BERNSTEIN

Where to from Here?

A Macro and Markets Review

Second Quarter 2022

Heading to Economic Stall Speed

Inflation Forces Fed To Be Aggressive, Impacting Growth

With inflation still elevated, the Fed has had to become more aggressive. Their actions will keep rates elevated, financial conditions tight, and cause a meaningful slowdown in economic growth.

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

With stocks having entered a bear market, we think much of the downside has already been priced in.

And yet, if inflation remains high, there may be more downside. We'll be watching the following for signs the worst is past us:

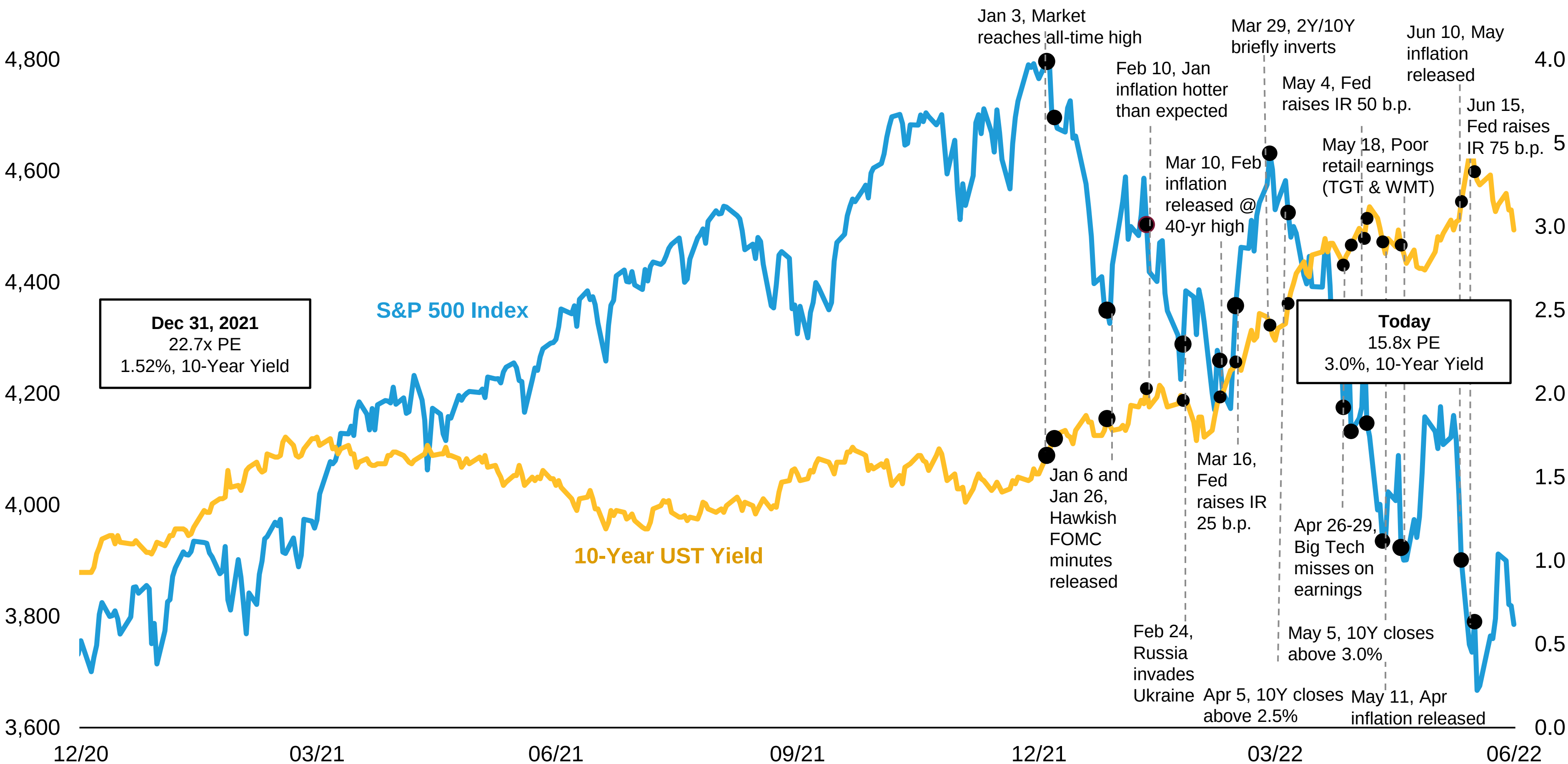
- Monthly inflation figures
- Supply chain disruptions
- Earnings revisions

AB Economic Team Forecasts*

	2022	2023
US GDP	1.8%	0.8%
Global GDP	2.7%	2.2%
10Y Treasury Rate	3.25%	3.0%
Fed Funds	3.00%–3.25%	3.00%–3.25%
US Inflation	5.4%	3.2%
EUR/USD	1.00	0.95
S&P 500 EPS Growth**	8.5%–11.5%	8.5%–11.5%

As of June 30, 2022. **Historical analysis is not necessarily indicative of future results. There is no guarantee that any estimates or forecasts will be realized.**
*Economic forecasts updated 8/12/2022
**Consensus expectation, not AB forecast.
Range in Consensus expectations for the 10Y Treasury rate are 2.5%-4.0% for 2022 (avg 3.1%) and 2.0%-5.8% for 2023 (avg 3.2%).
Source: FactSet, Bloomberg S&P 500, and AB

The Market Has Priced In The Worsening Inflation & Growth Landscape



A combination of stubbornly high inflation readings, higher interest rates, notable earnings misses and geopolitical risk sent the S&P 500 down ~20% and the 10Y Treasury yield to 3.0%

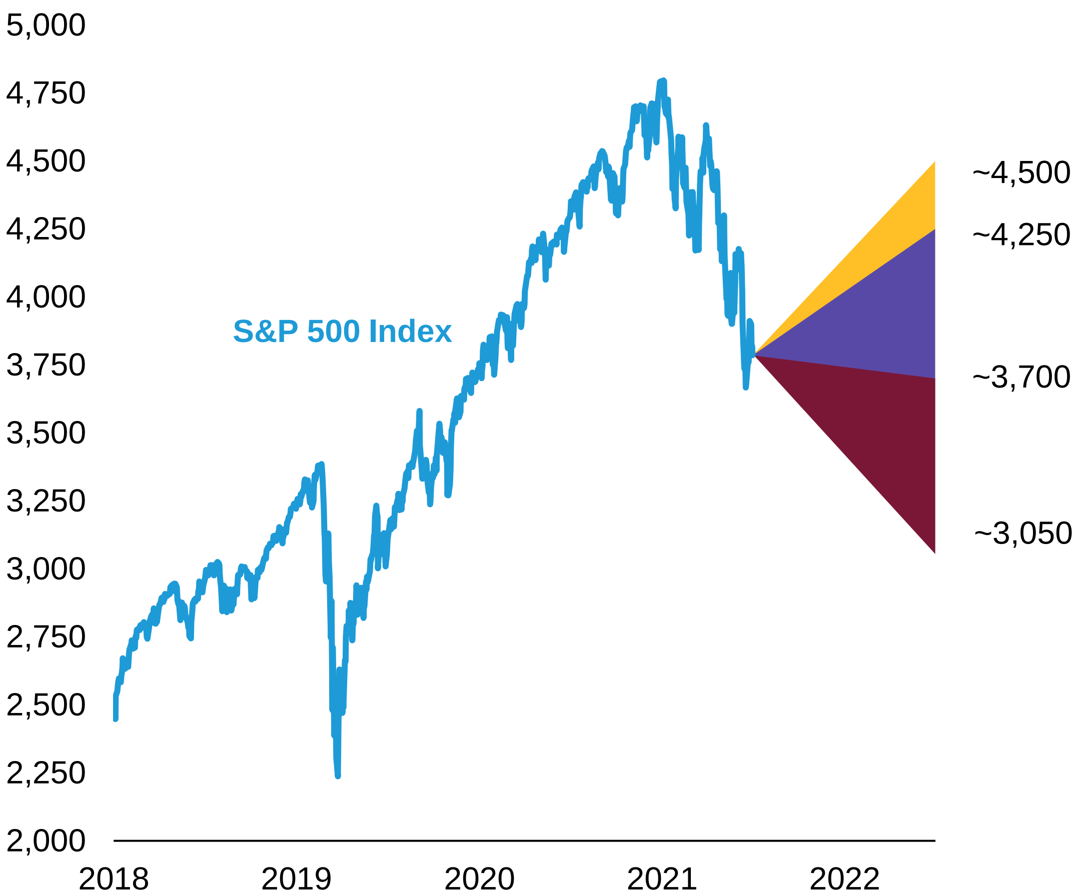
As of June 30, 2022. **Historical analysis is not necessarily indicative of future results. There is no guarantee that any estimates or forecasts will be realized**.

Source: Bloomberg and Bernstein analysis

Where to from here?

The Economic Landscape Leads to Three Possible Market Paths

Scenario Analysis – S&P 500, 6-12 mos.



Bull: Mid-Cycle Slowdown

Inflation eases over the next several months, allowing the Fed to back off sooner. Growth slows modestly, but not enough to cause a recession or earnings/PEs to reset much lower. **Likelihood: 25%**

Base: Economic Stall Speed

Economic growth slows toward 1%—as such, the distinction between recession or not is irrelevant. Earnings expectations are revised lower and PEs re-rate given the landscape. **Likelihood: 50%**

75% probability that the market selloff already reflects the outlook.

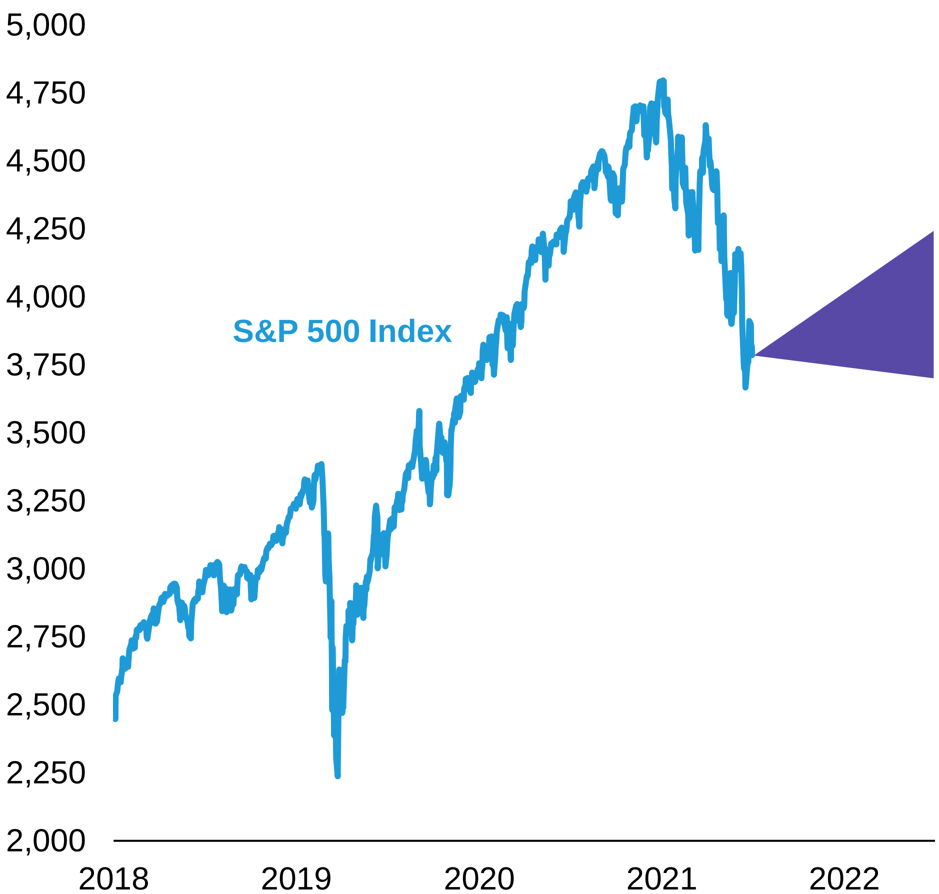
Bear: More Severe Economic Contraction

The Fed's inflation fight causes a more severe economic contraction. Earnings decline double-digits, in line with previous recessions. PEs fall to mid-teens. **Likelihood: 25%**

25% probability that further downside is warranted given a weaker future landscape.

As of June 30, 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 500, and AB

Our Base Case: Economic Growth Stalls



Necessary Conditions

- Economic Growth: slows to ~1%
- Inflation: eases late in 2022, early 2023
- Valuations: settle at ~17x
- 2023 Earnings Growth: 0%, +/-5%
- Likelihood: 50%

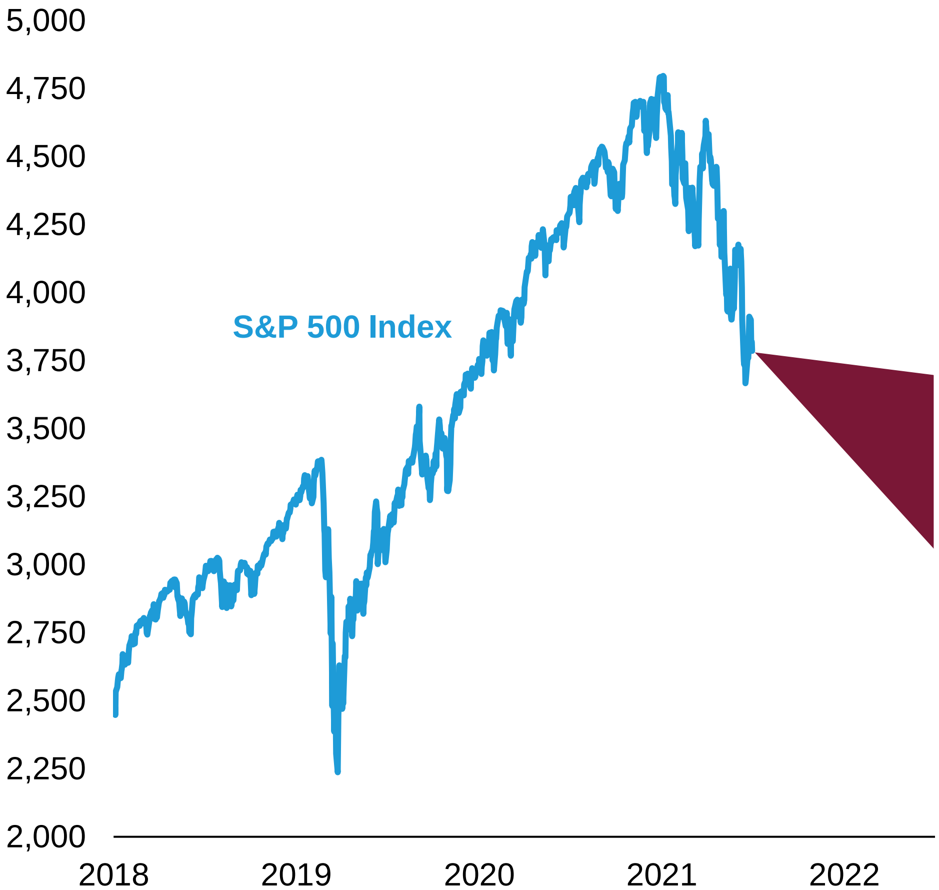
In this case, inflation gradually decelerates, but remains elevated. Simultaneously, economic growth slows toward 1%.

The US consumer is the reason the slowdown isn't worse—keeping the economy afloat by spending down excess savings and real wages.

This case includes the possibility of a recession, but a shallow one.

