NC STATE UNIVERSITY

Board of Directors' Closed Meeting
August 23, 2023

Agenda

A. Welcome

B. Conflicts of Interest

C. Approval of Minutes

D. Investment Policy Statement (IPS) Update

E. Administrative Updates

F. Wrap Up Discussion

G. Adjournment

NC STATE UNIVERSITY

Alex Wallace, Chair

A. Welcome

Welcome

Welcome to the Board of Directors Closed Meeting. This meeting is in person with the option of Zoom for those Board members not able to make it in person.

Zoom Participants:

- All participants via Zoom have been placed on MUTE to eliminate background noise
- To ask a question at any time during the presentation, click Chat in the meeting controls bar

Roll Call:

- Marly will begin the meeting with a roll call of the Board of Directors only

Alex Wallace, Chair

B. Conflicts of Interest

Code of Ethics & Conflict of Interest Policy

Reminder: If you feel there are any current relationships that would preclude you from participating in this meeting, please recuse yourself during the related discussion

Alex Wallace, Chair

C. Approval of Minutes

Approval of Minutes*

1. May 23, 2023 Closed Meeting

* Action Item

Long Term Investment Pool ("LTIP") Rebalancing

Investment Process	Roles / Responsibilities
1. IPS/Asset Allocation Review	▪ Graystone will collaborate with the NCSU Office of Investments ("OOI") in updating / revising the Investment Policy Statement ("IPS"), including the strategic targets and tactical ranges for various asset classes, for the LTIP ▪ This review will lead to recommendations on rebalancing primarily from the BlackRock LPP ("LPP") and other marketable securities
2. Sourcing	▪ With the assistance of Graystone, OOI staff will conduct searches for new best in class managers for each asset class needed to replace LPP ▪ Graystone reviews managers and funds regularly to source high conviction opportunities
3. Analysis of New Funds	▪ OOI staff will utilize Graystone's due diligence reports, data provided by potential investment managers, and insight from the Graystone team for analysis of new funds
4. Closing	▪ **Graystone will present investments to NCSIF BOD providing the opportunity to approve investments** ▪ **OOI will utilize delegated authority for deals that will close before the next schedule BOD meeting** ▪ Graystone assists OOI in filling out and submitting subscription documents
5. Managing / Monitoring	▪ Graystone and OOI staff will monitor performance of new investments ▪ OOI will review performance reports and meet with managers periodically to discuss performance and strategy

Graystone Consulting from Morgan Stanley

Robert Morris, MS Graystone

D. Investment Policy Statement (IPS) Update

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from Morgan Stanley

NC STATE UNIVERSITY

Investment Policy & Allocation Review

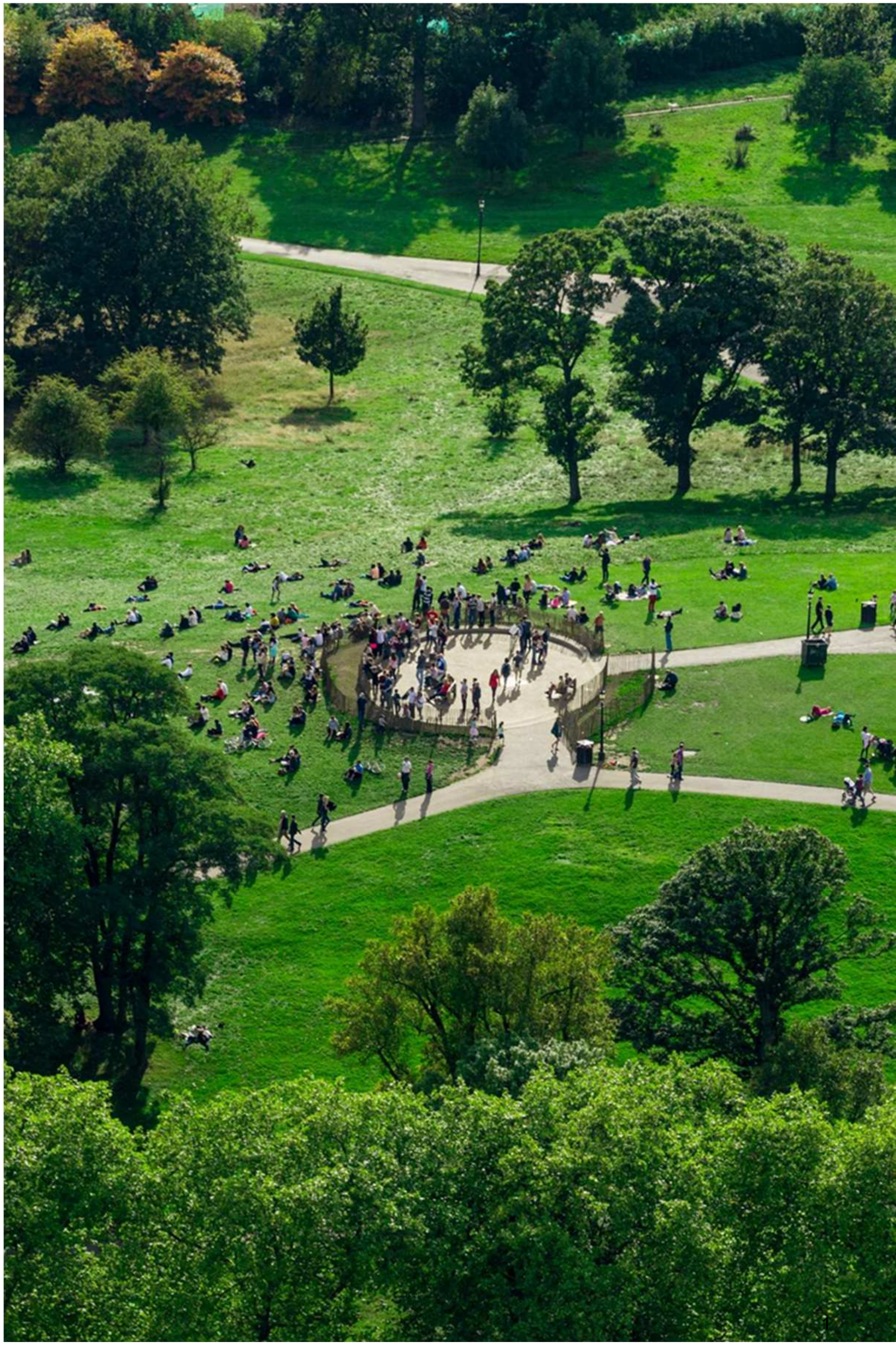
Robert J. Morris
Senior Vice President
Institutional Consulting Director

Jade Baker
Institutional Consultant

Lee Morris, CIMA
Managing Director
Institutional Consulting Director

Mary Ann Akin, CFP, CIMA
First Vice President
Director of Business Strategy

Barron's 2023 Top 100 Institutional Consulting Teams



Section 1 - Investment Policy Thoughts

Graystone Initial Investment Policy Thoughts

Observation 1

- Even though the Investment Consultant roles are outline in Section C., it is believed that Section D. 1. also pertains to the role of the Investment Consultant (not just the Finance Division). (Or with the assistance thereof.)

Observation 2

- Recommend changing Section E to reflect the Fund's objective to be managed according to UPMIFA.

  - Current: *The Fund's objective is to apply the prudent-person rule: Investments are made, as a prudent person would be expected to act, with discretion and intelligence, to seek a total real return while preserving capital, and in general, to avoid speculative investments. The Fund utilizes various methods to monitor risk in the portfolio such as concentration levels, volatility, correlation and other quantitative measures. The Board will tolerate volatility as measured against the risk/return analysis of the appropriate portfolio objective.*

  - Recommended: *The Fund's objective is to adhere to the rules set by UPMIFA in March 2009 in North Carolina. The endowment spending rules contained in UPMIFA require an endowment, foundation, or other charitable organization to act in good faith, with the care that a prudent person would ordinarily exercise under similar circumstances and consider, if relevant, the following seven factors:*
    1. *The duration and preservation of the endowment fund*
    2. *The purpose of the institution and the endowment fund*
    3. *General economic conditions*
    4. *The possible effect of inflation and deflation*
    5. *The expected total return from income and the appreciation of investments*
    6. *Other resources of the institution*
    7. *The investment policy of the institution*

Graystone Initial Investment Policy Thoughts, cont.

Observation 3

- The Return Objectives Section B. 1., when taken individually, can be appropriate, but combined could present some challenges to obtainability.
  - Delivery on all six goals could lead the allocation to some “corner solutions” on an optimization, inadvertently chasing risk in some market environments.
  - The section seems to gear better to specific managers rather than the overarching NCSIF.
- Recommendation to identify one or two of those goals and make those the focus, a primary goal / secondary goal.
  - Primary should be their specific needs.
  - Second should be their specific risk proxy benchmark.
  - Tertiary are the aspirational metrics of the peer sets. Those could lead to chasing what everyone else is doing.
- To add additional metrics of performance measurement might just subject consultants and NC State staff to an unachievable goal, i.e. “Top third of NACUBO”, or “Top quartile of Cambridge Associates $1 Billion plus Universe”, etc..

Observation 4

- Recommendation to increase the upper tactical range for “Long Biased Equity” to 42%. That would put the strategic target in the middle of that range.
- It seems that a Fixed Income strategic target of 11% and an upper limit of 15% seems relatively low. Recommend increasing the strategic target to 14% and the upper limit of Fixed Income tactical target to 20%.
- A 15% position in long/short equity seems a little high. Recommendation for lower long/short equity exposure and put that additional 2 – 5% in fixed income.

Graystone Initial Investment Policy Thoughts, cont.

Observation 5

- The Private equity strategic targets appear appropriate and there appears to have been an outsized gain in this area previously for the portfolio. As this asset category approaches the upper range we would suggest moving back to the strategic target.

Observation 6

- Under Section IV Risk Management there is discussion of diversification by asset class including industry, geography and so-forth mentioning the desire that no one investment manager have a disproportionate impact on the funds aggregate results. This appears to stop short of naming a maximum percentage that would be invested in a single asset manager, we would propose 25% as a common limit to this.

Section 2 - Asset Allocation Modeling

We Think About Capital Market Forecasting on Three Levels

Secular Forecasts	20-year time horizon based on long-term mean reversion
Strategic Forecasts	7-year time horizon based on current macro regime (business cycle, relative valuations, volatility and correlation trends)
Tactical Outlook	1-year outlook based on marginal changes in economic, geopolitical, fundamental, technical and near-term risk indicators

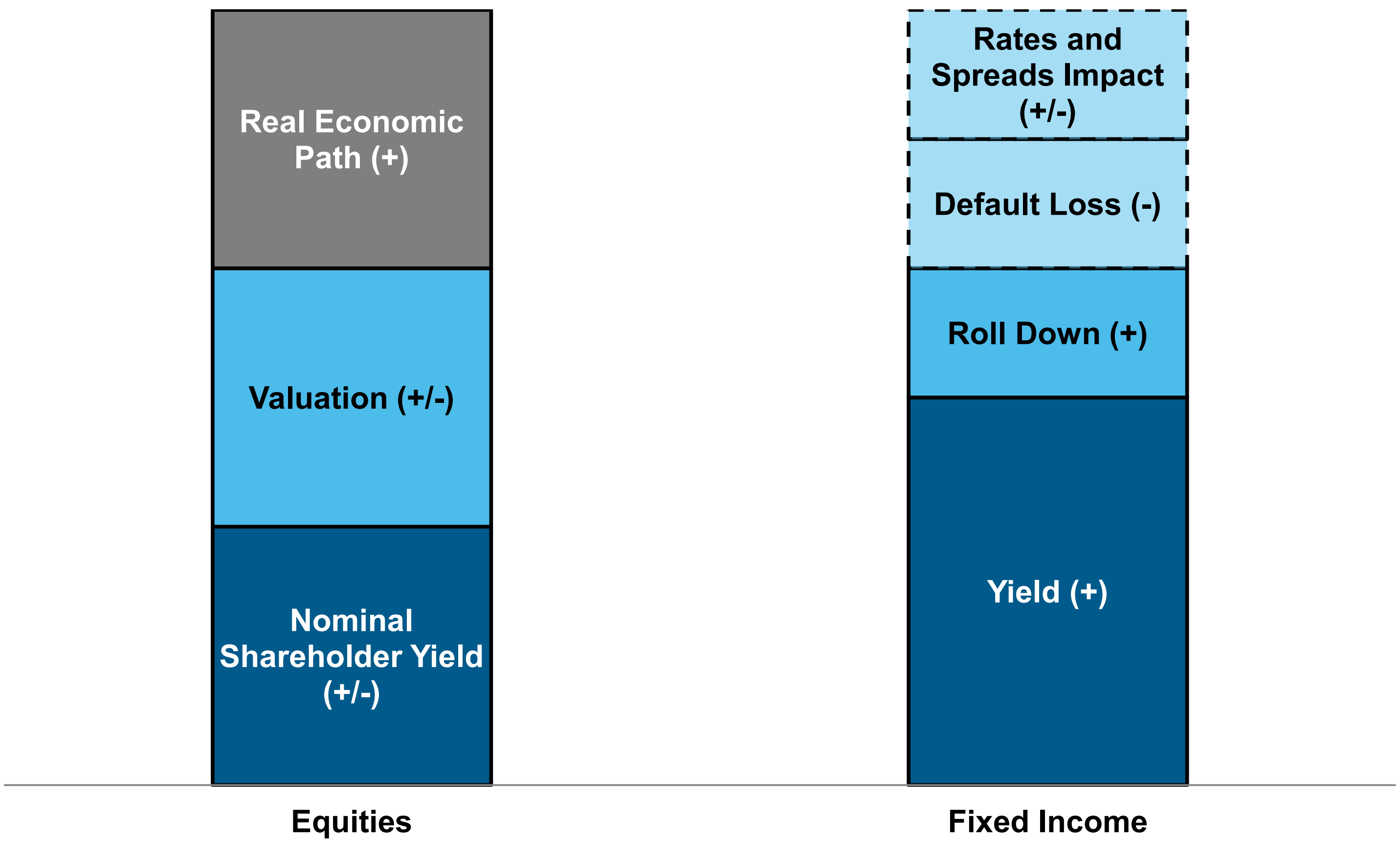
Source: Morgan Stanley Wealth Management GIC. Mean reversion suggests that prices and returns eventually move back toward the mean or average. Relative value is predicated on realization of a valuation discrepancy in the relationship between multiple securities. Correlation is a statistical method of measuring the strength of a linear relationship between two variables. The correlation between two variables can assume any value from -1.00 to +1.00, inclusive. Standard deviation (volatility) is a measure of the dispersion of a set of data from its mean.

Graystone Consulting from Morgan Stanley

A Building-Block Approach to GIC Return Estimates

This approach to making forecasts of strategic investment returns reflects fundamental economic principles, as well as empirical relationships that have prevailed over long periods of time.

As of March 29, 2023

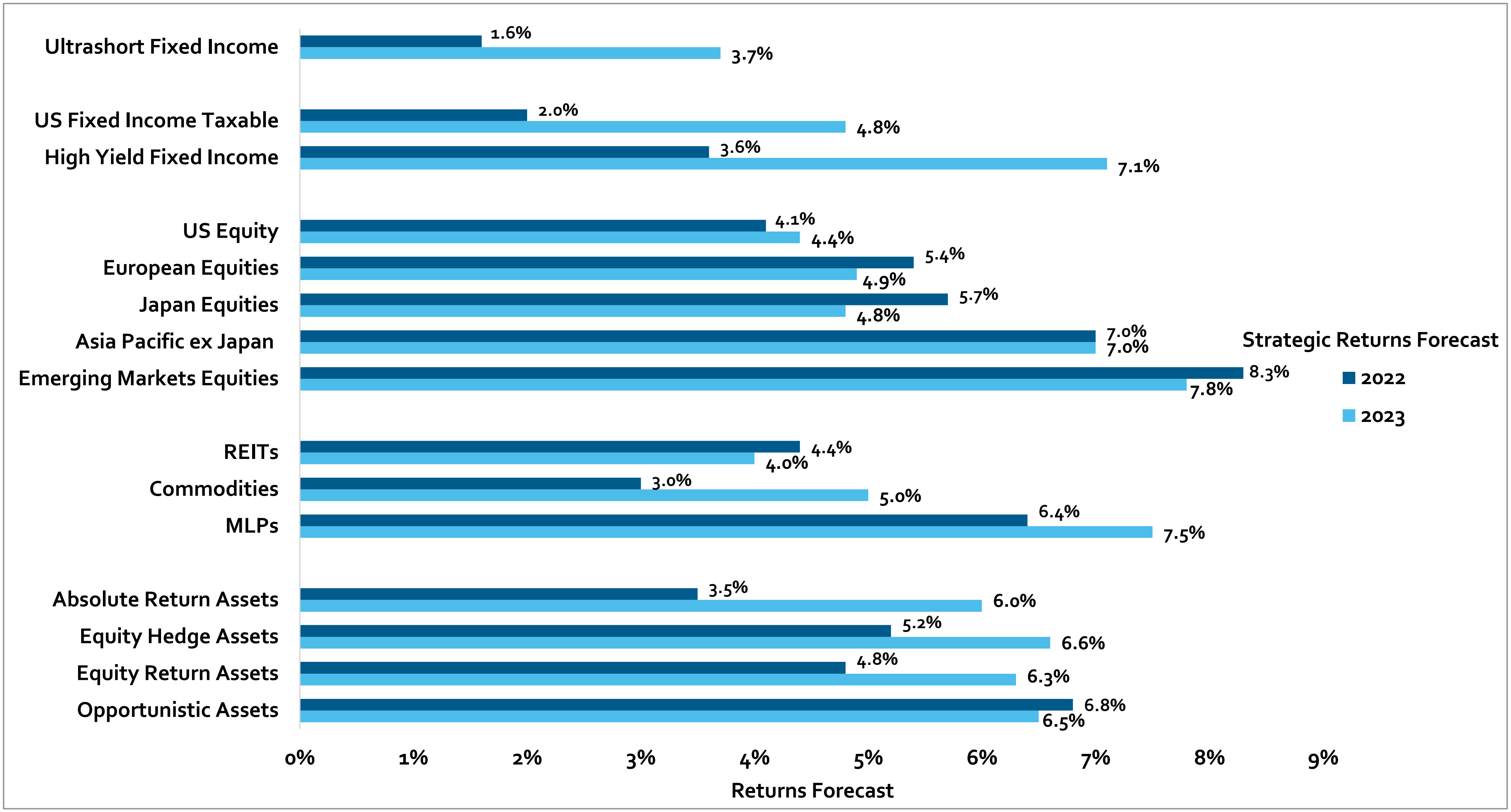


Source: Morgan Stanley Wealth Management GIC. Roll down return is the amount that interest rates can rise over a specified time period before the current yield exceeds an investor's year-to-maturity. The yield to maturity (YTM) is the rate of return that will be earned if the bond is held until it reaches its maturity date.

Graystone Consulting
from Morgan Stanley

How Did Our **Strategic** Forecasts Change?

As of March 29, 2023

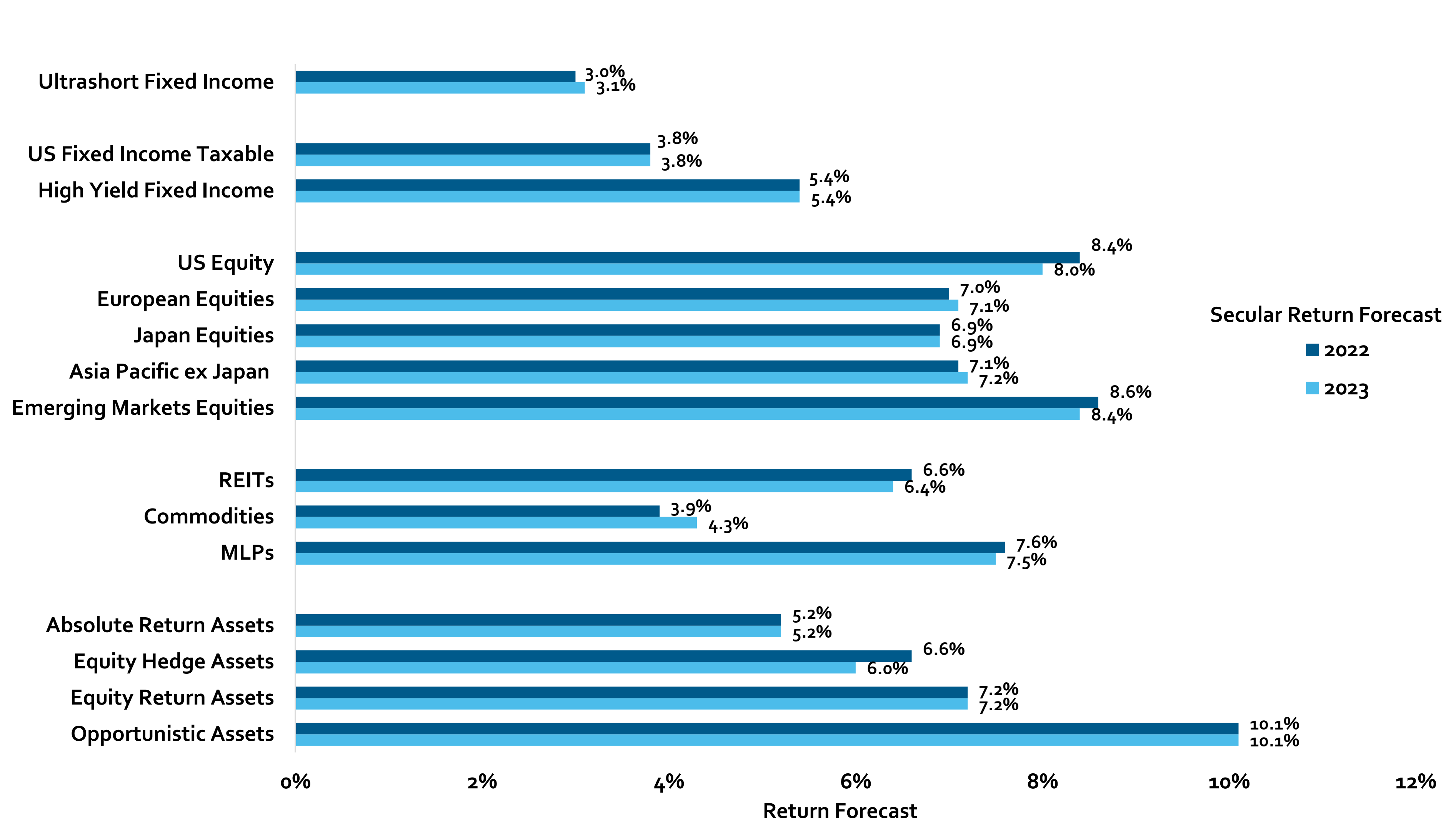


Source: Morgan Stanley Wealth Management GIC. Data as of February 28, 2023 Ultrashort Fixed Income represented by 90-day T-bills, US Fixed Income Taxable by Bloomberg US Aggregate Index, High Yield Fixed Income by Bloomberg US Corporate High Yield Index. All other others are based on proprietary models.

Past performance is no guarantee of future results. Estimates of future performance are based on assumptions that may not be realized. This material is not a solicitation of any offer to buy or sell any security or other financial instrument or to participate in any trading strategy. Please refer to important information, disclosures and qualifications at the end of this material.

How Did Our **Secular** Forecasts Change?

As of March 29, 2023



Source: Morgan Stanley Wealth Management GIC. Data as of February 28, 2023. Ultrashort Fixed Income represented by 90-day T-bills, US Fixed Income Taxable by Bloomberg Bloomberg US Aggregate Index, High Yield Fixed Income by Bloomberg US Corporate High Yield Index. All other others are based on proprietary models.

