BERNSTEIN

Curb Your (Economic) Enthusiasm

3Q23 Macro and Markets Perspective

Our Perspective: Curb Your (Economic) Enthusiasm

How Soft Is Soft?

The economy's resilience has been a pleasant surprise. But some, including the Fed, are extrapolating that resilience forward, discounting the impact of notable headwinds (e.g., diminished savings, slower jobs gains). To be clear, we don't think the slowdown will be severe, but "Goldilocks" is perhaps too sanguine. See pp.10–12.

History Favors Bond Investors

With the economy likely to slow more than expected, intermediate-duration fixed income provides an attractive entry point, particularly after 3Q's run-up in rates, for LT investors to collect decades-high yields plus capital appreciation when rates reverse. See pp. 15–18.

Providing Liquidity into Illiquidity Our Best Idea

Certain corners of the investment markets need perpetual access to liquidity (think those that finance their operations). With rates higher, that financing is more expensive but more importantly, there is less financing to be had, given bank credit's contraction. We suggest taking advantage of this "lenders market." See pp. 24.

As of September 30, 2023
Source: Bernstein analysis

Key Economic and Market Expectations, 2023–2024

- **Global growth:** Continued weakening for the next few quarters but not an imminent hard landing.
- **Inflation:** Decelerating, but the pace of progress has been slow and variable across geographies. Rising commodity prices pose an upward risk.
- **Monetary policy:** Higher for longer - we expect tight policy for several quarters to come, but no significant additional hikes going forward.
- **Bond yields:** We believe the recent rise in yields is unlikely to be sustained as growth and inflation slow and rate hikes end.
- **Earnings growth:** S&P 500 earnings expectations have been stable. Macroeconomic headwinds may challenge company profitability for the next several quarters - though we anticipate a rebound in 2024 as rates recede.

AB Economic Team Forecasts

	2023		2024	
US GDP	**2.2%**	↑	**0.5%**	↓
Global GDP	**2.4%**	↑	**2.1%**	↑
10Y Treasury Rate	**4.0%**	↑	**3.0%**	↑
Policy Rate	**5.25%–5.50%**	—	**4.25%–4.50%**	↑
US Inflation	**3.8%**	—	**2.5%**	—

Vs. Previous Forecast

As of September 30, 2023. **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

What We Believe

While forecasting is more difficult under uncertain conditions like today's, below are our market perspectives that may affect your asset-allocation decisions and opportunities

<u>The stock market priced a recession and bottomed in October</u> and a new multiyear bull market has begun (*Summer '23*)

Update: Correct, to date

Advice: <u>Don't be underweight</u>—ensure LT equity allocation is implemented and DCA if adding capital

Absent surprise, the <u>Fed is likely done hiking rates</u> after July and will start to cut in summer 2024 (*Summer '23*)

Update: On track, to date. Cuts, TBD

Advice: <u>Extend duration</u> by moving out of money markets to benefit from falling rates and to avoid reinvestment risk

The <u>equity market may be volatile in the near term</u>, given a softening consumer (*Summer '23*)

Update: Correct

Advice: <u>DCA through the volatility</u> rather than adding all at once

<u>A credit contraction will occur</u>, affecting the private industries in need of perpetual capital (*Summer '23*)

Update: On track

Advice: <u>Lean into the contraction</u> (e.g., to CRE, middle-market lending), gaining attractive yields and favorable terms

As of September 30, 2023

Source: Bernstein analysis

How Soft Is Soft (Landing)?

