

Adapting to structural market changes



From the Field
Q1 2025

Key Insights

- Markets are evolving in ways that require frequent revisiting and adapting best practices in risk management.
- From market concentration to passive investing and from thematic and factor ETFs to computerized and retail trading, the market today is very different than it was 15 years ago.
- Portfolio construction best practices include understanding risks, knowing where to take and reduce them, and adapting old strategies to seek future success.

The main theme of the first quarter of 2025 was “rotations.” Previous leadership of U.S. large-cap growth stocks came under assault in response to tariff announcements and U.S. policy uncertainty. The market priced in policies that included a shift in European defense spending from the U.S. to Europe, federal government employment cutbacks in the U.S., and an acknowledgment from President Trump that he is willing to endure short-term economic pain for potential long-term economic gain.



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Quarterly factor returns

(Fig. 1) January 1, 2025—March 31, 2025

Index	Total Return	Valuation	Growth	Momentum	Quality	Profitability	Risk	Size
MSCI Europe	10.64%	10.38%	-5.16%	7.90%	4.21%	0.50%	-2.64%	6.74%
MSCI Emerging Markets	3.01	5.85	0.39	-3.02	-2.89	-1.26	7.33	-2.14
Russell 1000 Value	2.14	4.00	-0.90	1.01	7.14	4.26	-13.08	8.72
MSCI Japan	0.50	4.94	-8.36	3.06	1.72	-2.63	-3.99	-8.85
MSCI Pacific ex-Japan	0.36	8.10	-0.38	5.33	5.16	-0.21	-3.92	1.85
Russell 1000	-4.49	4.89	-4.47	0.53	6.87	3.25	-13.13	7.11
Russell 2500	-7.50	9.05	2.99	7.64	6.81	10.53	-8.33	9.62
Russell 1000 Growth	-9.97	5.46	-7.04	3.34	9.56	6.20	-15.25	8.00

Past performance is not a guarantee or a reliable indicator of future results.

Sources: Refinitiv/IDC data, Compustat, Worldscope, Russell, MSCI. Analysis by T. Rowe Price. See Additional Disclosures. Total return data are in U.S. dollars. Factor returns are calculated as equal-weighted quintile spreads. Please see Appendix for more details on the factors.

Factors or factor analysis involves targeting quantifiable firm characteristics, or “factors,” that can explain differences in stock returns. Over the last 50 years, academic research has identified hundreds of factors that impact stock returns. See Appendix for calculation methodology, definitions of financial terms, and other information. The data presented in this material is for illustrative purposes only and does not represent an actual investment nor any T. Rowe Price product.

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These changes led to two major rotations in equity markets. First, regional returns demonstrated a significant reversal from recent years as non-U.S. markets (led by Europe, but also emerging markets and Japan) significantly outperformed the U.S., and in particular, U.S. large-cap growth stocks (Figure 1). Second, there was a significant mid-quarter momentum “crash” in the U.S. as growth leadership gave way to low risk (i.e., low volatility; see risk definition in the Appendix) and inexpensive valuation leadership. We now go into these dynamics in more detail.

- **Global divergence in returns:** In recent years, the U.S. stock market has outperformed global peers. That changed abruptly in the first quarter, as expectations for fiscal stimulus in Europe drove those markets higher, while concerns about the impacts of tariffs, federal layoffs, and immigration reform dragged the U.S. market lower (Figure 1).
- **Momentum correction within U.S. large-caps:** Policy uncertainty also drove a reversal within U.S. equity markets as, between mid-February and mid-March, stocks characterized as high growth, expensive, high momentum, and/or high risk underperformed significantly (Figure 2). In contrast, stocks viewed as higher quality and more reasonably priced outperformed. In our view, this was more than just a technical reversal—it signaled investor recognition that valuations had become too frothy in parts of the market.

