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The Waiting Is The Hardest Part

4Q:2022 Macro & Markets Perspective

Our Perspective: The Waiting Is The Hardest Part

Investors will need patience this year as the landscape continues to evolve (from inflation fears to growth fears). Yet, by year-end 2023 we expect the investing landscape to be much improved.

Good Riddance 2022

An anomalous year, 2022 saw both stocks and bonds decline as inflation soared.
Yet, we may be past inflation's peak, making 2023 more conducive for investors.

Inflation Fades but Earnings Do, as Well

Fed hikes have slowed inflation by slowing the economy.
Earnings, which matter more than anything for stocks, are likely to fall vs. 2022 levels.

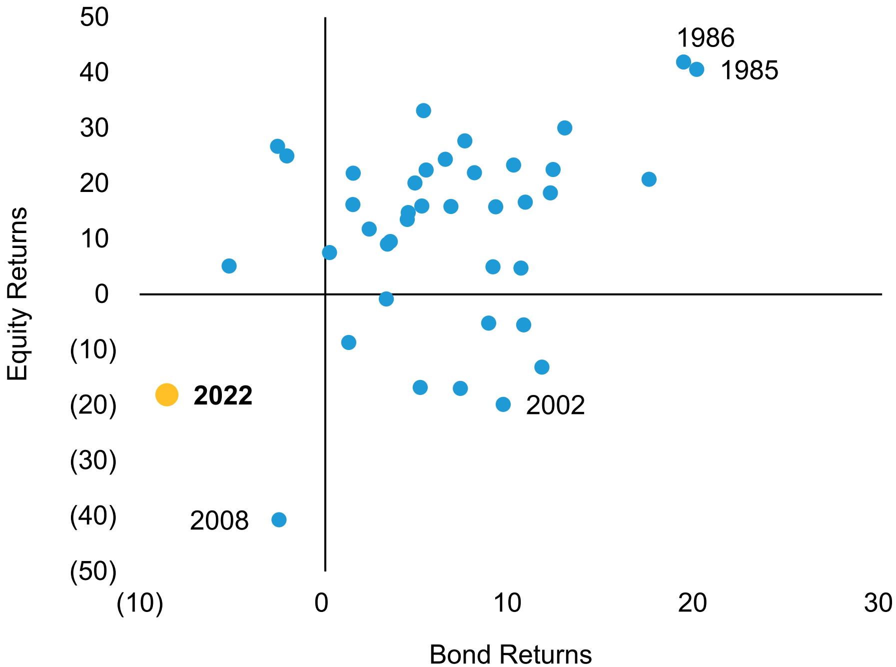
Fixed Income Is Attractive Once Again

Bond investors' "pain" in 2022 (i.e. declining bond prices) will lead to their "gain" in 2023 (i.e. higher yields).
In a still-uncertain landscape, that income will be a welcome component in any asset allocation.

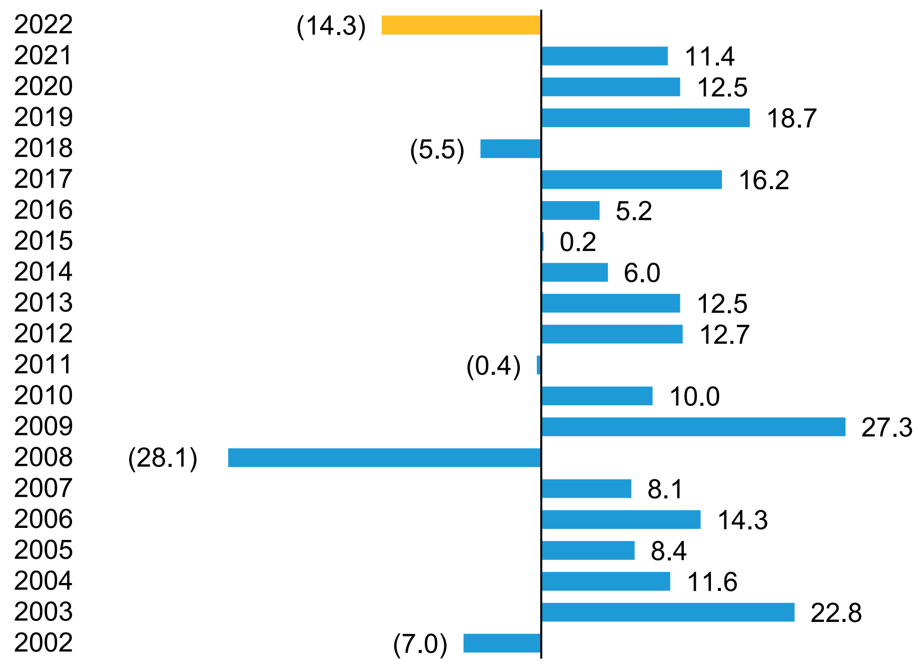
Source: AB

Investors Are Happy to Have 2022 Behind Them

Equity and Muni Bond Returns Since 1983



Calendar Year Returns, 60/40 Allocation



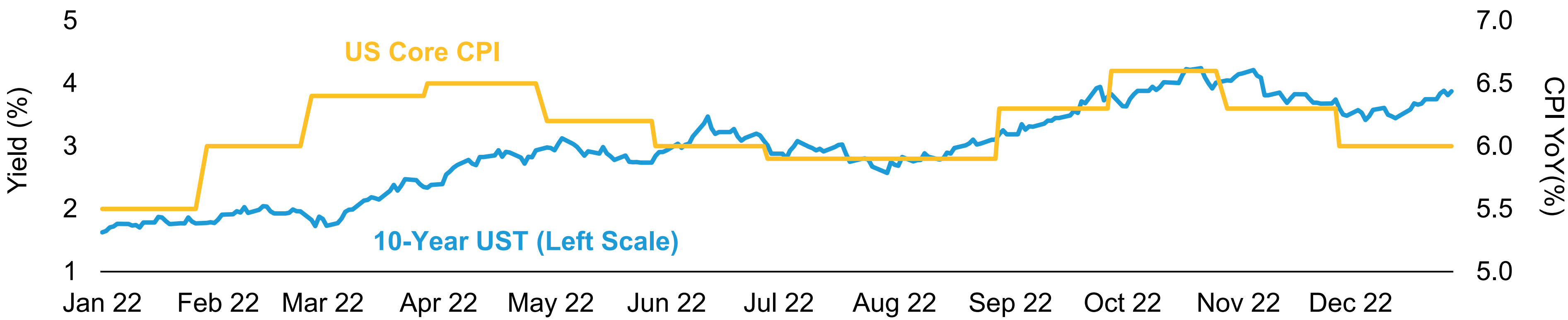
As of December 31, 2022. **Historical analysis is not necessarily indicative of future results.**

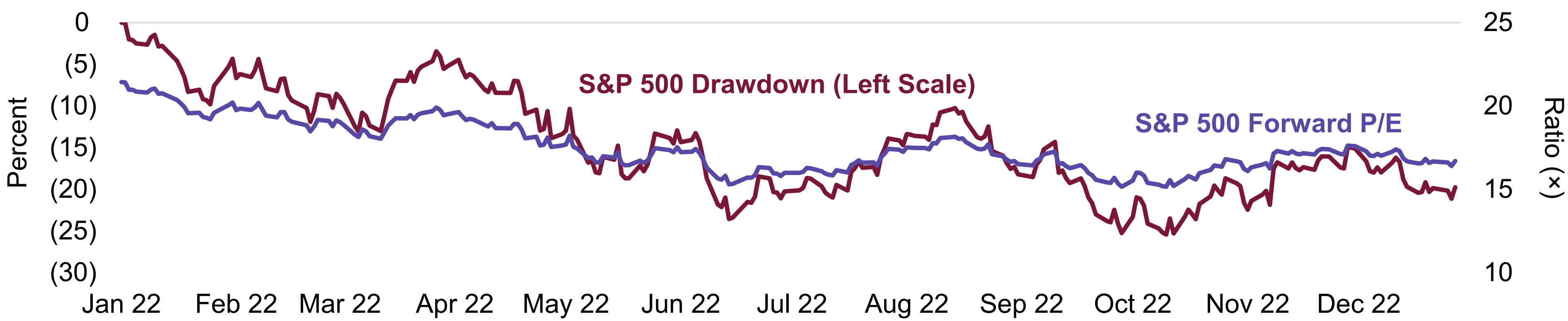
Equities are represented by MSCI World Index on LHS chart and MSCI ACWI IMI on RHS chart. Bonds are represented by Bloomberg Municipal Bond Index.

Source: MSCI, Bloomberg, Morningstar and Bernstein analysis

2022 in One Chart: Higher Inflation & Rates Cause P/Es & Stocks to Fall

As inflation and rates rose, valuations compressed, stocks declined



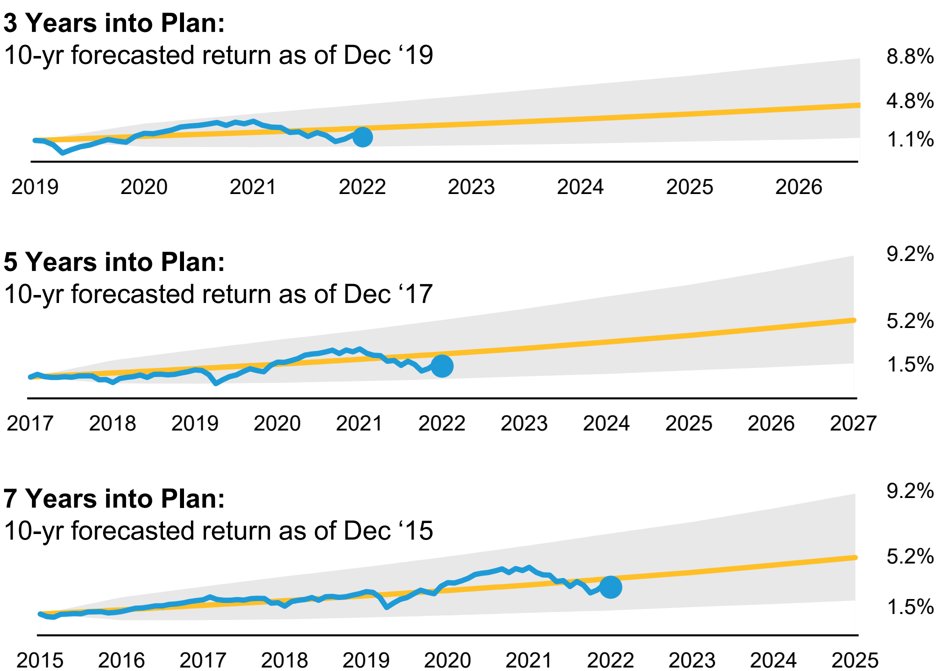


As of December 31, 2022. **Historical analysis is not necessarily indicative of future results.**

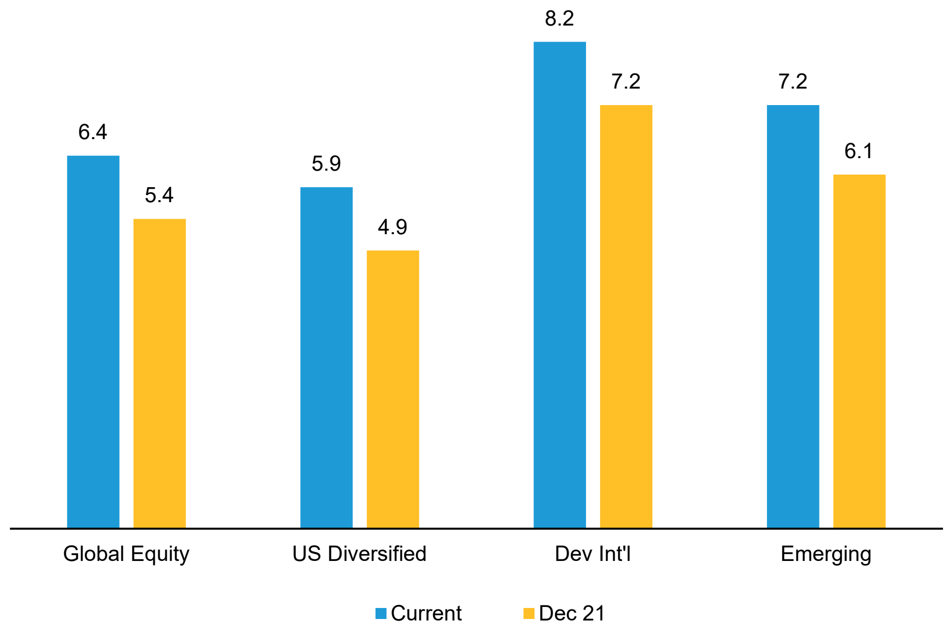
Source: S&P, BLS, Bloomberg, Factset and Bernstein analysis

Despite 2022, Many Investors Remain on Plan Due to Strong 2019–2021

Projected* and Actual Returns (Annualized)



Expected Returns by Asset Class (10-Year Annualized Growth Rates, %)



Past performance does not guarantee future results. There is no guarantee that any estimates or forecasts will be realized. *Great markets represents 10th percentile, typical markets represents 50th percentile, and hostile markets represents 90th percentile. Based on Bernstein's estimates of the range of returns for the applicable capital markets as of the following dates: December 31, 2019 (top LHS), December 31, 2017 (middle LHS), December 31, 2015 (bottom LHS), for a 60/40 stock/bond allocation. Stocks modeled as globally diversified equities. Bonds modeled as intermediate-term diversified municipals. Data do not represent past performance and are not a promise of actual future results or a range of future results. See Notes on Bernstein Wealth Forecasting System in the Appendix for further details. **The hypothetical performance of the Moderate Portfolio Simulation (MPS) is a simulated portfolio intended to illustrate the investment experience of a Bernstein taxable client who was invested in a moderate growth allocation of Bernstein investment services. Represents monthly returns. Assumes no portfolio additions or withdrawals over the period. Results based on pretax returns and do not reflect the impact of taxes. It is presented for illustrative purposes only, and no representation is made that an investor will, or is likely to, achieve profits or experience losses similar to those shown. See Performance Disclosures at the end of this presentation for additional information regarding the simulation's composition and calculation methodology. RHS chart: The current forecast is as of June 30th, 2022. Equity markets referenced represent broad universes similar to the corresponding MSCI indexes: for example, global large-cap stocks represents a universe similar to the MSCI World. The bond markets referenced are for seven-year constant-maturity bonds of the type named: inflation-linked sovereign, nominal sovereign, high-yield and investment-grade corporate.

Source: AB

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The Outlook

2023: Slowing Inflation, Slowing Growth

- **Global growth:** Global growth is set to slow further as the cumulative effects of rate hikes weigh on the outlook.
- **Inflation:** Inflation is likely to decline gradually through 2023. Slowing growth, easing supply chains and falling home prices serve as catalysts.
- **Monetary policy:** Monetary policy is now restrictive. We believe the cycle peak is in sight. Cuts are possible by year-end.
- **Bond Yields:** Even with slightly tighter policy, further curve flattening should be limited given what's already priced in.
- **Earnings Growth:** Consensus S&P earnings growth expectations are likely to decline further as tight financial conditions weigh on profitability.

