Market Insights

Irrational Exuberance Redux

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ASSET MANAGEMENT

Agenda

1. Major Macro Themes
2. Implications for Stocks and Bonds
3. Allocating Amidst Uncertainty

Major Macro Themes

Pushing and Pulling on the Risk Curve

Regime Change

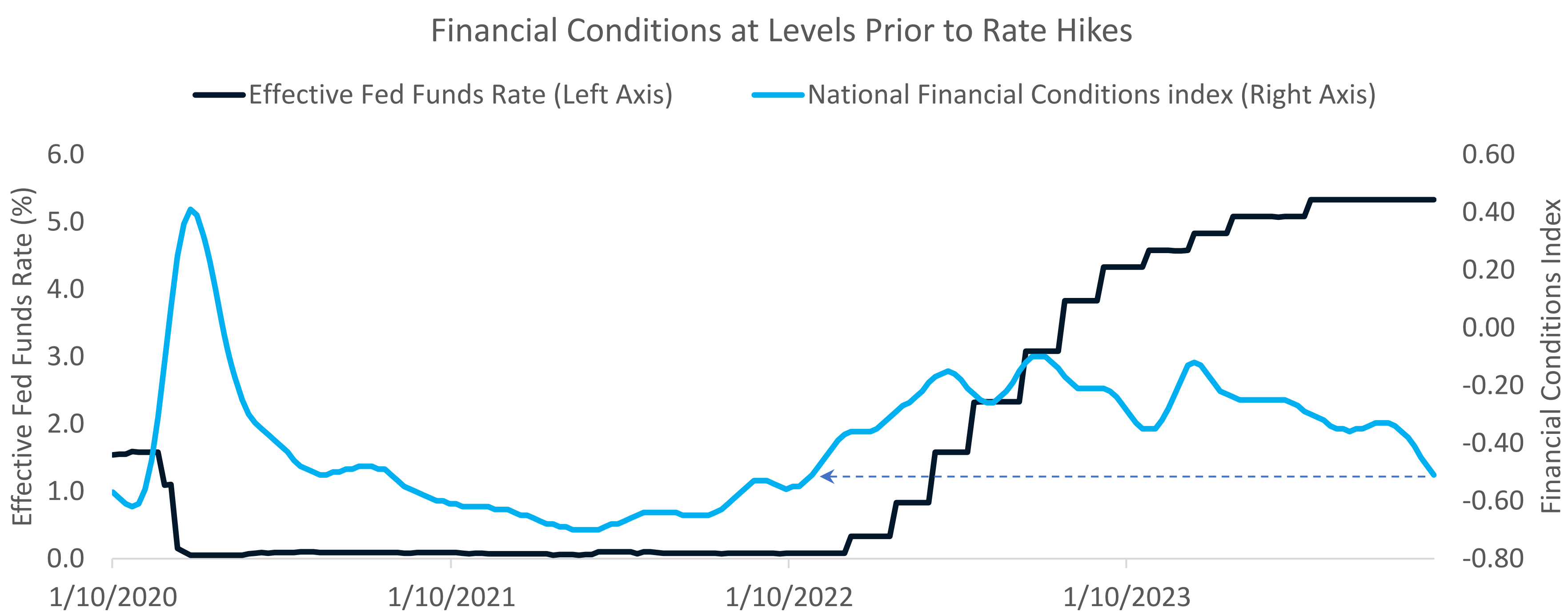
- 2009-2021: coordinated global central bank ample liquidity, fiscal stimulus, disinflation, declining interest rates, globalization
- 2022-Present: contracting liquidity, persistent inflation, higher interest rates, and deglobalization

	Policymaker Nirvana (2009-2021)	Policymaker Purgatory (2022-Present)
Public Debt-to-GDP	↑	→
Interest Rates	↓	↑
Inflation	↓	↑
Interest Burden-to-GDP	↓	↑
Investors	T.I.N.A.	T.I.A.A.

Policymakers Struggling to Contain Investor Exuberance

"Insanity is doing the same thing over and over again and expecting different results."

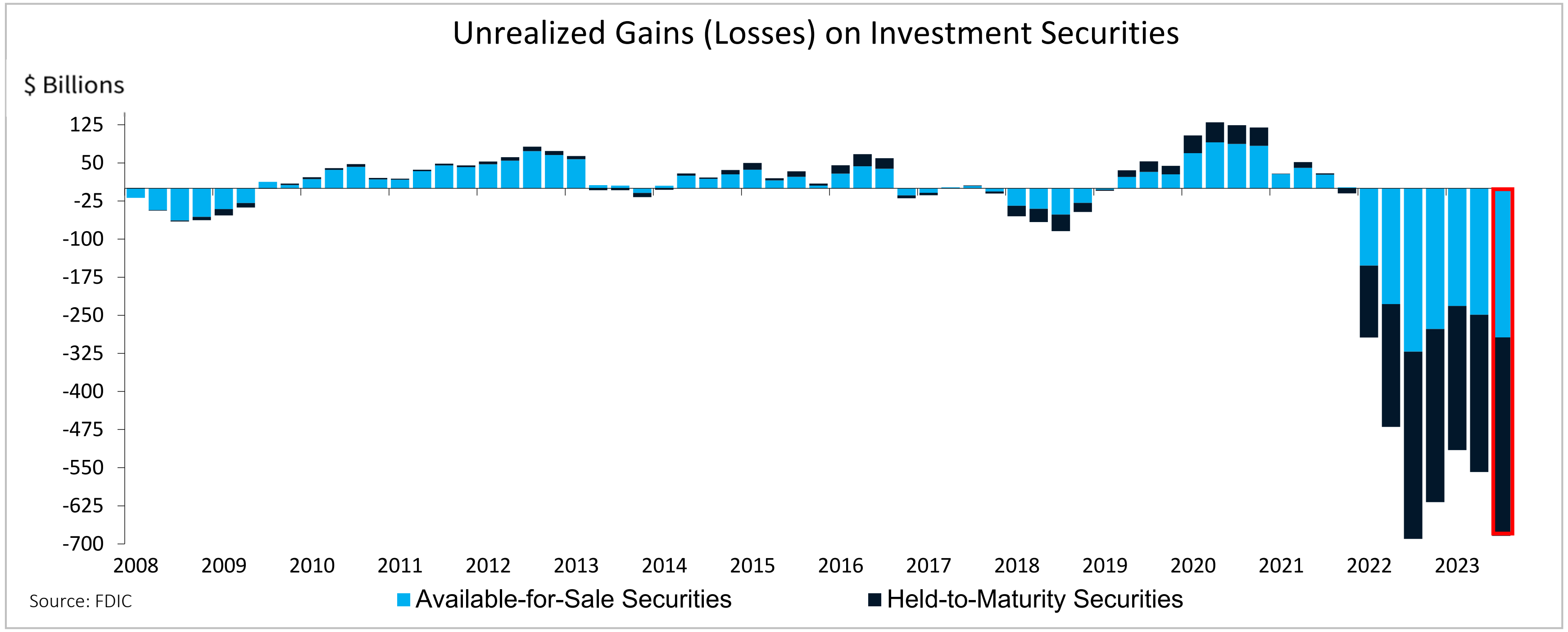
- Rita Mae Brown



Source: FRED, OSAM Calculations

Bearing the Weight of Rates: Financials

- Interest Rates impact Financial sector assets and liabilities.
- We estimate the hit to sector EPS for long-term debt refinancings at a 1.5% annual drag to 2030.
- Absent the Bank Term Funding Program (BTFP), which allows banks to post depreciated Treasury securities as collateral at par, the banking system could be struggling.
- Programs like BTFP inject stabilizing quasi-permanent bridge capital into the banking system.