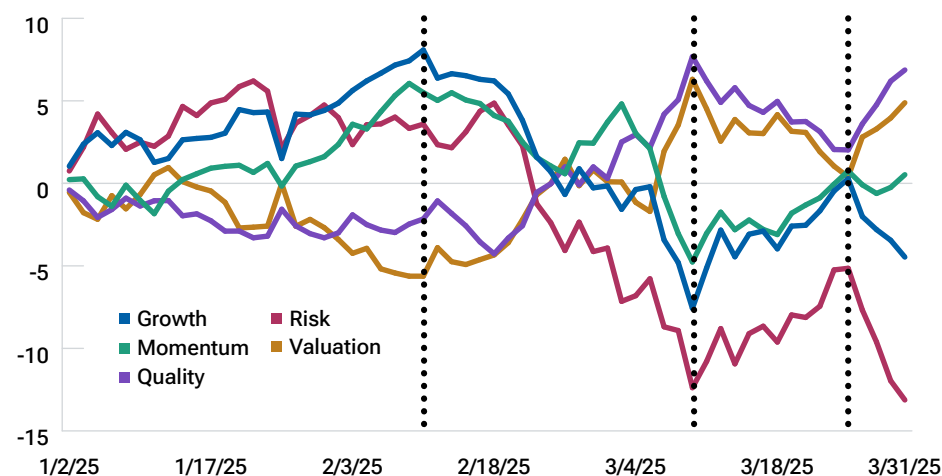
The key question is, where do we go from here? Was this a technical correction within a continued bull market, or does it signal a potentially more lasting shift? We can make a case for both outcomes, but here we urge investors to consider the possibility that this may be the start of a regime shift. Our mosaic includes:

- A significant change in core U.S. policies that will have unknown effects on growth, inflation, employment, and global trade along with an administration that may indeed be willing to tolerate short-term economic weakness for perceived long-term gain. Therefore, we see a wider range of potential market and economic outcomes than we have seen in the past decade.
- Even after this rotation, we believe that many of the asset class valuation differentials persist. Starting points matter, and, in our view, the U.S. equity market is not yet cheap.
- Investor behavior lacks signs of capitulation. Following perceived oversold conditions, we observed a rebound in previous momentum stocks with higher growth, risk, and valuation multiples (before additional weakness at the end of the quarter). We continue to see strength from retail investors and a buy-the-dip mentality. In our view, market bottoms typically involve more capitulation.

All of this is to say—while we can see this being either a transitory speed bump or the start of a larger regime shift, we urge investors to consider the latter possibility.

U.S. large-cap factor reversals this quarter

(Fig. 2) January 1, 2025—March 31, 2025



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Sources: Refinitiv/IDC data, Compustat, Russell. Analysis by T. Rowe Price. See Additional Disclosures. The universe is the Russell 1000 Index. Factor returns are calculated as equal-weighted quintile spreads. Please see Appendix for more details on the factors.

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Market insight—What we're monitoring

Our team has been analyzing how structural changes to equity markets are creating portfolio construction challenges. The most common question we get from clients is, how do we think about asset allocation and portfolio construction given U.S. large-cap concentration, where a few companies have had an outsized impact on equity

market returns. However, there are several other important structural changes we've identified and placed into three categories.

We summarize the changes and implications here, then spend the remainder of our discussion elaborating on these changes and best practices for portfolio construction.

Category	Market structure change	Implications
Company fundamentals	Greater concentration	<ul style="list-style-type: none">— Review underweight positions— Understand benchmark rules/oddities
Company fundamentals	Fewer public companies	<ul style="list-style-type: none">— Review aggregate exposure to non-earners/low quality in U.S. small-caps— Dislocations from fair value may persist for longer than in the past
Investment Vehicles	Rise of passive investing	<ul style="list-style-type: none">— Momentum may be riskier than models suggest— Active managers may be able to exploit “time horizon alpha”
Investment Vehicles	Thematic and factor ETFs	<ul style="list-style-type: none">— Measure and review thematic and factor exposures/volatility
Participants	Quant/algorithmic trading	<ul style="list-style-type: none">— Recognize greater daily volatility from non-fundamental moves and the risks of periodic “quant unwinds”— Measure and review exposure to retail favorites/meme stocks, both individually and in aggregate
Participants	Retail/meme stocks	<ul style="list-style-type: none">— Review underweight positions, incorporating volatility, not just exposures

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Our team has been analyzing how structural changes to equity markets are creating portfolio construction challenges.