As of June 30, 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

The Bear Case: More Severe Economic Contraction



Necessary Conditions

- Economic Growth: clear and obvious contraction
- Inflation: stays stubbornly above 3% through 2023
- Valuations: fall to ~15.5x
- 2023 Earnings Growth: -15%
- Likelihood: 25%

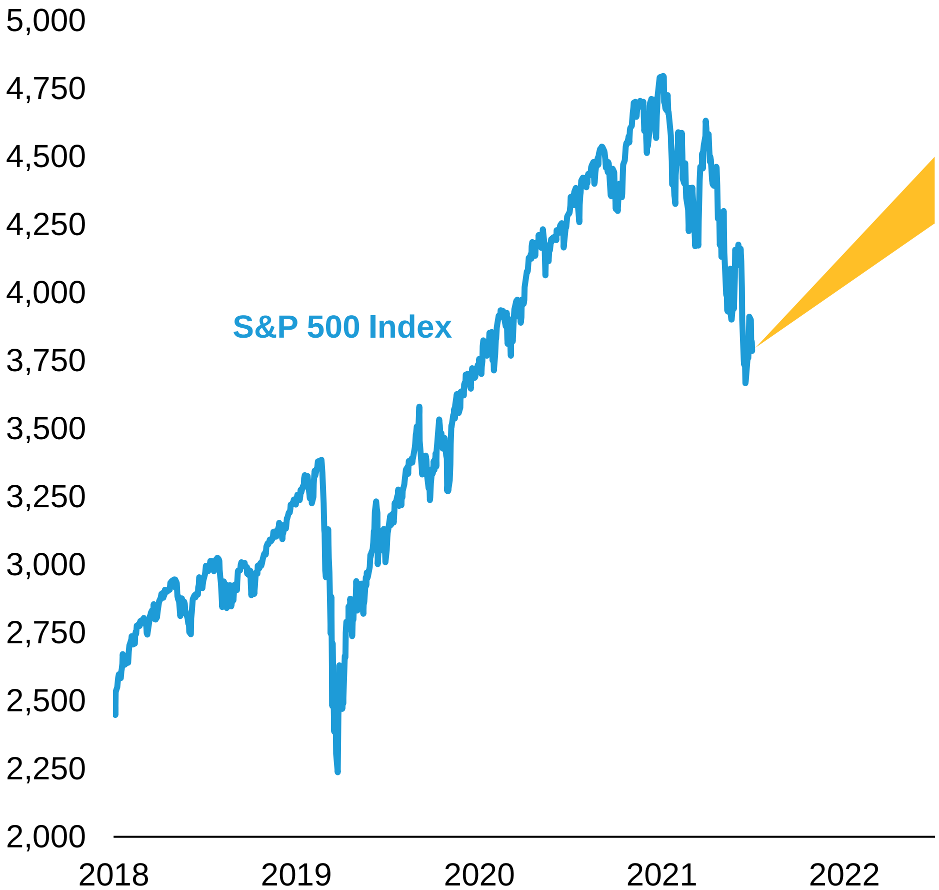
In this case, stubborn inflation persists, fueled by ongoing supply chain disruptions.

This scenario could cause an un-anchoring of longer-term inflation expectations which would cause the Fed to tighten policy earlier and more aggressively than expected.

This path leads to a clear and obvious recession.

As of June 30, 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

The Bull Case: Inflation Eases Over Next Several Months



Necessary Conditions

- Economic Growth: low-single digits growth
- Inflation: begins to ease over next several months
- Valuations: settle ~18x
- 2023 Earnings Growth: mid-single digits
- Likelihood: 25%

In this case, inflation peaks and begins to clearly soften over the next several months. The Fed gradually raises rates, at a pace that slows the economy, but does not meaningfully stifle demand.

The supply chain disruptions ease and the path to continued economic expansion with lower future inflation comes into view.

This case would materialize in still slower growth, but would be a clear positive for markets.

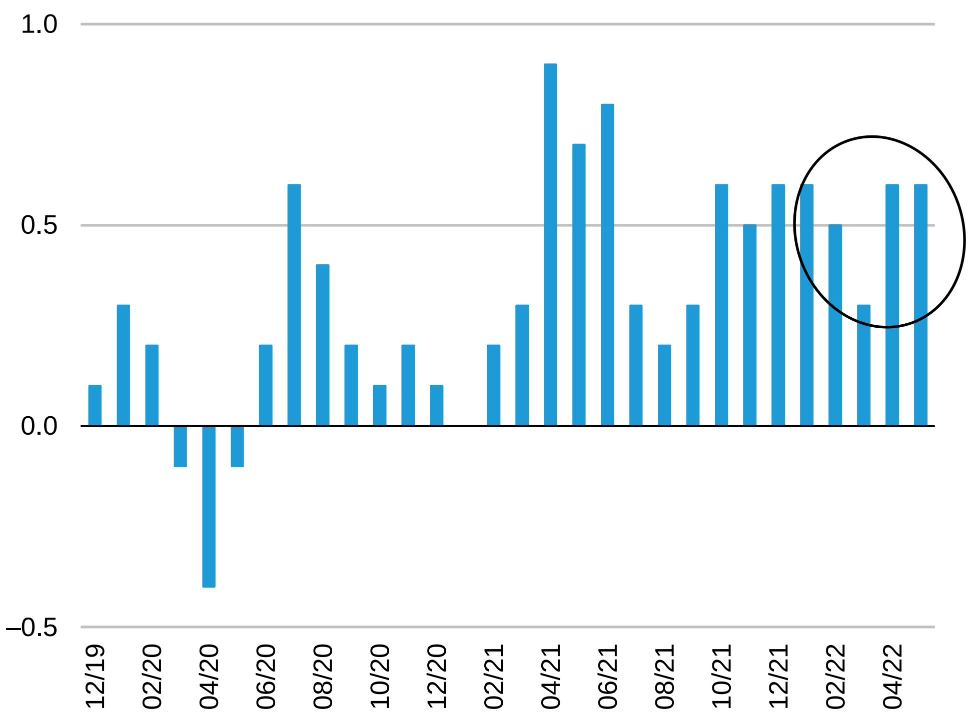
As of June 30, 2022. **Historical analysis is not necessarily indicative of future results. There is no guarantee that any estimates or forecasts will be realized.**
Source: Bloomberg, S&P 500, and AB

What are the top three data points to watch?

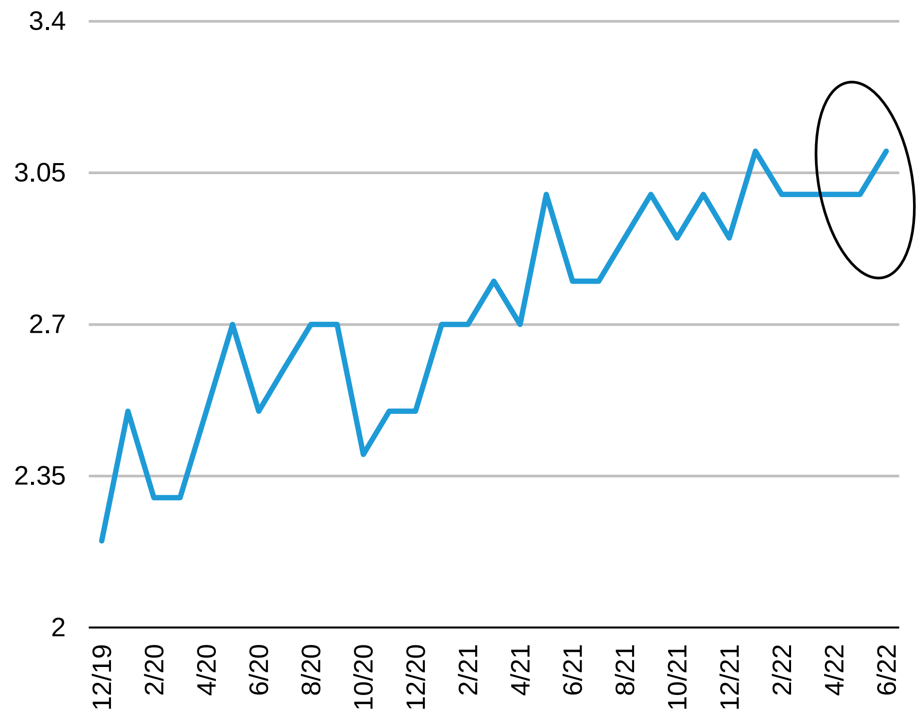
Inflation

What We're Watching For: *When will sequential inflation ease, expectations re-anchor?*

Core Inflation (% Change MoM)



US 5Y-10Y Inflation Expectations—University of Michigan



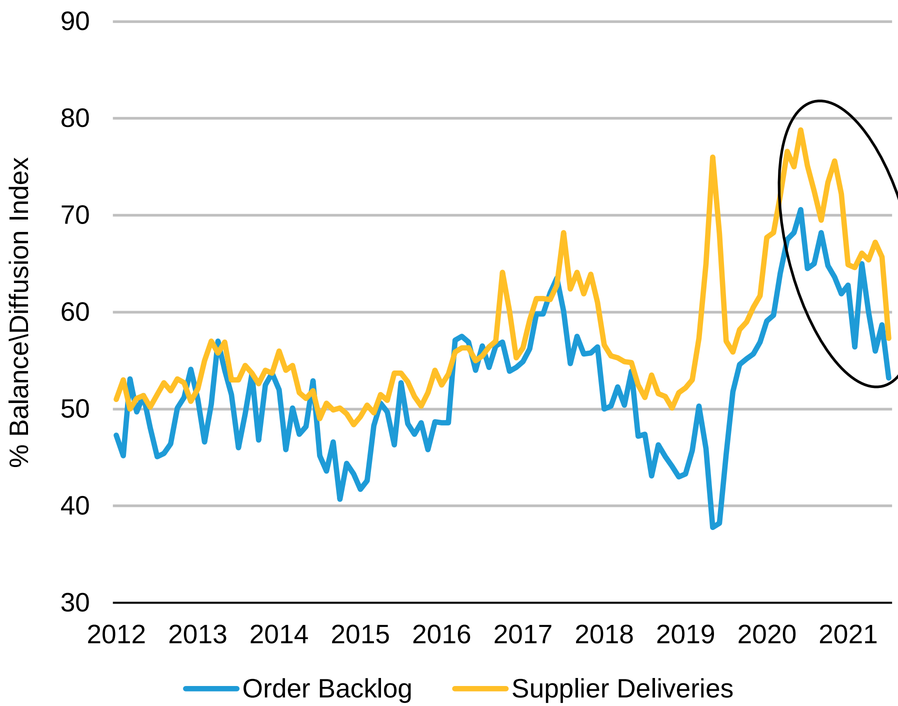
As of June 30, 2022. **Historical analysis is not necessarily indicative of future results. There is no guarantee that any estimates or forecasts will be realized**.

Source: Bloomberg, University of Michigan, Bureau of Labor Statistics, and Bernstein analysis

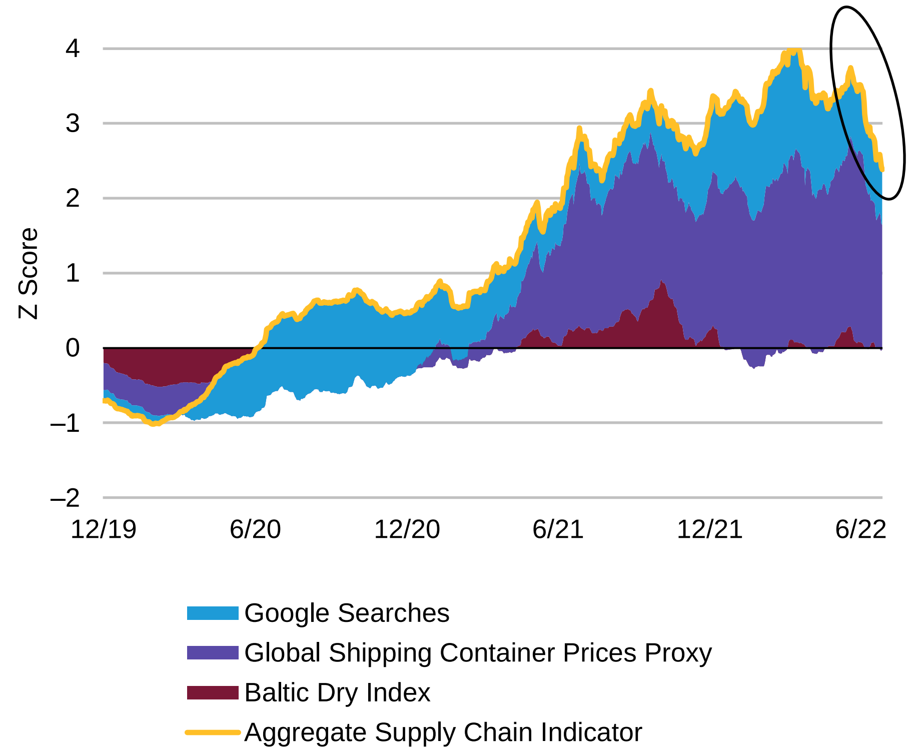
The Supply Chain

What We're Watching For: *Will the early signs of easing supply chain disruptions continue?*

ISM Manufacturing Report on Business Supplier Deliveries and Backlog of Orders



Aggregate Supply Chain Indicator



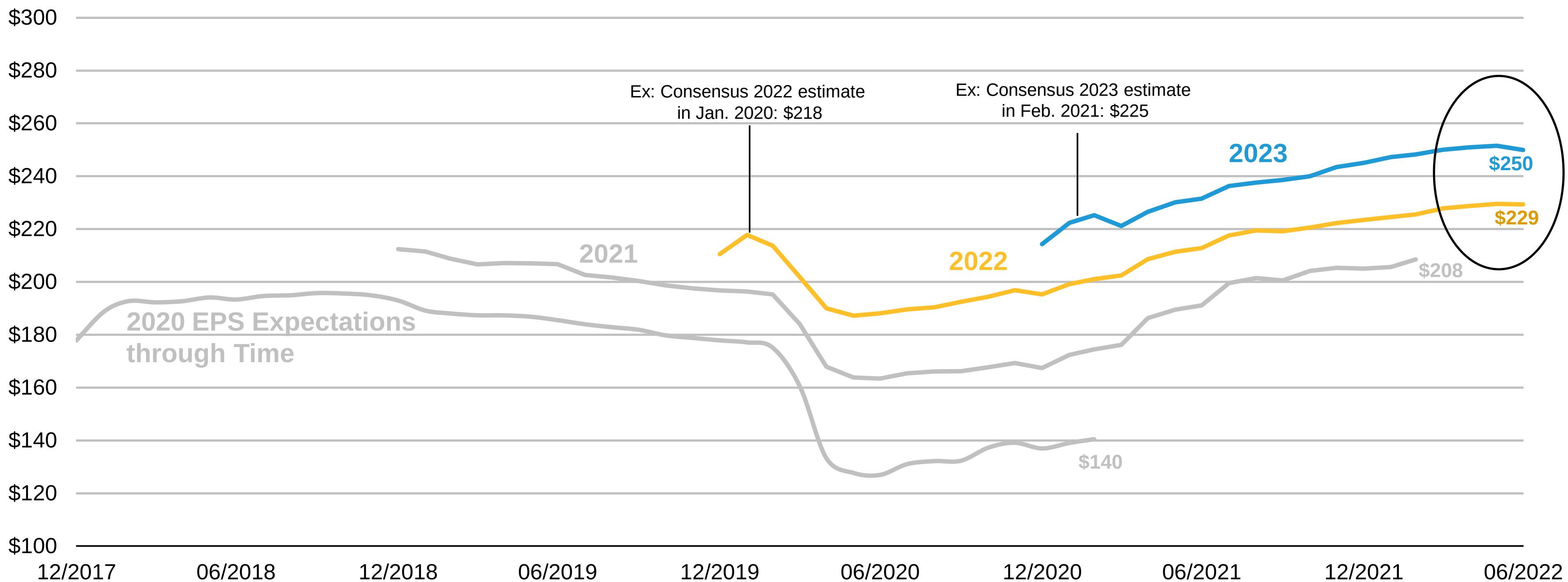
As of June 30, 2022. **Historical analysis is not necessarily indicative of future results. There is no guarantee that any estimates or forecasts will be realized**.

