Merced County Employees' Retirement Association

September 26, 2024

The Art of Patient Investing

Introduction

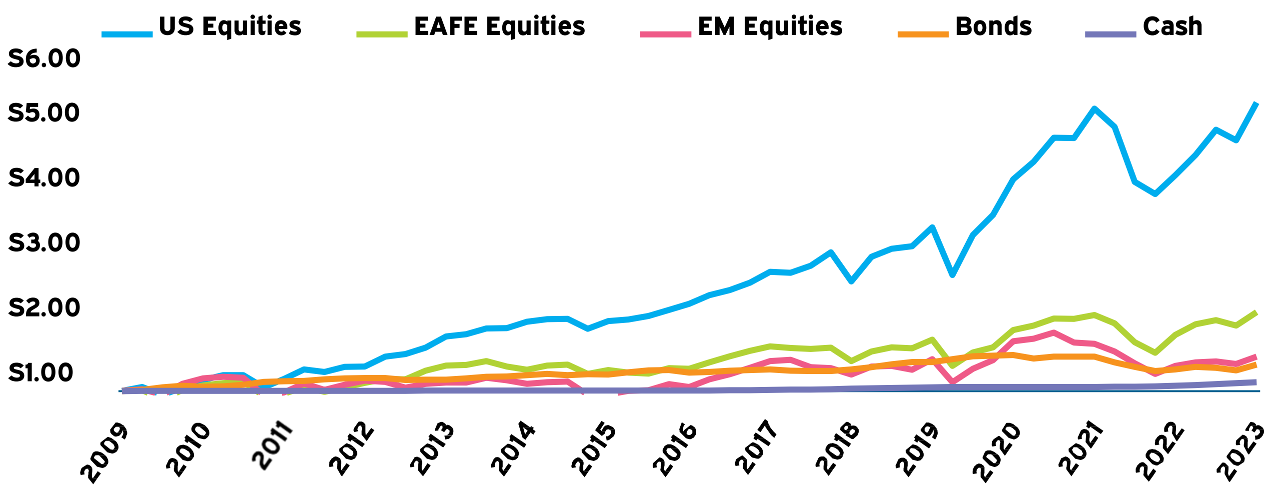
→ Large cap US stocks and private equity have dramatically outperformed most asset classes in recent years.

- Almost every other asset class has served as a drag on portfolio returns.
- This is testing many investors' patience with diversification.

→ This presentation is intended to remind investors why they should take a patient approach to investing.

- The first half focuses on the long-term case for a diversified portfolio.
- The second half explores different areas where investors may want to remain patient in the current market.

Growth of $1 Invested in Public Markets Since 2010[1]



[1] Represents the period from January 2010 through December 2023. Benchmarks used are as follows: Russell 3000 for US Equities, MSCI EAFE for EAFE Equities, MSCI EM for EM Equities, Bloomberg US Aggregate for Bonds, and Bloomberg 1-3 Month US T-Bills for cash.

Diversification, Endpoint Bias, and Patience

Why Diversify?

→ Diversification allows an investor to build a portfolio with a better expected risk-return tradeoff.

- The right combination of asset classes may smooth out the dips without sacrificing potential returns.
  - This is because different asset classes do not always move in sync with each other.

→ An undiversified portfolio often represents a bet, intentional or not, on very specific market conditions.

→ Predicting the direction of the markets with any consistency is particularly challenging.

- Even though investors may feel confident that they know the direction the markets will take in the near term, unexpected events often occur.
  - For example, major events such as wars, pandemics, or financial crises could quickly reverse the dominant economic regime.

→ This argues for a portfolio that is designed to weather almost all possible scenarios, not just benefit from the current environment, even if an investor believes it is likely to persist.

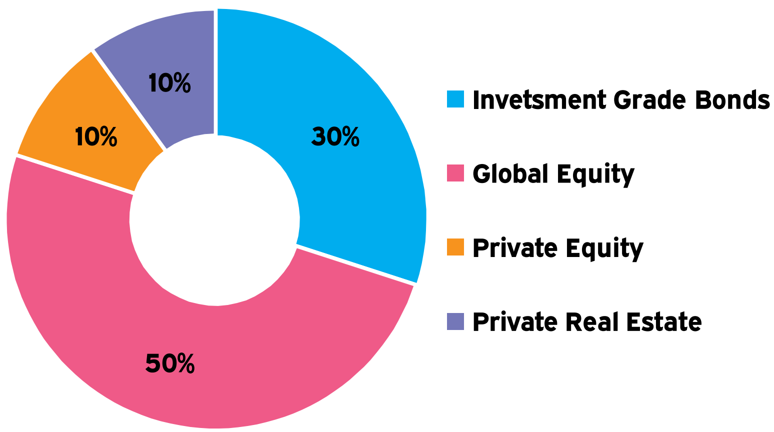
Diversification Example: Improving Expected Returns While Reducing Risk[1]

→ By diversifying, an investor can construct a portfolio with similar risk but a higher expected target return.

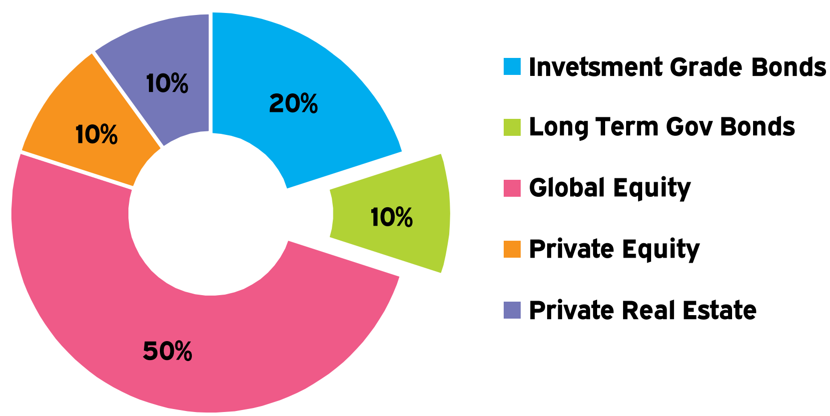
→ Adding assets that are not correlated with the primary assets in a portfolio may decrease risk.

- This can even be true for assets that are riskier on a standalone basis, especially if they tend to be negatively correlated with the rest of the portfolio.

Portfolio A



Portfolio B



Expected Return	8.1%	8.2%
Standard Deviation	11.9%	11.8%
Sharpe Ratio	0.47	0.48

[1] Note: Portfolio return and risk projections shown are based on proprietary 20-year expected return and standard deviation inputs of Meketa's Asset Allocation Tool and Meketa's 2024 Capital Markets Expectations.

Each Asset Class Should Play a Specific Role

→ To be a successful baseball team, you cannot just have nine players in the shortstop position on the field.

- You need a *team* where each position plays a different and important role.

→ The same concept applies to portfolios: different asset classes should operate like a well-rounded team.

→ And like players on a baseball team, some assets may have periods of "slumps" or "hot streaks."

- Having a diverse team of different asset classes makes it possible for other assets to "pick up the slack" during slumps so that the overall portfolio is more protected from the volatile swings of slumps and hot streaks.

Market Cycles and Diversification

→ It is common for markets to move in cycles.

- This includes rotations in leadership that can last for very long periods.
- One asset class or style can be the best, even for 10+ years, but it can also be the worst for 10+ years.

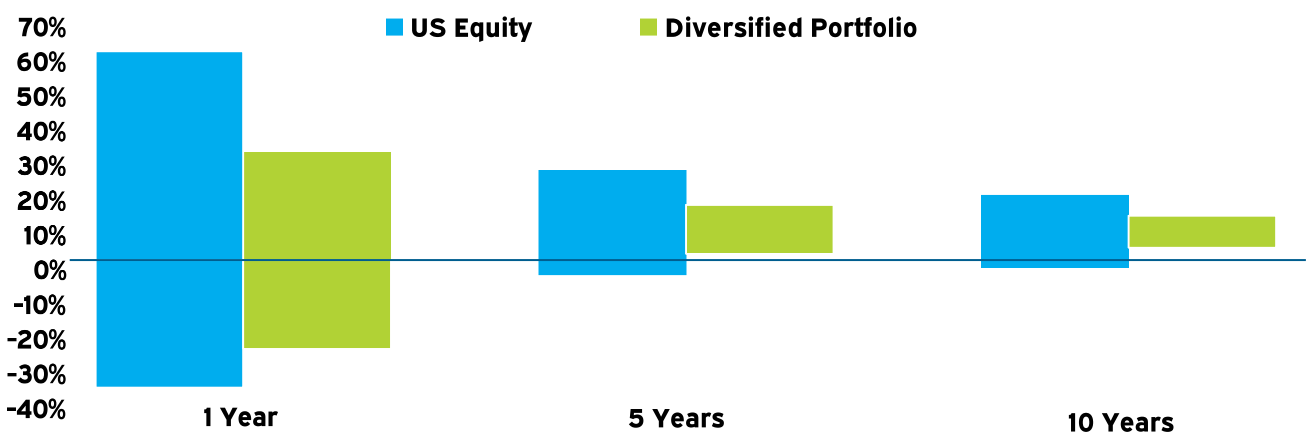
→ Reversals/rotations in market leadership are often not widely anticipated in advance.

- Trying to predict or time such changes can be difficult, risky, and even dangerous.

→ By being diversified, the portfolio is less likely to get whipsawed when a change in leadership occurs.

- A diversified portfolio will lead to greater certainty in the outcome, especially over a longer horizon.

Historical Range of Annualized Returns[1]



[1] Data Source: InvMetrics as of March 31, 2024. The "Diversified Portfolio" is proxied by 30% Russell 3000, 15% MSCI EAFE, 5% MSCI EM, 10% CA Private Equity, 10% NCREIF ODCE Equal-Weighted, and 30% Bloomberg Aggregate.

