BERNSTEIN

Waiting For Godot

3Q 2022

Macro & Markets Perspective

Unlike Godot, Peak Inflation Will Arrive…but When…and at What Cost?

Uncertainty Around Inflation's Peak Keeps Markets On Edge

Inflation's stubbornness has obligated the Fed to remain hawkish. Markets will remain on edge until clear and definitive signs of a peak appear, allowing the Fed to pause.

Our base case continues to assume growth approaching 0%, a substantial enough slowdown that a recession designation would be justified.

If we're right, *and it doesn't get worse than 0%*, the September 30 levels (down ~25%) accurately reflect the slowdown.

And yet, if inflation still hasn't peaked well into 2023, our base case will prove too optimistic (a 35% likelihood), and new market lows should occur.

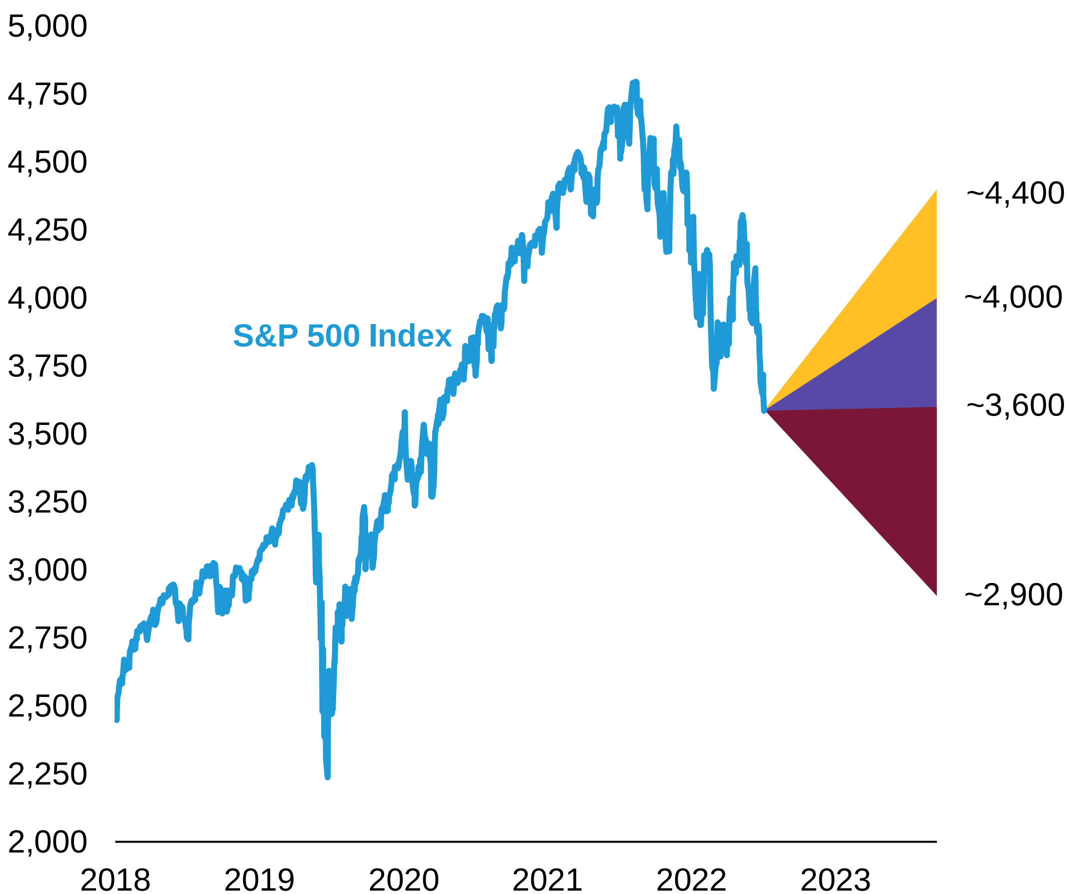
AB Economic Team Forecasts*

	2022	2023
US GDP	1.6%	0.3%
Global GDP	2.6%	1.7%
10Y Treasury Rate	4.0%	4.0%
Fed Funds	4.00%–4.25%	4.25%–4.5%
US Inflation	5.5%	3.5%
EUR/USD	0.95	1.0

As of September 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, FactSet, and AB

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: 15%**

Base: Mild Recession

Economic growth slows toward 0%—a substantial enough slowdown that a recession designation would be justified. Earnings expectations are revised lower and PEs derate given the landscape.
Likelihood: 50%

65% (from 75%) probability that the market sell-off already reflects the outlook.

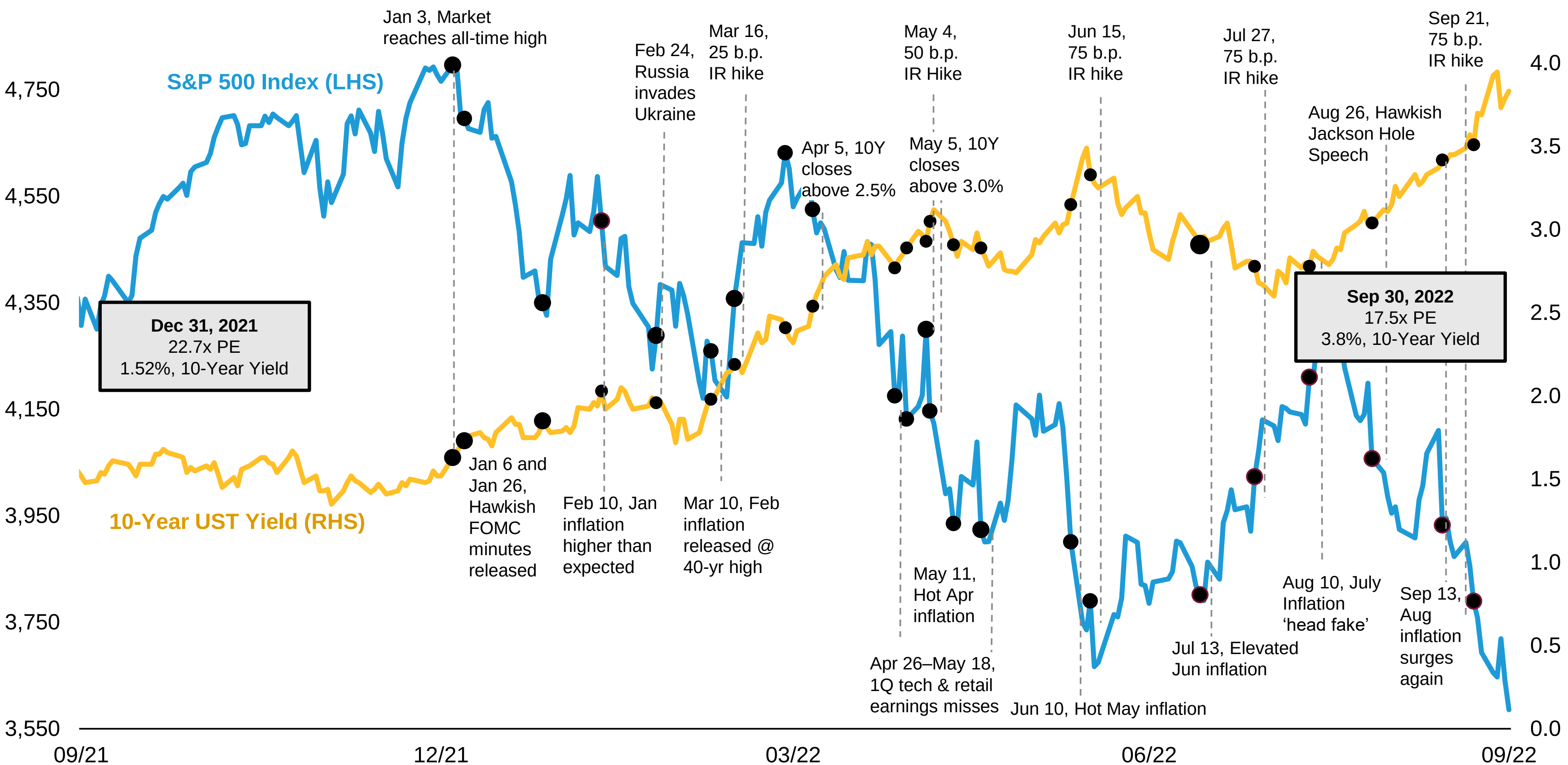
Bear: Moderate Recession

The Fed's inflation fight causes a more severe economic contraction. Earnings decline double-digits, in line with previous recessions. PEs contract.
Likelihood: 35%

35% (from 25%) probability that further downside is warranted, given a weaker future landscape.

As of September 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

The Market Is Pricing 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 ~25% and the 10Y Treasury yield to 4%

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

Source: Bloomberg, S&P 500, and Bernstein analysis

Our Known Unknowns, Revisited

6 Months Ago		Today (Worse vs. Better)	
Known	**Unknown**	**(*Now*) Known**	**(*Still*) Unknown**
Inflation	Inflation's Peak (Level and Timing)		Inflation's Peak (Level and Timing)
Fed Tightening Cycle	Pace and Terminal Level of Tightening		Pace, Terminal Rate, and Length of Restrictive Policy
Economic Growth	Slowdown or Recession		Slowdown or Recession
Russia / Ukraine War	Global Economic Impact		European Impact thru Gas Channel
Sanctions on Russia	Impact and Scope of Sanctions	Fully Implemented	
Energy and Commodity Prices	Magnitude and Duration of Price Elevation	Prices Have Declined in US	Europe Facing Energy Crisis
Supply-Chain Disruptions	Impact from War and Commodity Prices	Significant Easing of Disruptions	

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

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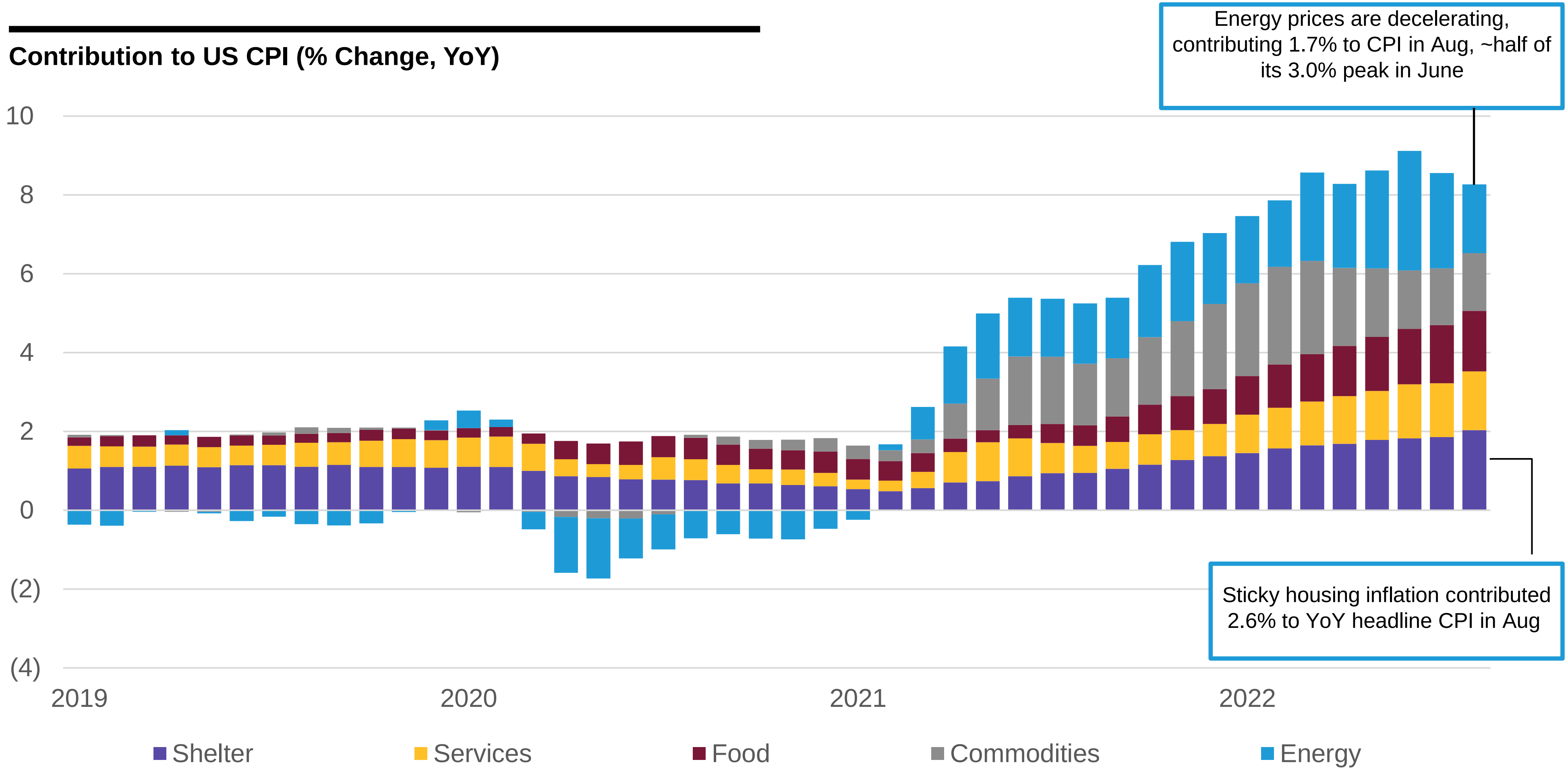
Inflation: Nothing Else Matters (for Now)

Inflation Still Uncomfortably High

Energy Slowing While Services and Housing Accelerating

Contribution to US CPI (% Change, YoY)