Source: Bloomberg, Bernstein analysis

S&P 500 Earnings

***What We're Watching For**: Do expectations of corporate profitability get downgraded materially?*

S&P 500 Consensus Estimates By Calendar Year



As of June 30, 2022. **Historical analysis is not necessarily indicative of future results. There is no guarantee that any estimates or forecasts will be realized**.

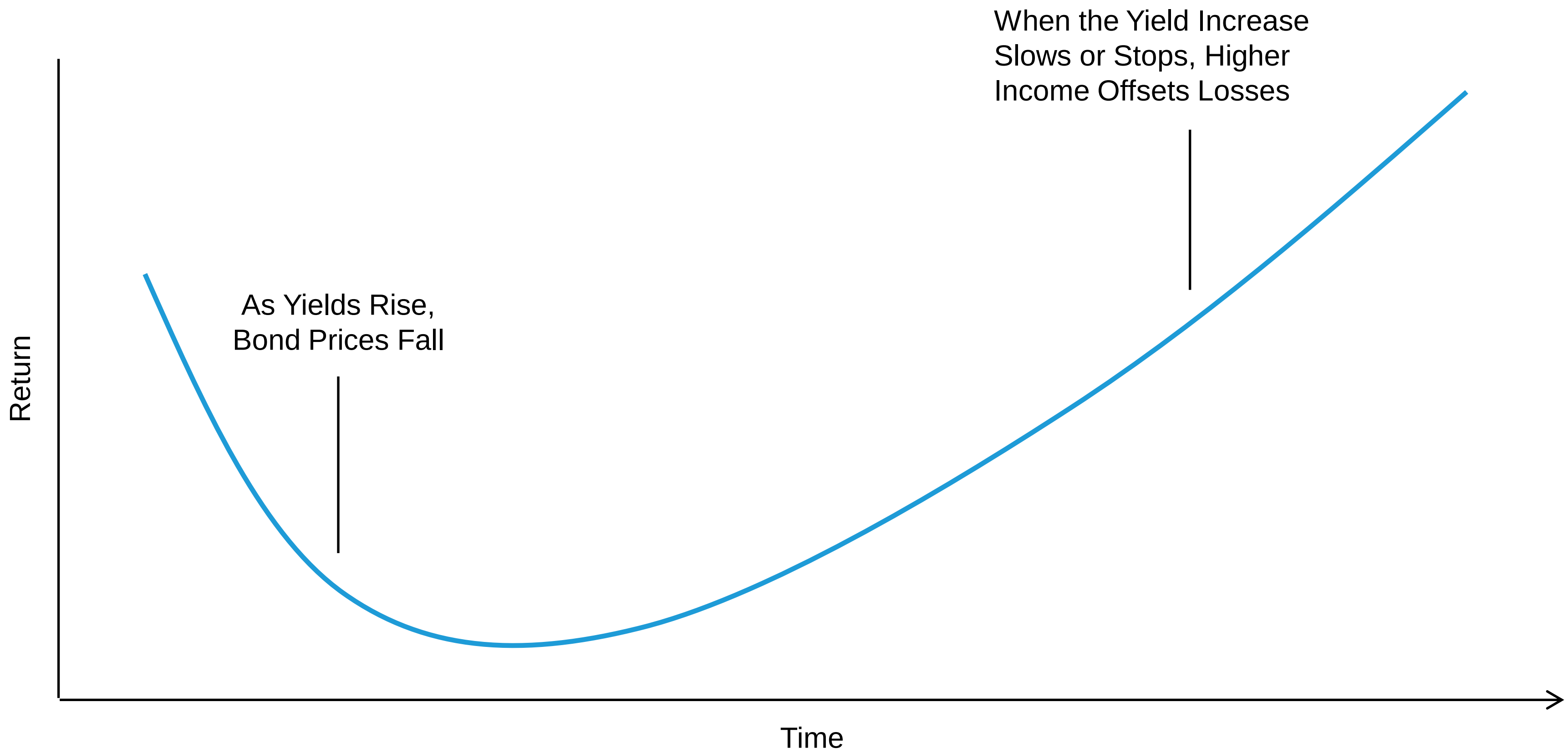
Source: FactSet, and Bernstein analysis

When will bonds recoup their (paper) losses?

Anatomy of a Rising Rate Cycle on Bond Portfolios

Time heals bond wounds

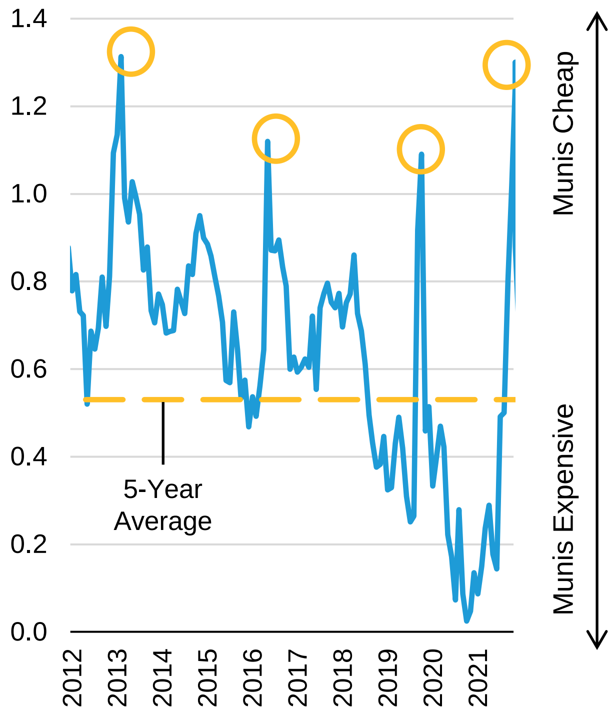
Bond Portfolio Total Return Illustration



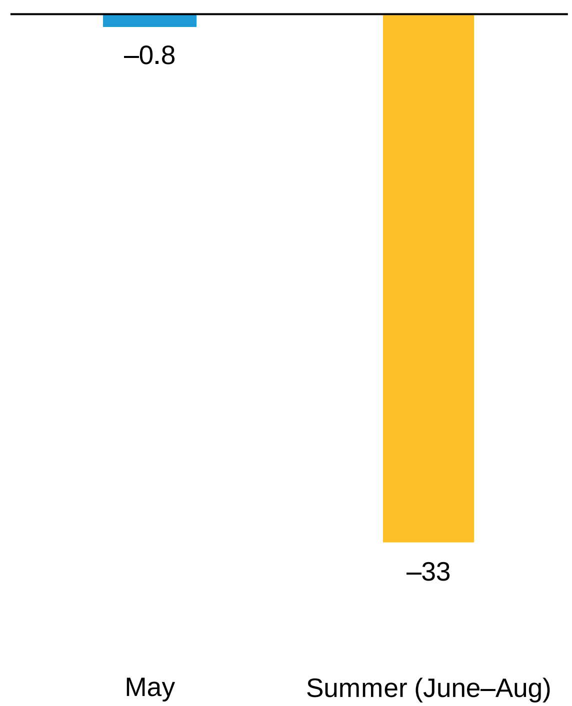
For Illustrative Purposes Only.
Source: AB

These Three Factors Should Help Stabilize the Market

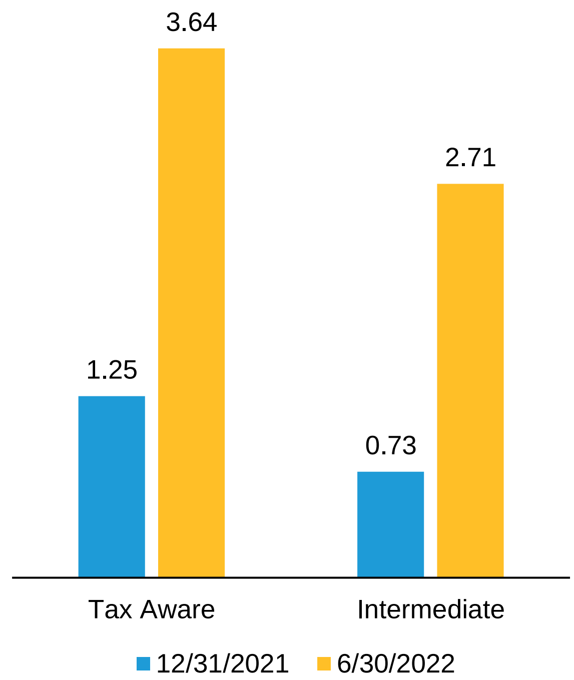
The Municipal Market Is Cheap
10Y Muni/treasury after-tax spread
Percent



Positive Technical Environment
Forecasted net supply
Billions



The Power of Income
Yield to worst
Percent

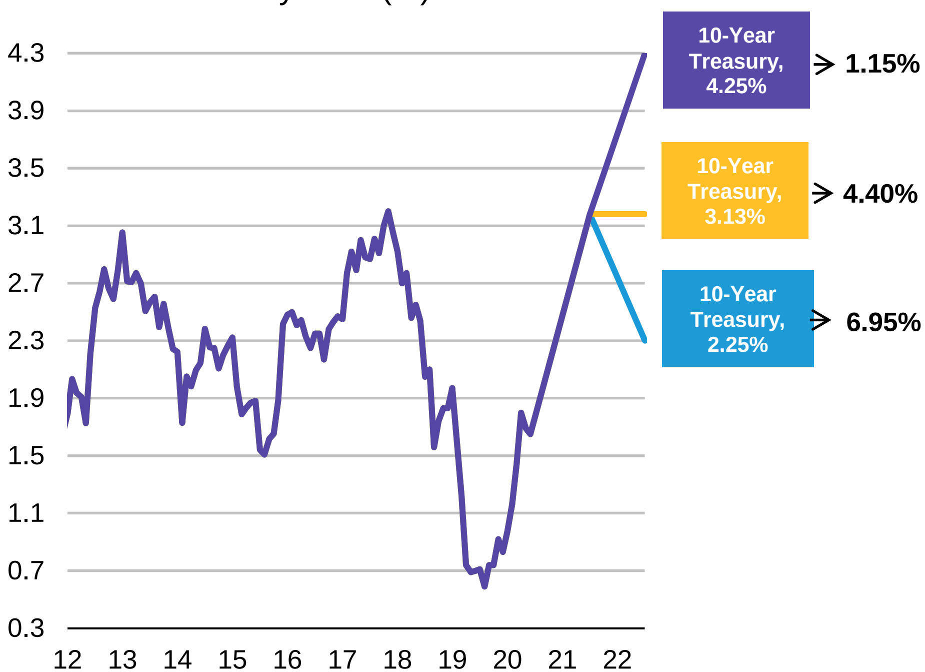


Historical analysis does not guarantee future results.
10Y Muni/treasury after-tax spread is through June 24, 2022. Summer technical are as of April 6th, 2022.
Source: Bloomberg, Municipal Market Data, AB

The Direction of Rates Will Influence the Payback Time

Expected 12-Month Municipal Returns Scenario Analysis

10-Year US Treasury Yield (%)



Core Attributes

- Hold bonds to maturity in most cases
- Reinvest income at higher yields
- Broader interest-rate stability

Past performance and historical analysis do not guarantee future results. There is no guarantee that any estimates or forecasts will be realized.

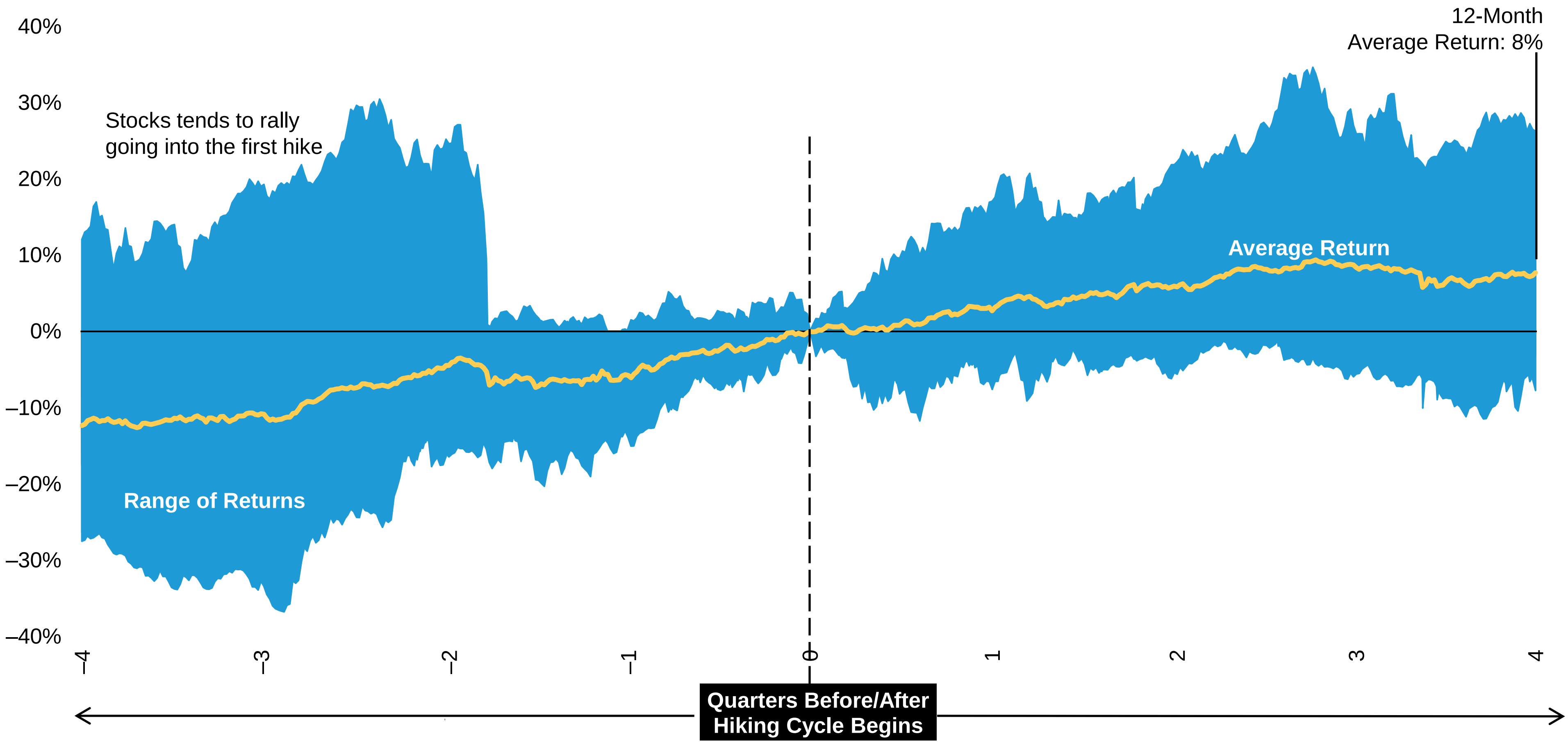
Display reflects expected returns of a 5.40-year-duration intermediate municipal portfolio under three scenarios: 10-year US Treasury yields rise to 4.25%, remain the same or decline to 2.25% over the next 12 months. Through June 24, 2022

