BERNSTEIN

From COVID to Conflict

A Macro and Markets Review

Our Perspective

Just as we began to see the light at the end of the tunnel from the COVID-19 pandemic, the **Russian invasion of Ukraine shocked the world, with an appalling humanitarian tragedy.**

Frequently, the global economy can see through geopolitical conflicts with minimal economic and financial market impact. Not so this time—**the directional impact of an ongoing crisis is clear: Growth will be slower and inflation higher than our previous forecasts.**

And yet, the starting point for the coming slowdown is a solid one, especially in the US. **The global economy had significant momentum entering 2022**. US households, in particular, accumulated a reservoir of savings and have enjoyed real wage gains, which are likely to blunt the economic weakness.

There are still more questions than answers for investors at the moment, but **markets reflect the most likely scenario (a mid-cycle slowdown).** The decline to date, while modest, may present an opportunity for investors with cash on the sidelines.

So, what's an investor to do?

WHAT TO DO:

- Stay invested, if you are; markets rarely reward long-term investors in cash
- Put capital to work if you have it; opportunities exist but selectivity is key
- Execute lifetime wealth transfer strategies, where appropriate

Current analysis does not guarantee future results.

Snapshot: Key Economic and Market Forecasts

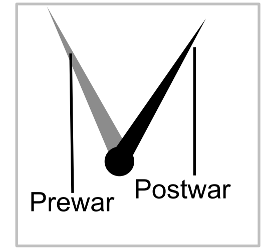
- **Global Growth:** Growth remains positive, but consumers will need to divert spending from discretionary items to higher prices for commodity-based essential goods.
- **Inflation:** Rising commodity prices will push aggregate inflation higher and keep it there for longer.
- **Monetary Policy:** The largest global economies have begun to tighten at a steeper trajectory and faster pace than previously anticipated.
- **Bond Yields:** Monetary tightening will push yields higher and drive the curve flatter—though a good portion may already be priced in.
- **Earnings Growth:** Consensus S&P earnings growth expectations remain at 9% despite inflation and geopolitical crosswinds underscoring corporations' ability to create operating leverage and margin expansion.

AB Forecast

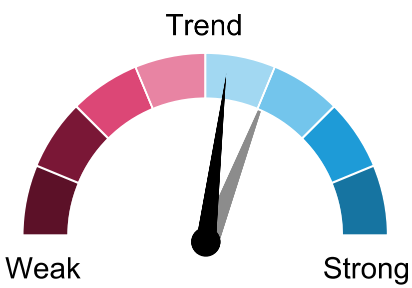
	2022	2023
US GDP	2.8%	1.9%
Global GDP	2.8%	2.8%
10Y Treasury Rate	2.75%	3.25%
US Inflation	4.5%	2.5%
EUR/USD	1.05	1.10
S&P 500 EPS Growth*	9%	10%

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

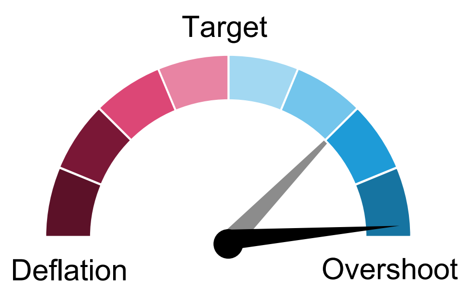
Prewar vs. Postwar: A Macro and Market Evolution



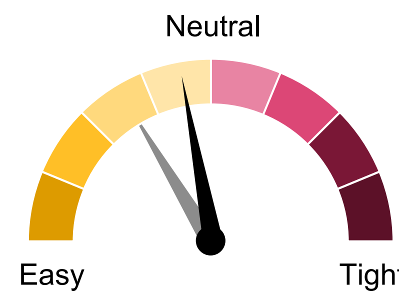
Economic Activity



Inflation



Monetary Policy



Coming into 2022, slowing growth and elevated inflation were front and center for investors. After the breakout of war in Ukraine, both those issues have become more acute.

Further, central banks need to fight inflation, which will slow growth further.

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

Source: AB

The Known Unknowns

Clarity on these issues will be critical to the market moving higher

Known	Unknown
Inflation →	Inflation’s Peak (Level and Timing)
Russia / Ukraine War →	Economic Impact on Europe and Rest of World
Sanctions on Russia →	Impact of Current Sanctions and Scope of Further Sanctions
Energy and Commodity Prices →	Magnitude and Duration of Price Elevation
Supply-Chain Disruptions →	Impact from War and Elevated Commodity Prices
Fed Tightening Cycle →	Pace and Terminal Level of Tightening
Economic Growth →	Slowdown or Recession

As of March 31, 2022. **There is no guarantee that any estimates or forecasts will be realized.**
Source: AB

How does the war affect the global economy and markets?

The headwinds that were present prewar—namely, inflation and slowing growth—have only become more significant postwar.

Four Main Transfer Mechanisms to the Global Economy

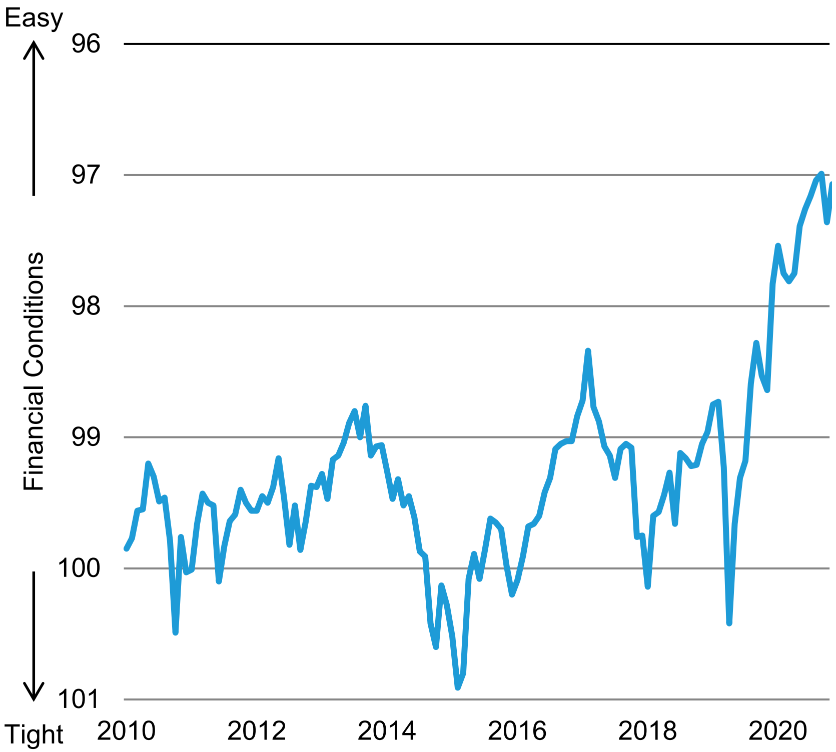
Magnitude of Impact on Financial Markets

As of March 31, 2022. **There is no guarantee that any estimates or forecasts will be realized.**

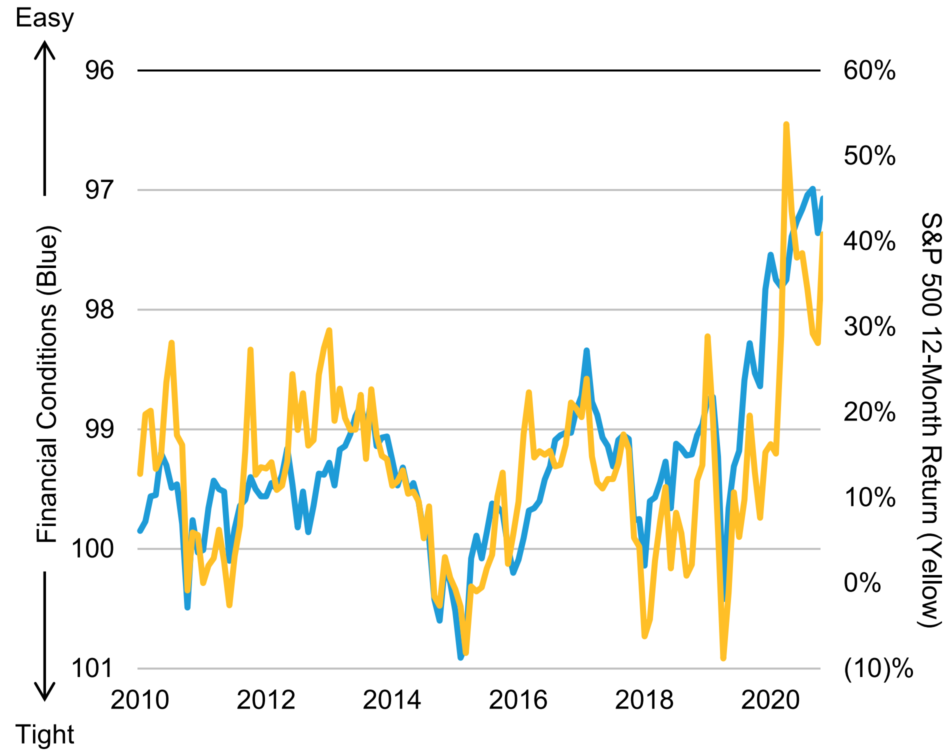
Source: AB

Financial Conditions Have Tightened Somewhat

Financial Conditions



Financial Conditions and SPX Returns



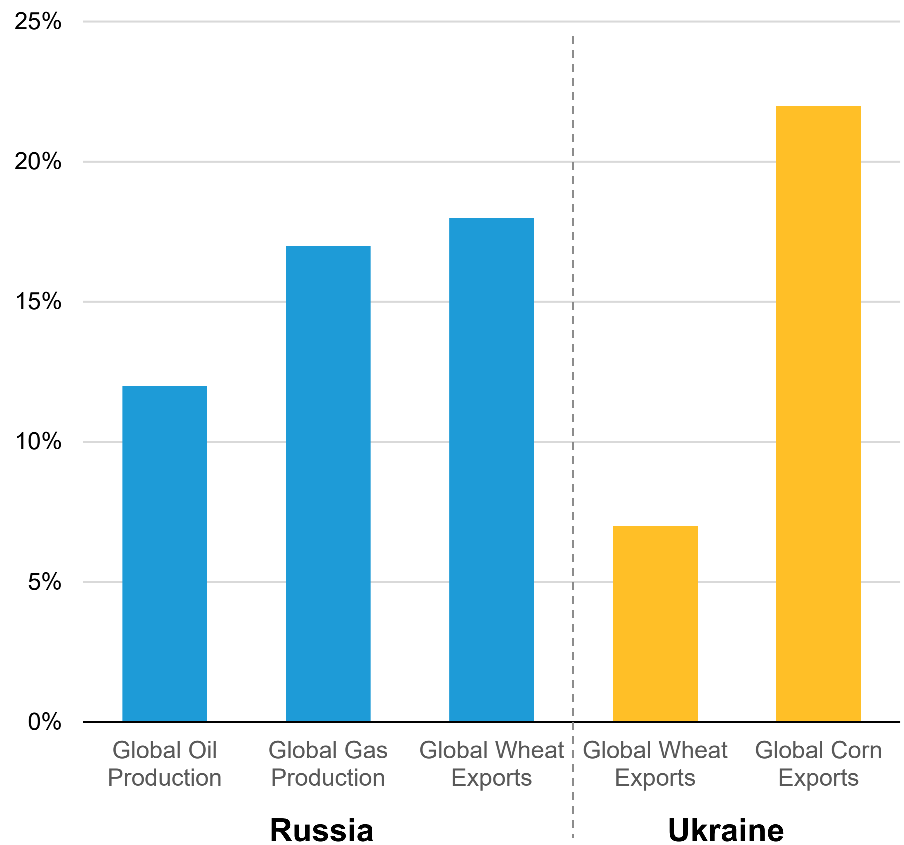
Financial conditions and market returns have been closely connected since the global financial crisis. When conditions are easy, markets move higher. When conditions are tight, markets weaken.

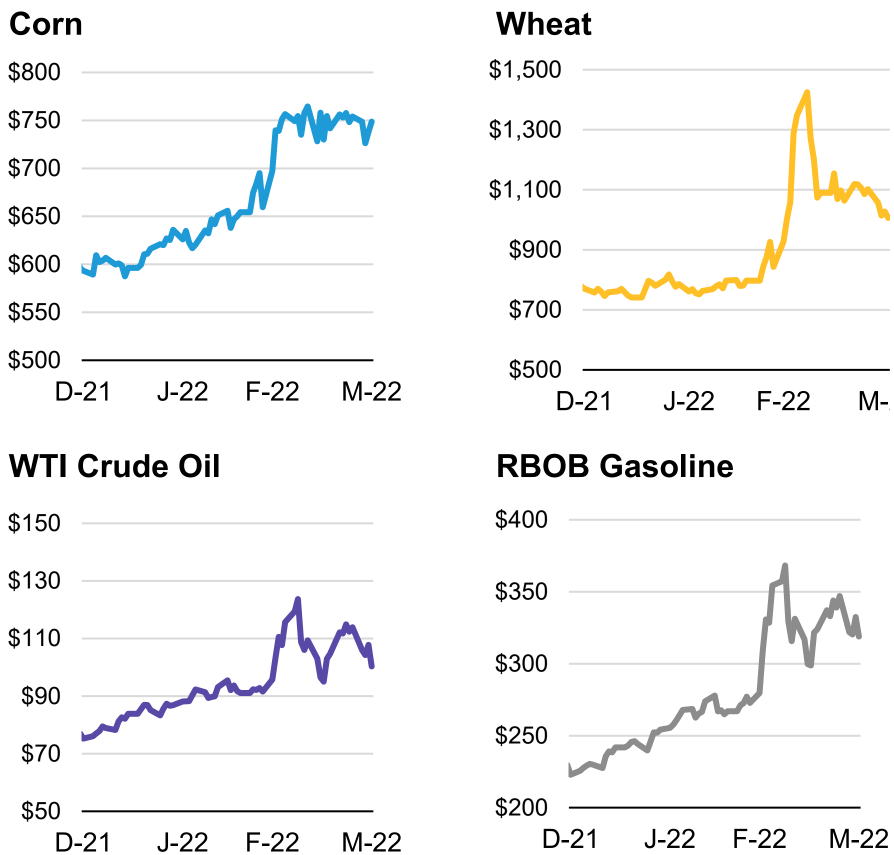
As of March 31, 2022. **Past performance is not necessarily indicative of future results. There is no guarantee that any estimates or forecasts will be realized.** Financial conditions represented by GS US Financial Conditions Index.