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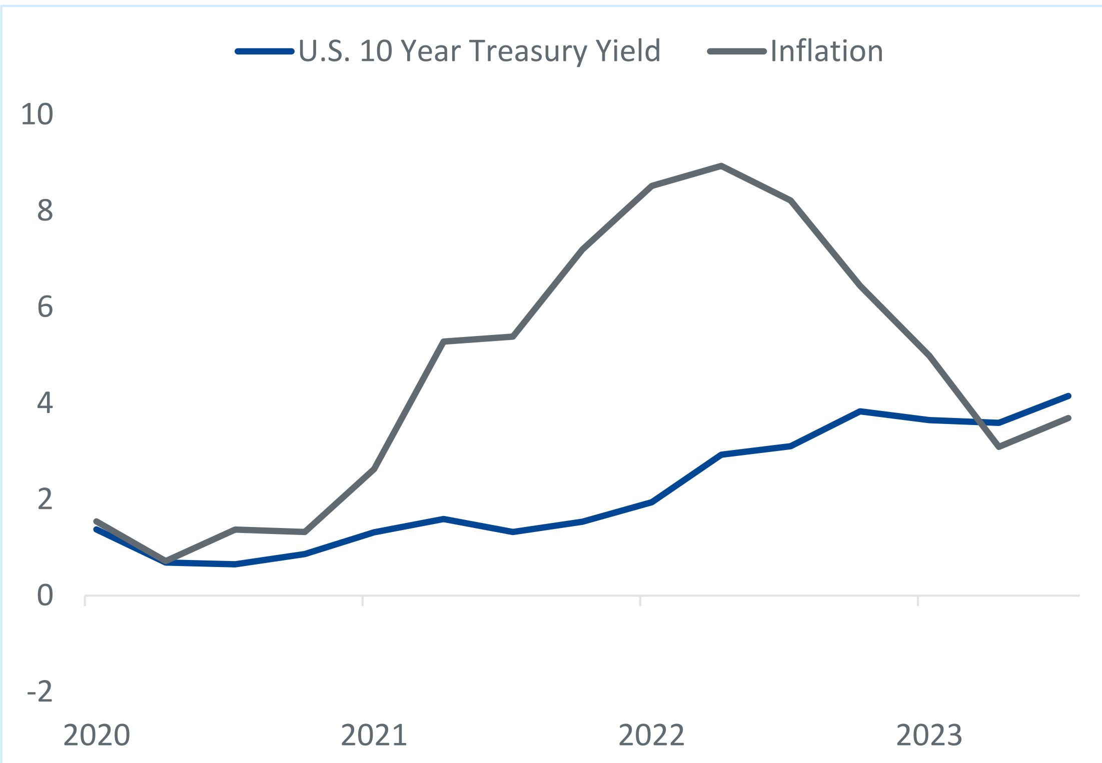
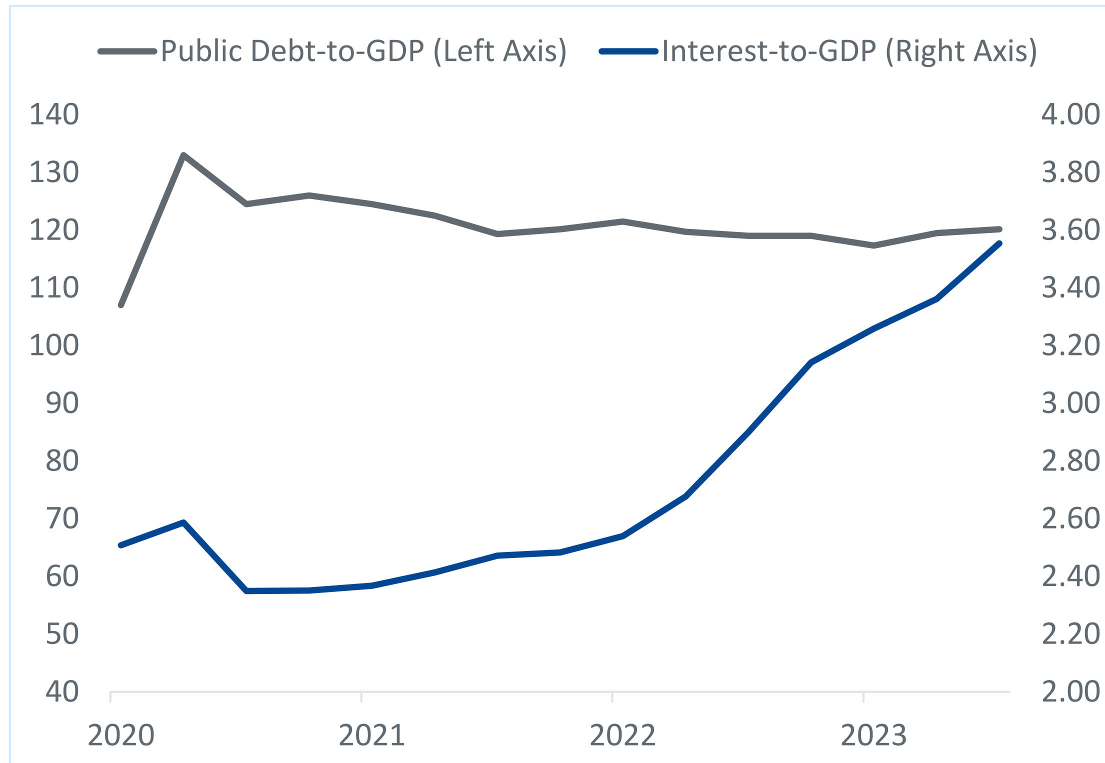
Bearing the Weight of Rates: Government

- The increase in rates from 2% to 4% has resulted in a **40% increase in public sector interest burden relative to GDP** to about $980 billion per year, or 15% of fiscal spend.





Source: FRED, OSAM Calculations

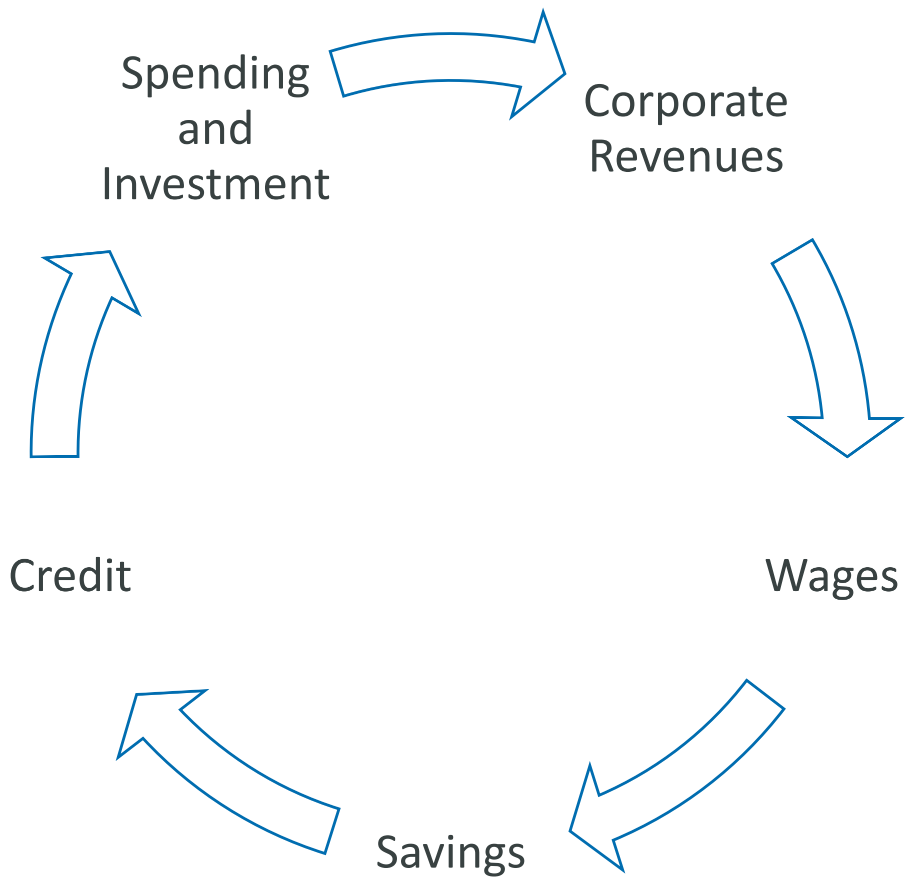
Corporates

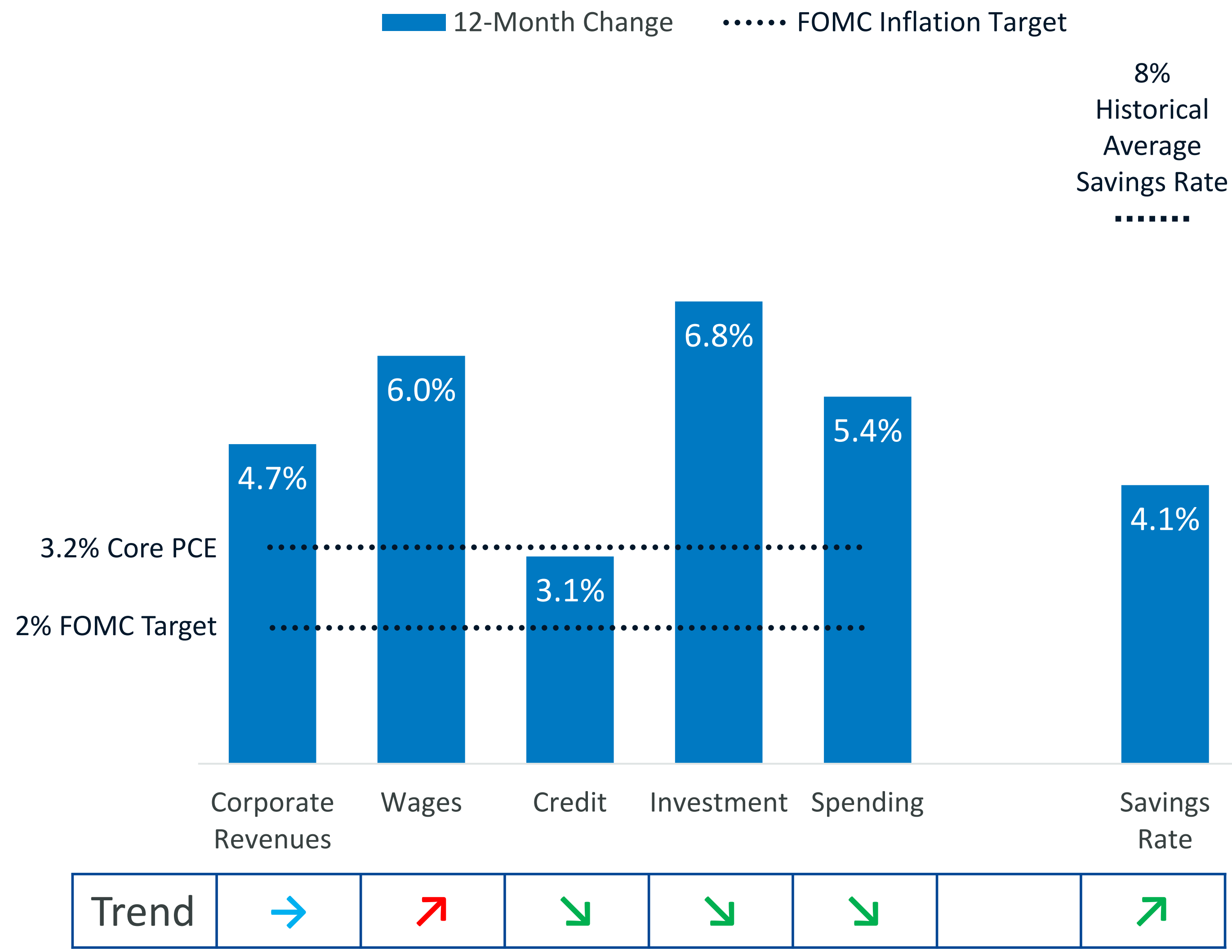
- Revenues are growing but slowing.
- Profit Margins have compressed, but **not because of higher interest rates**.
- **Input costs of goods sold have risen**– a byproduct of greater frictions in global trade.
- **Increased wages** have not yet impacted margins.
- Refinancing debt maturing through 2030 at 1% above current levels (6.7%) would result in a **0.82% drag on S&P 500 non-financial EPS**.