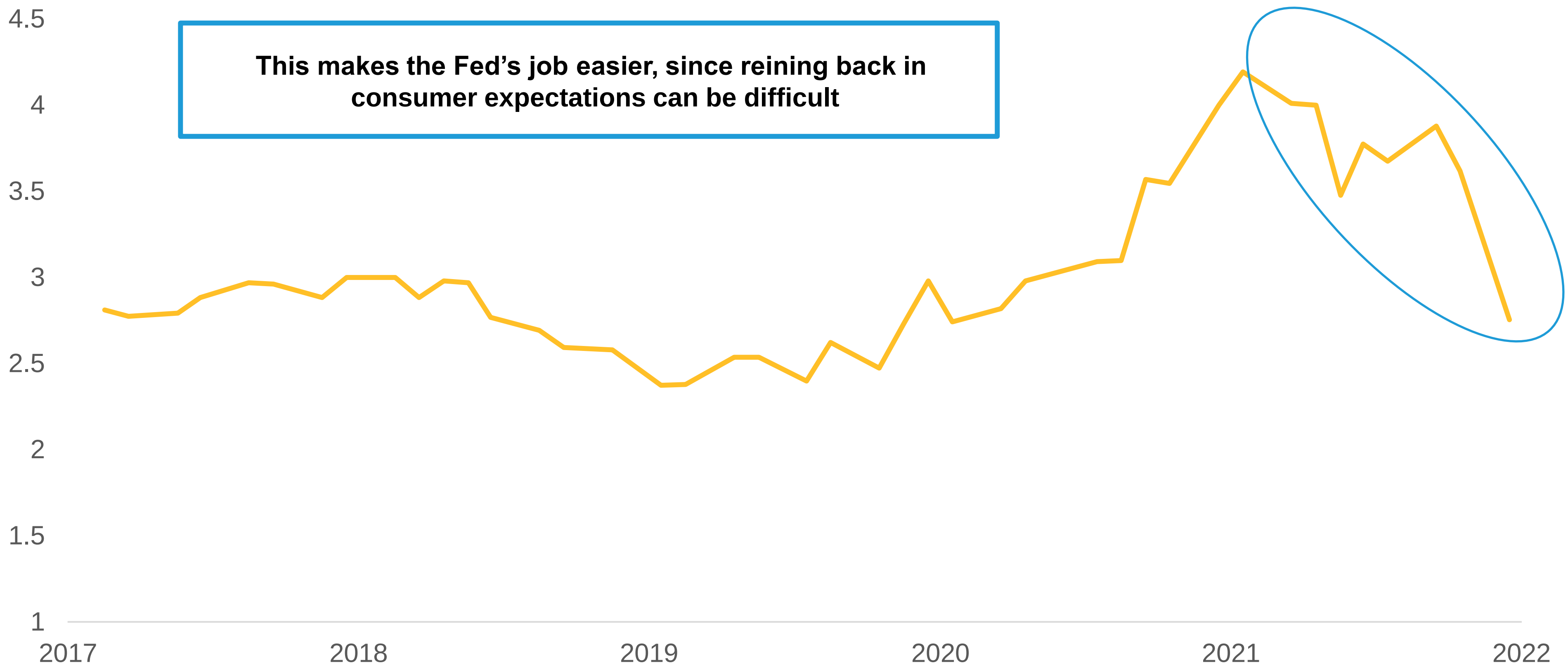


As of September 30, 2022. **Historical analysis is not necessarily indicative of future results. There is no guarantee that any estimates or forecasts will be realized.**
Source: Bloomberg and AB

Consumers Expect Price Increases to Revert to Normal

Expectations Have Re-Anchored, as Gasoline Prices Fell and Fed Communicated Commitment

Median Three-Year Ahead Expected Inflation (%)

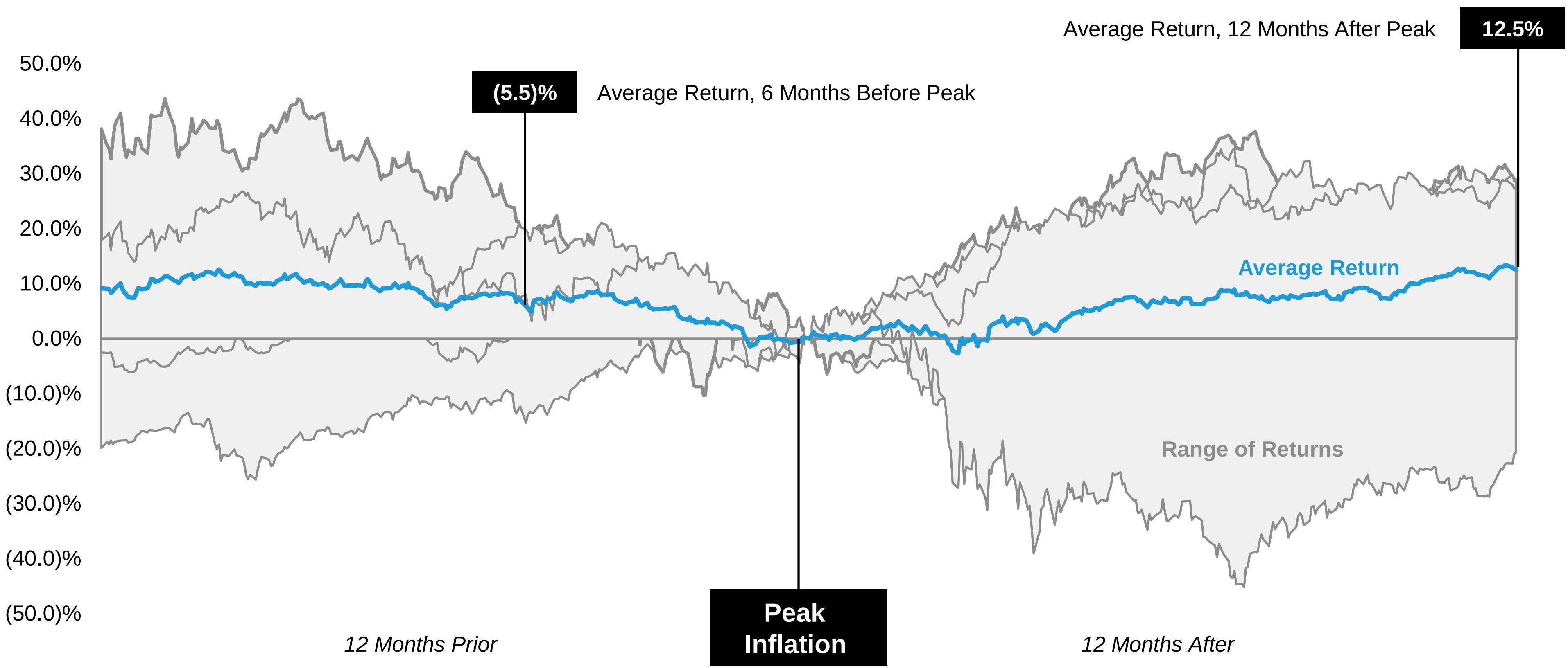


As of September 30, 2022. **Historical analysis is not necessarily indicative of future results. There is no guarantee that any estimates or forecasts will be realized**.

Source: Federal Reserve of New York and Bernstein analysis

Why We Wait For Godot—Equities Rally Once Inflation Peaks

S&P 500 Returns Indexed to Peak Inflation Since 1950



As of September 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, S&P 500, and Bernstein analysis

How Aggressive Will the Fed Be?

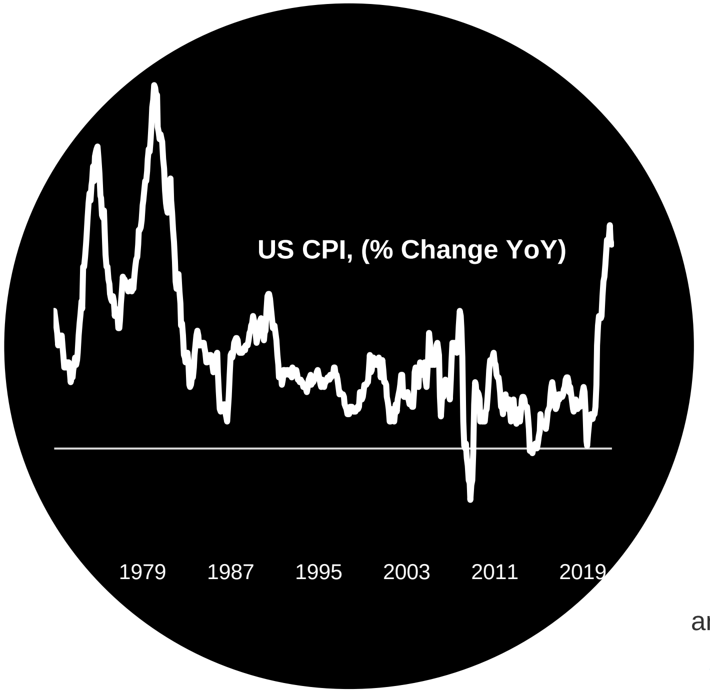
The Fed Has Stayed On Message

"We understand that **our actions affect communities, families, and businesses** across the country."
—Jerome Powell (Sep 21, 2022)

"We are in this for **as long as it takes** to get inflation down."
—Lael Brainard (Sep 7, 2022)

"Reducing inflation is likely to require **a sustained period of below-trend growth.**"
—Jerome Powell (Sep 21, 2022)

"In any case, **we must fulfill our commitment to lowering inflation**, and I will remain steadfastly focused on this task."
—Michelle Bowman (Aug 6, 2022)



"This is a fight we cannot, and will not, walk away from.
—Christopher Waller (Sept 9, 2022)

"No matter what, I am ready and willing to do what it takes to bring inflation down."
—Christopher Waller (Sep 9, 2022)

"Until I see a meaningful and persistent moderation of the rise in core prices, I will support taking **significant further steps to tighten monetary policy."**
—Christopher Waller (Sep 9, 2022)

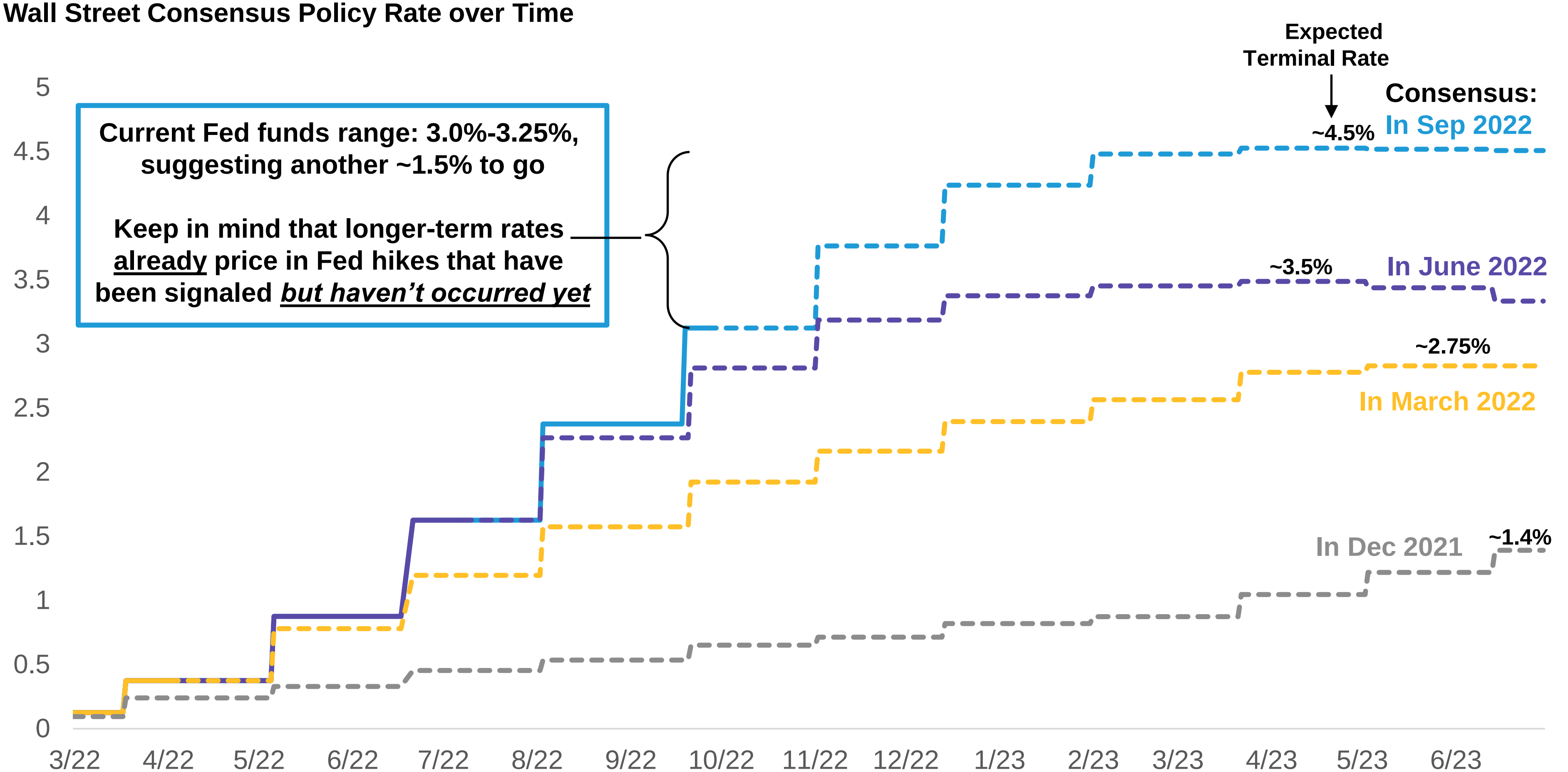
We are taking **forceful and rapid steps**…to keep inflation expectations anchored. **We will keep at it until we are confident the job is done."**
—Jerome Powell (Aug 26, 2022)

"Our responsibility to deliver price stability is ***unconditional*.**"
—Jerome Powell (Aug 26, 2022)

Historical analysis and current forecasts do not guarantee future results.
Source: Bloomberg, US Federal Reserve, and AB

Up We Go: Market Now Expecting a Terminal Rate >4%

Wall Street Consensus Policy Rate over Time

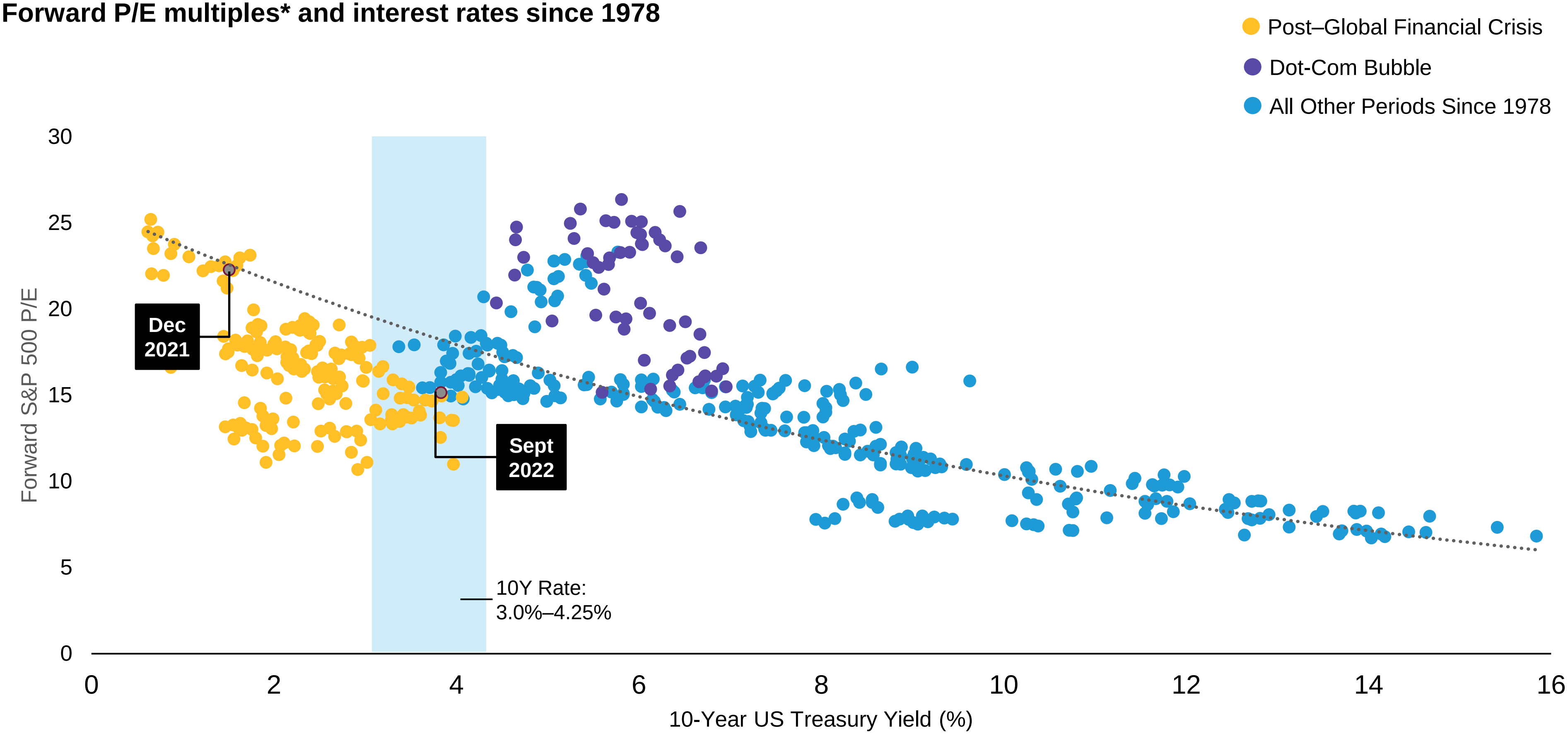


As of September 30, 2022. **Historical analysis is not necessarily indicative of future results. There is no guarantee that any estimates or forecasts will be realized.**

Forecasts are the expected path of policy rate changes for specific FOMC meetings. March–June 2023 for the March 22 and December 21 series are based on the Market Implied Policy Rate (OIS Curves, for fixed time horizons), given March 2023, May 2023, and June 2023 meeting dates were not available at the forecast time.