Source: Bloomberg, S&P 500, and AB

Ukraine and Russia Are Meaningful Oil, Gas, Wheat, and Corn Exporters

Russian and Ukrainian Share of Global Production/Exports



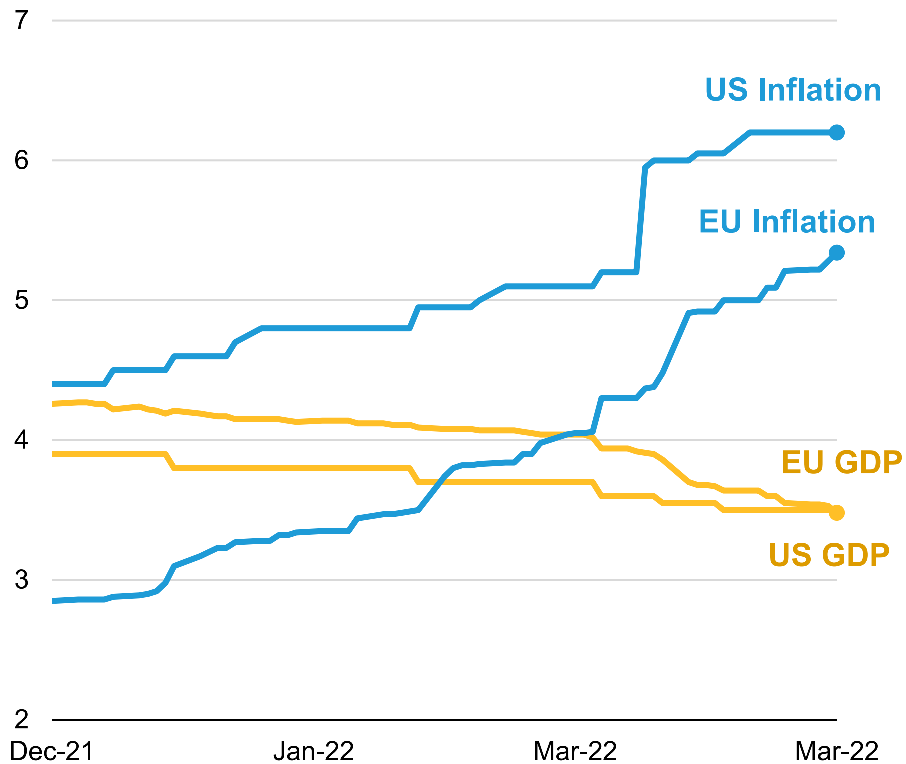


As of March 31, 2022. **Past performance is not necessarily indicative of future results. There is no guarantee that any estimates or forecasts will be realized.**

Source: Bloomberg and AB

It's Still Early, but Economists Have Started to Adjust Their Forecasts

2022 GDP and CPI Forecasts (%): US and Europe



	2022 Forecast		2023 Forecast	
	Dec 2021	Mar 2022	Dec 2021	Mar 2022
US GDP	3.9%	3.5%	2.5%	2.3%
Europe GDP	4.3%	3.5%	3.5%	2.5%
US Inflation*	4.4%	6.2%	2.4%	2.6%
Europe Inflation*	2.9%	5.3%	1.7%	2.3%

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

All Estimates above are Consensus Forecasts.

*Headline Inflation

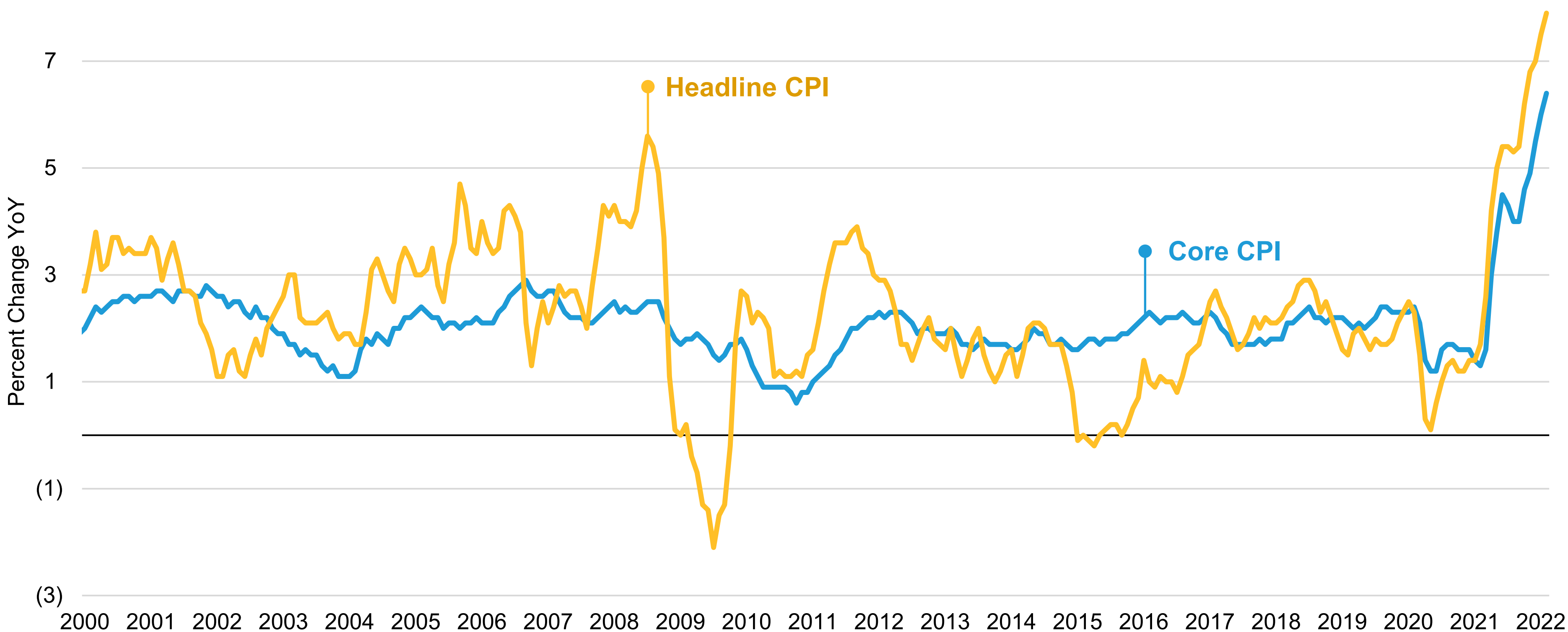
Source: Bloomberg and AB

Has the inflation picture now gotten worse?

Rising energy prices and further disruptions to the supply chain worsen the inflation picture. However, policy tightening and the potential for demand destruction serve as partial offsets.

Consumer Basket Inflation Has Accelerated Further

CPI: All Items (Headline) vs. All Items Less Food and Gas (Core)



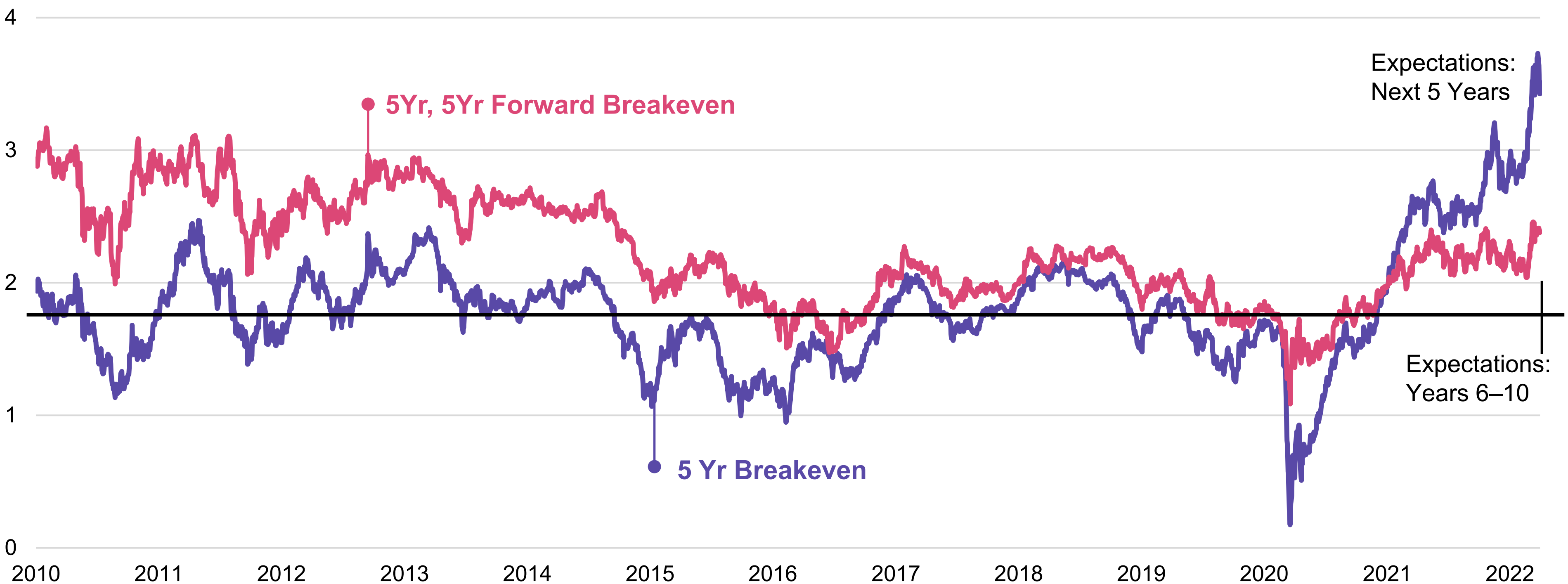
As of March 31, 2022. **Historical analysis is not necessarily indicative of future results. There is no guarantee that any estimates or forecasts will be realized.**

Latest CPI release is as of February 2022.

Source: Bloomberg, AB

Inflation Expectations Suggest Pressures May (Or May Not) Fade In Time

Inflation Breakevens (%)



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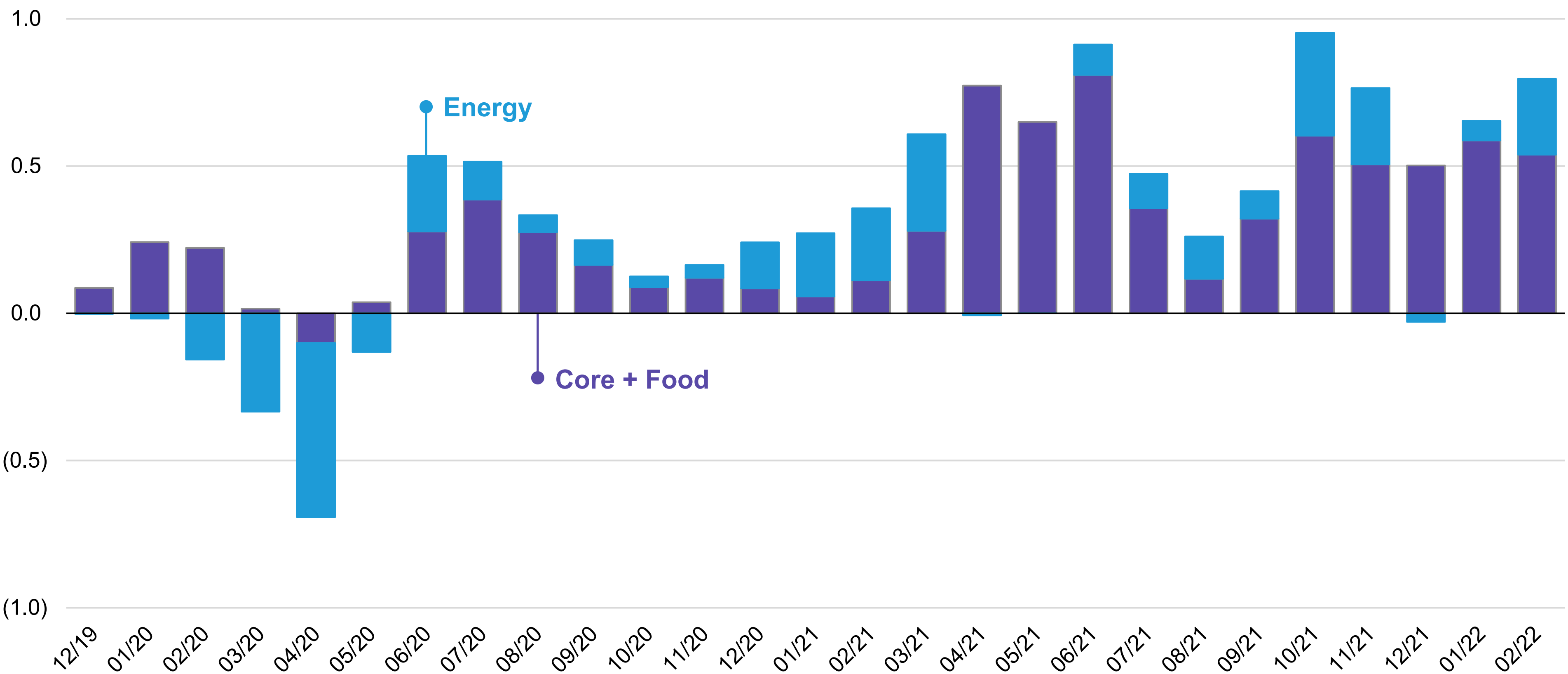
Source: Bloomberg and AB

Sustained Energy Prices Would Make the Future More Challenging

Energy is a volatile component of headline inflation

Contribution to US CPI Change—MoM (%)

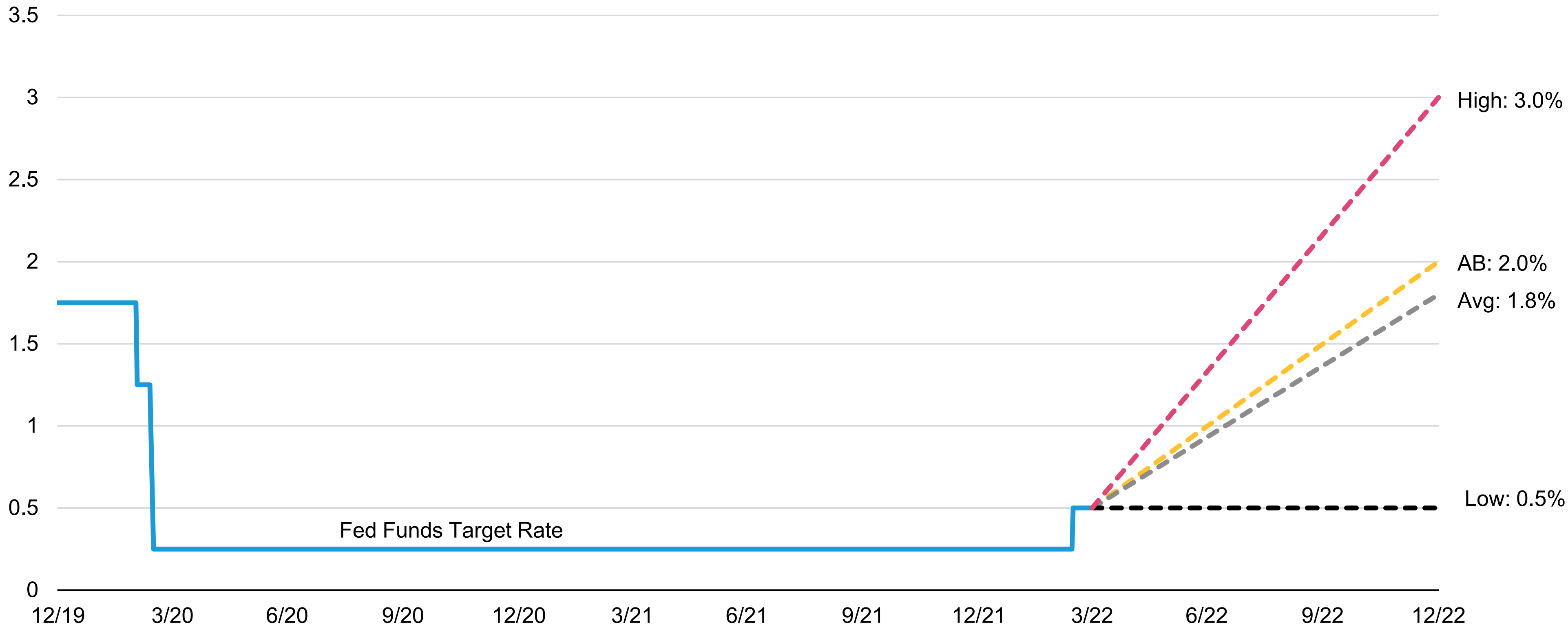


As of March 31, 2022. **Historical analysis is not necessarily indicative of future results. There is no guarantee that any estimates or forecasts will be realized**.

