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# Mid-Year Outlook

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As we entered 2024, three themes encapsulated our updates for the year: [The Messy Middle](#) (of inflation), [Prepare Not Predict](#) and [Concentrated Consequences](#). Each theme compelled updates aimed at enhancing resiliency and seeking the safety of higher-yielding, quality fixed income.

In short, our views remain unchanged from the start of the year. We believe the current economic and market backdrop allows investors to pursue compelling rates of return without unduly increasing portfolio risk. Moreover, in some instances, we believe investors are not being adequately compensated for those risks.

In the following pages, we delve into our updated views influencing asset classes today and address the looming election as we near November.

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# 2024 Themes

A hand is shown moving a black chess piece on a board. The background is a dark, blurred image of a chessboard with several pieces. The text is overlaid on the left side of the image.

# 01

## Messy Middle

*Inflation range bound between  
2% - 5%*

At the beginning of the year, we believed that inflation was on a downward trend, though the journey to the Fed's 2% target would be bumpy. This has proven true throughout 2024. Despite alternating months of optimism and pessimism dominating the headlines, overall inflation appears less likely to accelerate significantly. Moreover, it is becoming apparent that a 2% inflation target may be overly ambitious. A structurally higher inflation rate, closer to 3%, isn't necessarily detrimental, but the markets will need time to adjust. Importantly, modest inflation still aligns with our thesis of multiple pathways to lower rates, which remains constructive for fixed income going forward.

# 02

## Prepare Not Predict

*Risks remain acute and market  
timing futile*

We noticed the no-show recession of 2023 has shifted many investors' mentality towards risk. The thinking goes: since a recession did not occur in 2023 the risk is off the table. While neither we nor anyone else can predict when a recession will occur, one thing is certain: a recession will eventually happen. Accepting this inevitability allows us to think practically about risk and how to manage it. Today, we believe one of the most compelling ways to manage risk is through high-quality, intermediate fixed income.

# 03

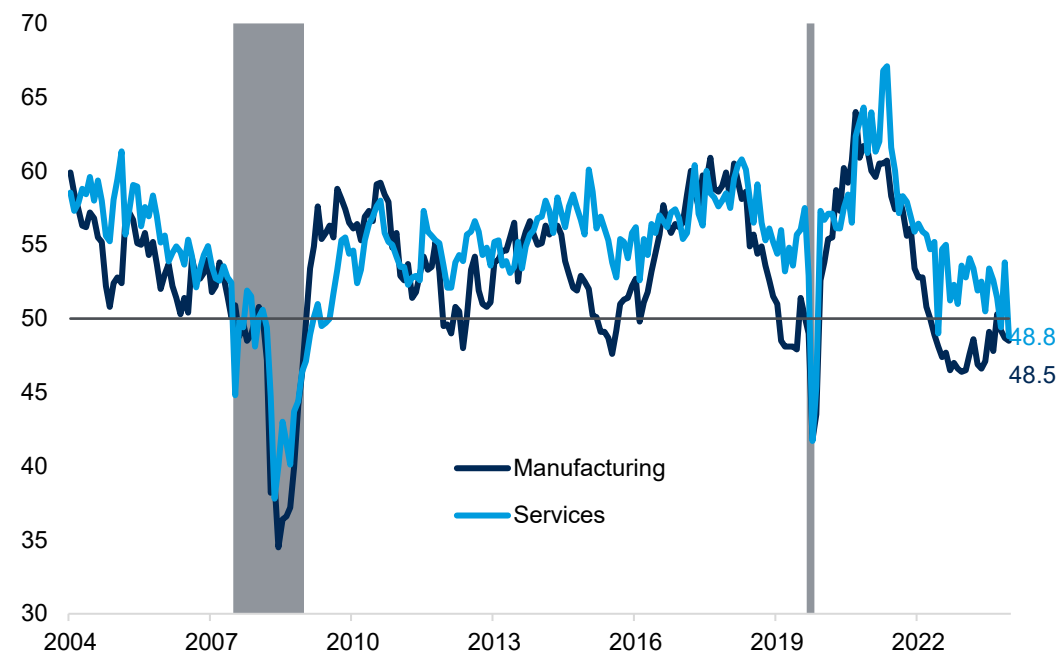
## Concentrated Consequences

*Narrow leadership creates both fragility and  
opportunity*

2024 thus far has been more of the same with a handful of stocks driving a large percentage of the return. While markets are not governed by immutable natural laws like physics, they provide a reasonable allegory for discussing potential outcomes. No stock, sector or country is immune to economic gravity. Success may be significant and long-lasting, but it is not infinite. This year, the top 10 constituents have contributed 72% of the return and account for 33% of the S&P 500 Index.<sup>1</sup> Although we avoid trying to time this shift, we recognize that its eventual change offers opportunities beyond a handful of securities. International equity and small-cap allocations could benefit as this tide turns.

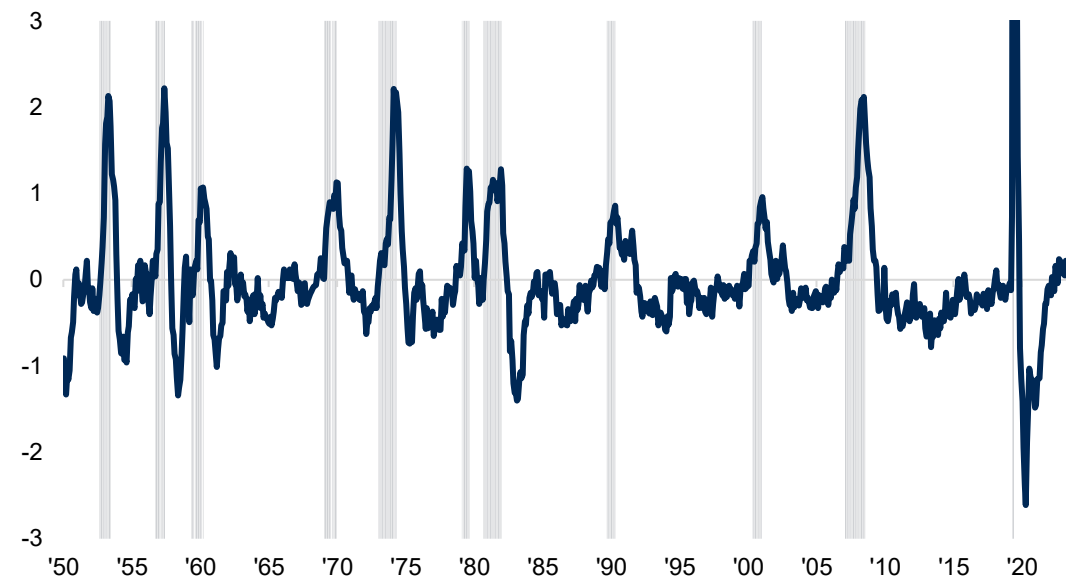
# Economic Backdrop: Cracks, Not Breaks

## U.S. ISM PMI Levels



Sources: FactSet, ISM, ECRI. As of June 28, 2024. Grey bars indicate recession period. A level over 50 indicates expansion.

## U.S. Unemployment vs. 12-Month Moving Average



Sources: FactSet, BLS. As of June 30, 2024. Data is the monthly U.S. unemployment rate less the 12 month moving average of the U.S. unemployment rate. Note, axis scale cuts off the extreme values in April, May, June, and July of 2020: 10.3, 7.9, 5.0, and 3.6, respectively. Grey bars indicate U.S. recession.

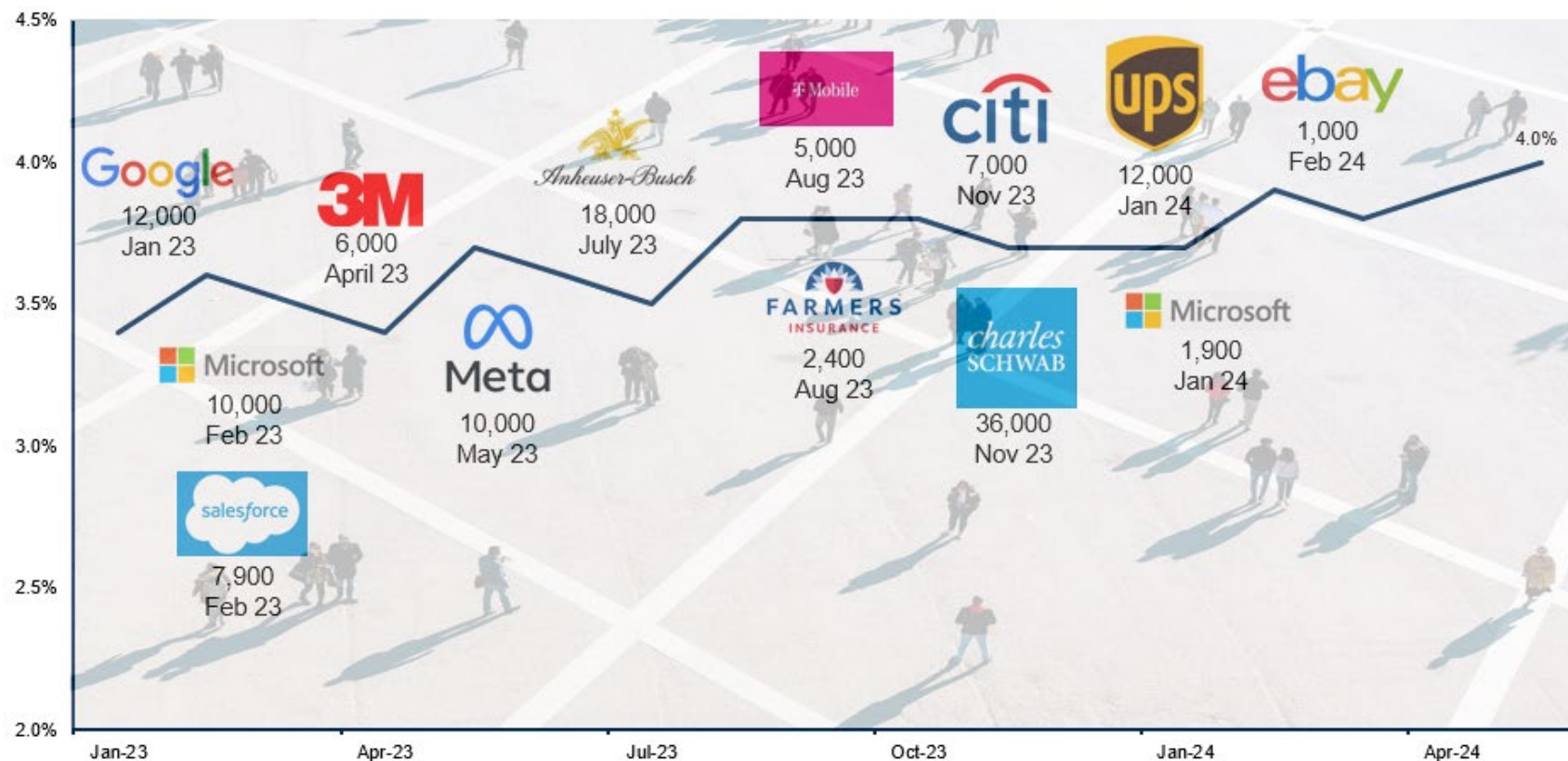
To the dismay of those that bet on a 2023 recession, the U.S. economy has remained robust in 2024. U.S. GDP, through the first quarter, grew 1.4%<sup>1</sup> and the labor market has been resilient. This has given the Federal Reserve cover to focus on one half of their dual mandate (price stability) rather than both (full employment). However, warning signs are appearing. ISM data shows both manufacturing and services in contraction territory for the first time in over a year and the unemployment rate has moved above its 12-month moving average. As we monitor the economic backdrop our attention continues to be drawn to the consumer (reduced spending and increasing delinquencies) and leading economic indicators, both of which show modest cracks. With economic expansion remaining as it always has, uncertain, we reiterate our stance on seeking greater resilience that can withstand the inevitable recession, whenever it may occur.

1. BEA as of June 30, 2024.

## Economic Backdrop: Rolling “Recession”

If you were to ask a technology executive in 2022 or early 2023 if the tech sector was in a recession, the answer would likely be yes. Tens of thousands of jobs were shed by some of the largest tech employers in the country. A bank executive might echo this sentiment, as banks faced pressure from higher rates, leading to some bank failures. Similar stories have unfolded at different times across various sectors. Yet, the unemployment rate remains remarkably flat and low. What gives? Well mathematically, payrolls in the U.S. are measured in millions, so while thousands of job losses are significant, they are small compared to the larger workforce.