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Return Assumptions

	Strategic Assumptions				Secular Assumptions			
	Annual Return	Standard Deviation	Sharpe Ratio	Yield	Annual Return	Standard Deviation	Sharpe Ratio	Yield
Equities	**6.0%**	**13.4%**	**0.17**	**2.0%**	**8.8%**	**13.4%**	**0.42**	**2.0%**
US Equities	**5.4%**	**14.9%**	**0.11**	**2.0%**	**9.3%**	**14.9%**	**0.42**	**2.0%**
International Equities	**6.3%**	**15.4%**	**0.17**	**2.1%**	**8.3%**	**15.4%**	**0.34**	**2.1%**
Emerging & Frontier Mkt	**9.4%**	**19.3%**	**0.30**	**2.3%**	**10.1%**	**19.3%**	**0.36**	**2.3%**
Global Equities Other	**6.0%**	**13.4%**	**0.17**	**2.1%**	**8.8%**	**13.4%**	**0.42**	**2.1%**
Fixed Income & Cash	**4.9%**	**5.2%**	**0.22**	**4.9%**	**3.9%**	**5.2%**	**0.16**	**3.9%**
Cash	**3.7%**	**0.8%**	**0.00**	**3.7%**	**3.1%**	**0.8%**	**0.00**	**3.1%**
Fixed Income	**4.9%**	**5.2%**	**0.22**	**4.9%**	**3.9%**	**5.2%**	**0.16**	**3.9%**
Private Credit	9.8%	10.4%	0.58	9.8%	9.3%	10.4%	0.60	9.3%
Alternatives	**6.8%**	**8.0%**	**0.38**	**0.0%**	**6.5%**	**8.0%**	**0.42**	**0.0%**
Real Assets	**6.2%**	**12.3%**	**0.20**	**2.5%**	**6.8%**	**12.3%**	**0.30**	**2.5%**
REITs	5.2%	16.0%	0.09	2.8%	7.5%	16.0%	0.28	2.8%
Infrastructure	6.5%	13.6%	0.20	4.1%	6.7%	13.6%	0.26	4.1%
Absolute Return Assets	**6.2%**	**5.1%**	**0.47**	**0.0%**	**5.3%**	**5.1%**	**0.44**	**0.0%**
Unconstrained Fixed Inc.	5.9%	5.1%	0.43	5.9%	4.5%	5.1%	0.27	4.5%
Non-Directional MMgr/FoF	6.3%	5.7%	0.45	0.0%	5.8%	5.7%	0.47	0.0%
Equity Return Assets	**6.7%**	**8.8%**	**0.33**	**0.0%**	**7.5%**	**8.8%**	**0.50**	**0.0%**
Equity Long/Short	6.5%	9.8%	0.29	0.0%	8.0%	9.8%	0.50	0.0%
Private Investments	**7.6%**	**15.5%**	**0.25**	**2.5%**	**11.2%**	**15.5%**	**0.52**	**3.4%**
Private Real Estate	6.3%	16.7%	0.15	5.0%	8.6%	16.7%	0.33	6.9%
Private Equity	9.3%	16.2%	0.34	0.0%	14.0%	16.2%	0.67	0.0%
Energy & Infrastructure	8.9%	17.6%	0.29	4.6%	8.9%	17.6%	0.33	4.6%

The Strategic Assumptions represent a time horizon of 7 years while the Secular Assumptions represent a time horizon of 20+ years. In the Linear Growth and Monte Carlo analyses the Strategic Assumptions apply for the first 7 years and the Secular Assumptions for each year thereafter. These assumptions are used for modeling purposes only. They are not guarantees of future returns.

1) The Return returns for Equity Return Assets and Private Investments have been adjusted to account for infrequent pricing.

1. The assumed return rates in the Wealth Strategies Analysis are not reflective of any specific investment, do not include any fees or expenses that may be incurred by investing in specific products, nor all costs that you will incur when you implement your investment strategy. The return assumptions and hypothetical illustrations herein may be impacted after applying such costs, which may include investment advisory program fees up to a maximum of 2.0%, sub-manager fees, brokerage commissions, sales load or other expenses, which will depend on whether you choose a brokerage or an advisory relationship. The actual returns of a specific investment may be more or less than the asset class return assumptions used in the Wealth Strategies Analysis.
2. It is not possible to invest directly in an index. The index performance shown does not reflect the impact of any taxes, transaction costs, management fees or other expenses that may be associated with certain investments. Indices are unmanaged.
3. The Capital Market Assumptions applied in this analysis were defined by the firm's Global Investment Committee and were published in the "Annual Update of GIC Capital Market Assumptions" on March 29th, 2023.
4. For use only in one-on-one presentations.

Return Assumptions | As of August 2023 | Reporting Currency: USD ID : 10458094 GRAYSTONE CONSULTING 12

Asset Allocations

Summary

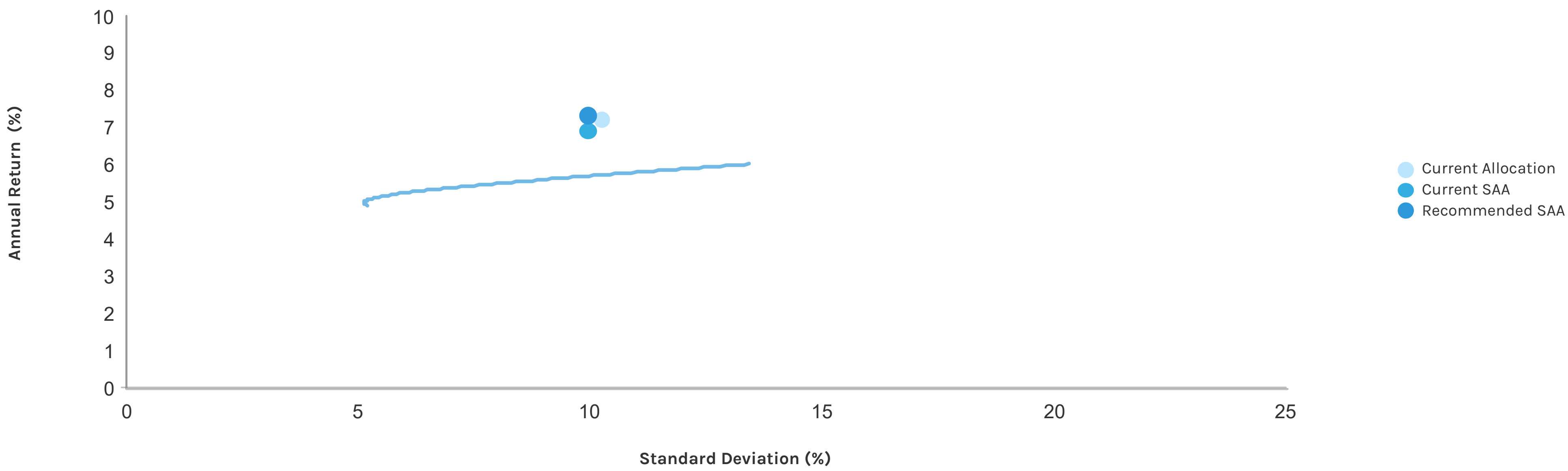
	Current Allocation	Current SAA	Recommended SAA
Equities	**28.0%**	**33.0%**	**28.0%**
US Equities	**13.5%**	**0.0%**	**12.0%**
International Equities	**6.5%**	**0.0%**	**7.0%**
Emerging & Frontier Mkt	**4.2%**	**0.0%**	**5.0%**
Global Equities Other	**3.8%**	**0.0%**	**4.0%**
Fixed Income & Cash	**15.1%**	**16.0%**	**19.5%**
Cash	1.5%	2.0%	1.5%
Fixed Income	10.6%	11.0%	10.5%
Private Credit	3.0%	3.0%	7.5%
Alternatives	**56.9%**	**51.0%**	**52.5%**
Absolute Return Assets	**7.4%**	**6.0%**	**7.0%**
Non-Directional MMgr/FoF	7.4%	6.0%	7.0%
Equity Return Assets	**10.4%**	**12.0%**	**10.5%**
Equity Long/Short	10.4%	12.0%	10.5%
Private Investments	**39.1%**	**33.0%**	**35.0%**
Private Real Estate	6.5%	6.0%	5.0%
Private Equity	28.9%	22.0%	25.0%
Energy & Infrastructure	3.7%	5.0%	5.0%
Strategic Assumptions			
Annual Return	7.2%	6.9%	7.3%
Standard Deviation	10.3%	10.0%	10.0%
Sharpe Ratio	0.33	0.32	0.36
Annual Yield	1.9%	2.1%	2.4%
Probability of Positive Return	76.6%	76.4%	77.6%
Secular Assumptions			
Annual Return	9.5%	9.0%	9.3%
Standard Deviation	10.3%	10.0%	10.0%
Sharpe Ratio	0.62	0.59	0.62
Annual Yield	1.9%	2.1%	2.3%
Probability of Positive Return	82.2%	81.7%	82.3%

1. The portfolios above are constructed using indices as proxies. Indices are unmanaged. It is not possible to invest directly in an index. Asset allocation does not assure a profit or protect against loss.
2. This analysis assumes that the Strategic Assumptions apply for the first 7 years and the Secular Assumptions apply thereafter.
3. Annual returns are shown gross of cash inflows, cash outflows and advisory fees.
4. Please refer to the Return Assumptions page of the appendix to view an important and relevant disclosure regarding return rates and fees.
5. For use only in one-on-one presentations. SAA stands for Strategic Asset Allocation.

Asset Allocations | As of August 2023 | Reporting Currency: USD

Efficient Frontier

Summary



	Current Allocation	Current SAA	Recommended SAA
Strategic Assumptions			
Annual Return	7.2%	6.9%	7.3%
Standard Deviation	10.3%	10.0%	10.0%
Sharpe Ratio	0.33	0.32	0.36
Annual Yield	1.9%	2.1%	2.4%

1. This analysis assumes that the Strategic Assumptions apply for the first 7 years and the Secular Assumptions apply thereafter.
2. Please refer to the Return Assumptions page of the appendix to view an important and relevant disclosure regarding return rates and fees.
3. For use only in one-on-one presentations. SAA stands for Strategic Asset Allocation.

Efficient Frontier | As of August 2023 | Reporting Currency: USD ID : 10458806 GRAYSTONE CONSULTING 14

Section 3 - Investment Priority Timeline

NCSIF Investment Priority

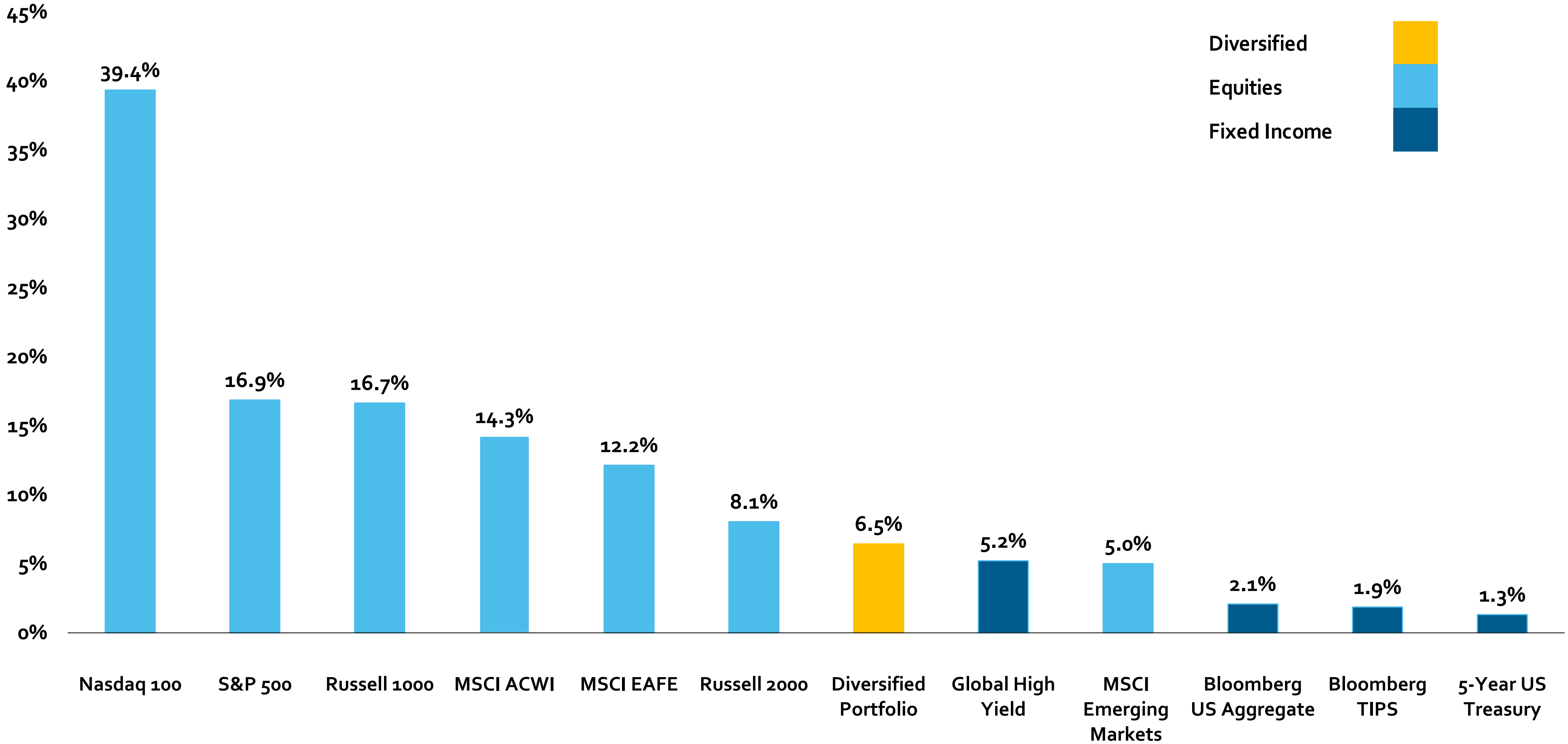
		Anticipated Timeline	Funded	Manager Selection
1	**Active Long-Short equity Hedge**	Completed	8/1/2023	Starboard
	Rationale: Gain top-quartile hedged equity activist exposure in a direct position for NCSIF			
2	**Equal-Weight index equity strategy**	Calendar Q1 2024	*	TBD
	Rationale: Replace LPP market beta with reduced concentration risk in mega-cap tech			
3	**Multi-Strategy Manager(s)**	Calendar Q1 2024		TBD
	Rationale: Reduce directional reliance on equity beta sources for NCSIF			
4	**Active Stand-alone NCSIF International Manager(s)**	Calendar Q2 2024		TBD
	Rationale: Replace potential lost international exposure from LPP			
5	**Stand-alone NCSIF short duration fixed income manager(s)**	Calendar Q2 2024		TBD
	Rationale: Replace potential lost fixed income exposure from LPP			
6	**Private Real Assets**	Calendar Q2 / Q3 2024		TBD

*Pending Policy Approval

Section 4 - Current Market Thoughts

Total Returns for Select Asset Classes Year-to-Date 2023

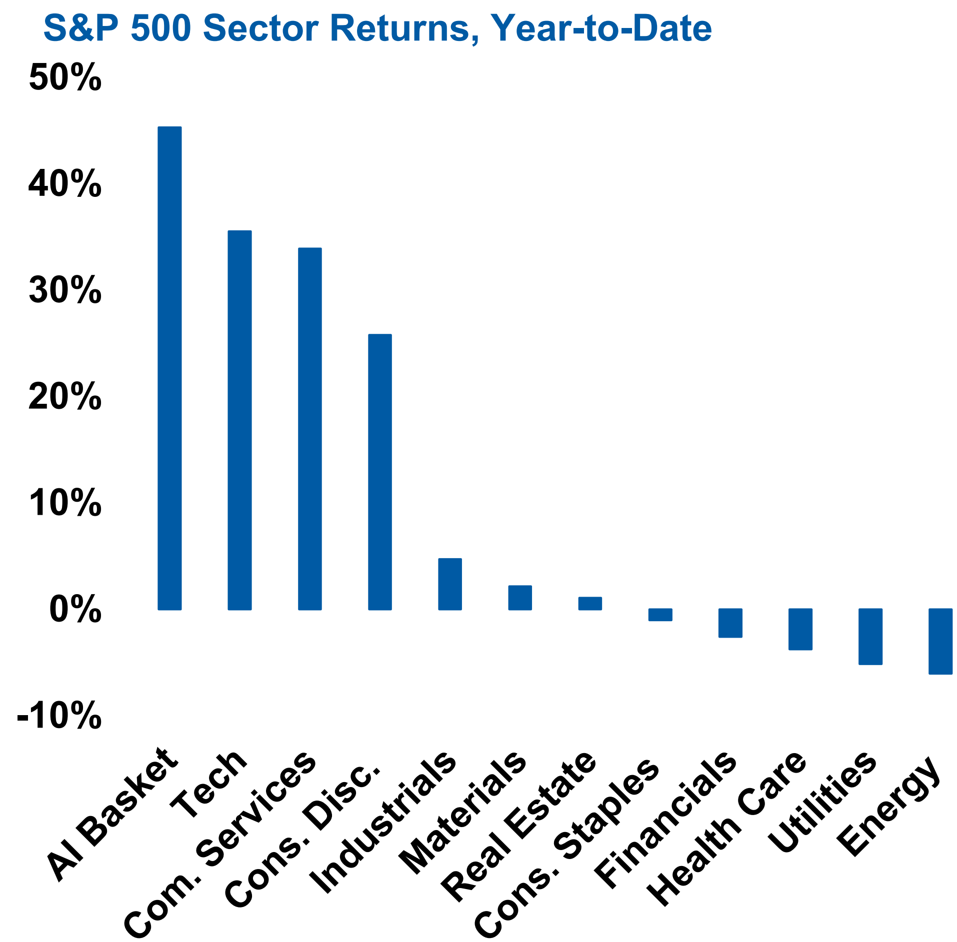
Cumulative Return from December 30, 2022 - June 30, 2023



Source: FactSet, Bloomberg, Morgan Stanley Wealth Management Global Investment Office. Diversified portfolio is comprised of 40% MSCI ACWI, 40% Bloomberg US Aggregate, 5% FTSE US 3 mo. T-Bills, 9% HFRX Global Hedge Funds, 3% Bloomberg Commodity Index, and 3% FTSE NAREIT All Equity REITS Total Return Index.

The Recent S&P 500 Performance Has Been Highly Concentrated…

Source: Morgan Stanley Wealth Management GIC, Bloomberg as of June 2, 2023



Source: Morgan Stanley Wealth Management GIC, Bloomberg as of June 3, 2023

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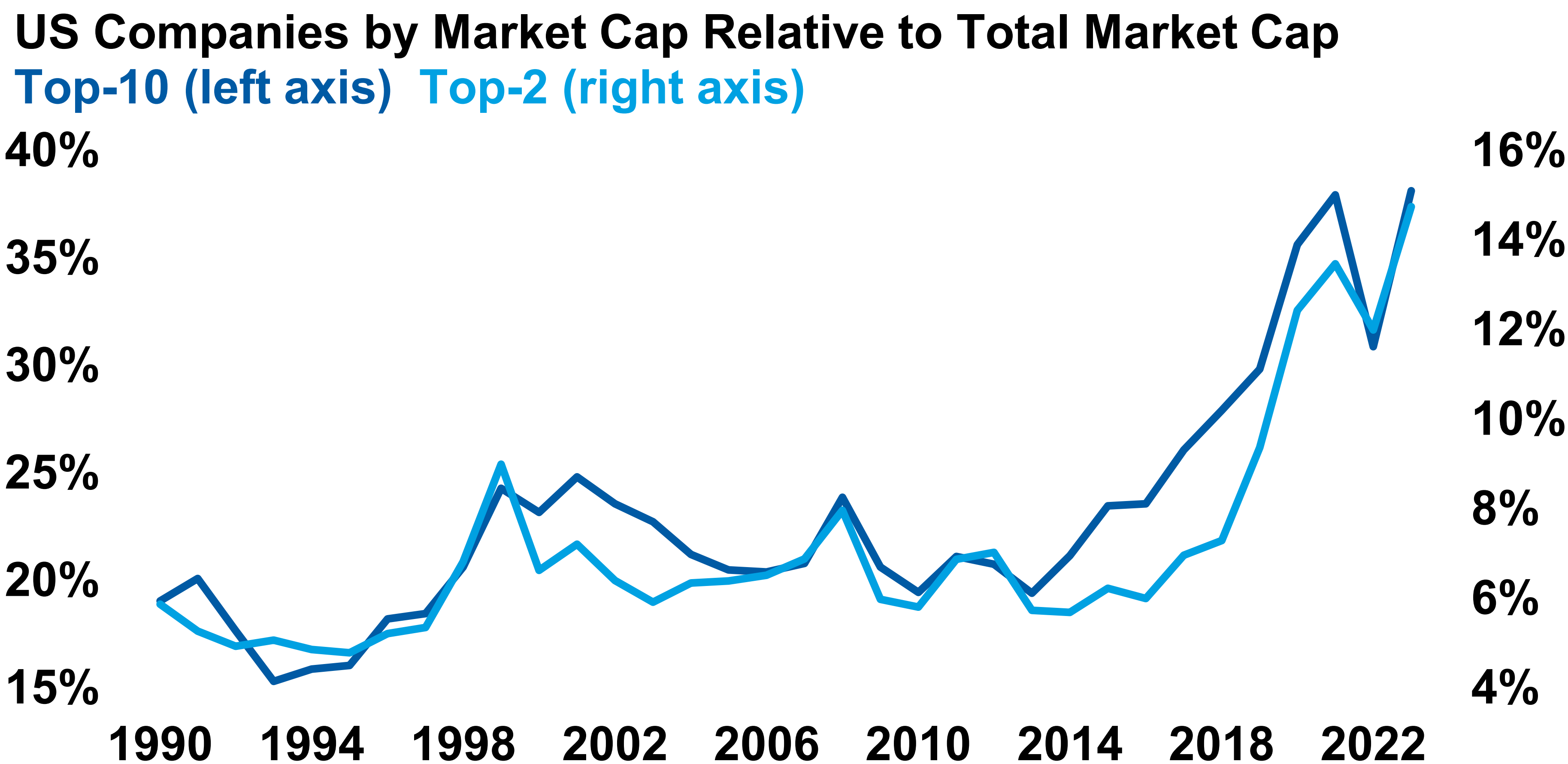
Concentration Risk in Passive Strategies

Index Concentration - Top 10 Holdings					Data as of June 30, 2023
MSCI ACWI		S&P 500		Russell 1000 Growth	
Apple	4.84%	Apple	7.49%	Apple	13.16%
Microsoft	3.79%	Microsoft	6.95%	Microsoft	11.60%
Amazon	1.90%	Amazon	3.08%	Amazon	5.41%
Nvidia	1.65%	Nvidia	2.69%	Nvidia	4.64%
Tesla	1.18%	Alphabet A	2.07%	Tesla	3.59%
Alphabet A	1.12%	Alphabet C	1.81%	Alphabet A	3.34%
Alphabet C	1.02%	Meta (Facebook)	1.69%	Meta (Facebook)	3.00%
Meta (Facebook)	1.00%	Berkshire Hathaway	1.65%	Alphabet C	2.91%
Taiwan Semi	0.72%	Tesla	1.60%	Eli Lilly	1.82%
UnitedHealth	0.72%	UnitedHealth	1.30%	Visa	1.79%
	17.94%		30.33%		51.26%

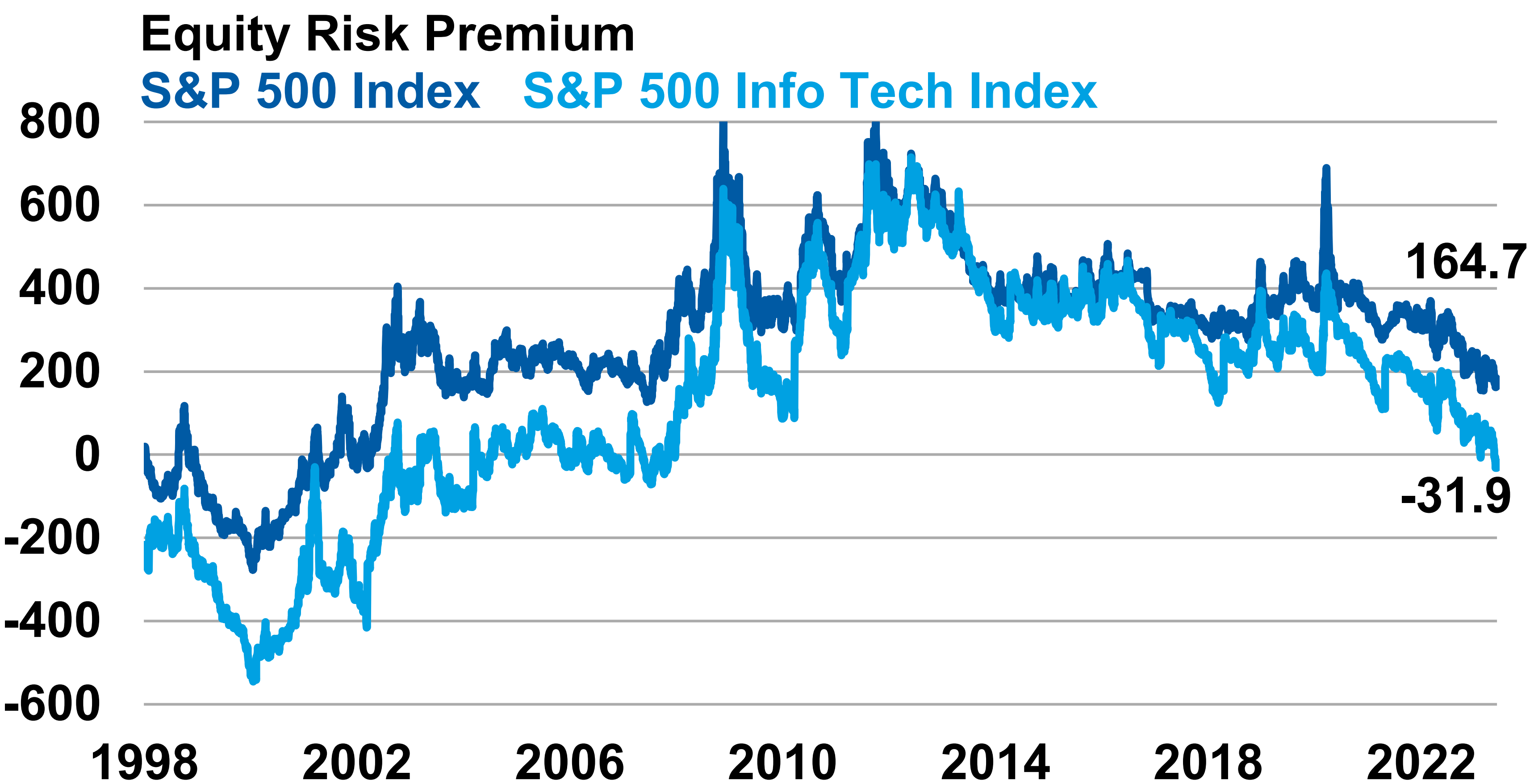
Source: Bloomberg, FactSet, Morgan Stanley & Co. Research, Morgan Stanley Wealth Management GIC