Source: Bloomberg and AB

Timely insights from historical analysis

Equities Rally after Fed Hiking Begins

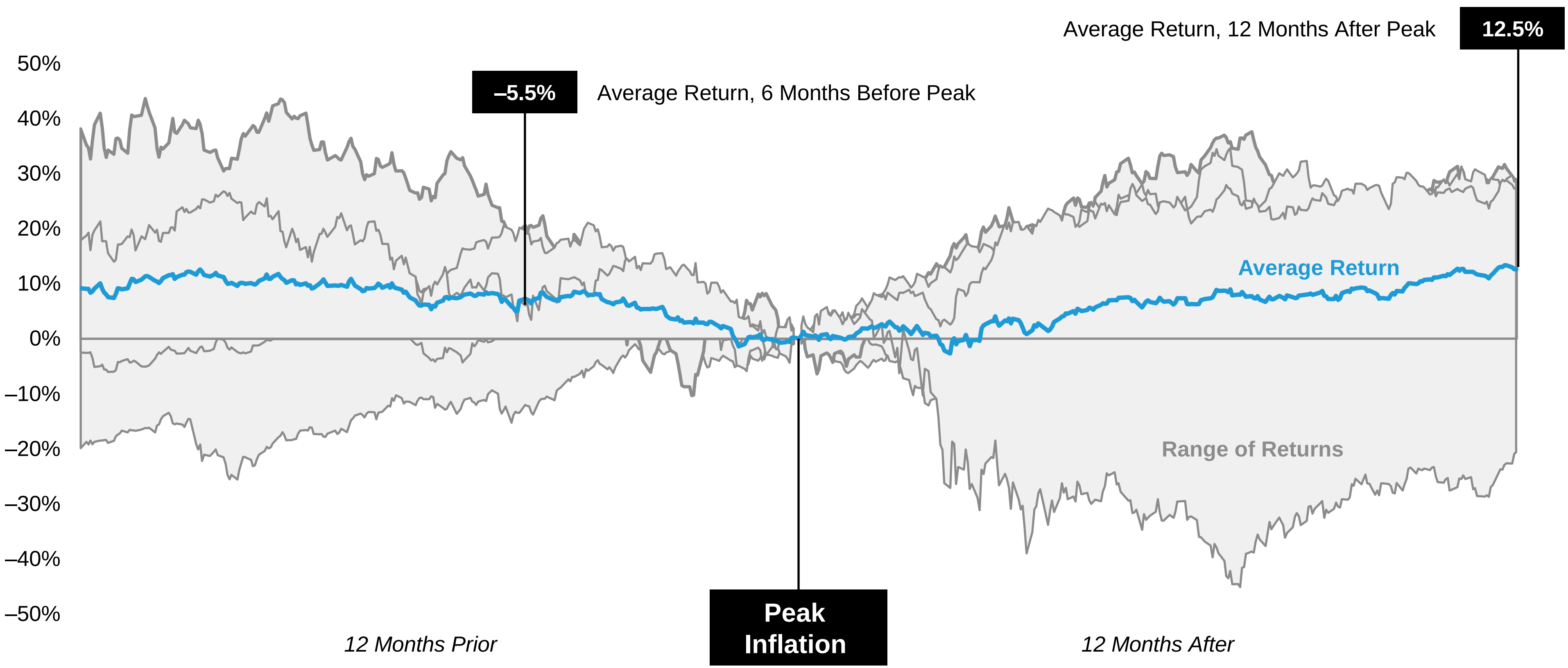
S&P 500 price return in Fed tightening cycles since 1955



As of December 31, 2021. **Historical analysis is not necessarily indicative of future results.**
Range of returns composed of S&P 500 price return over 13 historic Fed tightening cycles beginning on the following dates (followed by 12-Month Return): 9/5/1955 (+26.3%) , 9/12/1958 (+18.3%), 7/17/1963 (+21%), 3/1/1972 (+5%) 12/1/1976 (-8%), 8/7/1980 (+8%), 5/2/1983 (-1%), 12/16/1986 (-3%), 3/29/1988 (+13%), 2/4/1994 (+2%), 6/30/1999 (+6%), 6/30/2004 (+5%), 12/16/2015 (+9%).
Source: AB, Bloomberg

Equities Rally Once Inflation Peaks

S&P 500 Returns Indexed to Peak Inflation since 1950



As of June 30, 2022. **Historical analysis is not necessarily indicative of future results.**

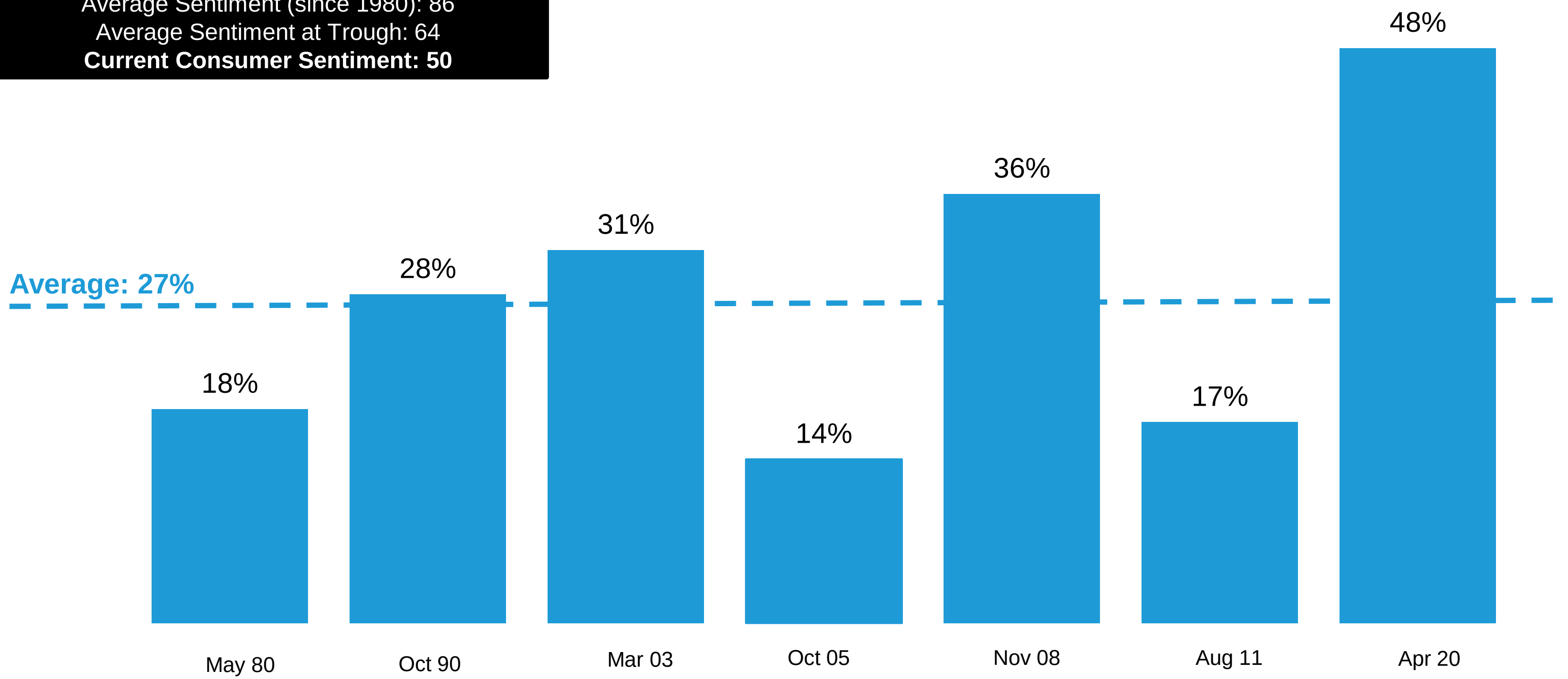
Inflation Peaking is defined as a peak in YoY Inflation of 5% or more. The following are peak years and respective 12 month returns following inflation's peak : 1951(+4%), 1970 (+7%), 1974 (+29%), 1980 (+28%), 1990 (+27%) and 2008 (-21%).

Source: Bloomberg, Bureau of Labor Statistics, and Bernstein analysis

Peak Fear Is a Catalyst to Buy

12 Mo. S&P 500 Returns Post Consumer Sentiment Troughs since 1980

Average Sentiment (since 1980): 86
Average Sentiment at Trough: 64
Current Consumer Sentiment: 50

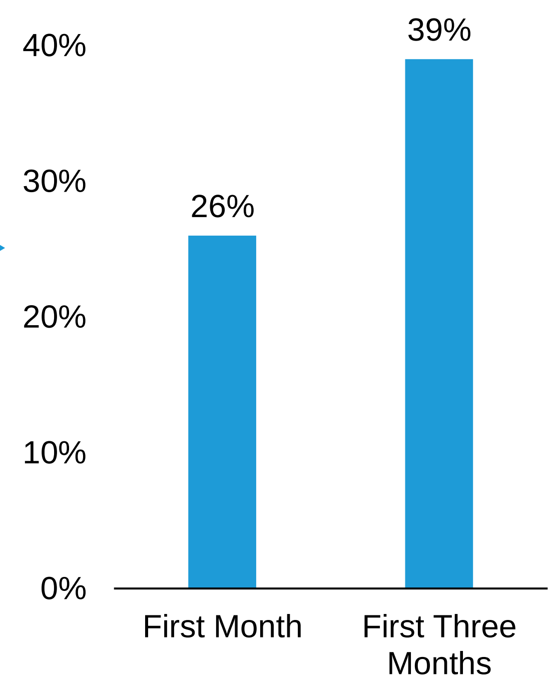


As of June 30, 2022. **Historical analysis is not necessarily indicative of future results.**
Source: University of Michigan Consumer Sentiment Survey, Bloomberg, and AB

~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	(22)%	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 June 30, 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

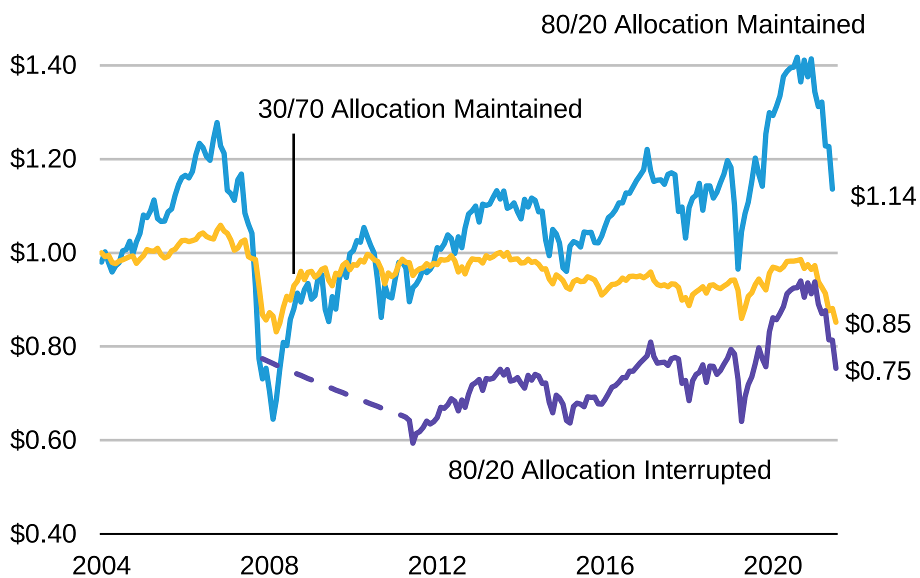
What to do?

First, What *Not* to Do

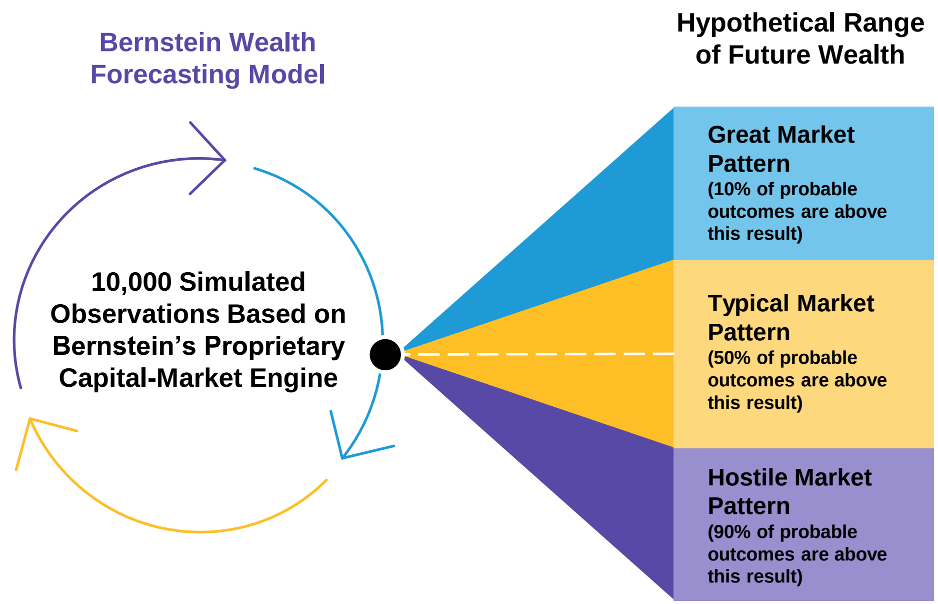
At times like these, "what *not* to do" is perhaps more important than "what to do"

Wealth Values: January 2005– June 2022

(assumes 5% annual withdrawal rate)



Bernstein Wealth Forecasting Model



Volatile times are almost always poor decision points for material asset allocation changes. The same is likely to be true today given the substantial decline we've already experienced.

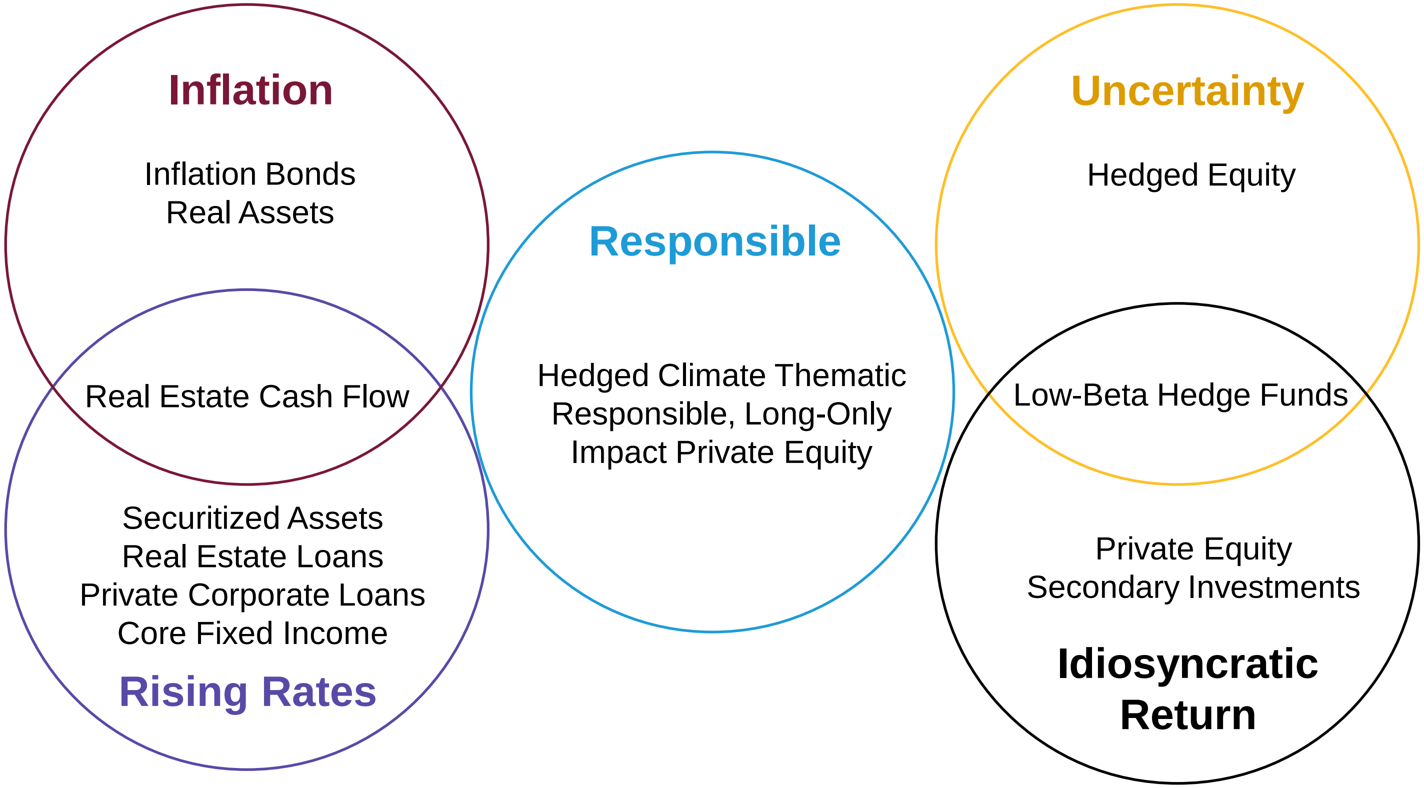
This is not a time to panic. This is a time to find comfort in the fact that your asset allocation was built assuming years like 2022 will occur … and occur more than once over a lifetime.