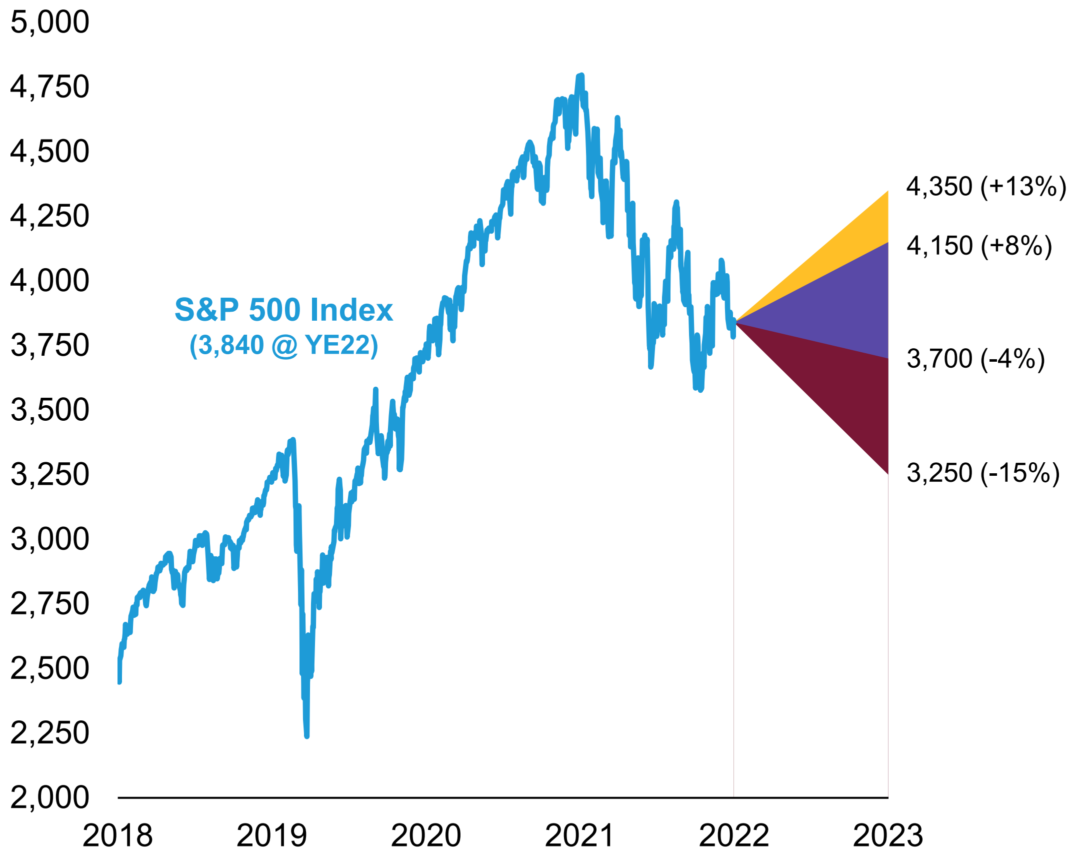
AB Economic Team Forecasts*

	2022	2023
US GDP	1.6%	0.7%
Global GDP	2.5%	1.9%
10Y Treasury Rate	3.9%	3.5%
Fed Funds Terminal Rate	NA	4.75%-5.0%
US Inflation	5.5%	3.5%

As of December 31, 2022. **Historical analysis is not necessarily indicative of future results. There is no guarantee that any estimates or forecasts will be realized.**.
Source: Bloomberg, FactSet, and AB

The Economic Landscape Leads to Three Possible Market Paths

Scenario Analysis: S&P 500, YE 2023



Bull: Inflation Craters, Growth Stabilizes

Inflation eases rapidly over 1H23, allowing the Fed to pause much sooner than expected. Growth slows modestly but not enough to cause a recession or earnings to reset much lower. **Likelihood: 25%**

Base: Mild Recession

Economic growth slows toward 0%—a substantial enough slowdown that a recession designation would be justified. Earnings fall as top-line growth slows and margins compress. **Likelihood: 50%**

Bear: Moderate Recession

Inflation slows but only modestly, causing the Fed to remain restrictive (well above 5%). Earnings decline double-digits, in line with previous recessions. **Likelihood: 25%**

As of December 31, 2022. **Historical analysis is not necessarily indicative of future results. There is no guarantee that any estimates or forecasts will be realized.**
Source: Bloomberg, S&P 500, and AB

Has Inflation Peaked?

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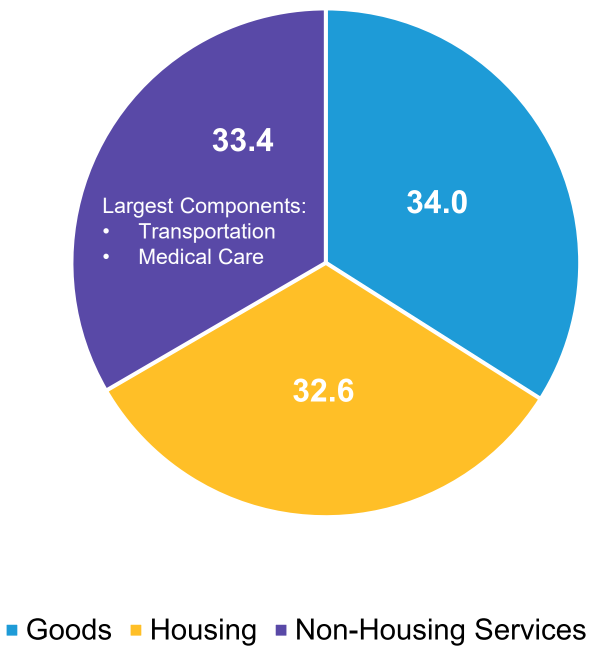
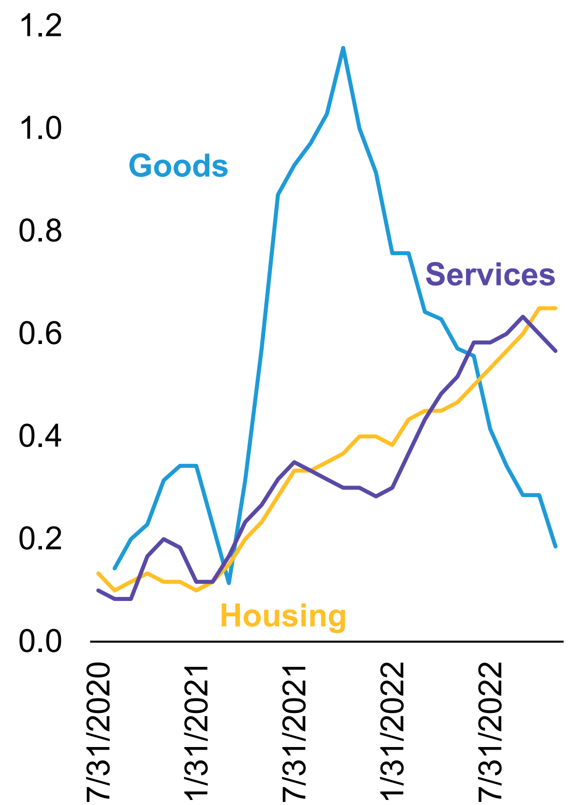
What's the Trend?

CPI Weights (%)



MoM Percent Change in Core Inflation

(6-Mo. Moving Avg. %)



Outlook

Housing

- Shelter inflation remains robust, accounting for nearly half of the total increase in core CPI.
- With house prices moving lower, we should expect shelter inflation to fall—though it is likely to be several more months before we see true relief.

Non-Housing Services

- We expect non-housing services inflation to be the Fed's focus moving forward.
- With the high correlation between service inflation and wages, a softening of the labor market will be central for pressure to ease on this front.

Goods

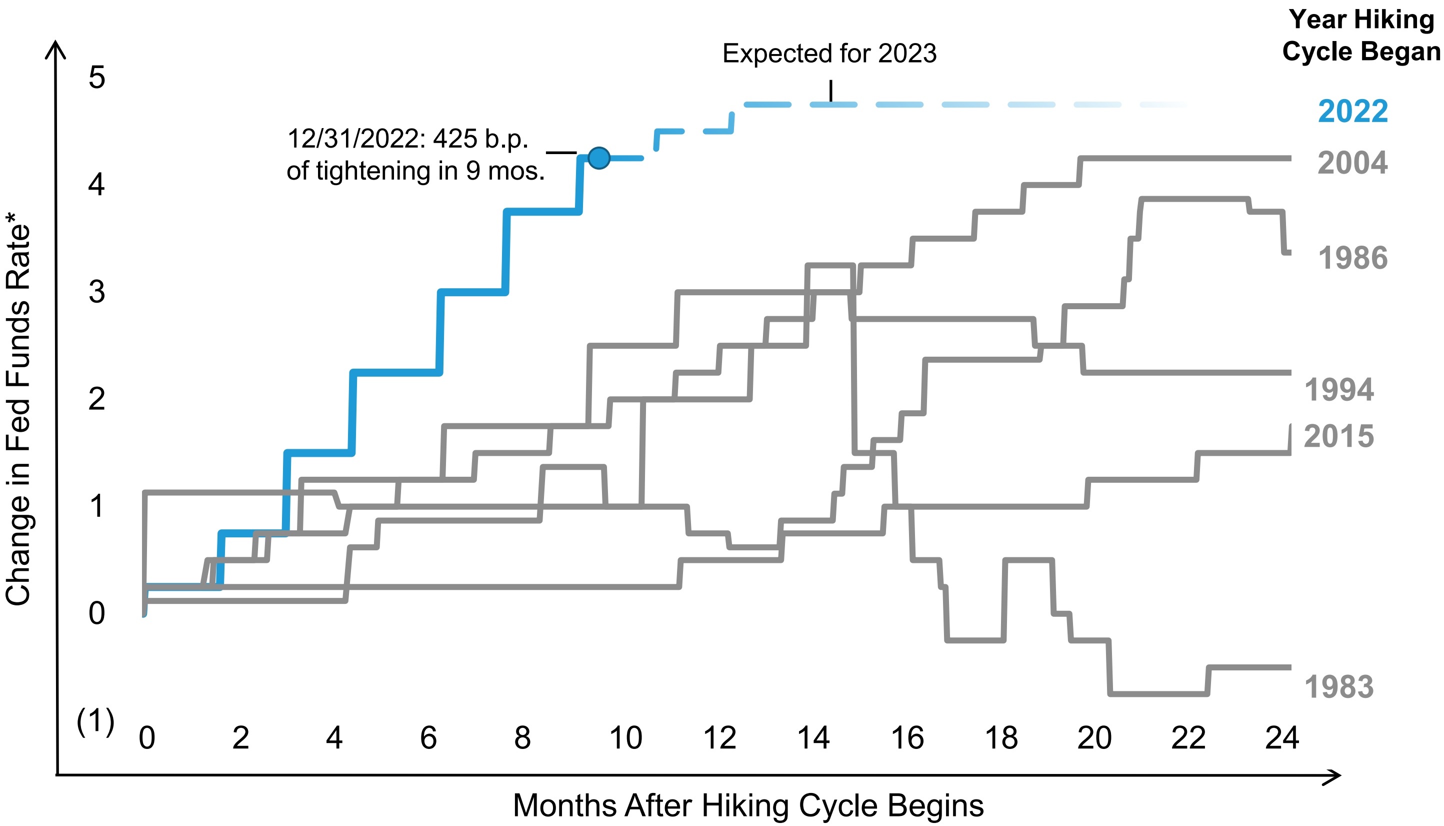
- Goods prices have significantly normalized, nearing the Fed's 2% YoY target, reflecting substantial healing in the global supply chain.

As of December 31, 2022. **Historical analysis is not necessarily indicative of future results. There is no guarantee that any estimates or forecasts will be realized.**

Source: Bloomberg, BLS, and Bernstein analysis

Assuming Inflation Trend Continues, Fed Close To Pausing

Change in Fed Funds Rates During Previous Hiking Cycles



2022 has seen the **most rapid** increase in rates at the **largest magnitude** in the past 40 years.

Further, we expect the Fed **to hold rates elevated** for the better part (if not all) of 2023, in an attempt to **definitively quell inflation**.

Rate cuts are possible, though, late in the year.

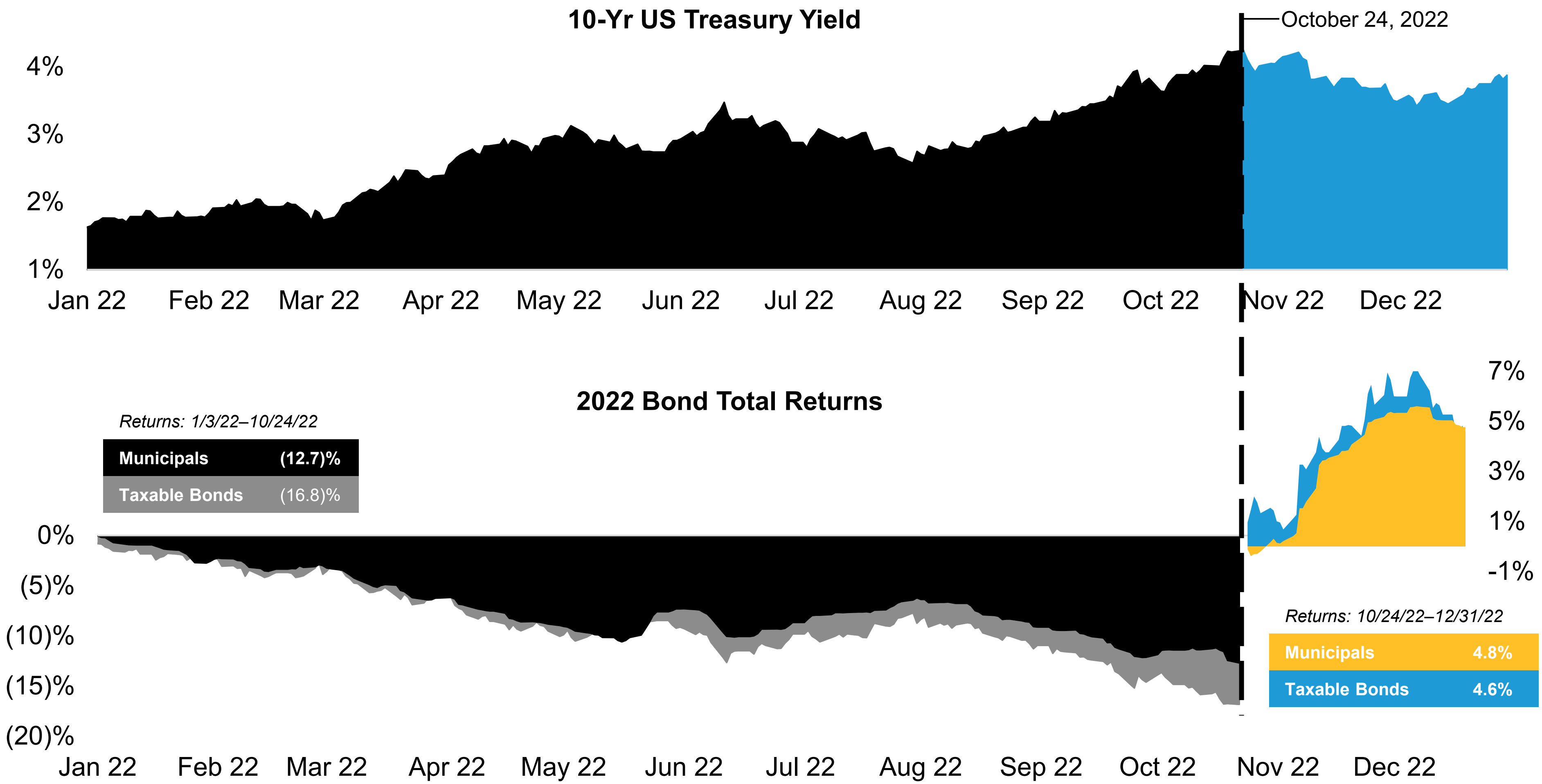
As of December 31, 2022. **Historical analysis is not necessarily indicative of future results. There is no guarantee that any estimates or forecasts will be realized.**

*Change in fed funds rate vs. day prior to hiking cycle beginning

Source: Bloomberg, Board of Governors of the Federal Reserve System, and AB

Bond Yields Are Looking Attractive, Once Again

Bonds in 2022: A Story of Two Periods



As of December 31, 2022. **Historical analysis is not necessarily indicative of future results.**

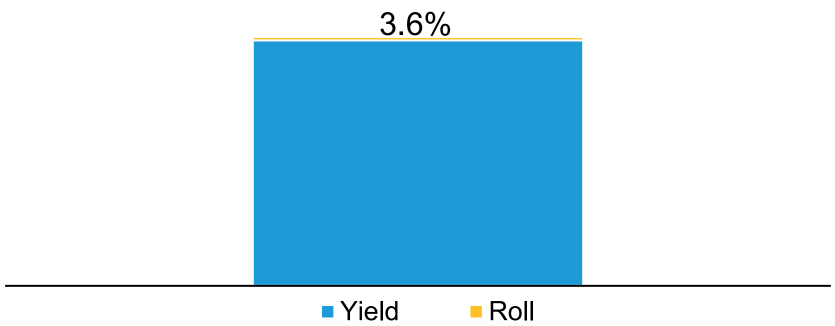
Municipal bonds represented by the Bloomberg Muni Bond Index, Taxable Bonds represented by Bloomberg US Aggregate.