Leaving the Current S&P 500 Benchmark Fragile and Rate Sensitive…



Source: Morgan Stanley Wealth Management GIC, Bloomberg as of June 2, 2023

…Suggesting Relative Valuations Are Not Cheap

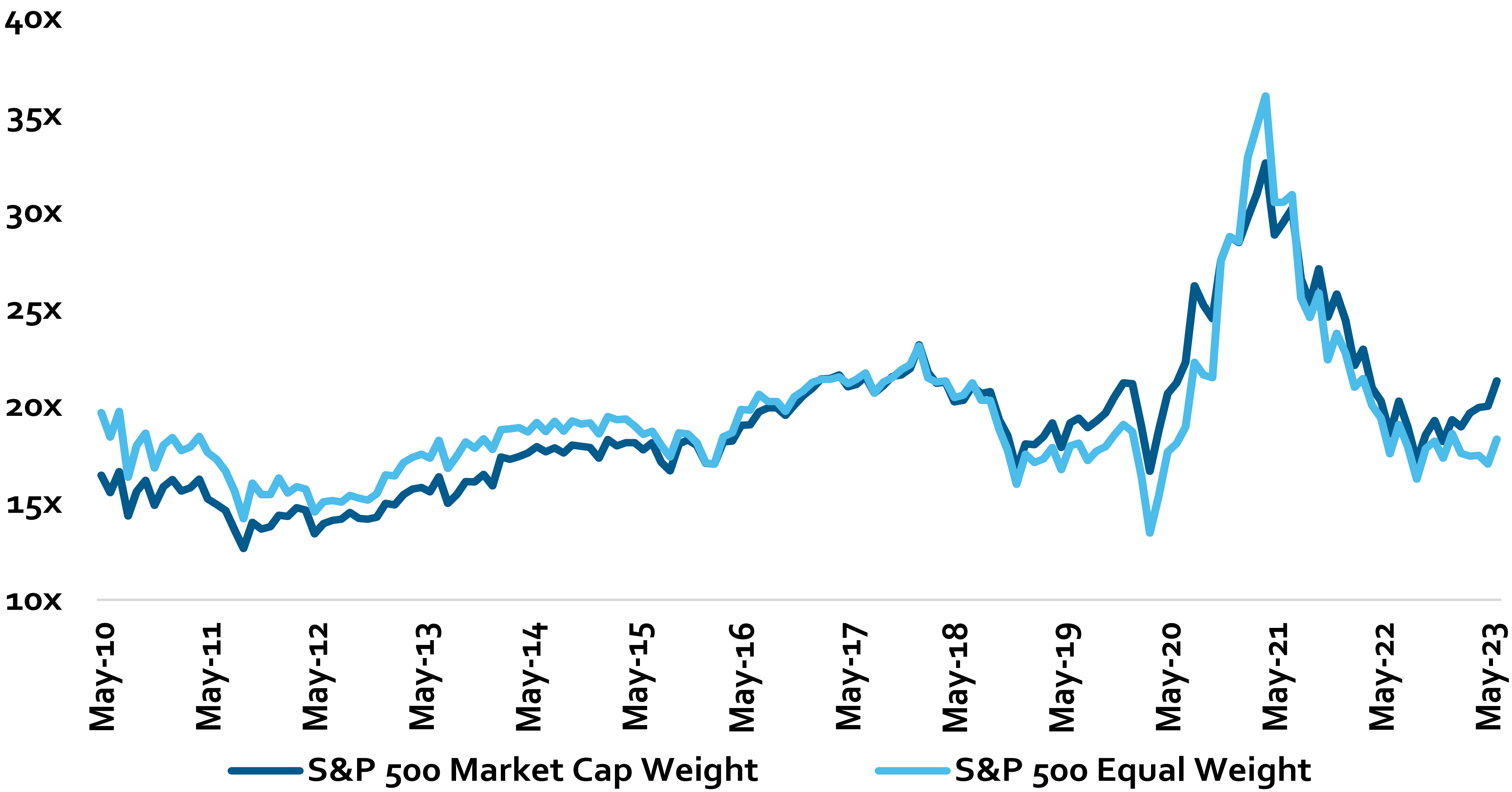


Source: Morgan Stanley Wealth Management GIC, Bloomberg as of June 5, 2023. Equity risk premium is the excess return that an individual stock or the overall stock market provides over a risk-free rate. The risk-free rate represents the interest an investor would expect from an absolutely risk-free investment over a specified period of time.

S&P 500 P/E Ratios: Market vs. Equal Weight

Market weighted S&P 500 P/E ratio compared to equal weighted S&P 500

Data through June 30, 2023



Source: Bloomberg, Morgan Stanley Wealth Management GIO

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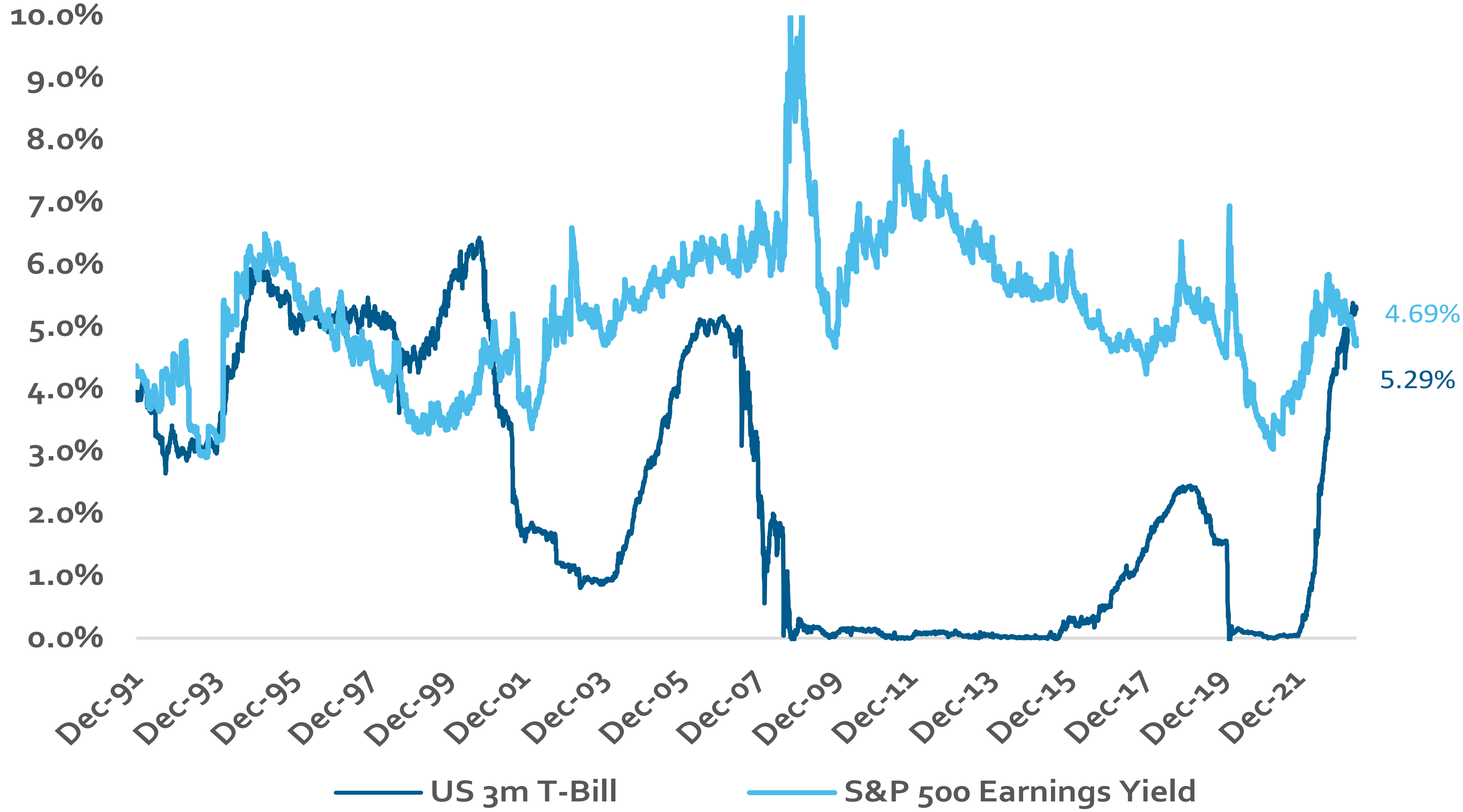
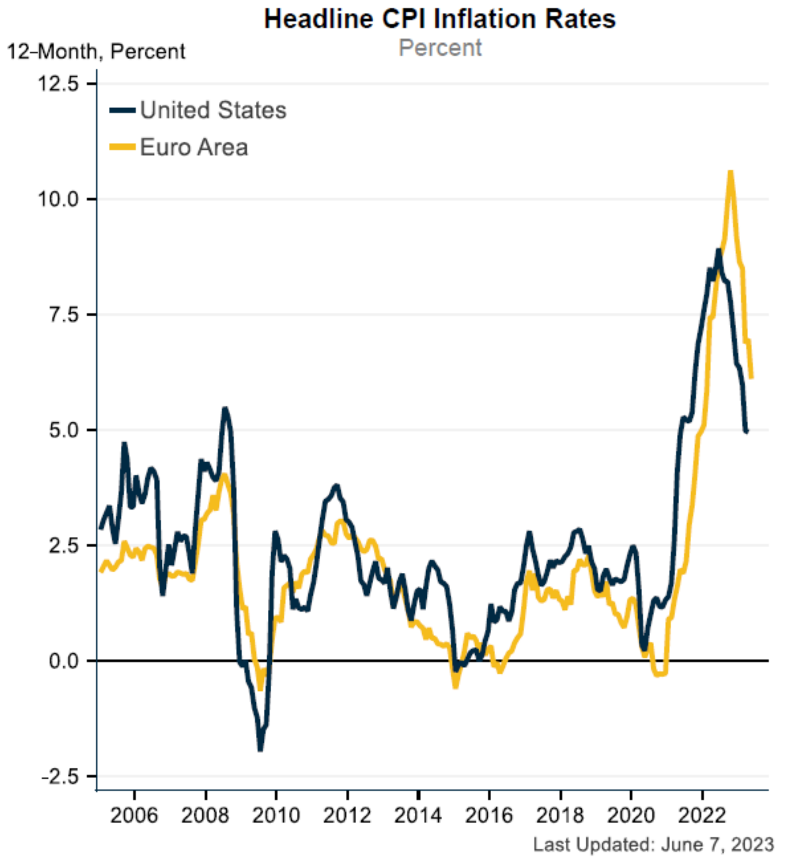
S&P 500 Earnings Yield vs Three-Month Treasury Yield

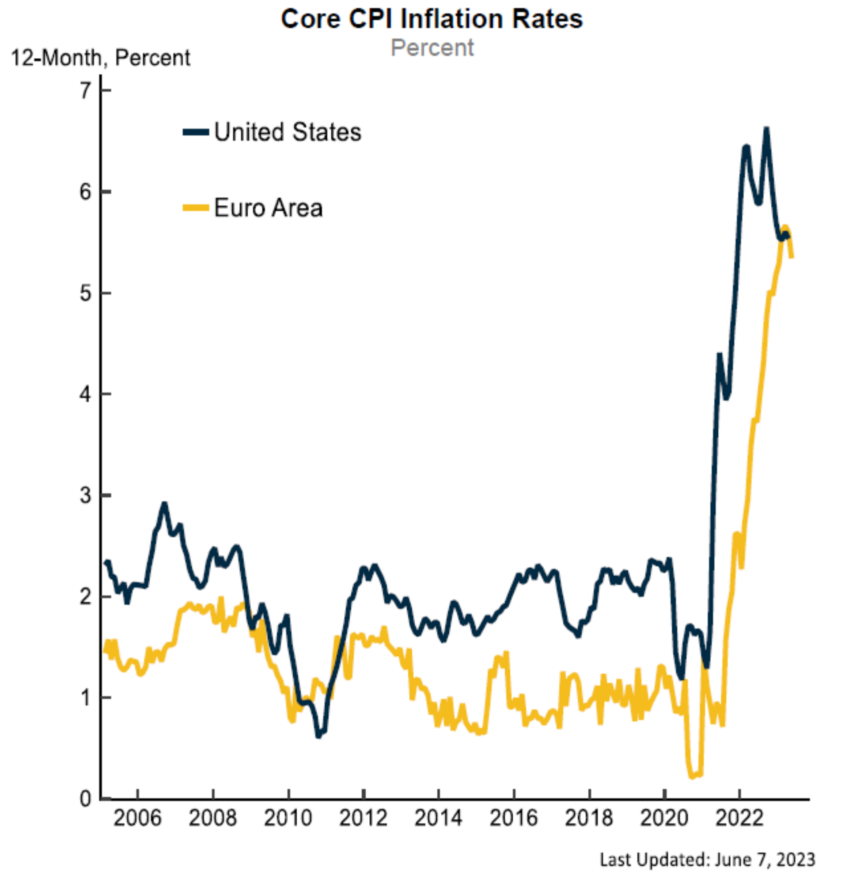
Daily Data as of July 3, 2023



Source: Bloomberg, Morgan Stanley Wealth Management GIO

Inflation Crest in US compared to broadening in Europe





Source: ICE BofAML, PGIM Fixed Income and ICE Data Indices, LLC

Fed and ECB Tightening is more Aggressive than Prior Cycles

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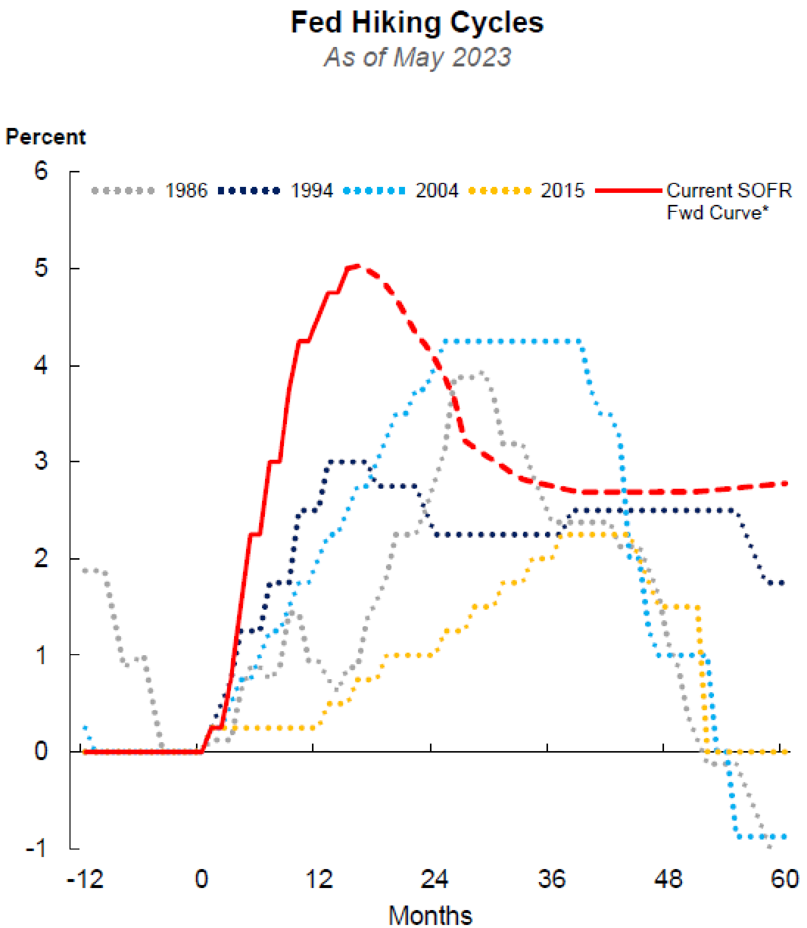
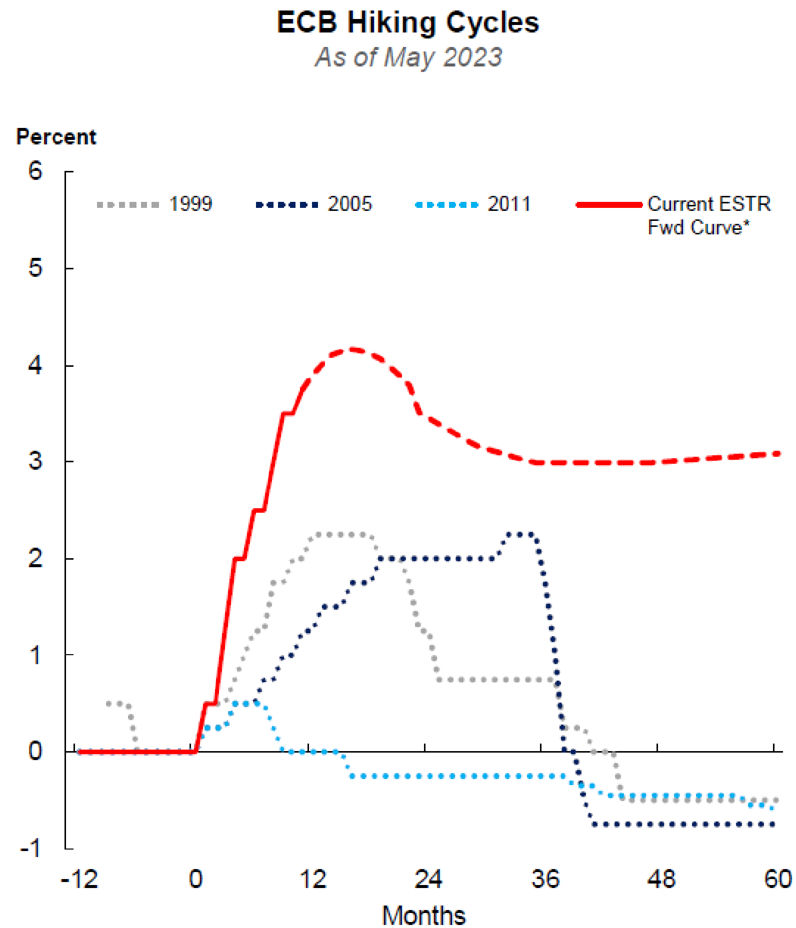


*1M Tenor



*1M Tenor

SOFR forwards assuming central bank cuts in the coming months

Source: ICE BofAML, PGIM Fixed Income and ICE Data Indices, LLC

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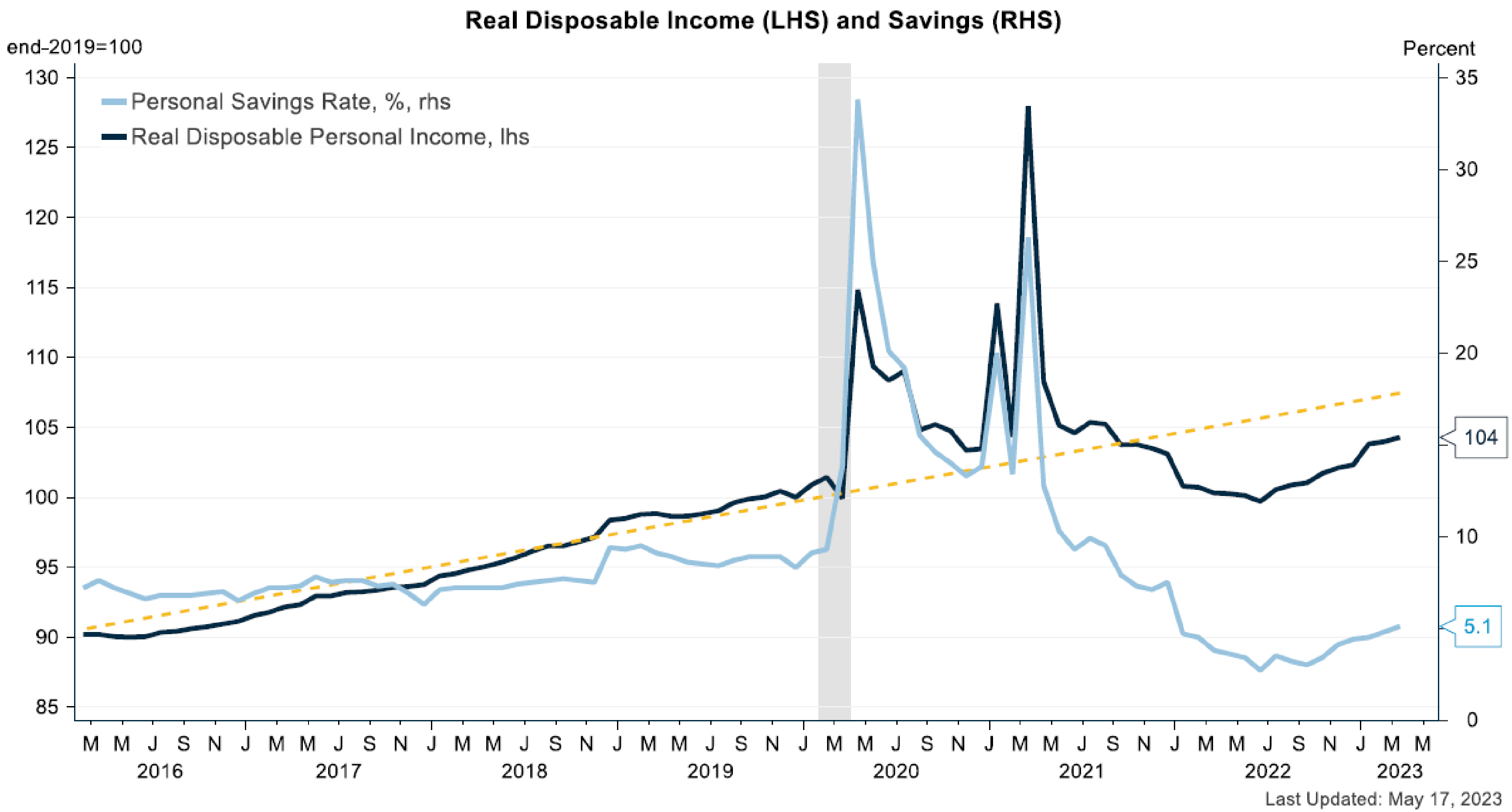
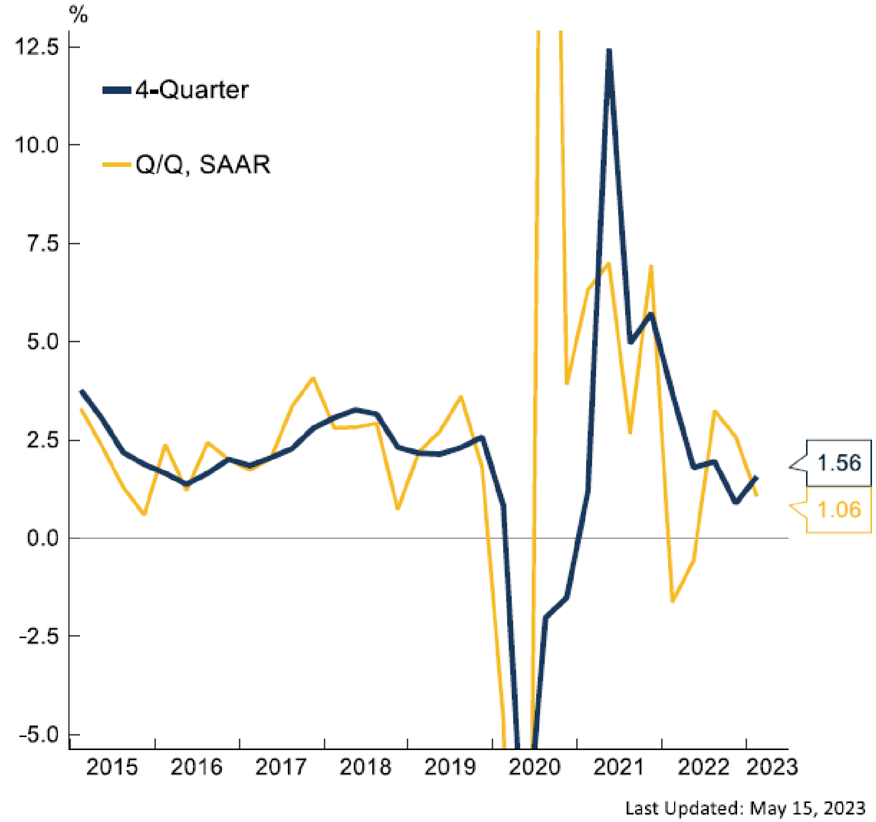
Ongoing Financial Shocks and Inflation Spikes result in thinner "buffers" for consumers