As of June 30, 2022.

Past performance is not necessarily indicative of future results. Results for 80/20 Allocation Interrupted assumes 80/20 allocation from January 1, 2005, through October 31, 2008, cash allocation from November 1, 2008, through March 31, 2012, and 80/20 allocation from April 1, 2012–present. All figures are pretax. 30/70 is modeled as 30% global equities and 70% bonds, 80/20 as 80% global equities and 20% bonds, and cash as three-month US Treasury bills. Global equities are modeled as the MSCI ACWI IMI Index. Bonds are modeled as the Bloomberg Barclays 1-10 Yr Municipal Bond Index.

Source: Bloomberg Barclays, MSCI, Standard & Poor's, and AB

Actionable Ideas Based on the Current Investment Landscape



As of June 30, 2022. **Historical analysis is not necessarily indicative of future results.**
Source: AB

Dollar-Cost Averaging during Uncertainty Is Often Better than Waiting for the All-Clear Signal

Peak Month	Trough Month	12-Month Return Following Trough	12-Month Return Following Trough: Excluding Best 5 Days	12-Month Return Following Trough: 3-Month DCA Strategy
5/29/1946	5/19/1947	26%	6%	16%
12/12/1961	6/26/1962	37%	21%	16%
2/9/1966	10/7/1966	37%	25%	28%
11/29/1968	5/26/1970	49%	28%	40%
1/11/1973	10/3/1974	44%	20%	33%
11/28/1980	8/12/1982	66%	37%	44%
8/25/1987	10/19/1987	28%	–1%	21%
9/1/2000	10/9/2002	36%	13%	24%
10/9/2007	3/9/2009	72%	35%	44%
2/19/2020	3/23/2020	78%	34%	51%

As of June 30, 2022.
Past performance is not necessarily indicative of future results. Diversification does not eliminate the risk of loss.
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

Our Bear Market Checklist: How We're Taking Action

Our priorities for clients for the balance of the year

- **Aligning your financial objectives with your investment implementation**
  Ensuring that your allocation is consistent with the goals you've set

- **Considering whether tax change would affect you and what actions may be appropriate in advance of legislation**
  We can help you explore a range of wealth transfer tax and income tax planning strategies

- **Analyzing your inflation sensitivity**
  Your allocation, spending level, or income may be reason to initiate or increase an allocation to inflation-sensitive assets

- **Right-sizing your cash allocation**
  We can explore a range of ideas, based on your return and risk objectives

- **Maintaining your allocation to non-US equities**
  Non-US stocks are now especially attractive, as the economies improve over time and valuations revert

- **Revisiting your alternatives exposure**
  Alternatives are a critical piece of a well-diversified puzzle

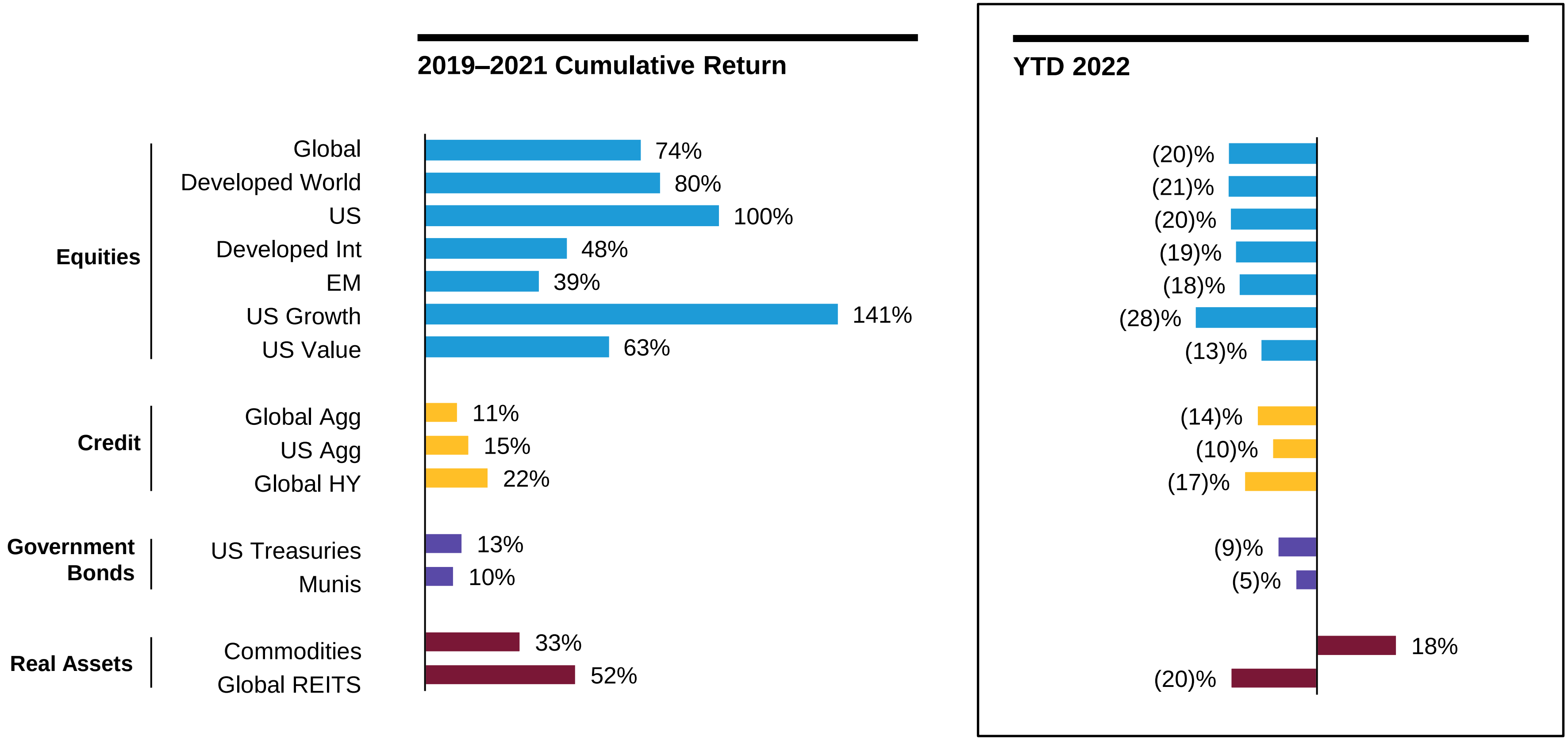
- **Considering whether purpose-driven portfolios are appropriate**
  We have an array of services that can align your investments with your values

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

Appendix

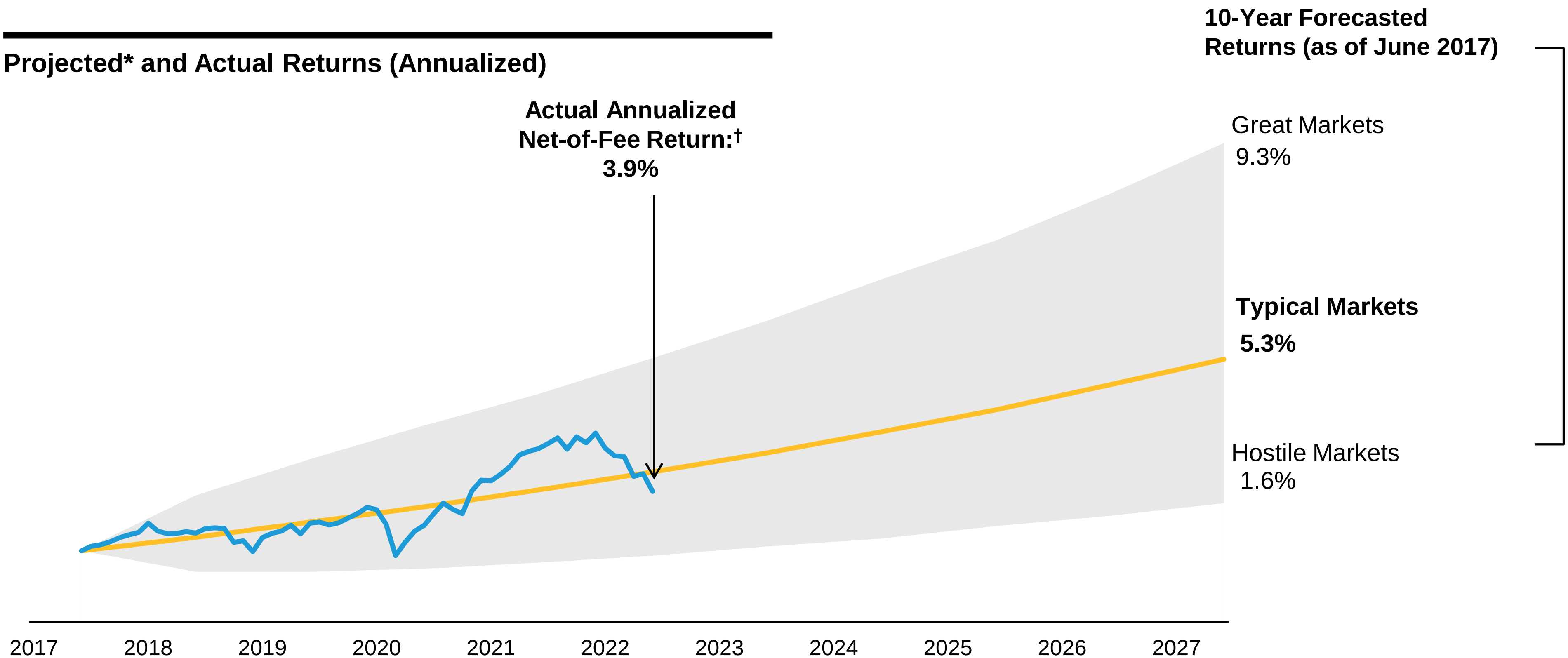
Markets Turn Hostile after Three Solid Years

Returns in US dollars



As of June 30, 2022. **Historical analysis is not necessarily indicative of future results. There is no guarantee that any estimates or forecasts will be realized.** Asset classes represented as follows: (Equities) Global—MSCI ACWI IMI Index, 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

Despite Sell-Offs, Long-Term Investors Remain Well Within Plan



Through June 30, 2022. **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 June 30, 2017, for a 60/40 stock/bond allocation. Stocks modeled as 21% US diversified, 21% US value, 21% US growth, 7% US small-/mid-cap, 22.5% developed international, and 7.5% emerging markets. 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 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 disclosures at the end of this presentation for additional information regarding the simulation's composition and calculation methodology.

Source: AB

How Could The Bottom Be In?

Market Decline from 12/31/21

	2023 S&P EPS and Growth (vs. 2022E $230)								
	$184	$196	$205	$214	$223	$232	$242	$251	$260
	(20)%	(15)%	(11)%	(7)%	(3)%	1%	5%	9%	13%
20.0x	(23)%	(18)%	(14)%	(10)%	(6)%	(3)%	1%	5%	9%
19.0x	(27)%	(22)%	(18)%	(15)%	(11)%	(7)%	(4)%	12/31/21	4%
18.0x	(31)%	(26)%	(23)%	(19)%	(16)%	(12)%	(9)%	(5)%	(2)%
17.0x	(34)%	(30)%	(27)%	(24)%	(20)%	(17)%	(14)%	(11)%	(7)%
16.0x	(38)%	(34)%	(31)%	(28)%	(25)%	(22)%	(19)%	(16)%	(13)%
15.0x	(42)%	(38)%	(36)%	(33)%	(30)%	(27)%	(24)%	(21)%	(18)%

3 A market decline of this magnitude would only be likely in more severe contraction–similar to our Bear Case.

2 The 2022 YTD decline (approx. -20%) assumes earnings come in lower than previously forecasted and perhaps decline. P/Es are also lower.

1 On 12/31, investors priced in 9% EPS growth in 2023. The P/E was 19x.

If our Base Case is correct, earnings will be flat (+/-) in 2023. Together with appropriate P/E multiple contraction given higher rates, the market already reflects the landscape over the next year. As such, the bottom may be in.

As of June 30, 2022. **Past performance is not necessarily indicative of future results. There is no guarantee that any estimates or forecasts will be realized.**

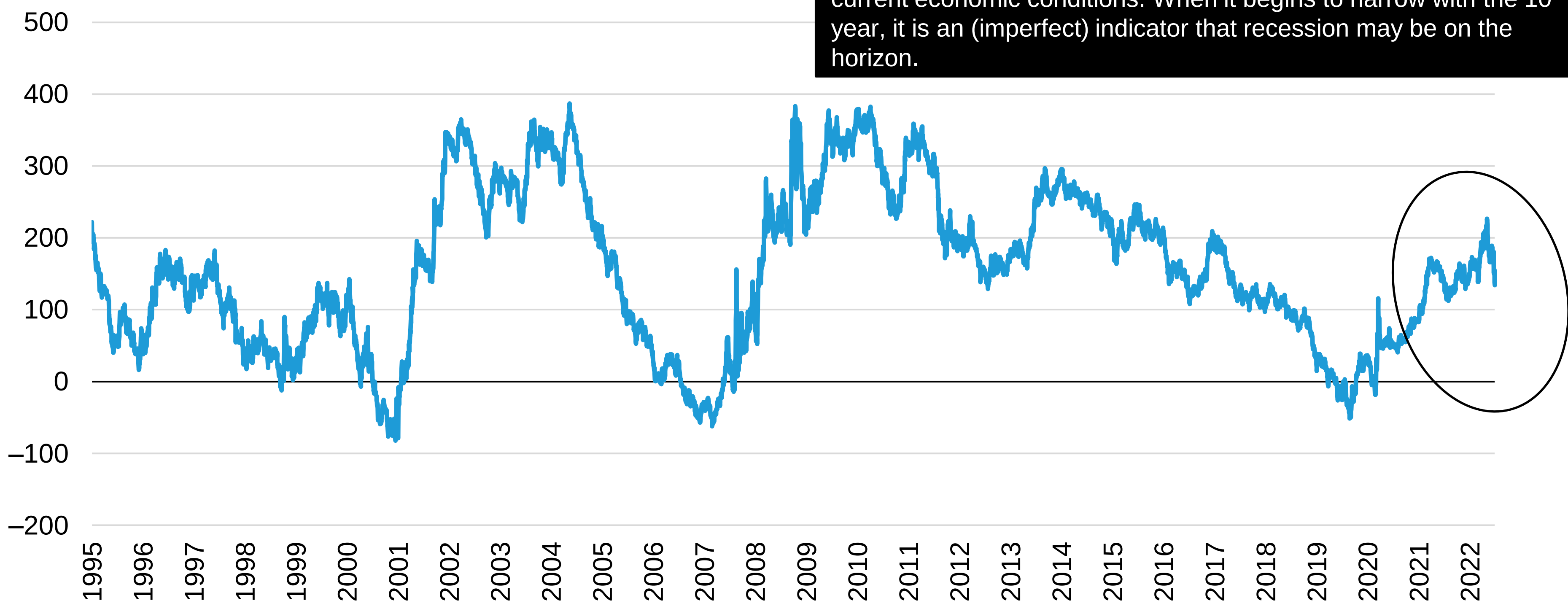
Source: Bloomberg, and AB

The Yield Curve

***What We're Watching For**: Will the 10Y/3Mo yield curve remain positive?*

10-Year/3 Month Treasury Yield Spread

Inversions are considered a leading indicator of recession. The 3-month Treasury is extremely sensitive to Fed policy and reflective of current economic conditions. When it begins to narrow with the 10 year, it is an (imperfect) indicator that recession may be on the horizon.