U.S. Non-Farm Payrolls Seasonally Adjusted & Select Large Scale Layoffs

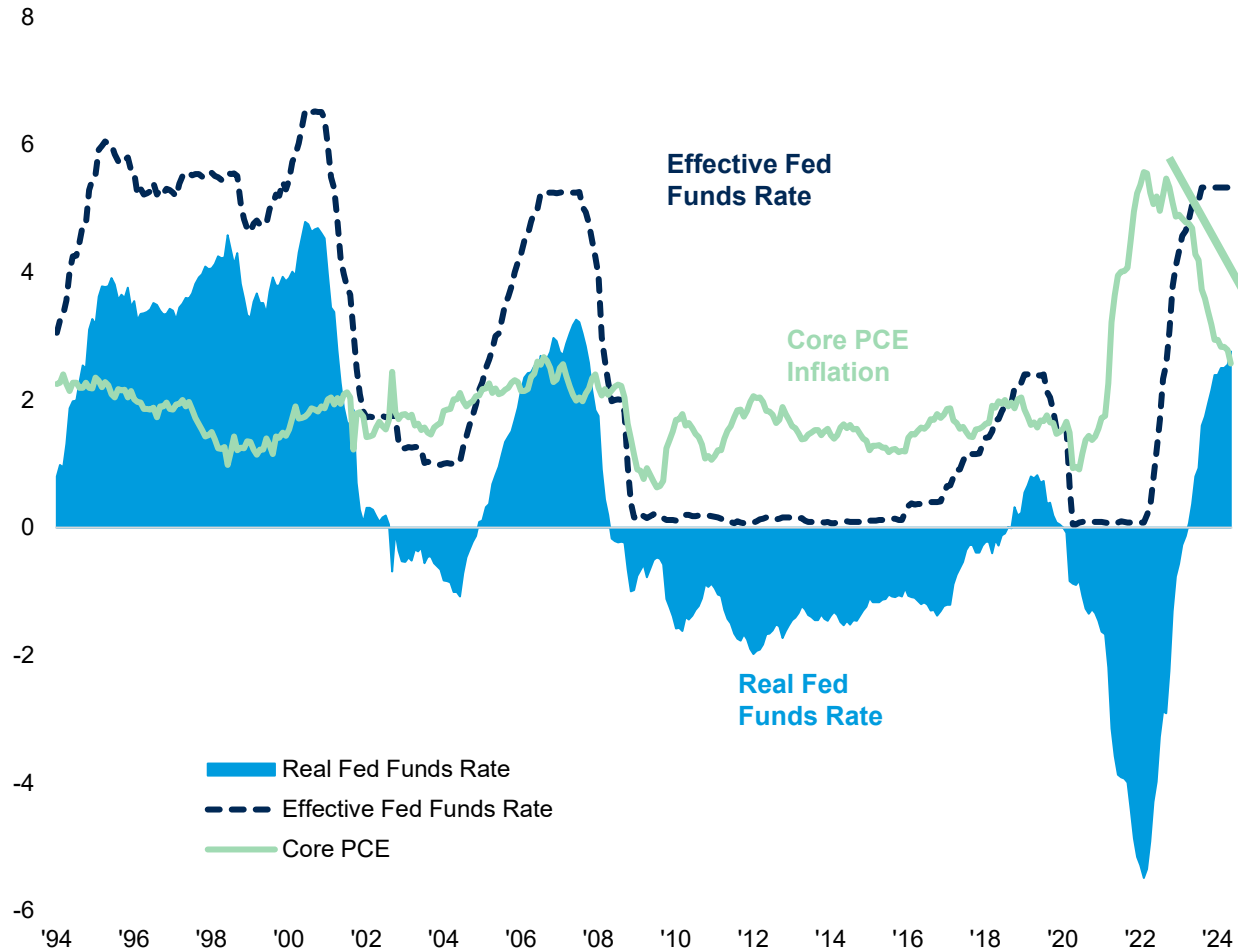


Sources: FactSet, DOL, As of May 31, 2024. Layoff data and date from Forbes Layoff Tracker

However, there's another equally plausible explanation. The long and lagged effects of higher interest rates have worked their way through the economy at different rates and with varying potency. At a micro-level, a given industry may feel like it is in a recession, and it practically may be, but that recession is not seen at a macro level because these micro recessions occur at different times. This idea of an asynchronous economy might explain the resilience seen at the top level. While a rolling recession might not prevent a large-scale recession ultimately driven by demand and supply, it could help limit the downside, as some of the 'medicine' at the sector level has already been taken.

# Economic Backdrop: Inflation and the Fed

## Fed Funds Rate Less Inflation



Sources: FactSet, Federal Reserve, BEA. As of May 31, 2024. Real federal funds rate is the effective rate minus the 12-month core PCE y/y inflation rate.

1. BEA as of June 30, 2024.
2. CME FedWatch as of July 11, 2024

The U.S. economy has remained resilient in the face of restrictive monetary policy with the Fed's commitment to combat inflation over the last two years. While inflation is still above the Fed's 2% target, it has moved decidedly lower from peaks in 2022. Core PCE inflation, the Fed's preferred inflation gauge, landed at 2.6% year-over-year in May 2024, the lowest since March 2021.<sup>1</sup>

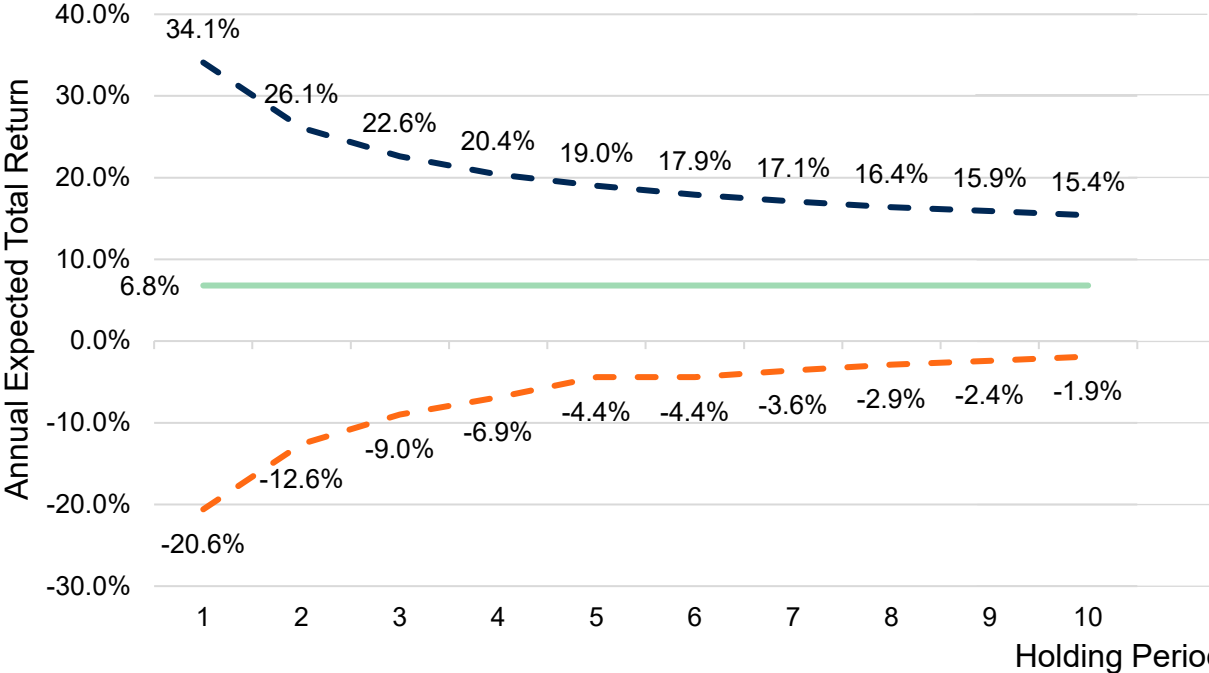
The current environment provides multiple paths for lower interest rates. The reduction in inflation is likely enough to justify cuts and should we experience economic weakness and rising unemployment we could expect the Fed to be supportive with cuts as well.

Market expectations of when the Federal Reserve will make its first rate cut have been widely volatile in recent quarters, but the consensus is starting to land on the Fed's September meeting for the first cut.<sup>2</sup>

Regardless of soft or hard landing, we believe the Fed has the ability to begin reducing the Fed Funds rate and the path for interest rates is ultimately lower.

# Relative Return is Relevant

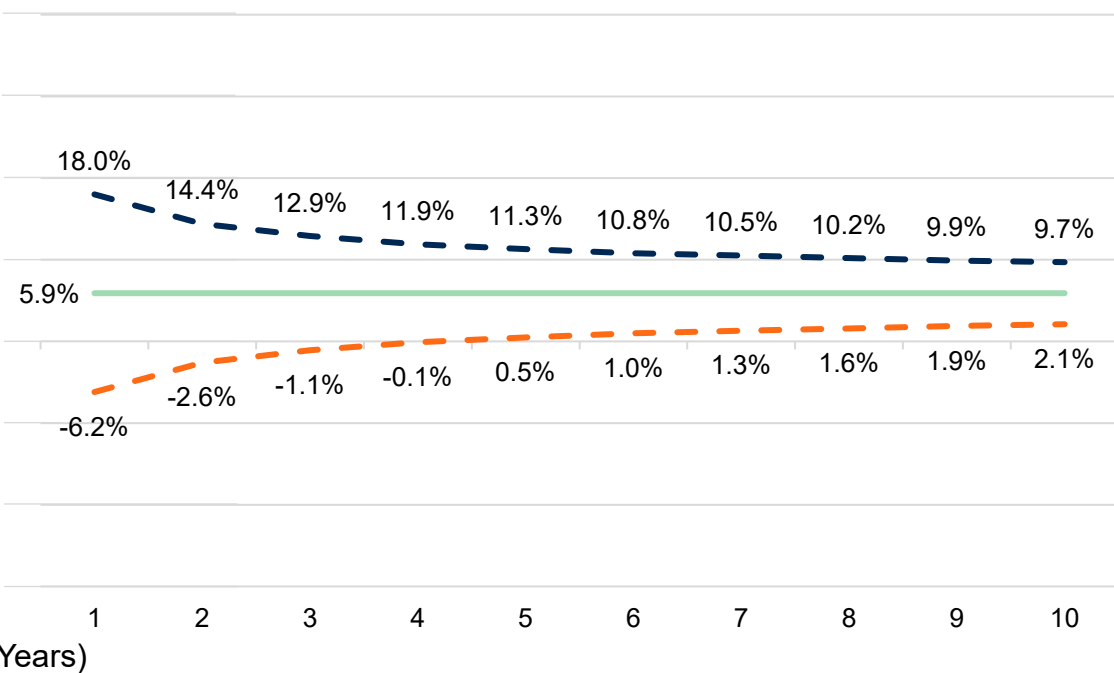
## Distribution of Outcomes U.S. Equity



Sources: Fiducient Advisors Capital Market Assumptions based as of October 31, 2023

As investors, we inherently deal with uncertainty. The greater the uncertainty, the higher the return potential we should demand. Our median 10-year return expectation for U.S. equities stands at 6.8%, slightly ahead of U.S. bonds at 5.9%. The slim margin means we need to evaluate whether the 0.9% expected premium is worth the additional risk. Our expected standard deviation (risk) for U.S. equities is 16.6% compared to 7.3% for U.S. bonds. The graphics above help illustrate how this risk translates into return potential and time horizon. As shown, higher risk and shorter time horizons lead to wider expectations.

## Distribution of Outcomes U.S. Bonds



By these calculations, U.S. equities have nearly a 126% wider range of return expectations over a one-year period, with a potential drawdown that is 14% higher. In our view, fixed income is quite compelling on a risk-adjusted basis today compared to equities, and our 2024 allocations reflect that. However, it is important to note that this data does not suggest abandoning equities altogether in favor of bonds. Rather, a thoughtful review of portfolio risk relative to long-term objectives is needed.