Source: ICE BofAML, PGIM Fixed Income and ICE Data Indices, LLC

Slowing Growth, but remaining resilient in through Fed Tightening

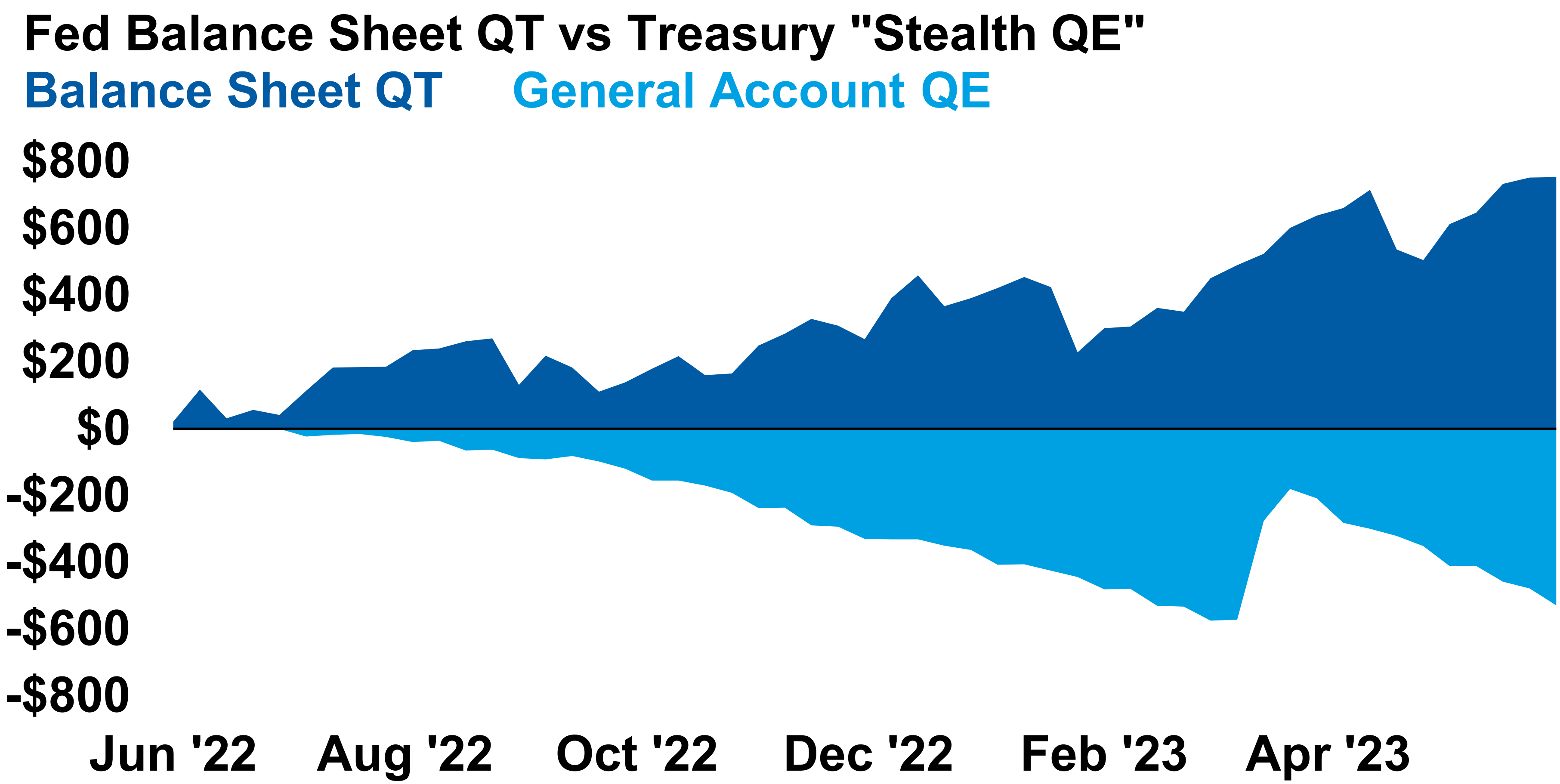
U.S. Real GDP Growth



U.S. ISM Surveys

Source: ICE BofAML, PGIM Fixed Income and ICE Data Indices, LLC

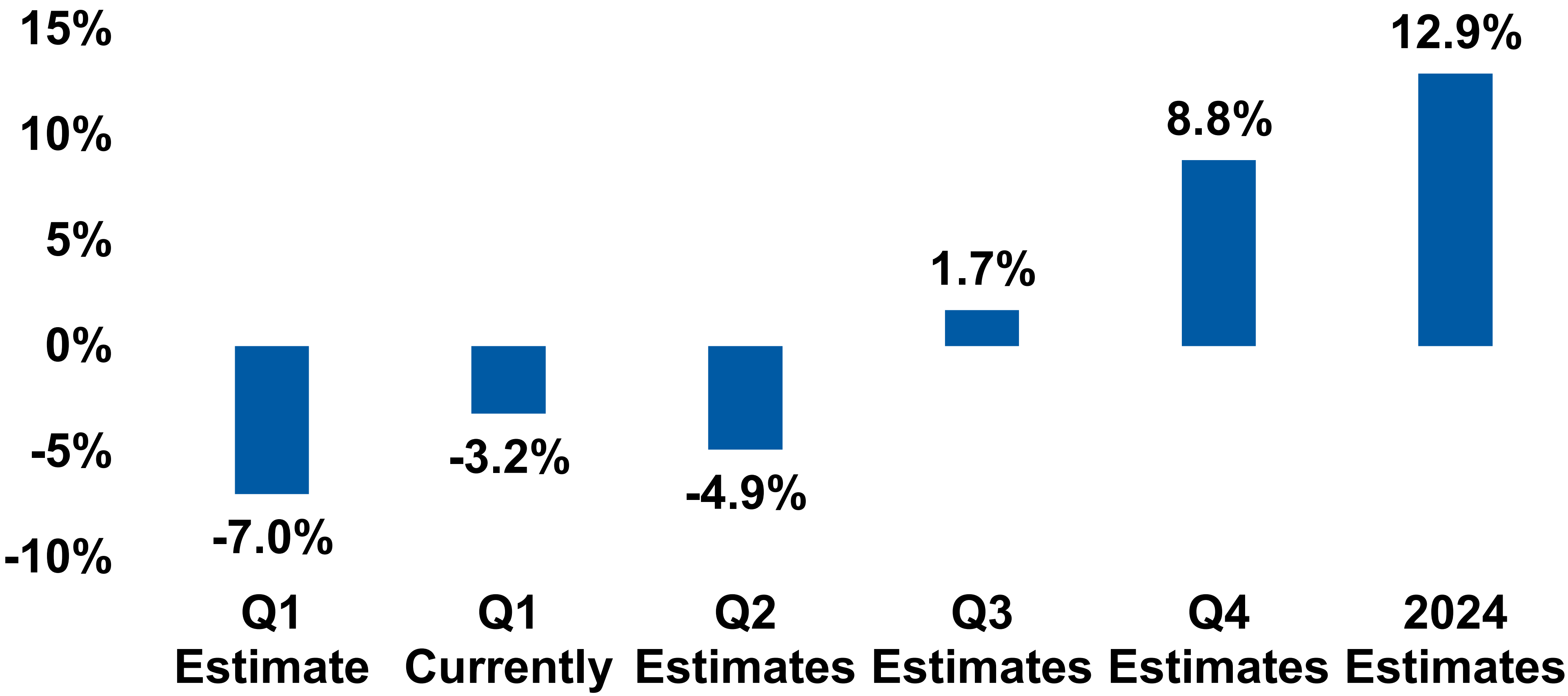
Treasury General Account Spend Has Completely Offset Quantitative Tightening



Source: Morgan Stanley Wealth Management GIC, Bloomberg as of May 31, 2023

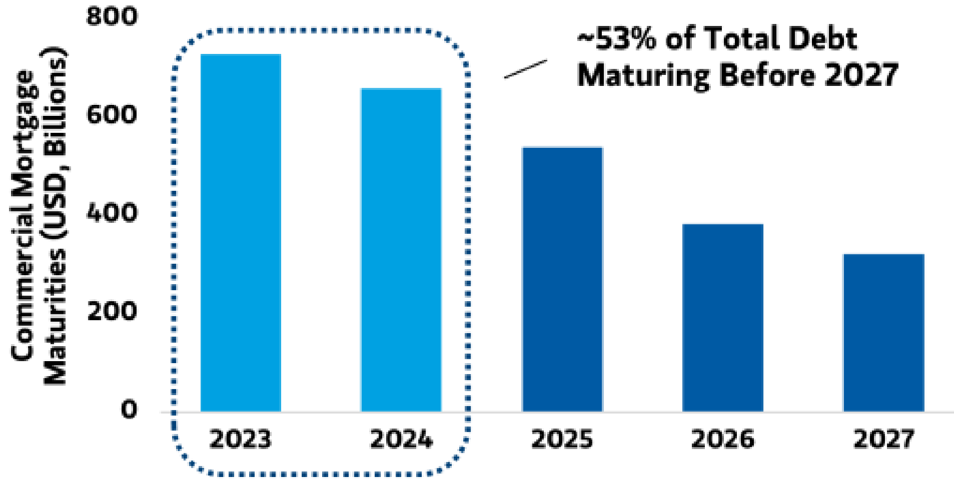
Q1 Earnings Better Than Feared…but Optimism Reigns

Q1 Earnings and Estimates



Source: Morgan Stanley Wealth Management GIC, Bloomberg as of April 28, 2023

Commercial Real Estate



Source: NMRK, Morgan Stanley Wealth Management GIC. Data as of May 5, 2023.

- The chart indicators that, of those loans maturing over the next five years, 53% fall in 2023 and 2024. Investors have taken note of major asset managers' strategic defaults in recent weeks. While most CRE loans have much lower loan-to-value ratios than residential mortgages, their shorter duration and often-floating rates have combined to create this challenging maturity wall. Falling valuations may especially threaten the refinancing of lower-quality properties whose financing relied on the Quantitative Easing era's ultralow rates.

- The front-loaded maturity wall for commercial real estate (CRE) loans highlights the sector's vulnerability to refinancing risk, particularly given the typical source of funding: regional banks.

The Debate Is Intensifying…Are We Wrong or Early?

The Bear Case (GIC & Top-Down Consensus)

- Policy operates with a lag; economy slowing
- Peak company margins unsustainable
- Falling inflation cuts both ways; negative operating leverage
- Recession indicators are screaming
- Regional bank stress has implications for lending standards
- Debt ceiling is source of $650 bill liquidity drain
- The passive indices are overvalued; stock concentration raises idiosyncratic risk
- Rates are not returning to pre-COVID lows; the Fed will fight the market

The Bull Case

- Fed rate cuts imminent
- Soft landing is obvious
- Corporate profits "fine"; rebounding
- Labor markets are strong but not wage inflationary
- Cash on sidelines is too big and impatient
- AI, AI, AI

Source: Morgan Stanley Wealth Management GIC, Bloomberg as of June 14, 2023

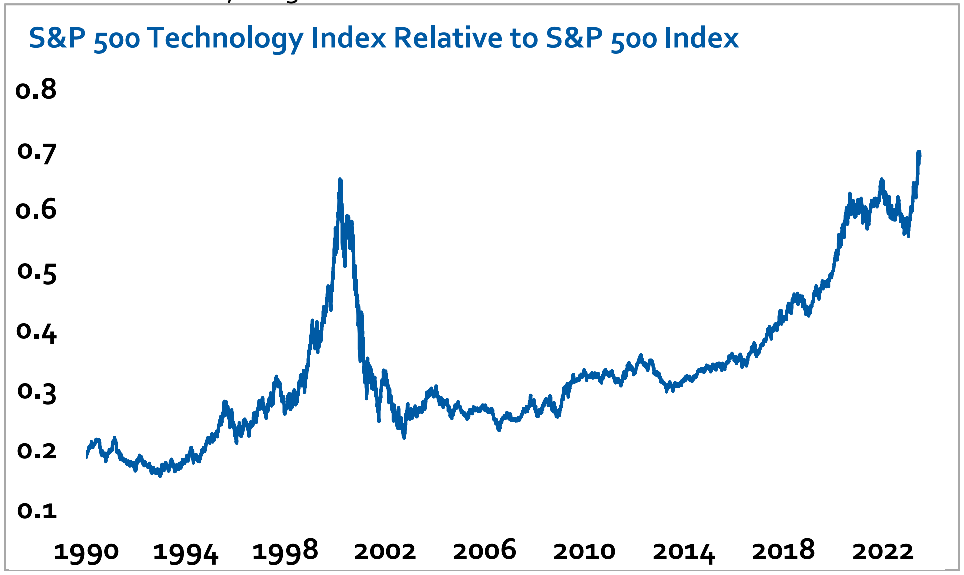
Take Profits in Mega-Cap Tech

As of June 2023

From October 2022 through early February 2023, stocks surged in a bear market rally. Since then, passive indices have been range-bound, with market breadth growing ever narrower, as valuation multiples have re-expanded toward cycle highs. In 1Q 2023, seven stocks accounted for nearly 85% of the S&P 500 gains. The current largest stock has a $2.7 trillion market cap, greater than the entire equity market capitalization in India, UK and Germany, for example, while the top 10 names remain nearly 25% of the entire index weight. We see this dynamic as unstable and premised on a thesis that is increasingly vulnerable, given rich valuations, growing recession odds, declining pricing, exuberant earnings expectations, and the regional banking chaos. **For investors with large taxable gains, work with your Financial Advisor to manage risk in the most tax-efficient manner using tax-loss harvesting, tax management strategies, and wealth planning and/or philanthropic strategies.**

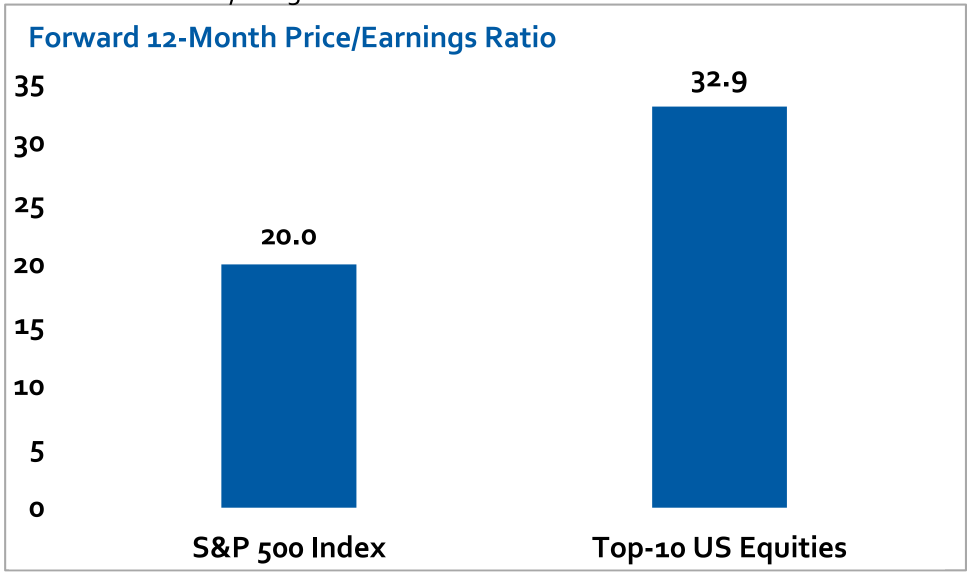
The Technology Sector Has Recovered Back to Dotcom Levels of Relative Performance vs. the S&P 500

Data as of June 22, 2023



The Forward 12-Month PE Ratio of the Top 10 Companies Has Become Significantly Higher Than that of the S&P 500

Data as of June 22, 2023



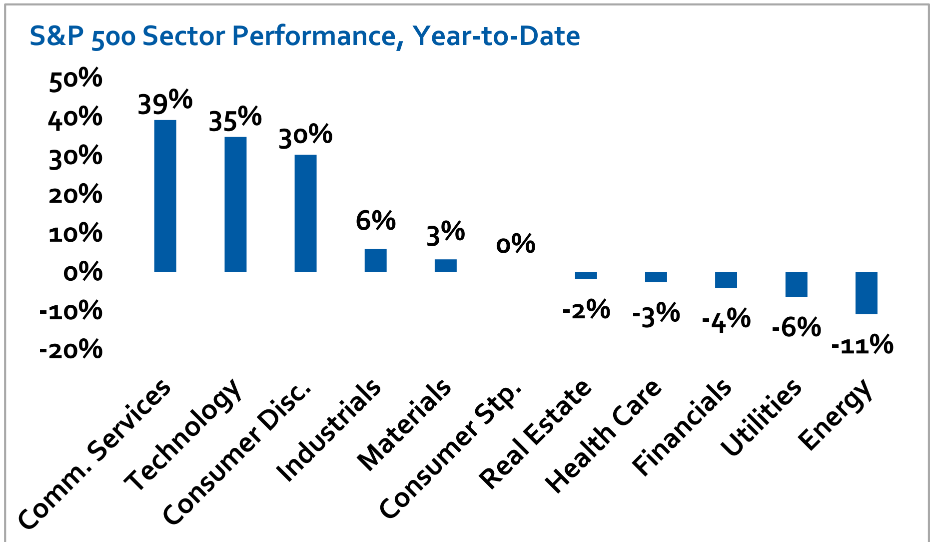
Source: Bloomberg, Morgan Stanley Wealth Management GIC

Take Profits in Mega-Cap Tech

As of June 2023

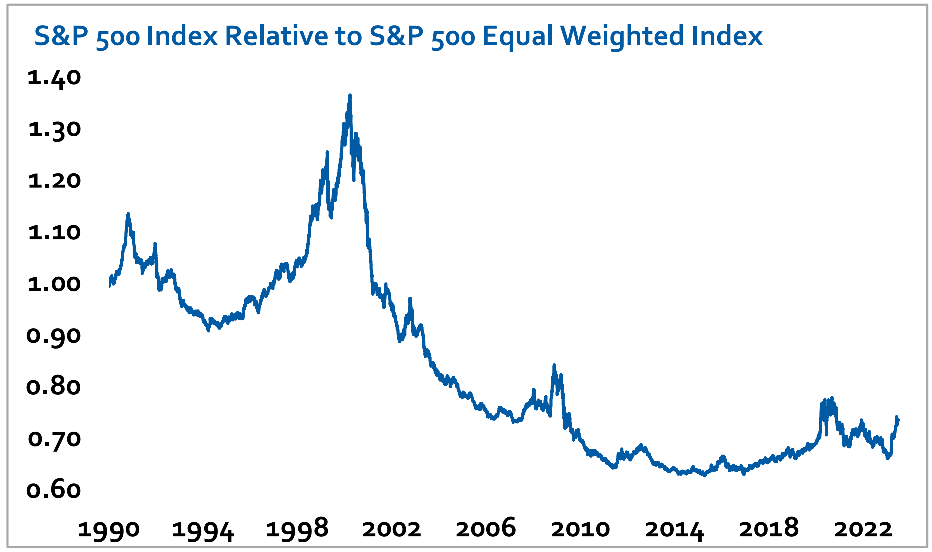
The Technology and Communication Services Sectors Have Sharply Outperformed Other Sectors Year-to-Date

Data as of June 22, 2023



The Cap-Weighted S&P 500 Has Outperformed Year-to-Date and Has Approached Levels Reached After COVID

Data as of June 21, 2023



Investment Ideas

- Focus on equities with the following factor exposures: higher quality, lower volatility, and greater profitability.
- Move to a position of maximum diversification by sector, market cap, region, style, and asset classes. Continue to look for defensive stocks that are not as sensitive to interest rates.
- Continue to increase exposure to fixed income and cash.

Key Risks

- Earnings perform better than we currently expect, which would allow these large-cap Tech companies to continue trading at elevated price-to-earnings ratios.
- Investors continue to view mega-cap companies as defensive, allowing them to outperform the broader market even during a recessionary environment.

Source: Bloomberg, Morgan Stanley Wealth Management GIC

Section 5 - State of Private Equity

Insights on Current Private Equity Market Environment

As of July 10, 2023

- **How did the 2022 Private Equity Market look?**
  - Coming out of a buoyant fundraising, deal-making and exit environment in 2021, momentum continued into early 2022.
  - As we moved into 2022, the Fed orchestrated a sharp increase in interest rates to fight persistent inflation. This, along with geopolitical factors such as the Russia-Ukraine war, created uncertainty in the market.
  - This macro environment led to a deep slowdown in the IPO market and a challenging environment for PE firms seeking access to leverage for large LBO deals. Furthermore, not only did the deterioration of the macro environment impact performance of public markets, but it also trickled into private markets as well.
  - As a result, deal volume, exits and distributions across buyout, growth equity and venture capital decreased.
- **Where is the opportunity in an uncertain market?**
  - Operational-focused buyout managers that can drive value through margin expansion and revenue growth may be well-positioned in a more challenging macro backdrop.
  - Active portfolio management by institutional investors and a challenging exit environment may create opportunities in the secondary market through both LP and GP-led secondaries.
  - Health care exposure can benefit from various secular dynamics to potentially drive uncorrelated returns from new technology and disruption, which may also be resilient during economic uncertainty.
- **Bottom Line:** History suggests that vintage years in/following an economic downturn outperform and regular allocation to vintage years may result in greater upside capture. Investors should remain consistent and patient while continuing to allocate to private equity as part of their long-term strategy.

Source: Morgan Stanley Wealth Management GIMA

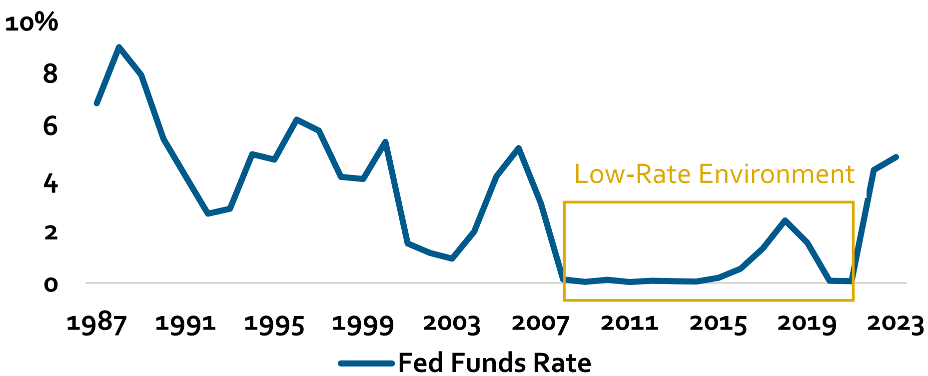
A Changing Landscape…

Favorable Market Backdrop Provided Tailwind for Private Investing. Sharp Rise in Rates and High Inflation Now Creating Caution…

Historically low interest rates have been supportive of a robust exit environment and strong deal activity, but the Fed's policy pivot to address higher inflation led to public equity volatility and market uncertainty.

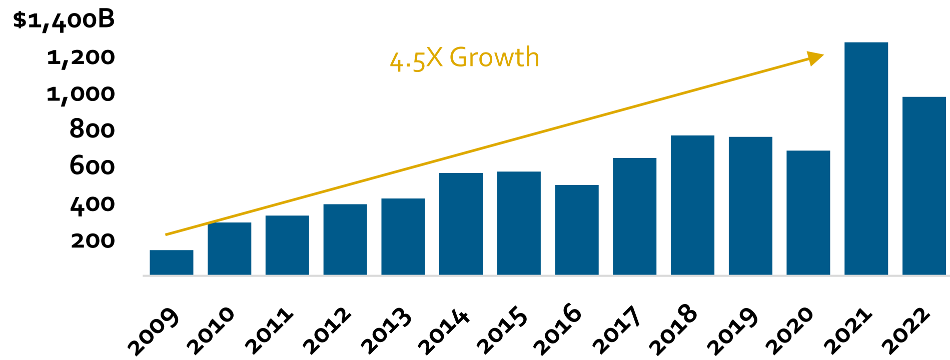
Fed Funds Rate (%)

Data as of March 31, 2023



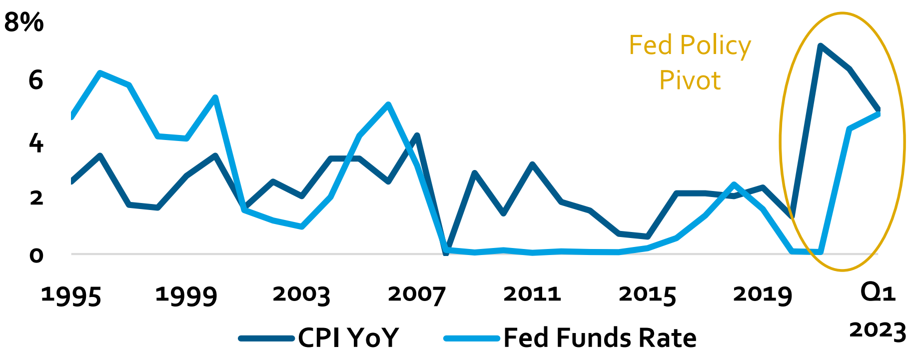
PE Deal Value ($B)

Data as of March 31, 2023



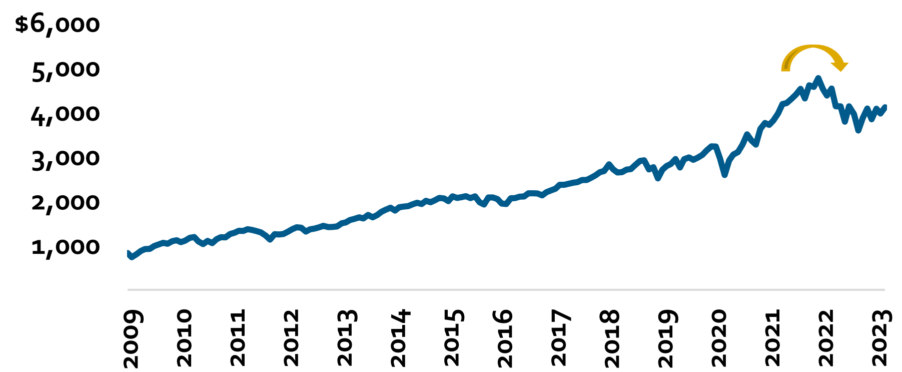
Fed Funds Rate and YoY CPI Change (%)

Data as of March 31, 2023



S&P 500 Price Chart

Data as of March 31, 2023



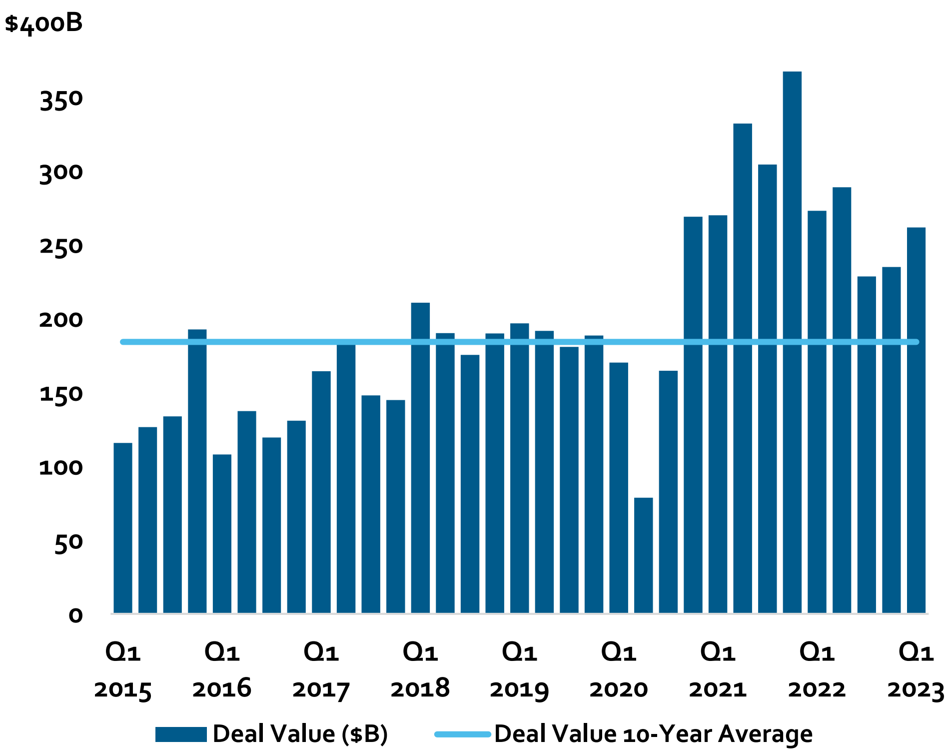
Source: PitchBook, FactSet, U.S Bureau of Labor Statistics, St. Louis Federal Reserve

Note. Private Equity Deal Value consist of Buyout and Growth Equity and includes estimates. Federal Funds Rate data utilizes annual close figures.