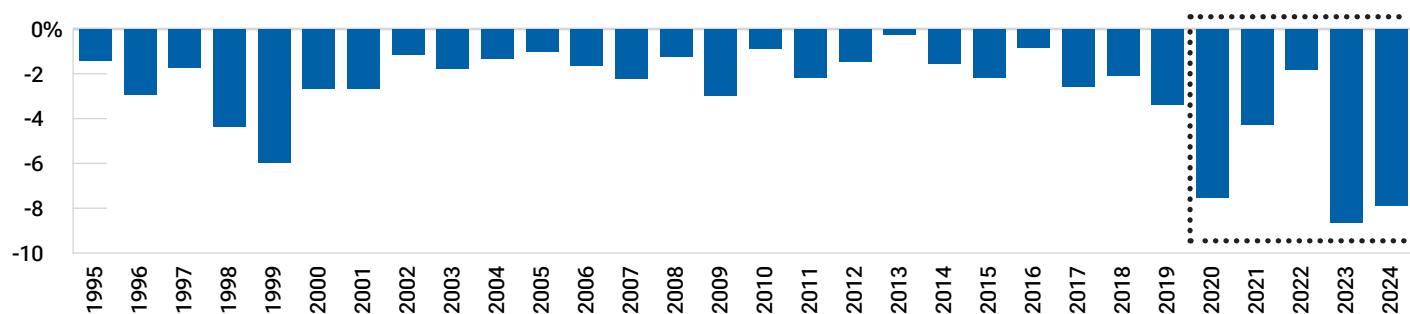
Changes to company fundamentals

1. Greater concentration of market leaders

- **Change:** As we've written about in previous newsletters, we believe that the historically high U.S. equity market concentration can be explained by the rise of technology, leading to more winner-take-all business models. This, in turn, has led to a lack of mean reversion in fundamentals and market valuations. Furthermore, globalization, regulation, and technology have led to greater economies of scale. Ultimately, this has led to more concentrated benchmarks, particularly but not exclusively, in U.S. large-cap growth.

Alpha impact of not owning the top five contributors to Russell 1000 annual returns

(Fig. 3) January 1, 1995—December 31, 2024



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Sources: Refinitiv/IDC data, Russell. Analysis by T. Rowe Price. The universe is the Russell 1000 Index. The bar for each calendar year represents the difference between the index's return and the return for the index excluding the the top five contributors. The top five contributors are calculated annually on a market cap weighted basis.

— **Implications:** Investors should thoughtfully consider large underweight positions, as stocks they **don't** own can account for more risk than the stocks they **do** own. For example, from 1995 through 2019, not holding the top five contributors to the Russell 1000 Index return would have created an average annual 2.7% performance headwind—meaningful, but surmountable (Figure 3). However, from 2020 through the end of 2024, this would have been a 6.0% average performance headwind per annum; in three of those five calendar years, the headwind was approximately 8%. This was a historically challenging starting point for investors who did not own these stocks. Separately, investors need to understand their benchmark's composition. Concentrated markets, combined with certain index

construction rules, have often led to counterintuitive results. For example, a number of U.S. large-cap growth stocks were in the Russell 1000 Value Index in recent years. However, Russell has very recently implemented capping methodology to its U.S. style indices.

2. Fewer public companies

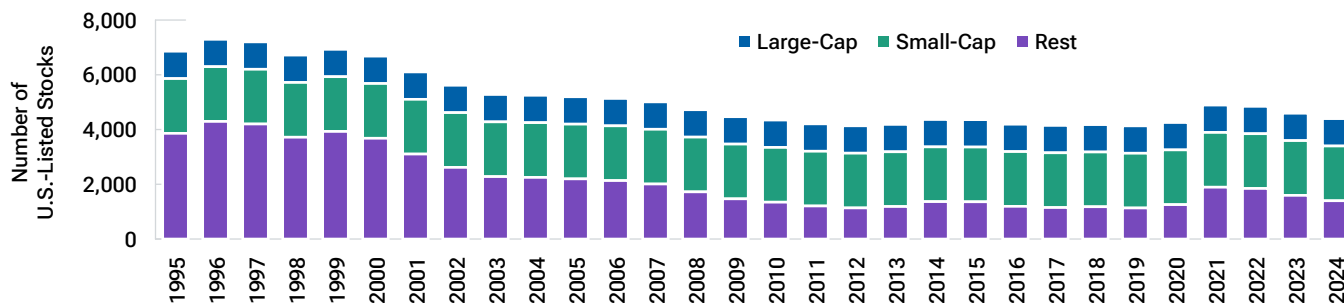
- **Change:** As more companies have chosen to stay private longer, the number of public U.S. companies has continued to shrink (Figure 4). As a result, U.S. small-cap indices have become lower quality due to holding a greater percentage of non-earners.
- **Implications:** Many U.S. small-cap active managers focus on “quality” and underweight the non-earners. While

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Investors should thoughtfully consider large underweight positions, as stocks they don't own can account for more risk than the stocks they do own.