Stock Valuations Have Derated as Rates Rose

Forward P/E multiples* and interest rates since 1978



Historical analysis is not necessarily indicative of future results. There is no guarantee that any estimates or forecasts will be realized.
*Forward P/E multiples represent earnings estimates for the next 12 months.
Dot-com bubble 12/31/96–9/30/2000. Post-Global Financial Crisis 12/31/2007–present.
Chart trend line is for 1978–2007.
Source: Bloomberg, S&P, and AB

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How Have Previous Recessions Played Out?

Anatomy of A Fed-Induced Recession

Inflation Is High

To Rein in Inflation, Fed Forced to Be Aggressive

But Policy Is an Imprecise Tool, Working with Long and Variable Lag

Eventually, the Economy, and thus Inflation Will Slow

Fed Achieves Inflation Target

Yet, Policy May Overshoot

Causing a Recession

Policy-Induced Recession

We believe the Fed will achieve its goal to **rein in inflation.** The question, though, is, **at what cost?**

The magnitude of any **contraction** will depend on the magnitude of the **necessary tightening, or overtightening.**

On average, since 1970, during recessions:

- Unemployment increased by 4.2% (range: 11.2%–1.8%)
- GDP contracted by 2.8% (range: 8.9%–0.2% *growth*)
- Earnings declined by 27.5% (range: 49.8%–18.5%)
- Markets fell by 34% (range: 55%–17%)

Given the strength of the economy coming into 2022, we believe a 2023 recession would be mild (our base case) or modest (our bear case)

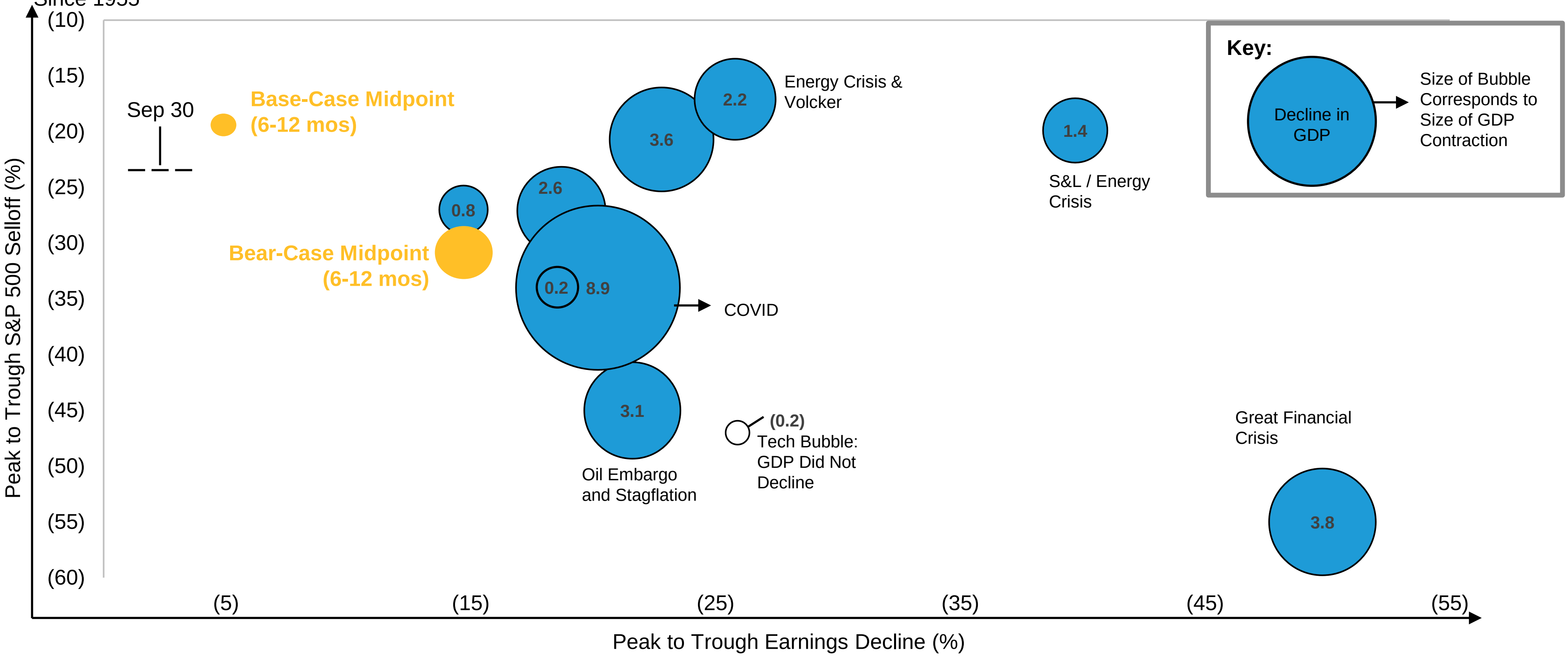
As of September 30, 2022. **Historical analysis is not necessarily indicative of future results. There is no guarantee that any estimates or forecasts will be realized.** Change in GDP calculated as % change from quarter prior to NBER recession being declared to the minimum GDP published during the respective recession. The tech bubble recession notably did not have a decline in GDP and was declared based on the labor market. 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. Change in unemployment is from the month prior to NBER declared recession to peak unemployment during or following the recession's end.

Source: Bloomberg, NBER, 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

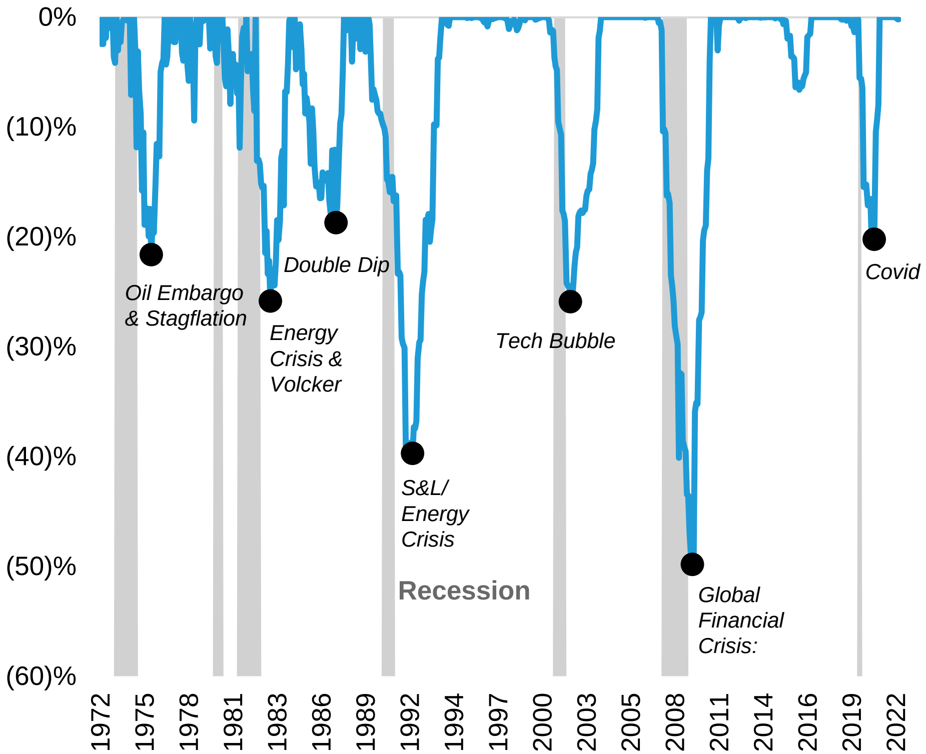


As of September 30, 2022. **Historical analysis is not necessarily indicative of future results. There is no guarantee that any estimates or forecasts will be realized.** Change in GDP calculated as % change from quarter prior to NBER recession being declared to the minimum GDP published during the respective 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 follow starting dates (the quarter prior to NBER declared recession): (3.6)% Q3 1957, (0.8)% Q2 1960, (0.2)% Q4 1969, (3.1)% Q4 1973, (2.2)% Q1 1980, (2.6)% Q3 1981, (1.4)% Q3 1990, 0.2% Q1 2001, (3.8)% Q4 2007, (8.9)% Q1 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, NBER, 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:
11.2M vs. 5.1M Median

Consumer Leverage:
14.3% vs. 16.9% Median

Corporate Leverage:
1.0x vs. 3.8x Median

The Case for a Moderate Recession / Earnings Decline

Magnitude of Fed Hikes:
4.5*% 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 September 30, 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)

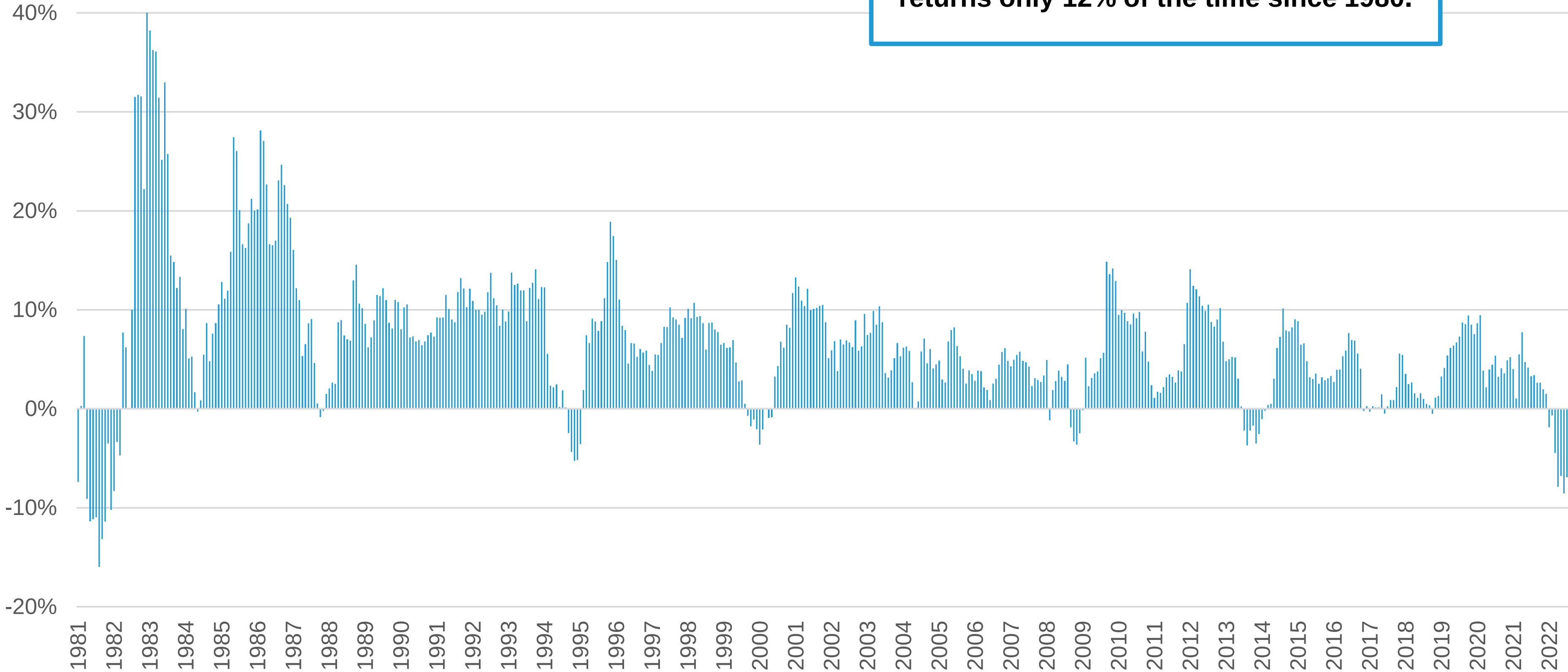
Source: Bloomberg, Bureau of Labor Statistics, NBER, US Federal Reserve, and Bernstein analysis

How Anomalous is the 2022 Bond Market?

Municipal Bonds Rarely Experience Negative Returns

Rolling 12 Month Municipal Bond Returns

Munis have experienced negative 12-month returns only 12% of the time since 1980.



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

Municipal bond Investors represented by Bloomberg Muni Bond Index.