How does diversification work? Smoothing out the dips

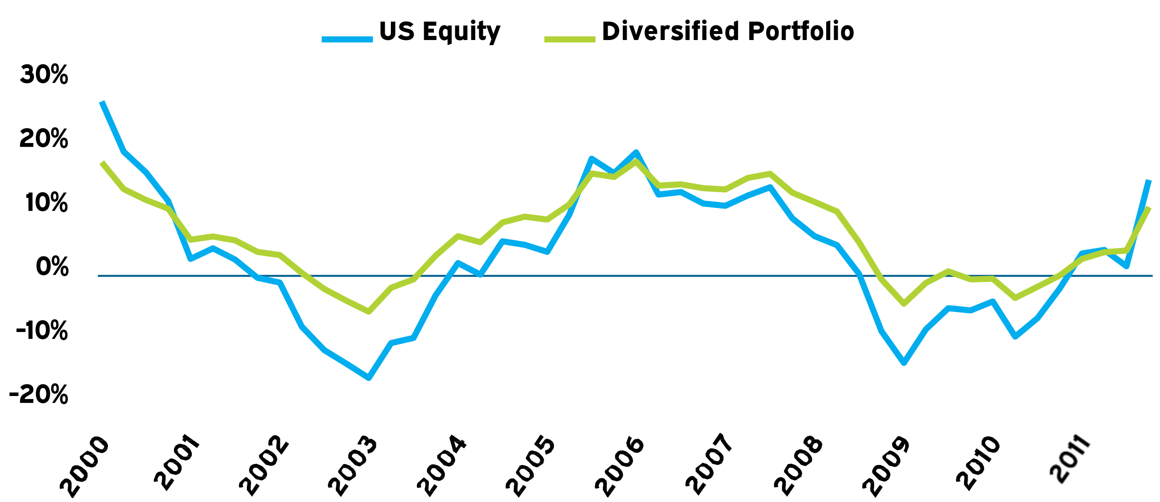
→ Diversification increases the likelihood of having some exposure to the best performing markets.

- Between 1999 and 2010, average returns were 2.8% for US stocks, 14.7% for EM, and 13.0% for private equity.[1]
  - Reliance on US equities alone would likely have left many investors well short of their objective.

→ Diversification likewise may prevent investors from having excessive exposure to the worst markets.

- A portfolio dominated by stocks would have suffered more during the GFC or popping of the dot-com bubble.
  - Having investments in bonds mitigated these losses and provided assets to rebalance into cheaper equities.

Rolling 3-Year Returns[2]



[1] Source: Data from Investment Metrics. Represents average annualized returns. Indices used are Russell 3000 index, MSCI Emerging Markets index, and CA Private Equity composite via IHS Markets.
[2] US Equity is proxied by the Russell 3000. The diversified portfolio is proxied by 30% Russell 3000, 15% MSCI EAFE, 5% MSCI EM, 10% CA Private Equity, 10% NCREIF ODCE Equal-Weighted, and 30% Bloomberg Aggregate.

Recovering from (and Mitigating) Downturns

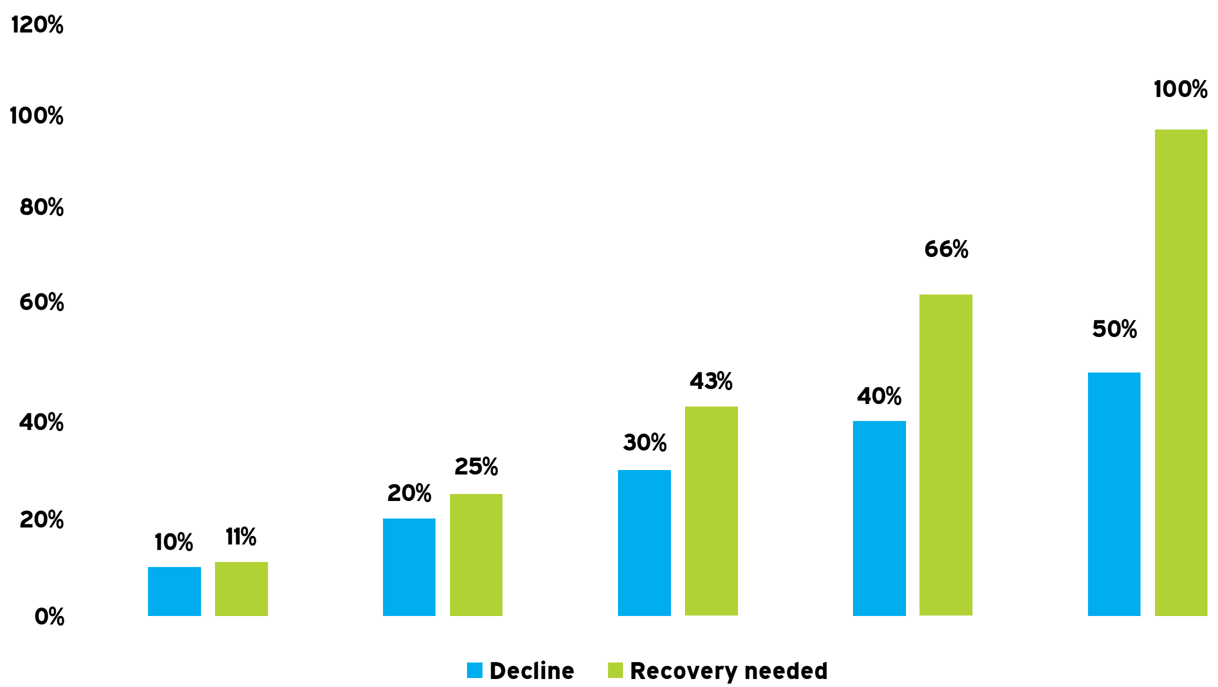
→ Investors routinely take on more risk in the hope of achieving higher returns.

- Taking on risk means that investors will likely, from time to time, lose money.

→ The rebound needed to recover from a loss grows exponentially with the size of the loss.

- Hence most investors seek to mitigate this risk via a diversified portfolio.

Recovery Needed to Return to Previous Value After a Loss



Why Should Investors Care about Reducing Volatility?

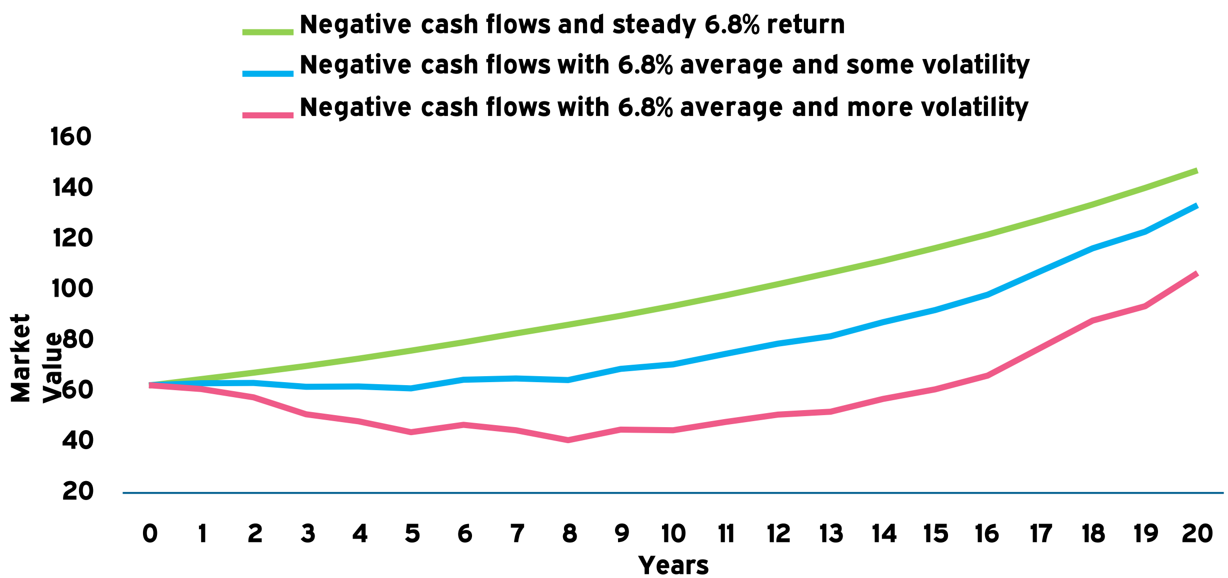
→ Negative cash flows make it much harder for an investor to recover after a market downturn.

- The larger the cash outflows and volatility are, the more severe the impact.

→ In other words, an investor could earn their target rate of return over 20 years, but still find themselves short of their target market value.

- Diversified portfolios reduce the level of volatility that would otherwise amplify this shortfall.

Example Impact of Volatility and Cash Flows on Returns[1]



[1] All three paths will generate the same average annualized return over 20 years. For the "some volatility" path, the first 10 years will earn an annualized return approximately equal to the 25th percentile return for the selected asset mix over 10 years, and the second 10 year will earn an annualized return equal to the 75th percentile. For the "more volatility" path, the average returns are at the 5th and 95th percentile, respectively.

Endpoint Bias

→ Historical returns may present a biased or incomplete picture, depending on the time period chosen, as this represents a single "snapshot" of time.

- Often, this results from typical market cyclicality.
- Sometimes, the data is so extreme that it creates true anomalies.

→ Endpoint bias refers to the inclusion or exclusion of data that significantly skews results.

- That is, if the recent past (or the starting period) witnessed unusually high or low returns, then long-term results can change considerably.

→ Relying solely on data that is biased in this fashion can result in investors making flawed decisions.

- The last decade is replete with trends that are affecting long-term data, and hence may skew the way investors' decisions are framed.
- Looking at rolling-period analysis may help, since it treats the endpoint as a single data point.

→ It can be easy to give up on certain asset classes and load up on the asset class that has been in favor recently.

- Doing so has been costly historically when regimes change.

Endpoint Bias Example 1: Market Cycles

→ Value and growth stocks tend to move in cycles of relative outperformance.