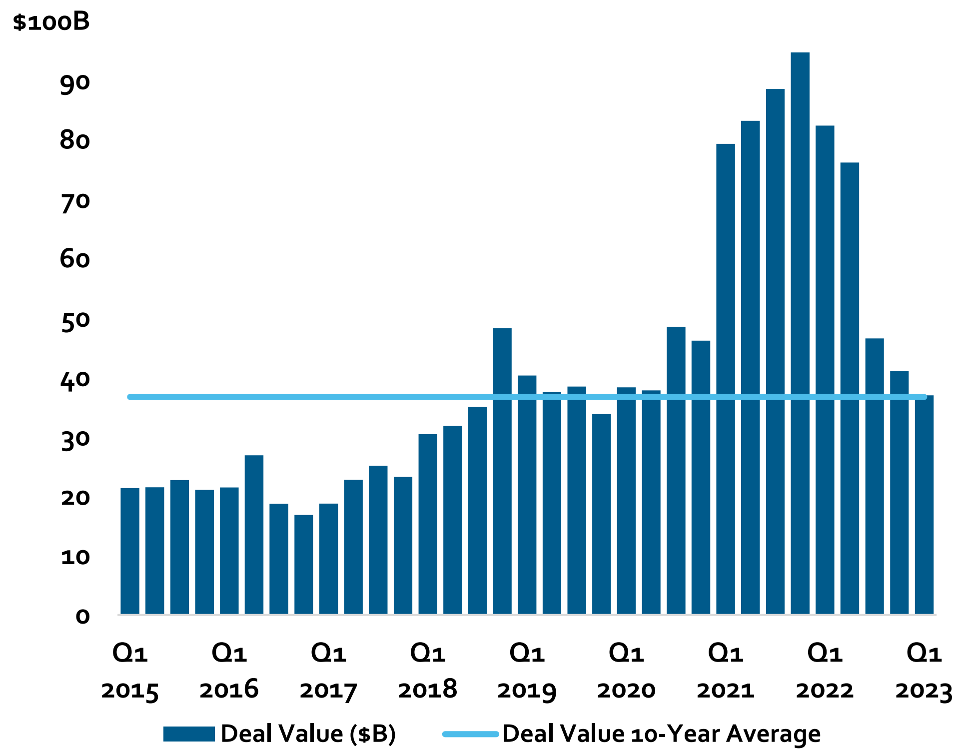
...Causing Investment Activity to Subside

Deal flow slowed through 2022 and into 2023 as interest rates rose, the cost of buyout deal leverage increased and the expectations for future earnings growth decreased. Coupled with macro uncertainty and public market volatility, buyers and sellers have conflicting views on valuations.

Buyout + Growth Equity Deal Value ($B)
Data as of March 31, 2023



Venture Capital Deal Value ($B)
Data as of March 31, 2023

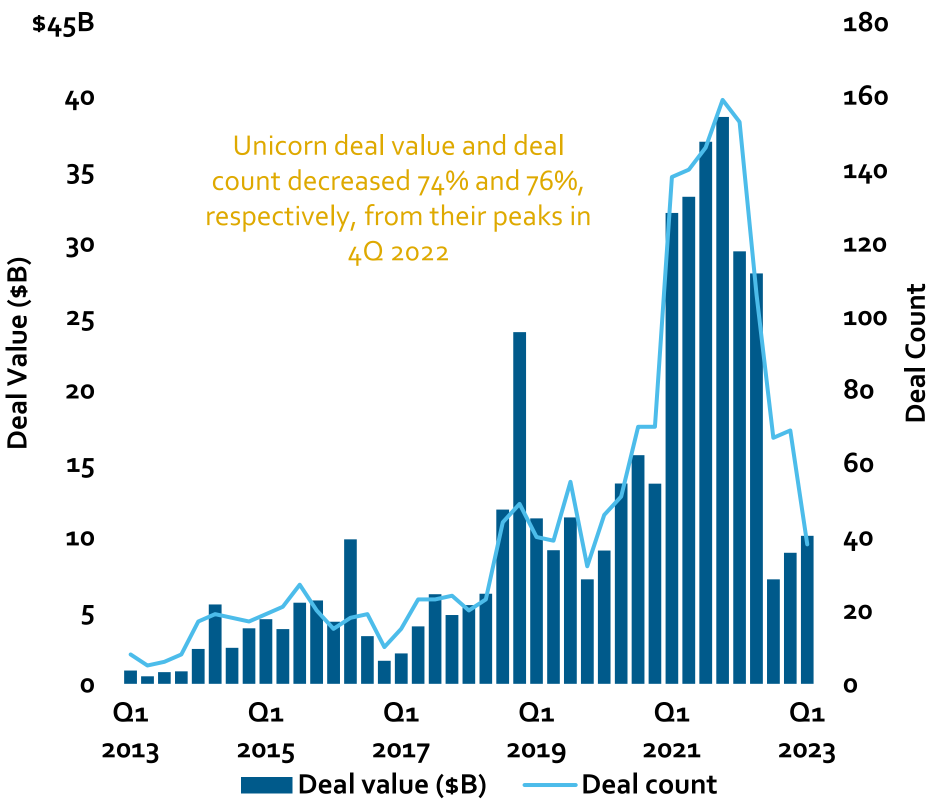


Source: PitchBook. Deal Value in 2022 and 2023 includes estimates as calculated by PitchBook.

Record Level of Unicorn Activity Has Subsided as Non-Traditional Investors Exit the Venture Space and Valuations Recalibrating

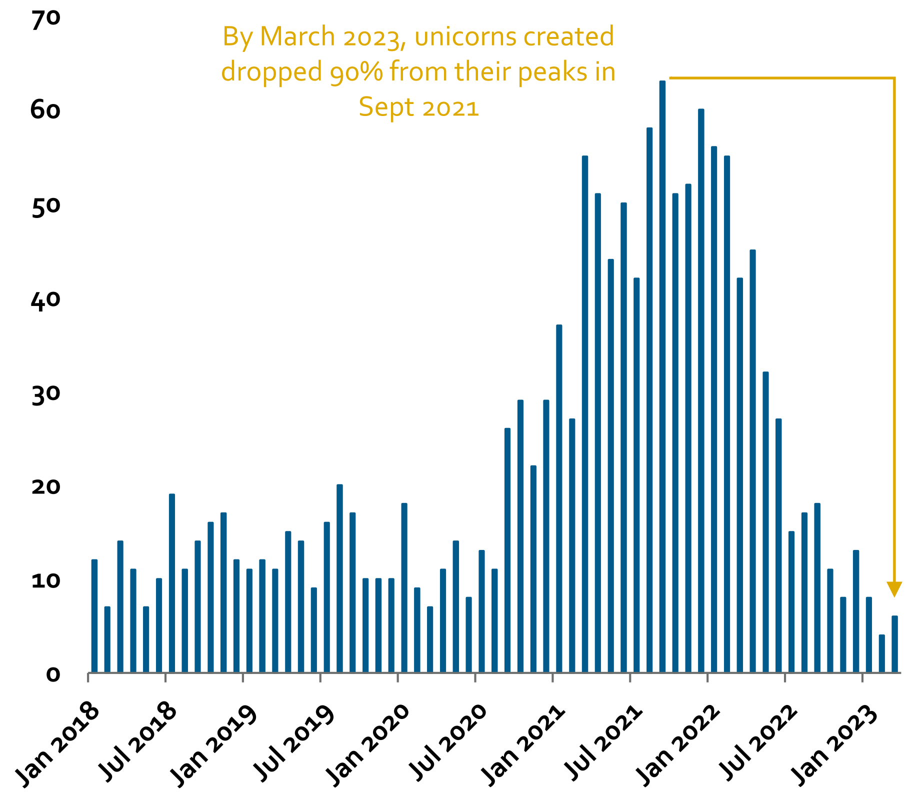
US VC Unicorn Deal Value ($B) and Count

Data as of March 31, 2023



Number of VC-Backed Unicorns Created

Monthly data as of March 31, 2023



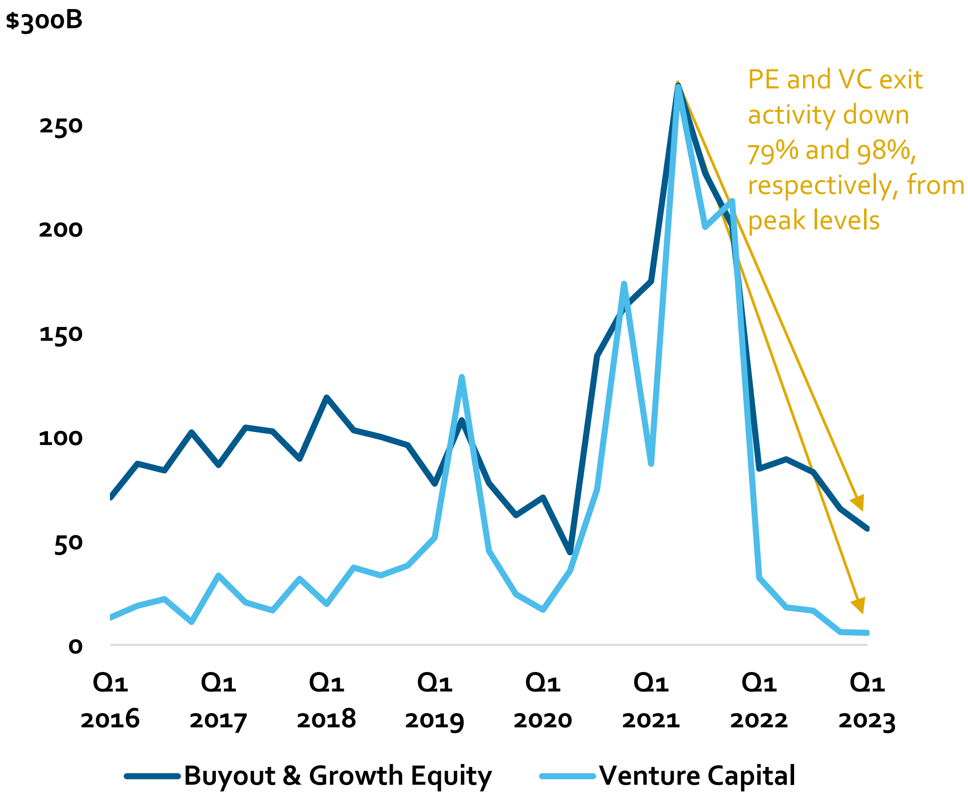
Source: PitchBook. Deal Value in 2022 and 2023 includes estimates as calculated by PitchBook.

Exit Activity Declining as IPO Market Slows…

As 2022 moved along, the decline of IPO exits was especially acute as the IPO market froze in the face of a combination of macroeconomic and geopolitical factors. PE exit activity in 2022 and into 2023 was buoyed by corporate and sponsor acquisitions, but VC exhibited its continued reliance on the IPO market as an important path to exit.

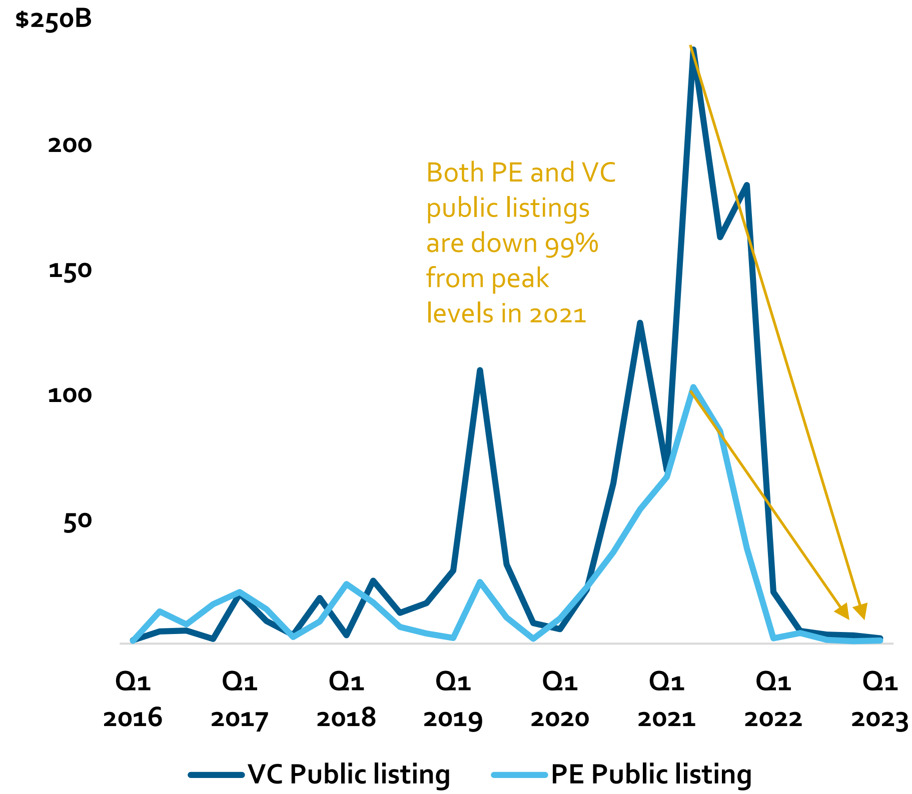
Total PE/VC Exit Value ($B)

Data as of March 31, 2023



Total PE/VC Exit Value via Public Listing ($B)

Data as of March 31, 2023

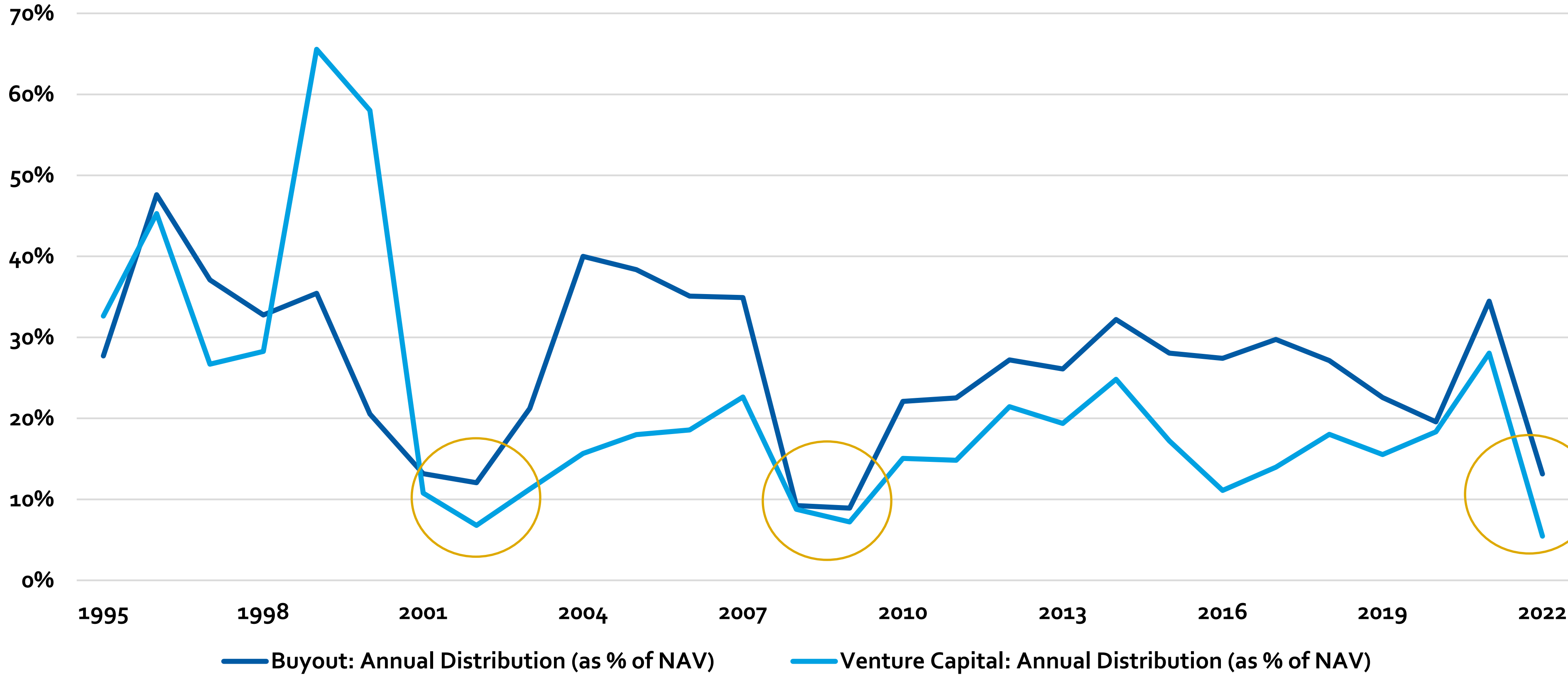


Source: PitchBook. Exit value in 2022 and 2023 includes estimates as calculated by PitchBook. PE public listing consists of buyout and growth equity.

…Causing LPs in Private Market Funds to Experience Muted Distributions, Which Is Generating a Liquidity Challenge

Annual Distributions as a % of NAV

Data as of December 31, 2022

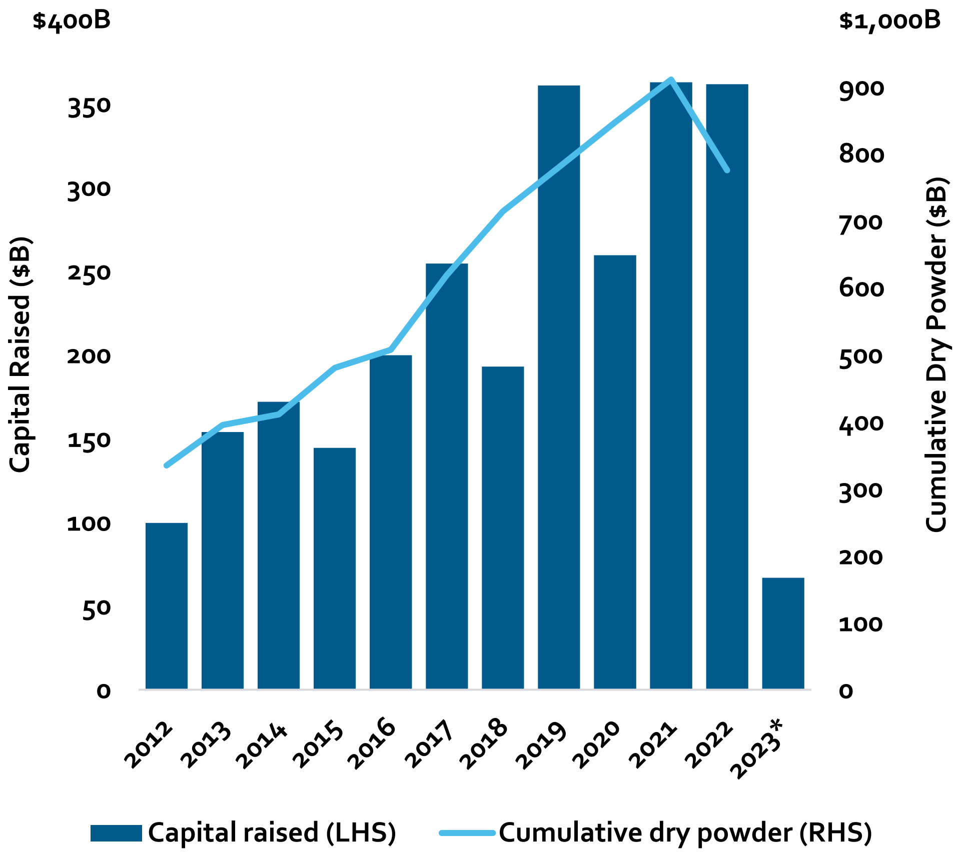


Source: Hamilton Lane Cobalt

Buoyant Fundraising Environment Driven by Allure of Returns in VC and Strong Distributions…but Slow Exit Environment and More Discerning Investment Lens Creating Headwinds

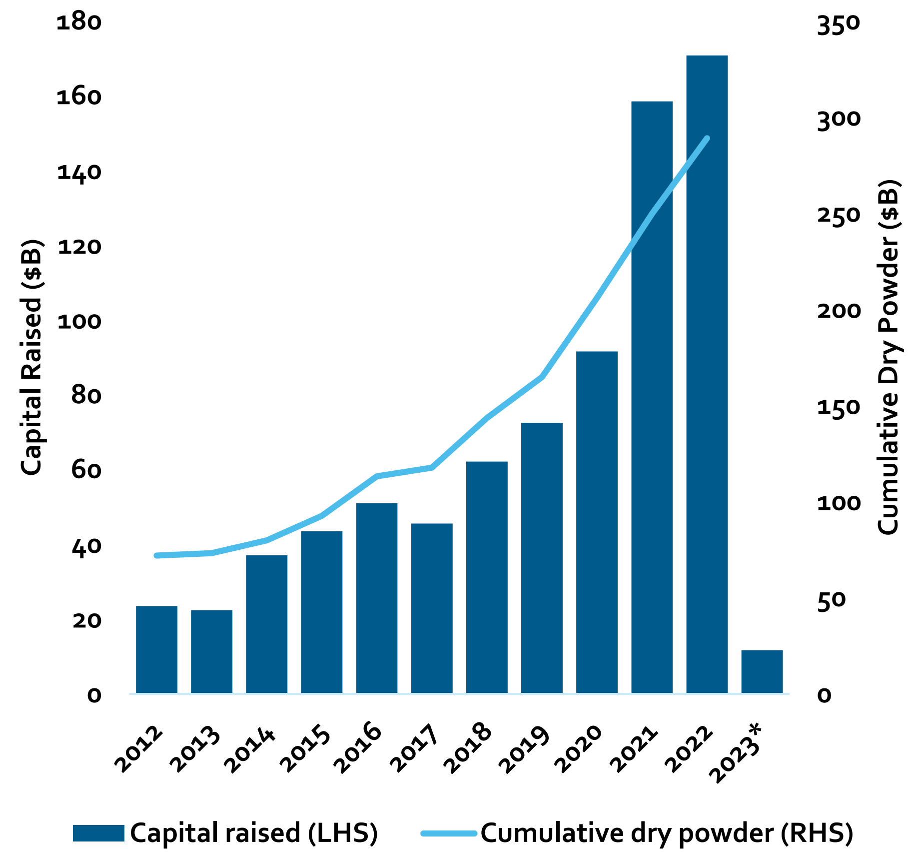
US Buyout & Growth Equity Fundraising and Dry Powder ($B)

Fundraising Data as of March 31, 2023, Dry Powder Data as of December 31, 2022



Venture Capital Fundraising and Dry Powder ($B)

Fundraising Data as of March 31, 2023, Dry Powder Data as of December 31, 2022

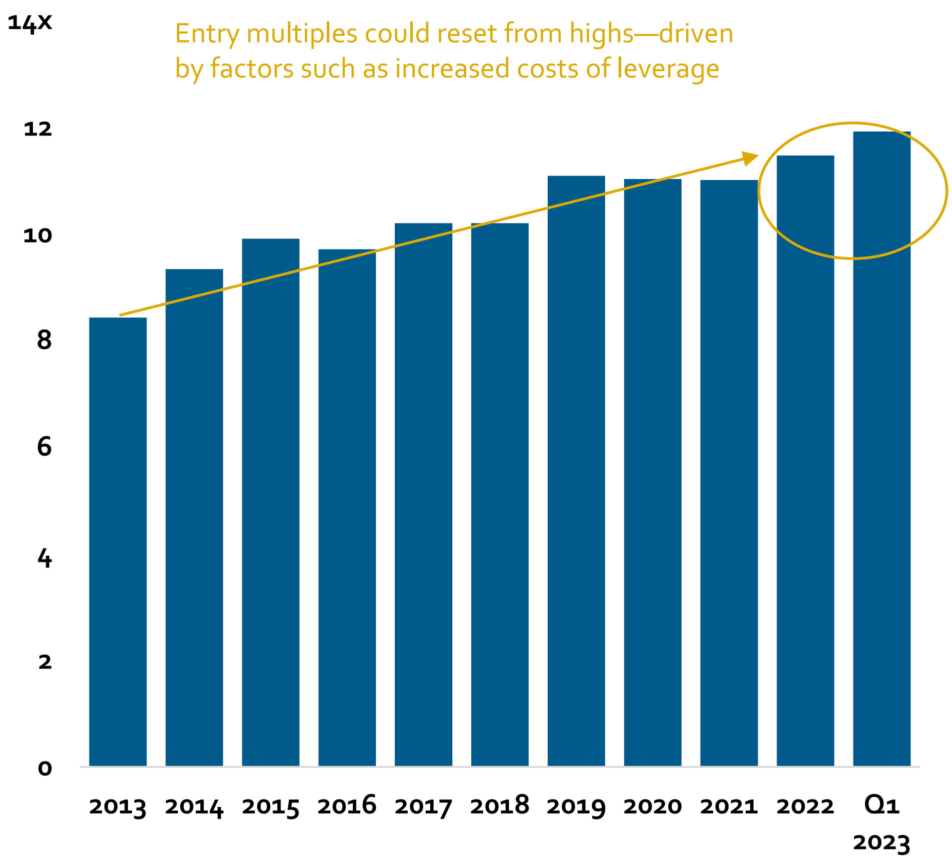


Source: PitchBook. *2023 data as of March 31, 2023.