Source: Bloomberg, AB

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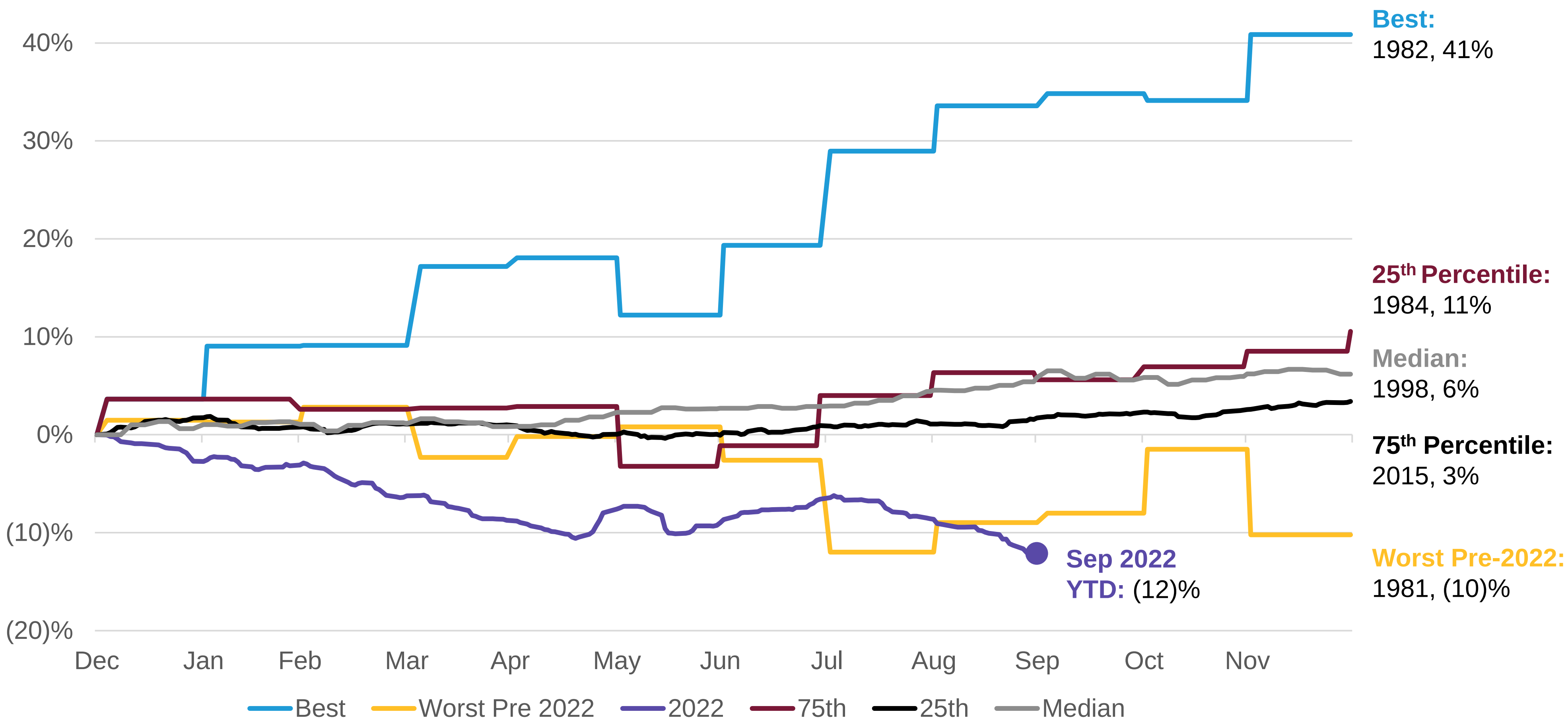
2022 Muni Returns: Worst In Four Decades

Percentile Ranking of 12-Mo. Municipal Bond Returns



As of September 30, 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, AB

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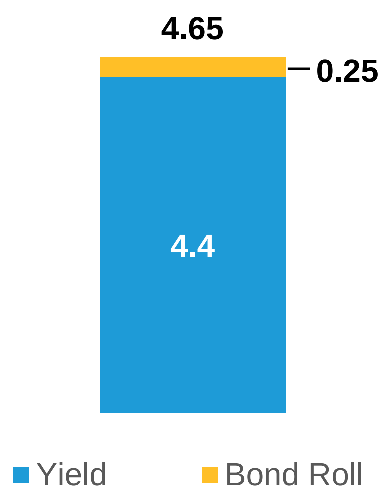
Decomposing Potential Muni Bond Returns For Next 12 Months

Yield + Roll + Spread Compression

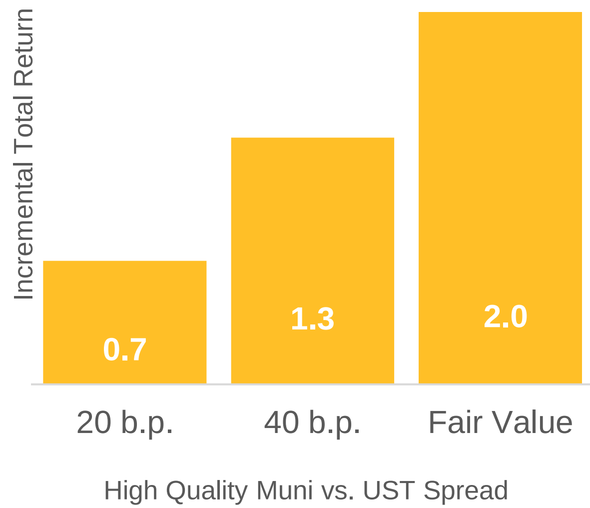
12 Month Return in Current Conditions

Yield + roll for a 6yr duration portfolio with avg A+ credit equals 4.65%.



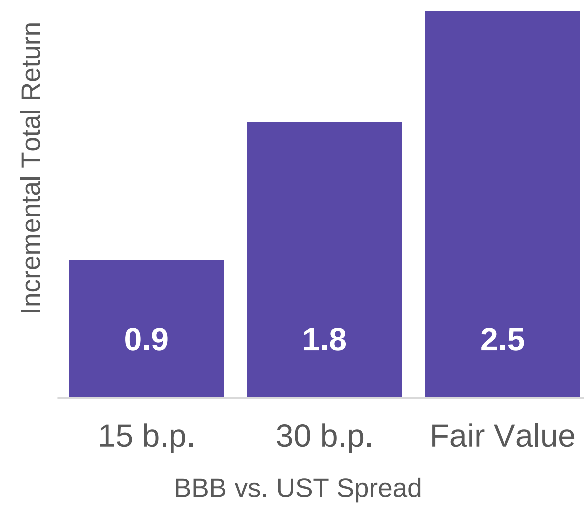
High Grade Spreads

If after tax spreads narrow to fair value, the portfolio could see an incremental 2.0% return.



Credit Spreads

If BBB credit spreads narrow to fair value, the portfolio could see an incremental return of 2.5%.



Potential 12 Mo Total Return:	4.65%	+	2.0% *If high grade spreads narrow to fair value*	+	2.5% *If credit spreads narrow to fair value*	**= 9.15%**

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Based on a Six-Year Duration Municipal Portfolio

Source: Bloomberg, Municipal Market Data, Morningstar and AB

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Is Now the Time to Take Action?

Our Priorities for Clients for the Balance of the Year

Financial planning in a window of opportunity

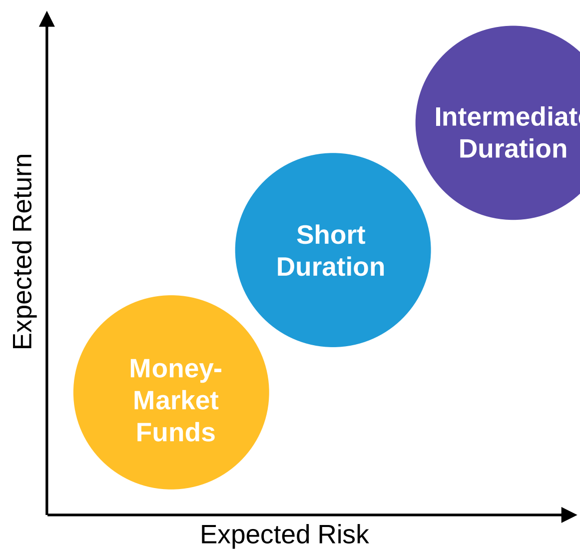
Today's environment is an optimal environment for long-term financial planning.

Consider...

- ✓ Converting IRAs to Roth IRAs
- ✓ Using tax-loss-harvesting strategies for future tax-efficiency
- ✓ Using temporarily depreciated assets tactically:
  - Fund GRAT strategies
  - Lifetime gifts
- ✓ Review unmanaged assets for opportunities to tax-loss harvest
- ✓ Reevaluate existing GRAT strategies

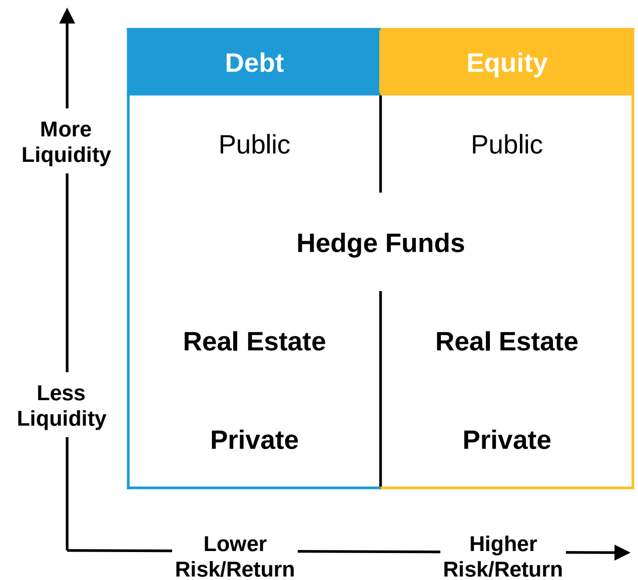
Right-sizing your cash allocation

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 September 30, 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

What is The Best Way to Invest into a Market Sell-Off?

We examined how different types of investors would have fared throughout history…who wins?

The Investors

Bold Investors:
Immediately invests when the market hits their threshold (see thresholds below).

Opportunistic Investors:
Wait to invest for 3 months after their threshold is hit.

Timid Investor:
Wait to invest for 1 year after their threshold is hit.

The Results

- The “Bold” or “Opportunistic” Investors always outperform the “Timid” Investor
- Modest sell-offs (i.e., 10%–20%) tend to (very slightly) favor being “Bold” vs. “Opportunistic”
- Deeper sell-offs (i.e., 30%) tend to reward being “Opportunistic” rather than “Bold”

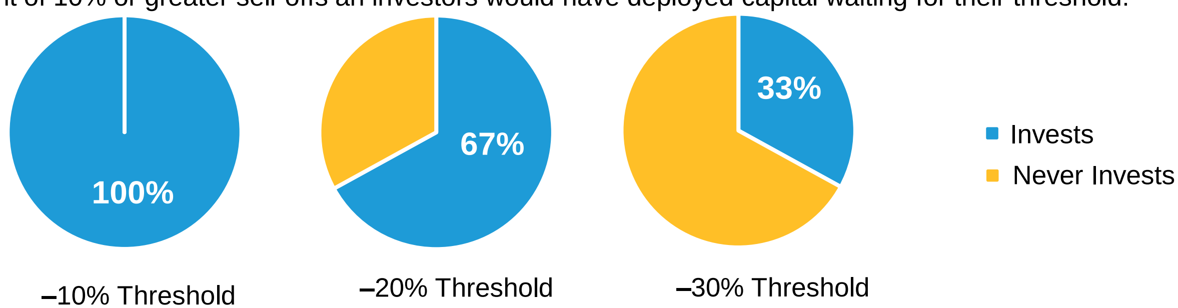
Key Conclusion: Waiting too long to allocate capital has historically resulted in worse returns than investing amid uncertainty.

The Thresholds (from market high)

–10% –20% –30%

What percent of time does Investor get invested, per threshold?

Percent of 10% or greater sell-offs an investors would have deployed capital waiting for their threshold:



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

Source: Bloomberg, AB

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Market Sell Offs – Last 60 Years

Peak Month	Trough Month	Peak-to-Trough Months	Peak-to-Trough Fall	12 Month Return Following Trough	Cumulative Returns 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	N/A	N/A	(24)*	N/A	N/A	N/A	N/A
Average Excluding 2022		13	(35)%	50%	76%	137%	280%

As of September 30, 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 Selloffs where data has 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

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Our Top Tactical Ideas Right Now

Deploying Excess Cash Initiating Investment Plan

Willing to take:
Moderate Risk:

Combo of Defined Outcome ETFs and High-Income
Upside equity participation, risk mitigation, and income while you wait

Small and Microcap Financials
Microcap banks are poised to benefit from looser anticipated bank regulations, higher interest rates, and accelerating bank M&A

Willing to take:
Full Market Risk:

High-Quality and/or Disruptive Growth
Growth stocks have been punished, but high-quality and disruptive businesses should continue to win

Direct Indexing with Tax-Loss Harvesting
Win / Win: Participation in up markets and loss harvesting in all markets

The **Bernstein Investment Strategy Group** has identified four ideas that warrant consideration for those looking to take advantage of the 2022 drawdown.

Our ideas take into consideration our perspective for what is most likely in the economy and markets, alongside the range of possible outcomes.

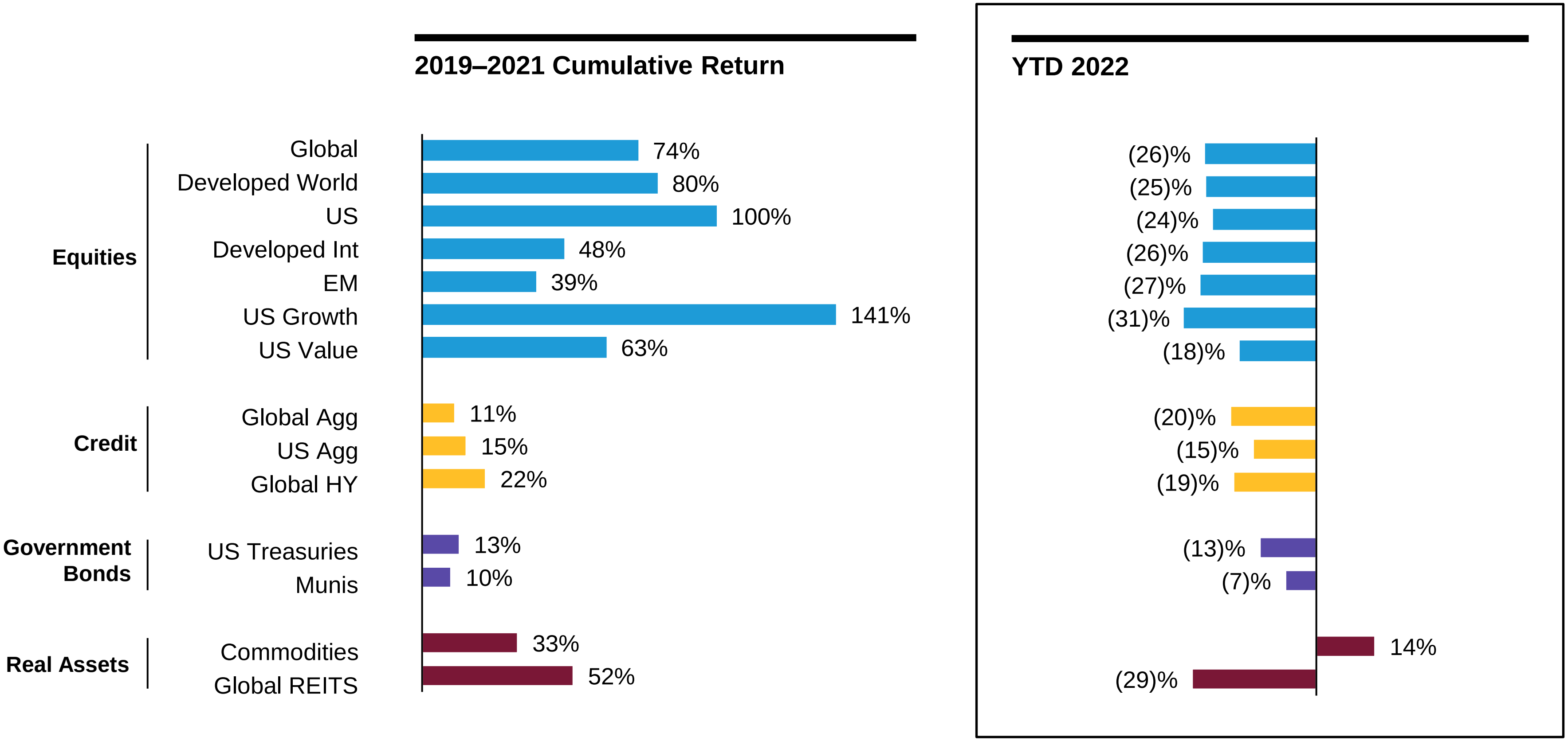
As of September 30, 2022. Informational purposes only and should not be considered as investment advice or a recommendation of any particular security, strategy or investment product. Bernstein does not provide tax, legal, or accounting advice. In considering this material, you should discuss your individual 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 September 30, 2022. **Historical analysis is not necessarily indicative of future results.** 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, Russell 1000 Growth Index, S&P 500, and AB