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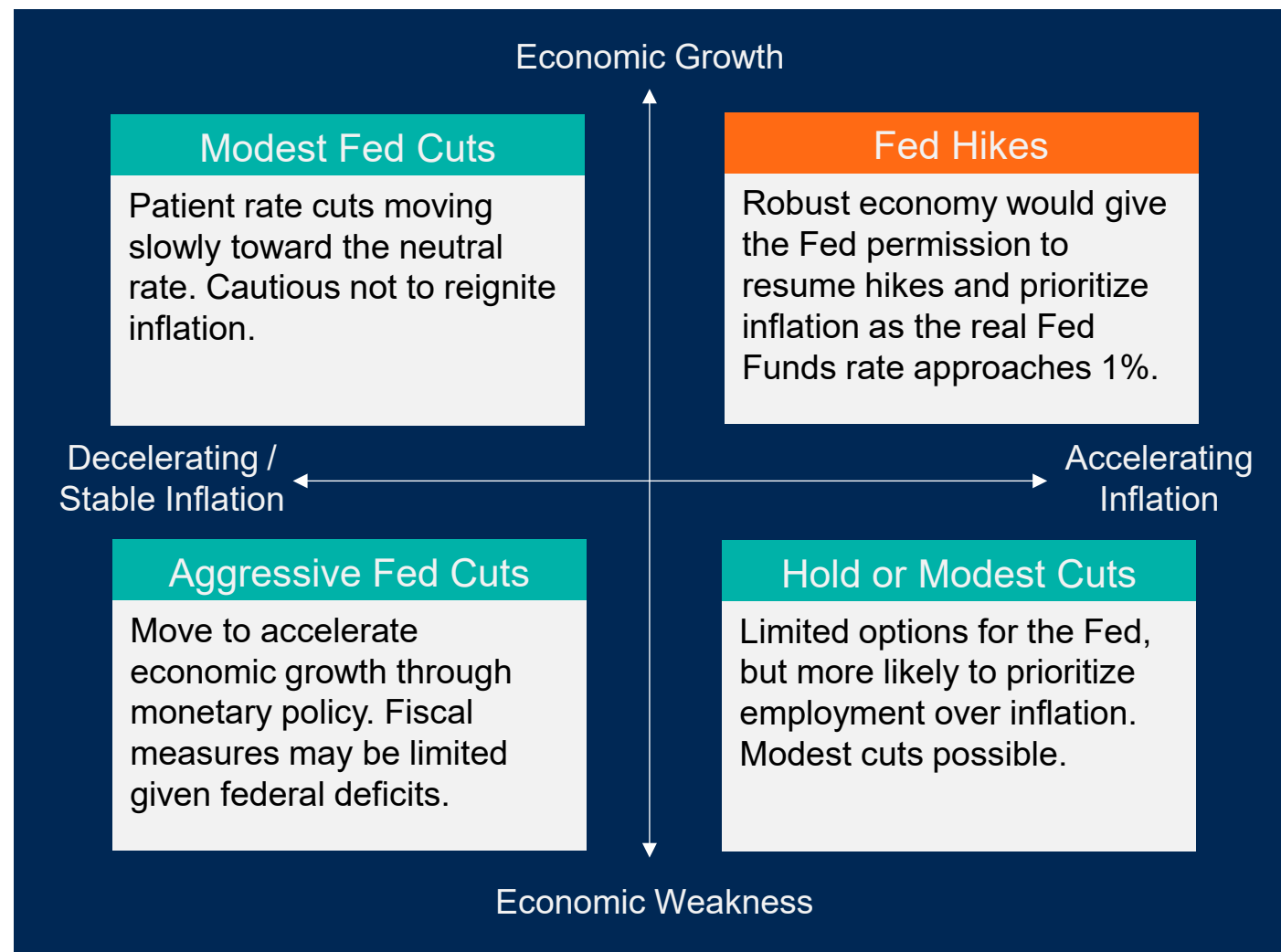
# Global Asset Classes

## Fixed Income: Multiple Paths For Lower Rates

There is a significant difference between timing interest rates and having a view on their long-term direction. The former is difficult, if not impossible, to do consistently and precisely. The latter helps long-term allocators build expectations around the attractiveness of asset classes.

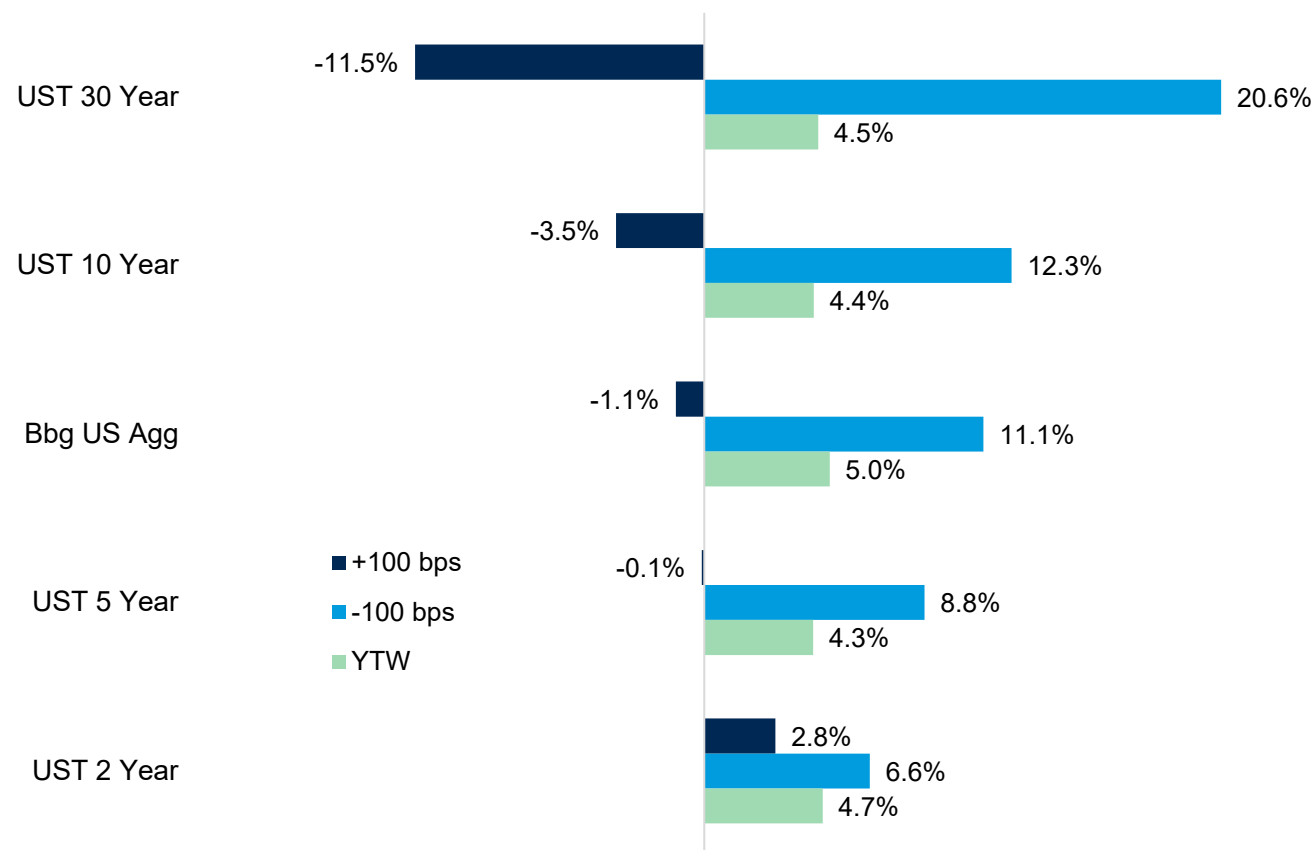
Today, we believe there are multiple paths for the Fed to lower rates, but only one path higher. While we acknowledge any path is possible, we believe the most probable scenario lies on the left side of this graphic. Modest cuts based on moderate inflation and economic resiliency moving back toward the neutral rate, or more aggressive cuts due to economic weakness, are both reasonably likely.

Lower rates, all else being equal, create a tailwind for fixed income returns. Additionally, we believe intermediate-duration fixed income may benefit the most. Cash and floating rate debt, like loans or private debt, will see yields adjust down immediately with falling rates, reducing their return potential. Meanwhile, long bonds may face technical funding issues due to current U.S. debt levels.



# Fixed Income: Asymmetry Offers Compelling Risk/Reward

## Potential Return of Fixed Income as Rates Move (+/- 100 Basis Points)



Source: FactSet as of June 28, 2024. Total potential return based on a parallel move in interest rates up or down by 100 basis points. Data based on respective Bloomberg Bellwether Treasury Indices and Bloomberg US Agg Bond Index. YTW = yield to worst.

As investors and capital allocators, we are looking for positive asymmetry in markets – with rewards outweighing risks – to increase the odds in our favor for achieving portfolio return objectives over the long-run.

Interest rates have increased dramatically over recent years and the risk/reward trade off within fixed income has shifted. The downside risk and impact from higher interest rates has been reduced compared to two years ago as there is now yield in the market to provide a cushion. Additionally, we continue to believe the probability is greater for lower interest rates in today's environment than higher; moderating inflation and slowing of the economy, among others, provides multiple pathways for lower rates.

Despite the inverted yield curve, the opportunity cost for taking on incremental duration is modest, but the benefit of having duration in the portfolio should yields move lower may produce attractive returns and having an allocation to U.S. core bonds in portfolios allows us to not only take advantage of this asymmetric opportunity in the market, but to also fortify portfolios from a risk perspective.

# Fixed Income: Be Paid for the Risks You Take

## High Yield Fixed Income Spreads Above Treasuries



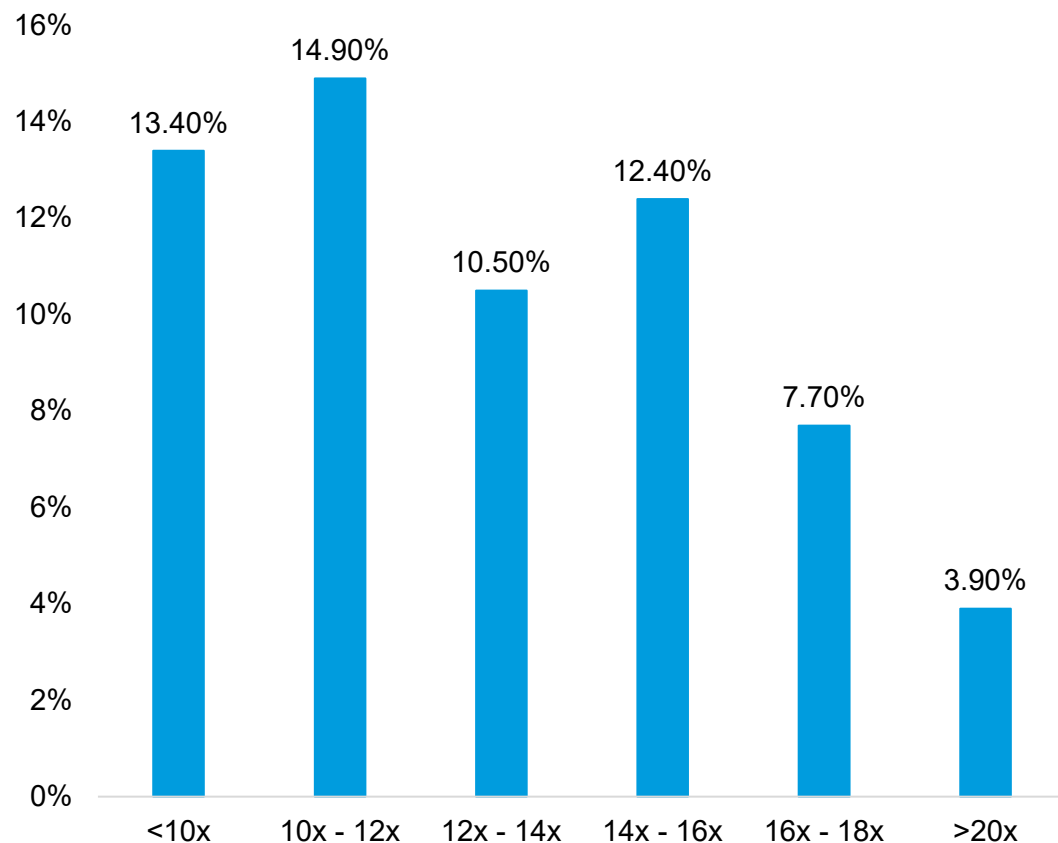
Sources: FactSet as of June 30, 2024. Forward Returns Morningstar as of June 30, 2024

When considering risk assets, it is always done in the context of potential rewards. One of the more observable risk/reward trade-offs in markets is found in high-yield debt. When spreads (the additional yield and return potential offered by a bond above U.S. government debt) are high, the potential reward is high, and vice versa with low yields. As we can see above, a higher current spread often corresponds to a higher forward return.