As of June 30, 2022. **Historical analysis is not necessarily indicative of future results. There is no guarantee that any estimates or forecasts will be realized**.

Source: Bloomberg, Bernstein analysis

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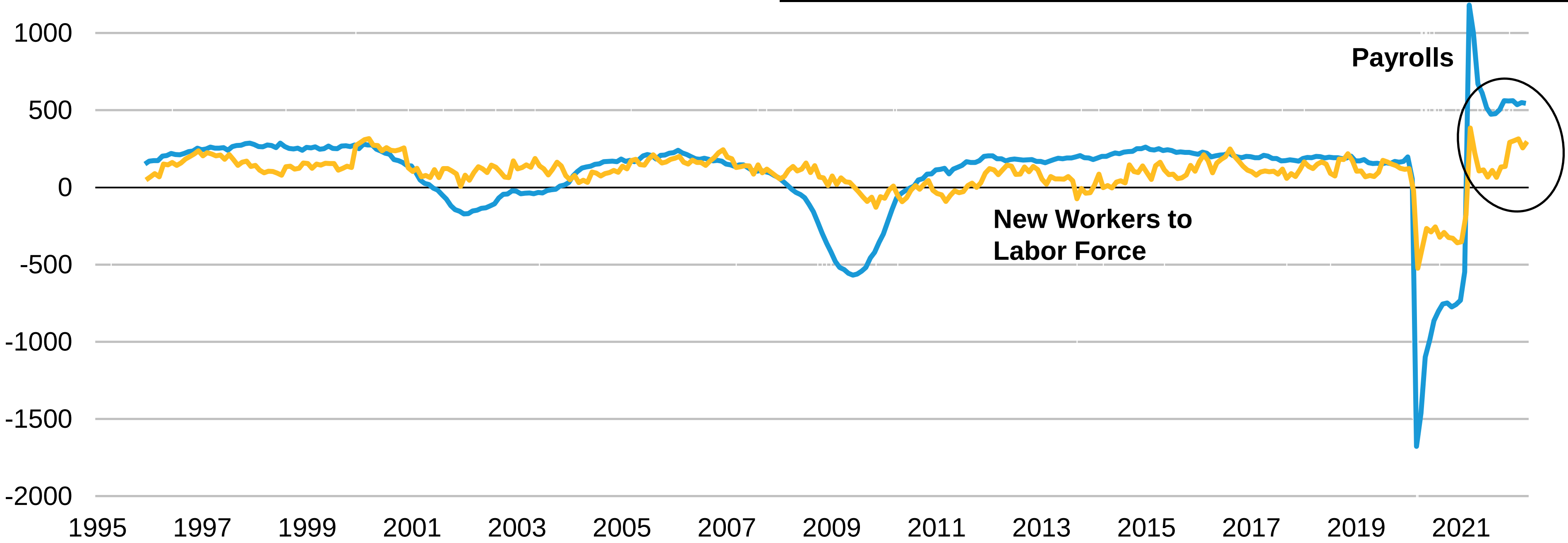
Labor Market

***What We're Watching For**: When will employment gains slow to a more sustainable pace?*

Change in Nonfarm Payrolls and Labor Force (New Workers)
(MoM change, thousands of persons, 12-Mo moving avg)

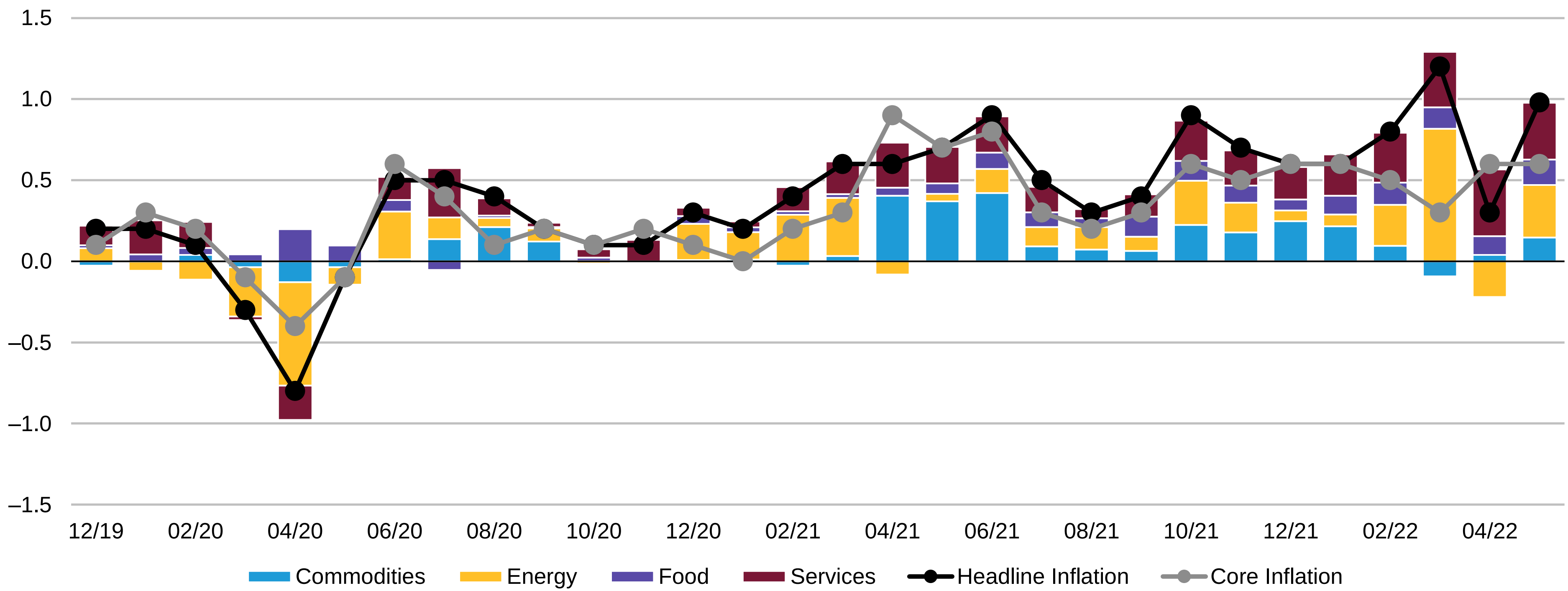
Adding more than ~75K jobs in a month represents tightening. Unless the # of new hires falls below the # of new workers, the labor market may continue to be inflationary (i.e., necessitate wage gains as an incentive).



As of June 30, 2022. **Historical analysis is not necessarily indicative of future results. There is no guarantee that any estimates or forecasts will be realized**.
Source: Bloomberg, Bureau of Labor Statistics and Bernstein analysis

Inflation Decomposition

Contribution to US CPI, % Change MoM



As of June 30, 2022. **Historical analysis is not necessarily indicative of future results.**
Source: Bloomberg, Bureau of Labor Statistics, Haver Analytics, and Bernstein analysis

Geopolitics: Events Rarely Have a Lasting Market Impact

Select geopolitical events since 1970 and S&P 500 returns (%)

Event	First Trading Day	1 Week	1 Month	1 Quarter	1 Year
Watergate	6/19/1972	(0.1)	(1.4)	0.4	(3.0)
Yom Kippur War*	10/8/1973	1.4	(3.9)	(10.0)	(43.2)
Three Mile Island Accident	3/28/1979	(0.1)	(0.7)	(0.2)	(4.2)
Iran Hostage Crisis*	11/5/1979	(1.0)	3.6	12.3	24.3
Reagan Assassination Attempt*	3/30/1981	0.6	0.6	(1.6)	(16.9)
Challenger Space Shuttle	1/28/1986	3.2	9.3	16.8	32.0
Iran-Contra Affair	11/3/1986	0.7	2.1	12.3	3.2
Iraq Invades Kuwait*	8/2/1990	(4.7)	(8.9)	(12.8)	12.8
Desert Storm/First Gulf War*	1/17/1991	4.5	17.2	23.6	36.6
LA Riots	4/29/1992	2.0	2.3	2.8	10.2
WTC Bombing–(1993)	2/26/1993	1.2	2.1	2.2	8.3
Oklahoma City Bombing	4/19/1995	1.4	3.1	11.3	30.5
Centennial Park Olympic Bombing	7/29/1996	4.3	4.6	10.8	50.6
Kenya/Tanzania Embassy Bombings	8/7/1998	(1.3)	(10.5)	5.1	21.0
USS Cole Bombing*	10/12/2000	(1.6)	0.2	(2.5)	(18.5)
Bush-Gore Hanging Chad*	11/7/2000	(5.6)	(5.5)	(5.3)	(20.9)
9/11*	9/17/2001	(4.9)	(0.9)	4.7	(15.5)
War in Afghanistan*	10/8/2001	1.9	3.0	9.8	(24.2)

Event	First Trading Day	1 Week	1 Month	1 Quarter	1 Year
SARS†	2/11/2003	(0.1)	(3.2)	12.2	39.5
Second Gulf War	3/20/2003	(0.5)	2.4	14.3	29.2
Madrid Train Bombings	3/11/2004	0.0	1.5	1.5	9.5
Orange Revolution–Ukraine	11/22/2004	1.1	2.2	3.1	8.6
Asian Tsunami	12/27/2004	0.3	(3.4)	(2.7)	6.8
London Bombings	7/7/2005	2.4	2.7	0.2	8.6
Hurricane Katrina	8/29/2005	1.1	1.0	5.7	9.5
Arab Spring	12/17/2010	1.2	4.2	1.6	0.2
Hurricane Sandy	10/29/2012	1.1	(0.0)	7.0	27.3
Boston Marathon Bombing	4/15/2013	(2.1)	3.0	6.3	16.7
Russia/Ukraine/Crimea	2/27/2014	1.6	0.5	3.5	16.8
Greek Referendum	11/5/2015	(1.2)	(0.3)	(8.4)	1.4
Brexit	6/24/2016	(0.7)	3.1	3.0	17.8
Trump Surprise Election Win	11/8/2016	1.6	5.4	8.1	24.0
Hurricane Harvey/Irma/Maria	8/25/2017	1.4	2.8	7.2	20.2
US-China Trade War‡	1/22/2018	2.2	(2.6)	(3.7)	(3.1)
Coronavirus Outbreak	3/11/2020	(12.5)	2.0	10.1	46.2
Russia Invades Ukraine	2/24/2022	1.8	5.5	-7.8	N/A

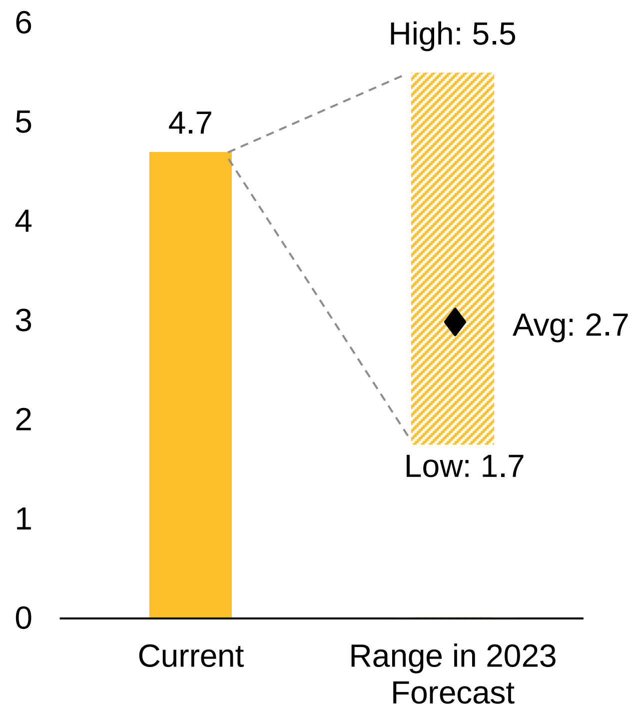
Summary	1 Week	1 Month	1 Quarter	1 Year
Average	0.4	1.2	3.9	10.4
% of Events Negative	36	33	28	26
Conflict/War Avg.	0.9	2.3	2.9	4.7
Terrorism Avg.	(0.1)	0.7	4.4	12.4
Political Avg.	(0.2)	1.1	2.4	5.3
Environmental Avg.	0.8	(0.1)	3.4	11.9
Social/ Public Health Avg.	1.4	2.2	8.1	22.2

Key Takeaway: Stocks have generally shrugged off geopolitical events, since they rarely have a lasting impact on the business cycle.

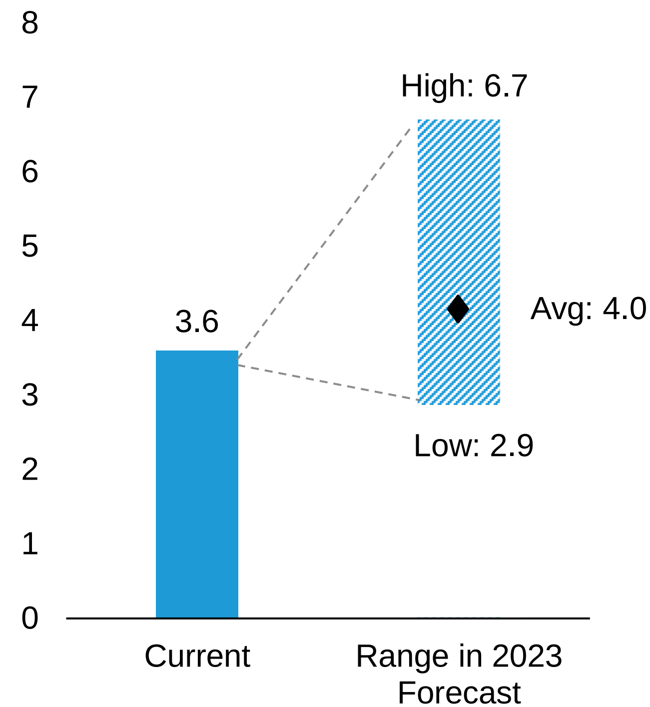
As of June 30, 2022. **Historical analysis is not necessarily indicative of future results. There is no guarantee that any estimates or forecasts will be realized.**
*Denotes the geopolitical event occurred during a recession or six months prior to the start of a recession.
†Date that China officially notified the WHO of the outbreak.
‡Tariffs on imports of solar panels and washing machines imposed.
Source: FactSet, National Bureau of Economic Research, S&P 500, World Health Organization, and AB

Forecast Ranges Are Wide, Underscoring Uncertainty

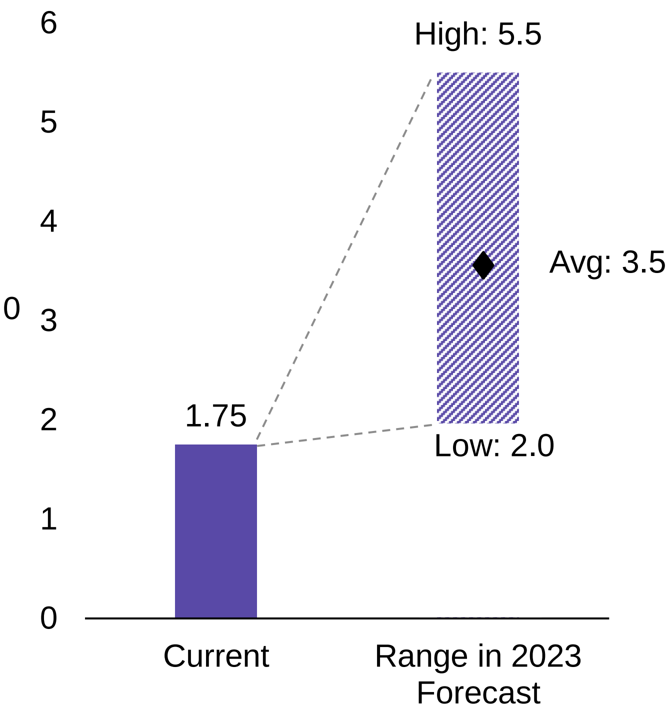
Inflation (Core PCE, YoY % Change)