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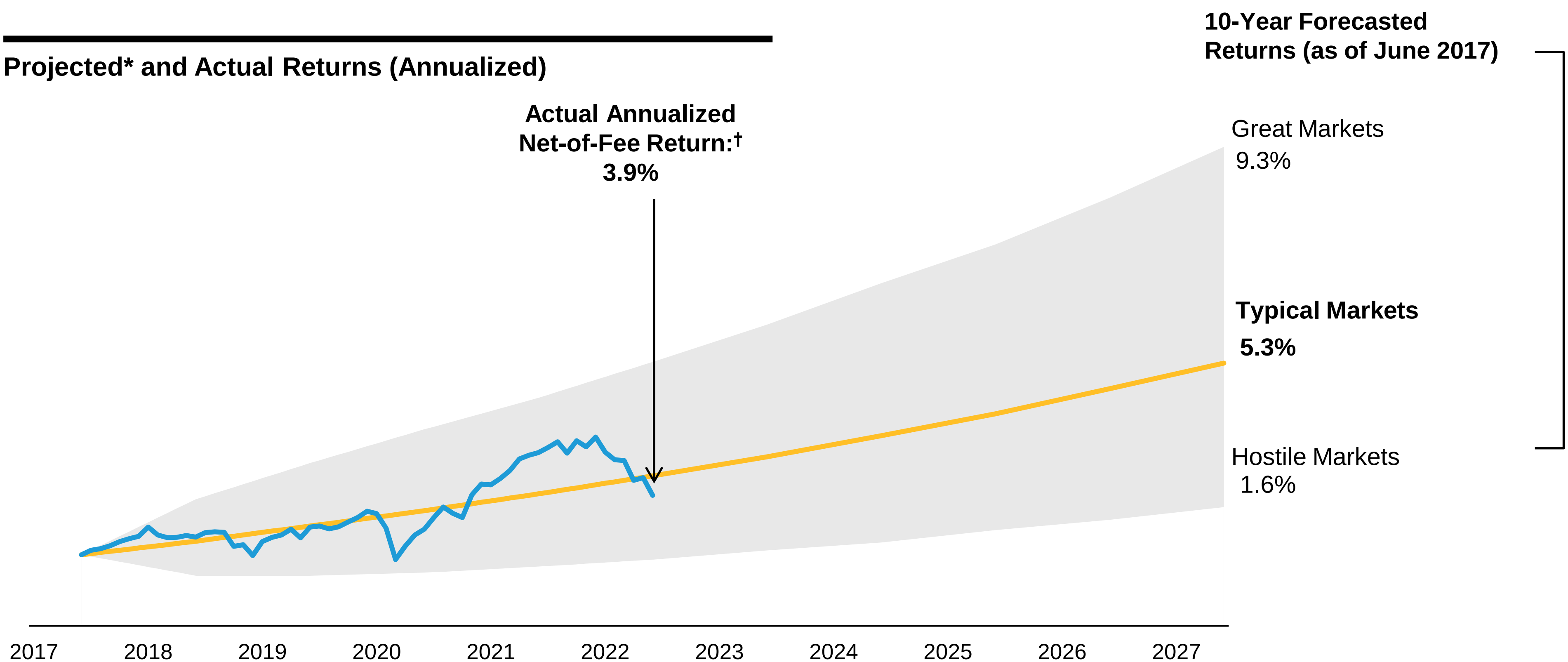
Despite Sell-Offs, Long-Term Investors Remain Well Within Plan

Projected* and Actual Returns (Annualized)



Through June 30, 2022. **Past performance does not guarantee future results. There is no guarantee that any estimates or forecasts will be realized.**

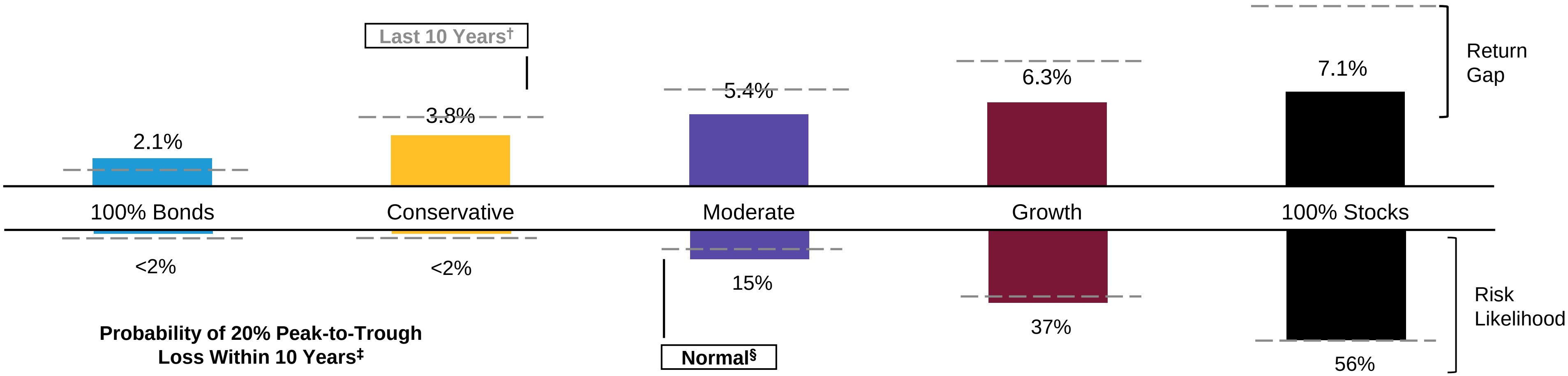
*Great markets represents 10th percentile, typical markets represents 50th percentile, and hostile markets represents 90th percentile. Based on Bernstein's estimates of the range of returns for the applicable capital markets as of June 30, 2017, for a 60/40 stock/bond allocation. Stocks modeled as 21% 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

Returns Expected to Be Modest, Drawdowns in Line with Normal

Projected median 10-year annualized return*



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*Based on Bernstein's estimates of the range of returns for the applicable capital markets over the next 10 years as of June 30, 2022.

Projected pretax 10-year compound annual growth rate. Conservative is 30% stocks/70% bonds; moderate is 60% stocks/40% bonds; growth is 80% stocks/20% bonds. Stocks modeled as MSCI World Index. Bonds modeled as intermediate-term diversified municipals. Additional details regarding allocation available upon request.

†Reflects compound growth rates from July 1, 2012, through June 30, 2022. Stocks represented by 100% MSCI ACWI IMI. Bonds represented by Bloomberg 1–10Yr Muni Bond Avg. From left to right, those figures are 1.8%, 4.0%, 6.1%, 7.4%, and 8.7%.

‡Probability of a 20% peak-to-trough decline in pretax, pre-cash-flow cumulative returns within 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.

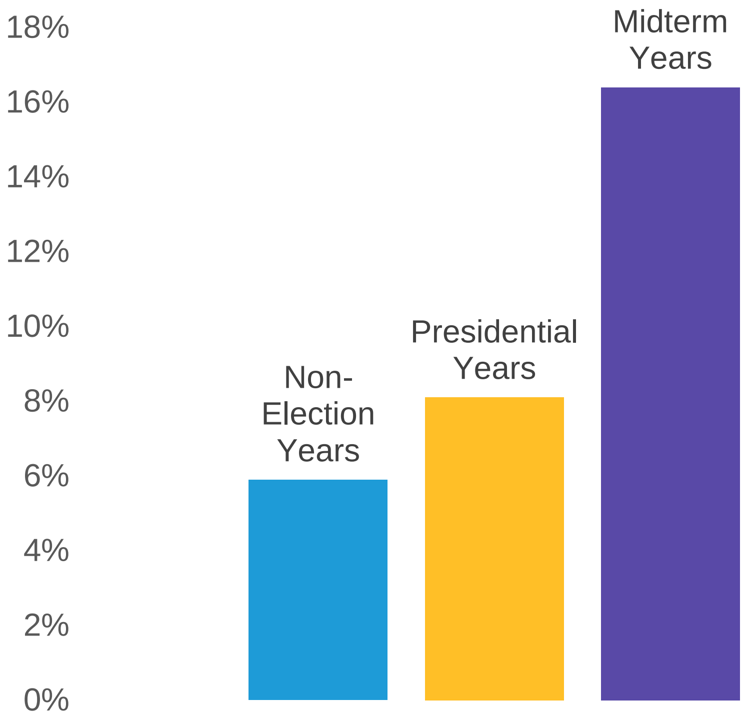
§Normal refers to a market condition in which assets are fairly priced as in a long-term central case. The "ormal peak-to-trough probability is as follows, from left to right: <2%, <2%, 11%, 34%, and 56%. See Bernstein Wealth Forecasting System for further details.

Source: Lipper, MSCI, Russell, S&P, and AB.

We Expect Limited Impact on Markets from the Election

Divided Government Occurs Around Half the Time. The President's Party Loses the House in Midterms Around One-Quarter of the Time

Markets Tend to Do Well in The Year Following Midterms



Policy Matters More Than Politics

Limited room for policy impacts in coming Congressional session

Most important potential impact from election is the fiscal response to a recession. Weaker/slower policy response if GOP takes House, worsening any potential recession at the margin

Areas of **policy agreement**:
- National security
- Tough on China
- Re-shoring
- Saudis/oil?

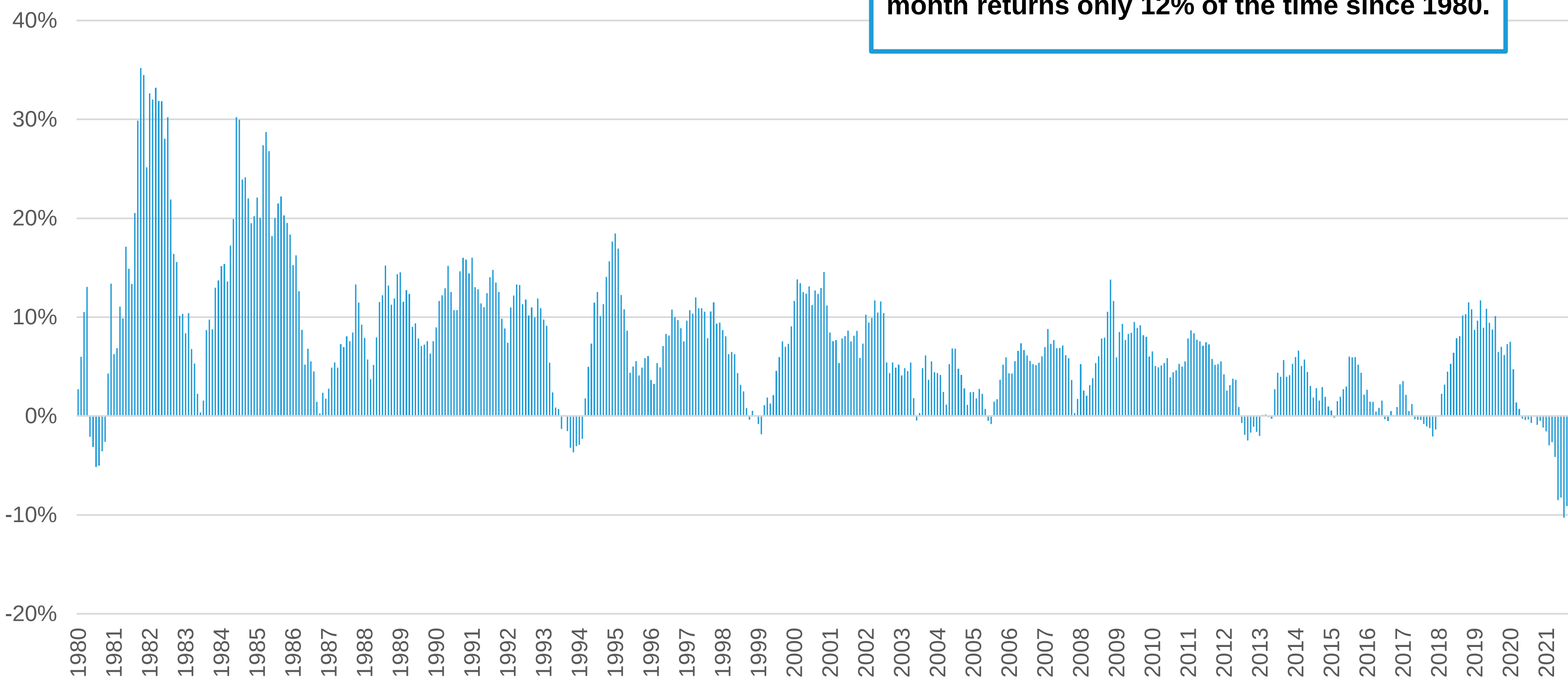
Areas of **policy disagreement**:
- Tax policy

As of October 19, 2022. Analysis covers post-WWII election years, from end-October of starting year to end-October of following year
Source: Bloomberg and Bernstein analysis