Over the last 20 years, average high yield spreads were around 470 basis points (bps), and as of June 30, they were near 300 bps. Historically, these levels have produced lower absolute returns and less attractive premiums relative to higher-quality fixed income. We believe high yield is often most attractive when it nears 600 bps or at least one standard deviation above the historical average. Given our portfolio positioning for 2024, we continue to find high yield less attractive today.

# U.S. Equity: Full Valuations

## Average Forward 12 Month Return by P/E Tranche



Sources: FactSet. As of March 31, 2024 beginning 1950.

Full valuations in the U.S. can significantly impact long-term return expectations. All else being equal, higher valuations should set lower expectations for long-term returns, which is reflected in our 10-year forward-looking Capital Market Assumptions (CMAs).

As of June 30, 2024, the S&P 500 trades at 21x forward price-to-earnings (P/E), above its 10-year average of 16.6x. As shown to the left, forward returns tend to decline based on elevated valuations. However, as with anything in investing, there is no guarantee this will always be the case. 2024 is a good example of this. The year started with full valuations, yet the markets have surged ahead. However, headline valuation isn't the full story.

While the S&P 500 as a whole trades at 21x, this figure is heavily influenced by the largest stocks in the index. The top 10 stocks in the S&P 500 trade at 30.3x P/E, about a 50% premium to their historical average. The remaining stocks trade at 17.6x. This significant dichotomy within the S&P 500, and beyond, including small caps and international stocks, can create pockets of opportunity and thoughtful consideration should be given to the risks of stretched valuations.

Sources: FactSet as of June 30, 2024. Remaining stock valuations JPMorgan as of June 30, 2024

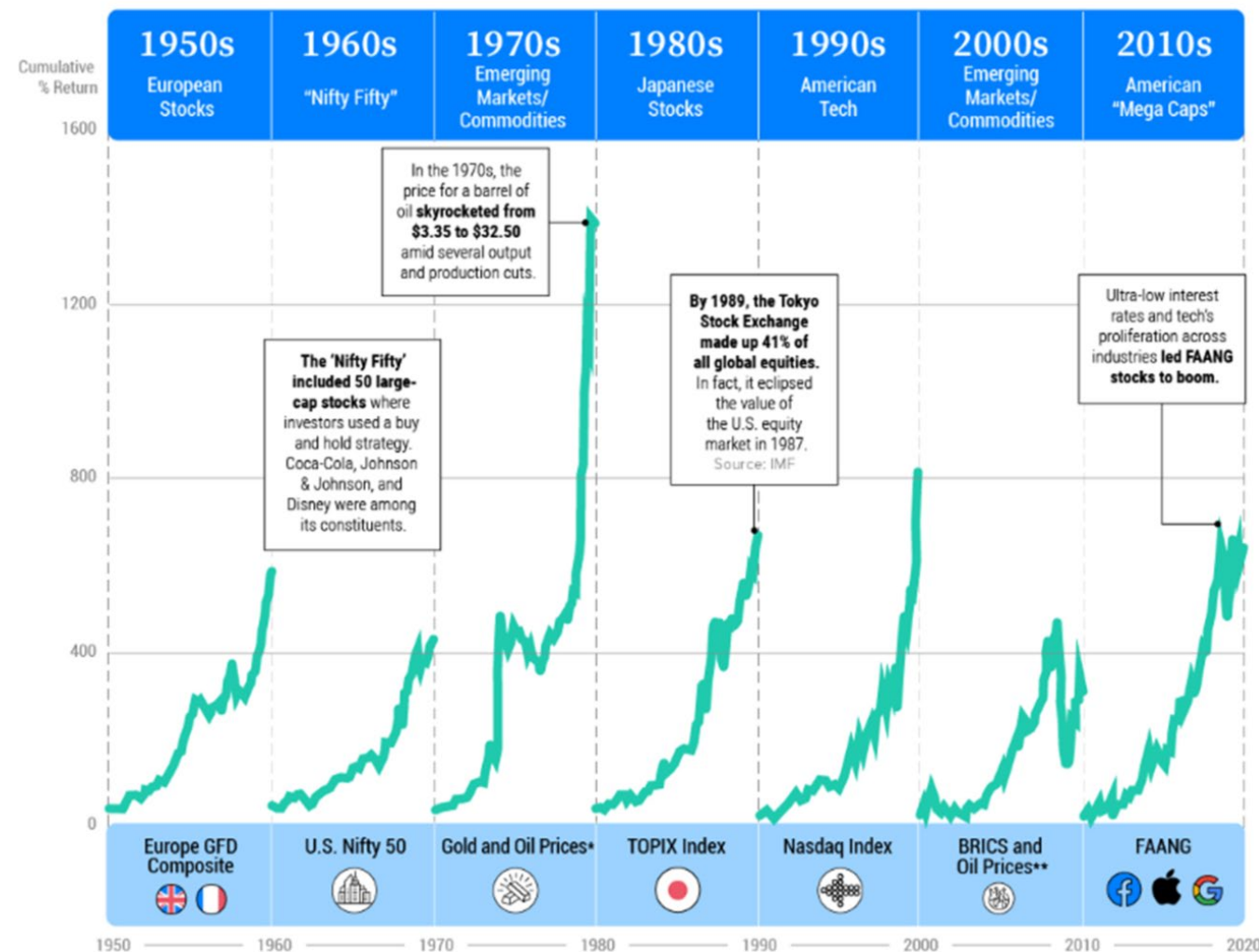
# U.S. Equity: The Cycles of Success

In our theme of *Concentrated Consequences*, we discuss the idea of economic gravity—the concept that no stock, sector or country is immune to economic gravity, and cycles of outperformance and underperformance oscillate through time. The graphic to the right illustrates this over the span of decades.

Recent examples are fresh in the minds of many investors, such as the boom of emerging markets in the 2000s or the tech bubble of the 1990s. However, this isn't a modern phenomenon and can be observed further back in market history. We offer this as context to counteract the behavioral bias we all have to extrapolate the near-term into the future. In fact, the future often diverges significantly from the past and in ways we often can't predict.

While we avoid trying to time this shift, we recognize that its eventual occurrence offers potential opportunities beyond a handful of large-cap U.S. securities. International equity and small-cap allocations could benefit as this tide turns.

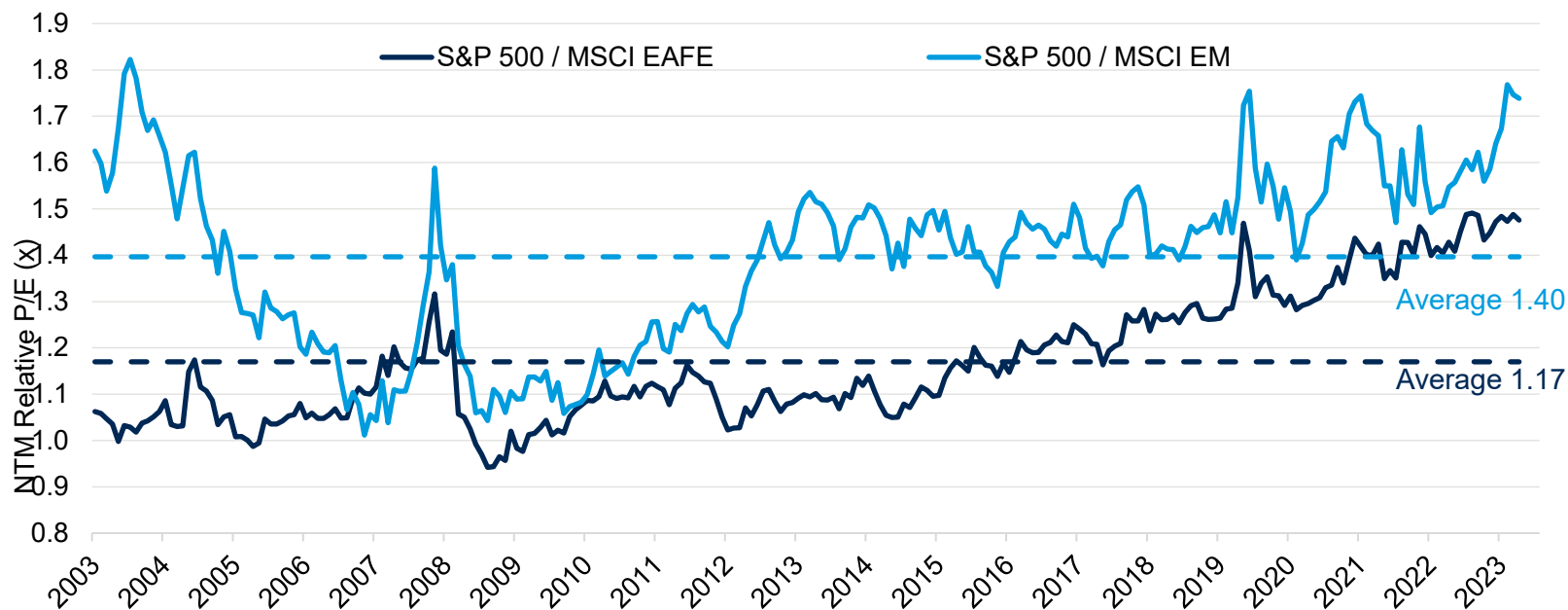
## Investment Themes By Decade



Source: Visual Capitalist as of October 25, 2023.

# Global Equity: The Case for International Exposure

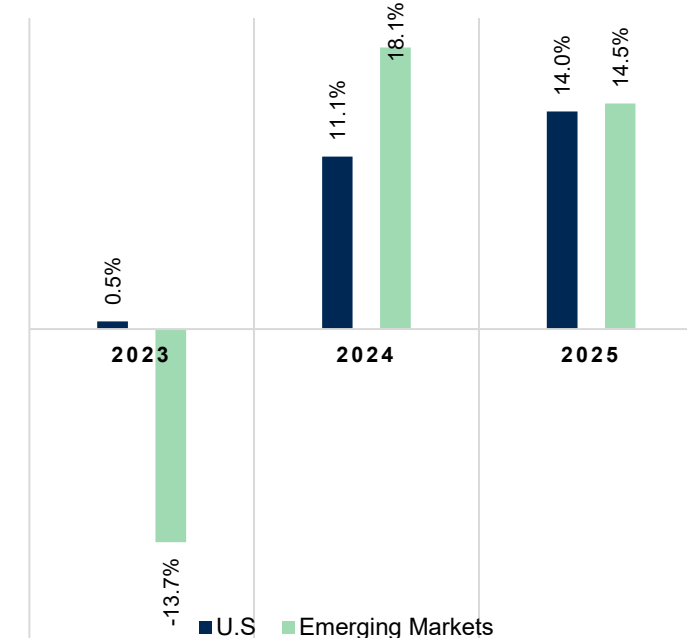
## Historical Relative Forward Price-to-Earnings (P/E) Ratios



Sources: FactSet, MSCI, & S&P. Data is from December 31, 2003 through June 30, 2024. NTM stands for Next Twelve Months.

If we could only use one data point to help make allocation decisions, it would be valuations. While not predictive over the short term, long-term outcomes are often materially influenced by the price at which an investment is purchased. Today, valuations outside of the U.S. appear compelling as the U.S. is trading near all-time relative high valuations compared to EAFE and at all-time highs compared to emerging markets. While this is not a new phenomenon, it is a strong foundation for discussing the potential benefits of owning assets outside the U.S.

## Annual Earnings Growth (24/25 expected)



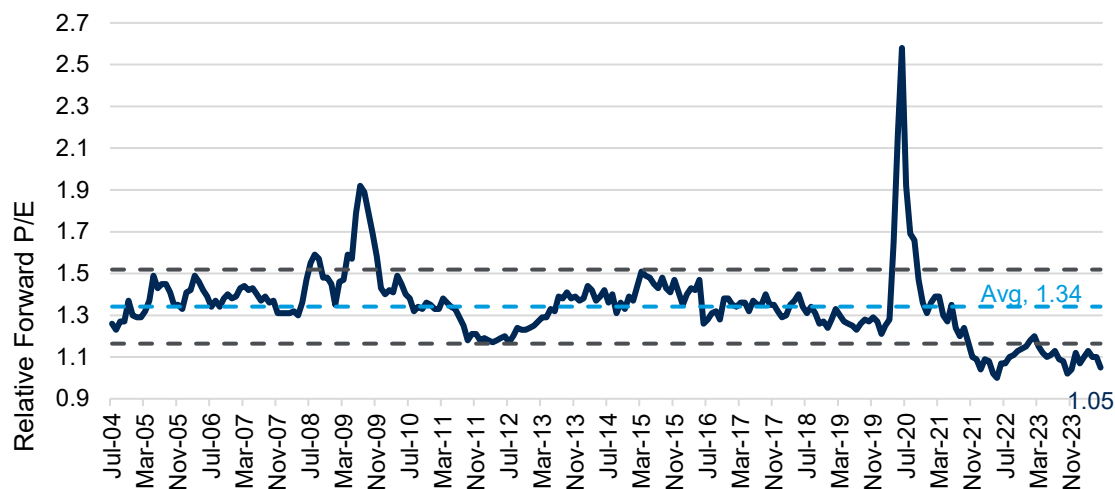
Source: Capital Group as of June 30, 2024

Fortunately, we are not limited to a single data point when allocating capital; we can use other corroborating evidence to support or contradict valuation. Earnings growth is another significant driver of long-term returns. Earnings expectations outside the U.S., especially in emerging markets, may present a compelling opportunity due not only to their discounted valuations but also to the expected premium in earnings growth compared to U.S. markets.