While VC Valuations Recalibrating Buyout Valuations Still Slow to Adjust to a New Reality. Continued Price Discovery to Create Further Downward Pressure on Valuations

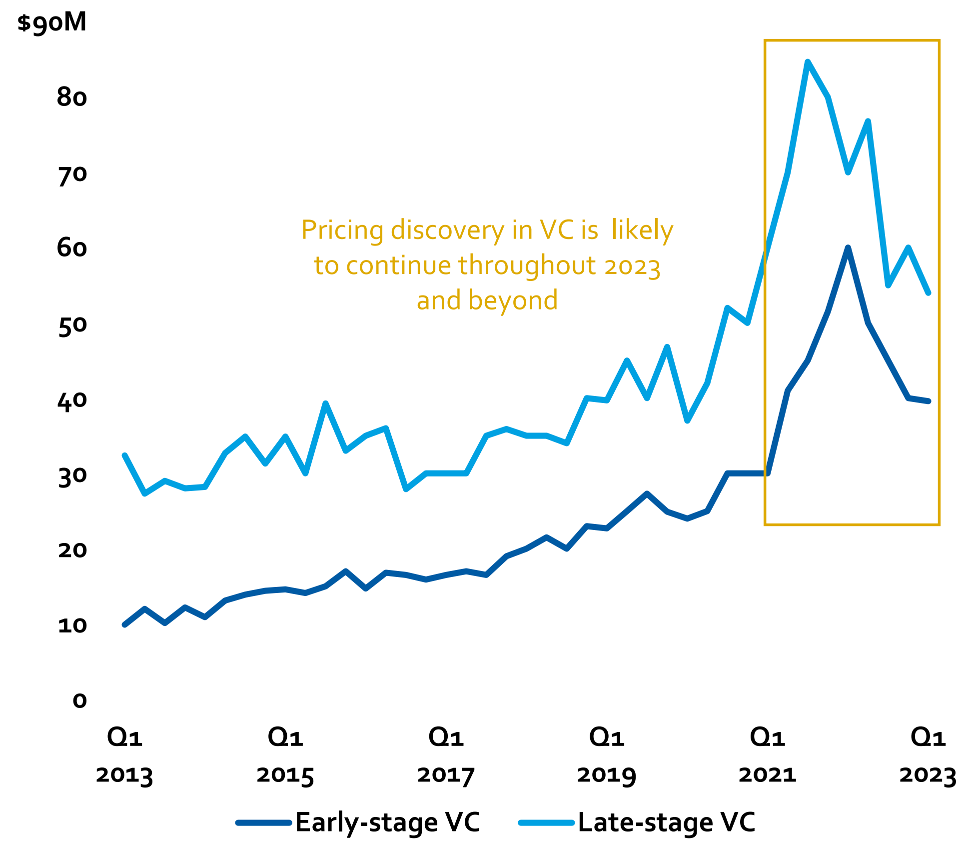
LBO Purchase Price Multiples

Data as of March 31, 2023



Median US VC Pre-Money Valuation ($M) by Stage

Data as of March 31, 2023



Source: LCD, PitchBook

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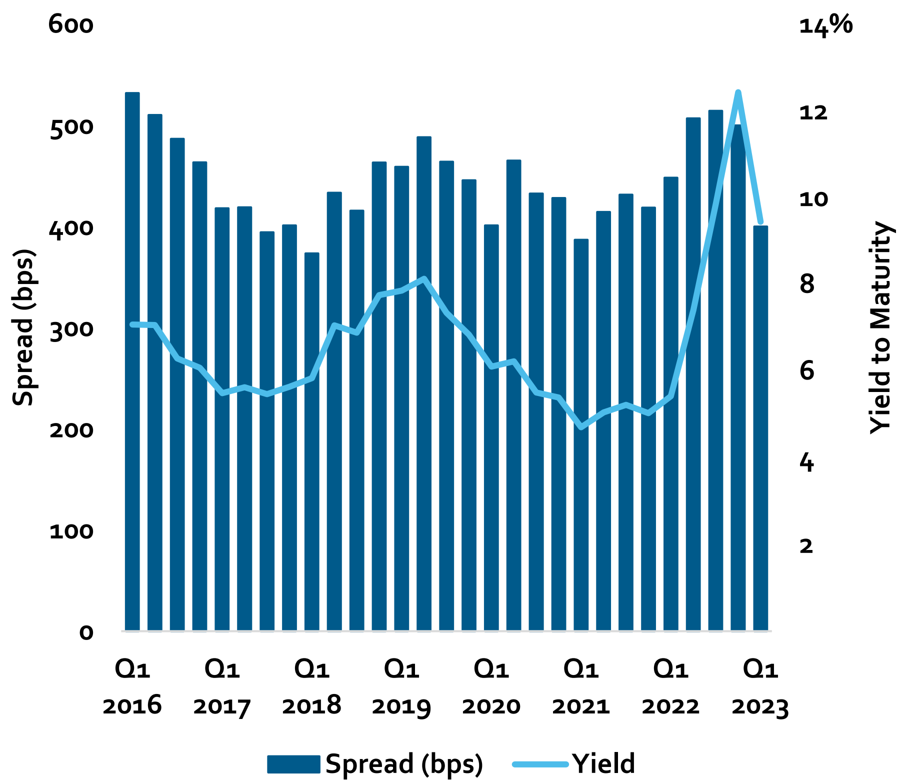
Past performance is no guarantee of future results. Estimates of future performance are based on assumptions that may not be realized. This material is not a solicitation of any offer to buy or sell any security or other financial instrument or to participate in any trading strategy. Please refer to important information, disclosures and qualifications at the end of this material.

The Costs and Sources of LBO Leverage Have Been Impacted by the Recent Rise of Interest Rates

As key interest rates increased in 2022, the costs of leverage increased materially. Additionally, the banking sector has taken a step back from providing LBO financing and private credit lenders have taken a larger share of financing LBO transactions. Private credit lenders financed 95% LBO deals in March 2023, up from approximately 62% of LBO deals in 1Q2019.

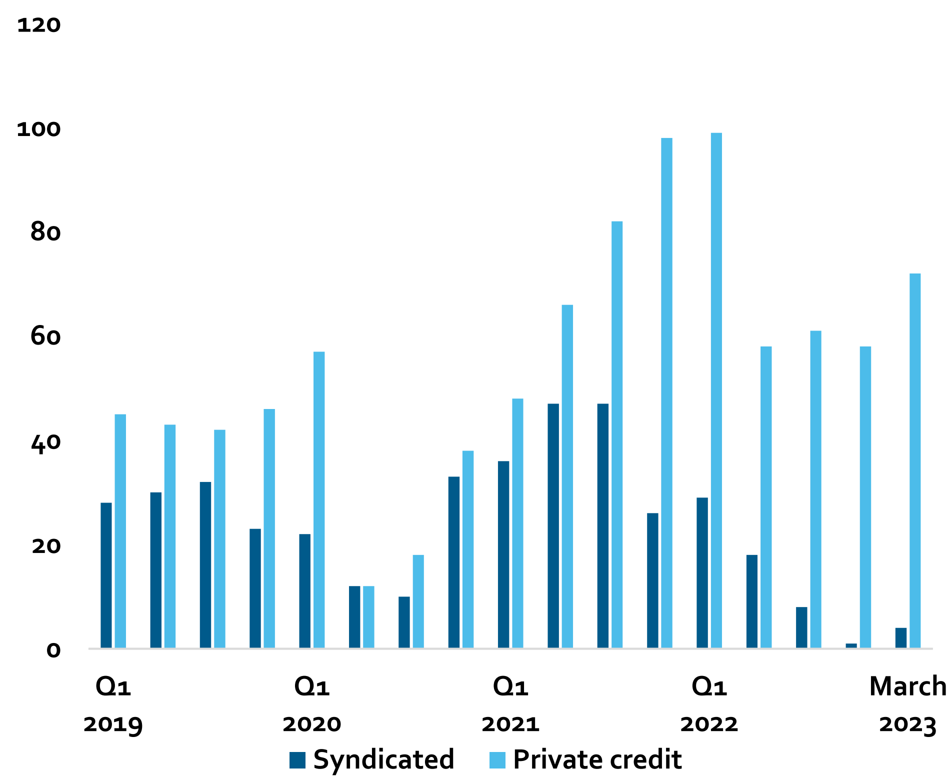
New Issue Spread (bps) and Yield to Maturity (%) for LBOs

Data as of March 31, 2023



Count of LBOs Financed by Syndicated Market vs Private Credit

Data as of March 28, 2023



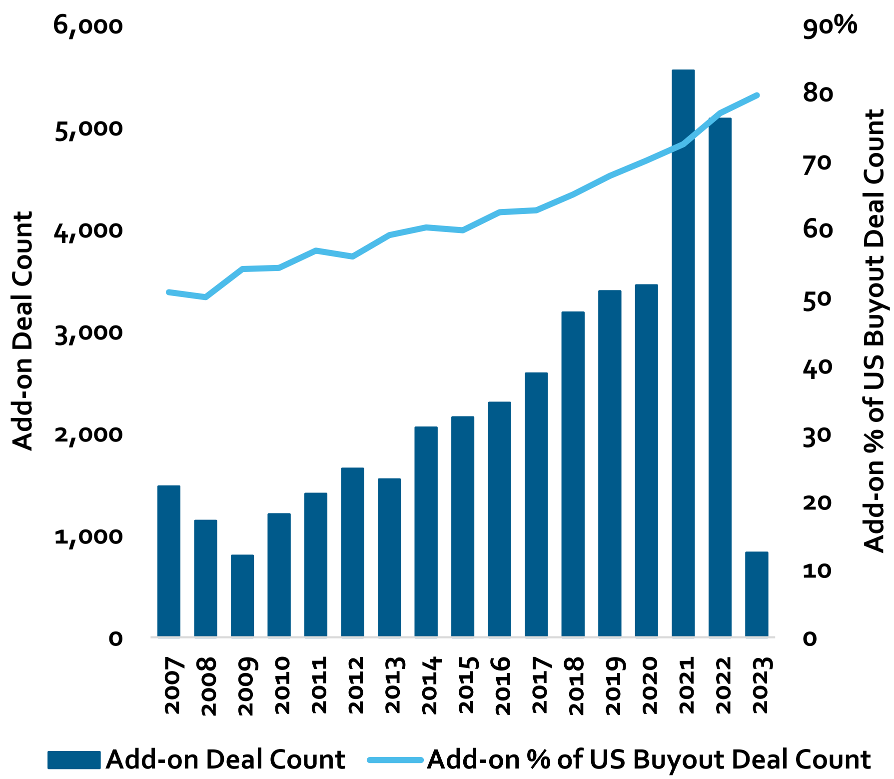
Source: LCD, Pitchbook

Add-on Acquisitions Have Gained Prevalence in Recent Years Among Buyout Managers to Offset High Valuations

Buy-and-build strategies involving add-on acquisitions have gained traction in recent years as buyout portfolio companies acquire smaller assets, often at a lower entry multiple. This affords GPs the opportunity to average down its overall purchase price multiple in a portfolio company. Add-on transactions are often financed through the balance sheet of the acquiring portfolio company, rather than from the fund itself.

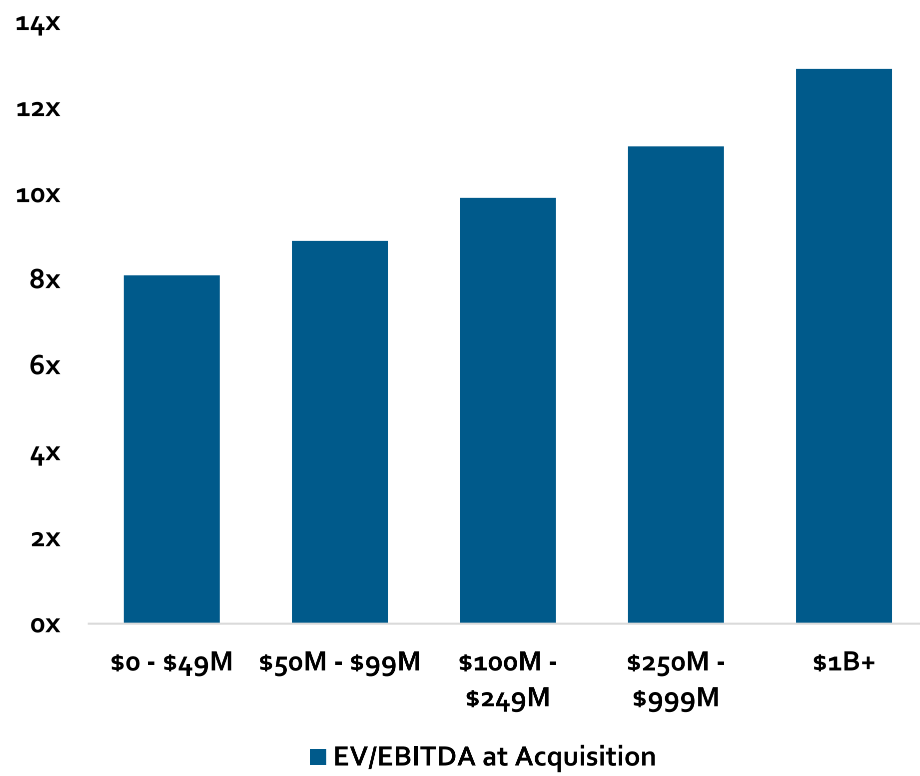
Add-on Deal Count Among US Buyout Firms

Data as of March 31, 2023



Smaller-Sized Transactions Typically Have Lower Entry Multiples

Data as of December 31, 2022



Source: PitchBook, DealEdge

Looking Ahead…

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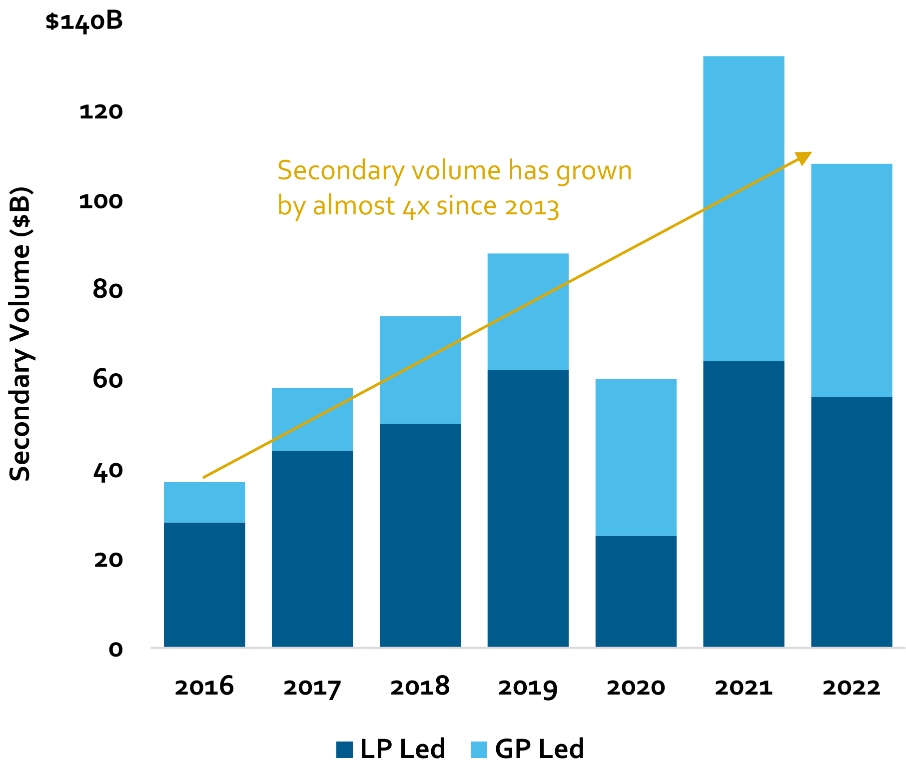
Past performance is no guarantee of future results. Estimates of future performance are based on assumptions that may not be realized. This material is not a solicitation of any offer to buy or sell any security or other financial instrument or to participate in any trading strategy. Please refer to important information, disclosures and qualifications at the end of this material.

The Secondary Market May Be the Beneficiary of Investors Seeking Liquidity

As LPs seek liquidity to rebalance their portfolios and GPs seek to drive realizations to their investors, the secondary market has numerous dynamics that will be supportive to both volume and pricing. According to McKinsey, nearly 50% of endowments, government agencies and public pension funds were over-allocated to PE, as of the beginning of 2023. This is leading to institutions turning to the secondary market to sell portions of their PE interests.

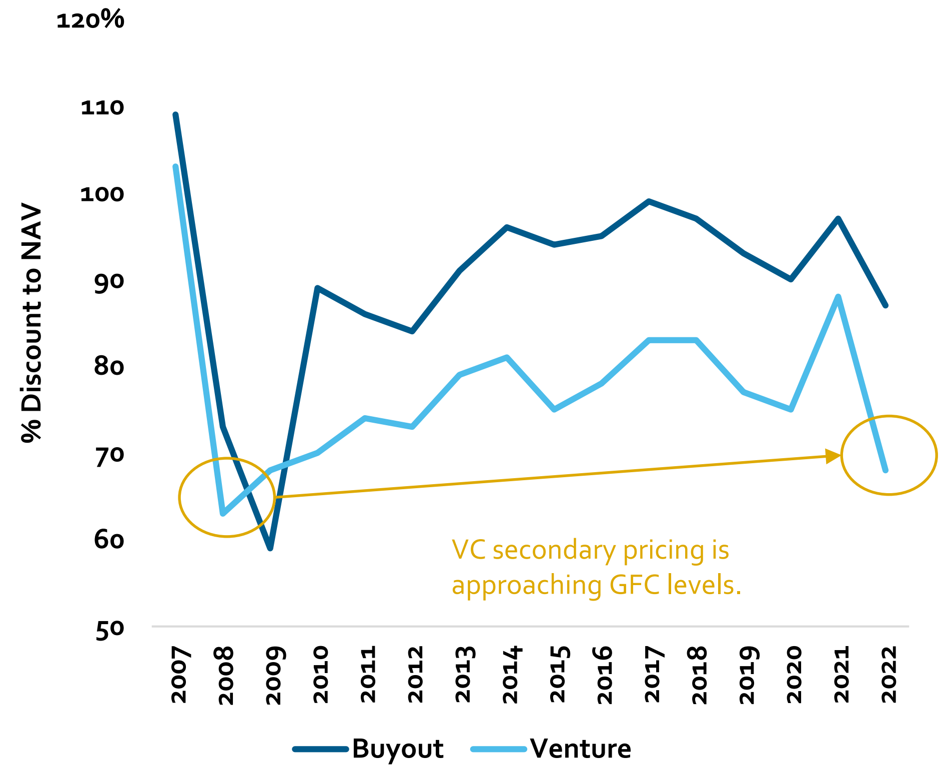
Secondary Market Volume ($B)

Data as of December 31, 2022



Secondary Market Pricing

Data as of December 31, 2022



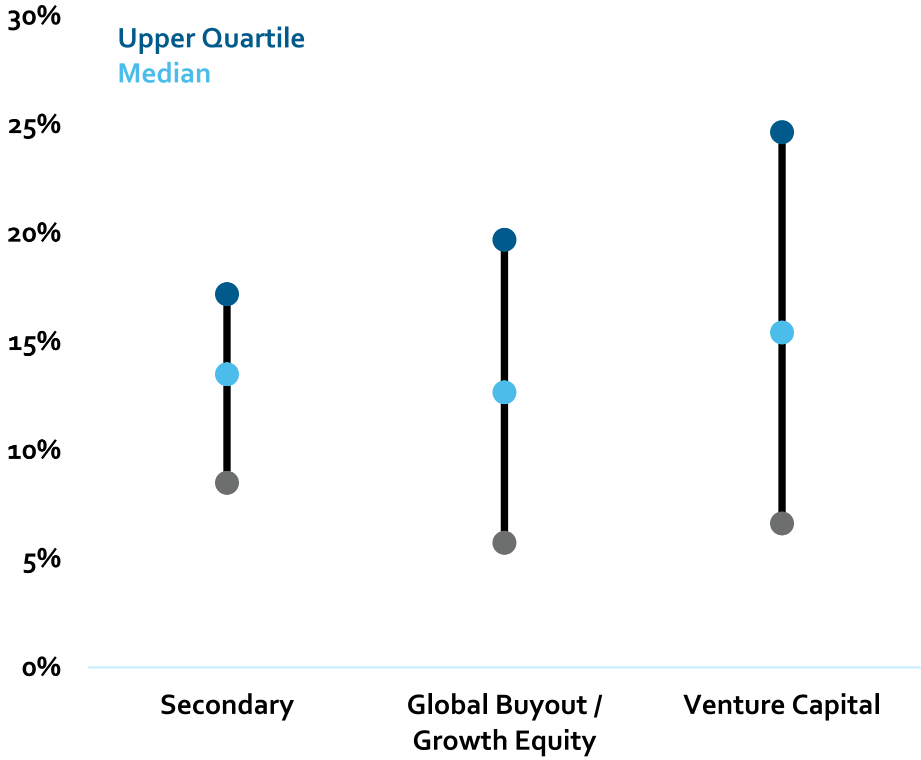
Source: Greenhill Global Secondary Market Review – January 2021. Jefferies Global Secondary Market Review – January 2023

Secondaries Have Generally Produced PE-Like Returns With Lower Dispersion

Secondaries returns typically have median returns in-line with other PE strategies (i.e., Buyout, Growth Equity, Venture), but lower upside. Additionally, secondaries have historically produced lower loss ratio compared to other PE strategies—narrowing the downside target range.