US Unemployment Rate (%)



Fed Funds Target Rate (%,Upper Bound)



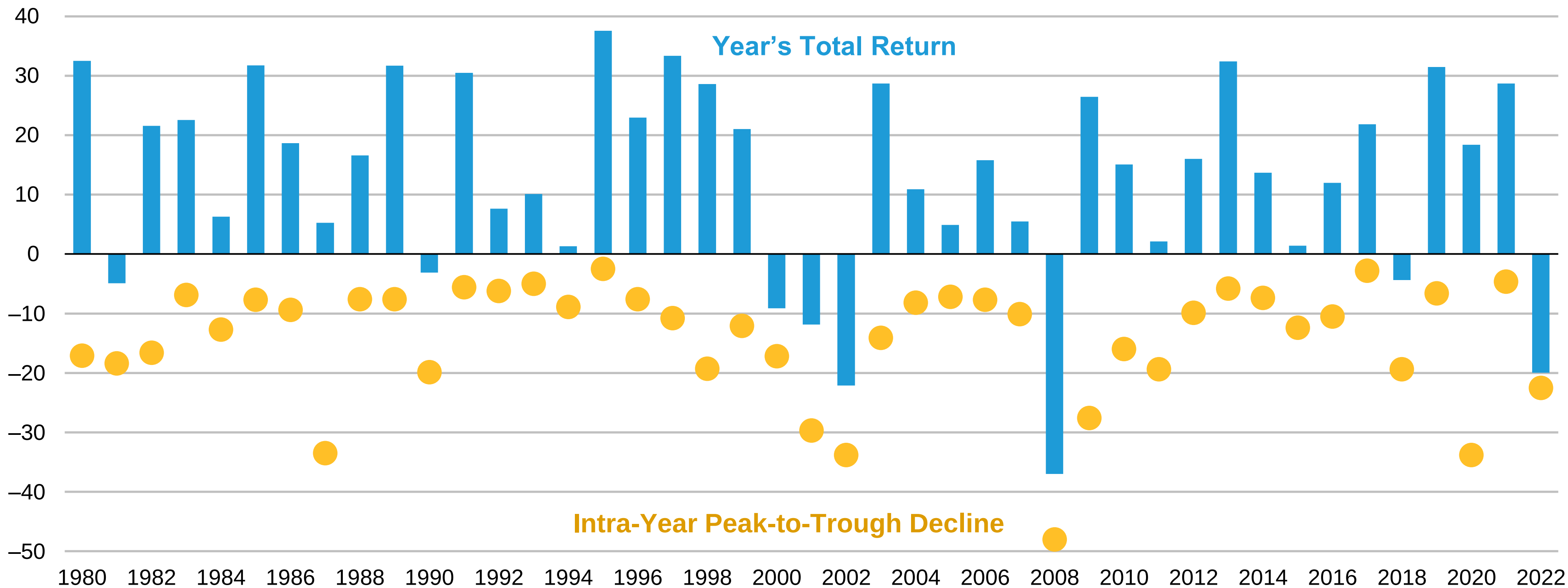
As of June 30, 2022. **Historical analysis is not necessarily indicative of future results.**

All forecasts are Wall Street estimates as of the latest available survey data on June 30, 2022. Forecasts are Q4 2023 averages, not quarter end values.

Source: Bloomberg, AB

Stocks Have Mostly Risen Despite Intra-Year Corrections

S&P 500 (%) by Calendar Year

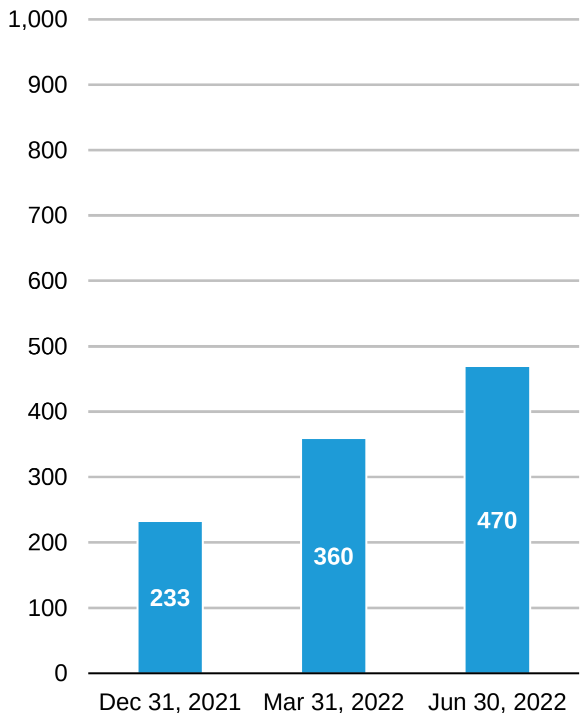


As of June 30, 2022. **Past performance does not guarantee future results.**

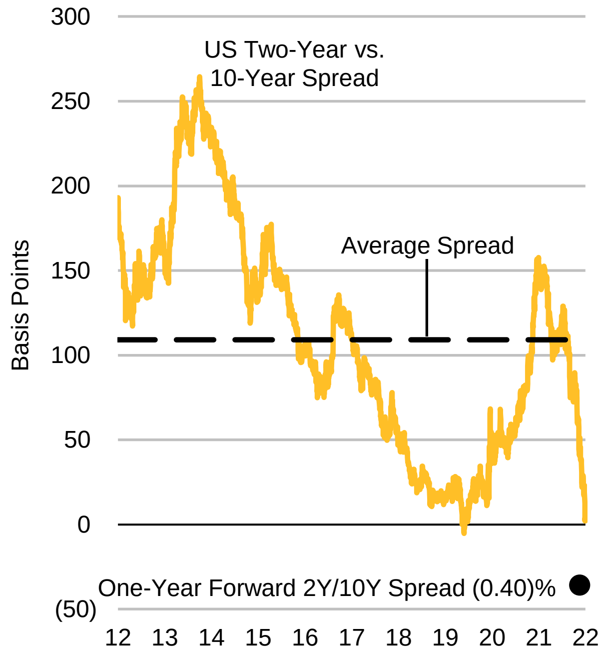
Source: Bloomberg, Morningstar, S&P 500, and AB analysis

Level of Yields and Shape of the Curve Could Presage Better Returns

Investment Grade YTW More Than Doubled Due to Rising Yields

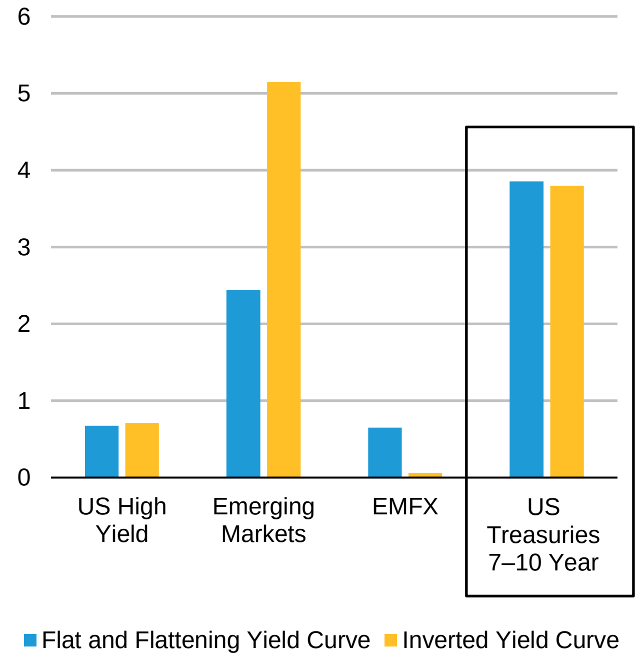


The US Yield Curve Has Flattened with Further Inversion Priced In



US Treasuries Tend to Have Solid Returns During Similar Yield-Curve Environments

Six-month forward returns during flat/inverted yield-curve periods*



Past performance does not guarantee future results.

*Flat and flattening yield curve is defined as periods when the 2s/10s slope of the US Treasury yield curve was in the bottom quartile (i.e., less than 41 b.p.) and continuing to flatten. For period from January 1990 through December 2021

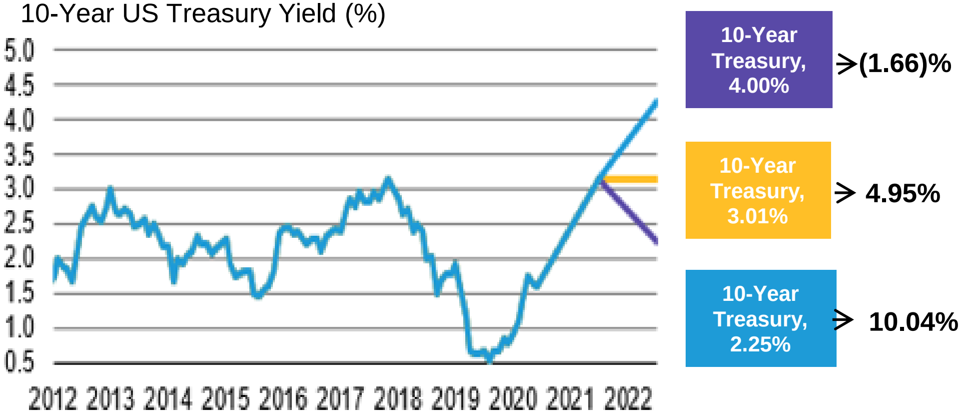
YTW is of the Bloomberg US Corporate Index and is as of June 30, 2022; Yield curve inversion as of March 31, 2022

Source: Bloomberg and AB

The Direction of Rates Will Influence the Payback Time

Potential 12-Month Intermediate Duration Taxable Bond Returns Scenario Analysis

10-Year US Treasury Yield (%)



Core Attributes

- Hold bonds to maturity in most cases
- Reinvest income at higher yields
- Broader interest-rate stability

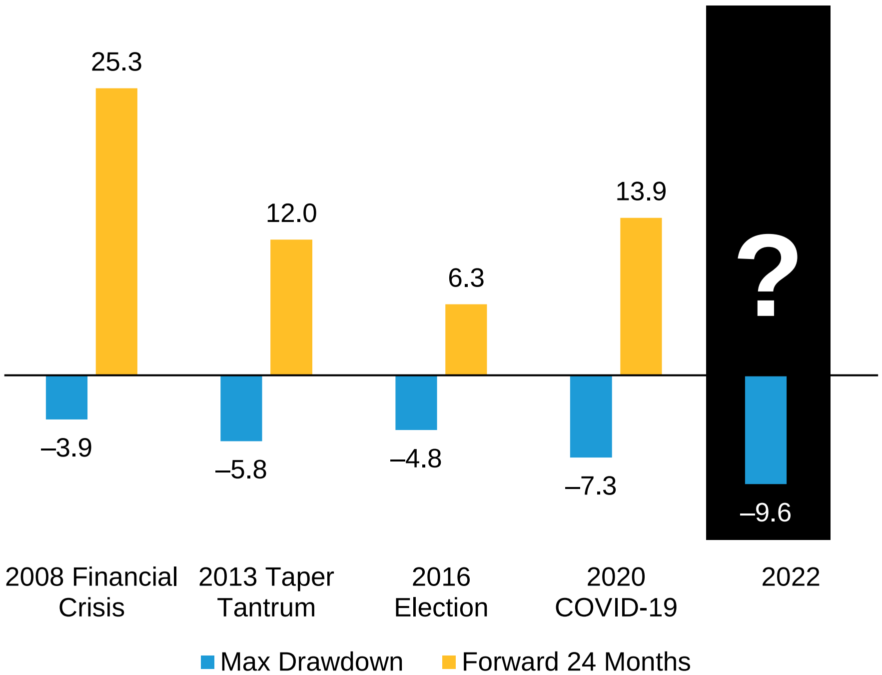
Past performance and historical analysis do not guarantee future results. There is no guarantee that any estimates or forecasts will be realized.

Display reflects expected returns of a 6.69-year-duration multi-sector, taxable portfolio comprised of equal parts US and global intermediate bonds under three scenarios: 10-year US Treasury yields rise to 4.25%, remain the same or decline to 2.25% over the next 12 months. Through June 30, 2022

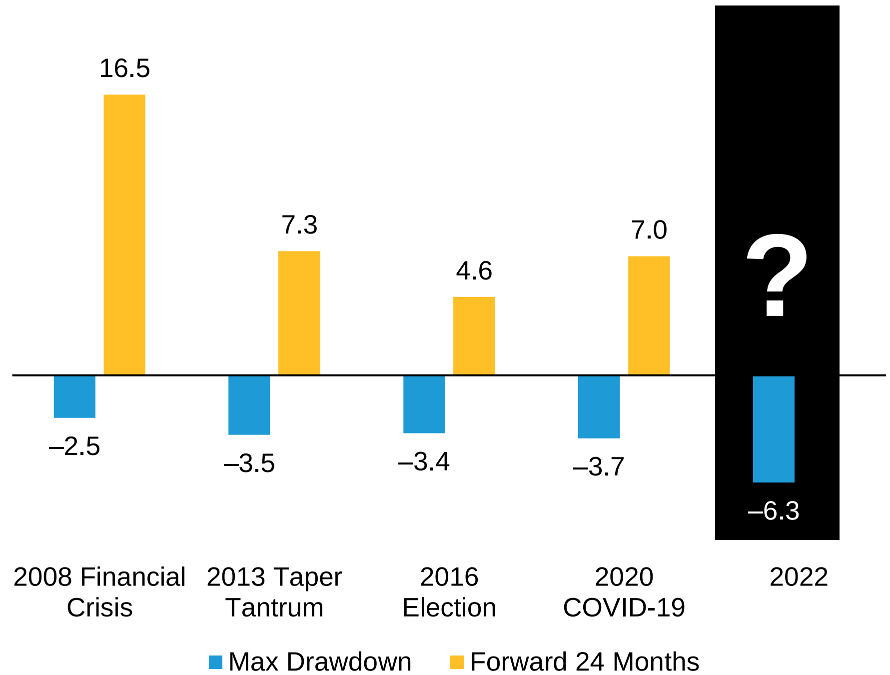
Source: Bloomberg and AB

Investors Have Historically Been Rewarded by Staying Invested

Tax Aware Portfolio Returns
Percent



Intermediate Duration Portfolio Returns
Percent



As of June 30, 2022.

Past performance does not guarantee future results. There is no guarantee that any investment objective will be achieved.