## Small Cap Equity: Poised for Reversion?

Concentration within U.S. large cap equity and subsequent strong performance of the asset class has created a wide dispersion compared to its small cap counterpart. Over the last 20 years small cap (Russell 2000) has averaged a 30% premium valuation over large (Russell 1000). Today the two indices sit at almost parity and the relative valuation between the two sits near 20-year lows. Market leadership between the two asset classes has historically had long cycles and with small cap trading at a large relative discount, there may be opportunity for small cap to lead the next cycle.

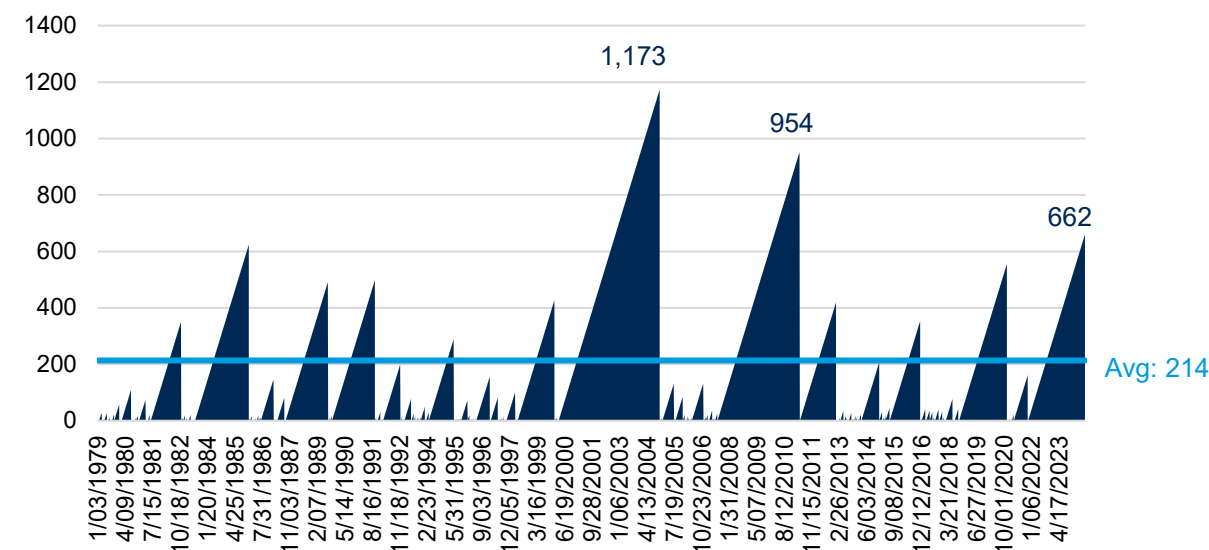
### Small Cap vs. Large Cap Relative Valuation (Forward P/E)



Source: FactSet. As of June 28, 2024. Relative P/E is the price to earnings ratio of the Russell 2000 Index divided by the price to earnings ratio of the Russell 1000 Index. Small cap represented by Russell 2000 Index, large cap represented by Russell 1000 Index.

We acknowledge that valuations may not be a strong predictor of short-term performance, but there are other factors that may further support small cap. The higher interest rate environment has been a headwind for small cap and a reprieve on the rate front may provide a boost. Additionally, after a weak 2023 on the earnings front, small cap equities are expected to see strong EPS growth above large cap for 2024. The Russell 2000 sat well below its average level 135 days following a major low (+25% vs. +41%) and on average the index has returned 60% in the 250 days following, so there is room for catch up if history holds.<sup>1</sup>

### Russell 2000 Consecutive Days No New All-Time High



Source: FactSet. As of June 28, 2024.

1. Source: Strategas. As of July 9, 2014.

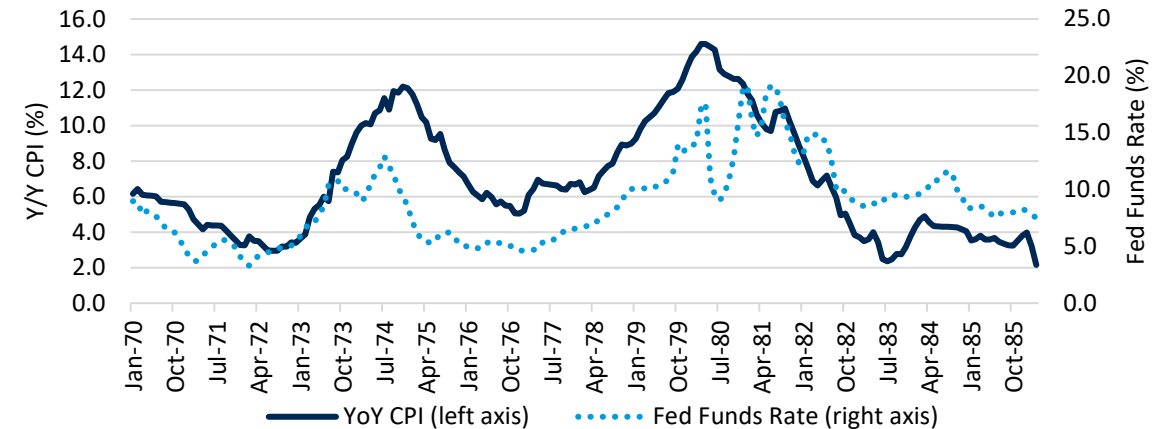


# Real Assets: Do I Still Need Inflation Protection?

In our 2024 outlook we advised against trying to predict specific investment outcomes in favor of thoughtful preparedness, with the goal of increasing the likelihood of success under a variety of (unknown) market scenarios. This concept is a cornerstone underpinning the justification behind a strategic allocation to real assets. Real assets have historically provided the greatest hedge against rising levels of inflation, meaningfully outperforming stocks and bonds, and thus providing an important diversifying asset to portfolios. While the Federal Reserve's rate hiking cycle has appeared to achieve its objective of slowing the pace of inflation, we believe a messy middle inflationary environment, with greater inflation volatility, is a reasonably likely possibility.

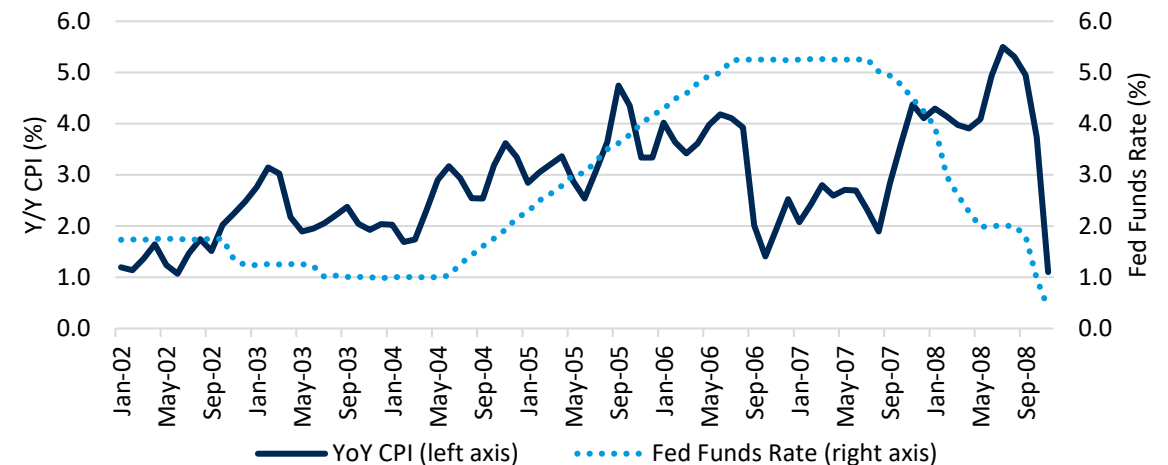
As the saying goes, "history doesn't repeat itself, but it often rhymes." As investment professionals, we know this to be the case, and thus look to prior cycles for indications into what markets may look like moving forward. In prior inflationary regimes, it often took several years to ultimately tame inflation, but with pronounced inflation volatility. This very well may be contributing to the Fed's willingness to maintain its policy rate at current levels. Is this time different? Perhaps, but we continue to believe it prudent to prepare rather than predict.

## 1970s & Early 1980s Inflation



Sources: US BLS, Board of Governors of the Federal Reserve System. As of May 31, 2024

## 2000s Inflation



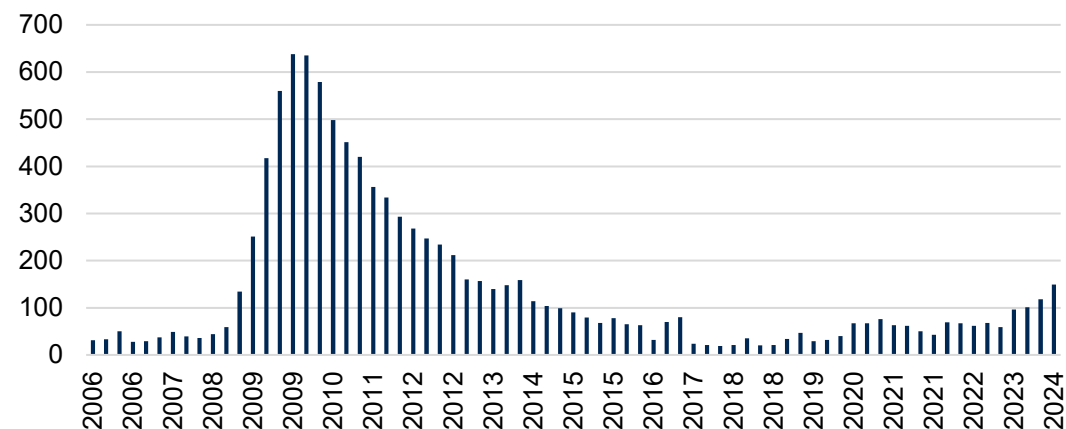
Sources: US BLS, Board of Governors of the Federal Reserve System. As of May 31, 2024

## Real Estate: More Than Just Office

It's hard to believe that (at the time of this writing) it has been over 16 months since the collapse of Silicon Valley Bank. Their fallout uncovered select elevated risks elsewhere within the banking industry and their balance sheets, with an eye quickly turning to regional banks' exposure to commercial real estate loans. Paired with escalating interest rates, pundits painted a doomsday scenario for both regional banks and commercial real estate alike. Fast forward to today and, despite continued negative publicity, the real estate market has proven to be relatively resilient. Office remains the exception as hybrid work environments have resulted in a meaningful hit to demand, reflected in record high vacancy rates. However, fundamentals are relatively healthy elsewhere. Notably, real estate loans with negative equity – defined as a loan value that exceeds the property value, remains nowhere near levels of the GFC.