Pool of U.S.-listed companies has been shrinking, resulting in lower-quality names entering the index

(Fig. 4) Number of U.S.-listed stocks (December 31, 1995–December 31, 2024)



Sources: Russell, Northfield, FactSet. Analysis by T. Rowe Price. See Additional Disclosures. Analysis based on Russell 3000 and Northfield U.S. Indexes, excluding real estate investment trusts (REITs), American depositary receipts (ADRs), preferred stocks, special purpose acquisition companies (SPACs), and non-U.S.-listed stocks.

this approach makes sense, investors should recognize that non-earners tend to be higher risk and more pairwise-correlated than other stocks, so the impact of a “junk rally” is likely more significant today than it would have been 10 years ago.

Changes to investment vehicles

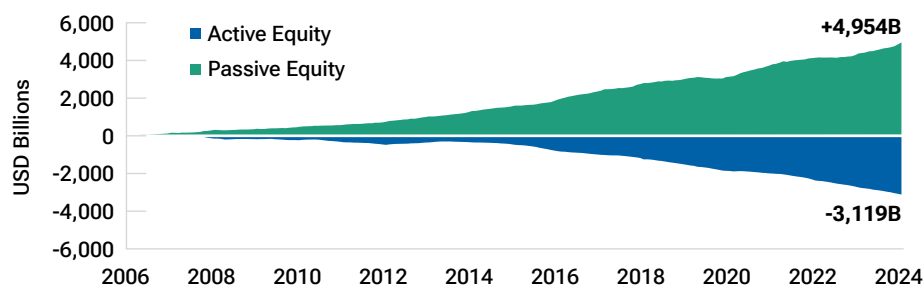
1. Rise of passive investing

— **Change:** Passive investing has continued to take share from active investing, enabled by index funds and passively managed ETFs (Figure 5). The growth of passive investing is, in our opinion, one of the most impactful changes to markets in decades. But while historically the ETF vehicle was dominated by passive strategies, in recent years, there has been increasing choice for investors, with active ETF launches outpacing passive ETF launches (Source: Morningstar).

— **Implications:** First, passive investing implies that incremental capital is typically allocated based on the index’s weighting scheme, such as market cap, not based on company fundamentals (to the extent that the two diverge). This has led to the outperformance of momentum, as well as the underperformance of value strategies, in recent years. Second, we believe that the risk of momentum is likely understated as it has been masked in a secularly rising market. Our concern is that selling could also be exacerbated in the event of a sustained market correction. Third, we believe passive investing is extending the time required for stock-level inefficiencies to be corrected. In our view, this creates more short-term dislocations from fair value and creates “time horizon alpha” opportunities in which longer-term investors may be able to exploit these mispricings. Relatedly, both practitioners and clients of active management should understand that performance cycles may now be elongated.

Growth of equity assets in passive investing versus active investing

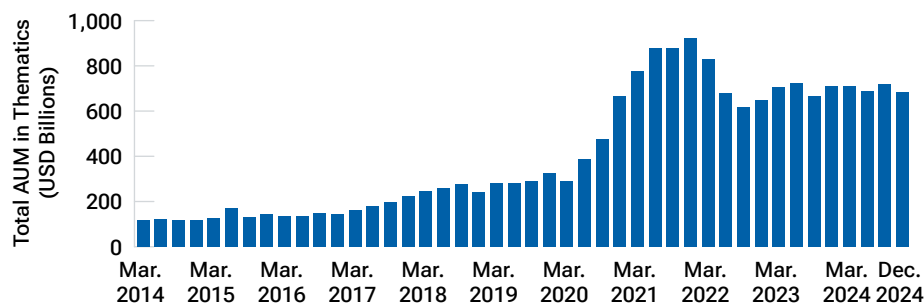
(Fig. 5) December 31, 2006–December 31, 2024



Source: Morningstar Direct. Data points on the graphs represent cumulative values.