→ As of March 2000, the Russell 1000 Growth index outperformed its Value counterpart over all trailing periods, fueled by impressive recent performance.

Annualized Returns as of March 2000[1]

As of 03/31/2000	1 YR (%)	5 YR (%)	10 YR (%)	20 YR (%)	Since Inception (%)
Russell 1000 Growth	34.1	31.8	21.6	18.5	18.3
Russell 1000 Value	6.3	21.0	16.0	17.2	16.8

→ From this data, investors might conclude that growth stocks offer a long-term premium relative to value stocks.

→ However, just one year later, with the bursting of the dot-com bubble, the premium had reversed.

Annualized Returns as of March 2001

As of 03/31/2001	1 YR (%)	5 YR (%)	10 YR (%)	20 YR (%)	Since Inception (%)
Russell 1000 Growth	-42.7	11.6	12.7	13.2	14.5
Russell 1000 Value	0.3	14.2	15.2	15.3	16.0

[1] Source: Data is from Bloomberg. Inception for both Russell 1000 Growth and Russell 1000 Value indices was January 1979.

Endpoint Bias Example 2: Anomalies

→ For the twenty-year period ending February 2008, the US stock market had earned 3.4% more annually than the core bond index.

- This was only slightly below the long-term premium observed for stocks over bonds.

→ However, when measured one year later, investment grade bonds outperformed stocks by an annualized 0.2% over the twenty-year period.

- Note that this relationship (of bonds outperforming stocks) only lasted for one month.

Annualized Returns[1]

	20 Years As of 2/2008 (%)	20 Years As of 2/2009 (%)	20 Years As of 2/2024 (%)
Russell 3000	10.8	7.1	9.8
Bloomberg Aggregate	7.4	7.3	3.0

[1] Source: Data is from Investment Metrics.

Human Behavior and Performance Chasing

→ Many investors suffer from behavioral biases that may result in performance-chasing behavior.

- They are often fearful when the market declines and hence get more conservative at an inopportune time.
- They may also chase returns by investing in risky assets after a period of strong investment gains.

→ Succumbing to these mistakes may lead to poor decisions, and hence poor outcomes.

- Return chasing often leads to buying high and selling low.

→ Evidence shows that investors' performance lags actual fund performance due to performance chasing.

The Performance Gap by Asset Class (10-Year Returns)[1]

US Category Group	Investor Return (%)	Total Return (%)	Gap
Allocation	5.98	6.44	-0.46
International Equity	3.30	4.89	-1.59
Nontraditional Equity	2.10	4.16	-2.06
Sector Equity	6.42	10.8	-4.38
Taxable Bond	0.20	1.57	-1.36
US Equity	10.99	11.77	-0.79
Overall	6.04	7.71	-1.68

[1] Source: Morningstar. "Mind the Gap 2022." https://www.morningstar.com/funds/bad-timing-cost-investors-one-fifth-their-funds-returns. Morningstar updates the study annually, with roughly similar results each year, showing that the returns that investors experience is below the returns that the funds produce because of the manner in which investors tend to move in and out of funds in each category.

Why Be Patient?

→ In general, investors should be patient with underperforming asset classes because market cycles can cause fluctuations in performance, and asset classes that are currently underperforming often rebound over time.

- Patience often allows investors to ride out the volatility and potentially benefit from the long-term growth that these asset classes may offer.

→ Additionally, having a long-term perspective is typically beneficial.

- Investors frequently profit by suppressing the urge to always "do something."
  - Often the best course of action is to take no short-term action at all, especially if they are inclined to chase performance.
- If an investor truly has a long-term horizon, they are generally best served by acting as a long-term investor.

→ Having discussions about and setting appropriate expectations around market cycles is an important aspect of effectively managing the situation if underperformance happens.

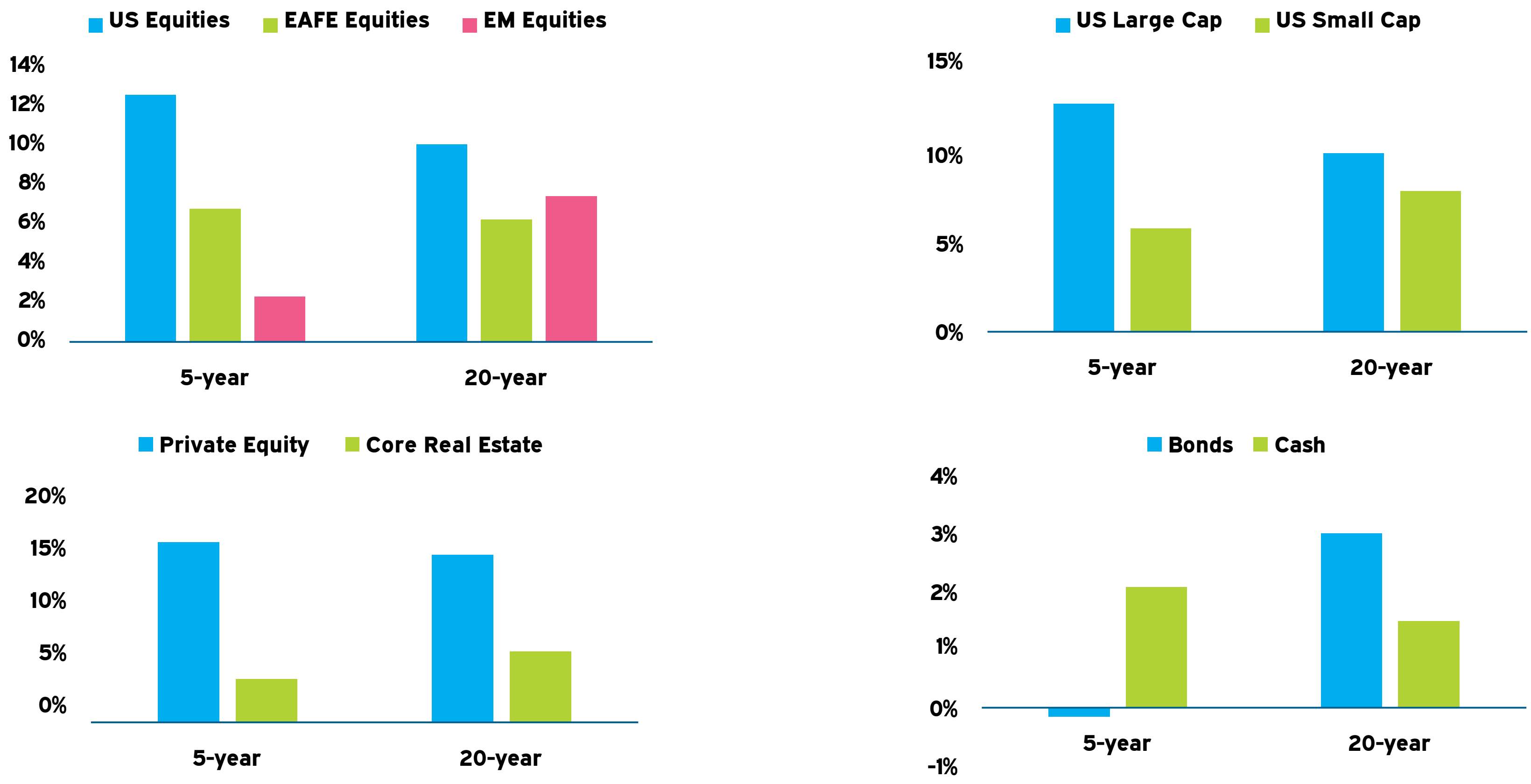
- This might include scenario analysis and stress testing.
- This preparation for, and understanding of, risk can contribute to the patience needed to stay the course with underperforming asset classes.

Current Markets

Recent Years Are Full of Winners and Losers

→ In many cases, the differences are so extreme that they are impacting even very long-term returns.

Average Annualized Returns[1]



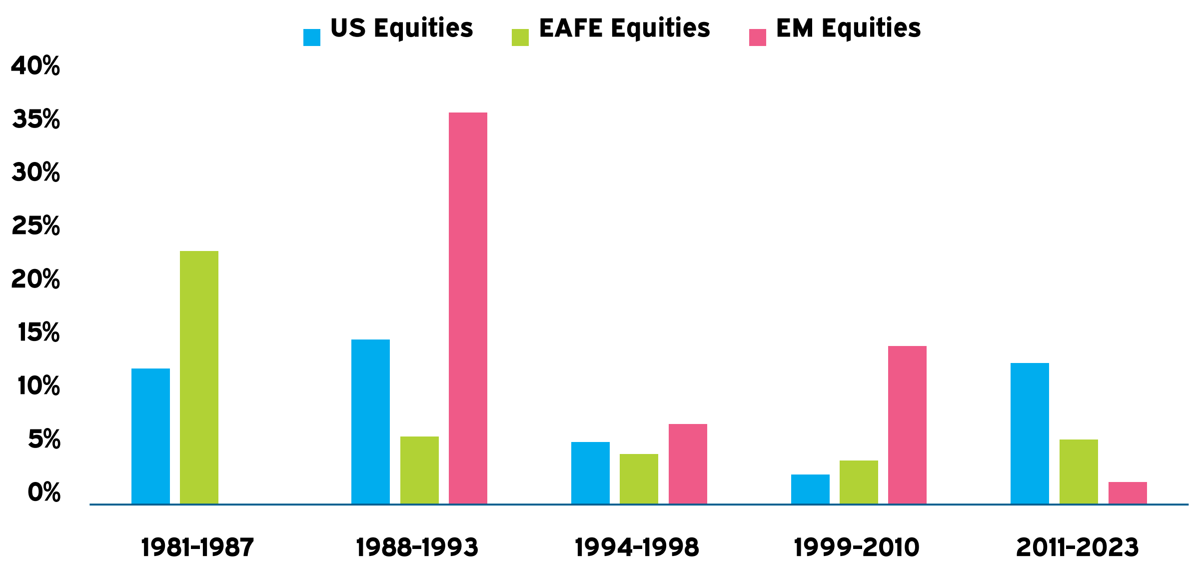
[1] Represents the period ending April 2024 for public markets and December 2023 for private markets. Data is from Investment Metrics. Benchmarks used are: Russell 3000 for US Equities, MSCI EAFE for EAFE Equities, MSCI EM for EM Equities, Russell 1000 for US Large Cap, Russell 2000 for US Small Cap, CA Private Equity for Private Equity, NCREIF ODCE Equal-Weighted for Core Real Estate, Bloomberg US Aggregate for Bonds, and Bloomberg 1-3 Month US T-Bills for cash.