Source: Bloomberg, Morningstar and AB

The Continuing Road Map Back to Even

Municipal Bonds

1. Yield + Roll Returns



2. BBB Muni Credit Spread Tightening (%)

Additional return if spreads tighten to fair value. Likely to occur if macro backdrop and flows improve.

Taxable Bonds

US Taxable Bonds Potential Total Return (%)

US Aggregate		Change in US High Yield Spreads (b.p.)			
		(50)	0	+50	+100
Change in US Treasury Yields (b.p.)	+100	(1.06)	(0.66)	(1.51)	(1.72)
	+50	1.86	1.62	1.38	1.17
	0	4.94	4.68	4.43	4.20

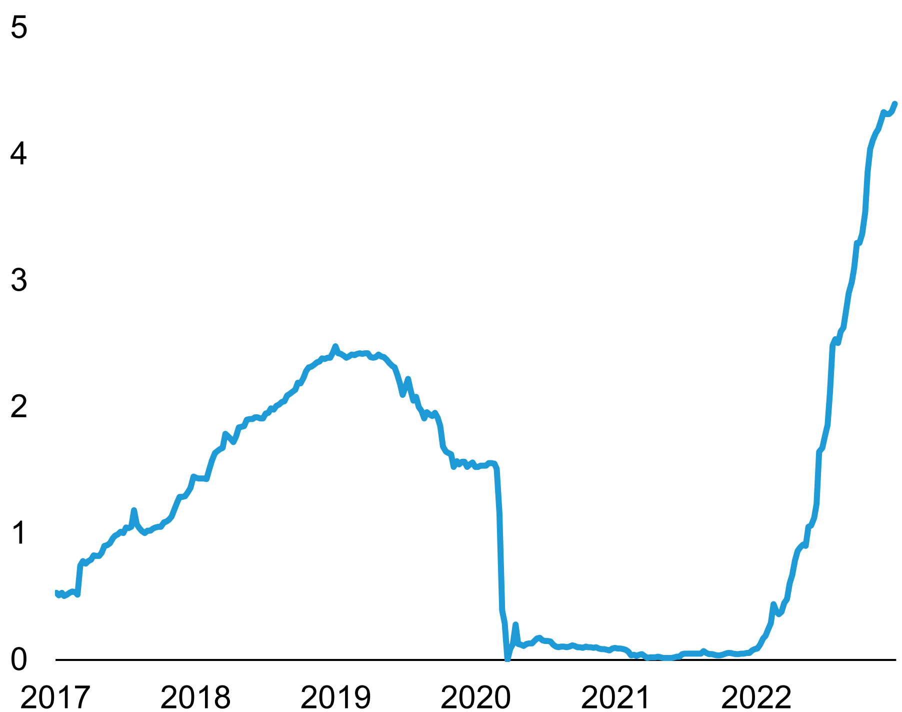
Global Taxable Bonds Potential Total Return (%)

Global Aggregate		Change in US High Yield Spreads (b.p.)			
		(50)	0	+50	+100
Change in US Treasury Yields (b.p.)	+100	(0.38)	(0.23)	(0.91)	(1.14)
	+50	1.77	1.47	1.19	0.93
	0	4.05	3.73	3.42	3.14

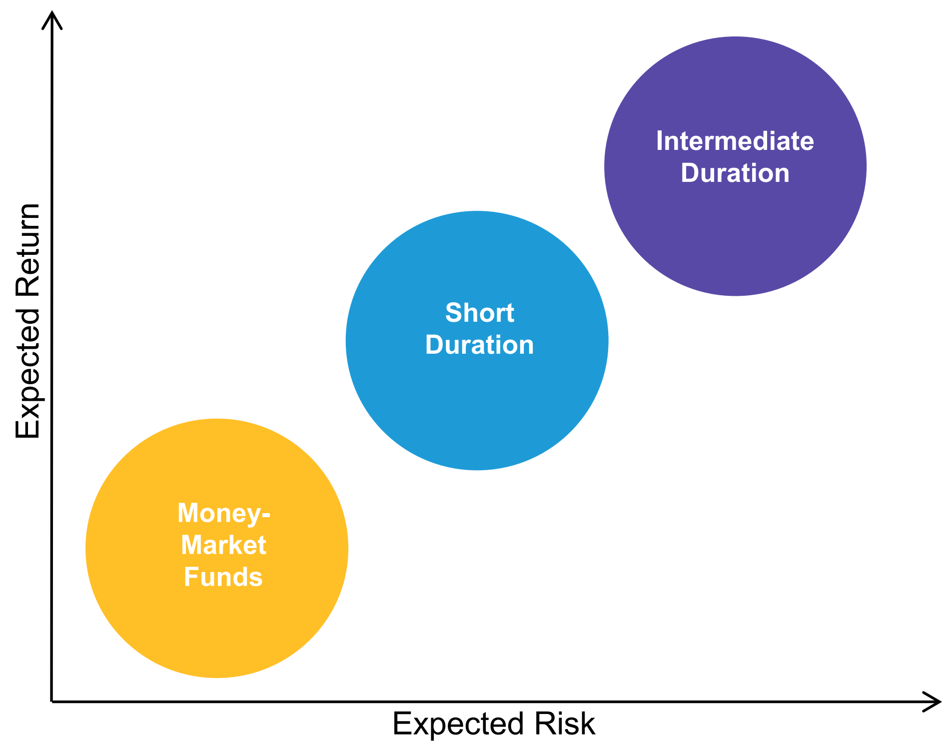
Past performance does not guarantee future results. For municipal bonds: Analysis provided for illustrative purposes only and is subject to revision. Hypothetical analysis-based total-return components. There is no guarantee any investment objective will be achieved. Characteristics are subject to change. Numbers may not sum due to rounding. 12-month credit spread scenario analysis assumes reversion to the long-term average of BBB credit spreads of 70 basis points and an assumed duration of 9 years. Yield + roll based on the Bloomberg Municipal Bond Index US Aggregate is represented by the Bloomberg US Aggregate Index; US High Yield is represented by the Bloomberg US High Yield Corporate. Indices are unmanaged, and an investor cannot invest directly in an index. The scenario analysis assesses the potential impact of instantaneous changes in US high-yield spreads and a parallel shift in US Treasury yield curves on the Bloomberg US Aggregate and Bloomberg Global Aggregate indices. Expected returns incorporate the impact of roll and carry over the subsequent 12 months. Yield + Roll as of December 31. 2022 Credit returns as of November 30, 2022. Global Aggregate is represented by the Bloomberg Global Aggregate Index (hedged to USD). Indices are unmanaged, and an investor cannot invest directly in an index. Expected returns incorporate the impact of roll and carry over the subsequent 12 months. Source: Bloomberg, Municipal Market Data, and AB

Are You Earning Enough on Your Cash?

Cash Yields (3-Month Treasury Yield, %)



Right-Sizing Your Cash allocation



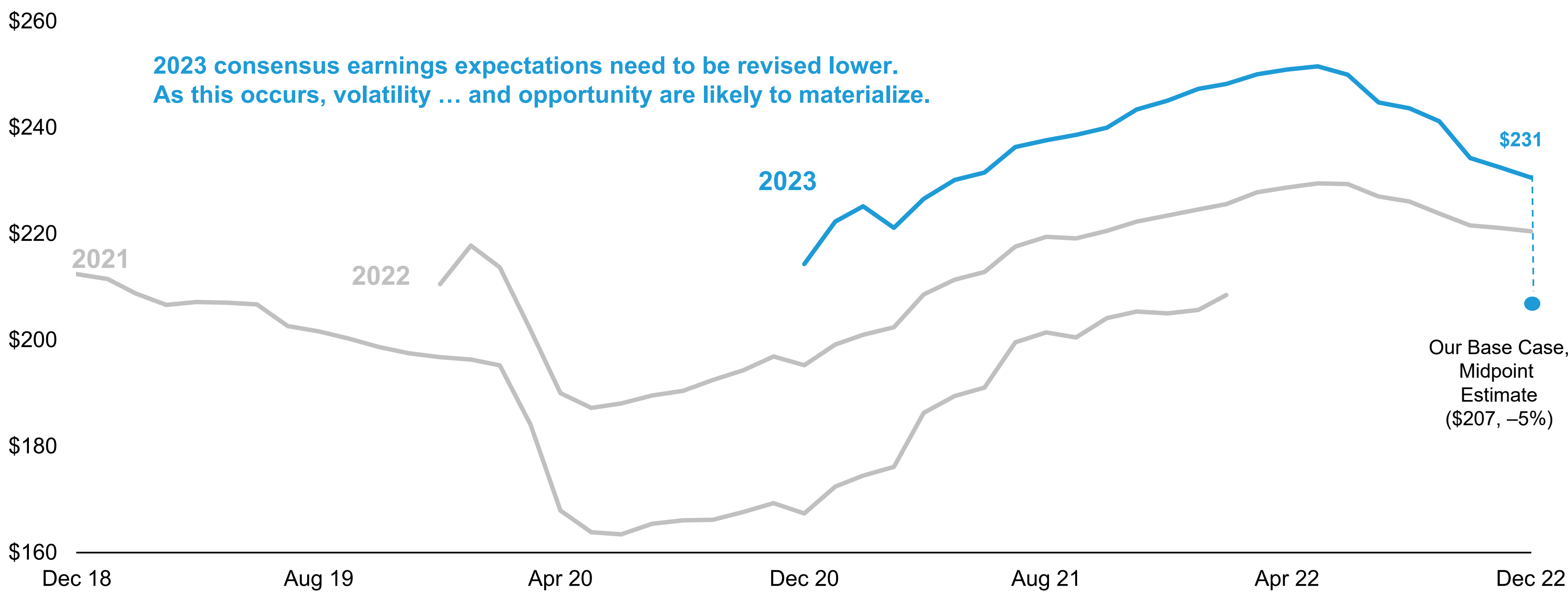
As of December 31, 2022. **Historical analysis is not necessarily indicative of future results.**

Source: Bloomberg and AB

Where to for Earnings?

2023 Earnings Expectations Need to Come Down, in Our Opinion

S&P 500 Consensus Estimates by Calendar Year



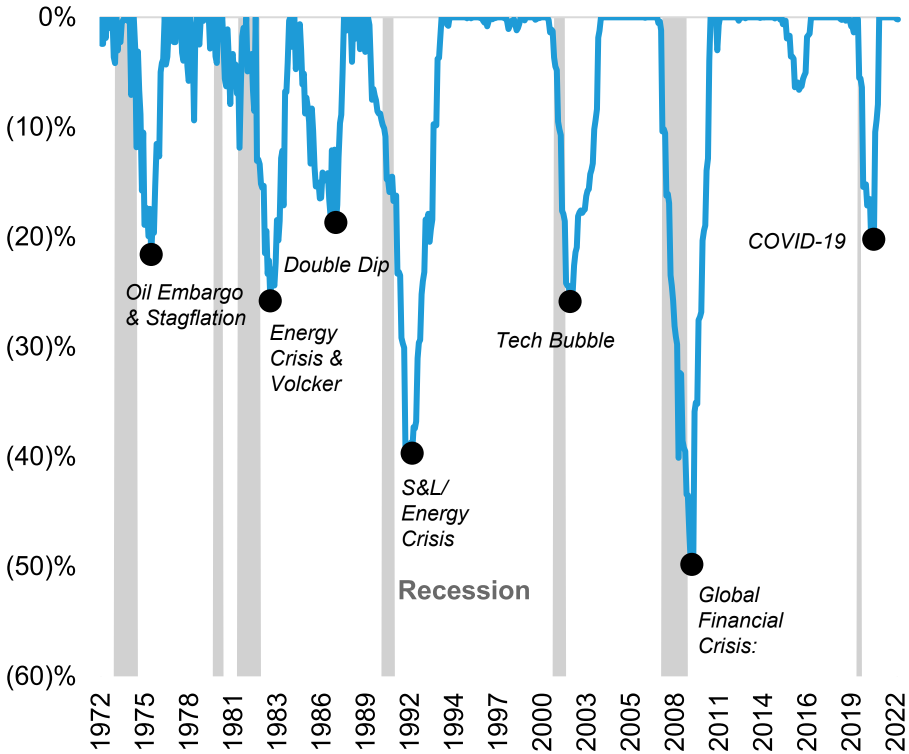
As of December 31, 2022. **Historical analysis is not necessarily indicative of future results. There is no guarantee that any estimates or forecasts will be realized.**

Source: FactSet, S&P and Bernstein analysis

Earnings Declines Vary Depending on Starting Conditions

Historic S&P 500 EPS Drawdown from 3-Year Maximum

Since 1970



Today's Conditions vs. Periods Immediately Before Recession

The Case for a Mild Recession/Earnings Decline

Unemployment: 3.7% vs. 4.7% Median

Job Openings: 10.3M vs. 5.1M Median

Consumer Leverage: 14.5% vs. 16.9% Median

Corporate Leverage: 1.3x vs. 3.8x Median

Time Since Last Recession 32 mos vs. 74 mos

The Case for a Moderate Recession/Earnings Decline

Magnitude of Fed Hikes: 4.8%* vs. 4.8% Median

Duration of Tightening Cycle: 12-Mo* vs. 23-Mo Median

The Long and Variable Lag of Monetary Policy

Weak/Recessionary Non-US Economies

As of December 31, 2022. **Historical analysis is not necessarily indicative of future results. There is no guarantee that any estimates or forecasts will be realized.**

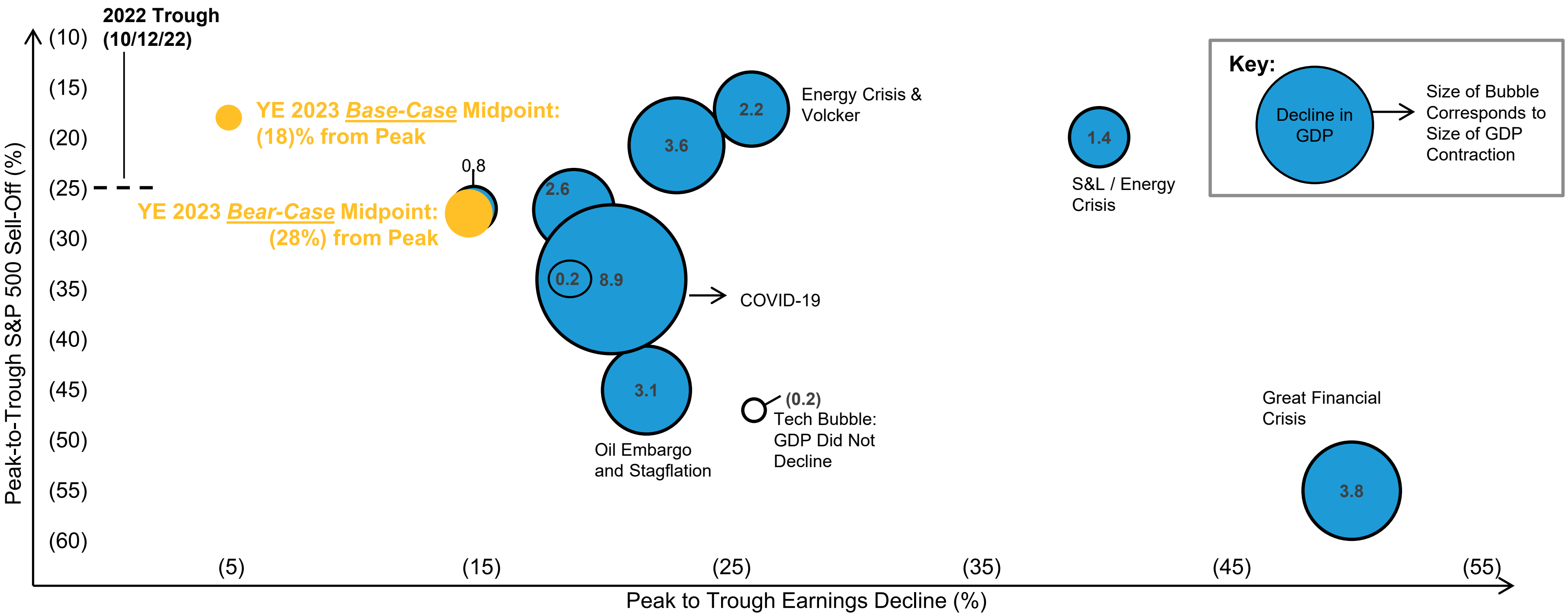
*Magnitude and duration of tightening cycle are based on March 2023 expectations.