S&P 500 EX-FINANCIALS			
% OF SALES	December 2021	September 2023	Δ (CHG)
COGS	63.15%	64.91%	**1.77%**
S G & A	12.84%	12.94%	**0.10%**
R & D	3.66%	3.73%	**0.07%**
Depreciation	5.32%	5.00%	**-0.32%**
Interest	1.56%	1.64%	**0.08%**
Taxes	2.28%	2.15%	**-0.13%**
Profit Margin	11.19%	9.64%	**-1.56%**

Source: "Climbing the Maturity Wall of Worry"

The Economic Flywheel – Strong but Moderating

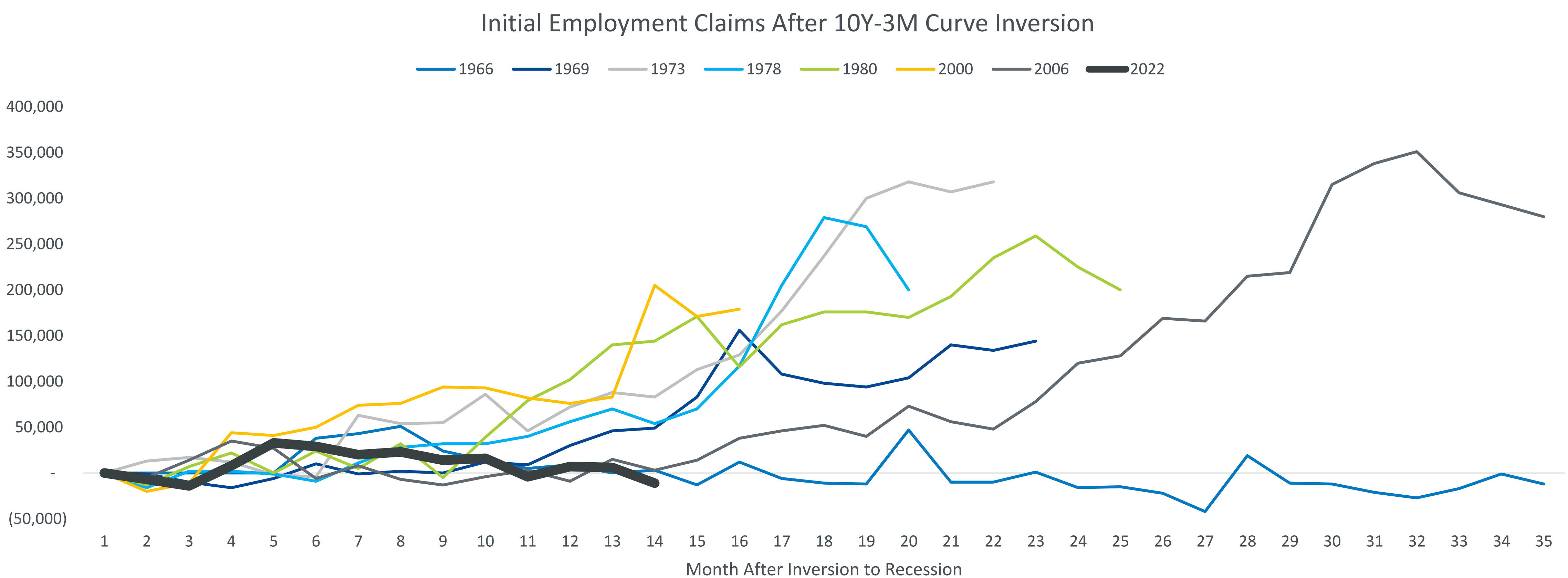




Source: FRED Database, OSAM Calculations

Different This Time?

Initial Claims for unemployment showing no signs of weakness compared to last seven yield curve inversions.



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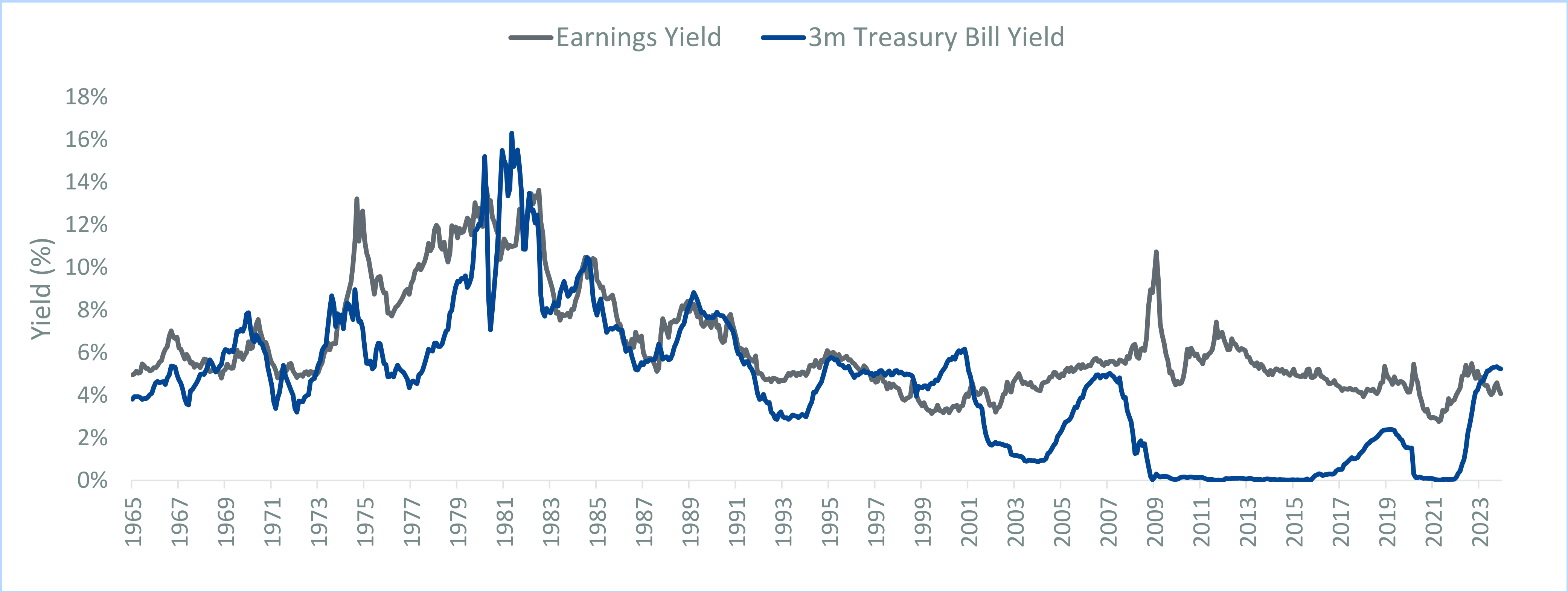
Macro Take

- Macro Cycles take a long time to play out, often years.
- We are in Policymaker Purgatory – except for the difficult decisions, most actions are inflationary.
- The Government and Financial sectors are bearing the brunt of the rate hiking cycle.
- Corporates are feeling the margin pressure of higher input costs.
- Household balance sheets, investment, wage, credit, and spending growth are supportive of 2%+ inflation.