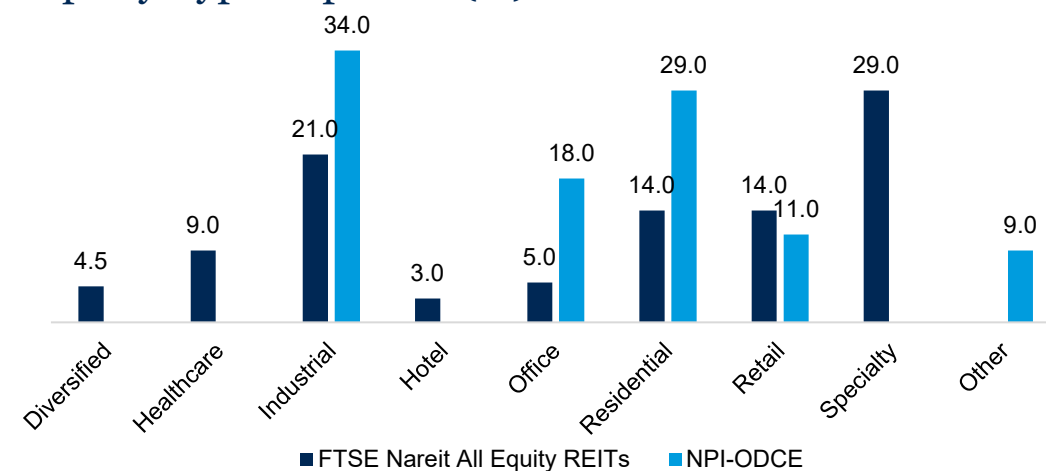
Contrasting public and private real estate, property exposure is more diversified in public markets relative to their private core counterpart. The public market is exposed to properties with varying levels of economic sensitivity and lease duration, while the private market typically has higher allocations to the four core property types of industrial, residential, retail and office. Public markets have therefore been relatively more insulated from office stress, which represents just a sliver of the overall market.

### Loans with LTV >= 1



Sources: NCREIF. As of March 31, 2024

### Property Type Exposure (%)



Sources: Morningstar Direct, TA Realty. As of March 31, 2024

# Private Markets: Interest Rates & Impact

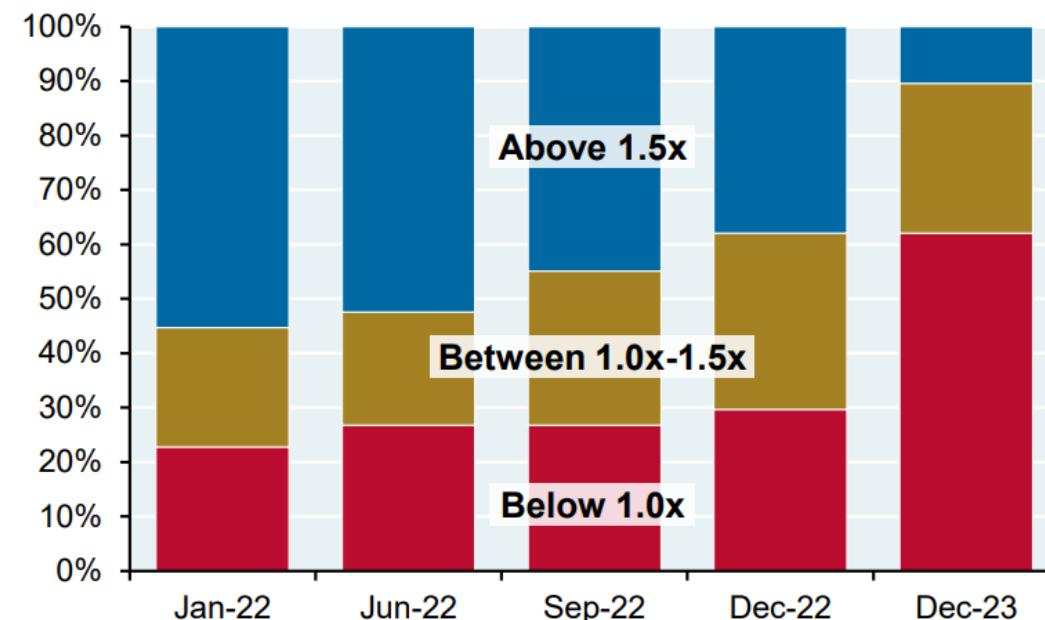
## Illustrative Impact of Higher Rates

	Jun-22	Jun-24	% Change
Revenues	100.0	100.0	
Gross Margin	50%	50%	
SG&A	20.0	20.0	
EBITDA	30.0	30.0	
Interest Expense	10.3	18.0	76%
SOFR (1% Floor)	1.00%	5.39%	
Spread	4.80%	4.80%	
All-in Rate	5.80%	10.19%	
Cash Flow	19.7	12.0	-39%
Interest Coverage Ratio	2.9x	1.7x	-43%

Data is hypothetical and for illustrative purposes only; it does not represent any specific investment

Private assets may create the illusion of being insulated from macroeconomic events because they are not priced as frequently as public markets. However, upon closer inspection, no asset is immune to economic forces. By using average purchase and debt multiples for North American buyouts in 2022, we can estimate the impact of higher interest rates. In this illustrative example debt service costs have increased by 76%, resulting in a 39% decrease in cash flow.

## Interest Coverage for B- Issuers in U.S. Loan Market

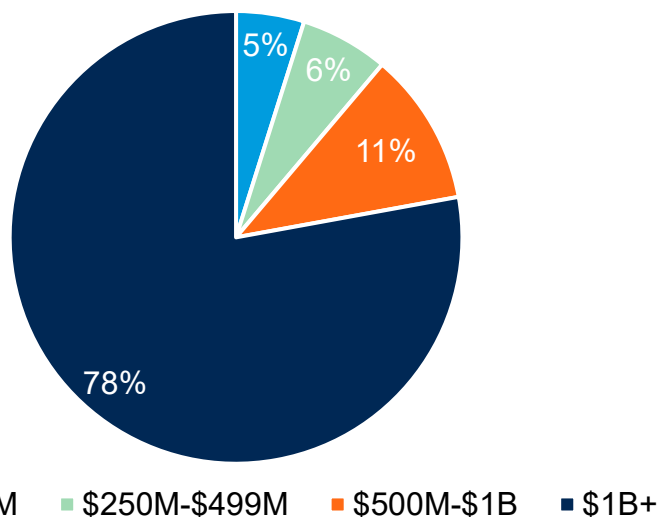


Sources: Moody's Investor Service, December 31, 2023

We see a parallel trend in the public loan market corroborating this estimate. This can influence the value of a business through lower cash flows and less ability to reinvest to growth the business. Moreover, private debt, the primary financier for private equity, faces rising risk of default. A hallmark of our process in private equity involves partnering with funds that seek to minimize reliance on debt to achieve return targets. Instead, they prioritize organic value creation within businesses.

# Private Markets: Concentrated Dry Powder Tips the Scales

## Dry Powder of Active Vintages, By Size



■ Under \$250M ■ \$250M-\$499M ■ \$500M-\$1B ■ \$1B+

Sources: Pitchbook. As of September 30, 2023

The capital overhang, or dry powder, in private equity continues to swell as more funds are committed, coupled with a slowdown in deal activity following the rise in interest rates in 2022. However, dry powder is not evenly distributed among fund sizes. Currently, 78% of the sidelined capital belongs to funds sized \$1 billion or larger.

## Private Equity Dry Powder by Vintage & Size (\$B)

	2020	2021	2022	2023*
Under \$250M	\$11.7	\$23.1	\$19.7	\$13.1
\$250M-\$499M	\$13.1	\$26.0	\$27.1	\$21.3
\$500M-\$1B	\$19.1	\$41.2	\$43.5	\$48.2
\$1B+	\$137.9	\$240.3	\$374.6	\$327.3
Overhang by Vintage	\$181.7	\$330.6	\$465.0	\$409.9

Sources: Pitchbook. 2023 vintage as of September 30, 2023

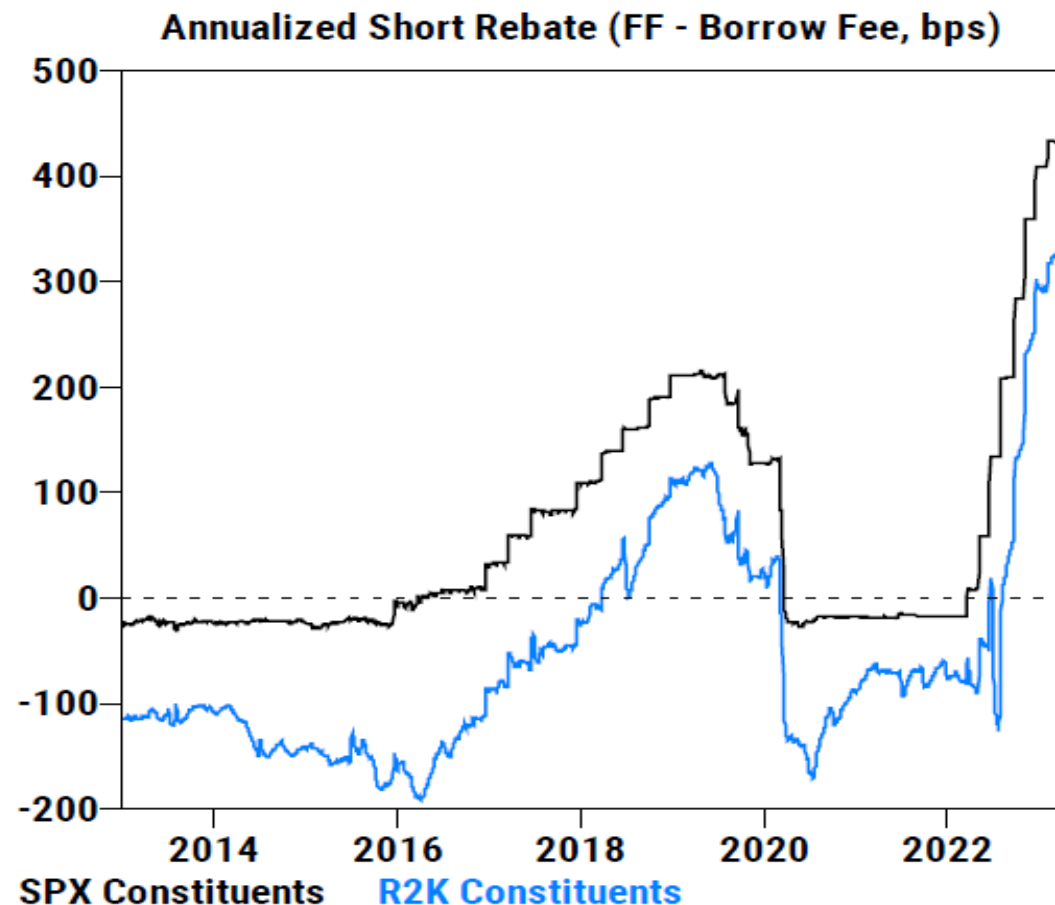
Moreover, as larger funds approach the end of their investment periods and face mounting pressure to deploy capital, a pronounced market dichotomy emerges. This scenario presents smaller funds with a robust exit opportunity by selling to their larger counterparts as motivated buyers. While this exit avenue has always existed for smaller funds, the current disparity is particularly acute, and we anticipate this trend to persist.

## Marketable Alternatives: A Welcome Tailwind

Higher interest rates have created varying outcomes depending on the asset class. In private debt and equity as we have noted, rising rates have added pressure due to increased business funding costs. In other areas like fixed income higher rates are increased expected return. One of the additional positive outcomes has come in hedge funds.

Recently, short rebate—the net return on capital posted as collateral to short stocks—has turned positive. This means that strategies utilizing shorting as part of their investment process are now being paid to short stocks. For example, the S&P 500 and Russell 2000 indexes have reached their highest short rebate levels in over a decade as shown to the right.

This tailwind is particularly beneficial for strategies with a significant portion of their portfolio in short positions, such as equity market neutral and fixed income relative value strategies. Moreover, this advantage comes with no additional risk relative to what the portfolio would otherwise exhibit. It simply takes advantage of higher interest rates paid on collateral relative to the dividends paid for those short positions.



Source: Goldman Sachs FICC and Equities and Prime Services data as of May 23, 2023.

### What is Short Rebate?

To initiate a short position, hedge funds borrow securities, pay a fee, and post cash as collateral. While the posted cash collateral earns interest, the security borrower must compensate the original owner for dividends or interest. The earned interest on the cash collateral minus the total cost of borrowing the security is known as the short rebate.

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# Election Lore

## General Election: Election Impact on Markets

# 11.5%

The average S&P 500 return in general election years since 1926. That compares to 12.4% in non-election years.

# 84%

Positive annual returns in general election years since 1926. That compares to 70% in non-election years and 74% in all calendar years.

# 60%

Of election years the S&P returned 10% or more. 16% of years (4 of 25) it posted a negative return.

*Source: S&P 500 returns since 1926. Wikipedia Party Divisions since 1789*

Investors harbor the fear the general elections are bad for markets, so let us dive into the details. Since 1926, the average annual return during an election year is about 11.5%. Interestingly, 84% of the time the S&P has posted a positive return in general election years. If we stopped here, we would call that a pretty good year. However, when compared to non-election years, the S&P returned 12.4% on average, but only 70% of those years were positive. A modest argument could be made in both the “good” or “bad” camp. Statistically speaking, they are very similar. Importantly, making a market prediction based on the four-year election cycle alone is akin to Punxsutawney Phil's shadow-based weather forecast. It is not particularly robust.