Cyclicality in Regional Equity Markets

→ Over the last forty years, we have seen ~five super cycles in global equity markets.

- EAFE equities, elevated by Japanese stocks, led the way for much of the 1980s.
- EM equities dominated for most of the next twenty years.
  - This was punctuated by significant outperformance in 1988-93 and again in the 2000s.
- Since 2011, US equities have outperformed by a wide margin.

Annualized Average Returns for Global Equities[1]



[1] Data is from Investment Metrics. Benchmarks used are as follows: Russell 3000 for US Equities, MSCI EAFE for EAFE Equities, MSCI EM for EM Equities.

Relative Valuations in Equity Markets

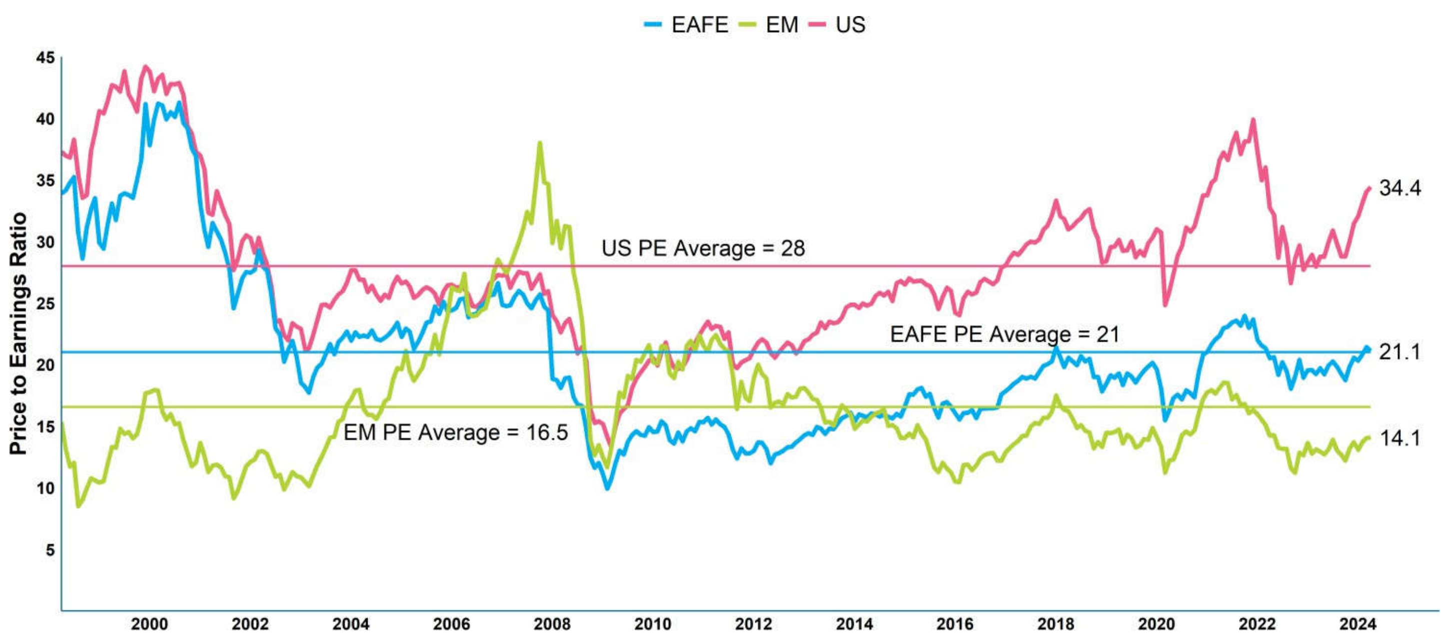
→ The US stock market is trading at a much higher valuation than the other major global stock indices.

- The US market is also trading well above its long-term average, but it is trading below its two previous peaks.

→ EAFE and EM equities are trading near or below their historical averages.

→ This data implies relative optimism for US markets and pessimism on overseas stocks.

Price-Earnings Ratio for Global Equity Markets[1]



[1] US Equity Cyclically Adjusted P/E on S&P 500 Index. Source: Robert Shiller, Yale University, and Meketa Investment Group. Developed and Emerging Market Equity (MSCI EAFE and EM Index) Cyclically Adjusted P/E – Source: Bloomberg. Earnings figures represent the average of monthly "as reported" earnings over the previous ten years. Data is as of April 2024. The average line is the long-term average of the US, EM, and EAFE PE values from April 1998 to the recent month end respectively.

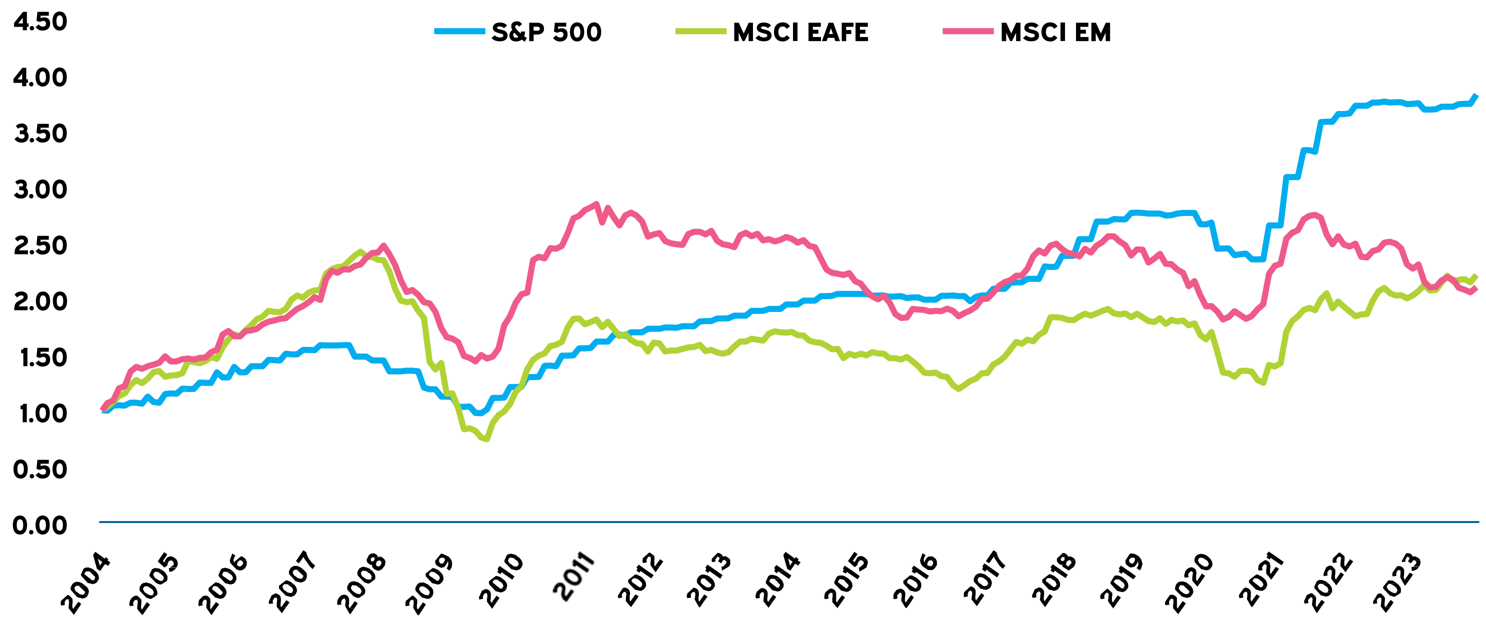
Is Optimism Warranted?

→ Earnings Per Share ("EPS") growth for the EAFE and EM indices has been essentially flat since 2011.

- Meanwhile, US EPS growth has been strong over the past two decades.

→ There has been a meaningful difference in EPS growth for the US versus other global markets, and it has not been due to a difference in GDP growth.

20-Year EPS Growth, indexed to $1[1]



1 Source: Meketa analysis of MSCI and Bloomberg data. Series uses Trailing 12-month earnings per share in USD. As of May 31, 2024.