Source: Bureau of Economic Analysis, Bureau of Labor Statistics, Haver Analytics, and Bernstein analysis

We Do Not Envy Fed Chair Jay Powell

Historic Fed Funds Target Rate and 2022 AB & Consensus Economist Forecasts (%)



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

Source: Bloomberg and AB

No Single Asset Class Provides a Perfect Solution

Portfolio	Constituents	Inflation Sensitivity	Reliability	Cost-Effectiveness
Real Bonds	Intermediate TIPS	◔	◕	◕
Real Assets	Portfolio of Real Assets	◕	◕	◕
Individual Real Assets	RE Stocks	◔	◑	◕
	Commodity Stocks	◕	◑	◕
	Inflation-Sensitive Equities	◑	◑	●
	Commodity Futures	●	◔	◑
	Gold	●	◔	○

High ● ◕ ◑ ◔ ○ Low

- Intermediate TIPS provide reasonable sensitivity with reliability and cost-effectiveness
- Real assets vary in their inflation characteristics, so a combination makes sense

As of March 31, 2022. **Current analysis does not guarantee future results.**

Source: AB

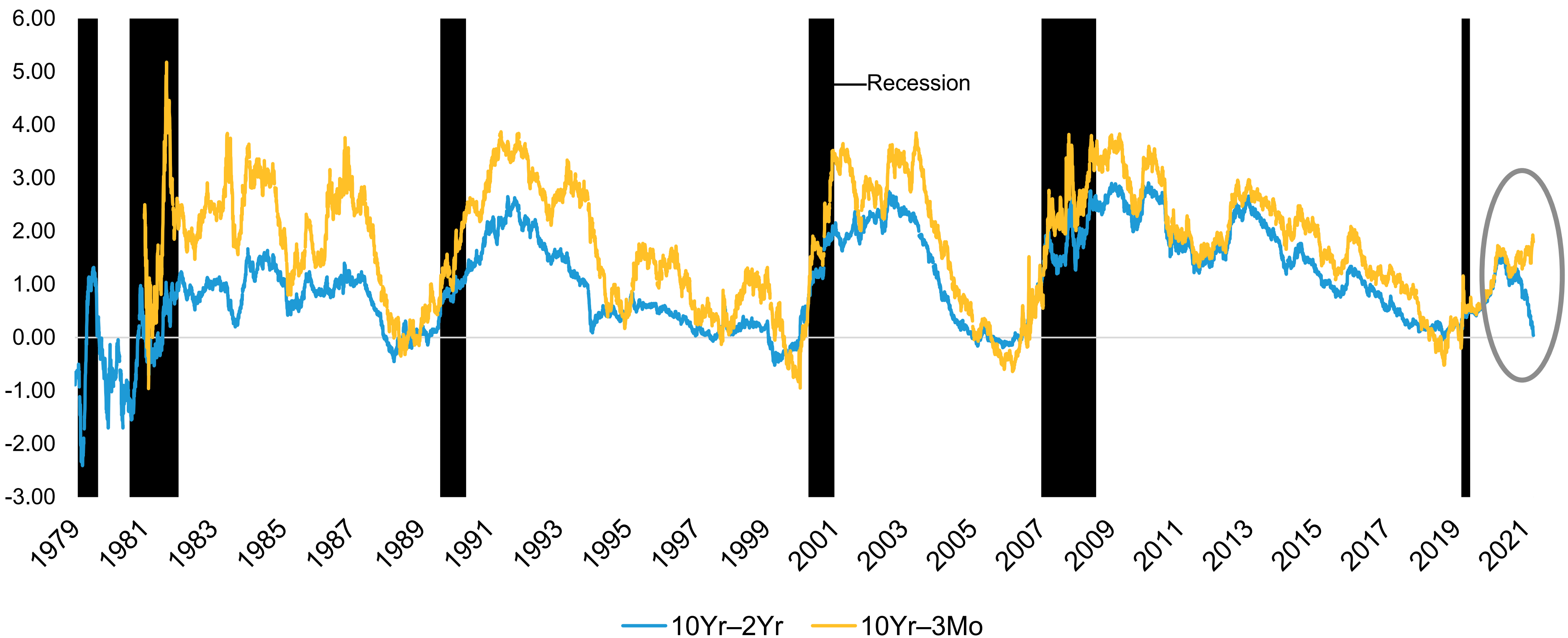
Is a recession likely?

The risk of recession over the next two years has risen—more so for Europe than the US.

The Bond Market Is Starting to Signal Recession

An inverted yield curve is a strong (not perfect) leading indicator of recession

Interest-Rate Spreads on US Treasuries (%)

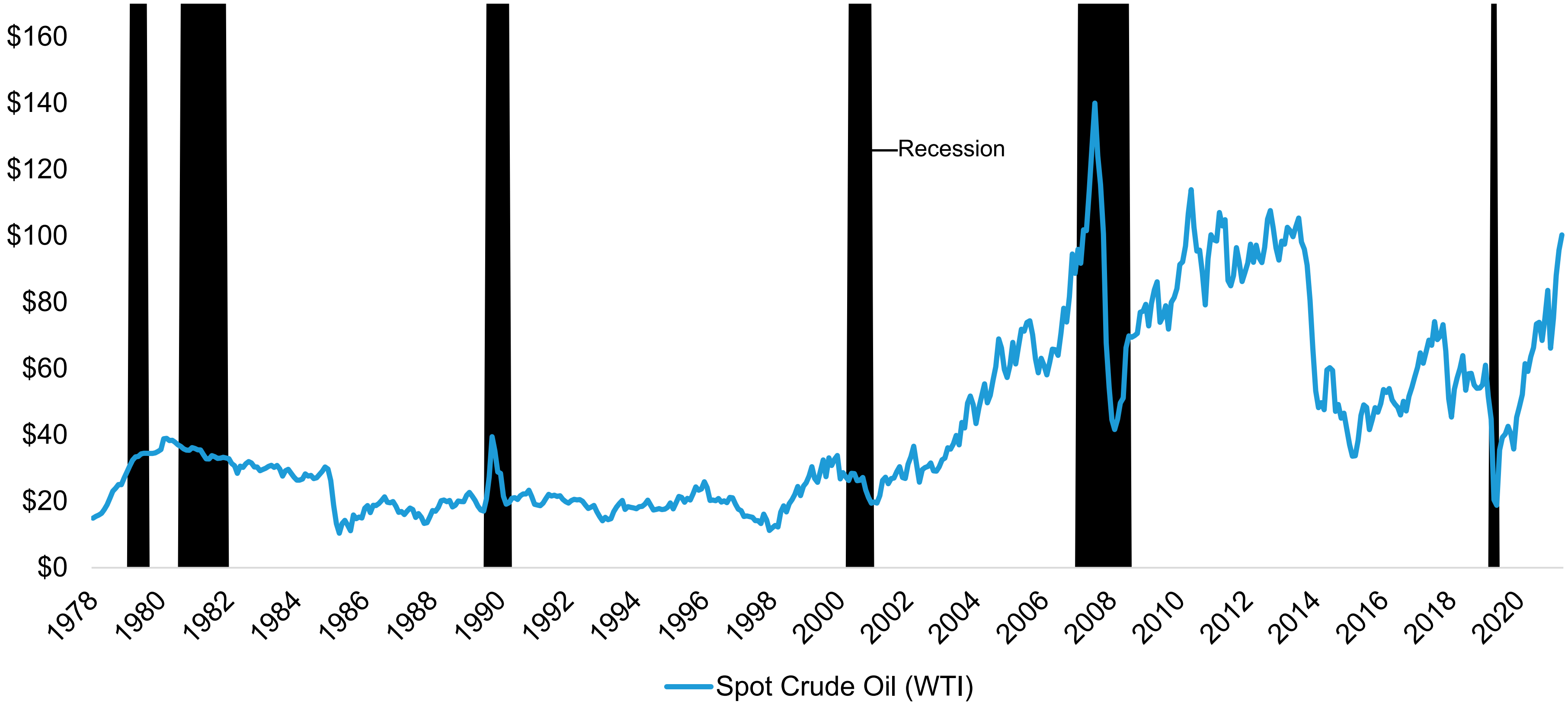


As of March 31, 2022. **Past performance is not necessarily indicative of future results. There is no guarantee that any estimates or forecasts will be realized.**

Source: Bloomberg, FRED, and AB

Oil Spikes and Recessions Are Closely Linked

Crude Oil Price and US Recessions



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

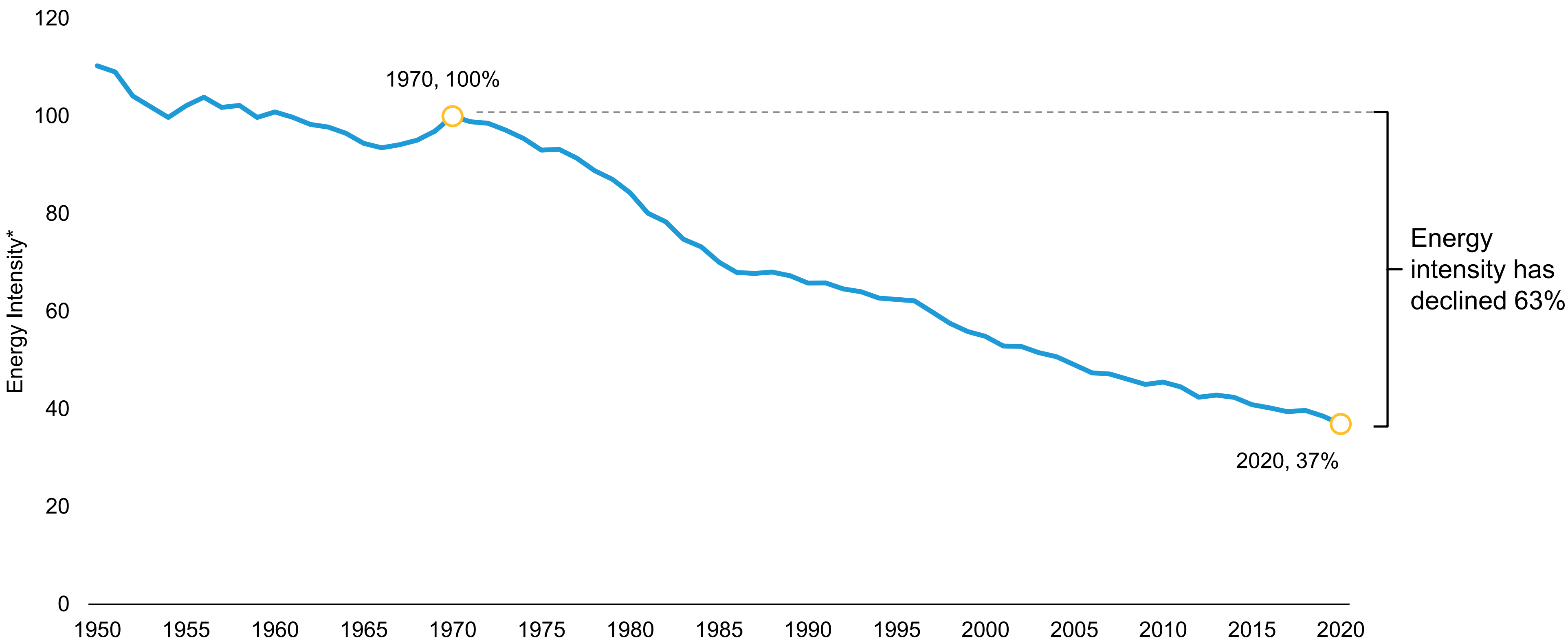
Prior to 1983 spot crude oil WTI is the nominal imported crude oil price.

Source: BBG, EIA, and AB

Yet US Reliance on Oil Has Declined Substantially

Energy required to produce one unit of GDP is 37% of what it was in 1970

US Energy Intensity, Indexed to 1970



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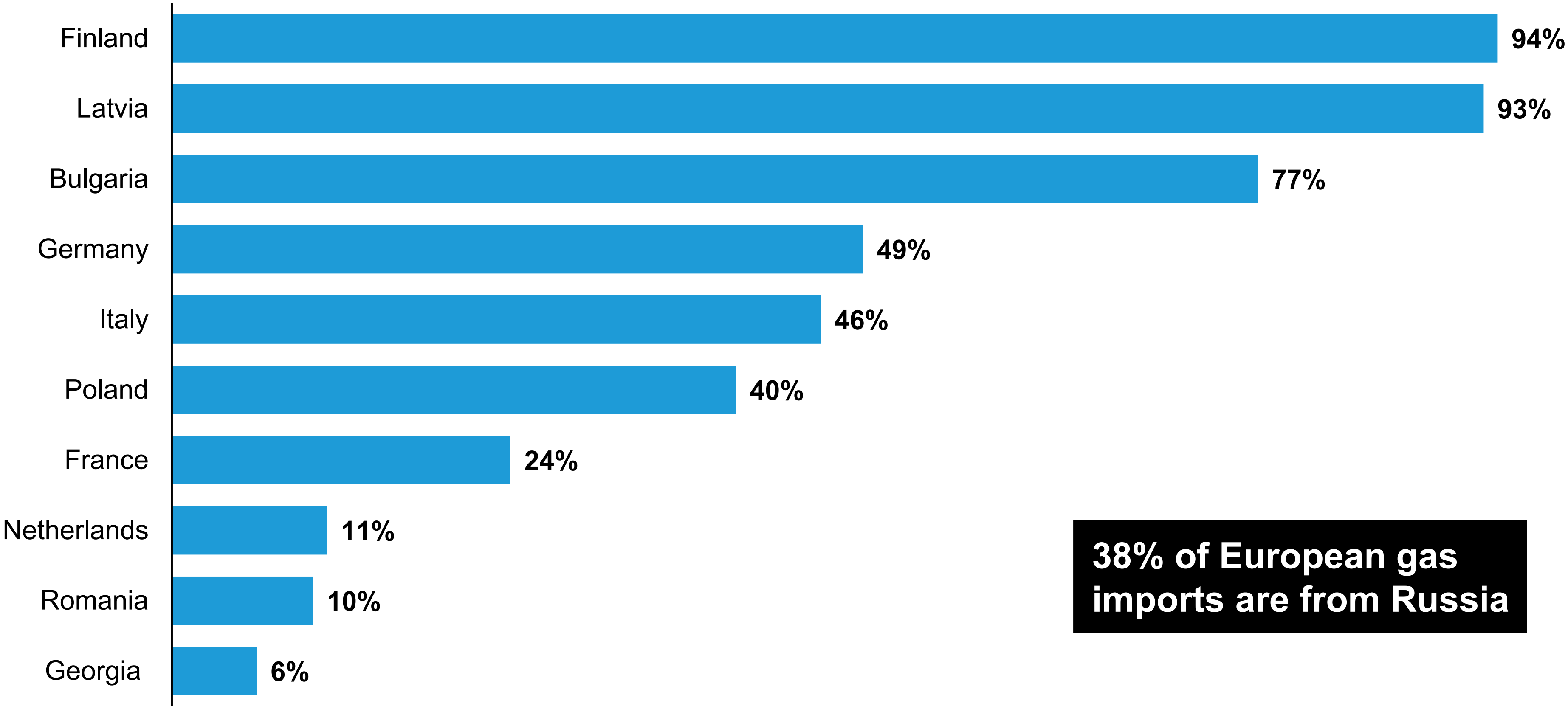
*Energy intensity = total primary energy consumption/real GDP.