Medians are calculated subject to data availability for each series starting in 1969, unless otherwise noted below: Unemployment (US Unemployment Rate Total in Labor Force, %), Job Openings (JOLTS US Job Openings by Industry Total, Thousands of Persons, Start Date 2000), Consumer Leverage (US Financial Obligations Ratio, %, 1980), Corporate Leverage (S&P 500 Net Debt to EBITDA Ratio, 1991), Fed Hikes (Magnitude of Trough-to-Peak change in Fed Funds Effect Rate)

Source: Bloomberg, S&P, Bureau of Labor Statistics, NBER, US Federal Reserve, and Bernstein analysis

Stress-Testing Our Base and Bear Case Against Previous Recessions

S&P 500 Earnings and Price Declines in US Recessions
Since 1955



As of December 31, 2022. **Historical analysis is not necessarily indicative of future results. There is no guarantee that any estimates or forecasts will be realized.** Change in GDP calculated as % change from quarter prior to NBER recession being declared to the minimum GDP published during the respective recession. The tech-bubble recession notably did not have a decline in GDP and was declared based on the labor market. GDP declines are associated with the following starting dates (the quarter prior to NBER declared recession): (3.6)% 3Q:1957, (0.8)% 2Q:1960, (0.2)% 4Q:1969, (3.1)% 4Q:1973, (2.2)% 1Q:1980, (2.6)% 3Q:1981, (1.4)% 3Q:1990, 0.2% 1Q:2001, (3.8)% 4Q:2007, (8.9)% 1Q:2020. EPS drawdowns are measured as the % change from the 3-year maximum to the subsequent trough following the respective recession's end. In the 1980s recessions, both earnings declines occurred after the second recession ended.

Source: Bloomberg, S&P, NBER, and Bernstein analysis

The Case for Staying Global

Our Global Positioning

Why Are We Global Investors?

Diversification

Investing Globally Provides Multiple Layers of Diversification

- Including sector exposure, levels of concentration, and broad market correlation

The Opportunity Set

The Global Investment Universe Is Robust and Expanding

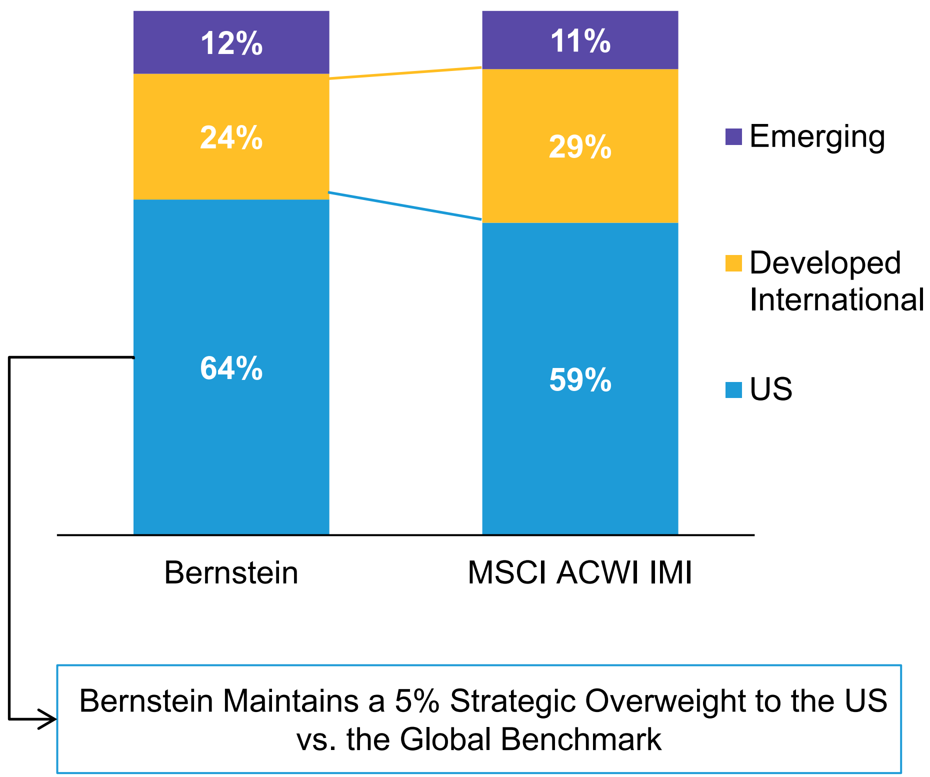
- The US share of the world's economy has continuously been declining since 1960 (39% in 1960 vs. 24% in 2021)
- The US only comprises about half of the global investable market
- 42% of the best-performing companies were outside the US in 2022*

Leadership Is Episodic

While the US Market Has Dominated Recently, Leadership Changes Over Time

- Developed international or emerging markets led for 20 of the 27 years prior to 2010

Our Geographic Positioning

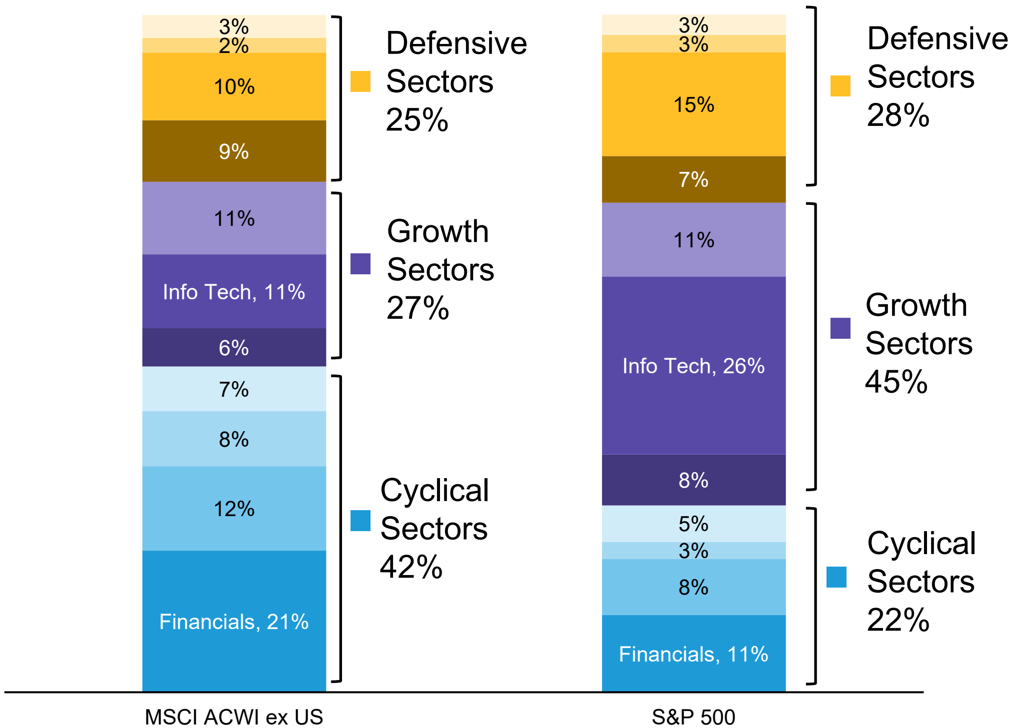


As of December 31, 2022. **Historical analysis is not necessarily indicative of future results. Sector weightings will vary over time.** US represented by the S&P 500 Index, developed International represented by the MSCI EAFE Index, emerging markets represented by the MSCI Emerging Markets Index, and world represented by the MSCI World Index. *Universe defined as best 100 performing companies in the MSCI AC World Index, in USD terms.

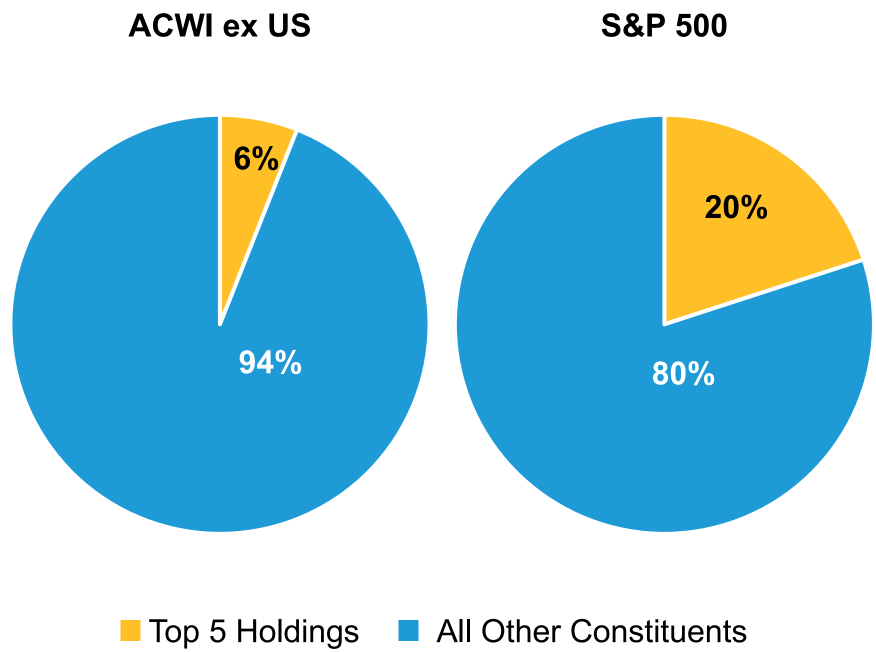
Source: Bloomberg, FactSet, MSCI, S&P, World Bank, and Bernstein Analysis

Non-US Reduces Concentration in Tech & Growth, Increases Cyclicals

Sector Weights



Concentration



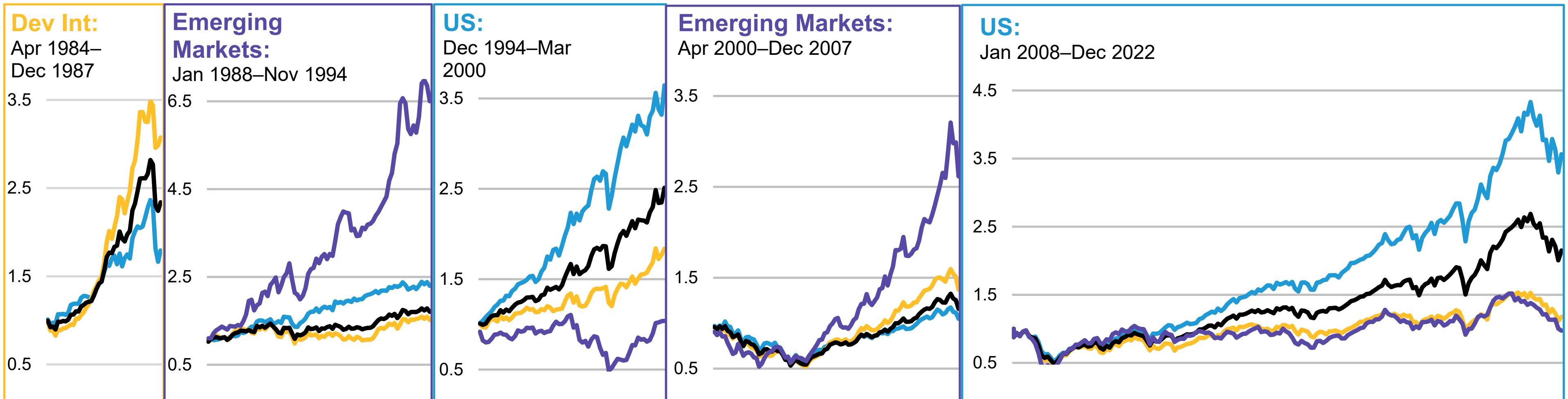
As of October 31, 2022. **Sector weightings will vary over time.**

Cyclicals includes energy, financials, industrials, and materials. Growth includes communication services, consumer discretionary, and technology. Defensive includes consumer staples, healthcare, real estate, and utilities.

Source: Bloomberg, MSCI, S&P, and Bernstein Analysis

International Leadership Is Episodic; You Want to Be There When It Turns

Growth of a Dollar



Annual Returns (%)

1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
7	56	69	25	40	65	(3)	60	11	75	8	38	23
6	41	42	16	28	32	(11)	30	8	33	5	21	13
5	32	19	5	23	17	(17)	18	(5)	23	1	11	6
				17	11	(23)	12	(12)	10	(7)	(5)	6

1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
33	29	66	(9)	(3)	(6)	56	26	34	32	39	(37)	79
16	24	27	(13)	(12)	(16)	39	20	14	26	11	(41)	32
2	20	25	(14)	(17)	(20)	33	15	9	20	9	(43)	30
(12)	(25)	21	(31)	(21)	(22)	29	11	5	16	5	(53)	26

2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
19	2	18	32	14	1	12	37	(4)	31	18	29	(15)
15	(6)	17	27	5	(1)	11	25	(9)	28	18	22	(18)
12	(12)	16	23	(2)	(1)	8	22	(14)	22	16	11	(18)
8	(18)	16	(3)	(5)	(15)	1	22	(15)	18	8	(3)	(20)

US | Developed International | Emerging Markets | World

As of December 31, 2022. **Past performance does not guarantee future results.**

US represented by the S&P 500 Index, developed international represented by the MSCI EAFE Index, emerging markets represented by the MSCI Emerging Markets Index, and world represented by the MSCI World Index. Source: Bloomberg, S&P, MSCI, Global Analytics, and Bernstein Analysis.