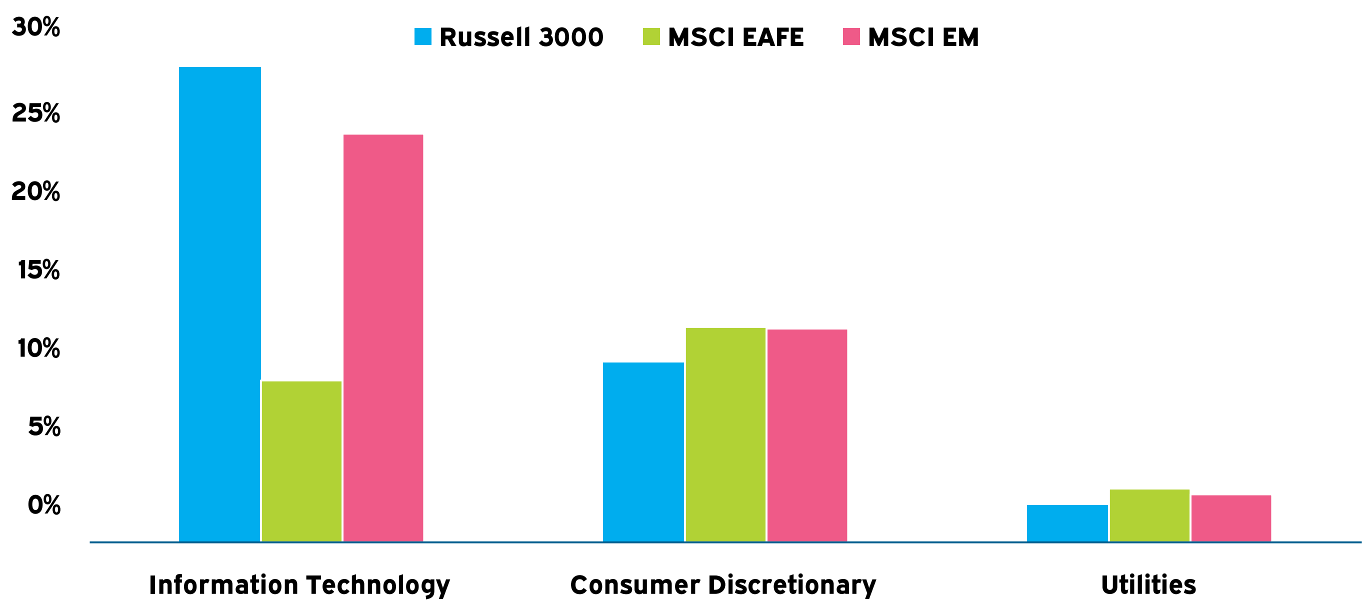
Leading the Way: Tech and AI

→ Post-COVID, the fuel for US earnings growth has been primarily the technology and related sectors.

- Most recently it is being driven by companies linked to AI.

→ The US market has higher allocations to the technology sector and many leading AI companies.

Sector Allocations[1]



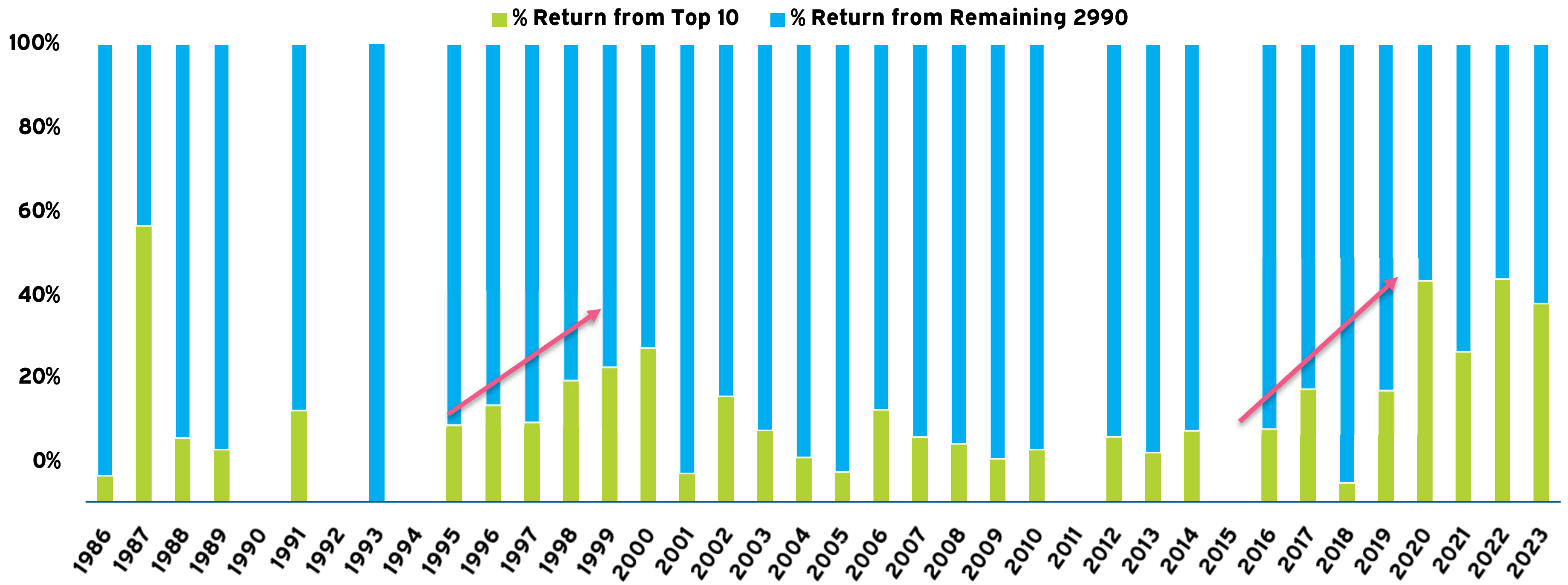
[1] Source: Data is from FactSet, as of March 31, 2024. Note that Amazon is in the Consumer Discretionary sector. Utilities and data centers have recently outperformed due to a "picks and shovels" thesis (i.e., AI needs will cause a high demand for electricity and data centers for training LLMs).

US Market Concentration

Moreover, returns have been driven by a handful of US companies.

→ The dot-com bubble was the last time the top ten's influence on returns was this high for a sustained period.

% Contribution to Annual Return of the Russell 3000[1,2]



1 Source: FactSet, as of December 31, 2023. Note that Alphabet Class A and C were combined into one category for this analysis.
2 In years 1990, 1992, 1994, 2011, and 2015, the top 10 and the rest moved in opposite directions, making the stacked column not meaningful; hence they were excluded from the chart.

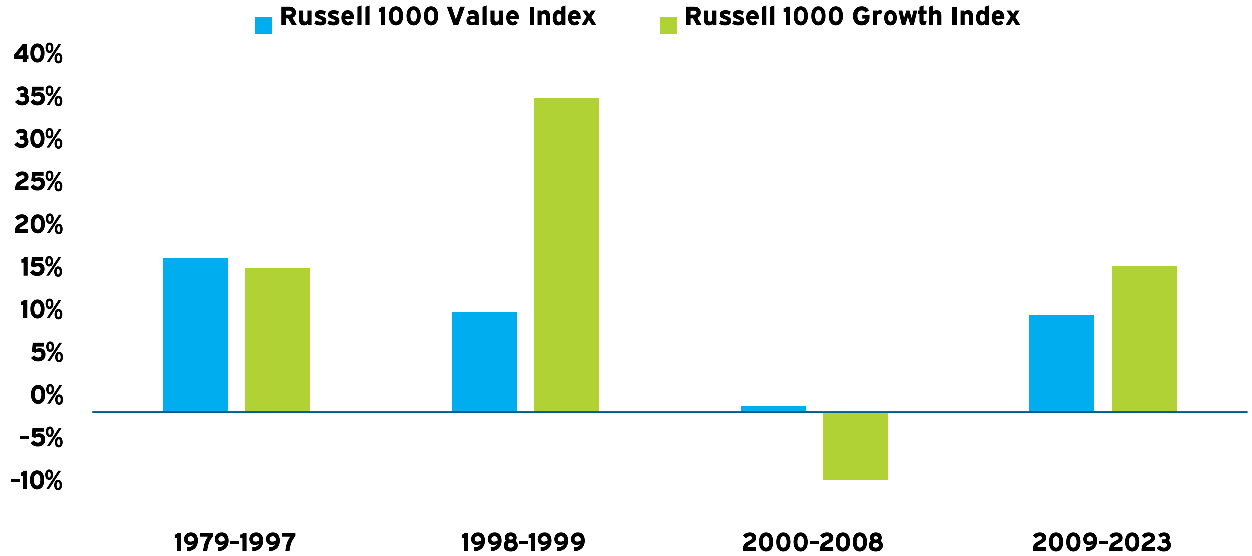
Impact within the US Equity Market: Growth vs Value

→ Large growth stocks have outperformed value stocks by a wide margin since the GFC.

- The recent focus on large tech-related stocks has widened this gap.
  - This has erased the long-term outperformance (since 1979) that value stocks held over growth stocks.[1]

→ Note that the last period of significant growth outperformance (the dot-com bubble) did not end well.

Annualized Average Returns for US Growth and Value[2]



[1] From 1979 through 2023, the average annualized return for the Russell 1000 Value is 11.6%, and for the Russell 1000 Growth is 12.0%.
[2] Benchmarks used are as follows: Russell 1000 Value for US Value and Russell 1000 Growth for US Growth.

Impact within the US Equity Market: Small vs Large

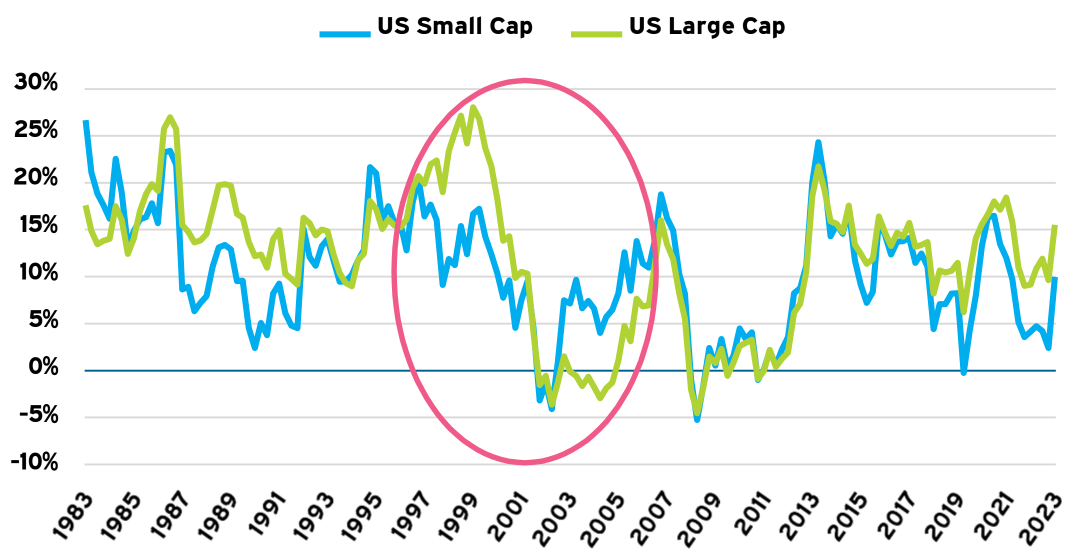
→ Large cap has outperformed small cap since the GFC, with the gap widening over the past five years.