Taxable Bonds Rarely Experience Negative Returns

Rolling 12 Month Taxable Bond Returns

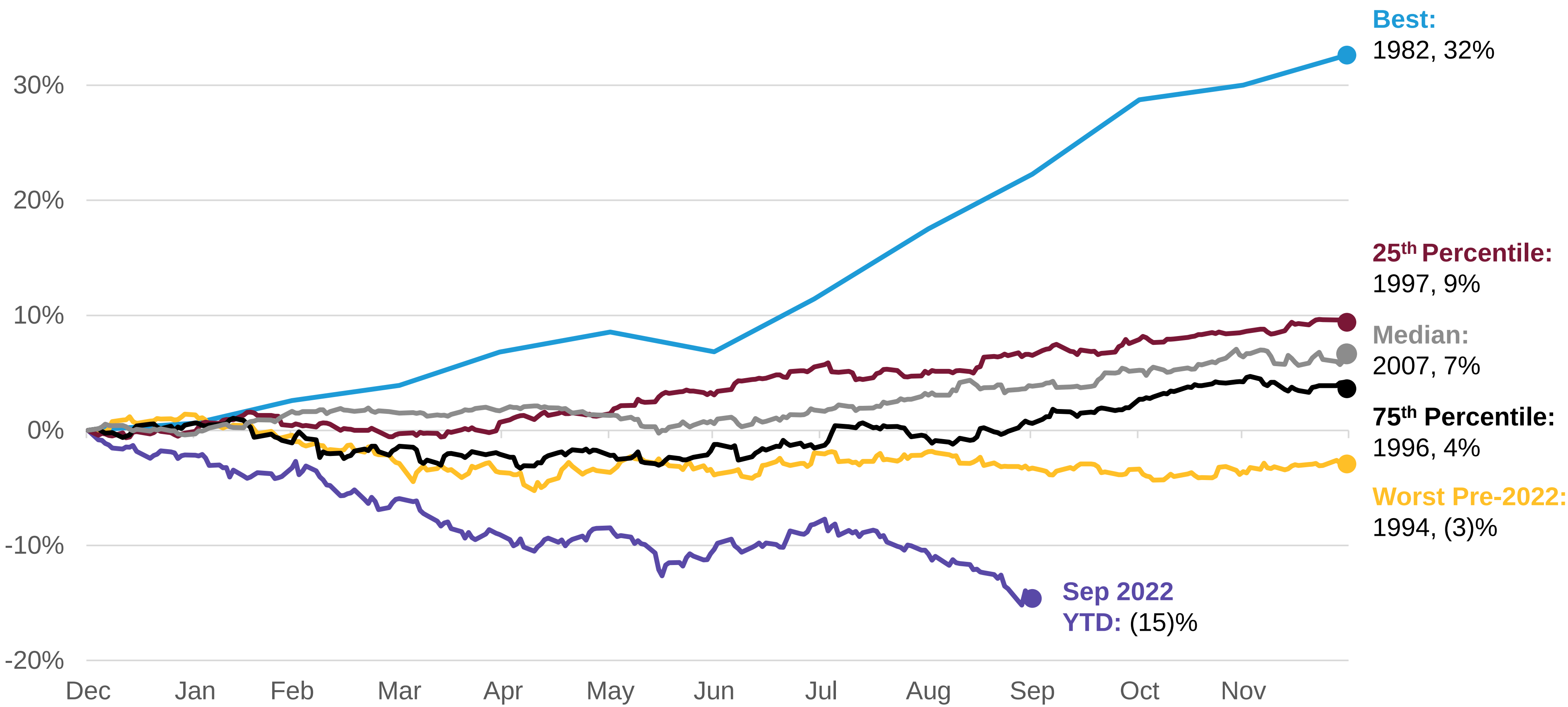
Taxable bonds have experienced negative 12-month returns only 12% of the time since 1980.



As of September 30, 2022. **Past performance does not guarantee future results.**
Municipal bond Investors represented by the Bloomberg US Aggregate Total Return Index
Source: Bloomberg, AB

2022 Taxable Bond Returns: Worst in Over Four Decades

Percentile Ranking of 12-Mo. Taxable Bond Returns



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

Taxable bonds represented by the Bloomberg US Aggregate Index.

Source: Bloomberg, AB

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Putting Expected Returns in Context

Possible Outcomes for Changes in Spreads and Treasury Yields

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%	-0.45%	-1.41%	-1.58%
	+50	1.86%	1.68%	1.44%	1.31%
	0	4.95%	4.75%	4.55%	4.36%

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	-0.66%	-0.25%	-1.05%	-1.24%
	+50	1.57%	1.35%	1.10%	0.93%
	0	3.94%	3.70%	3.47%	3.24%

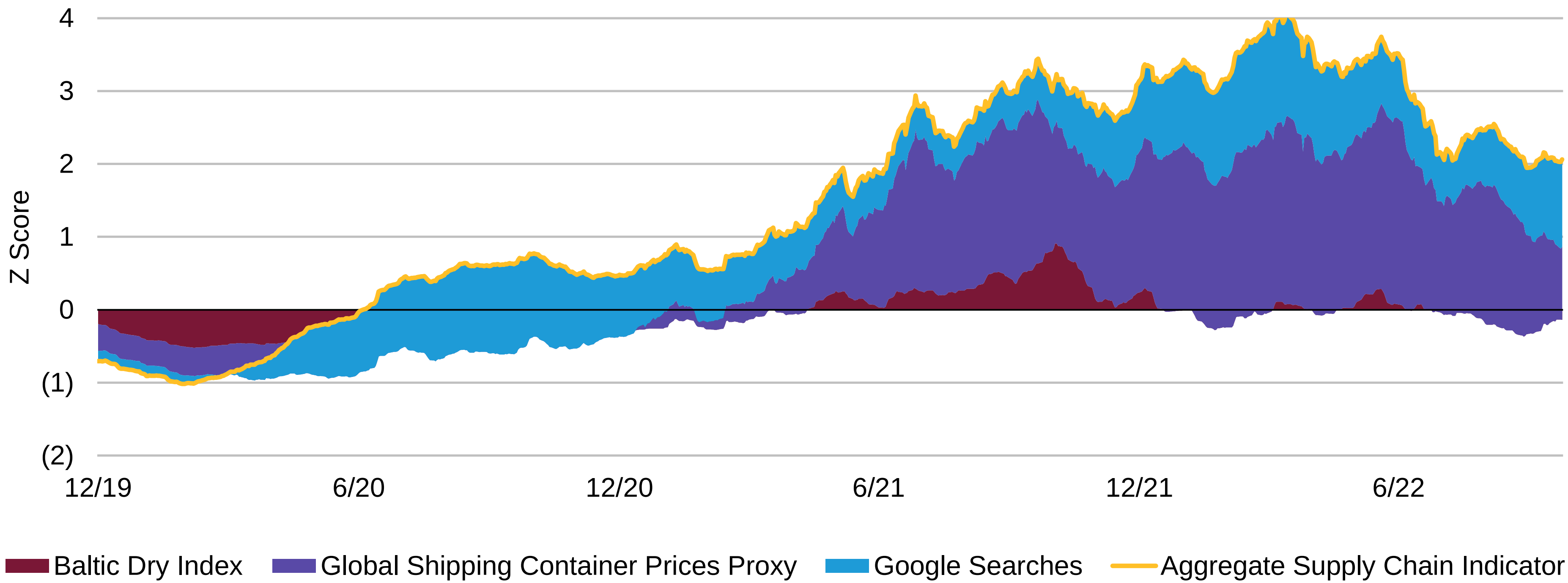
Past performance does not guarantee future results.

US Aggregate is defined as the Bloomberg US Aggregate Index. US High Yield is defined as the Bloomberg US High Yield Corporate Index. Global Aggregate is defined as the Bloomberg Global Aggregate Index (hedged to USD). Global High Yield is defined as the Bloomberg Global High Yield Corporate Index (hedged to USD). 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.

As of September 30, 2022. Source: AB

The Supply-Chain Disruptions Have Significantly Eased

AB Aggregate Supply-Chain Indicator



As of September 30, 2022. Historical analysis is not necessarily indicative of future results.
Source: Bloomberg, Bernstein analysis

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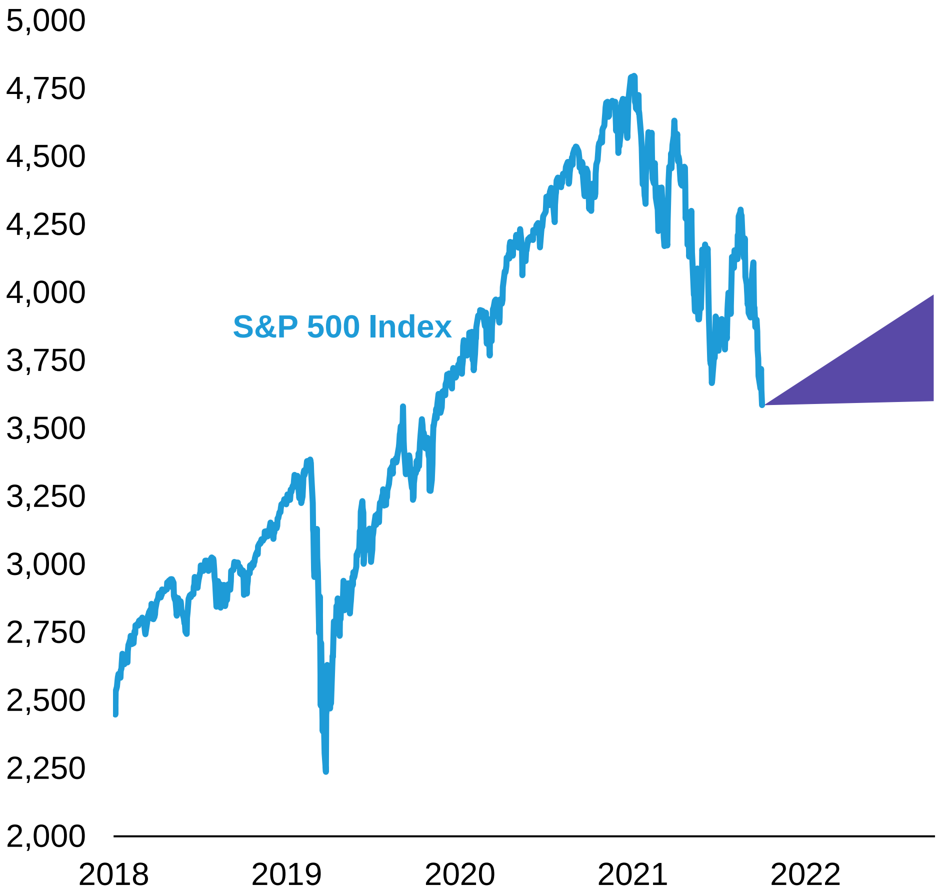
Our Base Case: Mild Recession



Necessary Conditions

- Economic Growth: slows to ~0%
- Inflation: eases in early 2023
- Valuations: settle at ~18x
- 2023 Earnings Growth: (5)%, +/-5%
- Likelihood: 50%

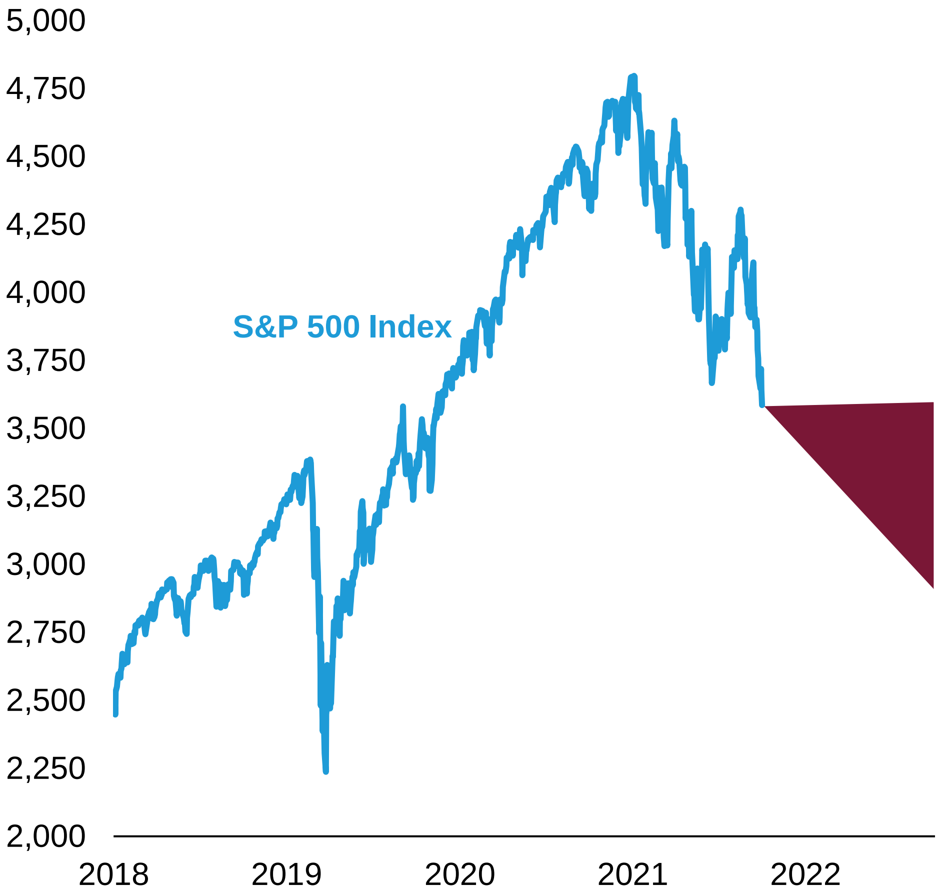
In this case, inflation gradually decelerates, but remains elevated. Simultaneously, economic growth slows toward 0%.

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 should be considered a mild recession.

As of September 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

Our Bear Case: Modest Recession



Necessary Conditions

- Economic Growth: clear and obvious contraction
- Inflation: stays stubbornly above 3% through 2023
- Valuations: could fall to ~16.5x
- 2023 Earnings Growth: (15)%, +/- 5%
- Likelihood: 35%

In this case, stubborn inflation persists, fueled by ongoing still robust demand, shelter costs and wage pressures

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

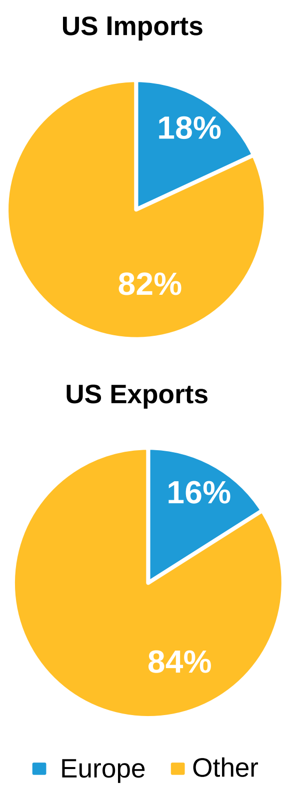
This path is leads to a modest recession.

As of September 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

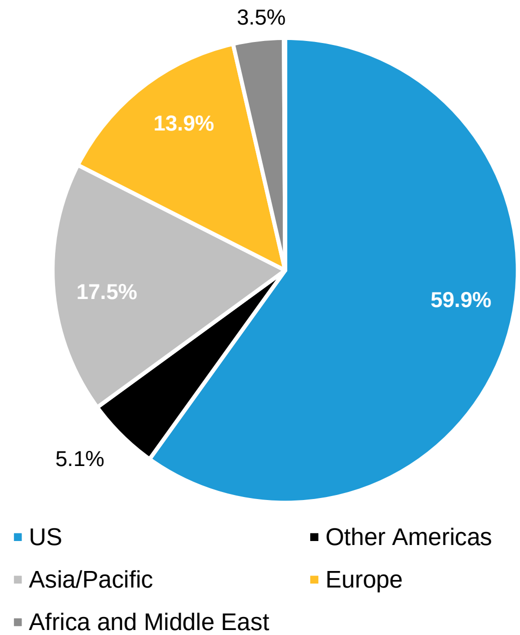
Could a European Recession Bleed Through to the US?