What is perhaps more telling is what markets tells us about elections. Since 1932, nine of ten incumbent presidents seeking reelection were successful if the economy was not in recession in the prior two years. Of the six that sought reelection and a recession did occur, only one was successful. For better or worse, the sitting president gets credit or blame for the current state of markets and the economy influencing their chance of reelection.

# Disclosures

This report is intended for the exclusive use of clients or prospective clients (the “recipient”) of Fiducient Advisors and the information contained herein is confidential and the dissemination or distribution to any other person without the prior approval of Fiducient Advisors is strictly prohibited. Information has been obtained from sources believed to be reliable, though not independently verified. Any forecasts are hypothetical and represent future expectations and not actual return volatilities and correlations will differ from forecasts. This report does not represent a specific investment recommendation. The opinions and analysis expressed herein are based on Fiducient Advisor research and professional experience and are expressed as of the date of this report. Please consult with your advisor, attorney and accountant, as appropriate, regarding specific advice. Past performance does not indicate future performance and there is risk of loss.

When referencing asset class returns or statistics, the following indices are used to represent those asset classes, unless otherwise noted. Each index is unmanaged, and investors can not actually invest directly into an index:

Domestic equity returns based on the following indices: Large Value: Russell 1000 Value TR USD, Large Core: Russell 1000 TR USD, Large Growth: Russell 1000 Growth TR USD, Mid Value: Russell Mid Cap Value TR USD, Mid Core: Russell Mid Cap TR USD, Mid Growth: Russell Mid Cap Growth TR USD, Small Value: Russell 2000 Value TR USD, Small Core: Russell 2000 TR USD, Small Growth: Russell 2000 Growth TR USD

Factor returns based on the following indices: Earnings Yield: MSCI USA Barra Earnings Yield NR USD, Low Leverage: MSCI USA Barra Low Leverage NR USD, Low Volatility: MSCI USA Barra Low Volatility NR USD, Momentum: MSCI USA Barra Momentum NR USD, Value: MSCI USA Barra Value NR USD

S&P 500 sector performance based on the following indices: S&P 500 Sec/Commun Services TR USD, S&P 500 Sec/Financials TR USD, S&P 500 Sec/Energy TR USD, S&P 500 Sec/Industrials TR USD, S&P 500 TR USD, S&P 500 Sec/Health Care TR USD, S&P 500 Sec/Cons Disc TR USD, S&P 500 Sec/Utilities TR USD, S&P 500 Sec/Cons Staples TR USD, S&P 500 Sec/Materials TR USD, S&P 500 Sec/Information Technology TR USD, S&P 500 Sec/Real Estate TR USD

International Developed equity returns based on the following indices: Large Value: MSCI EAFE Large Value NR USD, Large Core: MSCI EAFE Large NR USD, Large Growth: MSCI EAFE Large Growth NR USD, Mid Value: MSCI EAFE Mid Value NR USD, Mid Core: MSCI EAFE Mid NR USD, Mid Growth: MSCI EAFE Mid Growth NR USD, Small Value: MSCI EAFE Small Value NR USD, Small Core: MSCI EAFE Small Cap NR USD, Small Growth: MSCI EAFE Small Growth NR USD

International equity returns based on the following indices: Large Value: MSCI ACWI ex USA Large Value NR USD, Large Core: MSCI ACWI ex USA Large NR USD, Large Growth: MSCI ACWI ex USA Large Growth NR USD, Mid Value: MSCI ACWI ex USA Mid Value NR USD, Mid Core: MSCI ACWI ex USA Mid NR USD, Mid Growth: MSCI ACWI ex USA Mid Growth NR USD, Small Value: MSCI ACWI ex USA Small Value NR USD, Small Core: MSCI ACWI ex USA Small NR USD, Small Growth: MSCI ACWI ex USA Small Growth NR USD

Emerging Markets equity returns based on the following indices: Large Value: MSCI EM Large Value NR USD, Large Core: MSCI EM Large NR USD, Large Growth: MSCI EM Large Growth NR USD, Mid Value: MSCI EM Mid Value NR USD, Mid Core: MSCI EM Mid NR USD, Mid Growth: MSCI EM Mid Growth NR USD, Small Value: MSCI EM Small Value NR USD, Small Core: MSCI EM Small NR USD, Small Growth: MSCI EM Small Growth NR USD

Equity country returns based on the following indices: Belgium: MSCI Belgium NR USD, Canada: MSCI Canada NR USD, France: MSCI France NR USD, Germany: MSCI Germany NR USD, Italy: MSCI Italy NR USD, Japan: MSCI Japan NR USD, Netherlands: MSCI Netherlands NR USD, Sweden: MSCI Sweden NR USD, Switzerland: MSCI Switzerland NR USD, UK: MSCI United Kingdom NR USD, USA: MSCI USA NR USD, Brazil: MSCI Brazil NR USD, China: MSCI China NR USD, India: MSCI India NR USD, Mexico: MSCI Mexico NR USD, South Korea: MSCI Korea NR USD, ACWI ex US: MSCI ACWI ex USA NR USD, EAFE: MSCI EAFE NR USD, EM: MSCI EM NR USD

Commodity Performance based on the following indices: Energy: Bloomberg Sub Energy TR USD, Industrial Metals: Bloomberg Sub Industrial Metals TR USD, Precious Metals: Bloomberg Sub Precious Metals TR USD, Agriculture: Bloomberg Sub Agriculture TR USD

REIT sector performance is based on the following indices: FTSE Nareit Equity Health Care TR, FTSE Nareit Equity Lodging/Resorts TR, FTSE Nareit Equity Office TR, FTSE Nareit Equity Data Centers TR, FTSE Nareit Equity Diversified TR, FTSE Nareit Equity Specialty TR, FTSE Nareit Equity Retail TR, FTSE Nareit Equity Residential TR, FTSE Nareit Equity Industrial TR, FTSE Nareit Equity Self Storage TR



# Disclosures – Index & Benchmark Definitions

## Index & Benchmark Definitions

### Fixed Income

- **Bloomberg 1-3 Month U.S. Treasury Bill Index** is designed to measure the performance of public obligations of the U.S. Treasury that have a remaining maturity of greater than or equal to 1 month and less than 3 months.
- **Bloomberg U.S. Aggregate Index** covers the U.S. investment grade fixed rate bond market, with index components for government and corporate securities, mortgage pass-through securities, and asset-backed securities.
- **Bloomberg Global Aggregate ex. USD Indices** represent a broad-based measure of the global investment-grade fixed income markets. The two major components of this index are the Pan-European Aggregate and the Asian-Pacific Aggregate Indices. The index also includes Eurodollar and Euro-Yen corporate bonds and Canadian government, agency and corporate securities.
- **Bloomberg U.S. Corporate High Yield Index** covers the universe of fixed rate, non-investment grade debt. Eurobonds and debt issues from countries designated as emerging markets (sovereign rating of Baa1/BBB+/BBB+ and below using the middle of Moody's, S&P, and Fitch) are excluded, but Canadian and global bonds (SEC registered) of issuers in non-EMG countries are included.
- **Bloomberg US Government/Credit 1-3 Year Index** is the 1-3 year component of the U.S. Government/Credit Index, which includes securities in the Government and Credit Indices. The Government Index includes treasuries and agencies, while the credit index includes publicly issued U.S. corporate and foreign debentures and secured notes that meet specified maturity, liquidity, and quality requirements.
- **Bloomberg US Government/Credit Long Index** is the Long component of the U.S. Government/Credit Index, which includes securities in the Government and Credit Indices. The Government Index includes treasuries and agencies, while the credit index includes publicly issued U.S. corporate and foreign debentures and secured notes that meet specified maturity, liquidity and quality requirements.
- **Bloomberg US Treasury Inflation Protected Securities Index** consists of Inflation-Protection securities issued by the U.S. Treasury.
- **Bloomberg Muni Index** is a rules-based, market-value-weighted index engineered for the long-term tax-exempt bond market. Bonds must be rated investment-grade by at least two ratings agencies.
- **Bloomberg High Yield Municipal Bond Index** covers the universe of fixed rate, non-investment grade debt.
- **Bloomberg Intermediate U.S. Gov't/Credit** is the Intermediate component of the U.S. Government/Credit index, which includes securities in the Government and Credit Indices. The Government Index includes treasuries and agencies, while the credit index includes publicly issued U.S. corporate and foreign debentures and secured notes that meet specified maturity, liquidity, and quality requirements.
- **JPMorgan GBI-EM Global Diversified** tracks the performance of local currency debt issued by emerging market governments, whose debt is accessible by most of the international investor base.
- **ICE BofA US 3M Tbill Index** is an unmanaged index that is comprised of a single U.S. Treasury issue with approximately three months to final maturity, purchased at the beginning of each month and held for one full month.
- **Bloomberg US Treasury Bellwether Indices** are a series of benchmarks tracking the performance and attributes of eight on-the-run US Treasuries that reflect the most recently issued 3m, 6m, 2y, 3y, 5y, 10y and 30y securities.

### Equity

- **The S&P 500 Index** is a capitalization-weighted index designed to measure performance of the broad domestic economy through changes in the aggregate market value of 500 stocks representing all major industries.
- **Russell 3000 Index** is a market-cap-weighted index which consists of roughly 3,000 of the largest companies in the U.S. as determined by market capitalization. It represents nearly 98% of the investable U.S. equity market.
- **Russell 1000 Index** consists of the largest 1000 companies in the Russell 3000 Index.
- **Russell 1000 Growth Index** measures the performance of those Russell 1000 companies with higher P/B ratios and higher forecasted growth values.
- **Russell 1000 Value Index** measures the performance of those Russell 1000 companies with lower P/B ratios and lower forecasted growth values.
- **Russell Mid Cap Index** measures the performance of the 800 smallest companies in the Russell 1000 Index.
- **Russell Mid Cap Growth Index** measures the performance of those Russell Mid Cap companies with higher P/B ratios and higher forecasted growth values.
- **Russell Mid Cap Value Index** measures the performance of those Russell Mid Cap companies with lower P/B ratios and lower forecasted growth values.
- **Russell 2000** consists of the 2,000 smallest U.S. companies in the Russell 3000 index.
- **Russell 2000 Growth Index** measures the performance of the Russell 2000 companies with higher P/B ratios and higher forecasted growth values.
- **Russell 2000 Value Index** measures the performance of those Russell 2000 companies with lower P/B ratios and lower forecasted growth values.
- **MSCI USA Barra Earnings Yield Index** is a long/short (130/30) index that targets high exposure to the earnings yield factor, low exposure to other style and industry factors, and low tracking error relative to the MSCI USA Index, its parent index. The earnings yield factor combines current and historical earnings-to-price ratios with a measure of analyst-predicted earnings-to price ratios.
- **MSCI USA Barra Low Leverage Index** The index is derived from the parent index, MSCI Investable Market, and seeks to target exposure to low leverage companies as defined by the Barra Equity Model. The index is rebalanced monthly subject to tracking error and turnover constraints.
- **MSCI USA Barra Low Volatility Index** aims to reflect the performance characteristics of a minimum variance strategy applied to the large and mid cap USA equity universe. The index is calculated by optimizing the MSCI USA Index, its parent index, in USD for the lowest absolute risk (within a given set of constraints). Historically, the index has shown lower beta and volatility characteristics relative to the MSCI USA Index.
- **MSCI USA Barra Momentum Index** is derived from the parent index, MSCI Investable Market, and seeks to target exposure to companies with positive price momentum as defined by the Barra Equity Model. The index is rebalanced monthly subject to tracking error and turnover constraints.
- **MSCI USA Barra Value Index** is derived from the parent index, MSCI Investable Market, and seeks to target exposure to companies with value characteristics as defined by the Barra Equity Model. The index is rebalanced monthly subject to tracking error and turnover constraints.
- **MSCI ACWI (All Country World Index) ex. U.S. Index** captures large and mid-cap representation across Developed Markets countries (excluding the United States) and Emerging Markets countries. The index covers approximately 85% of the global equity opportunity set outside the U.S.
- **MSCI EAFE Index** is an equity index which captures large and mid-cap representation across Developed Markets countries around the world, excluding the U.S. and Canada. The index covers approximately 85% of the free float-adjusted market capitalization in each country.
- **MSCI Emerging Markets Index** captures large and mid-cap representation across Emerging Markets countries. The index covers approximately 85% of the free-float adjusted market capitalization in each country.