Implications for Stocks and Bonds

Stocks versus Bonds?

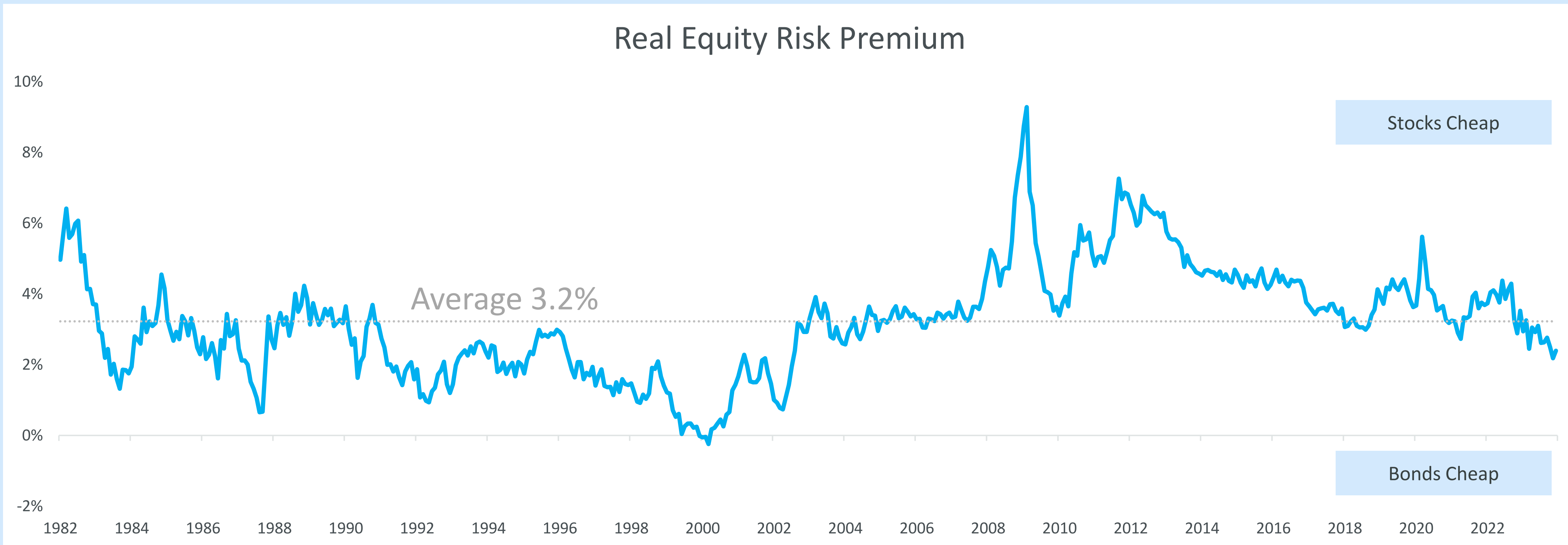
- Since March 2023, the earnings yield (inverse of PE ratio) for US Large Cap stocks sits below 3-month Treasury Yields. **First time since 2001.**
- Versus a risk-free 5.2% U.S. Treasury bill yield, a 4.1% equity earnings yield might seem paltry.



Source: FRED, Compustat, OSAM Calculations

10-Year Real Equity Risk Premiums

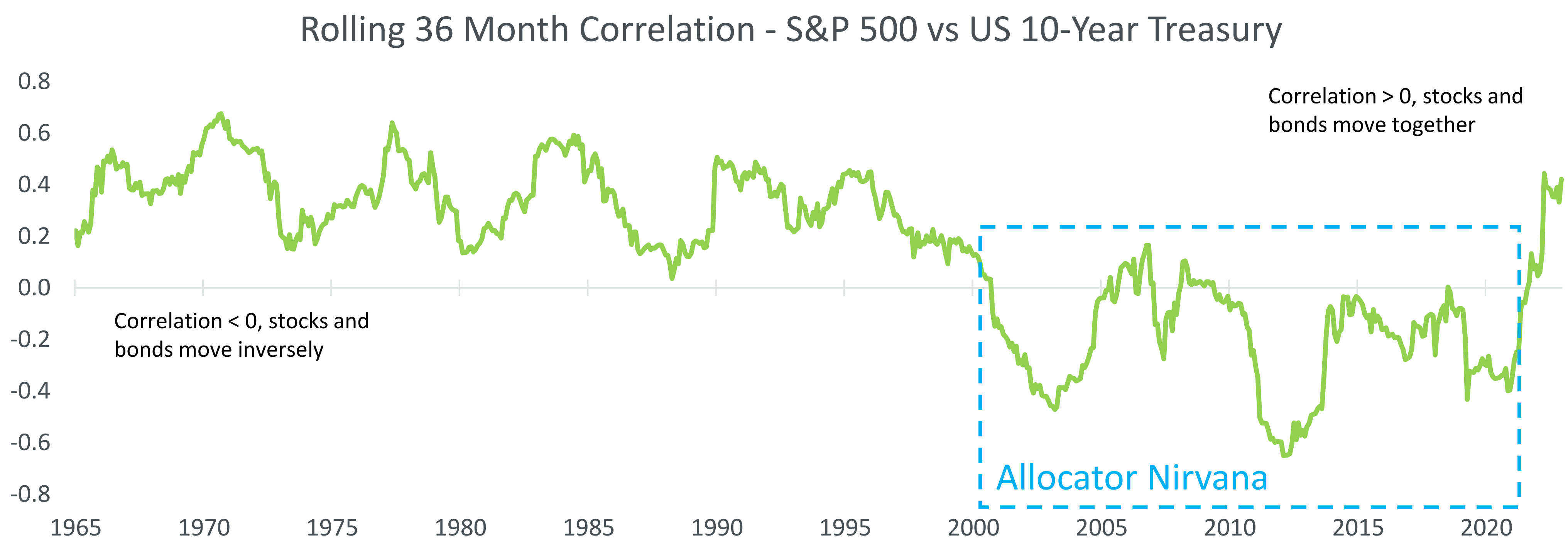
- Given where real interest rates are, equity risk premiums are so-so. Bonds are not a screaming buy.



Note: 10-Year Real Risk Premium represents the earnings yield on U.S. Large Cap Stocks minus the prevailing 10 Year Real Yield, estimated via a Federal Reserve Bank of Cleveland model. Source: FRED, Compustat, OSAM Calculations

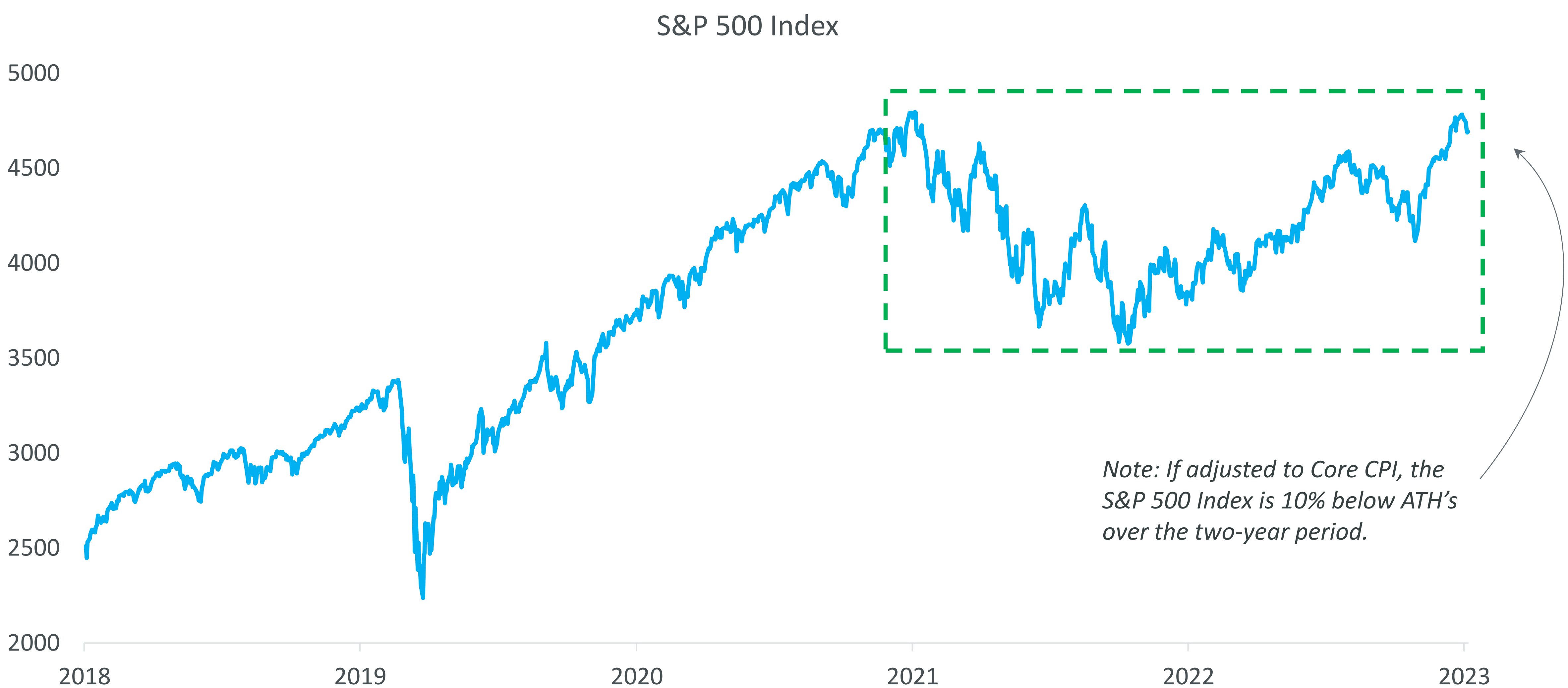
Portfolio Construction: Stocks and Bonds

- Inflationary environments feature higher risk premiums – on stocks AND bonds
- This results in a positive correlation and makes portfolio diversification more challenging



Source: FRED, Compustat, OSAM Research

A Two-Year Round Trip To Nowhere?