The Economy Has Digested Countless Headwinds

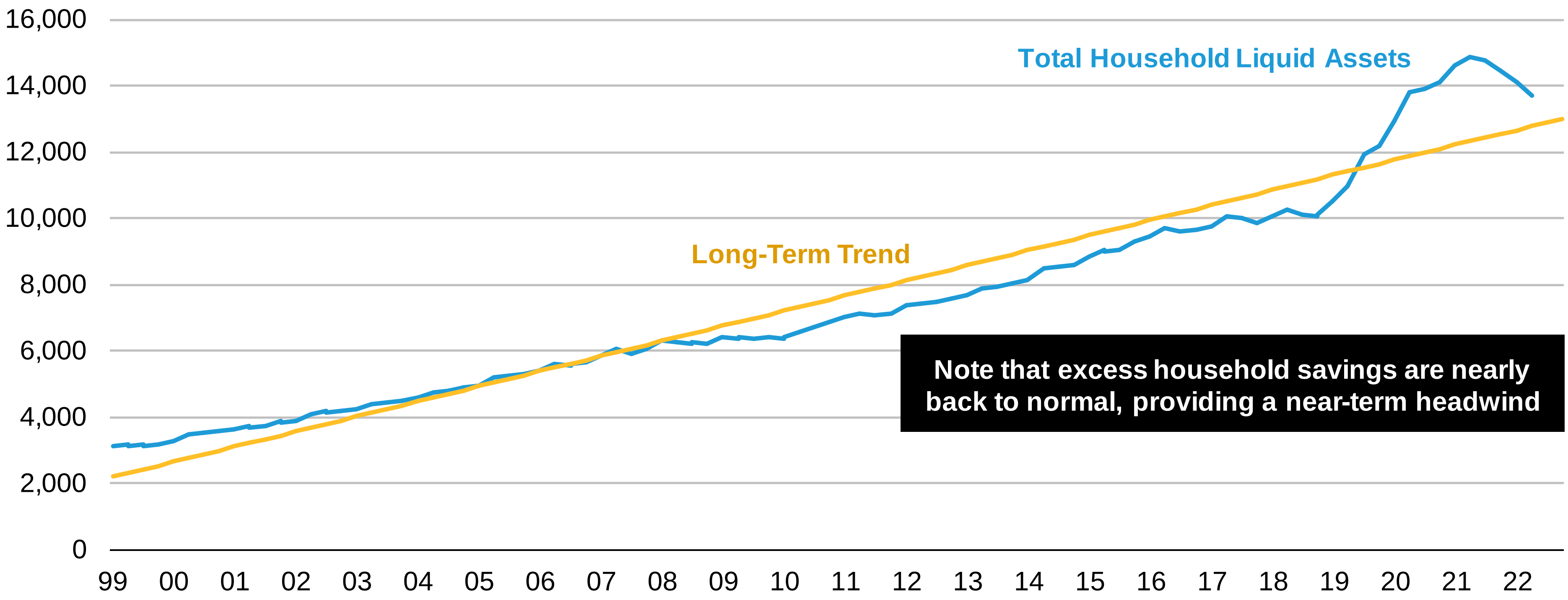
Issue	Reason for Resilience
20+ months of war in Ukraine	Small economic countries + limited gas impact on Europe due to mild winter
~45% commodity price spike (1H2022)	~20% decline since
China's zero-covid Policy and soft reopening	Economic resilience elsewhere
167-year-old Credit Suisse collapse	Purchased by UBS, no notable fallout
3 US regional bank failures	Ring-fenced troubled banks; liquidity provided to stabilize deposits
$31T debt ceiling drama	Resolved and extended to 2025
525 bps of Fed hikes (i.e., the long and variable lag of monetary policy)	TBD—near-term concerns on slowing consumer, labor-market weakness
China growth slowdown + debt issues	Isolated so far, resilience elsewhere
Oil spike toward $100/bbl	Global economy less oil reliant … but stay tuned
UAW strikes	Small economic impact

As of September 30, 2023. **Historical analysis is not necessarily indicative of future results. There is no guarantee that any estimates or forecasts will be realized.**
Source: Bernstein analysis

A Strong Consumer Is “The Why”

Sizable post-pandemic financial cushion for households has provided a significant buffer

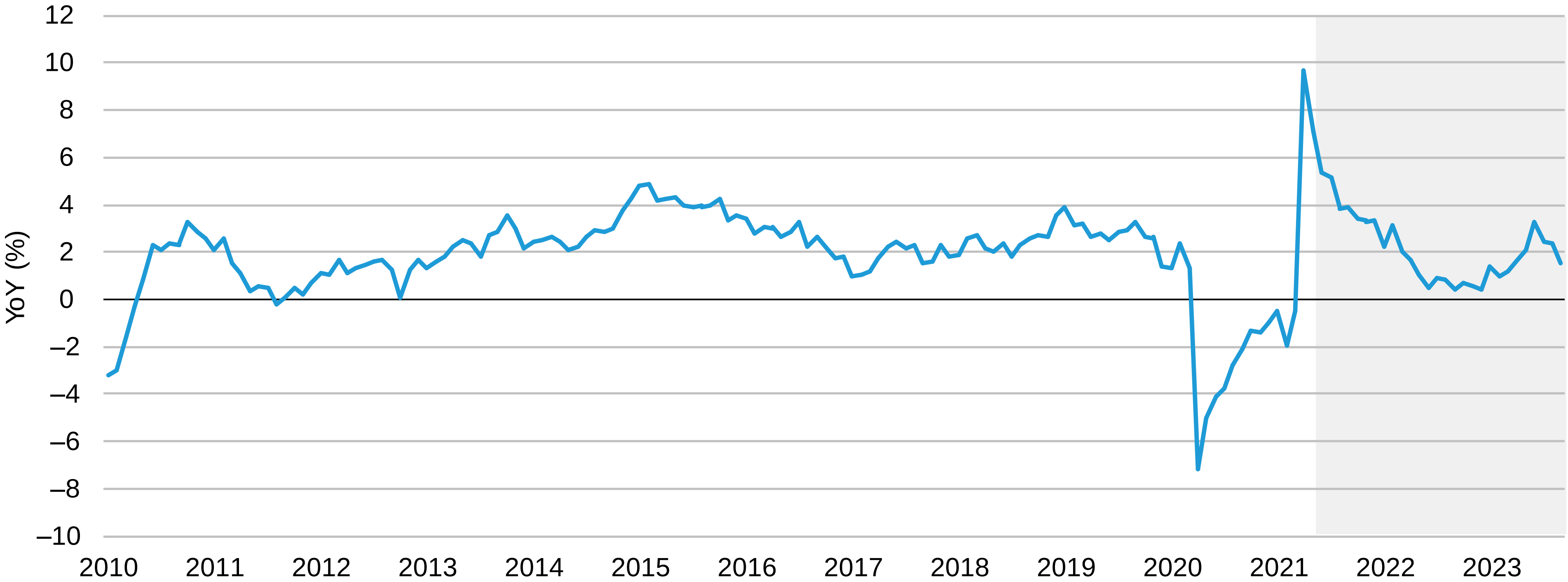
Total Household Liquid Assets and Long-Term Trend
USD Billions