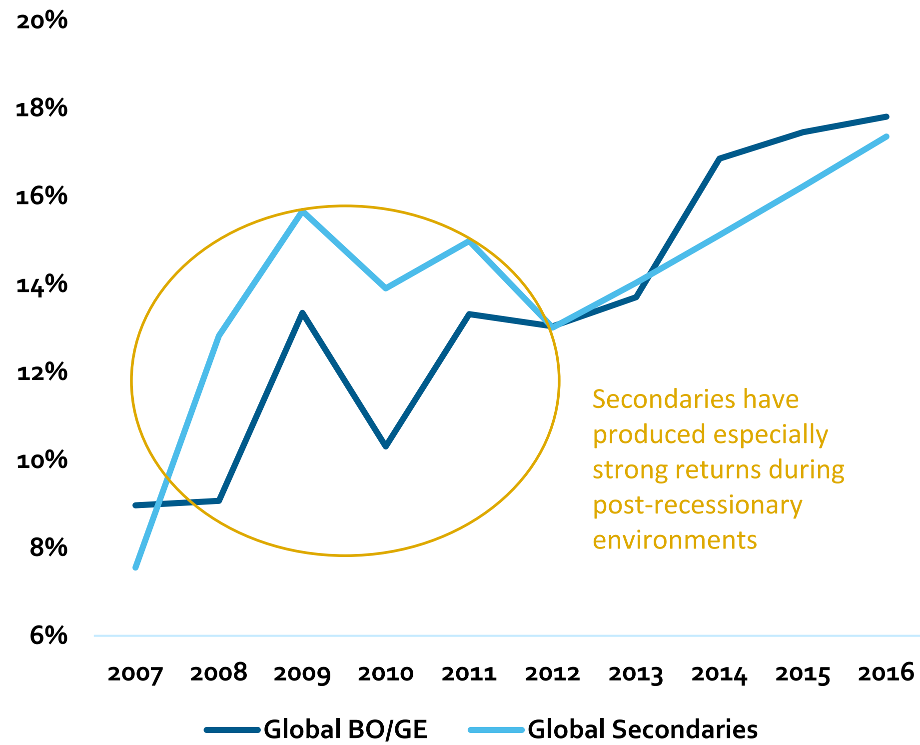
Secondaries Deliver a Favorable Risk-Return Profile

Data as of September 30, 2022



Median Net IRR by Vintage Year (2007-2016)

Data as of September 30, 2022



Source: Cambridge Associates. Internal rate of return (IRR) is the interest rate at which the net present value of all the cash flows (both positive and negative) from a project or investment equal zero. Internal rate of return is used to evaluate the attractiveness of a project or investment.

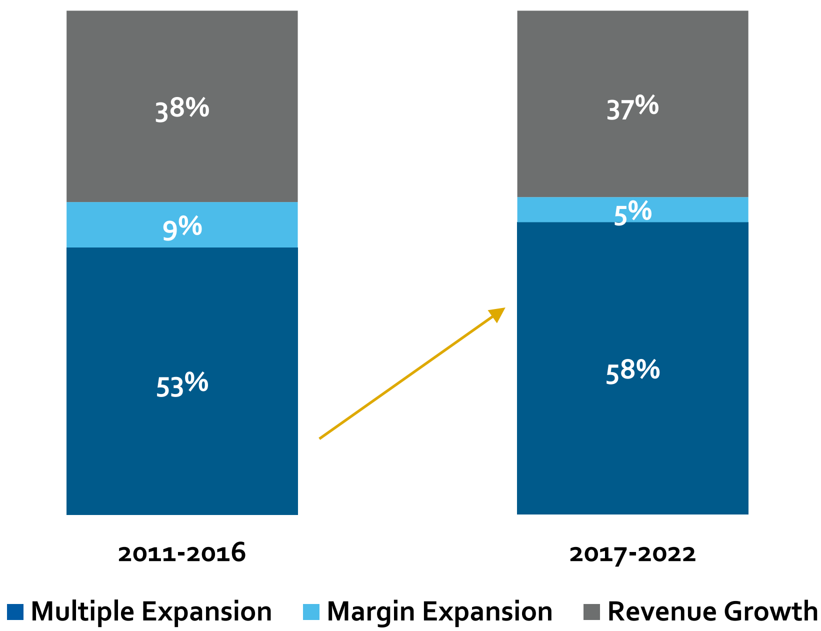
With Higher Interest Rates, Inflation and Tepid Outlook for Growth; Returns From Multiple Expansion May Be Harder to Achieve

In recent years, returns have come from multiple expansion. GPs may need to put a greater emphasis on driving returns from margin expansion. That will generally take operational expertise and experience.

According to a McKinsey study, GPs with a value creation team produced higher Net IRRs during the GFC than GPs without a value creation team. Going forward, managers with deep operating teams may be better positioned to drive higher returns.

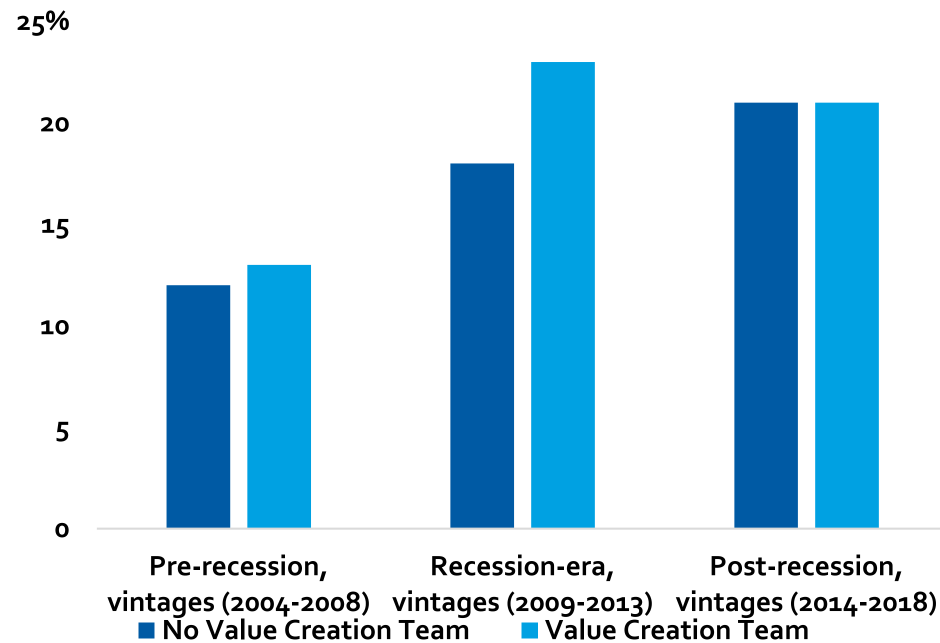
Median Value Creation, by year of exit*

Data as of March 31, 2023



Benefit to Net IRRs from Value Creation Team (%)

Data as of March 31, 2023



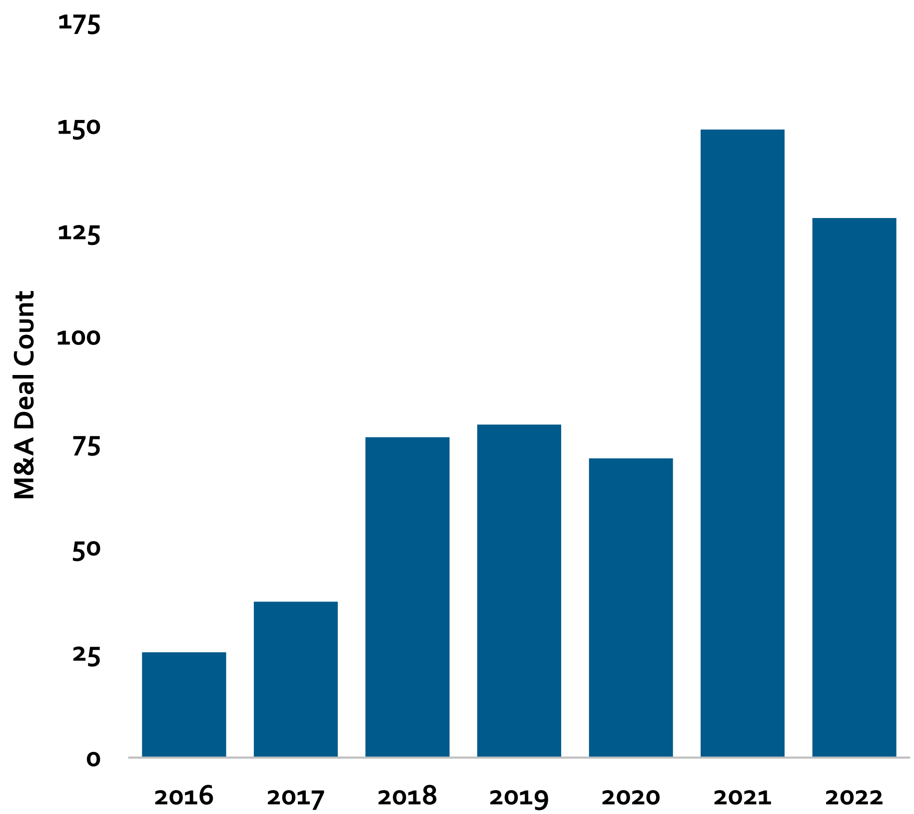
Source: CEPRES Market Intelligence, published in Bain & Company Global Private Equity Report 2023 (Left), McKinsey Global Private Markets Review 2020 (Right). *Includes fully realized global buyout deals with more than $50 million in invested capital; excludes deals with missing data; excludes real estate and Infrastructure deals. Internal rate of return (IRR) is the interest rate at which the net present value of all the cash flows (both positive and negative) from a project or investment equal zero. Internal rate of return is used to evaluate the attractiveness of a project or investment.

Health Care Exposure Can Benefit From Various Secular Trends To Potentially Drive Uncorrelated and Resilient Returns

Growth, innovation and disruption within the healthcare sector are challenging new advancements and the way companies are approaching their business models. These trends may benefit the PE playbook over time.

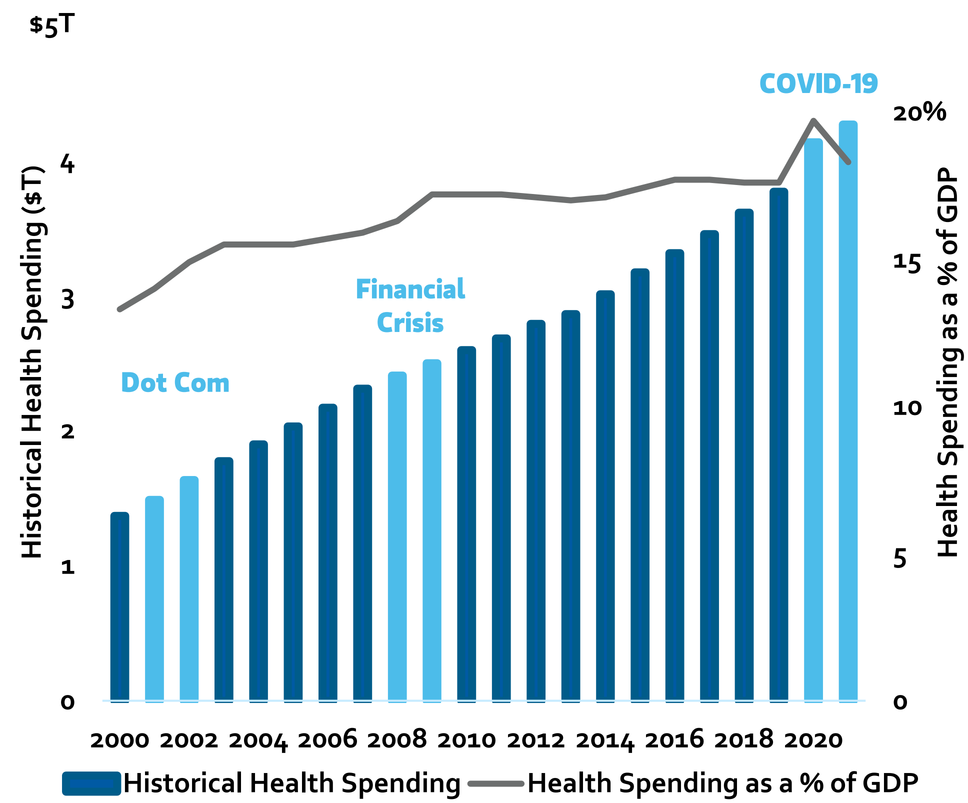
Healthtech Acquirers Remain Active Amid Market Correction

Data as of December 31, 2022



Health Care Exhibits Resiliency in Economic Downturns

Data as of December 31,2021



Source: PitchBook, Silicon Valley Bank, Centers for Medicare & Medicaid Services

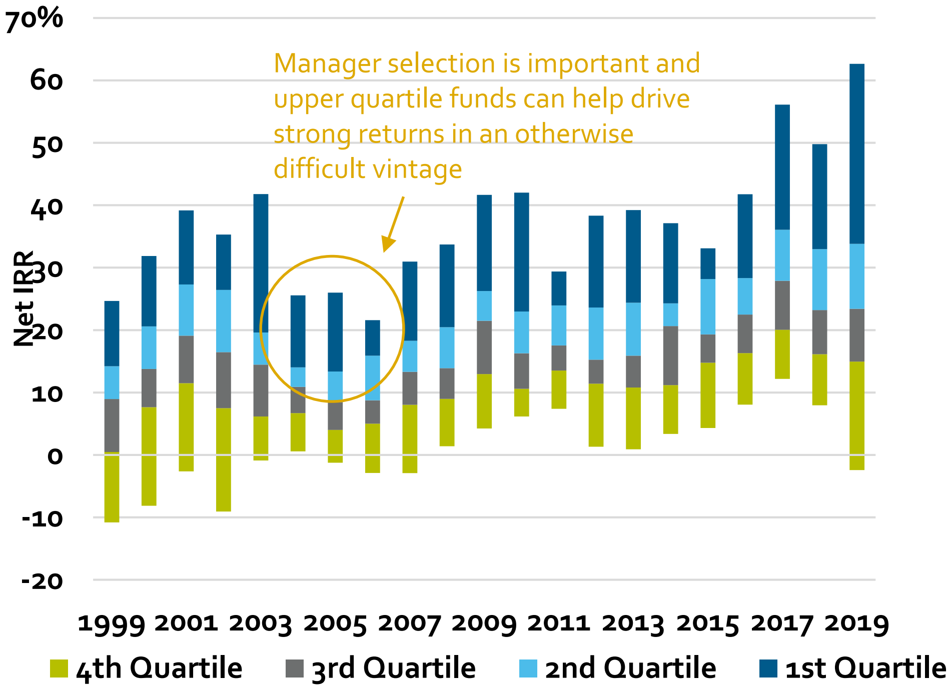
Investing in Private Equity Involves Staying the Course by Continuing to Allocate and Not Skipping Vintage Years

Maintaining target allocations to private equity includes consistent capital deployment to minimize risk by avoiding market timing. This patient capital provides vintage diversification, allowing investors to optimize performance over time and benefit from market dislocations as depicted below. In addition, manager selection matters.

Even during recessionary environments, private equity returns have demonstrated the ability to produce high-performing vintages as depicted in the chart below.

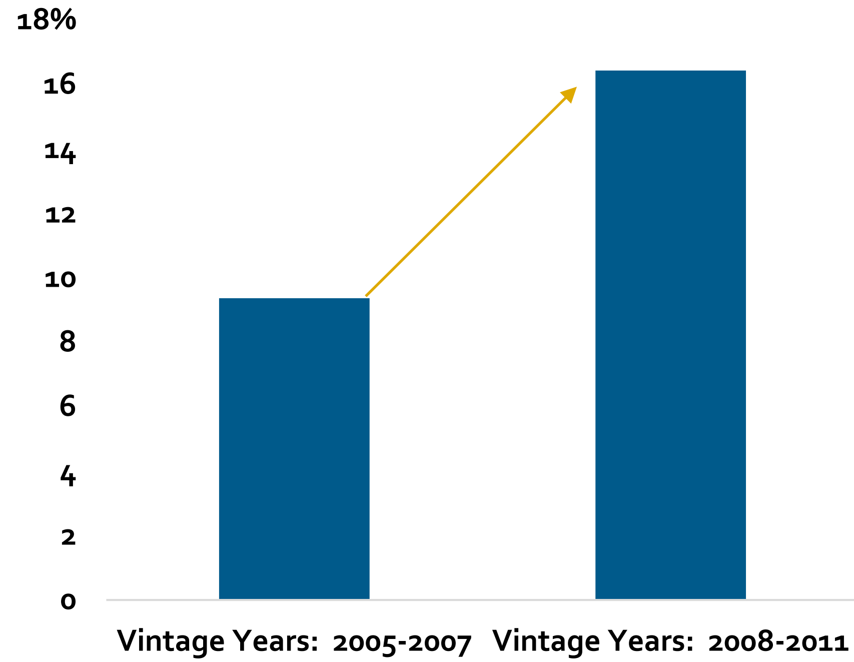
PE Historical Net IRR(%) by Quartile (1999-2019 Vintages)

Data runs on a quarter lag as of September 30, 2022



PE Vintage Year Performance Pre and Post Recession

Data runs on a quarter lag as of September 30, 2022



Source: Cambridge Associates, Hamilton Lane Data, Bloomberg. Private Equity returns include a universe of US Buyout and Growth Equity. Internal rate of return (IRR) is the interest rate at which the net present value of all the cash flows (both positive and negative) from a project or investment equal zero. Internal rate of return is used to evaluate the attractiveness of a project or investment.

Bottom Line: How to Think About the Current Private Equity Landscape

Portfolio Implications

- Given the current environment across deal activity, exits and fundraising, private equity portfolios may see lower distributions, longer investment periods, and further price discovery

What We Are Watching

- Volume of deal activity across Buyouts, Growth Equity, and Venture Capital
- Opening of IPO market and potential for increased exit activity
- Increased deployment of dry capital
- Elongated fundraises and smaller, less-established fund managers that may struggle to raise capital
- Pricing discovery and movements in valuations
- VC firms that may not survive the current downturn

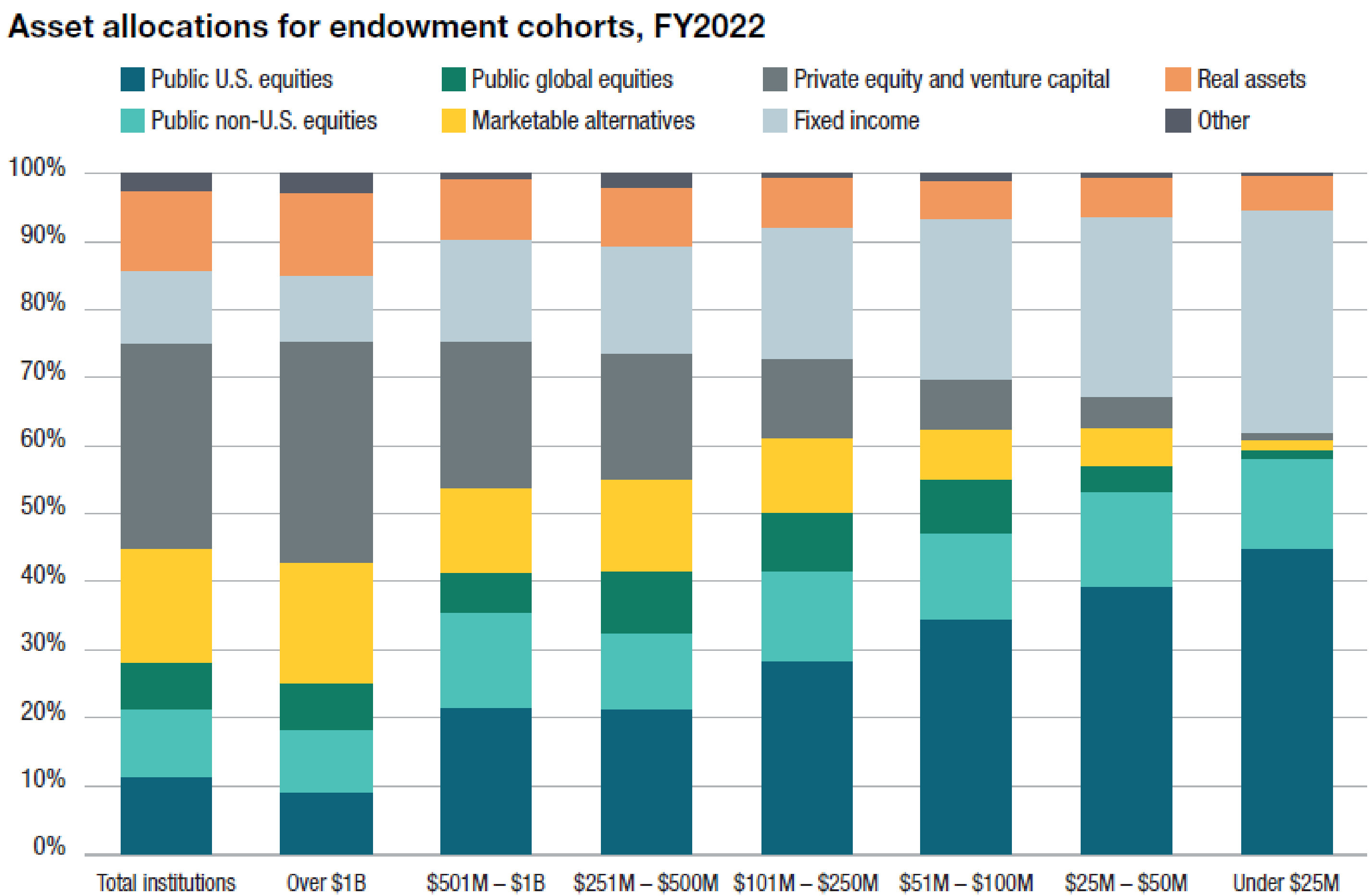
Bottom Line

Consider the following in evaluating private equity exposure:

- Staying disciplined to vintage diversification and to a pacing plan
- Taking advantage of secondaries to mitigate the J-curve and gain access to the private markets at a potentially attractive entry point
- Prioritize top-tier managers that have experience investing across multiple market cycles
- Focus on flexible managers that can be tactical in transactions and portfolio construction in a higher interest rate environment

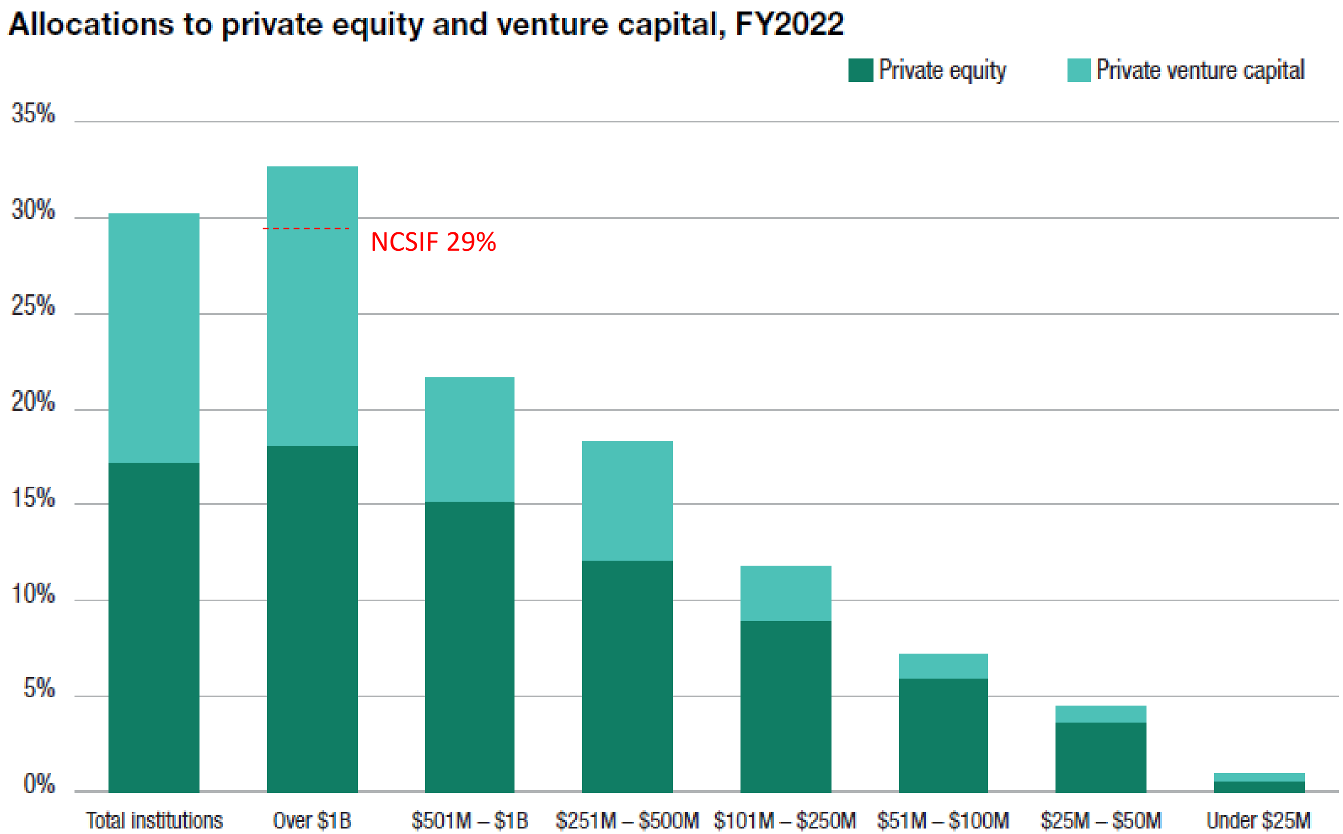
Source: Morgan Stanley Wealth Management GIO. J-curve effect refers to a "J" shaped section of a time-series graph in which the curve falls into negative territory and then gradually rises to a higher level than before the decline.

NACUBO 2022 – Study of Endowments excerpt



"Larger endowments, compared with their smaller counterparts, have considerably less exposure to U.S. public equities and much higher allocations to private equity and venture capital. Larger endowments have the desire and capacity to invest in private asset classes, which offer greater return potential, along with significantly less liquidity. Larger endowments likely are using private equity and venture capital—which represent predominately U.S. exposures—as a replacement for much of their U.S. public equity allocations."