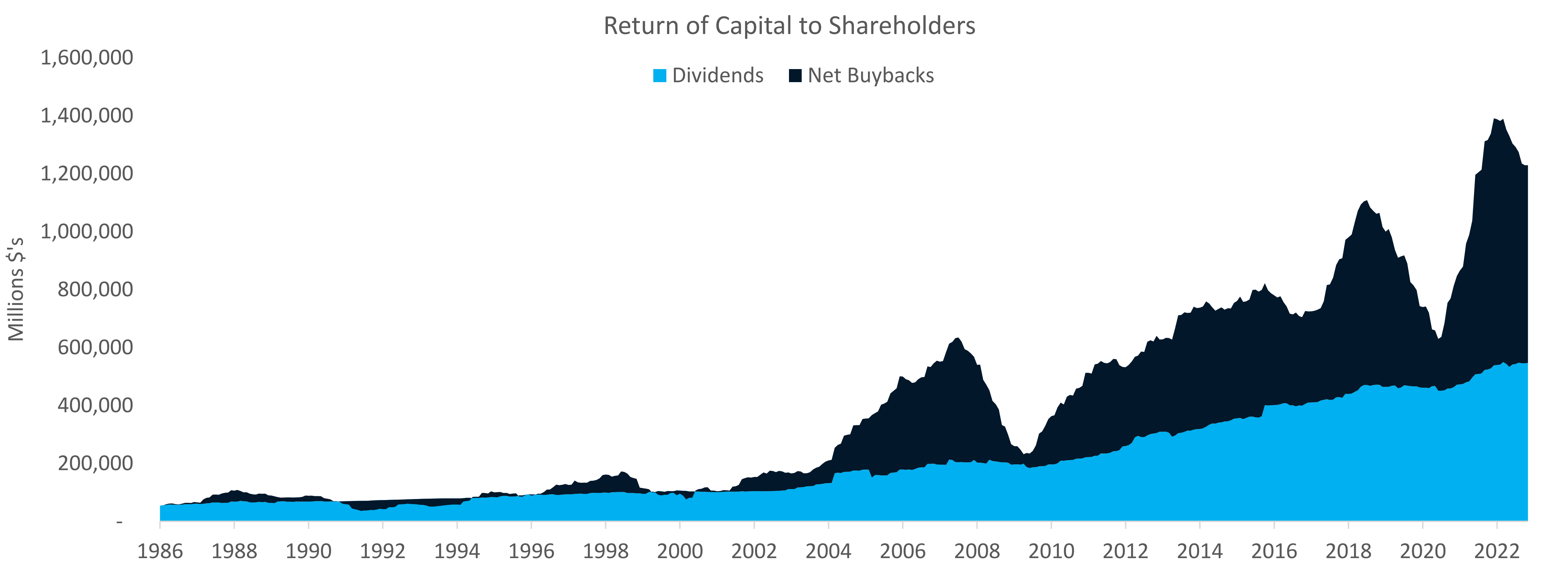
Structural Bear Market Indicators

Historical Indicator	Current Situation
Rising Rates	- One of the stronger rate hiking cycles in history.
Speculative rise in stock prices	- SPACs, meme-stocks, crypto, and MAG7 valuations.
Economic imbalances	- Debt-to-GDP highest since WWII. - Existing housing market seized up.
Rising productivity	- Productivity bottomed in Q1 2022 and has been rising since.
Unusual strength in the economy	- Resilient consumer, driven by post-pandemic wealth effects. - Non-residential fixed investment boom to accommodate near-shoring. - The “obvious” recession that everyone predicted simply has not come.
A belief in a new economic era	- Proponents of artificial intelligence (AI) argue for a productivity boom.

Source: Oppenheimer. “The Long Good Buy”.

Return of Capital is an Increasingly Large Supportive Flow

While dividends consistently grow, buybacks tend to be more cyclical.



Source: Compustat, OSAM Calculations

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Interest Rate Increases Decrease Buyback Benefits

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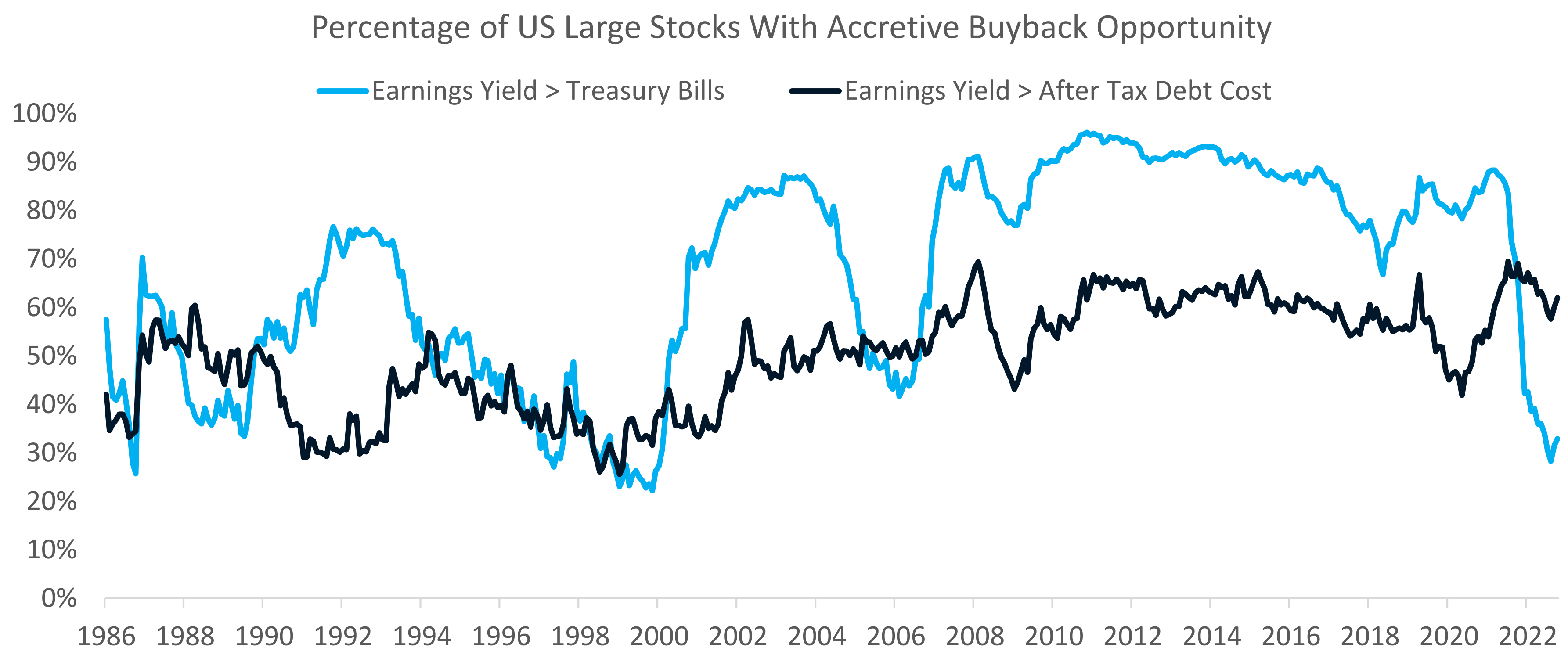
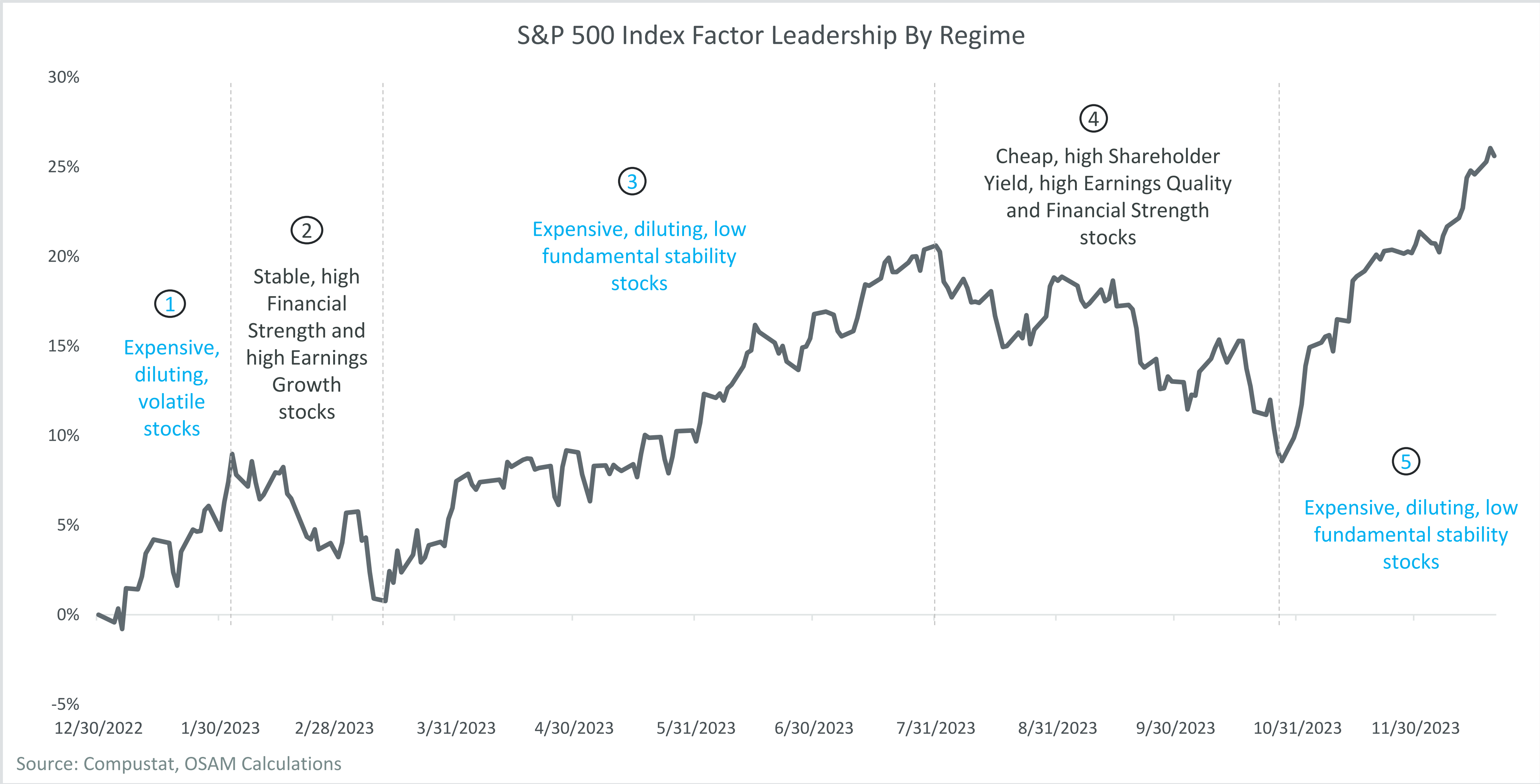
- When a stock's earnings yield (inverse of PE ratio) is higher than the prevailing rate on cash and/or the after-tax cost of debt, buybacks are beneficial to EPS.