Perhaps, but the risk is not substantial

Europe is not a substantial trading partner with the US



US Companies with large European revenue will be most affected



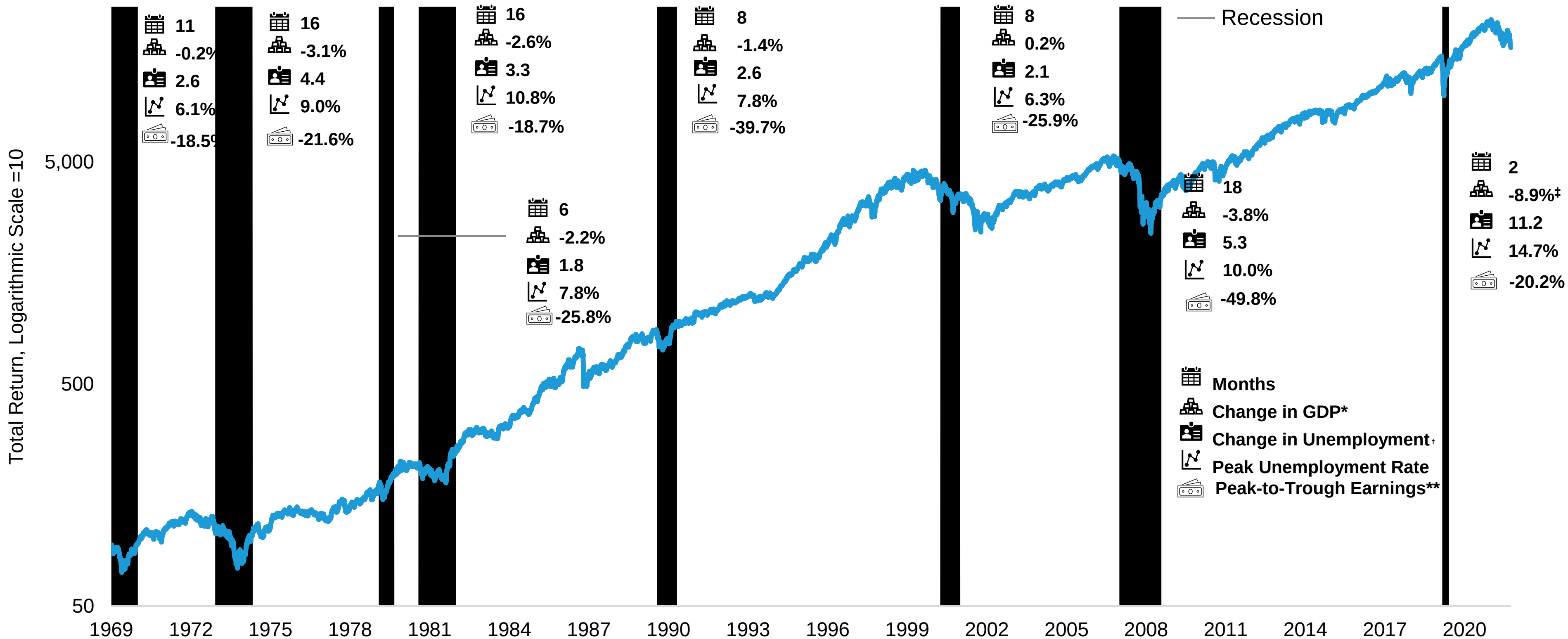
But an increasingly strong dollar will hurt our exports

As of September 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, FactSet, and Bernstein analysis

The Price of Long-Term Growth Is Periodic Volatility

S&P 500 Total Return and US Recessions since 1970



As of June 30, 2022.

Past performance does not guarantee future results.

*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.

**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.

†Change in unemployment rate from month prior to NBER declared recession to peak.

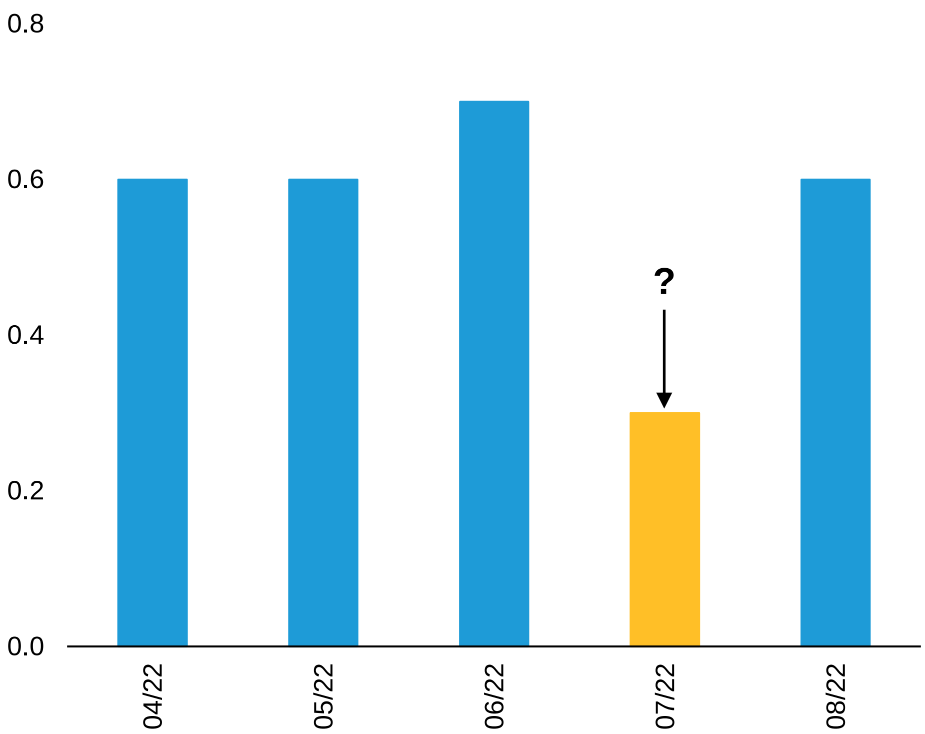
Time period analyzed: from listed recession start through next recession start.

‡Change in GDP 1Q20–2Q20.

Source: BEA, Bloomberg, BLS, NBER, S&P 500, and AB

Was July CPI Just a Head Fake?

Core Inflation (% Change MoM)



It would seem so:

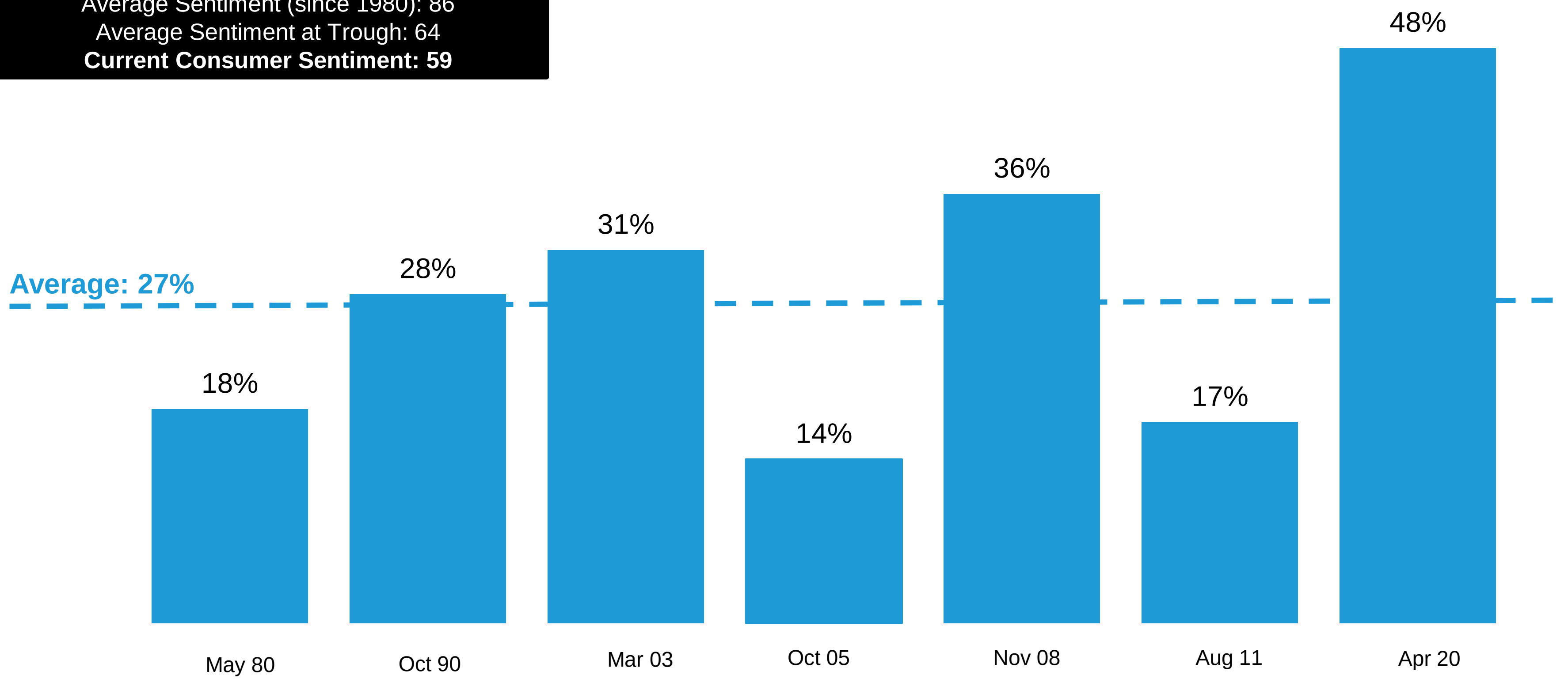
- Monthly data can be volatile and unreliable, unless confirmed
- August's reacceleration shows the Fed still has more work to do
- Worryingly, the August release showed broad-based pressures

As of September 30, 2022. **Historical analysis is not necessarily indicative of future results.**
Source: Bloomberg, 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: 59



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

What's Priced In?

Market Decline from 12/31/21

2023 S&P EPS and Growth (vs. 2022E $222)

	$178	$186	$195	$204	$213	$222
	(20)%	(16)%	(12)%	(8)%	(4)%	0%
18.0x	(33)%	(30)%	(26)%	(23)%	(20)%	(16)%
17.0x	(37)%	(33)%	(30)%	(27)%	(24)%	(21)%
16.0x	(40)%	(37)%	(34)%	(31)%	(28)%	(25)%

2 A market decline of this magnitude would only be likely in a more severe economic and earnings contraction – similar to our Bear Case.

1 The 2022 YTD decline (approx. -25%) assumes earnings are flat to down mid-single digits while P/Es settle at 16-17x

As of September 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

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)

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

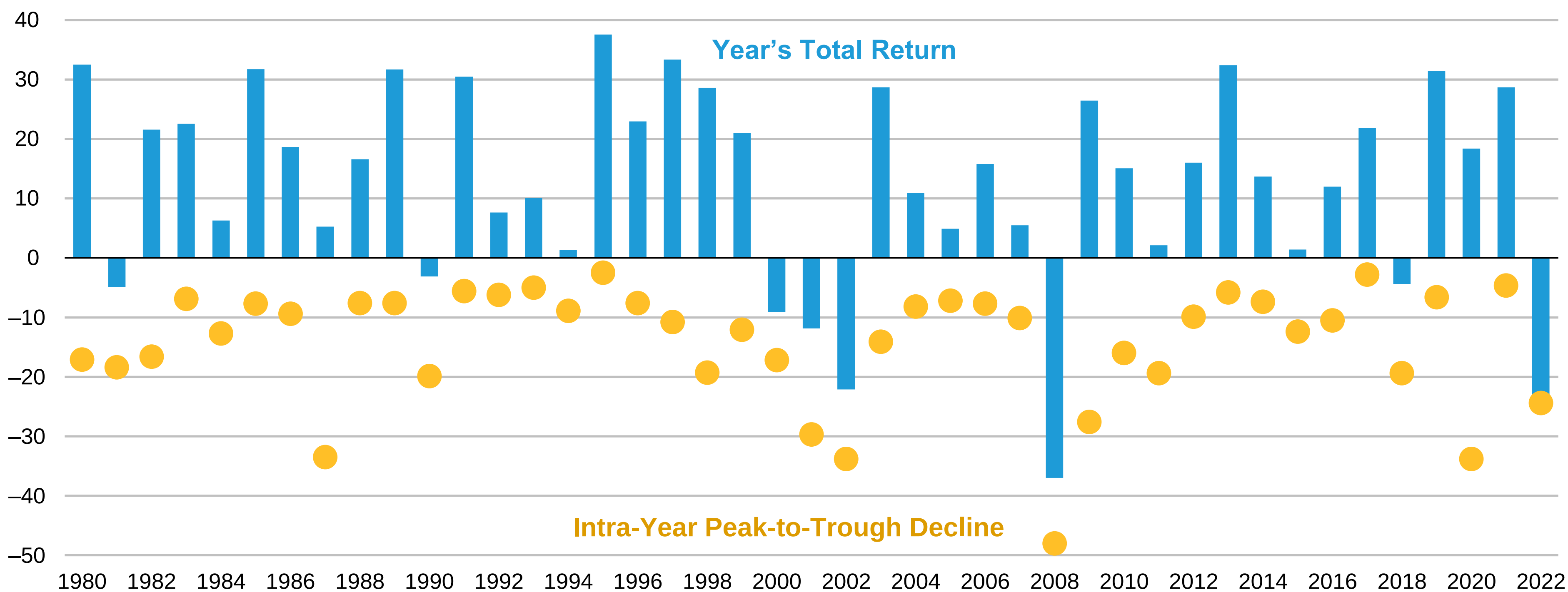
Event	First Trading Day	1 Week	1 Month	1 Quarter	1 Year
SARS†	2/11/2003	(0.1)	(3.2)	12.2	39.5
Second Gulf War	3/20/2003	(0.5)	2.4	14.3	29.2
Madrid Train Bombings	3/11/2004	0.0	1.5	1.5	9.5
Orange Revolution–Ukraine	11/22/2004	1.1	2.2	3.1	8.6
Asian Tsunami	12/27/2004	0.3	(3.4)	(2.7)	6.8
London Bombings	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

As of September 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, NBER, S&P 500, World Health Organization, and AB