- This has likewise erased the long-term outperformance (since 1979) that small cap held over large cap stocks.[1]

→ Such outperformance has reversed historically, though sometimes it was not for a very long period.

- The last major reversal was related to the popping of the dot-com bubble.

Rolling Five-Year Annualized Returns[2]



[1] From 1979 through 2023, the average annualized return for the Russell 1000 is 12.0%, and for the Russell 2000 is 11.0%.
[2] Benchmarks used are as follows: Russell 1000 for US Large and Russell 2000 for US Small.

Relative Valuations in US Stocks

→ Value stocks appear cheap and growth stocks appear expensive by historical standards.

- While relative pricing is not as extreme as it was during the dot-com bubble, it is far from the average.

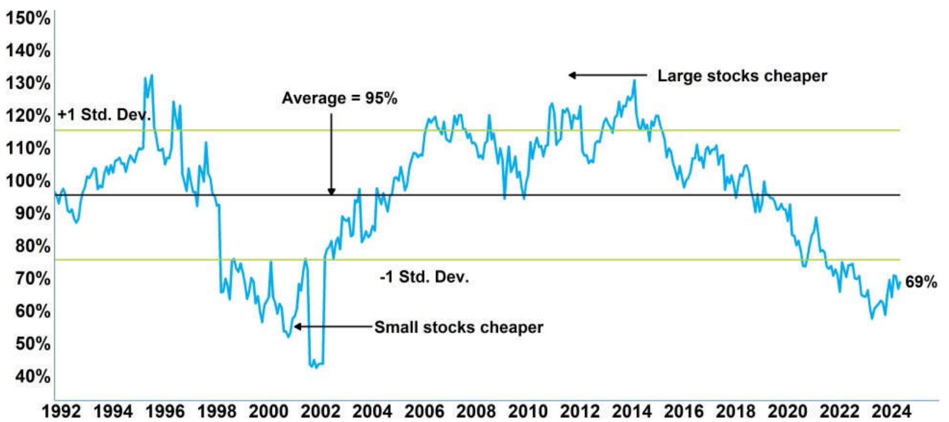
→ Similarly, small stocks appear inexpensive and large stocks look pricy based on history.

- Again, relative pricing has not hit its extreme, but it is not near the historical averages.

→ This implies willingness to pay a premium for the higher presumed growth of large cap and growth stocks.

Growth P/E vs. Value P/E[1]

Small Cap P/E vs. Large Cap P/E[2]



[1] Growth P/E (Russell 3000 Growth Index) vs. Value (Russell 3000 Value Index) P/E - Source: Russell Investments, Bloomberg, and Meketa Investment Group. Earnings figures represent 12-month "as reported" earnings.
[2] Small Cap P/E (Russell 2000 Index) vs. Large Cap P/E (Russell 1000 Index) - Source: Russell Investments, Bloomberg, and Meketa Investment Group. Earnings figures represent 12-month "as reported" earnings.

The Current Equity Market

→ Investors who are relying on the continued outperformance of US equities are making a number of bets, consciously or not, that may include:

- The Fed will lower interest rates later this year, and short-term rates will continue to decline thereafter.
- Inflation will continue to decline and settle in near the Fed's long-term target.
- Unemployment will remain low.
- The US economy will grow faster than its developed market peers.
- The profitability of a select number of large cap growth companies will outpace the broader market.
- This will be fueled by productivity growth and spending that is primarily attributable to AI.
- US companies will maintain their dominant position in the AI ecosystem.

→ While the probability of some of these outcomes playing out is high, the likelihood of all of them occurring strains traditional economic theory.

- And this ignores the potential for an unexpected geopolitical or market event.

Bonds

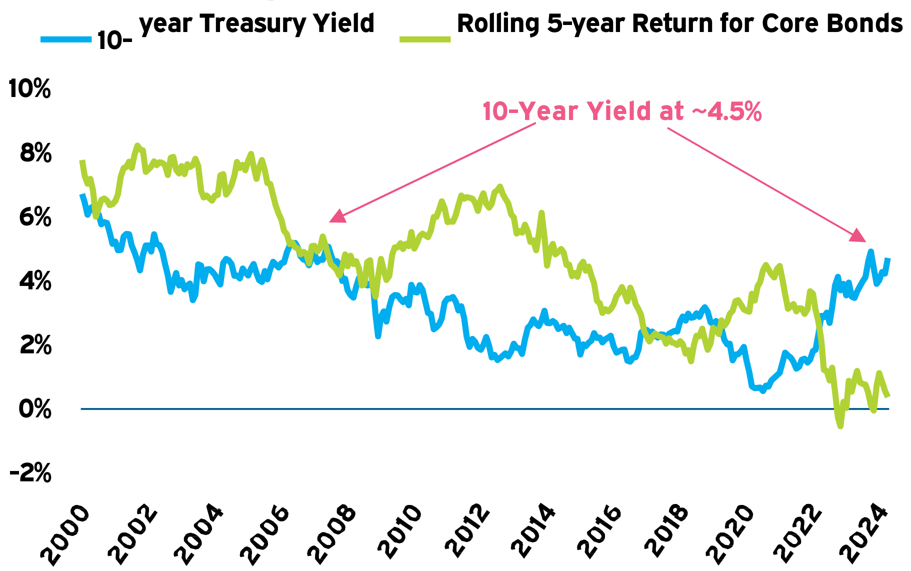
→ Bond returns have been poor – even negative – due to the rise in interest rates since 2020.

- Yet this is good news for investors on a forward-looking basis.

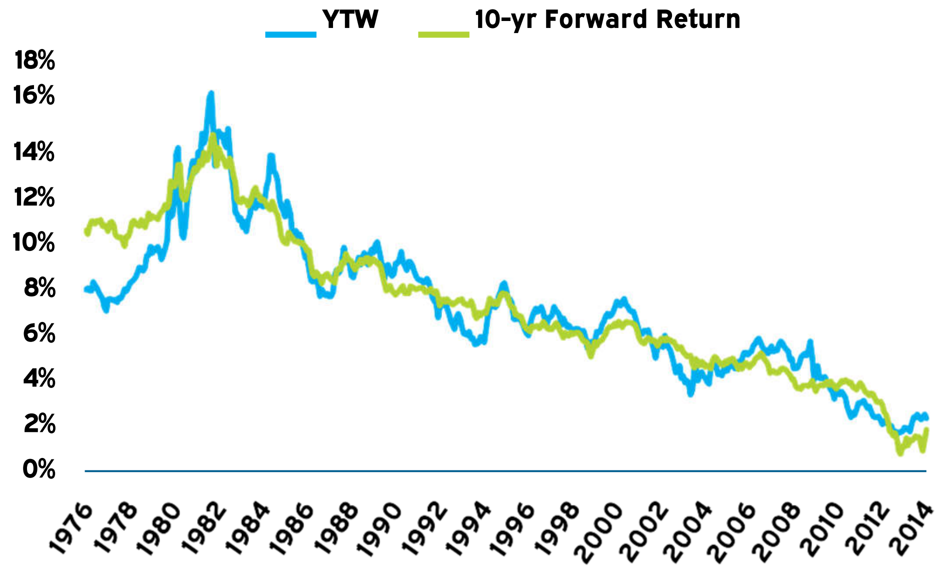
→ The best predictor of future returns for investment grade bonds is their current yield.

- Rising rates have elevated yields to levels last seen prior to the GFC.
- Higher yields may give investors more options than they have had in more than 15 years.

Treasury Yields and Core Bond Returns[1]



YTW and Forward Returns for Core Bonds



[1] Data source is FRED for the 10-year Treasury yield, Investment Metrics for Core Bond performance, and Bloomberg for yield-to-worst. The Bloomberg Aggregate index was used for Core Bonds. Data is as of April 2024 in the first chart and December 2023 in the second chart.

Summary

→ Diversification is an important component of investing.

- A well-diversified portfolio may improve expected risk-return tradeoffs and is less reliant on specific market conditions.

→ Market cycles can cause dramatic fluctuations in performance.

- The duration of such cycles can be painfully long.
- Yet such extended periods of out- and underperformance is normal in most markets.

→ Investors should be mindful of endpoint bias and behavioral biases.

- Investors tend to place undue significance on recent events and extrapolate the recent past into the future.

→ By being aware of such biases, investors may minimize the likelihood of making potentially flawed investment decisions.

- This includes selling underperforming assets at the wrong time.

→ Distinguishing between secular changes and cyclical trends is challenging, at best.

- Investors who develop a long-term plan and stick with it will likely avoid the worst outcomes.

→ The combination of patience and diversification will likely help investors avoid being adversely affected by shifts in market leadership.