Source: Compustat, OSAM Calculations

See: *Buyback Bears and Bulls (Meredith 2016)* and *Total Shareholder Return (Mauboussin 2023)*

The Regimes of 2023

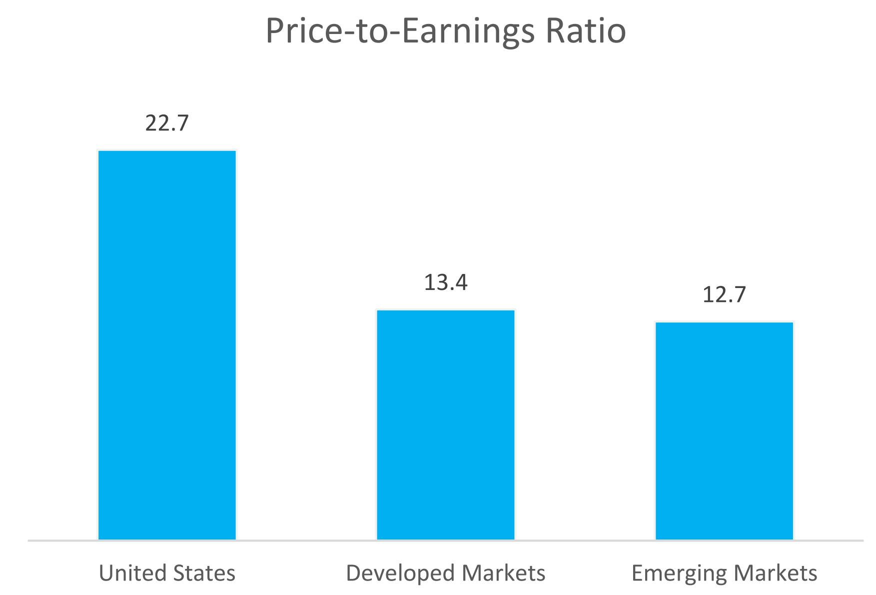


Foreign Markets Lag Again in 2023

As a local currency investor, **U.S. markets have fundamentally lagged** since the beginning of this new market regime in December 2021, **yet are priced at a significant premium**.

Annualized Growth Per Share (Real Local Currency)				
Dec-2021 to Sept 2023	**Sales**	**EBITDA**	**Earnings**	**Dividends**
United States	6.2%	2.1%	-1.0%	3.1%
Developed Markets	13.6%	10.3%	13.8%	15.6%
Emerging Markets	8.9%	3.5%	3.0%	9.1%

* Compustat, OSAM Calculations



Source: Compustat, OSAM Calculations as of 9/30/2023

Allocating Amidst Uncertainty

Humility Required!

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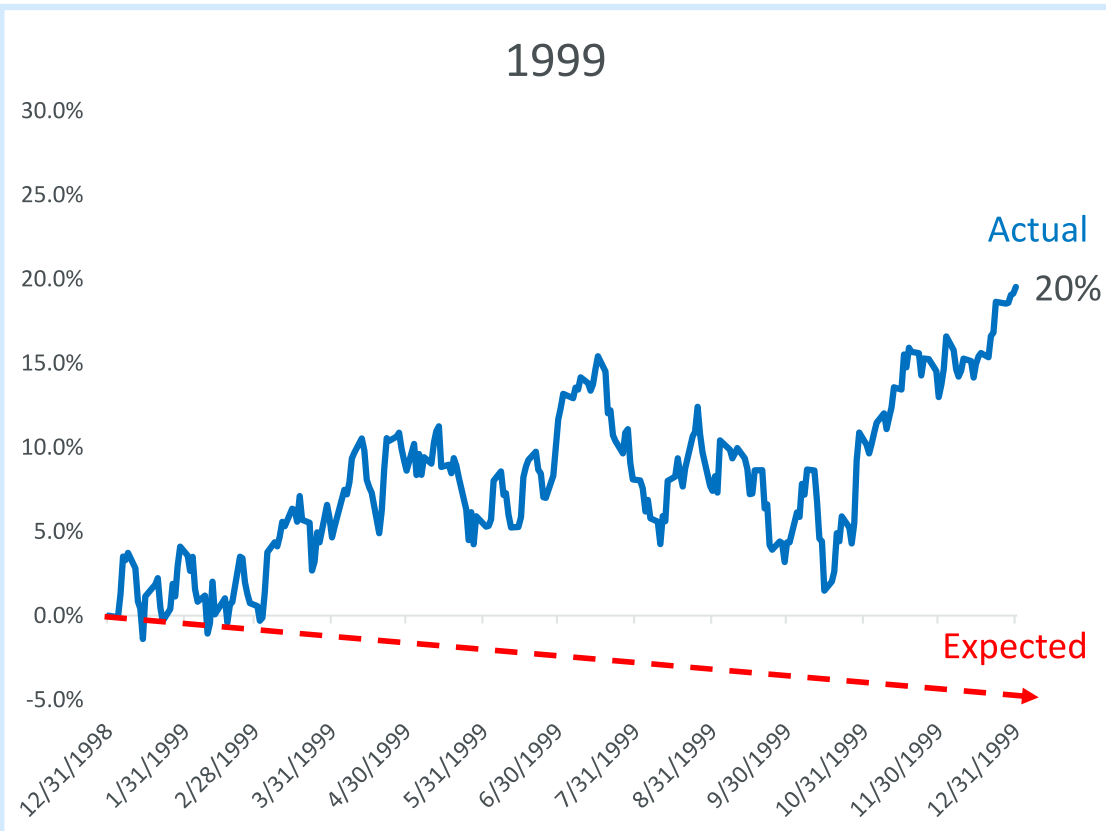
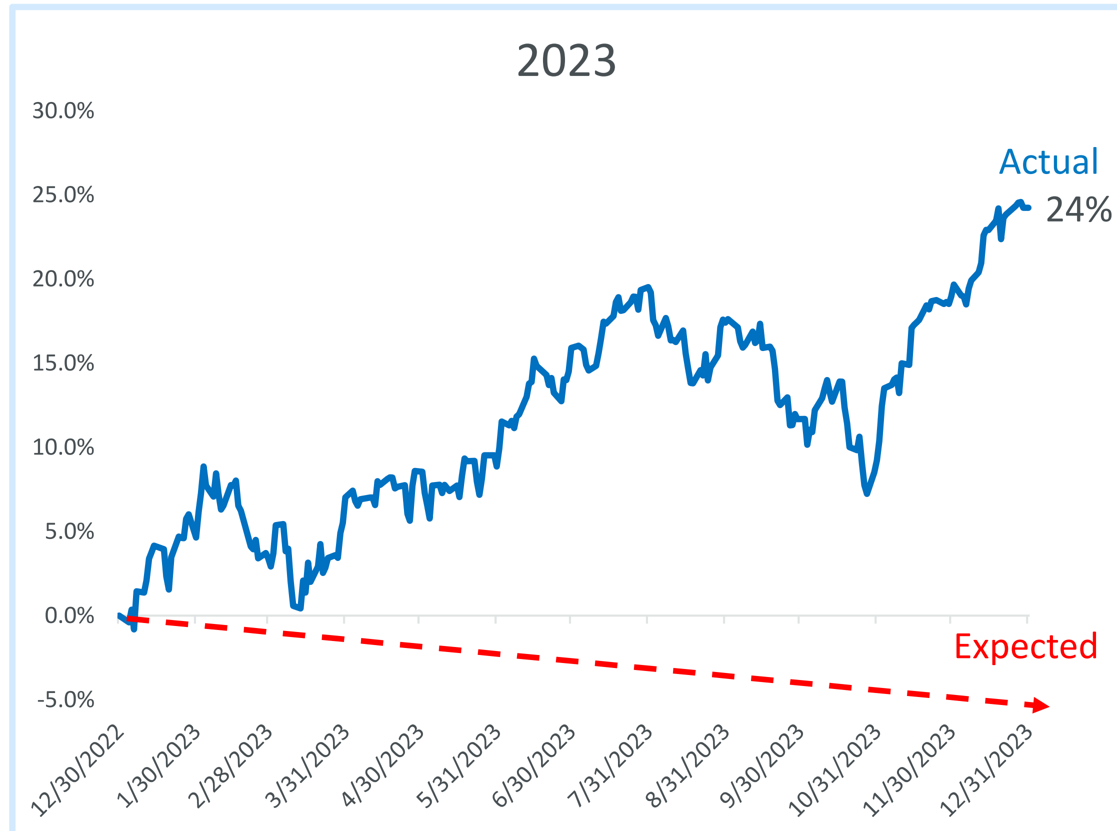
The average 2023 analyst forecast for the S&P 500 Index was negative for the first time since 1999.