Source: BEA, US EIA, and AB

But European Reliance on Russian Gas Has Them Hostage, for Now

% of Gas Supply Imported from Russia



38% of European gas imports are from Russia

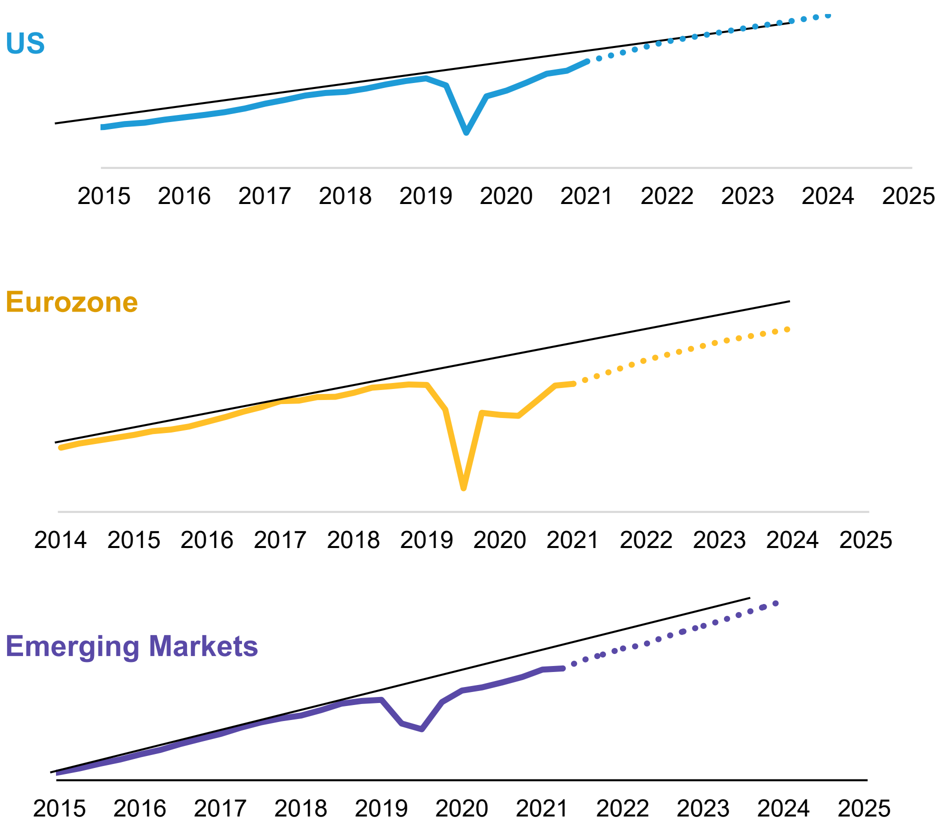
As of March 31, 2022. **Historical analysis is not necessarily indicative of future results. There is no guarantee that any estimates or forecasts will be realized.**

Source: Eurostat and AB

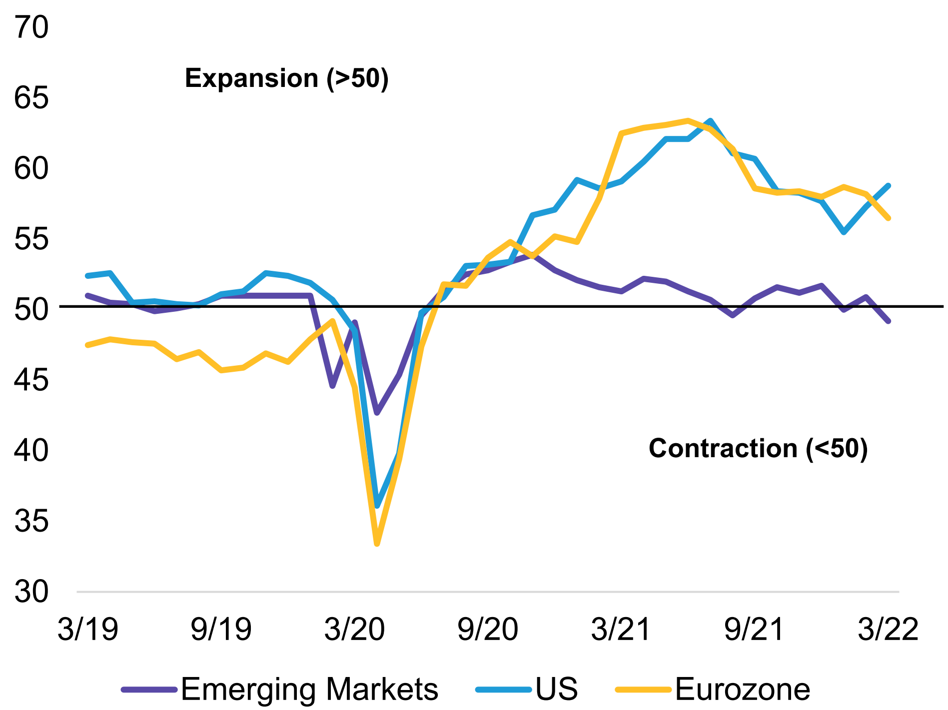
Thankfully, the Global Economy Has Momentum

But recent events will cause trend recovery to take more time

GDP: Pre-COVID-19 Trends and Forecasts



Markit Manufacturing PMIs

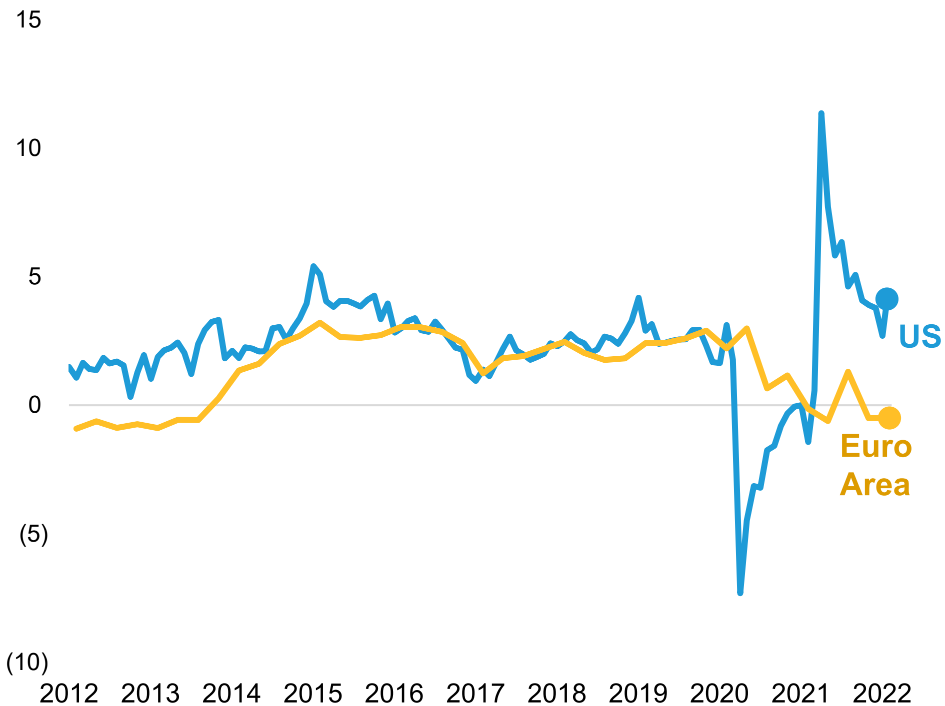


As of March 31, 2022. **Historical analysis is not necessarily indicative of future results. There is no guarantee that any estimates or forecasts will be realized.**

Source: Bloomberg, Markit, Oxford Economics, and AB

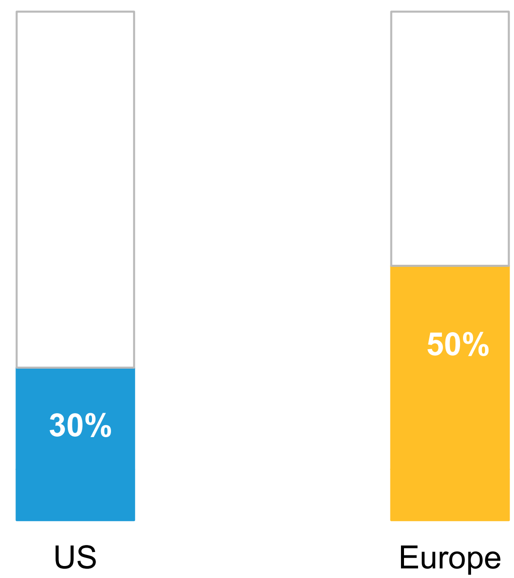
Consumers' Real Wage Gains Affect Recession Probabilities

Real (Inflation-Adjusted) Income Growth (%)*



This inflation-adjusted income growth differential makes the US consumer more able to withstand an economic headwind.

AB Forecasted Probability of Recession



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

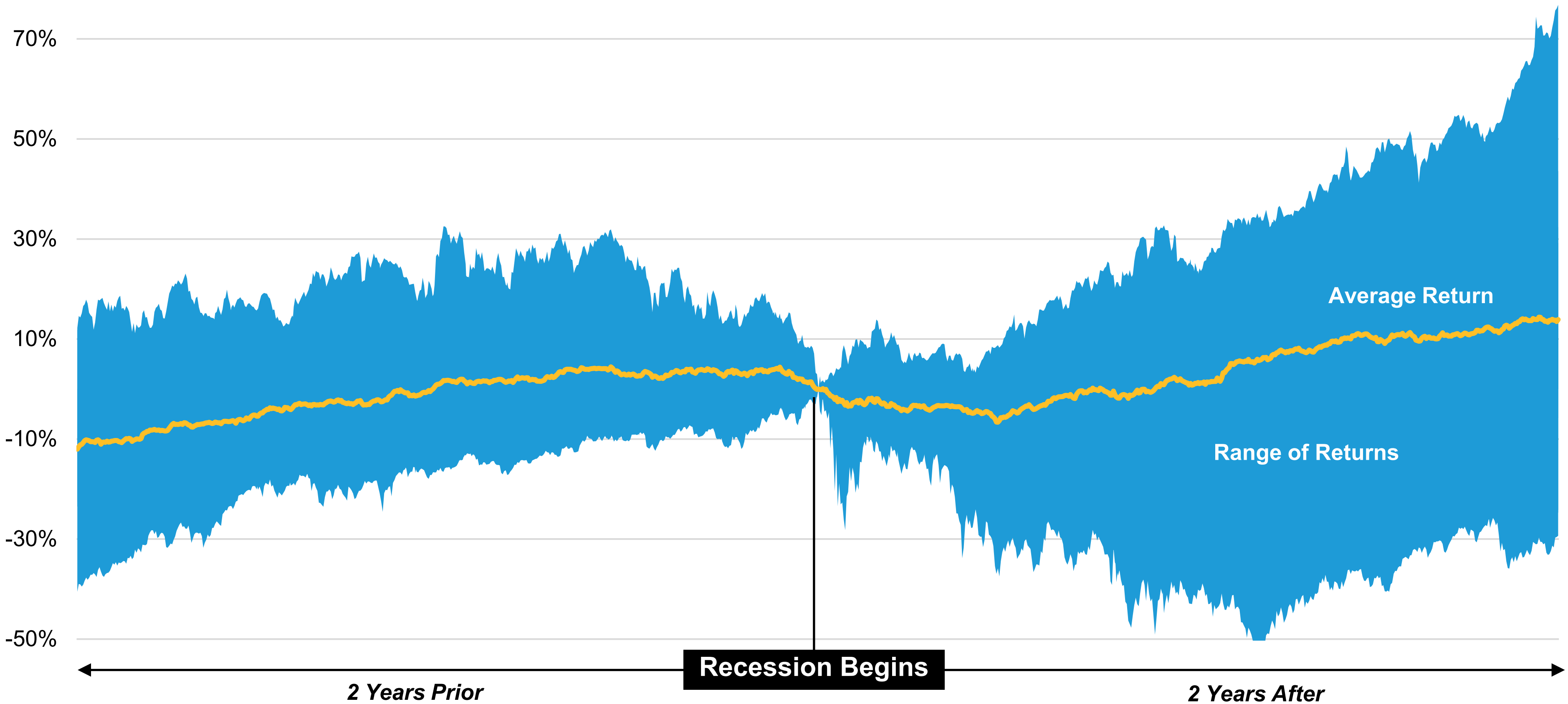
*Real Income Growth Calculation includes the Number of Workers, Average Hours Worked and Average Wage/Hour.

Source: Bloomberg, and AB

How Does the Market Respond to Recession?

Days Between Start of Recession and Market Peak/Trough			
	Average	**Max**	**Min**
Peak	170 Days Before	397 Days Before (1969)	13 Days After (1980)
Trough	211 Days After	557 Days After (2001)	23 Days After (2020)

S&P 500 price return in recessions since 1930



As of March 31, 2022. **Past performance is not necessarily indicative of future results. There is no guarantee that any estimates or forecasts will be realized.** Range of returns composed of S&P 500 price return over the 14 recessions beginning : May 1937, February 1945, November 1948, July 1953, August 1957, April 1960, December 1969, November 1973, January 1980, July 1981, July 1999, March 2001, December 2007, February 2020. The February 1945 recession is not included in days between start of recession and market/peak trough table.