Appendix

Changes in Market Leadership: The Periodic Table of Investment Performance[1]

2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Real Estate 14.3%	Emerging Equity 18.2%	US Equity 32.4%	Private Equity 13.8%	Real Estate 13.3%	High Yield 17.1%	Emerging Equity 37.3%	Private Equity 12.3%	US Equity 31.5%	Private Equity 29.1%	Private Equity 41.9%	Commodities 16.1%	US Equity 26.3%
TIPS 13.6%	EAFE Equity 17.3%	Private Equity 23.5%	US Equity 13.7%	Private Equity 10.2%	Private Equity 12.3%	EAFE Equity 25.0%	Real Estate 6.7%	EAFE Equity 22.0%	US Equity 18.4%	US Equity 28.7%	Real Estate 5.5%	EAFE Equity 18.2%
Private Equity 10.7%	Emerging Markets Debt 17.2%	EAFE Equity 22.8%	Real Estate 11.8%	US Equity 1.4%	US Equity 12.0%	US Equity 21.8%	Cash 1.9%	Emerging Equity 18.4%	Emerging Equity 18.3%	Commodities 27.1%	Cash 1.5%	High Yield 13.4%
Bonds 7.8%	US Equity 16.0%	Real Estate 11.0%	Bonds 6.0%	Bonds 0.5%	Commodities 11.8%	Private Equity 20.5%	Bonds 0.0%	Private Equity 18.4%	Hedge Funds 11.8%	Real Estate 17.7%	Hedge Funds -4.1%	Emerging Markets Debt 11.9%
High Yield 5.0%	High Yield 15.8%	Hedge Funds 9.1%	TIPS 3.6%	Cash 0.0%	Emerging Equity 11.2%	Emerging Markets Debt 12.7%	TIPS -1.3%	High Yield 14.3%	TIPS 11.0%	EAFE Equity 11.3%	Private Equity -4.2%	Emerging Equity 9.8%
Emerging Markets Debt 2.8%	Private Equity 14.6%	High Yield 7.4%	Hedge Funds 3.0%	EAFE Equity -0.8%	Emerging Markets Debt 10.2%	Hedge Funds 8.6%	High Yield -2.1%	Emerging Markets Debt 14.3%	EAFE Equity 7.8%	Hedge Funds 10.2%	High Yield -11.2%	Hedge Funds 8.1%
US Equity 2.1%	Real Estate 10.5%	Cash 0.0%	High Yield 2.5%	Hedge Funds -1.1%	Real Estate 8.0%	High Yield 7.5%	US Equity -4.4%	Hedge Funds 10.4%	Bonds 7.5%	TIPS 6.0%	TIPS -11.8%	Private Equity 6.2%
Cash 0.0%	TIPS 7.0%	Bonds -2.0%	Emerging Markets Debt 0.7%	TIPS -1.4%	Hedge Funds 5.4%	Real Estate 7.0%	Hedge Funds -4.7%	Bonds 8.7%	High Yield 7.1%	High Yield 5.3%	Bonds -13.0%	Bonds 5.5%
Hedge Funds -5.3%	Hedge Funds 6.4%	Emerging Equity -2.6%	Cash 0.0%	High Yield -4.5%	TIPS 4.7%	Bonds 3.5%	Emerging Markets Debt -5.2%	TIPS 8.4%	Emerging Markets Debt 4.0%	Cash 0.0%	EAFE Equity -14.5%	Cash 5.0%
EAFE Equity -12.1%	Bonds 4.2%	Emerging Markets Debt -7.1%	Emerging Equity -2.2%	Emerging Markets Debt -7.1%	Bonds 2.6%	TIPS 3.0%	Commodities -11.2%	Commodities 7.7%	Real Estate 1.6%	Bonds -1.5%	Emerging Markets Debt -14.8%	TIPS 3.9%
Commodities -13.3%	Cash 0.1%	TIPS -8.6%	EAFE Equity -4.9%	Emerging Equity -14.9%	EAFE Equity 1.0%	Commodities 1.7%	EAFE Equity -13.8%	Real Estate 6.4%	Cash 0.5%	Emerging Equity -2.5%	US Equity -18.1%	Real Estate -7.9%
Emerging Equity -18.4%	Commodities -1.1%	Commodities -9.5%	Commodities -17.0%	Commodities -24.7%	Cash 0.3%	Cash 0.9%	Emerging Equity -14.6%	Cash 2.1%	Commodities -3.1%	Emerging Markets Debt -5.3%	Emerging Equity -20.1%	Commodities -7.9%

[1] Benchmarks used: CA US Private Equity, S&P 500, NCREIF Property Index, Bloomberg US Aggregate, Bloomberg US TIPS, HFRI Fund-Weighted Composite, Bloomberg US High Yield, 90-day T-Bills, MSCI EAFE, MSCI EM, Bloomberg Commodity, 50/50 JPM GBI-EM Global Diversified and JPM EMBI Global Diversified.

Endpoint Bias Example: Short Time Periods

→ Measured over a shorter period of five years ending March 2000, the Russell 2000 Growth index outperformed its Value counterpart by 10.8% on average, per year.

→ Twelve months later, small cap value stocks beat small cap growth stocks over the trailing five-year period.

Annualized Returns[1]

	5 Years As of 3/2000 (%)	5 Years As of 3/2001 (%)
Russell 2000 Growth	31.8	11.6
Russell 2000 Value	21.0	14.2

→ For both the five- and twenty-year periods examined, endpoint bias was significant for growth and value stocks due to the extraordinary rise and fall of technology stocks.

[1] Source: Bloomberg.

Endpoint Bias Example: Regional Cyclicality

→ For the ten-year period ending December 1989, the MSCI EAFE index earned 4.5% more than the S&P 500 index, annually.

→ When measured ten years later, the situation was reversed: US equities exhibited an annualized ten-year outperformance of 11.2%.

- Foreign equity returns were led by dramatic increases in the Japanese equity market in the 1980s.
- Japanese stocks were then responsible for dragging down performance for foreign equity through the 1990s.
  - Over the following decade, the roles reversed again, and international equities outperformed domestic for the period ending December 2009.

Annualized Returns[1]

	10 Years As of 12/1989 (%)	10 Years As of 12/1999 (%)	10 Years As of 12/2009 (%)	10 Years As of 12/2019 (%)
MSCI EAFE	22.0	7.0	1.2	5.5
S&P 500	17.5	18.2	-1.0	13.6

→ This trend reversed once again, with US equities significantly outperforming foreign equities over the subsequent ten years.

[1] Source: Bloomberg.

Examining the Performance of Value (and underperforming markets generally)

→ The value risk premium has significantly underperformed expectations post-GFC.

→ Multiple factors have contributed to recent poor performance.

- Increasing intangible investment not accurately captured in accounting book value.
- Low interest rates may impact investor preferences / boosted growth returns.
- Significant outperformance and strong relative fundamental growth of the technology sector.
- Persistent sector biases impacted performance of some strategies.

→ Value is cheap relative to history, but this does not tell us if or when it will work again.

→ As long as the investors continue to accept / pay current multiples, they can stay elevated, regardless of many fundamental metrics.

→ Evidence is mixed at best on investors' ability to time exposure to value.

→ There is no clear evidence that the value risk premium has disappeared.

Technological Revolution

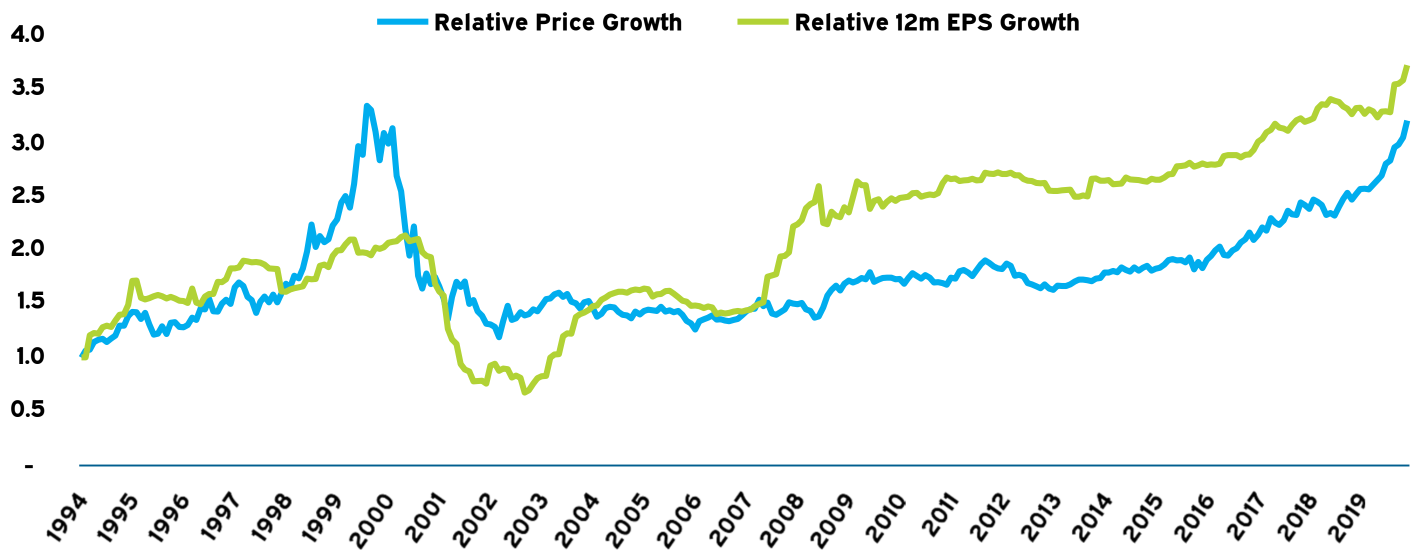
→ The weight of technology within the market has increased significantly since the GFC.

→ Earnings in the tech sector have been steadily outpacing the broad index and rising in-line with performance gains, unlike the tech bubble.

- This supports the argument that today's companies are better than decades past, justifying higher valuations.

→ The primary question is whether this is a secular change.

S&P 500 Info Tech Sector vs. S&P 500 Index



Why These Stocks? Why Now?

→ The common theme of the Magnificent Seven has been technology.

- These companies are on the leading edge of figuring out how best to use emerging technology to provide services for their customers.
- Importantly, many have built diverse business models and/or shown an ability to adapt to change.

→ The COVID-19 pandemic further boosted the demand for these stocks.

- Many of these companies offered solutions for remote work, e-commerce, entertainment, and communication in a socially distanced world.

→ The release of ChatGPT in late 2022 made generative AI an overnight sensation.

- It has ignited the race for companies to develop and bring their own, unique generative AI products to market.
- It has also sent investors looking for stocks/sectors that would benefit from a "picks & shovels" approach to AI.