Source: Compustat, OSAM Calculations

Allocating Today - Diversification

- Start from first principles by **owning the market passively**, and then layering on overweights and underweights based on conviction and risk tolerance with a multi-year perspective.

- **Consideration of inflation will be more important** going forward than it has been.

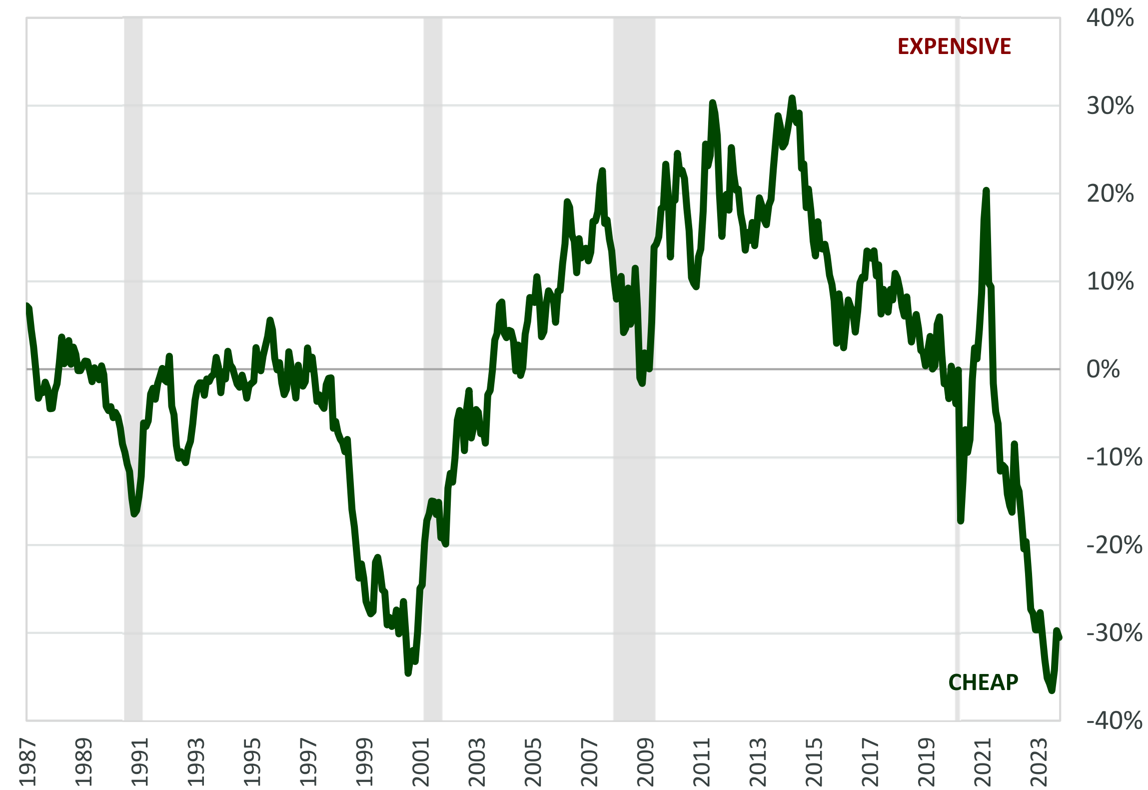
- A positive stock-bond correlation requires alternative sources of diversification and return.
  - Option Overlays
  - Tax Alpha
  - Commodities

Allocating Today – Factors, Geography, Cap Ranges

- **Quality and Low Volatility:** The current macro regime favors tilts away from sectors highly reliant on debt financing.
- **Value and Shareholder Yield:** for active allocations on a longer-term basis as inflation dynamics and a steepening yield curve tend to be supportive of sectors that are overweight within those factors—Industrials, Energy, Materials, Financials.
- **Non-U.S.:** Currency and multiple compression have been headwinds but present an interesting opportunity.
- **U.S. Small-mid cap:** As cheap as it was prior to the Tech Bubble.

NORMALIZED PE VALUATION PREMIUM

Small-mid Cap versus Large Cap



Source: Compustat, OSAM Calculations

Important Legal, Canvas®, Hypothetical And/Or Back-tested Disclosure Information

O'Shaughnessy ASSET MANAGEMENT

CANVAS® is an interactive web-based investment tool developed by O'Shaughnessy Asset Management, L.L.C. ("OSAM") that permits an investment professional (generally a registered investment advisor or a sophisticated investor) to select a desired investment strategy for the professional's client. At all times, the investment professional, and **not** OSAM, is responsible for determining the initial and ongoing suitability of any investment strategy for the investment professional's underlying client. The professional's client shall not rely on OSAM for any such initial or subsequent review or determination. Rather, to the contrary, at all times the professional shall remain exclusively responsible for same. **See more about CANVAS below** and **Release and Hold Harmless** at the end of this **Important Disclosure Information**.

Reliance on Investment Professional: OSAM has relied, and shall continue to rely, on the investment professional's knowledge and experience to understand the inherent limitations of the performance presentation, including those pertaining to back-tested hypothetical performance. All performance presentations, including hypothetical performance, are the direct result of the investment professional's request, independent of OSAM. Depending upon the investment professional's direction and selection, hypothetical presentations can include both OSAM and non-OSAM Models and/or strategies. The below discussion as to the material limitations of back-tested hypotheticals apply to both OSAM and non-OSAM Models and/or strategies.

Intended Recipient: CANVAS content is intended for the investment professional only. OSAM assumes that no hypothetical performance-related content will be provided directly to the professional's client. The content is intended to assist the professional in evaluating the appropriate investment strategy for the professional's client.

OSAM Models. OSAM has devised various investment models (the "Models") for CANVAS, the objectives of each are described herein. The investment professional is not obligated to consider or utilize any of the Models. As indicated above, at all times, the investment professional, and not OSAM, is responsible for determining the initial and ongoing suitability of any Model for the investment professional's underlying client. Model performance reflects the reinvestment of dividends and other account earnings and are presented both net of the maximum OSAM's investment management fee for the selected strategy and gross of an OSAM investment management fee. **Please Note**: As indicated at Item 5 of its written disclosure Brochure, OSAM's CANVAS management fee ranges from 0.20% to 1.15%. The average percentage management fee for all CANVAS strategies is 0.36%. The percentage OSAM management fee shall depend upon the type of strategy and the corresponding amount of assets invested in the strategy; generally, the greater the amount of assets, the lower the percentage management fee**. Please Also Note:** The performance also do not reflect deduction of transaction and/or custodial fees (to the extent applicable), the incurrence of which would further decrease the performance. For example, if reviewing a strategy with a ten-year return of 10.0% each year, the effect of a 0.10% transaction/custodial fee would reduce the reflected cumulative returns from 10.0% to 9.9% on a 1-year basis, 33.1% to 32.7% on a 3-year basis, 61.1% to 60.3% on a 5-year basis and 159.4% to 156.8% on a 10-year basis respectively. **Please Further Note:** Transaction/custodial fees will differ depending upon the account broker-dealer/custodian utilized. While some broker-dealers/custodians do not charge transaction fees for individual equity (including ETF) transactions, others do. Some custodians charge fixed fees for custody and execution services. Choice of custodian is determined by the investment professional and his/her/its client. Higher fees will adversely impact account performance.