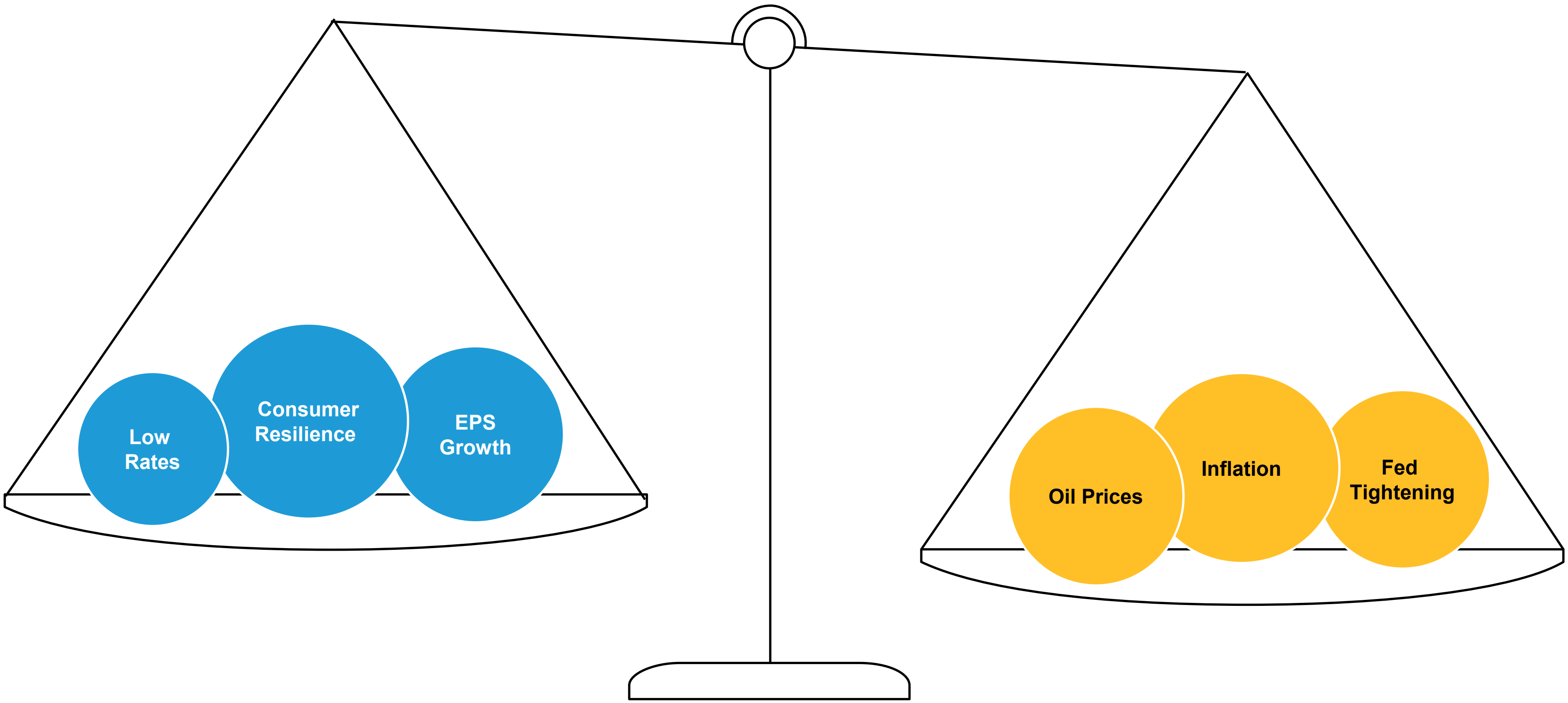
Source: Bloomberg, NBER, and AB

Does the market's decline fully reflect all the bad news?

The market sell-off and earnings revisions assume a modest economic hit from the war, inflation, and policy tightening. If a recession occurs, it's likely that the decline continues.

The Near Term Is Contingent upon Only a Few Factors

Incremental gains should come as risks clear

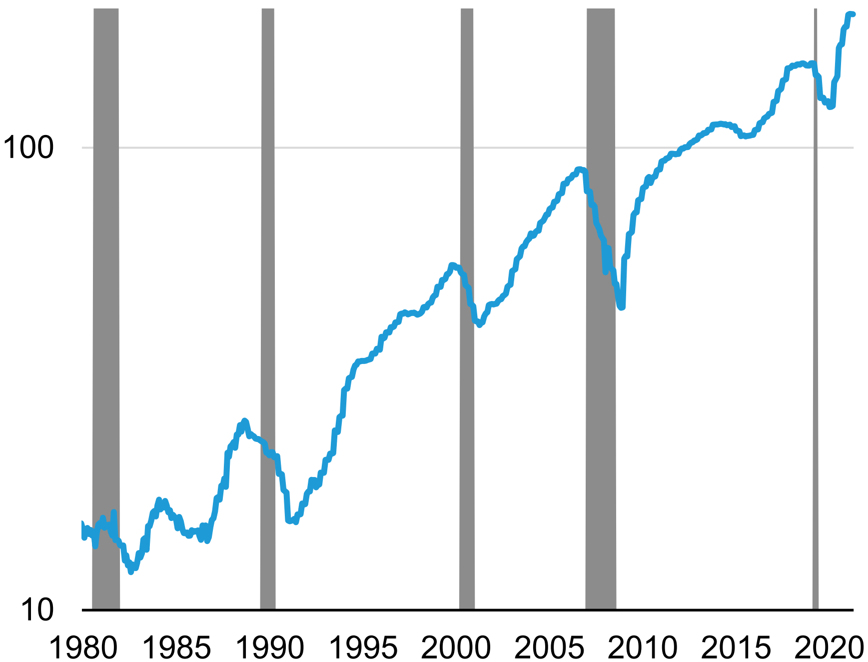


As of Mach 31, 2022. **Historical analysis is not necessarily indicative of future results. There is no guarantee that any estimates or forecasts will be realized.**

Source: AB

When Earnings Decline Is It Mid-Cycle Slowdown or Recession?

S&P 500 Trailing 12 Month EPS (Log Scale)



Peak-to-Trough EPS Declines

Dates	EPS Decline	Recession?
Aug 1982–Jul 1983	(25.9)%	Yes
Jan 1985–Aug 1987	(18.7)%	No
Aug 1989–May 1992	(39.7)%	Yes
Sep 2000–Mar 2002	(25.9)%	Yes
Aug 2007–Oct 2009	(49.8)%	Yes
Feb 2015–Mar 2016	(6.0)%	No
Jan 2020–Dec 2020	(19.6)%	Yes

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Source: Bloomberg and AB

What Do You Need To Assume To Justify A Steeper Decline

Market Decline from 12/31/22

'22 EPS	**$167**	**$178**	**$186**	**$194**	**$203**	**$211**	**$219**	**$228**	**$236**
'22 EPS Gr.	**(20)%**	**(15)%**	**(11)%**	**(7)%**	**(3)%**	**1%**	**5%**	**9%**	**13%**
22.0x	(23)%	(18)%	(14)%	(10)%	(6)%	(3)%	1%	5%	9%
21.0x	(26)%	(22)%	(18)%	(14)%	(11)%	(7)%	(3)%	**12/31/21**	4%
20.0x	(30)%	(25)%	(22)%	(18)%	(15)%	(11)%	(8)%	(4)%	(1)%
19.0x	(33)%	(29)%	(26)%	(23)%	(19)%	(16)%	(13)%	(9)%	(6)%
18.0x	(37)%	(33)%	(30)%	(27)%	(23)%	(20)%	(17)%	(14)%	(11)%
17.0x	(40)%	(37)%	(34)%	(31)%	(28)%	(25)%	(22)%	(19)%	(16)%

1 On 12/31, investors priced in 9% EPS growth and a 21x P/E

2 The 2022 YTD decline (current -5%, trough -13%) assumes a modest EPS slowdown and/or multiple contraction

3 A market decline of this magnitude would only be likely in a recessionary environment

As of March 31, 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

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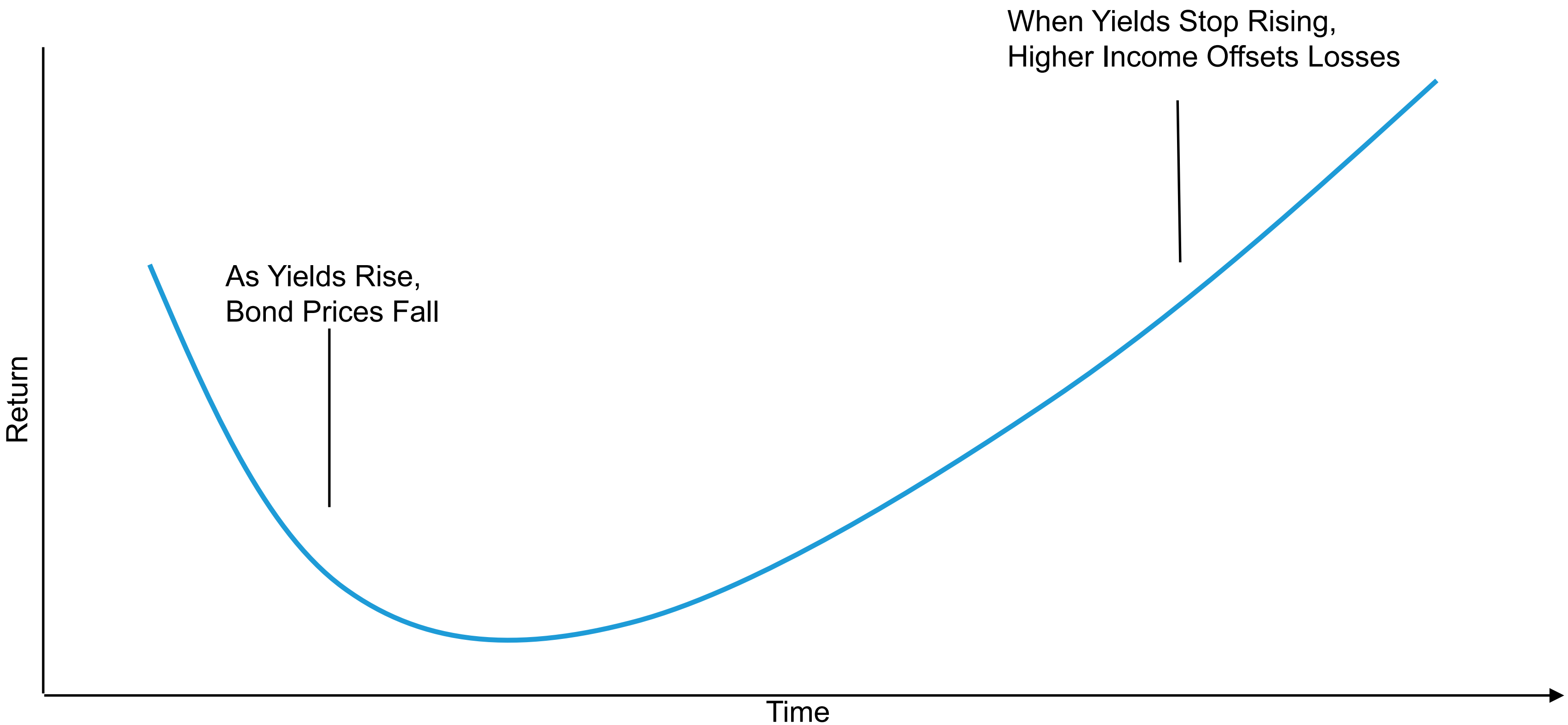
Have Bonds Become Attractive, Once Again?

True, losses have accrued, of late. But yields (and bond income) will now be higher, which will augment return over the intermediate term.

Anatomy of a Rising Rate Cycle on Bond Portfolios

Bond Portfolio Total Return Illustration

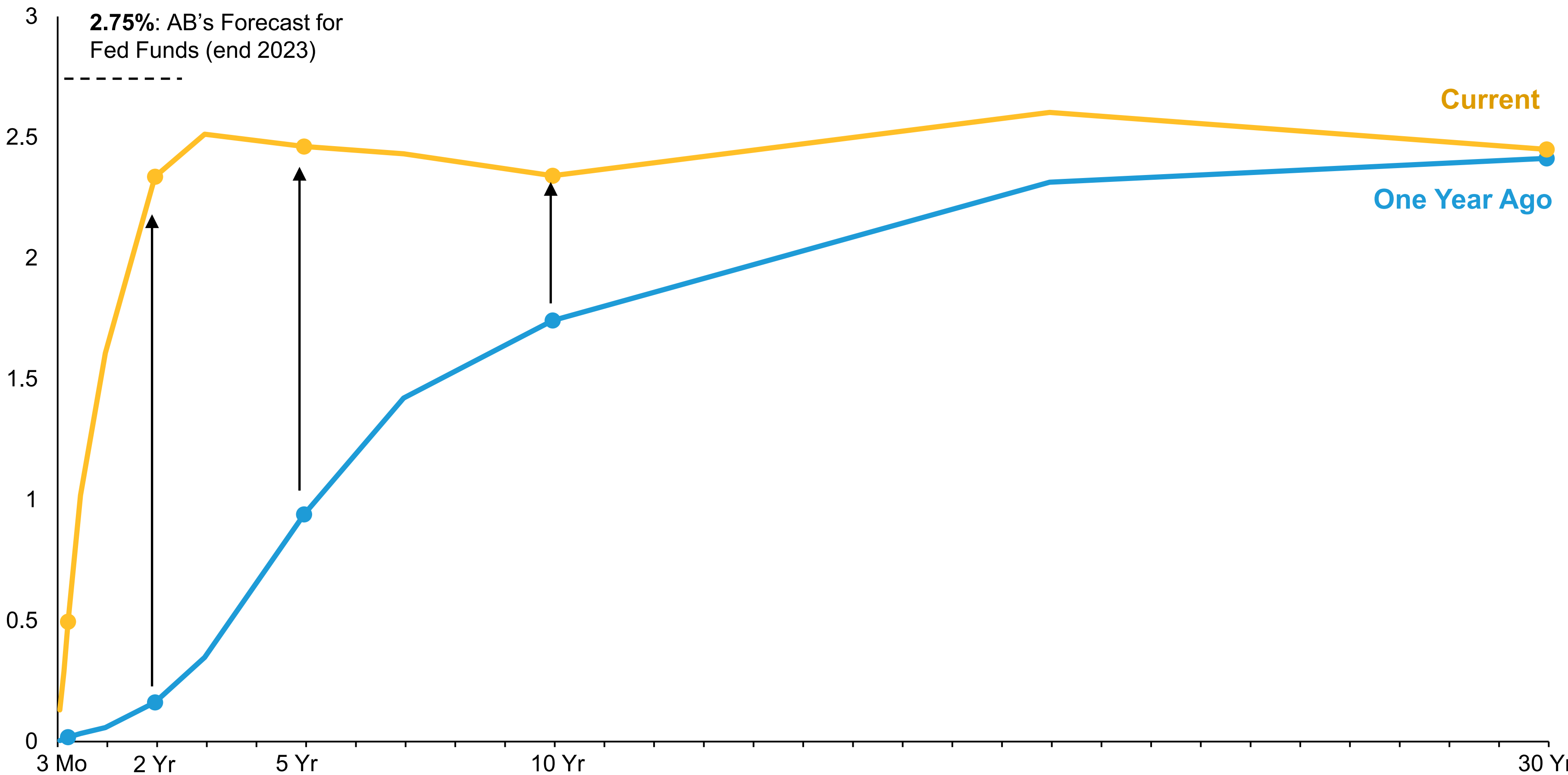


For Illustrative Purposes Only. Historical analysis is not necessarily indicative of future results. There is no guarantee that any estimates or forecasts will be realized.