As of June 30, 2023. **Historical analysis is not necessarily indicative of future results.**
Source: US Federal Reserve, and Bernstein analysis

Real Consumer Purchasing Power Has Grown, Despite Inflation

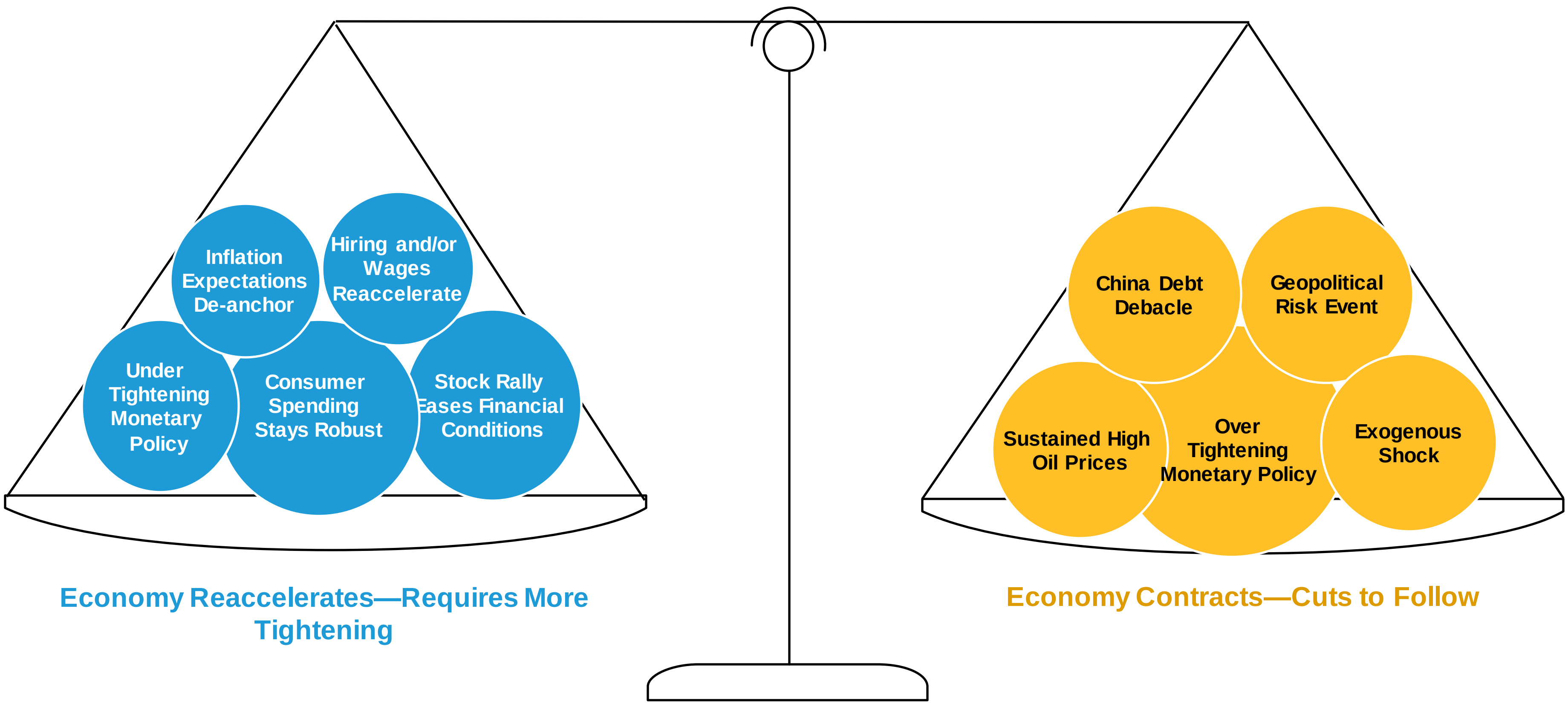
Year-over-Year Percent Change in Real Aggregate Household Paychecks*