OSAM does not maintain actual historical performance results for the Models. In order to help assist the investment professional in determining whether a Model is appropriate for the professional's client, OSAM has provided **back-tested hypothetical (i.e., not actual)** performance for the Model. OSAM, with minor deviations that it does not consider to be material*, currently uses the Models **(i.e., live models vs. the reflected back-tested versions thereof)** to manage actual client portfolios (**see Model Deviations below**). The performance reflects the current Model holdings, which are subject to ongoing change.

Material Limitations: The Performance is subject to material limitations. **Please see Hypothetical/Material Limitations below.** During any specific point in time or time-period, the Models, as currently comprised, performed better or worse, with more or less volatility, than corresponding recognized comparative indices, benchmarks or blends thereof.

Past performance may not be indicative of future results. Therefore, it should not be assumed that future performance of any specific investment or investment strategy (including the Models), will be profitable, equal any historical index or blended index performance level(s), or prove successful. Historical index results do not reflect the deduction of transaction and custodial charges, or the deduction of an investment management fee, the incurrence of which would have the effect of decreasing indicated historical performance results. The Russell 3000 is a market capitalization-weighted index of 3000 widely held large, mid, and small cap stocks. Russell chooses the member companies for the Russell 3000 based on market size and liquidity. The MSCI All Country World Index is a market capitalization weighted index designed to provide a broad measure of equity-market performance throughout the world. The MSCI is maintained by Morgan Stanley Capital International and is comprised of stocks from 23 developed countries and 24 emerging markets. The Barclays Capital Aggregate Bond Index is a market capitalization-weighted index, meaning the securities in the index are weighted according to the market size of each bond type. Most U.S. traded investment grade bonds are represented. Municipal bonds and Treasury Inflation-Protected Securities are excluded, due to tax treatment issues. The index includes Treasury securities, Government agency bonds, Mortgage-backed bonds, corporate bonds, and a small amount of foreign bonds traded in U.S. The historical performance results for the Russell 3000, MSCI and Barclays are provided exclusively for comparison purposes only, to provide general comparative information to help assist in determining whether a Model or other type strategy (relative to the reflected indices) is appropriate for his/her investment objective and risk tolerance. **Please Also Note**: (1) Performance does not reflect the impact of client-incurred taxes; (2) Neither Model or the selected strategy holdings correspond directly to any such comparative index; and (3) comparative indices may be more or less volatile than the Model or selected strategy.

Hypothetical/Material Limitations-performance reflects hypothetical back-tested results that were achieved by means of the retroactive application of a back-tested portfolio and, as such, the corresponding results have inherent limitations, including: (a) the performance results do not reflect the results of actual trading using investor assets, but were achieved by means of the retroactive application of the Model or strategy (as currently comprised), aspects of which may have been designed with the benefit of hindsight; (b) back tested performance may not reflect the impact that any material market or economic factors might have had on OSAM's (or the investment professional's) investment decisions for the Model or the strategy; and, correspondingly; (c) had OSAM used the Model to manage actual client assets (or had the investment professional used the selected strategy to manage actual client assets) during the corresponding time periods, actual performance results could have been materially different for various reasons including variances in the investment management fee incurred, transaction dates, rebalancing dates (increases account turnover), market fluctuation, tax considerations (including tax-loss harvesting-increases account turnover), and the date on which a client engaged OSAM's investment management services.

MORE ABOUT CANVAS®

CANVAS® is an interactive web-based investment tool developed by O'Shaughnessy Asset Management, L.L.C. ("OSAM") that permits an investment professional (generally a registered investment advisor or a sophisticated investor) to select a desired investment strategy (the "Strategy") for the professional's client. At all times, the investment professional, and not OSAM, is responsible maintaining the initial and ongoing relationship with the underlying client and rendering individualized investment advice to the client. In addition, the investment professional and not OSAM, is exclusively responsible for:

- determining the initial and ongoing suitability of the Strategy for the client;
- devising or determining the specific initial and ongoing desired Strategy;
- monitoring performance of the Strategy; and,
- modifying and/or terminating the management of the client's account using the Strategy.

Hypothetical Limitations: To the extent that the investment professional seeks for CANVAS to provide hypothetical back-tested performance, material limitations apply-***See above***.

Model Deviations: As indicated above, OSAM, with minor deviations that it does not consider to be material*, currently use the Models to manage actual client portfolios (i.e., the live Models). The deviations include:

- the use of proxies if and when an ETF used in the back-test was not available*. While the back-tested and live strategies both utilize the same investment themes, back-tested proxies can deviate from live models based on limitations of historical information;
- back-tested data presented utilizes a month-end rebalance while actual live model performance reflects intra-month rebalances;
- OSAM, as a discretionary manager, can update its live models as determined necessary. These changes will then be applied retroactively to back-tested models, the resulting performance of which would be different than that of the actual historical models- ***see*** **Hypothetical/Material Limitations** above; and,
- Financial statement information may be restated over time, which information was not reflected in the historical back-tested models. Companies will also have mergers and acquisitions or other corporate events that can retrospectively affect the names and corporate identities of organizations in the historical back-tests. Data providers providing pricing and return information may update historical data upon discovering deficiencies or omissions.

Strategy Sampling Impact: The implementation of OSAM strategies utilize a sampling of the underlying individual Strategy positions, and, as the result thereof, the underlying securities' weighting could unintentionally deviate +/- the Strategy allocation target OSAM calculates the CANVAS fees based on the mix of strategies that are utilized at the establishment of the account. Therefore, the sampling approach can cause deviations between the Canvas strategy allocation establishment (and its corresponding fee) and the implementation of that CANVAS strategy.

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Tax Management Function: When requested by the investment professional, OSAM will use best efforts to work within Onboarding Budgets, Annual Tax Budgets, and Tracking Error Budgets. However, market and/or specific stock price fluctuations can occur quickly and can correspondingly adversely affect our ability to manage to specified budgets. Additionally, changes to tax budgets, cash flows in and out of an account, mandatory corporate actions, and funding with securities can also impact preciseness. The investment professional must accept this risk. In addition:

- OSAM has not, and will not, verify the accuracy of any tax-related information provided;
- In the event that any such information provided is inaccurate or incomplete, the corresponding results will be inaccurate or incomplete;
- Tracking Error Budgets are relative to the Model, not the benchmark;
- OSAM is not a CPA and this is not tax advice;
- Tax laws and rates change;
- While we seek to follow the investment professional prescribed target models, ranges, timeframes, tax budgets, and seek not to create wash sales or exceed expected tax budgets, there can be no assurance that the CANVAS tool will be able to accurately do so;; and,
- For specific personalized tax-related advice, consult with a CPA or other tax professional.

Fixed Income ETF Model-The models are constructed using passive fixed income ETFs. The models attempt to target varying levels of duration and credit exposure relative to the Barclays Aggregate Index. The expense ratios of the underlying ETF's are born by the investor and are separate and apart from CANVAS related fees.

Miscellaneous Limitations/Issues:

- Results in the Transition Portal reflect expense ratios corresponding to the specific funds indicated/provided by the investment professional. Expense ratios are provided by an unaffiliated database. Results also reflect projected future yields corresponding to such current indicated funds. Such data may not be precise;
- The risk-free rate used in the calculation of Sortino, Sharpe, and Treynor ratios is 5%, consistently applied across time;
- OSAM did not begin to offer CANVAS until April 2019. Prior to 2007, OSAM did not manage client assets; and,
- A copy of OSAM's written disclosure Brochure, Form CRS and Privacy Notice remains available on this CANVAS website or at www.osam.com.

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*****except in the unlikely event that the performance of the proxy used in lieu of the actual ETF was materially different (positive or negative)

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Please Note: Projection/Assumption Limitations. To the extent that any portion of the content reflects assumptions and/or projections, no such content should be construed or relied upon as an absolute probability that such an assumption or projection will prove correct or projected result will occur. To the contrary, a different result (positive or negative) can, and most likely will, occur. Materially different results could occur at any specific point in time or over any specific time period. The purpose of the projections is to provide a guideline to help determine which scenario best meets current and/or anticipated financial situations and/or objectives.

Please Note: Limitations: The accuracy of the Tracking Error is co-dependent upon corresponding client-designated constraints. Depending upon nature and extent of the constraints, the results may not correspond to the tracking error.

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