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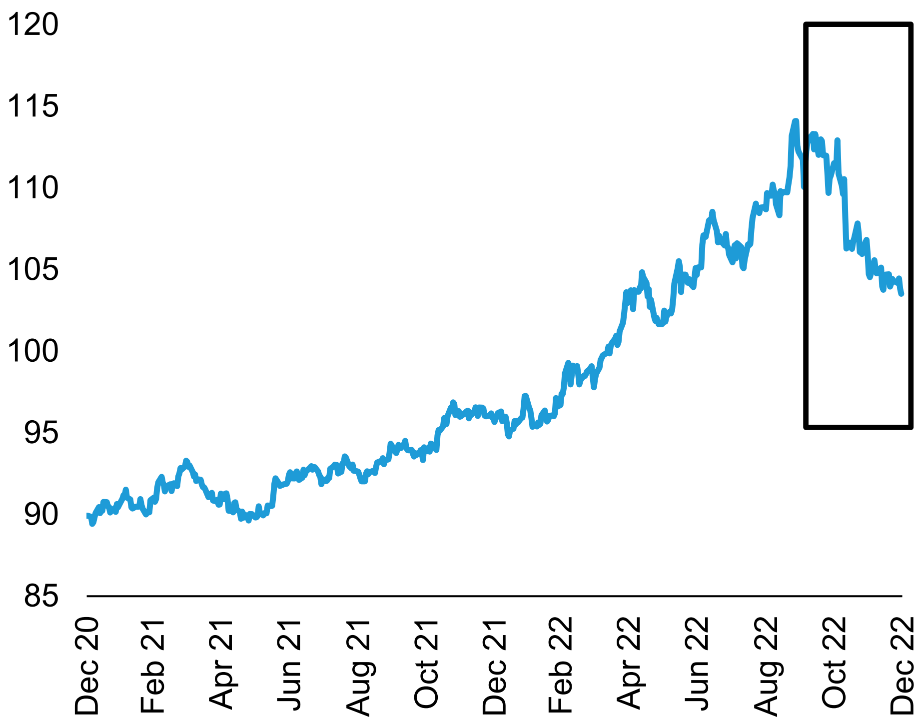
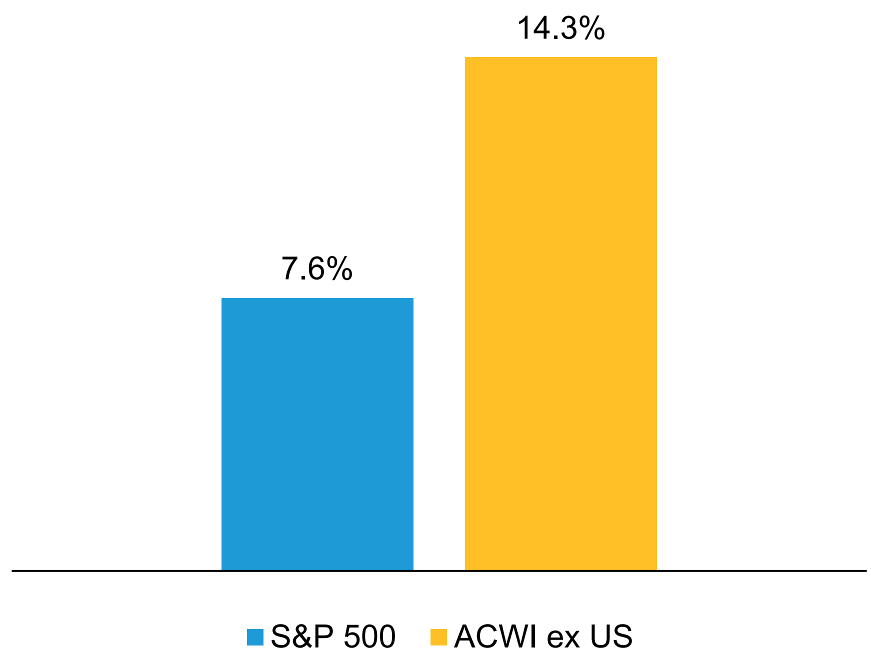
Non-US Stocks Benefit When US Dollar Declines (e.g., 4Q:2022)

US Dollar Index



4Q:2022 US vs. Non-US Equity Returns



Non-US markets outperformed in local currency terms, though relative performance was obscured through Q3 by US dollar strength.

As of December 31, 2022. **Historical analysis is not necessarily indicative of future results. There is no guarantee that any estimates or forecasts will be realized.**

Source: Bloomberg, S&P, MSCI, and AB

What to Do in 2023?

Our Priorities for Clients for the Year

Financial planning in a window of opportunity

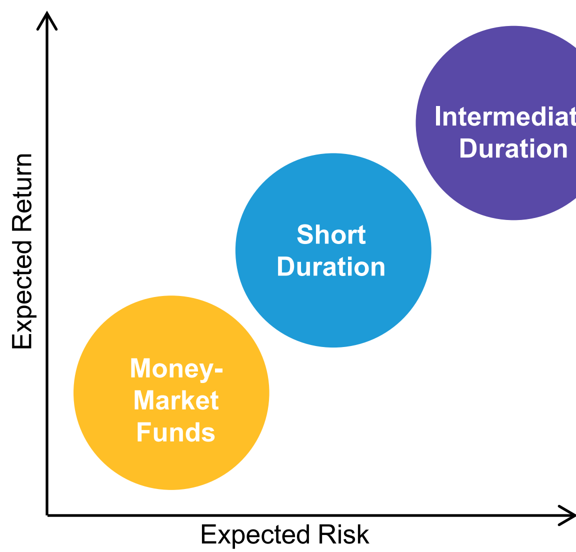
Today's environment is an optimal environment for long-term financial planning.

Consider...

- ✓ Leveraging the expanded lifetime and annual applicable exclusion
- ✓ Maxing out retirement contributions, limits have increased
- ✓ Converting IRAs to Roth IRAs
- ✓ Using temporarily depreciated assets tactically:
  - Fund GRAT strategies
  - Lifetime gifts
- ✓ Review unmanaged assets for opportunities to tax-loss harvest
- ✓ Reevaluate existing GRAT strategies

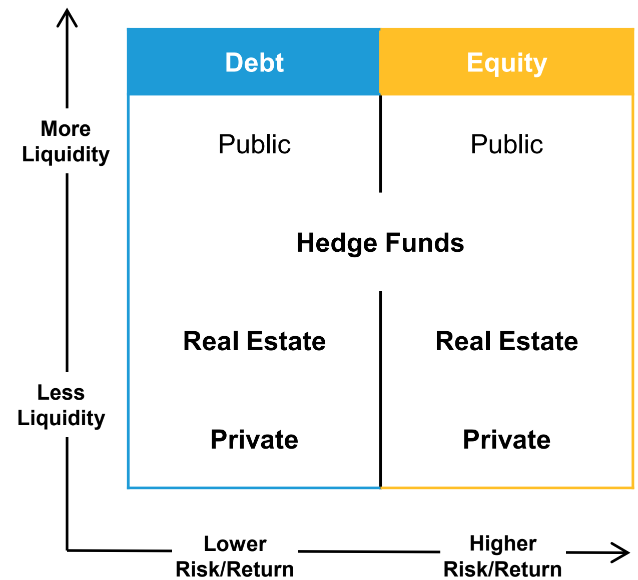
Right-sizing your cash allocation

We can explore a range of ideas, based on your return and risk objectives.



Revisiting your alternatives exposure

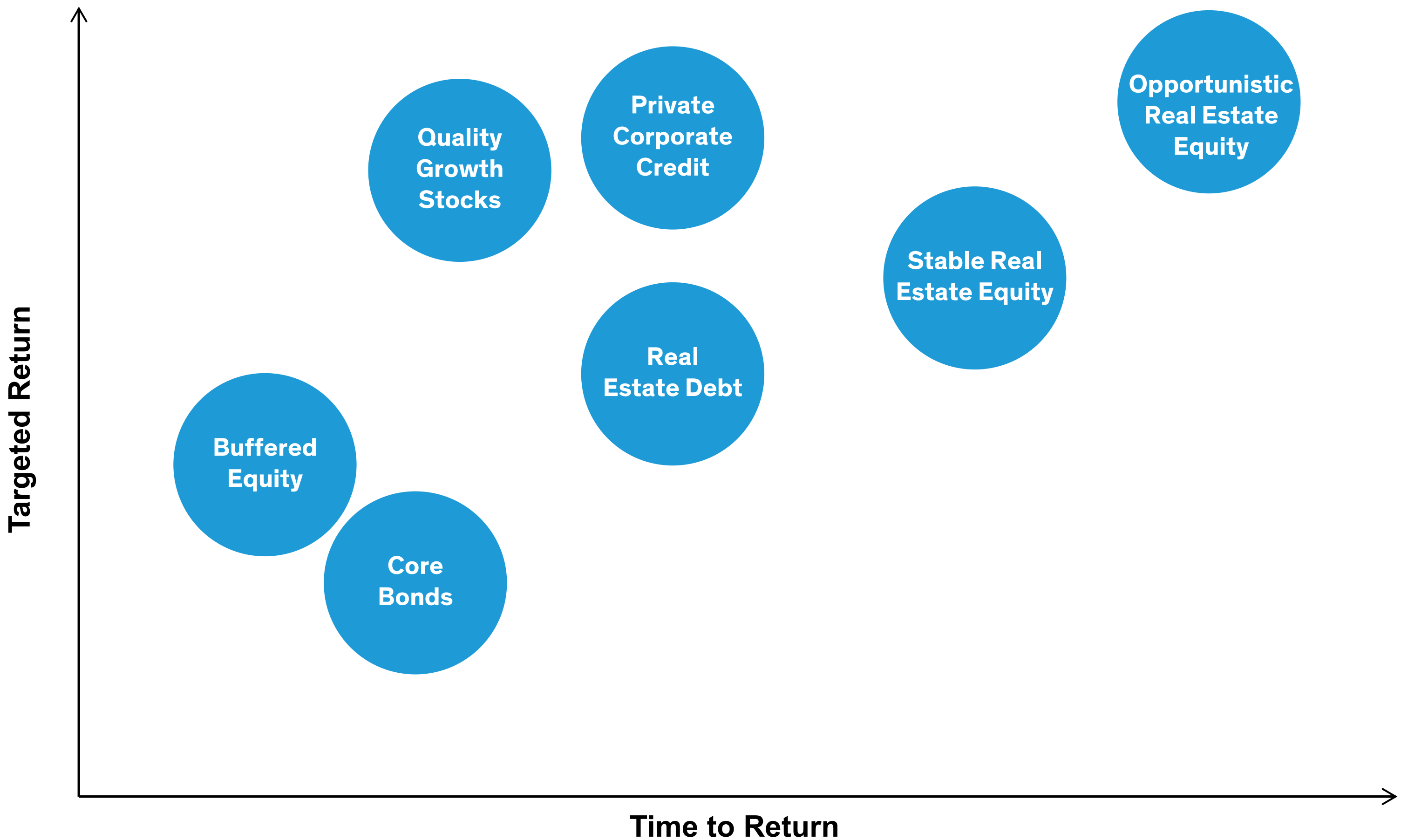
Alternatives are a critical piece of a well-diversified puzzle.



As of December 31, 2022. Alternative investments involve a high degree of risk and are designed for investors who understand and are willing to accept these risks. Bernstein does not provide tax, legal, or accounting advice. In considering this material, you should discuss your individual circumstances with professionals in those areas before making any decisions.

Source: AB

Expected Returns and Time Horizon for Select Asset Classes



For illustrative purposes only. Past performance is no guarantee of future returns.

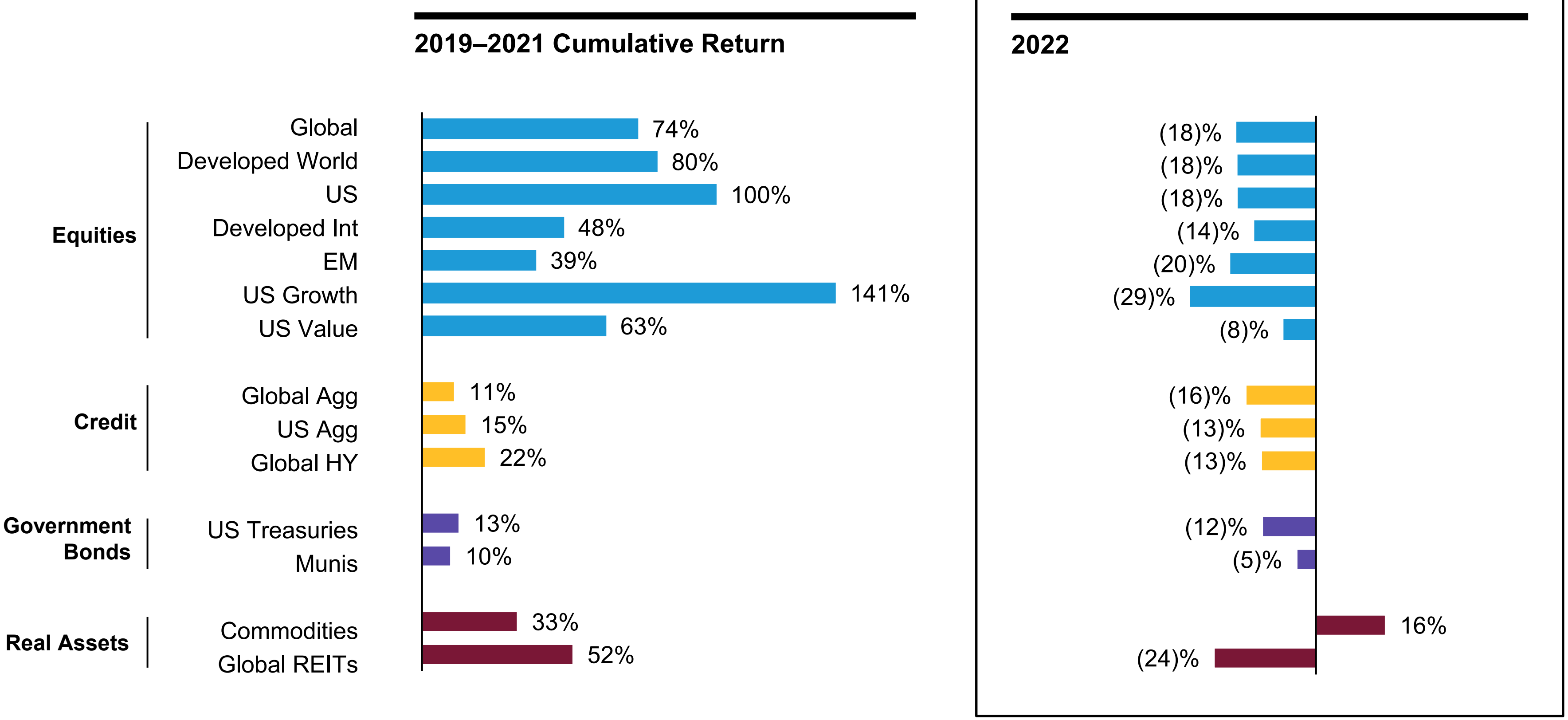
As of December 31, 2022

Source: Bernstein analysis

Appendix

Markets Turn Hostile After Three Solid Years

Returns in US dollars

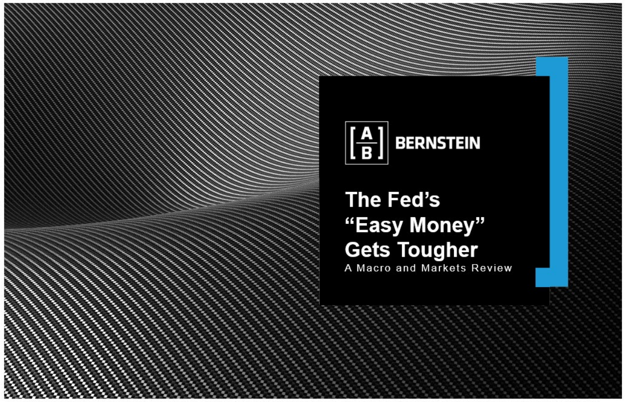


As of December 31, 2022. **Historical analysis is not necessarily indicative of future results.** Asset classes represented as follows: (Equities) Global—MSCI ACWI IMI, Developed—MSCI World Index, US—S&P 500 Index, Dev Int—MSCI World ex USA, EM—MSCI Emerging Markets IMI Index, US Growth—Russell 1000 Growth Index, US Value—Russell 1000 Value Index, (Credit) Global Agg—Bloomberg Global Aggregate, US Agg—Bloomberg US Aggregate Index, Global HY—Bloomberg Global High Yield Index, (Government Bonds) US Treasuries—Bloomberg US Treasury Index, Munis—Bloomberg 1–10-Yr Inter-Short Municipal Bond Blend, Commodities—Bloomberg Commodity Index, Global REITs—S&P Global REIT Index.
Source: Bloomberg Barclays, MSCI, S&P 500, and AB

Our Key Perspectives Through 2022

What we got right and wrong in 2022

We have been projecting modest returns and higher volatility for some time. Outcomes like 2022 have been built into our wealth planning.