Growth of thematic investing

(Fig. 6) March 31, 2014–December 31, 2024



Source: Morningstar Direct. Thematic assets are defined by Morningstar Direct criteria.

2. Rise of thematic and factor ETFs

— **Change:** The explosion of ETFs has allowed managers to expand well beyond passive benchmarks into more innovative areas, such as thematic and factor investing (Figure 6). Investors are now able to trade virtually any theme or basket they want using a highly tailored ETF. Representative examples include artificial intelligence (AI), cloud computing, bitcoin, quantum computing, renewable energy, and factors such as momentum. In essence, themes and baskets have become as tradeable as individual stocks.

— **Implications:** The ease of thematic investing has led to increased volatility in these themes, along with a greater tendency for similar stocks to move in unison. The consequence is that investors need to be aware of which themes are attracting other investors’ attention, which stocks belong to which baskets, and how volatile each theme is. This may be most easily observed in the volatility of AI-related stocks over the past two years, but anecdotally, we have also noticed it being impactful in the U.S. small-cap universe, where some of these stocks can have significant benchmark weights. We believe a multifaceted risk management approach makes sense, where investors quantify exposure both to themes in aggregate and to the most important stocks within each basket.

Changes to market participants

1. Rise of quantitative/algorithmic trading

— **Change:** An increasing share of daily trading volume has been driven by quantitative, algorithmic, or computer-based trading. For example, this includes high-frequency trading, volatility-targeting strategies, commodity trading advisor (CTA) trading strategies, and quantitative hedge funds.

— **Implications:** As with passive ETFs, daily trading may be driven by non-fundamental reasons, as computers trade based on other

criteria at much shorter time horizons. Also, many of these strategies use leverage along with rules for risk management when loss thresholds are triggered, which can lead to greater-than-expected market volatility—for example, during periods of deleveraging. Well-known historical examples include Black Monday in October 1987, the near-collapse of the Long-Term Capital Management hedge fund in 1998, and the “quant crisis” in August 2007, when long-short hedge funds had sharp losses. For long-term investors, these may just introduce unnecessary volatility, but it is important to understand how much daily stock moves are driven by non-fundamental investors.

2. Growth in retail trading and “meme” stocks

- **Change:** Since the onset of the coronavirus pandemic, there has been a marked increase in retail trading, often concentrated in so-called meme stocks that are highlighted through social media sites such as Reddit or Wall Street Bets. Many of these stocks tend to be shorted by the institutional community, and this tends to be most prevalent in the U.S. small-cap space.
- **Implications:** Highly shorted stocks have become much more volatile in the U.S. small-cap universe. As a result, it's critical to understand a portfolio's aggregate exposure to these stocks and the consequent risk. This is particularly important as these stocks become larger weights in the benchmarks and as they tend to be in U.S. small-cap growth benchmarks, which ties in to our previous points on market concentration and understanding underweighted positions.

Portfolio construction best practices

Having identified several significant structural market changes that have taken place over the last 10 to 15 years, we would like to offer some portfolio construction best practices to help investors navigate a landscape that may be more different than they realize.

We believe that effective portfolio construction relies on an integrated approach in which portfolio construction, risk management, and performance attribution are logically connected and evolve together. The main goal of portfolio construction, in our opinion, is to maximize the signal-to-noise ratio (i.e., maximize the value of your insights while minimizing the impact of unintended exposures). We highlight a few key principles:

- **Take risk where you have a perceived information advantage and reduce it where you do not:** Investors should want investment performance to be a function of stock selection where they have invested resources and developed an opportunity to outperform a benchmark. To put it differently: If you're a world-class French chef, don't enter a sushi contest. It is not ideal for performance to be a function of something unintended where you have not earned an advantage. If you're

a stock picker, stick to what you do best and pick stocks, and don't let sector bets determine your fate. Ignoring unintended risks is where many otherwise sound processes can fail.