Source: AB

Much of the Bond Pain Has Already Been Taken

Don't project recent bond losses indefinitely



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Source: Bloomberg and AB

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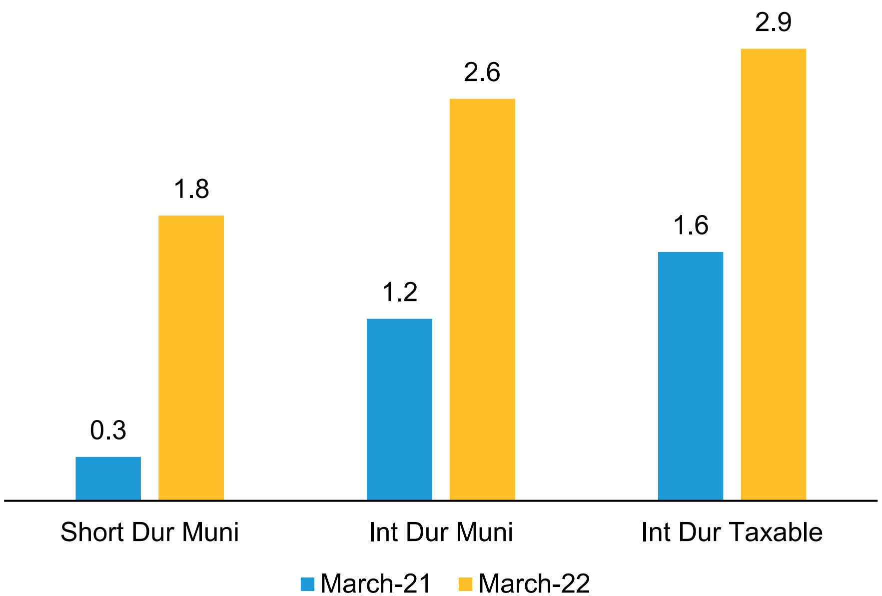
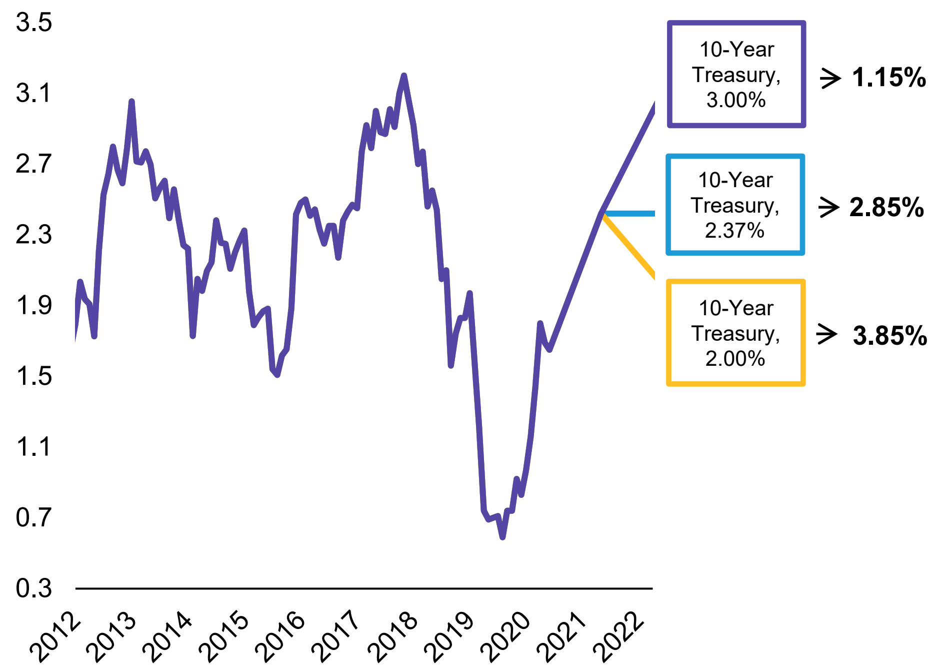
Future Returns Much More Attractive

Index Yield to Worst: Today vs. One Year Ago (%)



Expected 12-Month Municipal Returns Scenario Analysis

10-Year US Treasury Yield (%)



As of March 31, 2022. **Past performance and historical analysis do not guarantee future results.** Short-duration munis represented by Bloomberg Municipal Bond 1-year (1–2) Total Return Index, intermediate-duration munis represented by Bloomberg Municipal Bond Total Return Index, Intermediate Duration Taxable represented by Bloomberg US Aggregate Total Return Index.

Right-hand-side display as of April 1, 2022. Reflects expected returns of a five-year duration intermediate municipal portfolio under three scenarios: 10-year US Treasury yields rise to 3.00%, remain the same, or decline to 2.00% over the next 12 months.

Source: Bloomberg and AB

Buy, Sell, or Hold?

Start to buy (i.e., DCA) if you have cash to allocate. Hold if you're fully invested and your allocation remains appropriate.

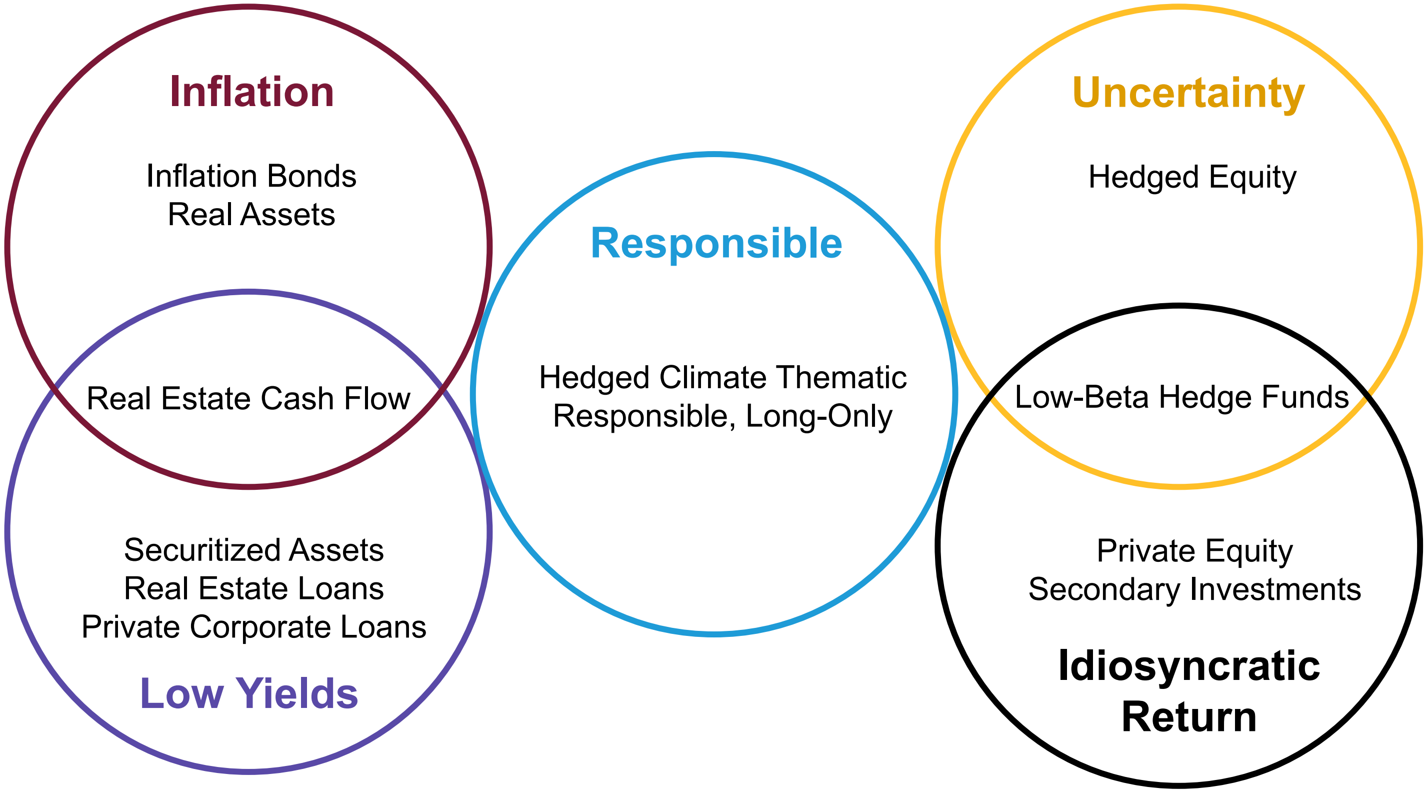
Our Key Investment Conclusions and Advice—Start to Add

- Near-term market moves will be determined by the developments in Ukraine and incremental data on US inflation
- Given both those factors are highly uncertain in the near term, long-term investors shouldn't attempt to time the market
- The market declines in 2022 present an attractive entry point, but we should acknowledge that the bottom may not be in just yet
  - Signs of a bottom will include some combination of:
    - Any easing of tensions (not necessarily resolution) in Ukraine
    - Acknowledgment of recession in Europe (i.e., a worst-case scenario is priced in)
    - Peak inflation pressures evident
    - Investor capitulation (extreme daily declines)

For those looking to take advantage, a dollar-cost-averaging approach may be appropriate. Similarly, hedged equity exposure that participates in upside but provides risk mitigation is attractive.

Dollar cost advising does not eliminate the risk of loss. Alternative investments involve a high degree of risk and are designed for investors who understand and are willing to accept these risks. **There can be no assurance that any alternative investment strategy will achieve its investment objectives.**

Actionable Ideas Based on the Current Investment Landscape



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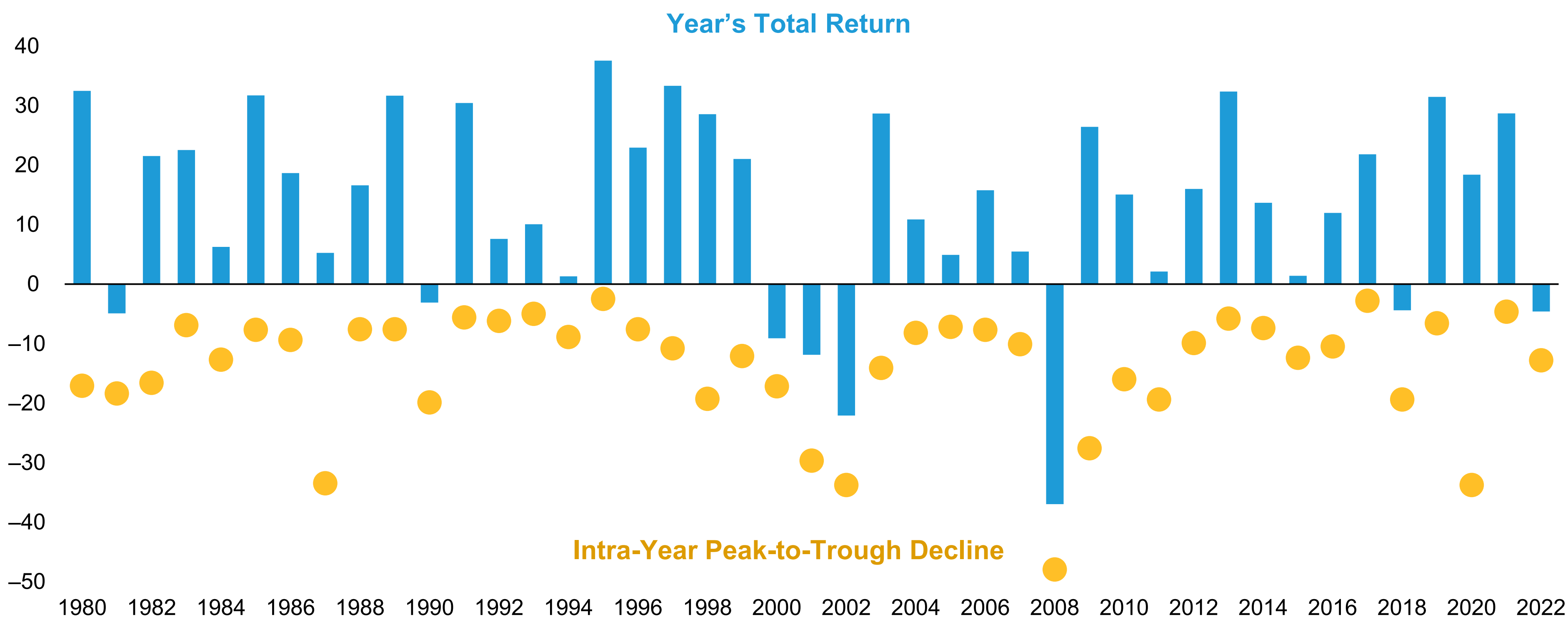
Source: AB

Stocks Have Mostly Risen Despite Intra-Year Corrections

S&P 500 (%) by Calendar Year



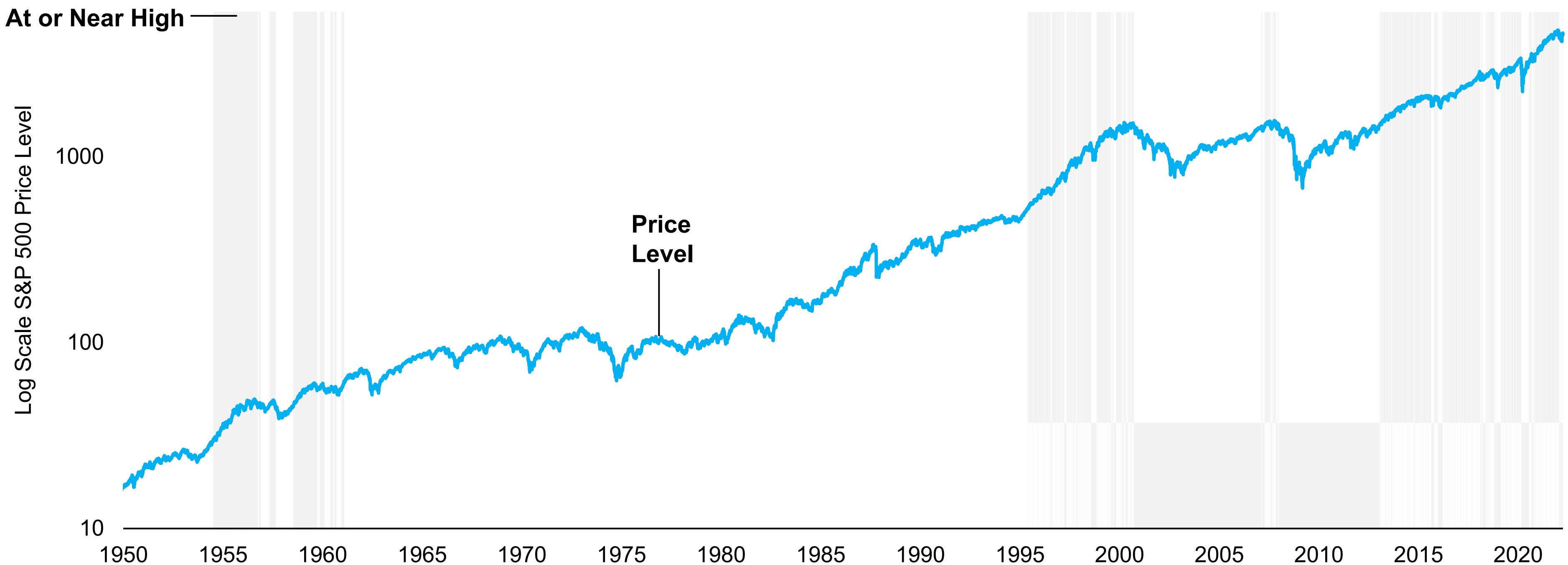
As of March 31, 2022. **Past performance does not guarantee future results.**

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

Markets Are Often Reaching New Heights

S&P 500 at or Near All-Time Highs*

January 1950–March 2022



Since 1949, the S&P 500 has been at or near all-time highs 44% of the time.