January 2022:

"The **newest uncertainty** is perhaps **the most significant: inflation.**"

"Our analysis suggests the economy and markets will be able to **navigate the near term.**"

"That said, incremental **returns** may need to **wait for** some of the **uncertainties to clear.**"

April 2022:

"The directional impact of (the Ukrainian) crisis is clear: **Growth will be slower and inflation higher** than our previous forecasts."

"Markets reflect the most likely scenario (a mid-cycle slowdown)."

"If a recession occurs, it's likely that the market decline continues."

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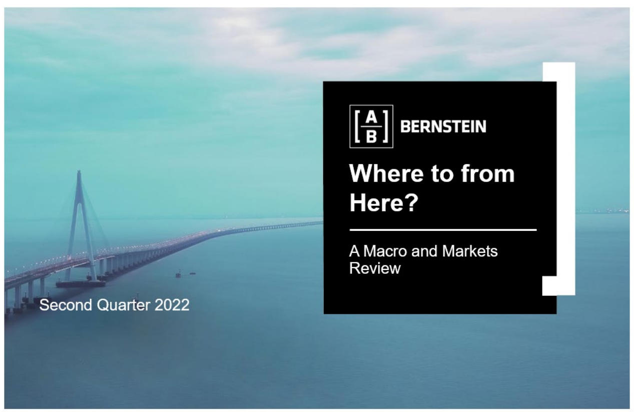

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July 2022:

"Our base case assumes economic growth near 1% in 2023, a substantial enough slowdown that **any 'recession' distinction is irrelevant.**"

"With stocks having entered a bear market (SPX down ~25%), we think **much of the downside has already been priced in.**"

October 2022:

"**Markets will remain on edge** until clear and definitive signs of a peak appear, allowing the Fed to pause."

"If **economic growth is flat**, **the SPX down ~25% accurately reflects the slowdown**. Yet, if inflation still hasn't peaked well into 2023, new market lows should occur."

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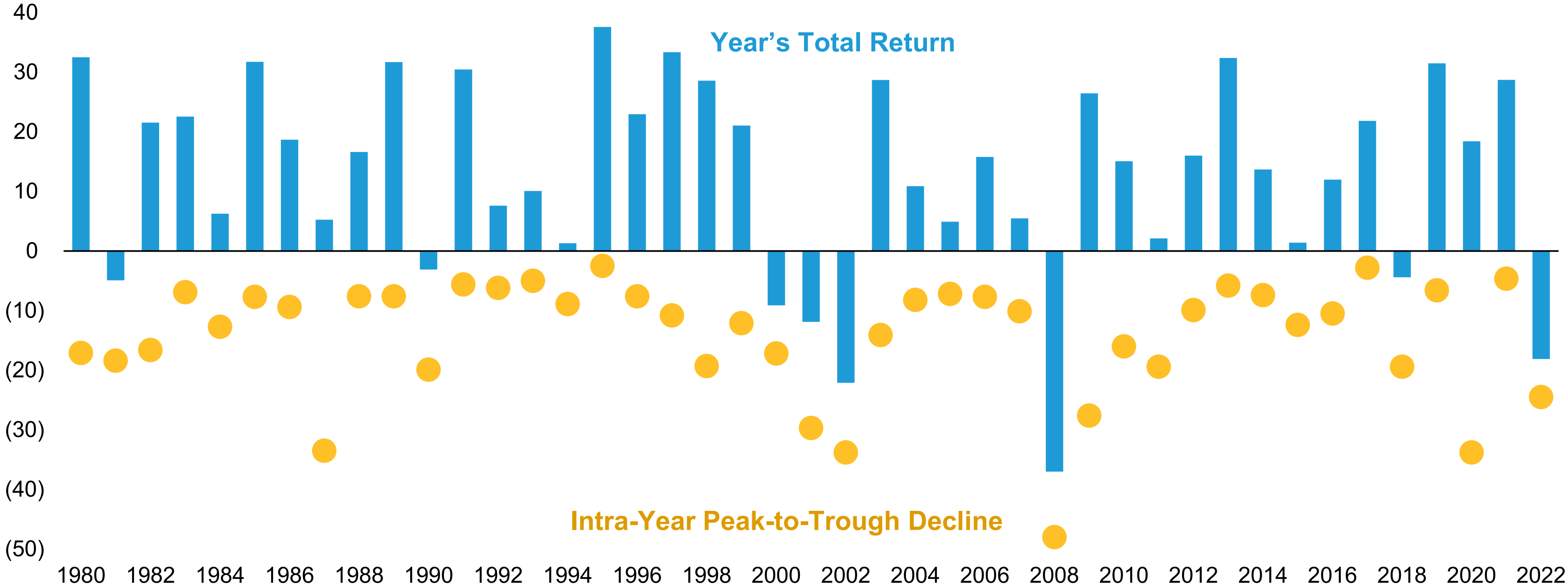
As of December 31, 2022
Source: AB

Stocks Have Mostly Risen Despite Intra-Year Corrections

S&P 500 (%) by Calendar Year



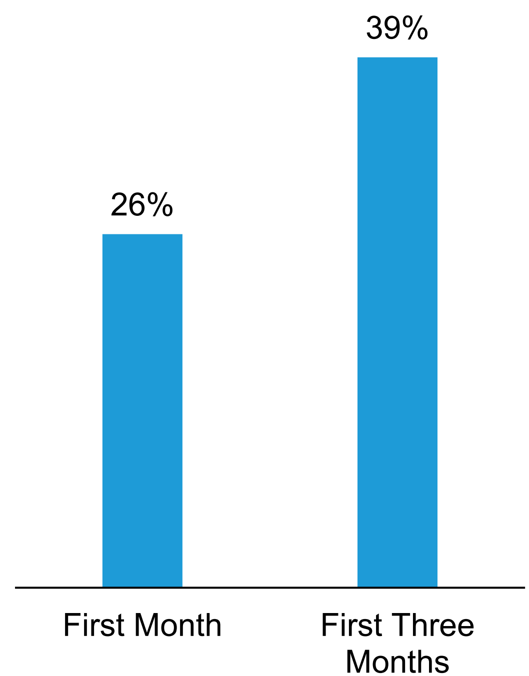
As of December 31, 2022. **Past performance does not guarantee future results.**

Source: Bloomberg, Morningstar, S&P 500, and AB analysis

~25% of Any Recovery Occurs in Month One, ~40% by Month Three

Peak Month	Peak-to-Trough Months	Peak-to-Trough Fall	Peak-to-Recovery Months	Weeks from Start to Down 20%	% of Recovery in 1st Month Following Trough	% of Recovery in 1st 3 Months Following Trough
5/29/1946	12	(25)%	40	15	25%	31%
12/12/1961	6	(27)%	16	24	22%	19%
2/9/1966	8	(20)%	13	34	36%	46%
11/29/1968	18	(33)%	28	73	11%	31%
1/11/1973	21	(45)%	42	47	19%	15%
11/28/1980	20	(20)%	22	89	52%	97%
8/25/1987	2	(33)%	21	8	14%	22%
9/1/2000	25	(47)%	74	27	13%	20%
10/9/2007	17	(55)%	54	40	20%	30%
2/19/2020	1	(34)%	6	3	49%	78%
1/3/2022	N/A	(24)%	N/A	N/A	N/A	N/A
Mean Excluding 2022	**13**	**(34)%**	**32**	**46**	**26%**	**39%**

After a Bear Market Troughs
% Recovery Occurring in…



As of December 31, 2022

Past performance is not necessarily indicative of future results. There is no guarantee that any estimates or forecasts will be realized.

Sell-offs are defined as a market decline of 20% from its previous high through the lowest close after the 20% decline. All returns in this analysis are based on the S&P 500 total-return index, which includes gains from price returns and dividend returns. Recoveries are defined as the day after the trough that the total-return index reaches a level higher than the prior peak.

Source: Bloomberg, S&P, and AB

Market Sell-Offs: Last 60 Years

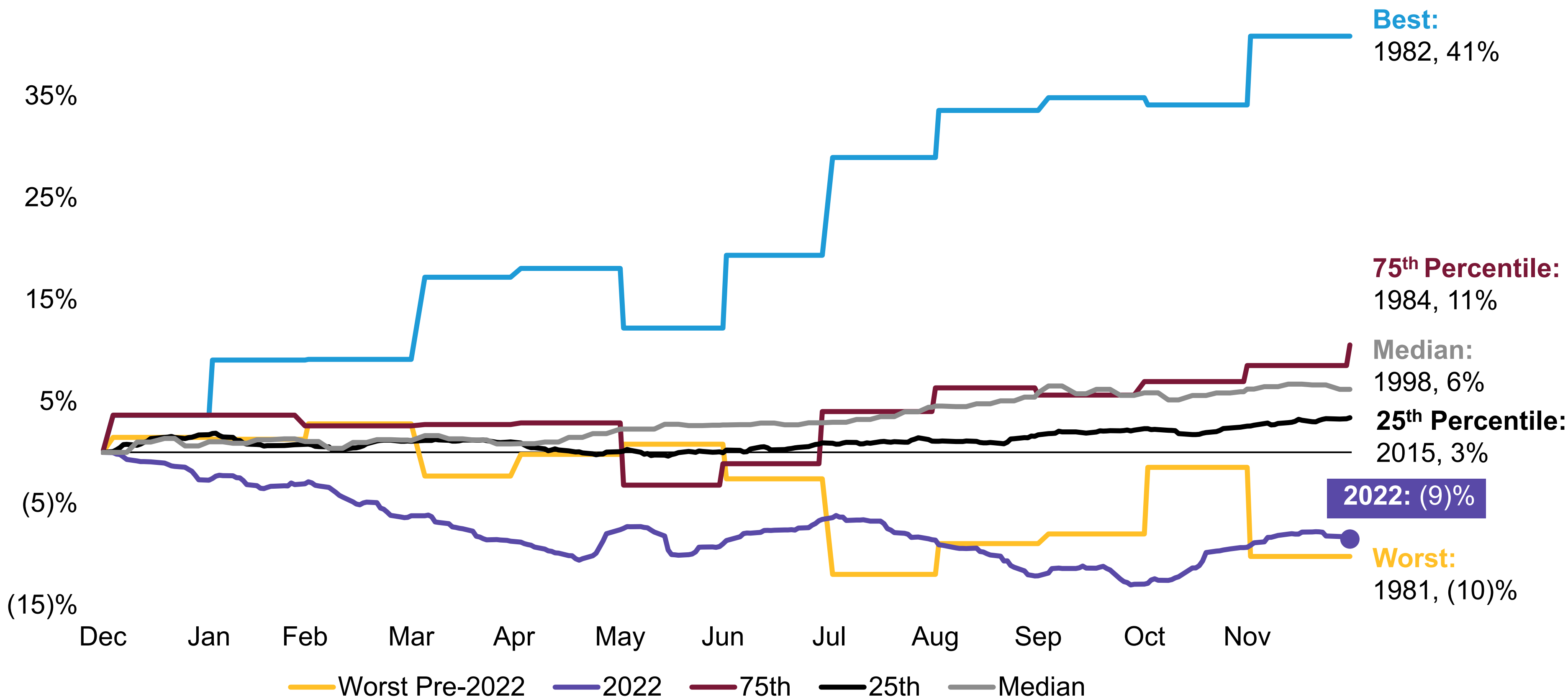
					Cumulative Returns		
Peak Month	Trough Month	Peak-to-Trough Months	Peak-to-Trough Fall	12-Month Return Following Trough	3-Year Return Following Trough	5-Year Return Following Trough	10-Year Return Following Trough
12/12/1961	6/26/1962	6	(27)%	37%	75%	106%	186%
2/9/1966	10/7/1966	8	(20)%	37%	40%	61%	101%
11/29/1968	5/26/1970	18	(33)%	49%	71%	56%	143%
1/11/1973	10/3/1974	21	(45)%	44%	77%	123%	326%
11/28/1980	8/12/1982	20	(20)%	66%	110%	299%	495%
8/25/1987	10/19/1987	2	(33)%	28%	55%	119%	464%
9/1/2000	10/9/2002	25	(47)%	36%	62%	121%	127%
10/9/2007	3/9/2009	17	(55)%	72%	116%	209%	400%
2/19/2020	3/23/2020	1	(34)%	78%	N/A	N/A	N/A
1/3/2022	?	?	(24)*	N/A	N/A	N/A	N/A
Average Excluding 2022		13	(35)%	50%	76%	137%	280%

As of December 31, 2022
Past performance is not necessarily indicative of future results. There is no guarantee that any estimates or forecasts will be realized.
*Peak-to-Trough fall year to date.
**3-, 5-, and 10-year returns exclude sell-offs where data have not occurred.
Sell offs are defined as a market decline of 20% from its previous high through the lowest close after the 20% decline. All returns in this analysis are based on the S&P 500 total-return index, which includes gains from price returns and dividend returns. Recoveries are defined as the day after the trough that the total-return index reaches a level higher than the prior peak.
Source: Bloomberg, S&P, and AB

2022 Muni Returns: Worst in Over Four Decades

And Second Worst on Record

Percentile Ranking of 12-Month Municipal Bond Returns



As of December 31, 2022. **Historical analysis is not necessarily indicative of future results. There is no guarantee that any estimates or forecasts will be realized.**

Municipal bond returns represented by Bloomberg Muni Bond Index, 1980 is first year on record.