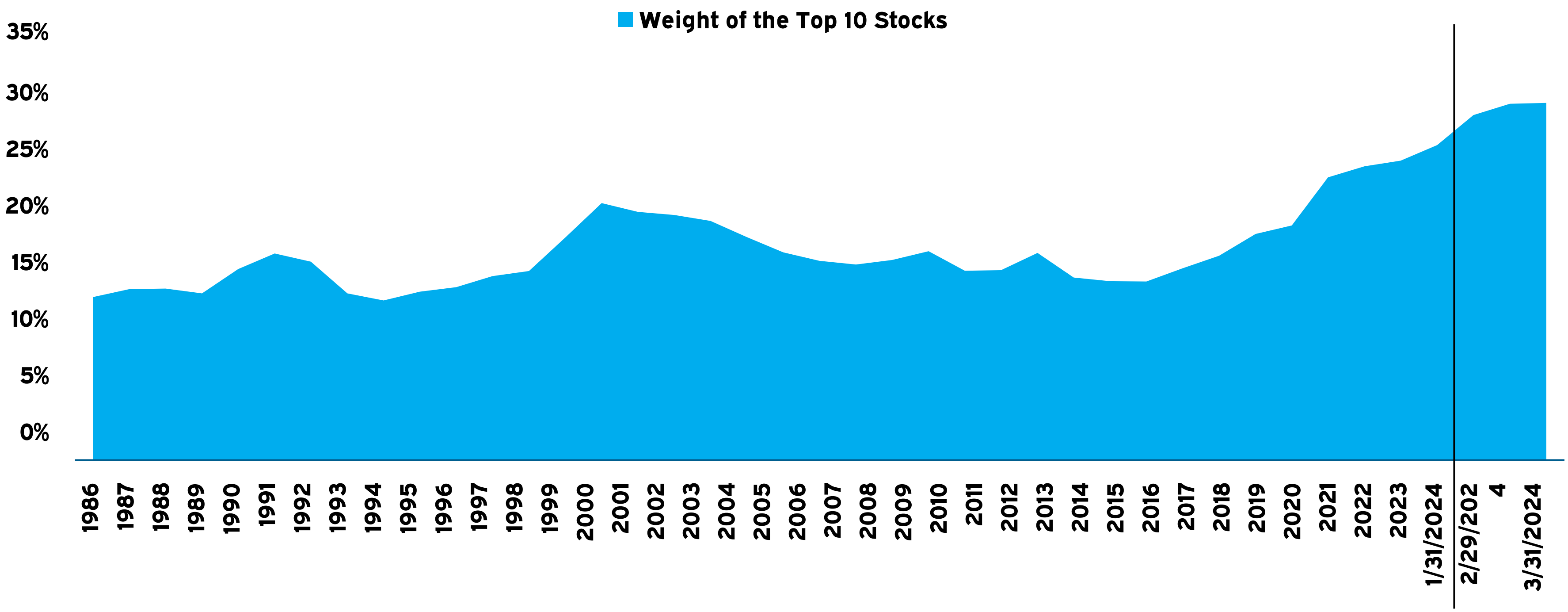
How Concentrated is the Market in Historical Context?

→ The index weight of the ten largest constituents has been cyclical, with periods of both peaks and troughs.

→ Since 1986, the average combined weight of the ten largest constituents in the Russell 3000 is ~17%.

→ There have only been two periods above this average: 1999 to 2004 and 2018 to 1Q 2024.

Historical Total Weight of the Russell 3000's Top 10 Constituents[1]



[1] Source: FactSet, as of March 31, 2024. Based on market capitalization. Average is based on weight at end of each calendar year. Note that Alphabet Class A and C were combined into one category for this analysis.

Might History be Repeating Itself?

→ Might this period resemble the dot-com period, where many of the most-hyped stocks were ultimately not those who benefitted the most from emergent technology?

→ Or might the current market leaders maintain their growth trajectory by continuing to evolve and adapt to use new technologies?

Dot-Com Bubble	Today
→ The unprecedented growth in widespread internet adoption led to exponential demand for online services and products. → This benefited firms who provided these internet services. → It also benefited those companies who were building the "infrastructure" needed for the internet, such as Cisco, Intel, IBM, and Microsoft. → The bubble burst when many smaller internet-based companies failed to generate profits or revenues, and investors lost confidence in their future.	→ Generative AI is a potentially transformative technology, like the internet. → This benefits firms who make generative AI tools, such as Microsoft, Meta, and Alphabet. → It also benefits companies who make the components necessary for AI, like Nvidia, the largest US designer of the high-end chips needed to power AI.

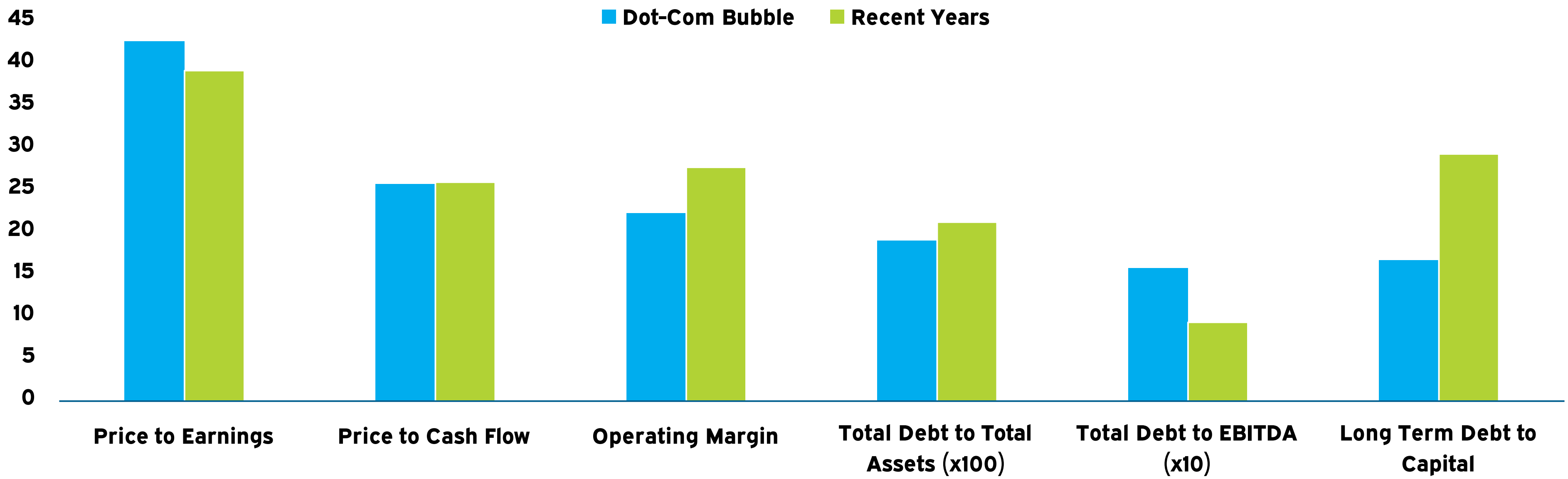
How do the Financials Match Up?

→ When comparing several key financial ratios of the ten largest stocks during the dot-com bubble to those of recent years, they are relatively in line with each other.

→ One key takeaway is both periods have a similar debt to assets, but recent years have a lower debt to income.

- This may signify that the top ten companies are more financially stable now than during the dot-com bubble.

Average Financial Metrics of the Top 10 Stocks in the Russell 3000[1]



[1] Source: FactSet. Period for the Dot-Com Bubble is 1998 to 2002. Period for Recent Years is 2018 to 2023. Total Debt to Total Assets and Total Debt to EBITDA are multiplied by 100 and 10, respectively, for the purposes of viewing this chart. Price to Earnings, Price to Cash Flow, and Operating Margin are as of September 30, 2023. All other ratios are as of December 31, 2023.

What is the Risk?

→ If history is any guide, only a few of the largest stocks will continue to outperform.

- The inherent "creative destruction" of capitalism has a history of dethroning the largest companies.[1]

→ Some will be among the "winners" who learn how to adapt to and benefit from emerging technological trends.

- Microsoft is worth more than 6x its peak value from the dot-com era.

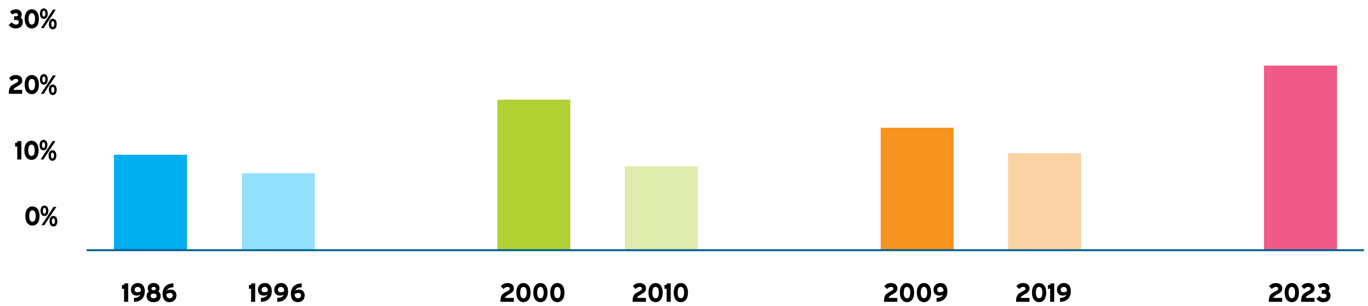
→ Others will fail to evolve or execute, and they will likely fall behind.

- Cisco Systems has never regained its peak value from 2000.

→ With so much of the market concentrated in such a small number of stocks, the decline of even a few would be painful for all investors in the stock market.

→ Yet investors have survived many past cycles of concentration and changes in market leadership.

Weight of the Top 10 Largest Stocks in the Russell 3000 and Weight of Same 10 Stocks a Decade Later[2]



[1] According to MSCI, only one-quarter of stocks have historically kept pace with the market after reaching the top ten.
[2] Source: FactSet, as of December 31, 2023. Note that Alphabet Class A and C were combined into one category for this analysis.

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