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

*At or near all time high represents all price levels that are within 5% of the last all-time high or are a new all time high.

Source: Bloomberg, S&P 500, 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)

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	N/A	N/A

Summary	1 Week	1 Month	1 Quarter	1 Year
Average	0.4	1.2	4.3	10.4
% of Events Negative	36	33	26	26
Conflict/War Avg.	0.9	2.3	4.7	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 March 31, 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.

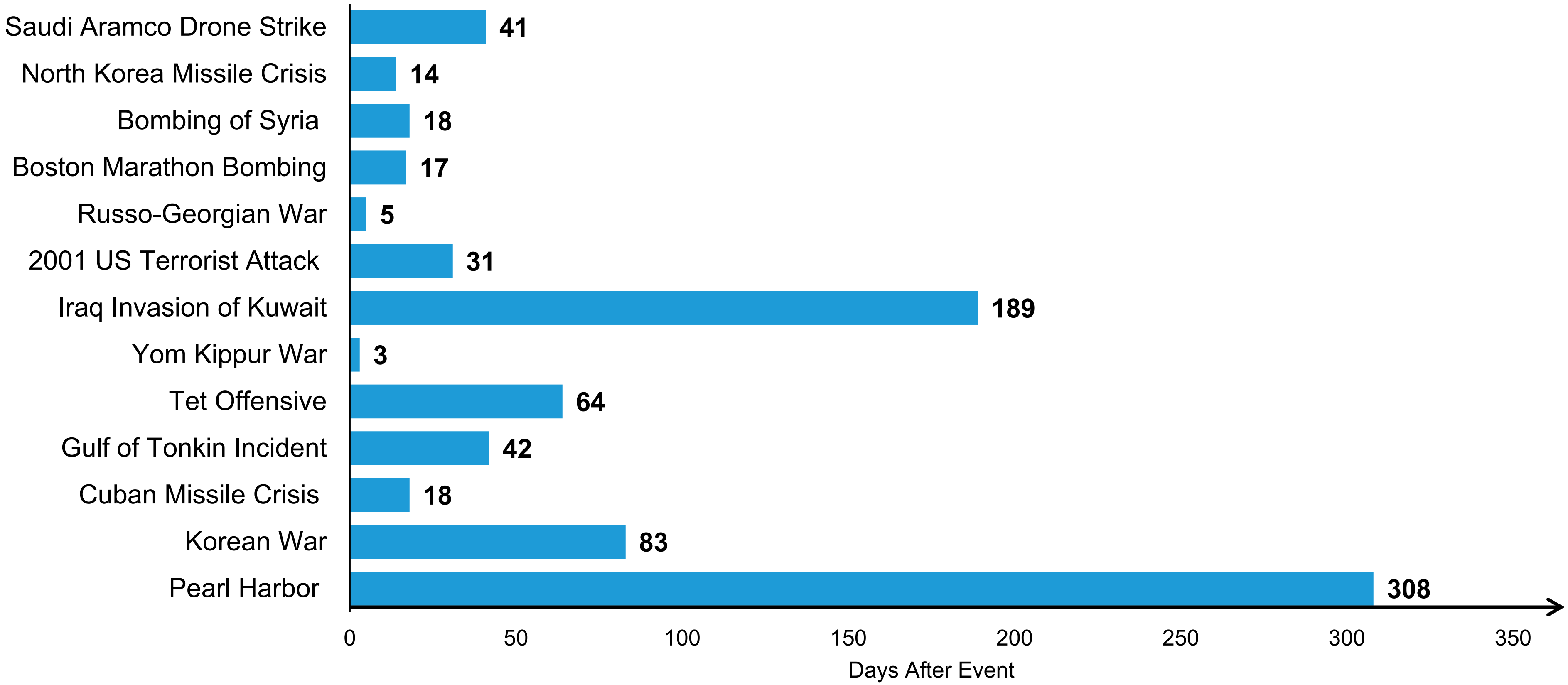
†Date that China officially notified the WHO of the outbreak.

‡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

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

Our 2022 Checklist: How We're Taking Action

Our priorities for clients for the balance of the year

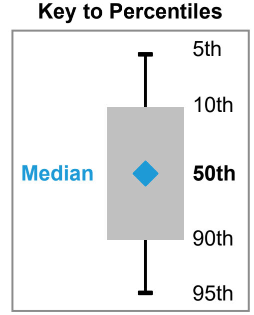
- **Aligning your financial objectives with your investment implementation**
  Ensuring that your allocation is consistent with the goals you've set
- **Considering whether tax change would affect you and what actions may be appropriate in advance of legislation**
  We can help you explore a range of 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

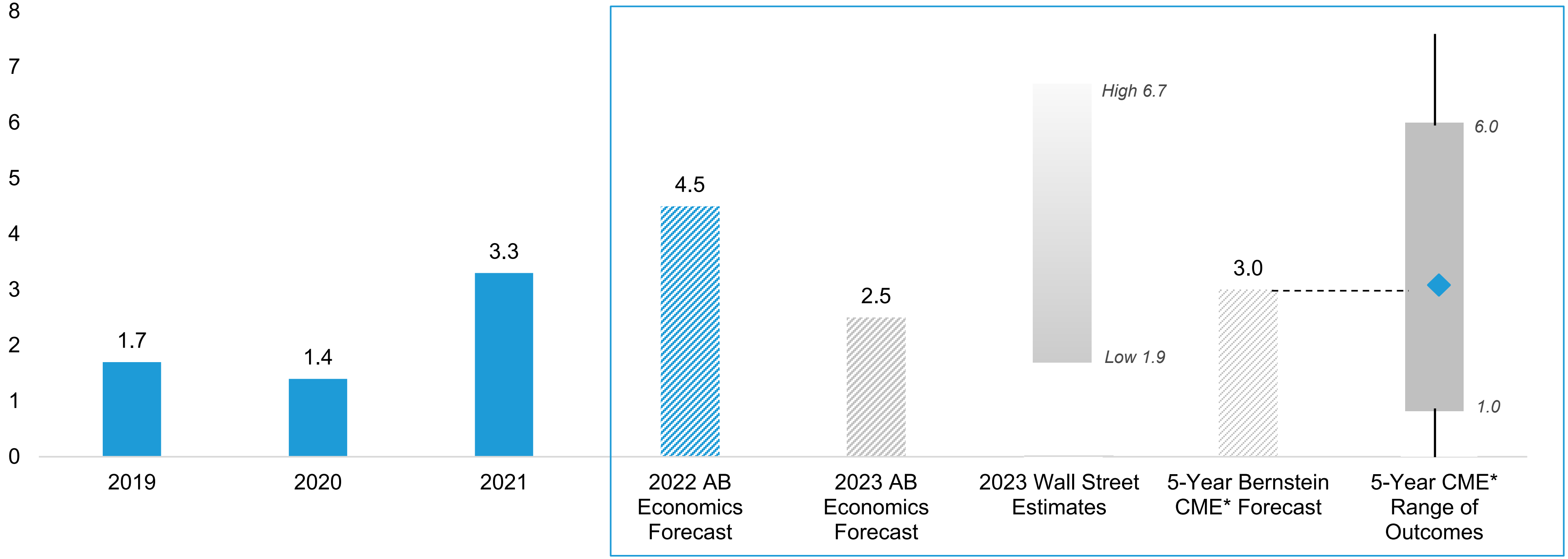
Inflation Forecasts Are Highly Uncertain, Even Among Economists

2023 Wall Street expectations range from disinflation to accelerating inflation



Inflation: Historic and Estimated (%)

Inflation is always hard to predict, but even more challenging at the moment. The range two years out is unusually wide among Wall Street economists.



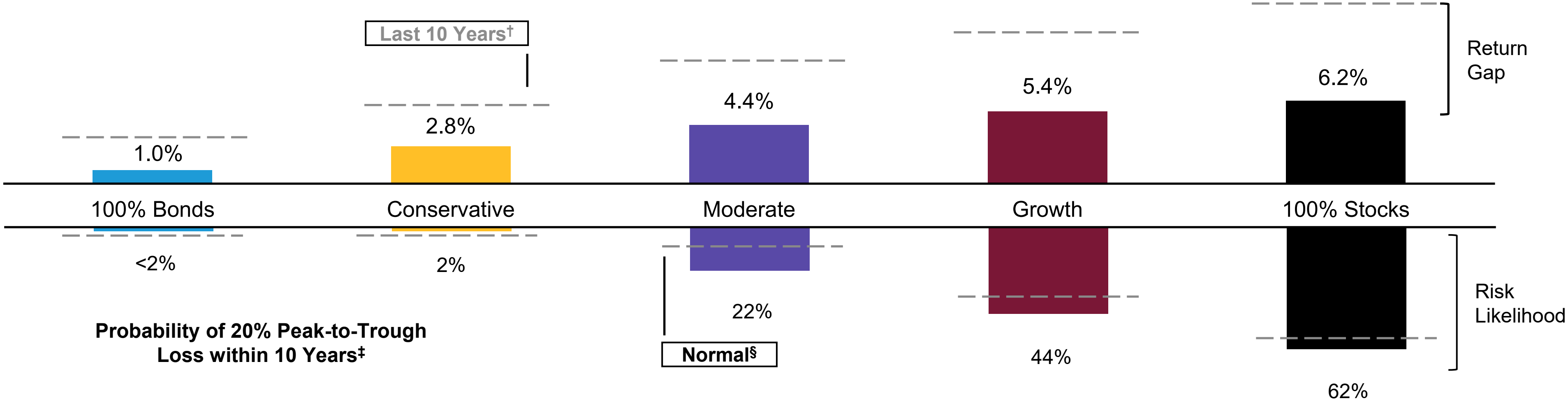
As of March 31, 2022. **Historical analysis is not necessarily indicative of future results. There is no guarantee that any estimates or forecasts will be realized.**

*Capital Markets Engine, geometric mean CPI over 5 years, as of 12/31/2021. All other forecasts are for Core PCE.

Source: AB, Bloomberg.

Returns Expected to Be Modest, Drawdowns More Likely Than Normal

Projected median 10-year annualized return*



The most significant influences on our modest 10-year return expectations are:
For Equities: High US valuations and low non-US profit margins
For Bonds: Low current interest rates & rising rates over time

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

*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.

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 are represented by the following allocation for a 100% stock 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.

†Reflects compound growth rates from January 1, 2012, through December 31, 2021. Stocks represented by 60% Russell 3000 Index and 40% MSCI ACWI ex US. Bonds represented by Lipper Short/Int Blended Muni Fund Avg. From left to right, those figures are 2.1%, 5.3%, 8.4%, 10.6%, 12.7%.

‡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 Normal peak-to-trough probability is as follows from left to right: <2%, <2%, 11%, 33%, and 55%.

See Assumptions and Notes on Bernstein Wealth Forecasting System in Appendix for further details.

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

Addressing the Most Relevant Investment and Wealth Topics to You

Timely insights

Blogs

Countering ESG Critics

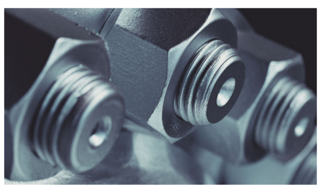
Recent prominent articles criticizing responsible portfolios have unsettled nonprofit fiduciaries. We think the critics have missed the point.

The Long View: Russia-Ukraine War Has Lasting Implications for Investing

Russia's invasion of Ukraine has shaken up broad issues that shape our analysis of asset classes and securities. Here's what our investment teams are beginning to assess.

When Should You Take Social Security? Inflation Adds a New Wrinkle

Determining when to take Social Security is like trying to hit a moving target. And that's before inflation reared its head.



Fed Ready to Tighten the Screws on Inflation

With inflation more intense and entrenched, the Federal Reserve has made it clear that it intends to respond with tighter monetary policy, which the US economy should be able to withstand.

US Stocks: Enduring Advantages for Testing Times

Solid earnings growth and high profitability underpin the benefits of US stocks, even in a tougher environment in 2022.

Municipal Bond Outlook: Navigating Headwinds in 2022

From inflation to rising rates to taxes, muni investors will face challenges in 2022. The right approach can help them meet their goals.