- **Measure/quantify risk:** Of course, taking bets where you have an advantage and eliminating unintended bets requires knowing where risks are in the market. We believe that good risk management involves a proactive, disciplined process for identifying, assessing, and mitigating potential threats to investment performance. There are many sources of threats and methods for uncovering them. Categories of risk recognition include:

- Traditional arbitrage pricing theory (APT) risk models (Barra, Northfield, Axioma)
- Macro risk models
- Statistical risk models
- Transient themes/factors
- Emerging themes

Some investors may use vendor risk models that analyze factors such as value, growth, size, momentum, and beta. While useful, often there are factors driving markets that are not captured in these risk models (e.g., interest rate exposure; AI exposure; or, a few years ago, COVID-19 exposure). Where possible, it's important to measure these risks.

- **Manage underweights with the same diligence as overweights:** Many investors focus on the positions they hold; however, with high benchmark concentration, the positions that are underweight or not held can contribute more relative risk—and thus affect performance to a greater degree—than the positions that are held.

- **Recognize changes in markets:** As we discussed earlier, some significant structural changes have taken place over the last 10 to 15 years. Markets continually evolve, and good risk management and portfolio construction must adapt to the evolution or those efforts will more than likely fail. Too often, investors codify rules into their process that work for one regime, but they become outdated when markets, economies, or fundamentals change. As the variables change, so must your game plan. Imagine running a 1980s wishbone run-focused offense in a 2025 American football game, where the passing game is institutionally protected from being defended aggressively.

Summary

Markets are evolving in ways that require frequent revisiting and adapting best practices in risk management. From historic

market concentration to the growth in passive investing and from the rise of passive and thematic/factor ETFs to the influence of computerized trading and retail traders, the market today is very different than the market of 10 to 15 years ago. Employing heuristics that don't evolve or aren't deliberately designed to adapt to changes in the market likely increases portfolio vulnerability to unappreciated risks, resulting in unwanted performance from

an unintended source. Portfolio construction excellence entails understanding risks in the market, quantifying both exposure and volatility, considering both overweights and underweights, knowing where investors should take risk and where they may want to reduce risk, and, most importantly, treating this as an evolving system in which the strategies of yesterday need to be adapted in order to seek success in the future.

Appendix

Factors are our internally constructed metrics, defined as follows:

Valuation: Proprietary composite of valuation metrics based on earnings, sales, book value, and dividends. Specific value factor weighting may vary by region and sector.

Growth: Proprietary composite of growth metrics based on historical and forward-looking earnings and sales growth. Factor selection and weighting vary by region and industry.

Momentum: Proprietary measure of medium-term price momentum.

Quality: Proprietary measure of quality based on fundamental and stock price stability; balance sheet strength; and measures of profitability, capital usage, and earnings quality.

Profitability: Return on equity.

Risk: Proprietary composite capturing stock return stability over multiple time horizons (positive return means risky stocks outperform stable stocks).

Size: Market capitalization (positive return means larger stocks outperform smaller stocks).

Quintile spread: Also referred to as long-short returns, a quintile spread is calculated by sorting securities based on a specific characteristic or factor criterion, dividing them into five groups (or quintiles), equal-weighting the securities within each quintile, and then subtracting the bottom-quintile returns (lowest 20%) from the top-quintile returns (highest 20%).

Factors and indices cannot be invested into directly and are shown for illustrative purposes only. They do not reflect performance of actual investments nor do they reflect the reduction of fees associated with an actual investment, such as trading costs and management fees.

Other definitions:

Equity Duration: A measurement of an equity investment's price sensitivity to changes in interest rates.

Mean Reversion: A financial theory that suggests asset prices will eventually return to their long-term mean or average.

For more information visit <https://www.troweprice.com/en/us/glossary>.

Risks: **Growth stocks** are subject to the volatility inherent in common stock investing, and their share price may fluctuate more than that of a income-oriented stocks. The **value approach** to investing carries the risk that the market will not recognize a security's intrinsic value for a long time or that a stock judged to be undervalued may actually be appropriately priced. **Small-cap stocks** have generally been more volatile in price than the large-cap stocks. Investing in **technology stocks** entails specific risks, including the potential for wide variations in performance and usually wide price swings, up and down. **Active investing** may have higher costs than passive investing and may underperform the broad market or passive peers with similar objectives. **Passive investing** may lag the performance of actively managed peers as holdings are not reallocated based on changes in market conditions or outlooks on specific securities.

All investments are subject to market risk, including the possible loss of principal.

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