Source: Bloomberg and AB

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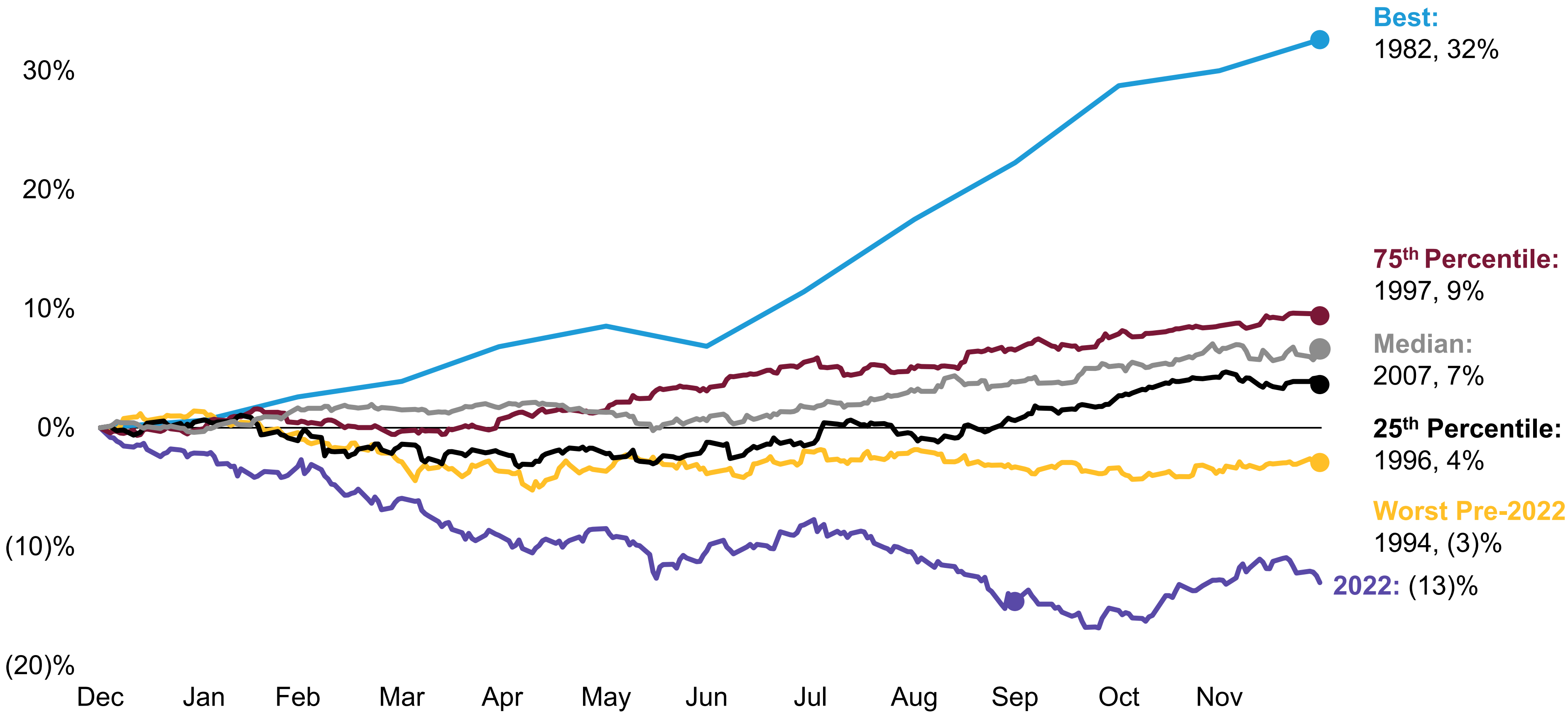
2022 Taxable Bond Returns: Worst in over Four Decades

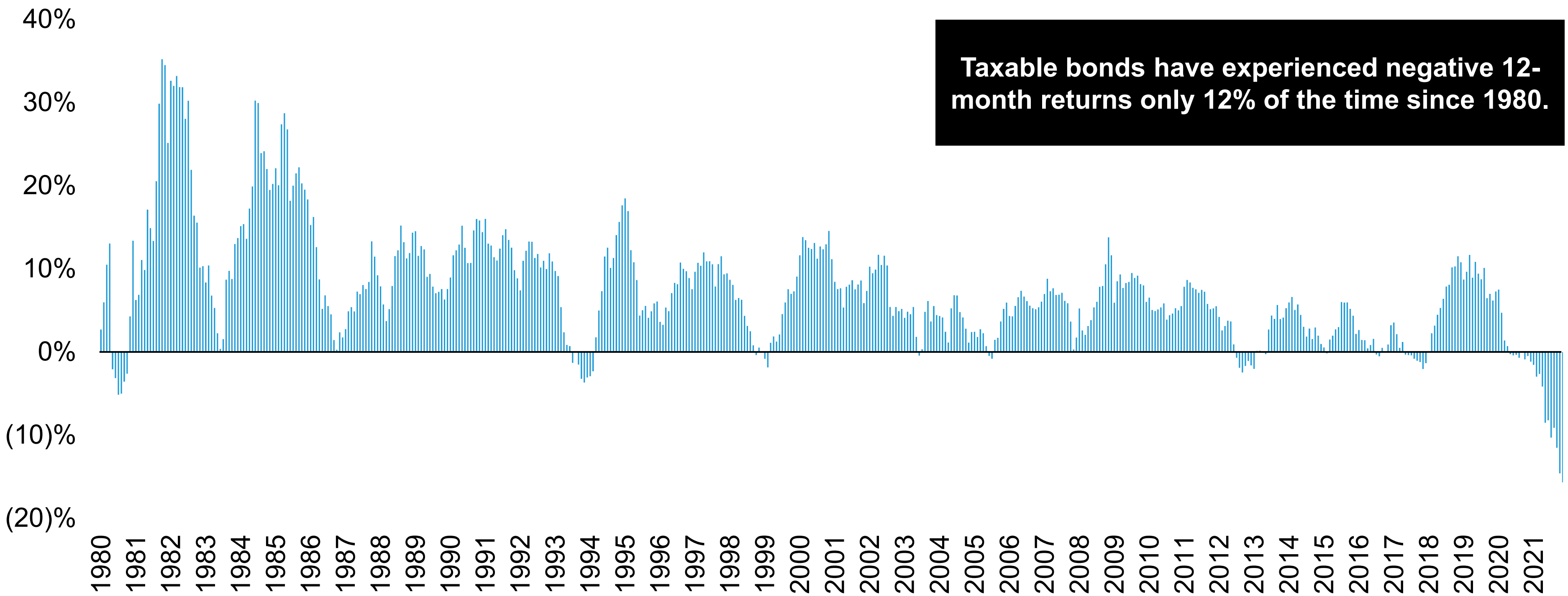
Percentile Ranking of 12-Month Taxable Bond Returns



As of December 31, 2022. **Past performance does not guarantee future results.**
Taxable bonds represented by the Bloomberg US Aggregate Index
Source: Bloomberg and AB

Taxable Bonds Rarely Experience Negative Returns

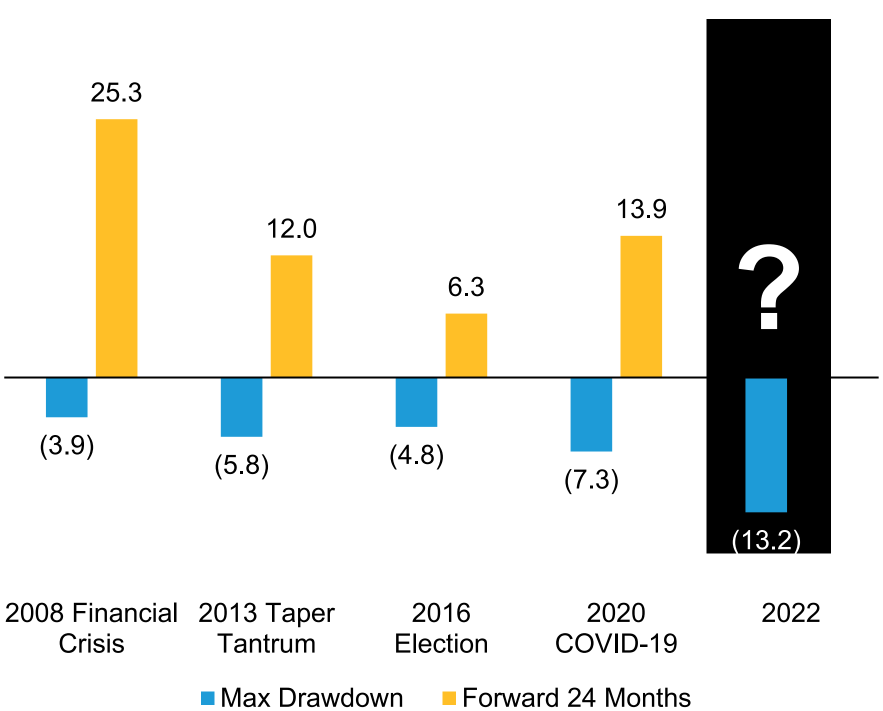
Rolling 12-Month Taxable Bond Returns



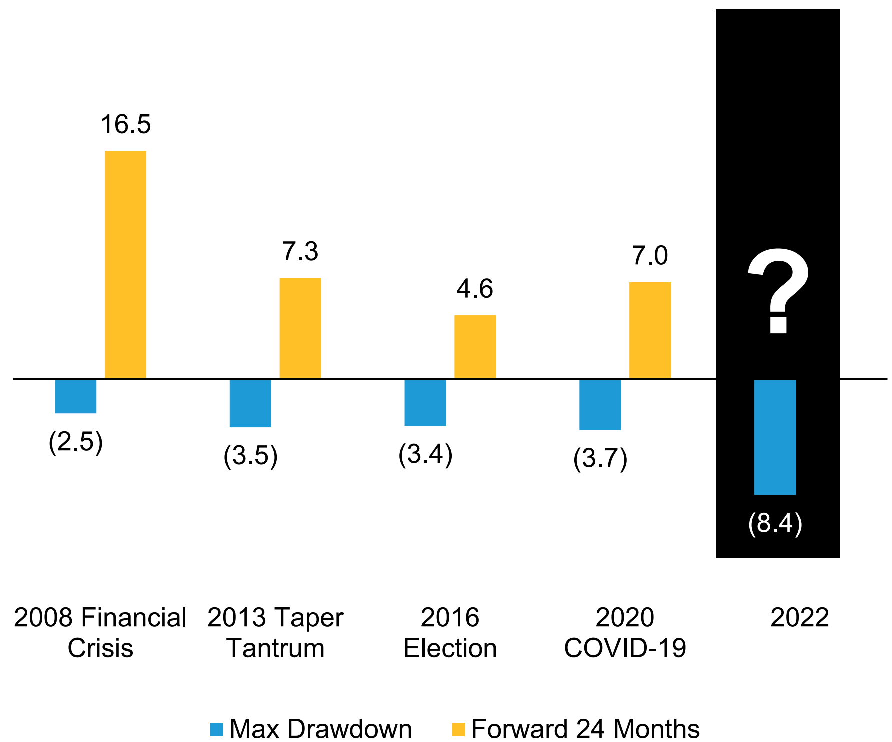
As of December 31, 2022. **Past performance does not guarantee future results.**
Municipal bond investors represented by the Bloomberg US Aggregate Total Return Index
Source: Bloomberg and AB

Investors Have Historically Been Rewarded by Staying Invested in Munis

Tax-Aware Portfolio Returns
Percent



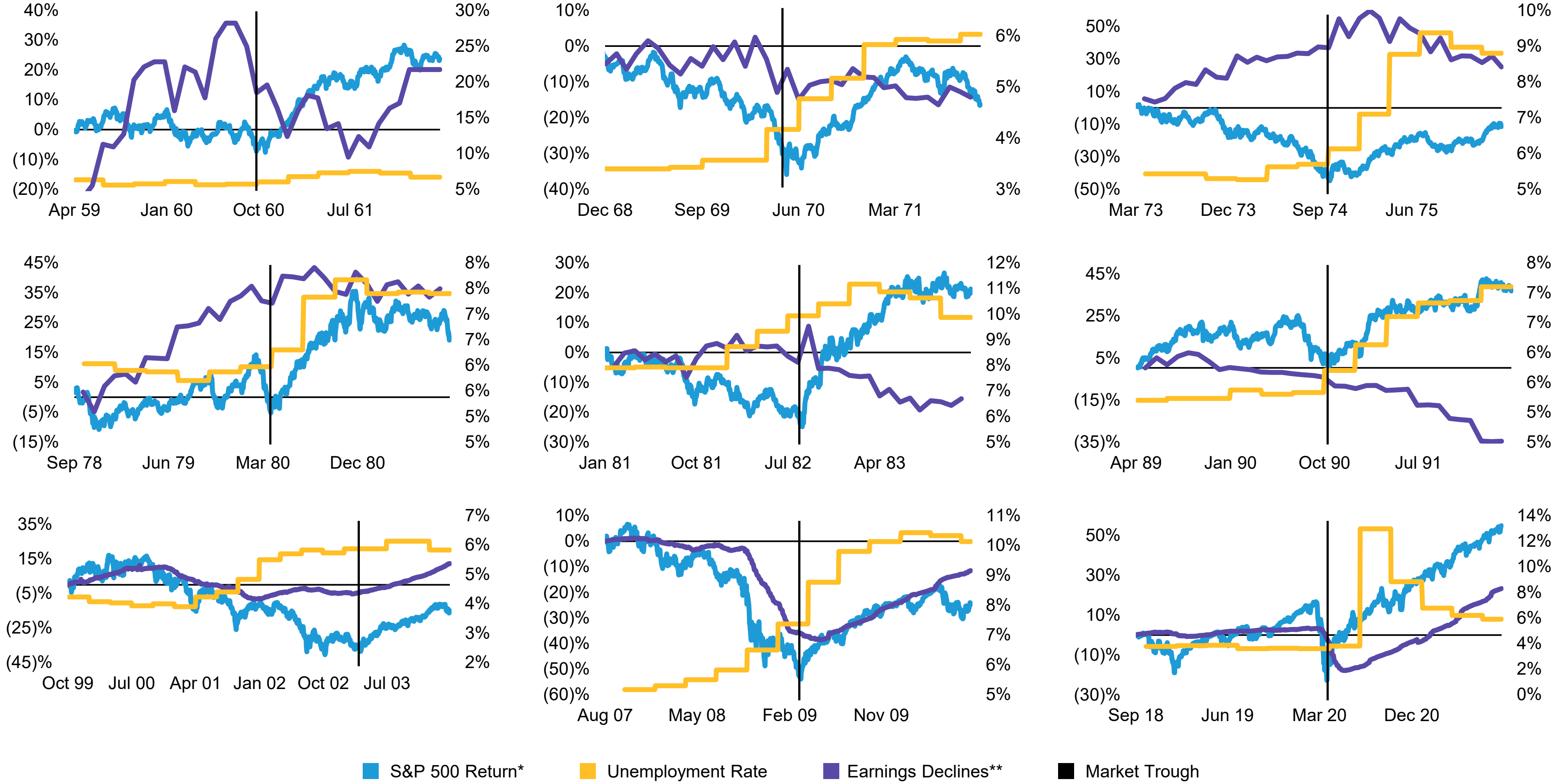
Intermediate-Duration Portfolio Returns
Percent



As of December 31, 2022. **Past performance does not guarantee future results. There is no guarantee that any investment objective will be achieved.** Forward return periods are calculated from drawdown end date. Periods of over one year are not annualized. 2022 returns are year to date, net of fees. Based on the AB Tax Aware Fixed Income Managed Account Composite, which may differ in composition and performance from the Private Client Tax Aware portfolio. Shown for illustration purposes. Intermediate-duration performance before 2022 is performance of the separately managed Bernstein Intermediate Municipal Bond Composite, before fees.

Source: Morningstar and AB

Earnings and Unemployment Levels Around Market Troughs



As of December 31, 2022. **Historical analysis does not guarantee future results.** *Vs. 18 mo. prior to trough. For tech-bubble price return trough vs. 36 months prior to trough to demonstrate full market deterioration. **Charts beginning in 1999 are based on forward 12 mo. earnings estimates. All prior charts are based on the last 12 months actual earnings due to data availability.