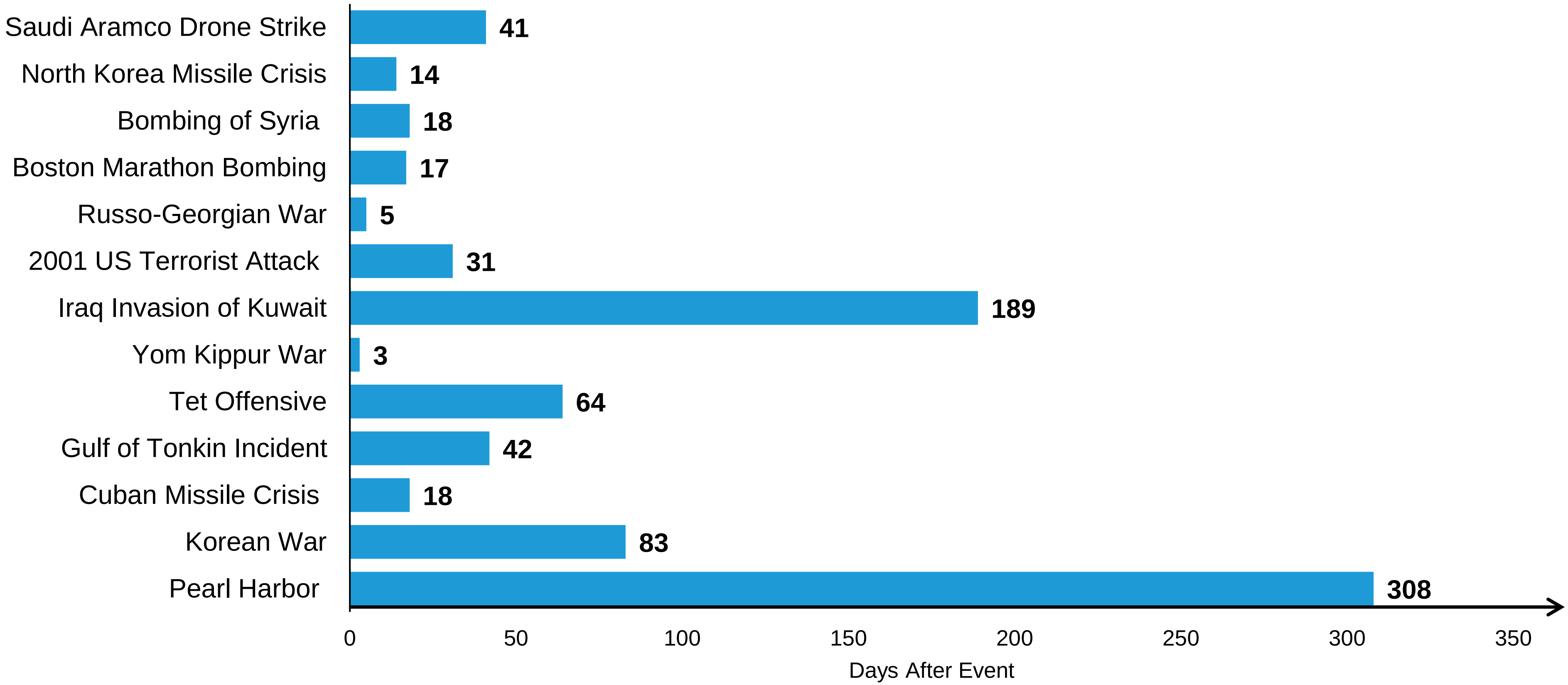
Forward return periods are calculated from drawdown end date. Periods of over one year are not annualized. 2022 returns are year to date, net of fees.

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 is performance of the separately managed Bernstein Intermediate Municipal Bond Composite, before fees. Please see performance disclosure at the end of this presentation.

Source: Morningstar and AB

The Market Tends to Recover from Geopolitical Events Quickly

Days Between Geopolitical Event and S&P 500 Recovery to Pre-Event Levels

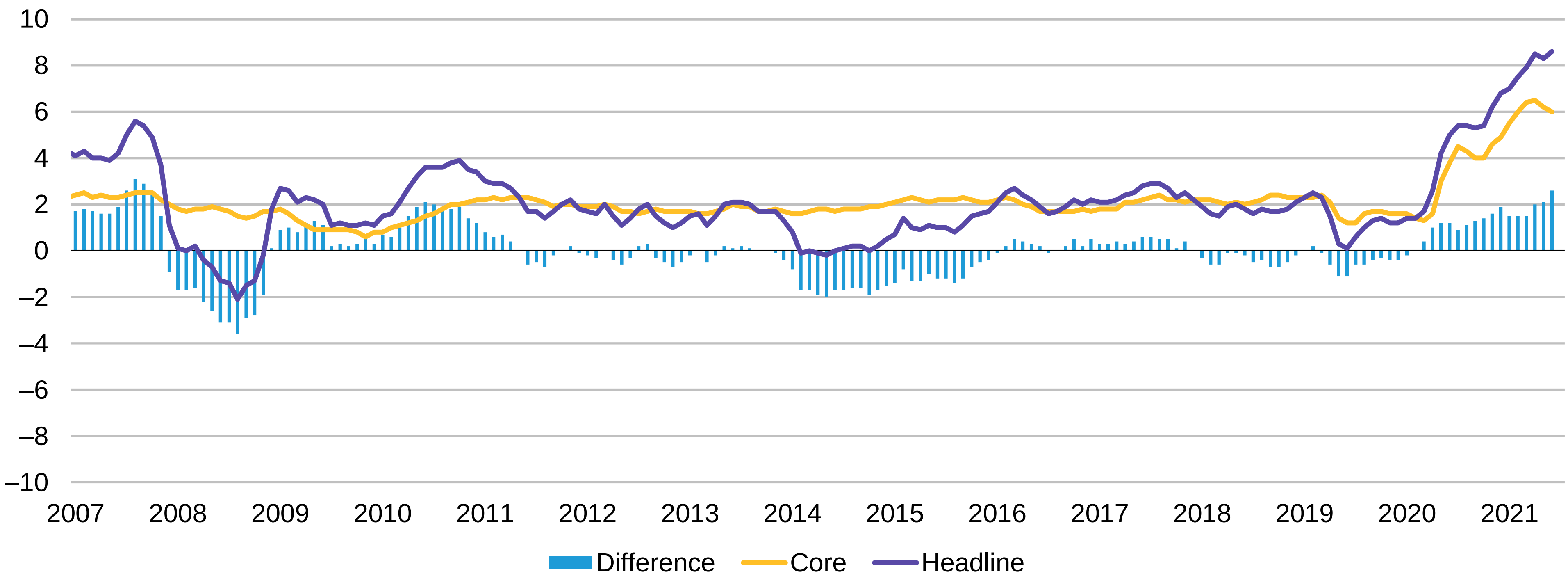


As of March 31, 2022. **Past performance does not guarantee future results.**

Source: Bloomberg, and AB

Core Inflation vs. Headline Inflation

The Gap Between the Two Is Unusually Wide



As of June 30, 2022. **Historical analysis is not necessarily indicative of future results. There is no guarantee that any estimates or forecasts will be realized**.

Source: Bloomberg, Bureau of Labor Statistics, and Bernstein analysis

10-Year Capital-Market Projections: Asset Classes

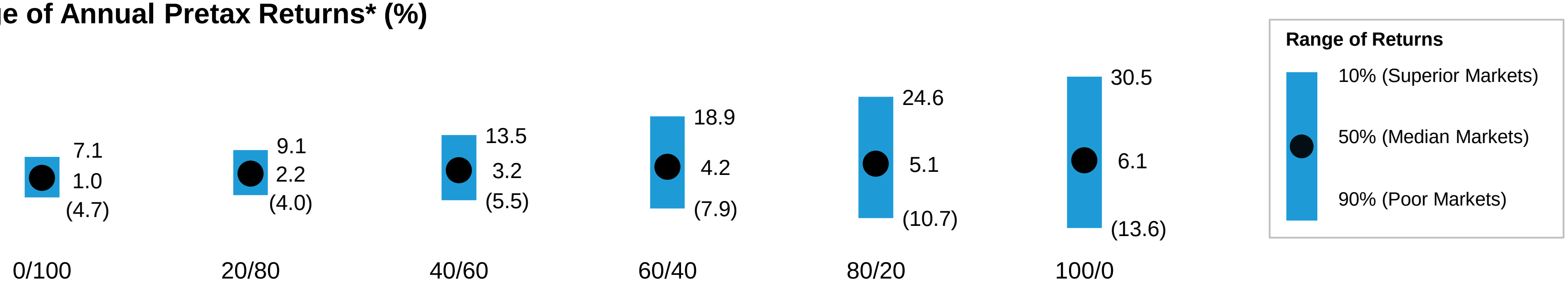
	Median 10-Year Growth Rate	Mean Annual Return	Mean Annual Income	One-Year Volatility	10-Year Annual Equivalent Volatility
Cash Equivalents	1.6%	1.8%	1.9%	0.4%	4.3%
Short-Term Treasuries	2.3%	2.5%	2.4%	0.9%	3.5%
Short-Term Taxables	2.6%	2.8%	2.9%	1.1%	3.5%
Short-Term Diversified Municipals	1.5%	1.6%	1.6%	0.7%	2.3%
Int.-Term Treasuries	1.5%	1.6%	2.8%	4.6%	3.0%
Int.-Term Taxables	1.7%	1.8%	3.4%	4.9%	3.4%
Int.-Term Corporates	1.8%	2.0%	3.9%	5.7%	4.0%
Int.-Term Diversified Municipals	1.0%	1.1%	2.0%	3.6%	2.8%
Global Int.-Term Taxables (Hedged)	1.1%	1.3%	2.2%	4.1%	3.6%
Int.-Term TIPS	1.8%	2.3%	3.7%	3.2%	7.7%
High Yield	4.0%	4.6%	6.6%	11.7%	7.9%
Global Large-Cap (Unhedged)	6.1%	7.3%	2.1%	15.7%	14.9%
US Diversified	4.9%	6.4%	1.7%	16.5%	15.6%
US Value	5.4%	6.8%	1.9%	16.2%	15.4%
US Growth	4.4%	6.2%	1.5%	18.3%	17.0%
US Mid-Cap	5.4%	7.1%	1.4%	17.9%	17.2%
US Small-/Mid-Cap	5.5%	7.4%	1.3%	18.7%	18.0%
US Small-Cap	5.6%	7.9%	1.2%	20.4%	19.8%
Developed International	7.2%	9.1%	2.9%	18.1%	17.0%
Emerging Markets	6.1%	9.0%	3.3%	22.6%	19.9%
Global REITs	5.9%	7.5%	3.2%	17.1%	16.1%
Real Assets	6.5%	7.6%	2.5%	13.3%	14.4%
Diversified Hedge Fund	4.6%	4.9%	1.8%	11.0%	15.2%
Inflation	3.0%	3.4%	n/a	1.5%	6.8%

Based on 10,000 simulated trials each consisting of ten-year periods. Reflects AB’s estimates and the capital-market conditions of December 31, 2021. For hedge fund asset classes, “Mean Annual Income” represents income and short-term capital gains.

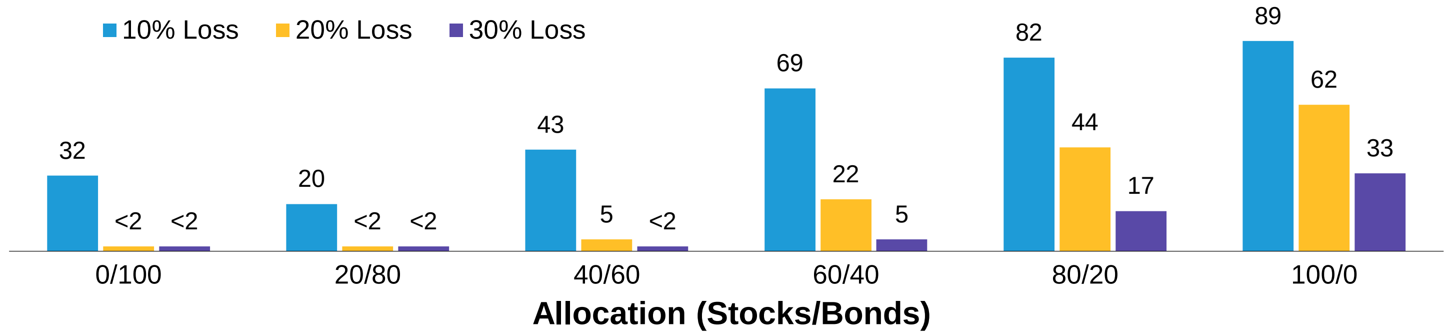
Data do not represent past performance and are not a promise or a range of future results.

Projected Returns and Volatility—over 10 Years (Taxable)

Range of Annual Pretax Returns* (%)



Probability of Peak-to-Trough Losses† (%)



Data do not represent past performance and are not a promise of actual or range of future results. See Assumptions and Notes on Bernstein Wealth Forecasting System in Appendix for further details. Globally diversified stocks are represented by the following allocation for a 100% return-seeking allocation: 17.3% US value, 17.3% US growth, 12.8% US diversified, 6.4% US small-/mid-cap, 19.1% developed foreign markets, 7.3% emerging markets, 10.2% US Low Vol Equity, 9.6% high-risk international. Equity geography weights may shift in proportion to total return-seeking allocation. Bonds are represented by diversified intermediate-term municipal bonds in the proportions noted. Additional details regarding allocation available upon request.

*Based on Bernstein's estimates of the range of returns for the applicable capital markets over the next 10 years as of December 31, 2021. First-year volatility of the portfolios: 0/100 = 3.6%, 20/80 = 4.5%, 40/60 = 7.1%, 60/40 = 10.0%, 80/20 = 13.0%, 100/0 = 15.9%. The annual equivalent volatility of the portfolios over the entire 10-year analysis: 0/100 = 2.8%, 20/80 = 3.8%, 40/60 = 6.3%, 60/40 = 9.1%, 80/20 = 11.9%, 100/0 = 14.8%. Annual equivalent volatility differs from the first-year volatility because the expectation and distribution of asset-class returns change over time.

†Data indicate the probability of a peak-to-trough decline in pretax, pre-cash-flow cumulative returns of 10%, 20%, or 30% over the next 10 years. Because the Wealth Forecasting System uses annual capital-market returns, the probability of peak-to-trough losses measured on a more frequent basis (such as daily or monthly) may be understated. The probabilities depicted above include an upward adjustment intended to account for the incidence of peak-to-trough losses that do not last an exact number of years.

Estimated Spending Rate and Core Capital Amounts: Based on Age

Sustainable Spending Rate*

Allocation	0/100	20/80	40/60	60/40	80/20	100/0
Age 55	1.2%	1.7%	2.0%	2.3%	2.3%	2.3%
Age 65	1.8	2.3	2.6	2.9	2.9	2.9
Age 75	2.7	3.2	3.4	3.7	3.8	3.8

Estimated Core Capital—Spending $100,000

USD Millions

Allocation	0/100	20/80	40/60	60/40	80/20	100/0
Age 55	$8.3	$6.0	$4.9	$4.4	$4.3	$4.4
Age 65	5.5	4.4	3.9	3.5	3.5	3.5
Age 75	3.7	3.1	2.9	2.7	2.6	2.6

*These spending rates are for couples and assume an allocation of globally diversified stocks. Asset allocations assume globally diversified stocks. Globally diversified stocks are represented by the following allocation for a 100% return-seeking allocation: 17.3% U.S. value, 17.3% U.S. growth, 12.8% U.S. diversified, 6.4% U.S. small-mid cap, 19.1% developed foreign markets, 7.3% emerging markets, 10.2% US Low Vol Equity, 9.6% high-risk international. Equity geography weights may shift in proportion to total return-seeking allocation. Bonds are represented by diversified intermediate-term municipal bonds in the proportions noted. Additional detail regarding allocation available upon request.

Spending is a percentage of initial value of portfolio and is grown with inflation; spending rates assume maintaining spending with a 90% level of confidence. Based on Bernstein estimates of the range of returns for the applicable capital markets over the periods analyzed as of June 30, 2022. Data do not represent past performance and are not a promise of actual future results. See Notes on Wealth Forecasting at the end of this presentation for further details. All information on longevity and mortality-adjusted investment analyses in this study are based on mortality tables compiled in 2000. To reflect that high net worth individuals live longer than average, we subtract three years from each individual's age (e.g. a 55 year-old would be modeled as a 52 year-old), In our mortality adjusted analyses, the lifespan of an individual varies in each of our 10,000 trials in accordance with mortality tables.

Source: Society of Actuaries RP-2000 mortality tables and AllianceBernstein

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 indices 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 indices.

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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