NACUBO 2022 – Study of Endowments Private Equity Allocations



"Endowments with more than $1 billion in assets allocated nearly 33% collectively to private equity and venture capital; this figure drops to 22% for the next-largest size cohort ($501 million – $1 billion). The smallest cohort (under $25 million) allocated slightly less than 1% combined to private equity and private venture capital in FY2022. This shift from public equities toward private equity and venture capital reflects the willingness and ability for larger institutions to reach for higher return targets, including by aiming to harness the private market illiquidity premium for their U.S. equities exposure. Smaller endowments may not be able to pursue such an approach due to greater fee sensitivity, lower risk tolerance, different liquidity requirements, and other factors such as minimum investment amounts or limited internal expertise in these more complex asset classes."

Section 6 - Disclosures

The Wealth Strategies Analysis is broken into multiple sections and sub-sections.The sub-sections are designed to stand alone or may be combined with other sub-sections to provide a more complete picture of financial health.

SECTION	SUB-SECTION	DESCRIPTION	ASSUMPTIONS
Linear Growth Analysis	**Assumptions and Asset Allocations**	An overview of various portfolios and cash considerations along with risk and return assumptions.	*Returns: Morgan Stanley's forecasts Output: Gross of cash inflows, cash outflows and advisory fees*
	Expected Performance over Time	A linear illustration of how wealth evolves over time assuming that portfolios achieve their annual return assumption each year. There is no guarantee that these assumptions will be achieved.	*Returns: Morgan Stanley's forecasts Output: Net of cash inflows, cash outflows and advisory fees*
Monte Carlo Analysis	**Hypothetical Performance**	An analysis of the range of results that various portfolios may achieve over time.	*Returns: Morgan Stanley's forecasts Output: Net of cash inflows, cash outflows and advisory fees*
	Hypothetical Estate Tax Transfer	A breakout of how an estate may be divided should the client pass away at various points in time.	*Returns: Morgan Stanley's forecasts Output: Net of cash inflows, cash outflows and advisory fees*
	Probability of Success	A summary of the chances that various portfolios achieve certain goals.	*Returns: Morgan Stanley's forecasts Output: Net of cash inflows, cash outflows and advisory fees*
Historical Analysis	**Historical Performance**	A report of the historical blended returns for various portfolios based upon asset classes using indices as proxies.	*Returns: Historical Output: Gross of cash inflows, cash outflows and advisory fees*
	Contribution to Risk and Return	A representation of how much each asset class contributed to historical risk and return for various portfolios.	*Returns: Historical Output: Gross of cash inflows, cash outflows and advisory fees*
	Market Scenarios	A hypothetical illustration of how various portfolios would have performed historically given a specific market scenario.	*Returns: Historical Output: Gross of cash inflows, cash outflows and advisory fees*
	Historical Scenarios	A hypothetical illustration of how various portfolios would have performed historically given a specific historical scenario.	*Returns: Historical Output: Gross of cash inflows, cash outflows and advisory fees*

1. Important: The projections or other information generated by the Wealth Strategies Analysis Tool regarding the likelihood of various investment outcomes are hypothetical in nature, do not reflect actual investment results, and are not guarantees of future results. Results generated by a Monte Carlo analysis will vary with each use and over time because each portfolio simulation is randomly generated. See the Appendix for assumptions, asset class inputs, a glossary of terms, a description of the risks and disclosures.
2. For use only in one-on-one presentations.

Correlation Assumptions

	US Equities	International Equities	Emerging & Frontier Mkt	Global Equities Other	Real Assets	Absolute Return Assets	Equity Return Assets	Private Investments
US Equities	1.00	0.58	0.54	0.88	0.69	0.69	0.89	0.60
International Equities		1.00	0.67	0.87	0.52	0.51	0.57	0.30
Emerging & Frontier Mkt			1.00	0.69	0.53	0.46	0.61	0.29
Global Equities Other				1.00	0.68	0.67	0.82	0.51
Real Assets					1.00	0.67	0.71	0.55
Absolute Return Assets						1.00	0.81	0.58
Equity Return Assets							1.00	0.61
Private Investments								1.00

The strategic and secular assumptions have the same correlations.

1. It is not possible to invest directly in an index. The index performance shown does not reflect the impact of any taxes, transaction costs, management fees or other expenses that may be associated with certain investments. Indices are unmanaged.
2. For use only in one-on-one presentations.

Correlation Assumptions | As of June 2023 | Reporting Currency: USD ID : 9250295 GRAYSTONE CONSULTING 58

Asset Class Assumptions

Asset Class	Benchmark	Data History
Cash	**FTSE US Three-Month T-Bill**	**1978 - 2022**
Equities	**MSCI All-Country World (USD, Net)**	**1987 - 2022**
US Equities	**Russell 3000**	**1979 - 2022**
International Equities	**MSCI World ex-US (USD, Net)**	**1970 - 2022**
Emerging & Frontier Mkt	**MSCI Emerging Markets (USD, Net)**	**1976 - 2022**
Global Equities Other	**MSCI All-Country World (USD, Net)**	**1987 - 2022**
Fixed Income & Preferreds	**Bloomberg US Aggregate**	**1976 - 2022**
Alternatives	**HFRI Fund-Weighted Composite**	**1990 - 2022**
Real Assets	**Equal-Weighted Blend: Bloomberg Commodity; Alerian Midstream Energy Select; FTSE EPRA/NAREIT Global (USD)**	**1972 - 2022**
REITs	FTSE EPRA/NAREIT Global (USD)	2005 - 2022
MLP/Energy Infrastructure	Alerian Midstream Energy Select	1987 - 2022
Infrastructure	MSCI All-Country World Infrastructure (USD, Net)	1999 - 2022
Absolute Return Assets	**Equal-Weighted Blend: HFRI Equity Market Neutral; HFRI Relative-Value: Total; HFRI Relative-Value: Fixed Income: Corporate**	**1990 - 2022**
Unconstrained Fixed Inc.	Equal-Weighted Average: Bloomberg US Aggregate; Bloomberg US High Yield Corporate	1990 - 2022
Non-Directional MMgr/FoF	Equal-Weighted Blend: HFRI Equity Market Neutral; HFRI Relative-Value: Total; HFRI Relative-Value: Fixed Income: Corporate; HFRI Event-Driven: Total	1990 - 2022
Equity Return Assets	**Equal-Weighted Blend: HFRI Equity Hedge: Total; HFRI Event-Driven: Total**	**1990 - 2022**
Equity Long/Short	HFRI Equity Hedge: Total	1990 - 2022
Private Investments	**Equal-Weighted Blend: NCREIF Property; Cambridge Associates Private Equity**	**1972 - 2022**
Private Real Estate	NCREIF Property	1978 - 2022
Private Equity	Cambridge Associates Private Equity	1986 - 2022
Private Credit	Cambridge Associates Private Credit	1992 - 2022

1. It is not possible to invest directly in an index. The index performance shown does not reflect the impact of any taxes, transaction costs, management fees or other expenses that may be associated with certain investments. Indices are unmanaged.
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Asset Class Assumptions | As of June 2023 | Reporting Currency: USD ID : 9250295 GRAYSTONE CONSULTING 59

Methodology

Morgan Stanley Wealth Management, in conjunction with your Financial Advisor as well as other resources across Morgan Stanley, has prepared this presentation. The presentation was designed to illustrate the risk and return characteristics of various portfolios when taking into account cash considerations. Each analysis is unique and although no individual analysis can completely describe the risk and return characteristics of a portfolio, the combination of these analyses can assist clients in arriving at an appropriate wealth strategy.

Expected Returns, Standard Deviations and Correlations: Return assumptions are established by the Morgan Stanley Global Investment Committee. The Global Investment Committee utilizes an equilibrium approach to generate expected returns, standard deviations and correlations for each asset class. We believe that by analyzing current and historical economic conditions and market trends, and then making projections of future economic growth, inflation, real yields for each country, we can estimate the equilibrium performance for an asset class. The equilibrium return is simply the central tendency around which market returns tend to fluctuate over a very long period of time. It is possible that actual returns will vary considerably from this equilibrium, even for a number of years, but we believe that market returns will eventually return to their equilibrium trend.

Monte Carlo Analysis: Monte Carlo simulation is an analytical technique which uses several iterations of hypothetical events. Statistics on the distribution of results can help infer which simulated variables are more likely. When simulating hypothetical asset class performance, we utilize Morgan Stanley's expected returns, standard deviations and correlations for each asset class. Small changes in these assumptions may have a sizable impact on the results. As such, the analysis is provided only for general guidance about asset allocation. There can be no assurances that the Monte Carlo-simulated results will be achieved or sustained. Your actual results will surely vary. For example, our simulations don't account for fees or transaction costs, which may be charged when you invest in an actual portfolio of securities. However, the goal of the Monte Carlo analysis is not 100% accurate forecasting, but rather to allow investors to make better, more informed decisions.

Asset Allocations: Unless otherwise stated, this analysis assumes that asset allocations remain constants and achieve the return and standard deviation assumptions over the period in which they are invested.

1. Important: The projections or other information generated by the Wealth Strategies Analysis Tool regarding the likelihood of various investment outcomes are hypothetical in nature, do not reflect actual investment results, and are not guarantees of futures results. Results generated by a Monte Carlo analysis will vary with each use and over time because each portfolio simulation is randomly generated.
2. For use only in one-on-one presentations.

Glossary

Expected Performance: Performance assuming that portfolios achieve their annual return assumption each year in which they are invested.

Expected Tail Loss: The average expected 1-year portfolio loss, at a 95% confidence level, if an extraordinarily bad event does occur.

Sharpe Ratio: This calculation measures a ratio of return above the risk free rate to volatility.

Standard Deviation: A statistical measure of the degree to which an individual value in a probability distribution tends to vary from the mean of the distribution.

Value at Risk: The maximum expected 1-year portfolio loss, at a 95% confidence level, if an extraordinarily bad event does not occur.

Worst Trial: This is defined as the worst hypothetical performance of the portfolio in a given year. While it's always possible, albeit with an infinitely small chance, that a portfolio could lose all its money in a year, this is the most the portfolio lost in all the iterations of the first year of the Monte Carlo simulation.

Max Drawdown: Similar to the worst trial, this is the worst hypothetical performance of the portfolio, but not limited to a single year - it's a potential total loss over the course of the plan.

1. For use only in one-on-one presentations.

Risk of Different Investments

Different security types and asset classes carry different risks of investment.

Small/Mid Caps U.S. Equity: Investing in smaller companies involves greater risks not associated with investing in more established companies, such as business risk, significant stock price fluctuations and illiquidity.

International/Emerging Markets: International investing entails greater risk, as well as greater potential rewards compared to U.S. investing. These risks include potential and economic uncertainties of foreign countries as well as the risk of currency fluctuations. These risks are magnified in countries with emerging markets, since these countries may have relatively unstable governments and less established markets and economics.

Fixed Income: Fixed Income Securities are subject to interest rate risk, credit risk, prepayment risk, market risk, and reinvestment risk. Fixed Income Securities, if held to maturity, may provide a fixed rate of return and a fixed principal value. Fixed Income Securities prices fluctuate and when redeemed, may be worth more or less than their original cost.

High Yield Bonds: High Yield Fixed Income Investments, also known as junk bonds, are considered speculative, involve greater risk of default and tend to be more volatile than investment grade fixed income securities.

Hedge Funds: Hedge funds are appropriate only for long-term, qualified investors. They are generally illiquid, not tax efficient, and have higher fees than many traditional investments. They may also be highly leveraged and engage in speculative investment techniques which can magnify the potential for investment loss or gain.

REITS: REITs investing risks are similar to these associated with direct investments in real estate; lack of liquidity, limited diversification, and sensitivity to economic factors such as interest rate charges and market recessions.

Private Equity: Private equity interests may be highly illiquid, involve a high degree of risk and be subject to transfer restrictions.

TIPS: Because the return of TIPS is linked to inflation, TIPS may significantly underperform vs. fixed return treasuries in times of low inflation.

Managed Futures: Managed futures investments are speculative, involve a high degree of risk, use significant leverage, are generally illiquid, have substantial charges, subject investors to conflicts of interest, and are appropriate only for the risk capital portion of an investor's portfolio. Before investing in any partnership and in order to make an informed decision, investors should read the applicable prospectus and/or offering documents carefully for additional information, including charges, expenses and risks. Investors should read the prospectus and/or offering documents carefully for additional information, including charges, expenses and risks. Managed futures investments do not replace equities or bonds but rather may act as a complement in a well diversified portfolio.

Commodities: Investing in commodities entails significant risks. Commodity prices may be affected by a variety of factors at any time, including but not limited to, changes in supply and demand relationships, (ii) governmental programs and policies, (iii) national and international political and economic events, war and terrorist events, (iv) changes in interest and exchange rates, (v) trading activities in commodities and related contracts, (vi) pestilence, technological change and weather, and (vii) the price volatility of a commodity. In addition, the commodities markets are subject to temporary distortions or other disruptions due to various factors, including lack of liquidity, participation of speculators and government intervention.

MLPs: Investment in MLPs entails different risks, including tax risks, than is the case for other types of investments. Currently, most MLPs operate in the energy, natural resources or real estate sectors. Investments in MLP interests are subject to the risks generally applicable to companies in these sectors (including commodity pricing risk, supply and demand risk, depletion risk and exploration risk).

Alternative Investments: Any allocation containing alternative investments should note that they are highly illiquid and are only appropriate for investors willing to put capital at risk for an indefinite period of time. Alternative investments often engage in leverage and other speculative investment practices, may involve complex tax structures, typically have higher fees, and generally are not subject to the same regulatory requirements as traditional asset classes.

1. For use only in one-on-one presentations.

Disclosures

These materials are provided for general informational and educational purposes based in part upon publicly available information from sources believed to be reliable. While we have taken great care in the preparation of these materials, we cannot be responsible for clerical, computational, or other errors. While we have relied on sources we believe to be reliable, the values reflected in this request may differ from their reported values due to varying reporting methods and valuation methods used by custodians other than those affiliated with us. We cannot assure the accuracy of these reports, nor of the information provided to us and reflected in this report.

Important: The projections or other information generated by the Wealth Strategies Analysis Tool regarding the likelihood of various investment outcomes are hypothetical in nature, do not reflect actual investment results, and are not guarantees of future results. Results generated by a Monte Carlo analysis will vary with each use and over time because each portfolio simulation is randomly generated.

Any samples included in this analysis are not recommendations to pursue any estate planning or asset allocation strategy. They are shown for illustration purposes only.

Since the future cannot be forecast, actual results will vary from the information shown for the future, including estimates and assumptions. The results may vary with each use and over time. It is possible that these variations may be material. The degree of uncertainty normally increases with the length of the future period covered. As a result, Morgan Stanley Wealth Management cannot give any assurances that any estimates, assumptions or other aspects of the following analyses will prove correct. They are subject to actual known and unknown risks, uncertainties and other factors that could cause actual results to differ materially from those shown.

Investing in financial instruments carries with it the possibility of losses and that a focus on above-market returns exposes the portfolio to above-average risk. Hypothetical performance illustrations are not guaranteed and are subject to market conditions. High volatility investments may be subject to sudden and large falls in value, and there could be a large loss on realization which could be equal to the amount invested.

Asset allocation does not assure profit or protect against loss in declining financial markets. Certain assumptions may have been made in the analyses that have resulted in the estimated return contained herein. Any change in these assumptions may have a material impact on any estimated returns.

Many of the views and opinions contained herein regarding asset allocation were prepared by Morgan Stanley Wealth Management and may differ materially from that of others at the Company. Nothing in this allocation is designed to constitute an individual investment plan which should only be devised after discussion with your Financial Advisor.

This Wealth Strategies Analysis Tool may contain historical asset class return data and statistically generated data from 1990-2017 which are not used to forecast potential return but rather to identify relative patterns of behavior among asset classes which when put in different combinations assume various levels of risk.

Blended index portfolio performance is shown for illustration purposes only. Hypothetical performance has inherent limitations and does not reflect actual performance, trading or decision making. The results vary and reflect material economic or market factors such as liquidity constraints or volatility, which have an important impact on decision making and actual performance.

Annualized return performance shown in this presentation does not reflect deduction of investment advisory fees; had they and other fees incurred in the management of the account been reflected the performance would have been lower; the investment advisory fees are described in Part II of the Morgan Stanley Form ADV; For example, for an account with an annual advisory fee of 2% deducted monthly, if the annual gross performance is 10%, the compounding effect of the fee will result in a net annual compound rate of return of approximately 7.93%. After a three-year period with an initial investment of $100,000, the total value of the client’s account would be approximately $133,100 without the fee and $125,716 with the fee.

Past performance is no guarantee of future results. These materials do not constitute an offer to either buy or sell securities or to participate in any trading strategy.

Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustration purposes only and do not show the performance of any specific investment. Reference to an index does not imply that the portfolio will achieve return, volatility or other results similar to the index. The composition of an index may not reflect the manner in which a portfolio is constructed in relation to expected or achieved returns, portfolio guidelines, restrictions, sectors, correlations, concentrations, volatility, or tracking error target, all of which are subject to change over time.

1. For use only in one-on-one presentations.

This report was prepared using a brokerage tool and not an advisory tool. This report is not a financial plan and does not create an investment advisory relationship between you and your Morgan Stanley Wealth Management Financial Advisor. We are not your fiduciary either under the Employee Retirement Income Security Act of 1974 (ERISA) or the Internal Revenue Code of 1986, and any information in this report is not intended to form the primary basis for any investment decision by you, or an investment advice or recommendation for either ERISA or Internal Revenue Code purposes. Morgan Stanley Wealth Management will only prepare a financial plan at your specific request using Wealth Management approved financial planning software.

We may act in the capacity of a broker or that of an advisor. As your broker, we are not your fiduciary and our interests may not always be identical to yours. Please consult with your Financial Advisor to discuss our obligations to disclose to you any conflicts we may from time to time have and our duty to act in your best interest.

We may be paid both by you and by others who compensate us based on what you buy. Our compensation, including that of your Financial Advisor, may vary by product and over time.

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In addition, each account that is invested in a program that is eligible to purchase certain investment products, such as mutual funds, will also pay a Platform Fee (which is subject to a Platform Fee offset) as described in the applicable ADV brochure. Accounts invested in the Select UMA program may also pay a separate Sub-Manager fee, if applicable.

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If your account is invested in mutual funds or exchange traded funds (collectively "funds"), you will pay the fees and expenses of any funds in which your account is invested. Fees and expenses are charged directly to the pool of assets the fund invests in and are reflected in each fund's share price. These fees and expenses are an additional cost to you and would not be included in the Fee amount in your account statements. The advisory program you choose is described in the applicable Morgan Stanley Smith Barney LLC ADV Brochure, available at www.morganstanley.com/ADV.

Morgan Stanley or Executing Sub-Managers, as applicable, in some of Morgan Stanley's Separately Managed Account ("SMA") programs may effect transactions through broker-dealers other than Morgan Stanley or our affiliates. In such instance, you may be assessed additional costs by the other firm in addition to the Morgan Stanley and Sub-Manager fees. Those costs will be included in the net price of the security, not separately reported on trade confirmations or account statements. Certain Sub-Managers have historically directed most, if not all, of their trades to outside firms. Information provided by Sub-Managers concerning trade execution away from Morgan Stanley is summarized at:
www.morganstanley.com/wealth/investmentsolutions/pdfs/adv/sotresponse.pdf.
For more information on trading and costs, please refer to the ADV Brochure for your program(s), available at www.morganstanley.com/ADV, or contact your Financial Advisor / Private Wealth Advisor.

The investment management services of Morgan Stanley Smith Barney LLC and investment vehicles managed by Morgan Stanley Smith Barney LLC or its affiliates are not guaranteed and could result in the loss of value to your account. You should note that investing in financial instruments carries with it the possibility of losses and that a focus on above-market returns exposes the portfolio to above-average risk. Performance aspirations are not guaranteed and are subject to market conditions.

Morgan Stanley Smith Barney LLC does not provide tax or legal advice. We strongly recommend that you consult your own legal and tax adviser to determine whether the analyses in these materials apply to your personal circumstances. Particular, legal, accounting and tax implications applicable to you, as well as margin requirements and transaction costs may significantly affect the structure discussed and we do not represent that the results indicated will be achieved by you.

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Chris Ip, CIO

E. Administrative Updates

UNCMC Annual Due Diligence: Key Takeaways

Ongoing Concerns

1. UNCMC's ability to change key terms, notably management fee and redemptions, without consent from Members
2. Manager concentration risk: LTIP's high exposure (~75% of LTIP) to UNCIF
3. Lack of transparency into UNCIF's portfolio
4. No Board or Board Observer seat

New Concerns

1. UNCIF's use of leverage at the portfolio level
2. Retirement of Kevin Tunick, a key member of UNCMC's private markets team
3. A non-university entity is now the second largest UNCIF investor, which creates potential misalignment with NCSIF and other Members
4. UNCIF increasing SIPP upper boundary for PE by 2% (from 32% to 34%)

NCSIF Office of Investments' Recommendation

- Examine LTIP's investment in UNCIF as part of Graystone's LTIP Investment Policy Statement and broader enterprise assessment

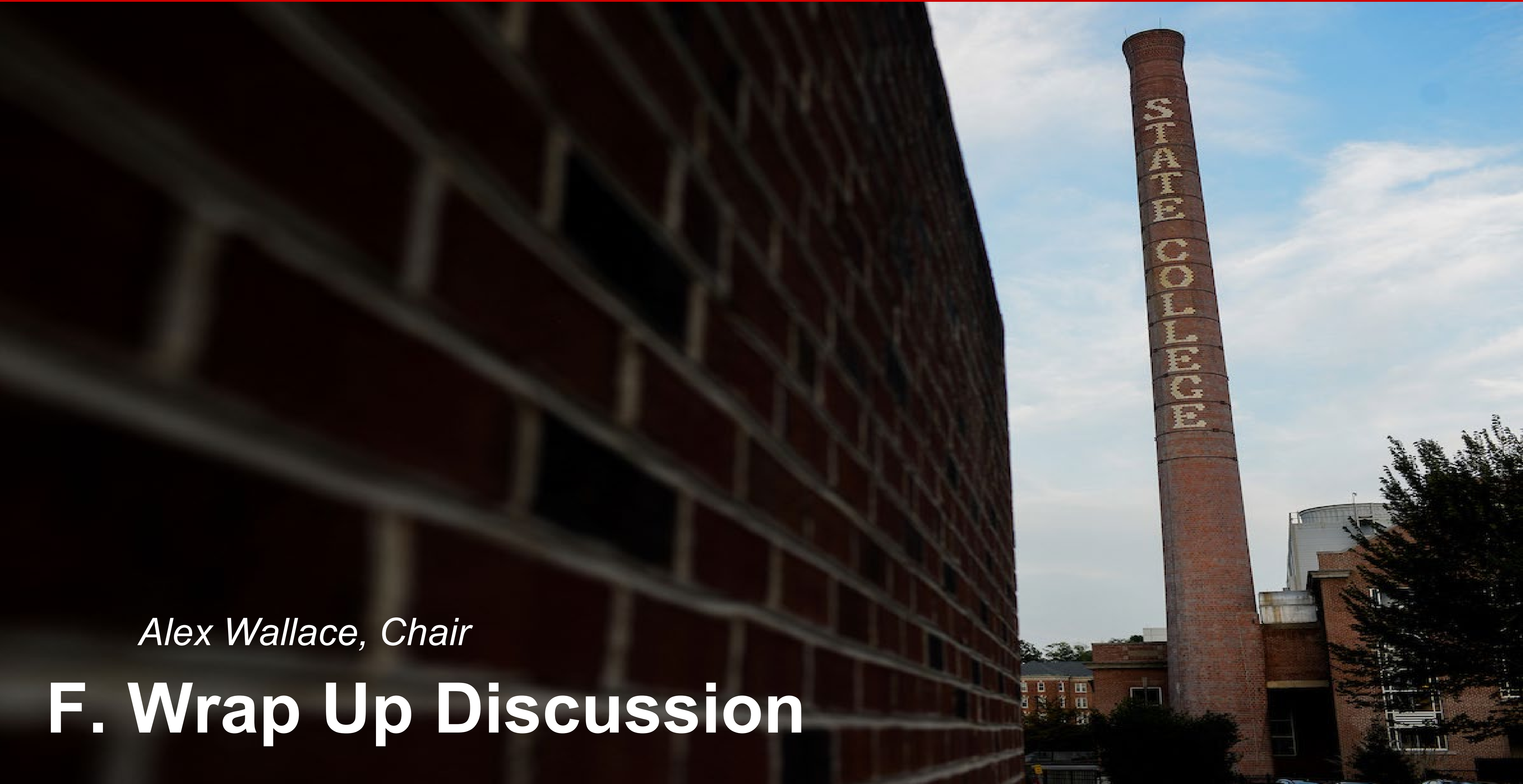
ITF Investment Policy Statement (“IPS”) Process & Next Steps

Process

The Office of Investments team will review the IPS and also reach out to our ITF managers for input for potential changes to our IPS.

Next Steps

1. The Office of Investments will present recommended IPS changes to the Board of Directors at the next closed session meeting in November 2023
2. The Board of Directors will present IPS changes to the Members Board for their approval at a future meeting



Alex Wallace, Chair

F. Wrap Up Discussion

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Alex Wallace, Chair

G. Adjournment