks and bonds in a portfolio. DMS offers a longer time series of data and a global view.

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