# Disclosures – Index & Benchmark Definitions

- **MSCI EAFE Large Value Index** captures large cap securities exhibiting overall value style characteristics across Developed Markets countries around the world, excluding the US and Canada. The value investment style characteristics for index construction are defined using three variables: book value to price, 12-month forward earnings to price and dividend yield.
- **MSCI EAFE Large Cap Index** is an equity index which captures large cap representation across Developed Markets countries around the world, excluding the US and Canada. The index covers approximately 70% of the free-float adjusted market capitalization in each country.
- **MSCI EAFE Large Growth Index** captures large cap securities exhibiting overall growth style characteristics across Developed Markets countries around the world, excluding the US and Canada. The growth investment style characteristics for index construction are defined using five variables: long-term forward EPS growth rate, short-term forward EPS growth rate, current internal growth rate and long-term historical EPS growth trend and long-term historical sales per share growth trend.
- **MSCI EAFE Mid Value Index** captures mid cap securities exhibiting overall value style characteristics across Developed Markets countries around the world, excluding the US and Canada. The value investment style characteristics for index construction are defined using three variables: book value to price, 12-month forward earnings to price and dividend yield.
- **MSCI EAFE Mid Cap Index** is an equity index which captures mid cap representation across Developed Markets countries around the world, excluding the US and Canada. The index covers approximately 15% of the free-float adjusted market capitalization in each country.
- **MSCI EAFE Mid Cap Growth Index** captures mid cap securities exhibiting overall growth style characteristics across Developed Markets countries around the world, excluding the US and Canada. The growth investment style characteristics for index construction are defined using five variables: long-term forward EPS growth rate, short-term forward EPS growth rate, current internal growth rate and long-term historical EPS growth trend and long-term historical sales per share growth trend.
- **MSCI EAFE Small Cap Value Index** captures small cap securities exhibiting overall value style characteristics across Developed Markets countries around the world, excluding the US and Canada. The value investment style characteristics for index construction are defined using three variables: book value to price, 12-month forward earnings to price and dividend yield.
- **MSCI EAFE Small Cap Index** is an equity index which captures small cap representation across Developed Markets countries around the world, excluding the US and Canada. The index covers approximately 14% of the free float adjusted market in each country.
- **MSCI EAFE Small Cap Growth Index** captures small cap securities exhibiting overall growth style characteristics across Developed Markets countries around the world, excluding the US and Canada. The growth investment style characteristics for index construction are defined using five variables: long-term forward EPS growth rate, short-term forward EPS growth rate, current internal growth rate and long-term historical EPS growth trend and long-term historical sales per share growth trend.
- **MSCI ACWI (All Country World Index) ex USA Large Value Index** captures large-cap securities exhibiting overall value style characteristics across Developed Markets countries (excluding the US) and Emerging Markets (EM) countries. The value investment style characteristics for index construction are defined using three variables: book value to price, 12-month forward earnings to price and dividend yield.
- **MSCI ACWI (All Country World Index) ex USA Large Index** captures large cap representation across Developed Markets countries (excluding the US) and Emerging Markets countries. The index covers approximately 70% of the free float-adjusted market capitalization in each country.
- **MSCI ACWI (All Country World Index) ex USA Large Growth Index** captures large-cap securities exhibiting overall growth style characteristics across Developed Markets countries (excluding the US) and Emerging Markets countries. The growth investment style characteristics for index construction are defined using five variables: long-term forward EPS growth rate, short-term forward EPS growth rate, current internal growth rate and long-term historical EPS growth trend and long-term historical sales per share growth trend.
- **MSCI ACWI (All Country World Index) ex USA Mid Value Index** captures mid cap securities exhibiting overall value style characteristics across Developed Markets countries (excluding the US) and Emerging Markets (EM) countries. The value investment style characteristics for index construction are defined using three variables: book value to price, 12-month forward earnings to price and dividend yield.
- **MSCI ACWI (All Country World Index) ex USA Mid Cap Index** captures mid cap representation across Developed Markets countries (excluding the US) and Emerging Markets (EM) countries. The index covers approximately 15% of the free float-adjusted market capitalization in each country.
- **MSCI ACWI (All Country World Index) ex USA Mid Growth Index** captures mid-cap securities exhibiting overall growth style characteristics across Developed Markets countries (excluding the US) and Emerging Markets countries. The growth investment style characteristics for index construction are defined using five variables: long-term forward EPS growth rate, short-term forward EPS growth rate, current internal growth rate and long-term historical EPS growth trend and long-term historical sales per share growth trend.
- **MSCI ACWI (All Country World Index) ex USA Small Value Index** captures small cap securities exhibiting overall value style characteristics across Developed Markets countries (excluding the US) and Emerging Markets (EM) countries. The value investment style characteristics for index construction are defined using three variables: book value to price, 12-month forward earnings to price and dividend yield.
- **MSCI ACWI (All Country World Index) ex. U.S. Small Cap Index** captures small cap representation across Developed Markets countries (excluding the US) and Emerging Markets countries. The index covers approximately 14% of the global equity opportunity set outside the U.S.
- **MSCI ACWI (All Country World Index) ex U.S. Small Growth Index** captures mid-cap securities exhibiting overall growth style characteristics across Developed Markets countries (excluding the US) and Emerging Markets countries. The growth investment style characteristics for index construction are defined using five variables: long-term forward EPS growth rate, short-term forward EPS growth rate, current internal growth rate and long-term historical EPS growth trend and long-term historical sales per share growth trend.
- **MSCI Emerging Markets (EM) Large Value Index** captures large-cap securities exhibiting overall value style characteristics across Emerging Markets (EM) countries. The value investment style characteristics for index construction are defined using three variables: book value to price, 12-month forward earnings to price and dividend yield.
- **MSCI Emerging Markets (EM) Large Index** includes large-cap representation across Emerging Markets countries. The index covers approximately 70% of the free float-adjusted market capitalization in each country.
- **MSCI Emerging Markets (EM) Large Growth Index** captures large-cap securities exhibiting overall growth style characteristics across Emerging Markets (EM) countries. The growth investment style characteristics for index construction are defined using five variables: long-term forward EPS growth rate, short-term forward EPS growth rate, current internal growth rate and long-term historical EPS growth trend and long-term historical sales per share growth trend.
- **MSCI Emerging Markets (EM) Mid Value Index** captures mid cap securities exhibiting overall value style characteristics across Emerging Markets (EM) countries. The value investment style characteristics for index construction are defined using three variables: book value to price, 12-month forward earnings to price and dividend yield.
- **MSCI Emerging Markets (EM) Mid Index** includes mid-cap representation across Emerging Markets countries. The index covers approximately 15% of the free float-adjusted market capitalization in each country.

# Disclosures – Index & Benchmark Definitions

- **MSCI Emerging Markets (EM) Mid Growth Index** captures mid cap securities exhibiting overall growth style characteristics across Emerging Markets (EM) countries. The growth investment style characteristics for index construction are defined using five variables: long-term forward EPS growth rate, short-term forward EPS growth rate, current internal growth rate and long-term historical EPS growth trend and long-term historical sales per share growth trend.
- **MSCI Emerging Markets (EM) Small Value Index** captures small cap securities exhibiting overall value style characteristics across Emerging Markets (EM) countries. The value investment style characteristics for index construction are defined using three variables: book value to price, 12-month forward earnings to price and dividend yield.
- **MSCI Emerging Markets (EM) Small Cap Index** includes small cap representation across Emerging Markets countries. The index covers approximately 14% of the free float-adjusted market capitalization in each country. The small cap segment tends to capture more local economic and sector characteristics relative to larger Emerging Markets capitalization segments. **MSCI Emerging Markets (EM) Small Growth Index** captures small cap securities exhibiting overall growth style characteristics across Emerging Markets (EM) countries. The growth investment style characteristics for index construction are defined using five variables: long-term forward EPS growth rate, short-term forward EPS growth rate, current internal growth rate and long-term historical EPS growth trend and long-term historical sales per share growth trend.

## *Alternatives & Miscellaneous*

- **S&P Real Asset Index** is designed to measure global property, infrastructure, commodities, and inflation-linked bonds using liquid and investable component indices that track public equities, fixed income, and futures. In the index, equity holds 50% weight, commodities 10%, and fixed income 40%.
- **FTSE Nareit Equity REITs Index** contains all Equity REITs not designed as Timber REITs or Infrastructure REITs.
- **FTSE EPRA Nareit Developed Index** is designed to track the performance of listed real estate companies and REITs worldwide.
- **FTSE EPRA Nareit Developed ex US Index** is a subset of the FTSE EPRA Nareit Developed Index and is designed to track the performance of listed real estate companies and REITs in developed markets excluding the US.
- **Bloomberg Commodity Index** is calculated on an excess return basis and reflects commodity futures price movements. The index rebalances annually weighted 2/3 by trading volume and 1/3 by world production and weight-caps are applied at the commodity, sector and group level for diversification.
- **HFRF Fund Weighted Composite Index** is a global, equal-weighted index of over 2,000 single-manager funds that report to the HFR Database. Constituent funds report monthly net of all fees performance in U.S. Dollars and have a minimum of \$50 million under management or a twelve (12) month track record of active performance. The HFRF Fund Weighted Composite Index does not include Funds of Hedge Funds.
- **HFRF Fund of Funds Composite Index** is a global, equal-weighted index of all fund of hedge funds that report to the HFR Database. Constituent funds report monthly net of all fees performance in U.S. Dollars and have a minimum of \$50 million under management or a twelve (12) month track record of active performance.
- **The Alerian MLP Index** is a float adjusted, capitalization-weighted index, whose constituents represent approximately 85% of total float-adjusted market capitalization, is disseminated real-time on a price-return basis (AMZ) and on a total-return basis.

## *Additional Information*

- Equity sector returns are calculated by S&P, Russell, and MSCI for domestic and international markets, respectively. S&P and MSCI sector definitions correspond to the GICS® classification (Global Industry Classification System); Russell uses its own sector and industry classifications.
- MSCI country indices are free float-adjusted market capitalization indices that are designed to measure equity market performance of approximately 85% of the market capitalization in each specific country.
- Currency returns are calculated using FactSet's historical spot rates and are calculated using the U.S. dollar as the base currency.

# Disclosures – Material Risks & Limitations

**Fixed Income** securities are subject to interest rate risks, the risk of default and liquidity risk. U.S. investors exposed to non-U.S. fixed income may also be subject to currency risk and fluctuations.

**Cash** may be subject to the loss of principal and over longer period of time may lose purchasing power due to inflation.

**Domestic Equity** can be volatile. The rise or fall in prices take place for a number of reasons including, but not limited to changes to underlying company conditions, sector or industry factors, or other macro events. These may happen quickly and unpredictably.

**International Equity** can be volatile. The rise or fall in prices take place for a number of reasons including, but not limited to changes to underlying company conditions, sector or industry impacts, or other macro events. These may happen quickly and unpredictably. International equity allocations may also be impacted by currency and/or country specific risks which may result in lower liquidity in some markets.

**Real Assets** can be volatile and may include asset segments that may have greater volatility than investment in traditional equity securities. Such volatility could be influenced by a myriad of factors including, but not limited to overall market volatility, changes in interest rates, political and regulatory developments, or other exogenous events like weather or natural disaster.

**Private Equity** involves higher risk and is suitable only for sophisticated investors. Along with traditional equity market risks, private equity investments are also subject to higher fees, lower liquidity and the potential for leverage that may amplify volatility and/or the potential loss of capital.

**Private Credit** involves higher risk and is suitable only for sophisticated investors. These assets are subject to interest rate risks, the risk of default and limited liquidity. U.S. investors exposed to non-U.S. private credit may also be subject to currency risk and fluctuations.

**Private Real Estate** involves higher risk and is suitable only for sophisticated investors. Real estate assets can be volatile and may include unique risks to the asset class like leverage and/or industry, sector or geographical concentration. Declines in real estate value may take place for a number of reasons including, but are not limited to economic conditions, change in condition of the underlying property or defaults by the borrower.

**Marketable Alternatives** involves higher risk and is suitable only for sophisticated investors. Along with traditional market risks, marketable alternatives are also subject to higher fees, lower liquidity and the potential for leverage that may amplify volatility or the potential for loss of capital. Additionally, short selling involved certain risks including, but not limited to additional costs, and the potential for unlimited loss on certain short sale positions.

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