Source: Bloomberg, S&P, FactSet, and Bernstein analysis

Notes on Bernstein Wealth Forecasting System

1. **Purpose and Description of Wealth Forecasting Analysis**
   Bernstein's Wealth Forecasting Analysis is designed to assist investors in making their long-term investment decisions as to their allocation of investments among categories of financial assets. Our planning tool consists of a four-step process: (1) Client-Profile Input: the client's asset allocation, income, expenses, cash withdrawals, tax rate, risk-tolerance level, goals, and other factors; (2) Client Scenarios: in effect, questions the client would like our guidance on, which may touch on issues such as when to retire, what his/her cash-flow stream is likely to be, whether his/her portfolio can beat inflation long-term, and how different asset allocations might affect his/her long-term security; (3) The Capital-Markets Engine: our proprietary model that uses our research and historical data to create a vast range of market returns, which takes into account the linkages within and among the capital markets, as well as their unpredictability; and (4) A Probability Distribution of Outcomes: based on the assets invested pursuant to the stated asset allocation, 90% of the estimated ranges of returns and asset values the client could expect to experience are represented within the range established by the 5th and 95th percentiles on "box-and-whiskers" graphs. However, outcomes outside this range are expected to occur 10% of the time; thus, the range does not establish the boundaries for all outcomes. Expected market returns on bonds are derived taking into account yield and other criteria. An important assumption is that stocks will, over time, outperform long bonds by a reasonable amount, although this is in no way a certainty. Moreover, actual future results may not meet Bernstein's estimates of the range of market returns, as these results are subject to a variety of economic, market, and other variables. Accordingly, the analysis should not be construed as a promise of actual future results, the actual range of future results, or the actual probability that these results will be realized. The information provided here is not intended for public use or distribution beyond our private meeting.

2. **Retirement Vehicles**
   Each retirement plan is modeled as one of the following vehicles: Traditional IRA, 401(k), 403(b), Keogh, or Roth IRA/401(k). One of the significant differences among these vehicle types is the date at which mandatory distributions commence. For traditional IRA vehicles, mandatory distributions are assumed to commence during the year in which the investor reaches the age of 72. For 401(k), 403(b), and Keogh vehicles, mandatory distributions are assumed to commence at the later of: (i) the year in which the investor reaches the age of 72, or (ii) the year in which the investor retires. In the case of a married couple, these dates are based on the date of birth of the older spouse. The minimum mandatory withdrawal is estimated using the Minimum Distribution Incidental Benefit tables as published on www.irs.gov. For Roth IRA/401(k) vehicles, there are no mandatory distributions. Distributions from Roth IRA/401(k) that exceed principal will be taxed and/or penalized if the distributed assets are less than five years old and the contributor is less than 59½ years old. All Roth 401(k) plans will be rolled into a Roth IRA plan when the investor turns 59½ years old, to avoid Minimum Distribution requirements.

3. **Rebalancing**
   Another important planning assumption is how the asset allocation varies over time. We attempt to model how the portfolio would actually be managed. Cash flows and cash generated from portfolio turnover are used to maintain the selected asset allocation between cash, bonds, stocks, REITs, and hedge funds over the period of the analysis. Where this is not sufficient, an optimization program is run to trade off the mismatch between the actual allocation and targets against the cost of trading to rebalance. In general, the portfolio is expected to be maintained reasonably close to the target allocation. In addition, in later years, there may be contention between the total relationship's allocation and those of the separate portfolios. For example, suppose an investor (in the top marginal federal tax bracket) begins with an asset mix consisting entirely of municipal bonds in his personal portfolio and entirely of stocks in his/her retirement portfolio. If personal assets are spent, the mix between stocks and bonds will diverge from targets. We put primary weight on maintaining the overall allocation near target, which may result in an allocation to taxable bonds in the retirement portfolio as the personal assets decrease in value relative to the retirement portfolio's value.

Notes on Bernstein Wealth Forecasting System

4. **Expenses and Spending Plans (Withdrawals)**
   All results are generally shown after applicable taxes and after anticipated withdrawals and/or additions, unless otherwise noted. Liquidations may result in realized gains or losses, which will have capital-gains tax implications.

5. **Modeled Asset Classes**
   The following assets or indexes were used in this analysis to represent the various model classes:

Asset Class	Modeled As	Annual Turnover
Cash Equivalents	3-month US Treasury bills	100%
Short-Term Treasuries	US Treasuries of 2-year maturity	50
Short-Term Taxables	Taxable bonds of 2-year maturity	50
Short-Term Diversified Municipals	AA-rated diversified municipal bonds of 2-year maturity	50
Int.-Term Treasuries	US Treasuries of 7-year maturity	30
Int.-Term Taxables	Taxable bonds of 7-year maturity	30
Int.-Term Corporates	US investment-grade corporate debt of 7-year maturity	30
Int.-Term Diversified Municipals	AA-rated diversified municipal bonds of 7-year maturity	30
Global Int.-Term Taxables (Hedged)	50% sovereign and 50% investment-grade corporate debt of developed countries of 7-year maturity	30
Int.-Term TIPS	US TIPS of 7-year maturity	30
High Yield	Taxable bonds of 7-year maturity with credit characteristics of CSFB High Yield Index II	30
Global Large-Cap (Unhedged)	MSCI World Index (NDR) Index	15
US Diversified	S&P 500 Index	15
US Value	S&P/Barra Value Index	15
US Growth	S&P/Barra Growth Index	15
US Mid-Cap	Russell Mid-Cap Index	15
US Small-/Mid-Cap	Russell 2500 Index	15
US Small-Cap	Russell 2000 Index	15
Developed International	MSCI EAFE Index (Unhedged)	15
Emerging Markets	MSCI Emerging Market Index	20
Global REITs	NAREIT Index	30
Real Assets	1/3 NAREIT, 1/3 MSCI ACWI Commodity Producer Index, 1/3 DJ-UBS Commodity Futures Index	30
Diversified Hedge Fund	Diversified Hedge Fund Asset Class	33

Notes on Bernstein Wealth Forecasting System

6. **Volatility**
Volatility is a measure of dispersion of expected returns around the average. The greater the volatility, the more likely it is that returns in any one period will be substantially above or below the expected result. The volatility for each asset class used in this analysis is listed on the Capital-Market Projections page before these Notes. In general, two-thirds of the returns will be within one standard deviation. For example, assuming that stocks are expected to return 8.0% on a compounded basis and the volatility of returns on stocks is 17.0%, in any one year it is likely that two-thirds of the projected returns will be between (8.9)% and 28.8%. With intermediate government bonds, if the expected compound return is assumed to be 5.0% and the volatility is assumed to be 6.0%, two-thirds of the outcomes will typically be between (1.1)% and 11.5%. Bernstein's forecast of volatility is based on historical data and incorporates Bernstein's judgment that the volatility of fixed-income assets is different for different time periods.

7. **Technical Assumptions**
Bernstein's Wealth Forecasting System is based on a number of technical assumptions regarding the future behavior of financial markets. Bernstein's Capital-Markets Engine is the module responsible for creating simulations of returns in the capital markets. These simulations are based on inputs that summarize the current condition of the capital markets as of the date in the footnotes of that page. A description of these technical assumptions is available on request.

8. **Tax Implications**
Before making any asset-allocation decisions, an investor should review with his/her tax advisor the tax liabilities incurred by the different investment alternatives presented herein, including any capital gains that would be incurred as a result of liquidating all or part of his/her portfolio, retirement-plan distributions, investments in municipal or taxable bonds, etc. Bernstein does not provide tax, legal, or accounting advice. In considering this material, you should discuss your individual circumstances with professionals in those areas before making any decisions.

9. **Tax Rates**
Bernstein's Wealth Forecasting System has used various assumptions for the income tax rates of investors in the case studies. See the assumptions in each case study (including footnotes) for details. The federal income tax rate is Bernstein's estimate of either the top marginal tax bracket or an "average" rate calculated based upon the marginal rate schedule. For 2014 and beyond, the maximum federal tax rate on investment income is 43.4% and the maximum federal long-term capital-gains tax rate is 23.8%. Federal tax rates are blended with applicable state tax rates by including, among other things, federal deductions for state income and capital-gains taxes. The state tax rate generally represents Bernstein's estimate of the top marginal rate, if applicable.

10. **Core Capital Analysis**
The term "core capital" means the amount of money necessary to cover anticipated lifetime net spending. All noncore capital assets are termed "surplus capital." Bernstein estimates core capital by inputting information supplied by the client, including expected future income and spending, into our Wealth Forecasting System, which simulates a vast range of potential market returns over the client's anticipated life span. From these simulations, we develop an estimate of the core capital the client will require to maintain his/her spending level over time. Variations in actual income, spending, applicable tax rates, life span, and market returns may substantially affect the likelihood that a core capital estimate will be sufficient to provide for future expenses. Accordingly, the estimate should not be construed as a promise of actual future results, the actual range of results, or the actual probability that the results will be realized.

Index Descriptions

The **Bloomberg Global High Yield Index** represents noninvestment-grade fixed-income securities of companies in the US, developed and emerging markets.

The **Bloomberg US Treasury Index** represents the performance of US Treasuries within the US government fixed-income market.

The **Bloomberg 1–10-Year Municipal Bond Index** represents the performance of the long-term tax-exempt bond market consisting of investment-grade bonds.

The **S&P Global Real Estate Investment Trust (REIT) Index** measures the securitized REITs from both developed and emerging markets. REITs act as operating companies that purchase, manage, invest in, maintain, and market real estate.

The **MSCI All-Country World Index (ACWI)** is a market-capitalization-weighted index designed to provide a broad measure of equity market performance throughout the world.

The **MSCI ACWI Commodity Producers Index** is a free-float-adjusted market-capitalization-weighted index that is designed to track the performance of global listed commodity producers.

The **MSCI EAFE (Europe, Australasia, Far East) Index** is a free-float-adjusted, market-capitalization-weighted index that is designed to measure developed-market equity performance, excluding the US and Canada.

The **MSCI Emerging Markets Index** is a free-float-adjusted, market-capitalization-weighted index that is designed to measure equity market performance in the global emerging markets.

The **MSCI USA Index** is a free-float-adjusted, market-capitalization-weighted index that is designed to measure large- and mid-cap US equity market performance.

The **MSCI USA Minimum Volatility Index** aims to reflect the performance characteristics of a minimum variance strategy applied to the US large- and mid-cap equity universe. The index is calculated by optimizing the MSCI USA Index, its parent index, for the lowest absolute risk (within a given set of constraints). Historically, the index has shown lower beta and volatility characteristics relative to the MSCI USA Index.

The **MSCI World Index** is a free-float-adjusted, market-capitalization-weighted index that is designed to measure global developed-market equity performance.

The **Russell 1000® Growth Index** measures the performance of those Russell 1000 companies with higher price-to-book ratios and higher forecasted growth values.*

The **Russell 1000® Value Index** measures the performance of those Russell 1000 companies with lower price-to-book ratios and lower forecasted growth values.*

The unmanaged **S&P 500 Index** comprises 500 large-capitalization US stocks and is a common measure of the performance of the US stock market.

*The Russell Index methodology results in some companies appearing in both the growth and value indexes.

Glossary

Active Management: Managing a portfolio through security selection designed to outperform the portfolio's benchmark.

Active Share: The degree of difference between a portfolio and its benchmark index, calculated using the weight of individual securities in the portfolio relative to the benchmark. Active share varies between 0% (a portfolio that mirrors its benchmark) and 100% (a portfolio totally different from its benchmark).

Central Bank Policy: The monetary stance taken by a country's central bank, which can vary from extremely accommodative (keeping short-term interest rates very low, typical when economic growth is slow or negative) to extremely tight (raising rates to high levels, typical when inflation is very high).

Correlation: The degree to which two or more securities, asset classes, and/or benchmarks perform in the same direction and magnitude; a lower correlation is generally favorable for active management, and a higher correlation for passive management.

Dispersion (of returns): The difference in return, often between the best- and worst-performing security in a given asset class or investment category. Generally, the higher the dispersion, the more favorable for active management.

Distressed-Credit Hedge Fund: A hedge fund that invests in the debt of companies in financial trouble, including companies that may file for bankruptcy in the near future. If the company emerges from its distress, its debt will sell far above the price paid by the fund.

Duration: For bonds, a measure of interest-rate risk akin to, but more sensitive than, maturity. For every year of a bond's duration, its price can be expected to fall 1% with every one-percentage-point increase in interest rates, or rise 1% with every one-percentage-point decrease in rates.

Dynamic Asset Allocation: Bernstein's research-based tactical-risk-management service (*see below*), designed to reduce the volatility of a balanced-asset portfolio without sacrificing return.

Event-Driven Hedge Fund: Event-driven strategies take advantage of transaction announcements and other one-time events; one example is merger-arbitrage funds, which buy the stock of a target company and hedge the purchase by selling short the stock of the acquiring company.

Global Macro Hedge Fund: A hedge fund that bases its holdings primarily on overall economic and political views of various countries.

Hedging (currency): Using futures and other contracts to exchange one currency for another; for US investors, hedging is generally exchanging a non-US currency for dollars.

Glossary (cont.)

Inflation-Protected Bonds: Bonds whose values are indexed to inflation, normally adjusted on a semiannual basis. The most well known are Treasury Inflation-Protected Securities, or TIPS. Inflation-protected bonds are designed to shield investors from the negative impact of inflation.

Liquidity: The ease with which assets can be traded; the degree of liquidity for any given asset class or security depends on the prevailing market conditions, dealer inventories, and other factors.

Long/Short Hedge Fund: A hedge fund that takes “long” positions—positions of securities bought in the expectation that they will appreciate in value—as well as short-selling other positions, anticipating that they will decline in value. In short selling, the investor generally sells a borrowed security in the expectation that its price will decline and hence can be bought back at a lower price.

Passive Management: Managing a portfolio to essentially duplicate its benchmark index.

Price-to-Book Ratio: A stock’s current price divided by its book value: its total tangible assets minus its liabilities. A lower price-to-book ratio indicates a low price for a stock relative to the value of its underlying assets.

Price-to-Earnings Ratio: A stock’s current price divided by the company’s historical or projected earnings per share. A lower price-to-earnings ratio indicates a low price for a stock relative to its earnings history or potential. The **cyclically adjusted or Shiller P/E**, usually applied to the broad S&P 500 market, generally uses the average of the past 10 years of earnings, adjusted for inflation.

Real Assets: Assets that have tangible value, or are based on assets with tangible value, such as real estate, commodities, and commodity futures.

Roll (bonds): The tendency of a bond to sell for premium returns before maturity as long as the yield curve (*see below*) is upward-sloping, since its coupon rate is normally competing with lower rates as it “rolls down the yield curve.” Roll is a component of bond returns that active managers can exploit.

Tactical Risk Management: Varying the allocation of asset classes in a portfolio in line with generally short-term forecasts of risk and return.

Yield: The income return from an investment, typically based on the interest paid by a bond or the dividends paid by a stock; usually expressed as a percentage based on the security’s cost, market value, or face value.

Yield Curve: The relationship between the yields being offered by bonds at any given time and their maturity; normally, the curve is upward-sloping, but flat or inverted yield curves are not uncommon. Different yield-curve shapes suggest different optimal maturity configurations for a portfolio.

Disclosures and Important Information

Hypothetical, back-tested, or simulated performance has many inherent limitations, only some of which are described herein. The hypothetical performance shown herein has been constructed with the benefit of hindsight and does not reflect the impact that certain economic and market factors might have had on the decision-making process. No hypothetical, back-tested, or simulated performance can completely account for the impact of financial risk in actual performance. Therefore, it will invariably show better rates of return. The hypothetical performance results herein may not be realized in the actual management of accounts. No representation or warranty is made as to the reasonableness of the assumptions made or that all assumptions used in constructing the hypothetical returns have been stated or fully considered. Assumption changes may have a material impact on the returns presented. This material is not representative of any particular client's experience. Investors should not assume that they will have an investment experience similar to the hypothetical, back-tested, or simulated performance shown. There are frequently material differences between hypothetical, back-tested, or simulated performance results and actual results subsequently achieved by any investment strategy. Prospective investors are encouraged to contact the representatives of the investment manager to discuss the methodologies (and assumptions) used to calculate the hypothetical performance shown herein.

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