Stocks Have Mostly Risen Despite Intra-Year Corrections

S&P 500 (%) by Calendar Year

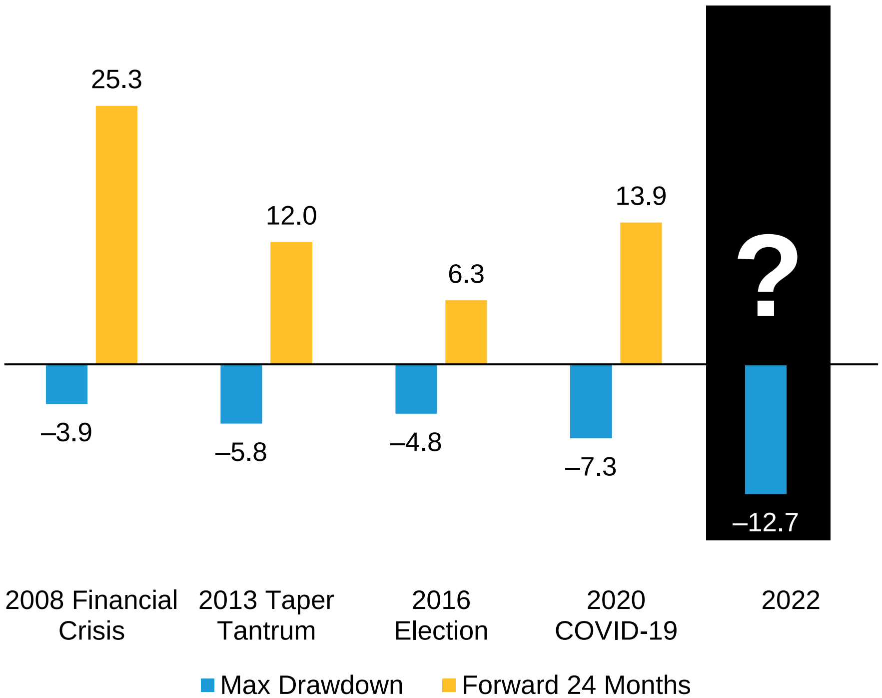


As of September 30, 2022. **Past performance does not guarantee future results.**

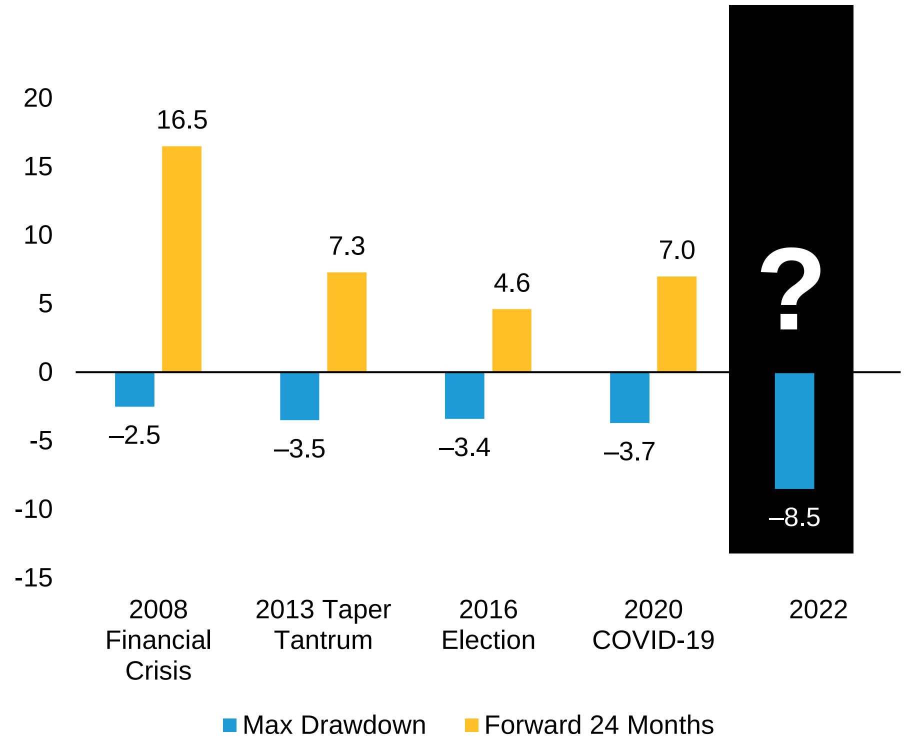
Source: Bloomberg, Morningstar, S&P 500, and AB analysis

Investors Have Historically Been Rewarded by Staying Invested

Tax-Aware Portfolio Returns
Percent



Intermediate-Duration Portfolio Returns
Percent



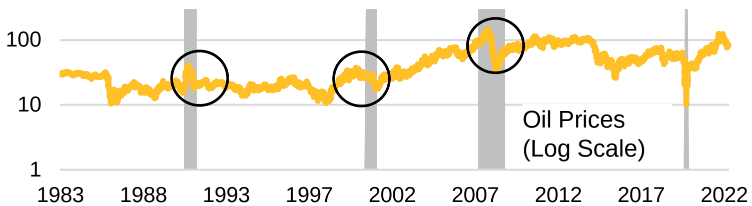
As of September 30, 2022. **Past performance does not guarantee future results. There is no guarantee that any investment objective will be achieved.** Forward return periods are calculated from drawdown end date. Periods of over one year are not annualized. 2022 returns are year to date, net of fees. 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 before 2022 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

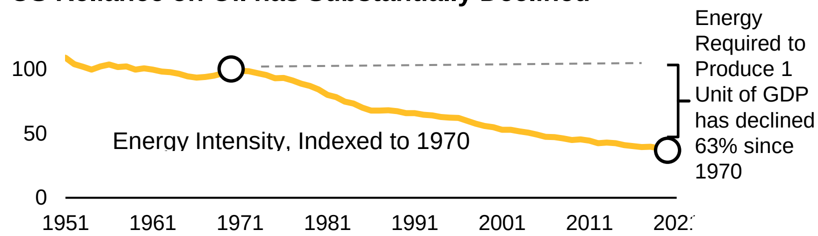
Little Evidence of Vulnerabilities Impacting Severity of Previous Recessions

There are Important Differences in Today's Economic Landscape

Oil Shocks have Historically Coincided with Recessions

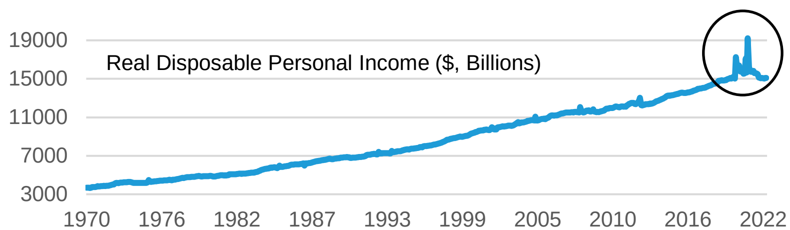


US Reliance on Oil has Substantially Declined

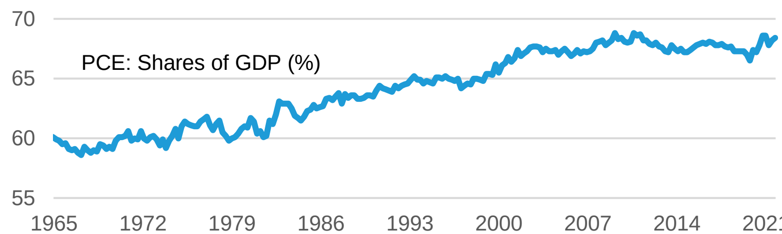


Exogenous shocks triggering prior recessions have a different impact on today's economy.

Consumers Entered 2022 with Unprecedented Disposable Income

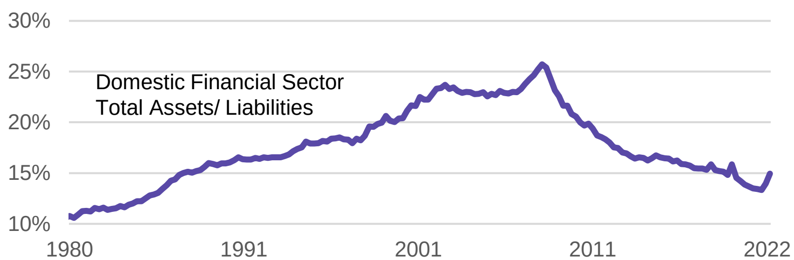


And the US Economy is Increasingly Reliant on Consumption

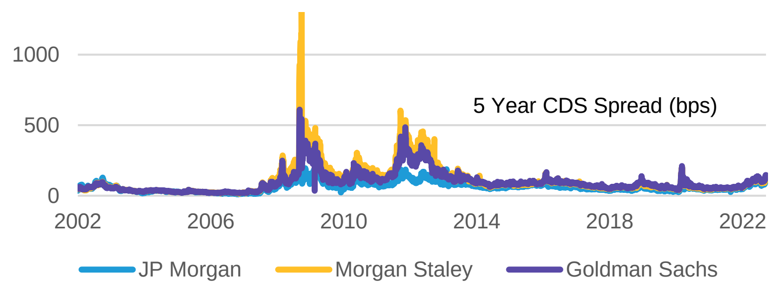


While overtightening is a realistic outcome, the strong consumer and increased reliance on consumption will cushion the blow.

Financial Sector Leverage Remains Historically Low



Little Evidence of Systemic Financial Risk



Systemic financial issues associated with the deepest recessions are not present in today's economy.

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

Energy Intensity = Total Primary Energy Consumption / Real GDP

Source: Bureau of Economic Analysis, US Energy Information Administration, Federal Reserve, Bloomberg, Bernstein Analysis

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10-Year Capital-Market Projections: Asset Classes

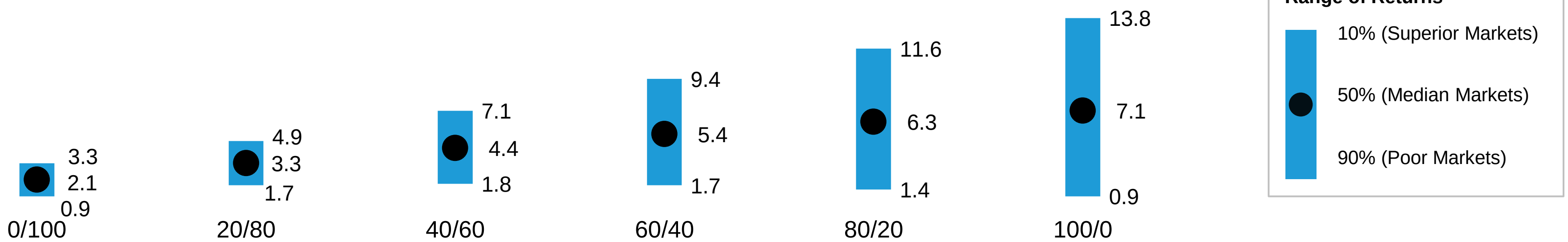
	Median 10-Year Growth Rate	Mean Annual Return	Mean Annual Income	One-Year Volatility	10-Year Annual Equivalent Volatility
Cash Equivalents	1.8%	2.0%	2.0%	0.4%	4.4%
Short-Term Treasuries	2.8%	3.0%	2.8%	1.0%	3.6%
Short-Term Taxables	3.2%	3.4%	3.3%	1.2%	3.7%
Short-Term Diversified Municipals	2.1%	2.2%	2.0%	0.8%	2.5%
Int.-Term Treasuries	1.7%	1.9%	2.9%	4.8%	2.9%
Int.-Term Taxables	2.1%	2.3%	3.6%	5.2%	3.4%
Int.-Term Corporates	2.4%	2.6%	4.1%	6.0%	4.0%
Int.-Term Diversified Municipals	2.1%	2.2%	2.5%	4.0%	2.9%
Global Int.-Term Taxables (Hedged)	1.6%	1.8%	2.5%	4.3%	3.6%
Int.-Term TIPS	2.9%	3.4%	4.0%	3.4%	7.8%
High Yield	5.4%	6.0%	7.5%	12.6%	7.8%
Global Large-Cap (Unhedged)	7.1%	8.3%	2.3%	15.7%	14.8%
US Diversified	5.9%	7.4%	2.0%	16.5%	15.5%
US Value	6.0%	7.4%	2.3%	16.1%	15.3%
US Growth	5.7%	7.6%	1.8%	18.2%	17.0%
US Mid-Cap	6.3%	8.1%	1.7%	17.9%	17.1%
US Small/Mid-Cap	6.4%	8.3%	1.6%	18.7%	17.9%
US Small-Cap	6.5%	8.8%	1.5%	20.4%	19.8%
Developed International	8.2%	10.1%	3.1%	18.0%	16.9%
Emerging Markets	7.2%	10.3%	3.3%	22.8%	20.0%
Global REITs	6.4%	8.1%	3.7%	17.0%	16.0%
Real Assets	6.6%	7.7%	2.8%	13.6%	14.4%
Diversified Hedge Fund	5.1%	5.4%	2.0%	11.0%	15.0%
Inflation	3.1%	3.5%	n/a	1.6%	6.9%

Based on 10,000 simulated trials each consisting of 10-year periods. Reflects AB's estimates and the capital-market conditions of June 30, 2022. For hedge-fund asset classes, "Mean Annual Income" represents income and short-term capital gains.

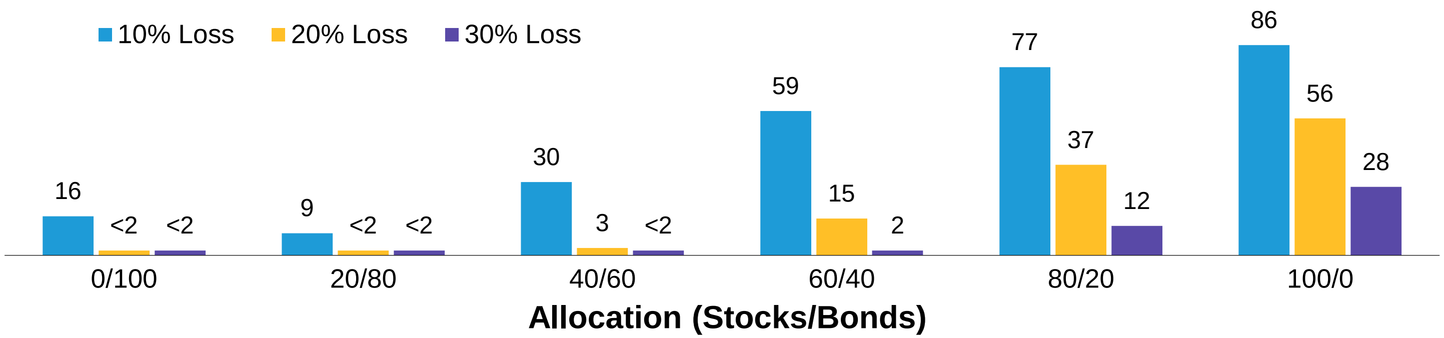
Data do not represent past performance and are not a promise or a range of future results.

Projected Returns and Volatility—over 10 Years (Taxable)

Range of Annual Pretax Returns* (%)



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



As of June 30, 2022

*Represents projected pretax compound annual growth rates. Stocks modeled as MSCI World Index. Bonds modeled as intermediate-term diversified municipals. Based on AB's estimates of the range of returns for the applicable capital markets over the periods analyzed. Data do not represent past performance and are not a promise or a range of future results.

†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. Stocks modeled as MSCI World Index. Bonds modeled as intermediate-term diversified municipals. Based on AB's estimates of the range of returns for the applicable capital markets over the period analyzed. Data do not represent past performance and are not a promise or a range of future results.

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 Bernstein Wealth Forecasting System 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 life span 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 AB

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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