Podcasts

THE PULSE
The State of US Real Estate
30 00:00:00 / 00:41:54 30
March 21, 2022

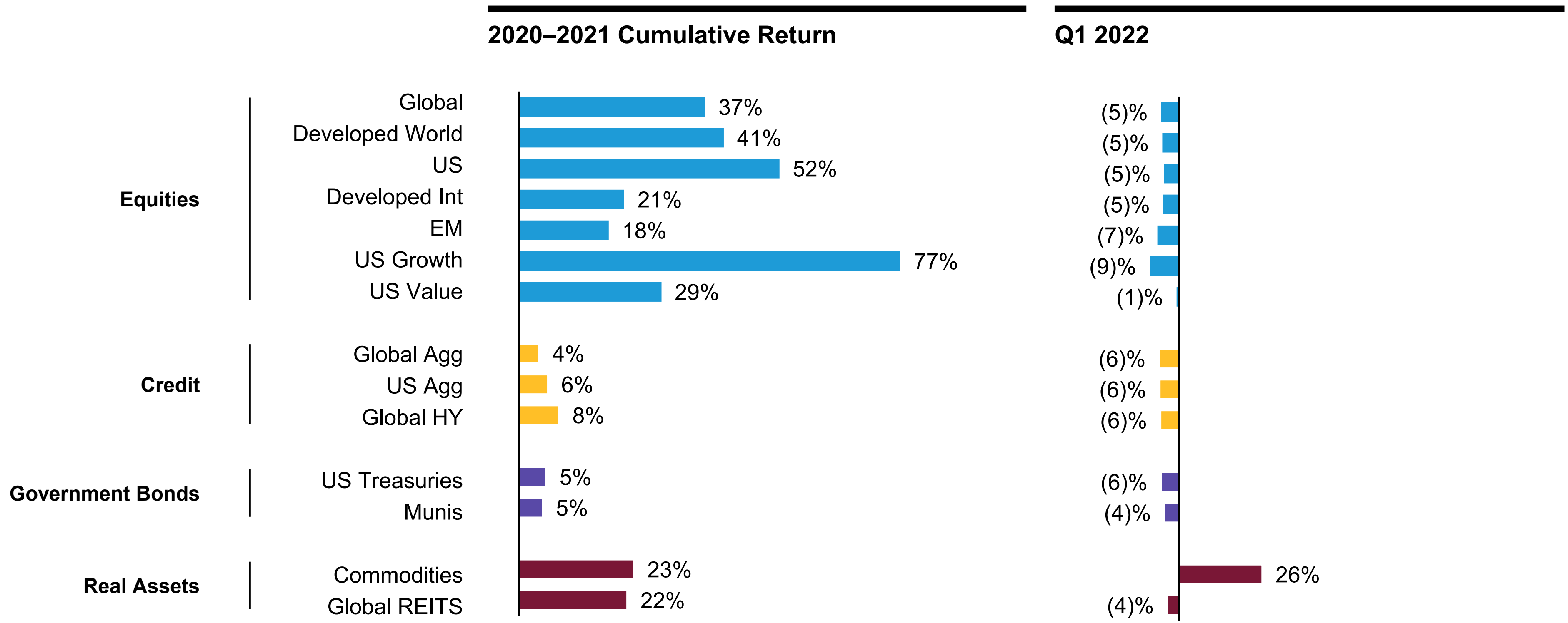
WOMEN & WEALTH
Hidden in Plain Sight: Rewriting Women into History
30 00:00:00 / 00:26:22 30
March 22, 2022

ON PURPOSE
From Burgers to Utensils: More Products Embrace Synthetic Biology
30 00:00:00 / 00:28:57 30
March 28, 2022

Click on Any Image to Be Brought to Our Insights

Cross-Asset Returns Dashboard

Returns in US dollars

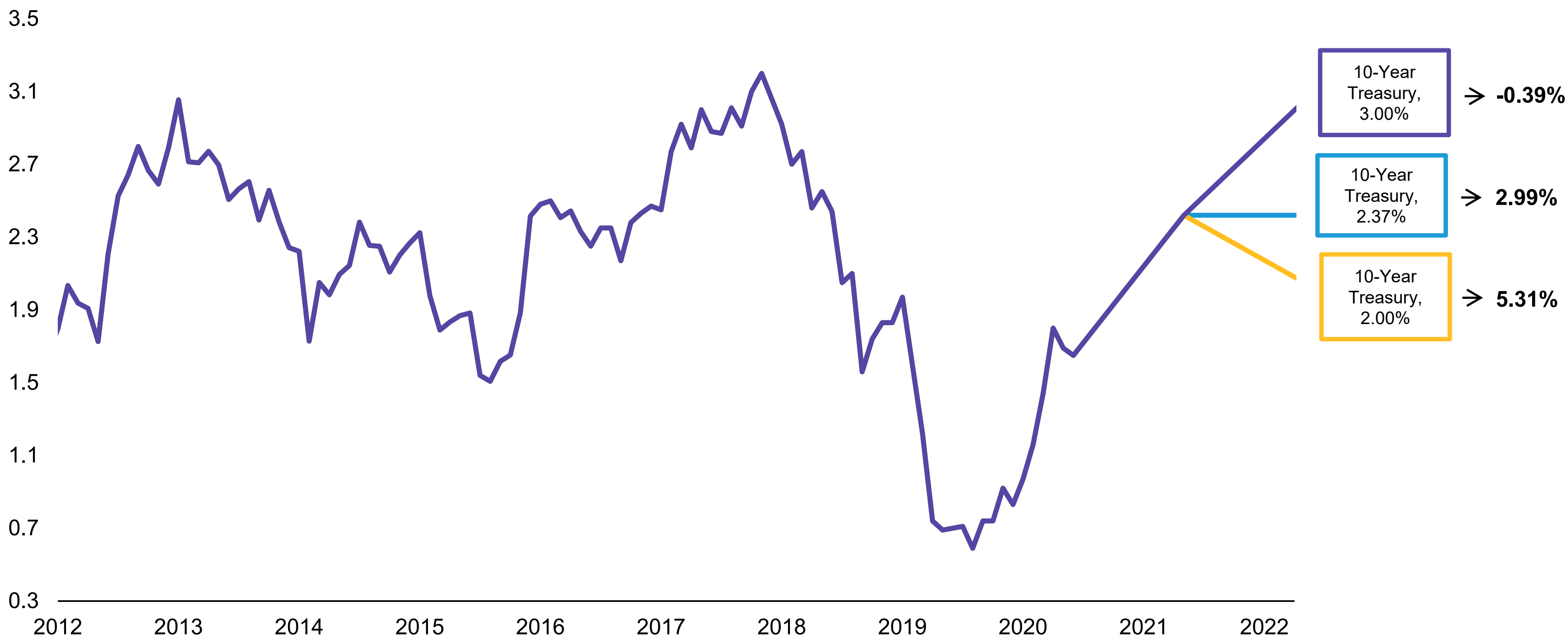


As of March 31, 2022. **Historical analysis is not necessarily indicative of future results. There is no guarantee that any estimates or forecasts will be realized.** Asset classes represented as follows: (Equities) Global—MSCI ACWI IMI Index, Developed—MSCI World Index, US—S&P 500 Index, Dev Int—MSCI 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

Intermediate US Taxable Bond Scenario Analysis

Expected 12-Month Intermediate Taxable Returns
10-Year US Treasury Yield (Percent)



As of April 1, 2022.

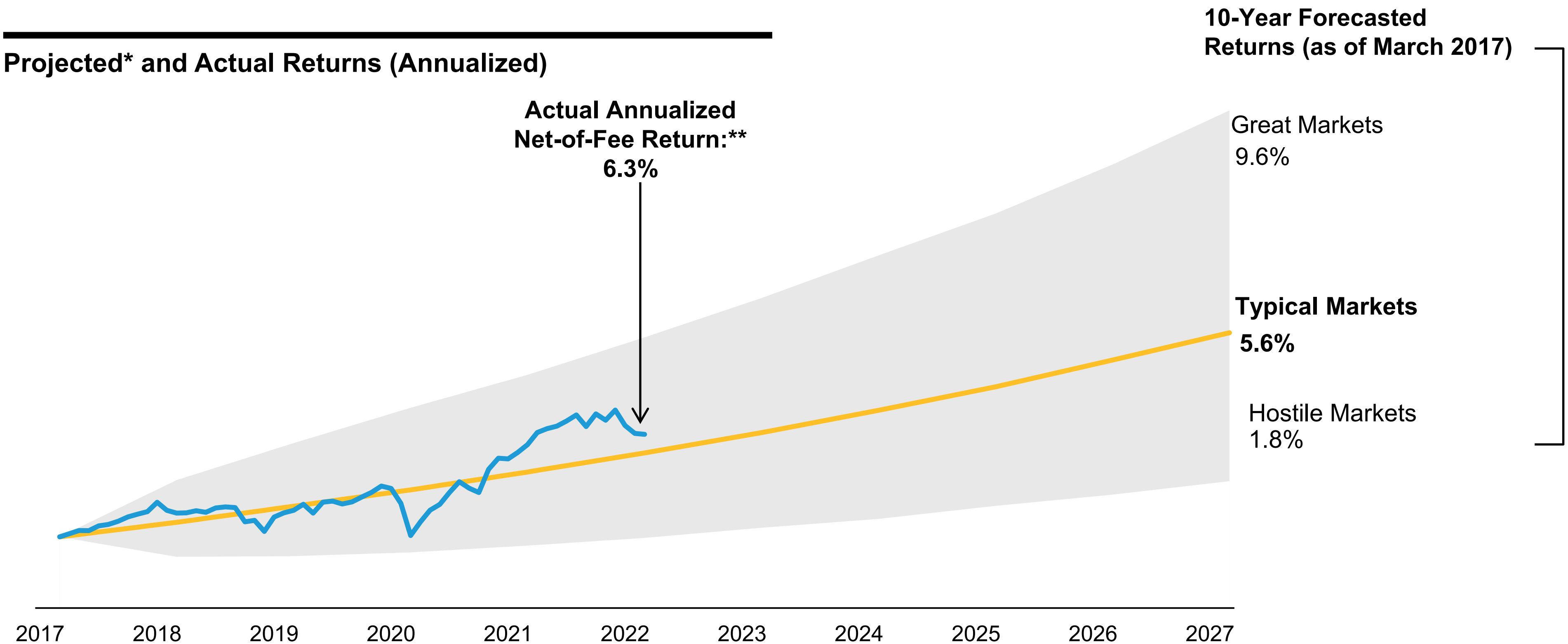
For illustrative purposes only. Past performance does not guarantee future results. There is no guarantee any investment objective will be achieved.

Based on Bloomberg Barclays U.S Aggregate Index

Source: Bloomberg and AB

Despite Sell-Offs, Long-Term Investors Remain Above Plan

Projected* and Actual Returns (Annualized)



Through March 31, 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 March 31, 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

10-Year Capital-Market Projections: Asset Classes

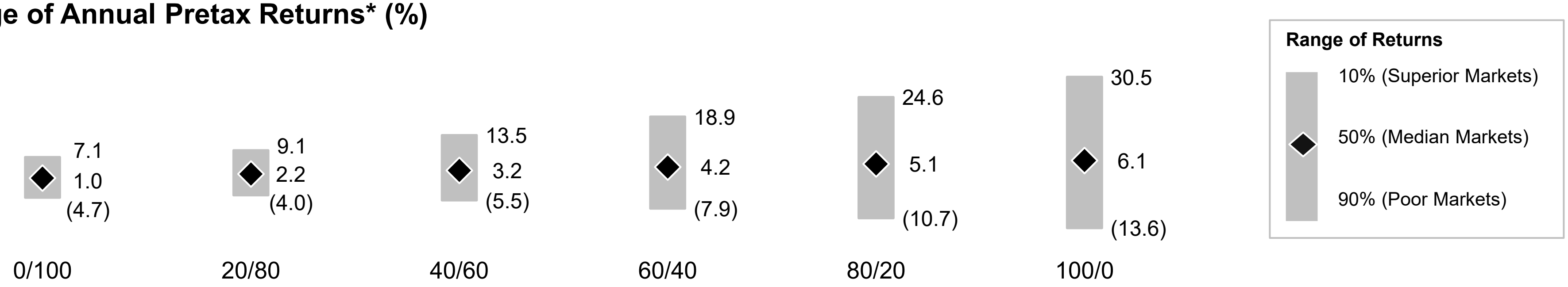
	Median 10-Year Growth Rate	Mean Annual Return	Mean Annual Income	One-Year Volatility	10-Year Annual Equivalent Volatility
Cash Equivalents	1.6%	1.8%	1.9%	0.4%	4.3%
Short-Term Treasuries	2.3%	2.5%	2.4%	0.9%	3.5%
Short-Term Taxables	2.6%	2.8%	2.9%	1.1%	3.5%
Short-Term Diversified Municipals	1.5%	1.6%	1.6%	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.

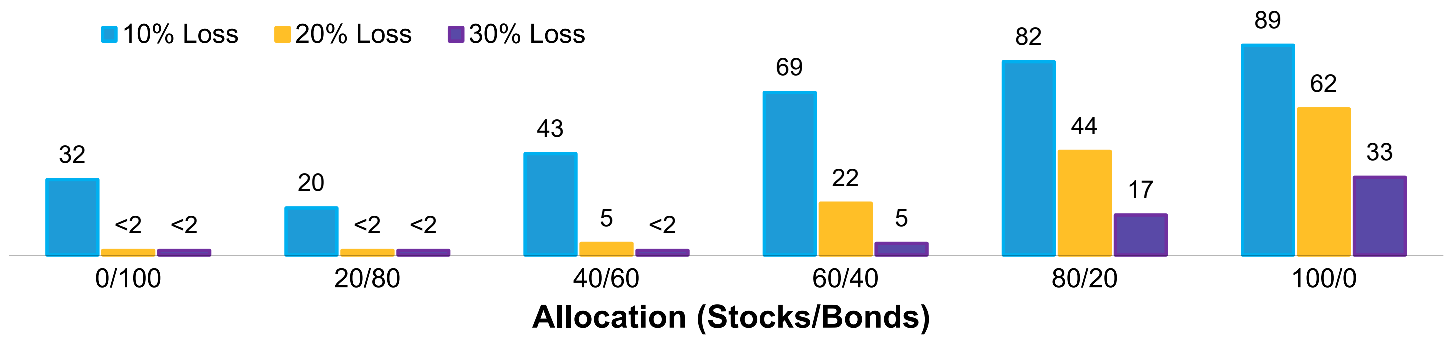
Data do not represent past performance and are not a promise or a range of future results.

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	1.1%	1.5%	1.8%	2.0%	2.0%	2.0%
Age 65	1.6	2.0	2.3	2.5	2.6	2.6
Age 75	2.4	2.9	3.1	3.4	3.4	3.6

Estimated Core Capital—Spending $100,000
USD Millions

Allocation	0/100	20/80	40/60	60/40	80/20	100/0
Age 55	$9.2	$6.7	$5.6	$5.0	$4.9	$5.0
Age 65	6.2	5.0	4.4	4.0	3.9	3.9
Age 75	4.1	3.5	3.2	2.9	2.9	2.8

*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 December 31, 2021. 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 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 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 **Dow Jones–UBS Commodity Index** is a rolling index composed of futures contracts on physical commodities.

The **FTSE EPRA/NAREIT Global Real Estate Index** is a market-capitalization-weighted index that tracks the performance of listed real estate companies and REITs across a range of property types worldwide.

The **FTSE NAREIT Equity Index** is an unmanaged, market-capitalization-weighted index that tracks the performance of publicly traded REITs across a range of US geographies and property types.

HFRI Fund of Funds Composite Index is an equal-weighted performance index that includes more than 650 constituent fund of funds that report their monthly net-of-fee returns to Hedge Fund Research, Inc. and have at least $50 million under management and have been actively trading for at least 12 months.

HFRI Fund Weighted Composite Index is an equal-weighted performance index that includes more than 2,000 constituent funds that report their monthly net-of-fee returns to Hedge Fund Research, Inc. and have at least $50 million under management and have been actively trading for at least 12 months.

The **Lipper Intermediate Municipal Debt Funds Index** tracks funds that invest in municipal debt issues with dollar-weighted average maturities of five to 10 years.

The **Lipper Short/Intermediate Municipal Debt Funds Index** tracks funds that invest in municipal debt issues with dollar-weighted average maturities of one to five years.

The **Lipper Short Municipal Debt Funds Index** tracks funds that invest in municipal debt issues with dollar-weighted average maturities of less than three years.

The **Lipper TASS Hedge Fund Index** provides monthly net-of-fee returns on an equal-weighted basis of those funds that report returns to the Lipper TASS database.

The **Lipper TIPS Fund Index** tracks funds that invest primarily in inflation-indexed fixed-income securities issued in the United States. Inflation-indexed bonds are fixed-income securities that are structured to provide protection against inflation.

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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