As of September 30, 2023. **Historical analysis is not necessarily indicative of future results.**
*Real household paycheck defined as total w orkers * Average Weekly Hours * Average Hourly Earnings less inflation, YoY % change terms
Source: US Federal Reserve, Bloomberg, and Bernstein analysis

Our Expectation for Soft Landing / Mild Recession Requires Delicate Balancing Act

Our base case remains a gradually weakening economy to characterize the next few quarters, but we do not forecast a hard landing.

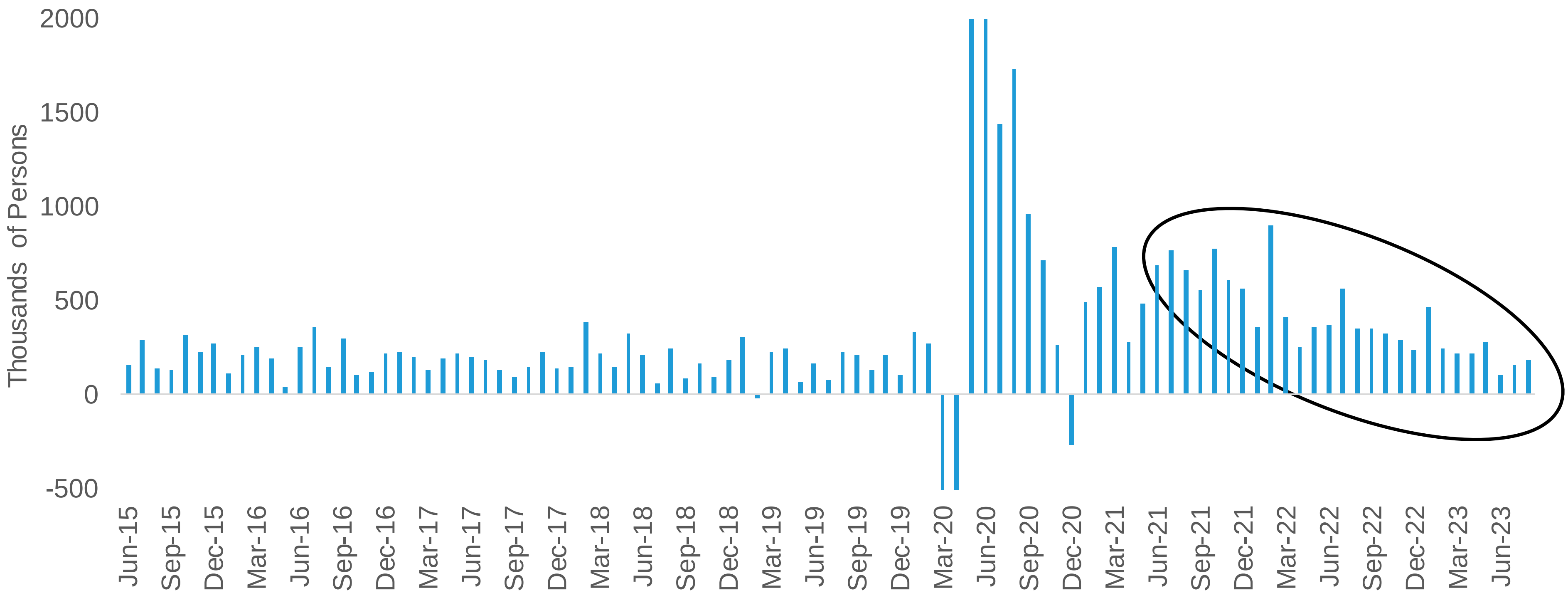


As of September 30, 2023. **Historical analysis is not necessarily indicative of future results. There is no guarantee that any estimates or forecasts will be realized.**

Source: AB

A Slowing Labor Market Will Be a Headwind

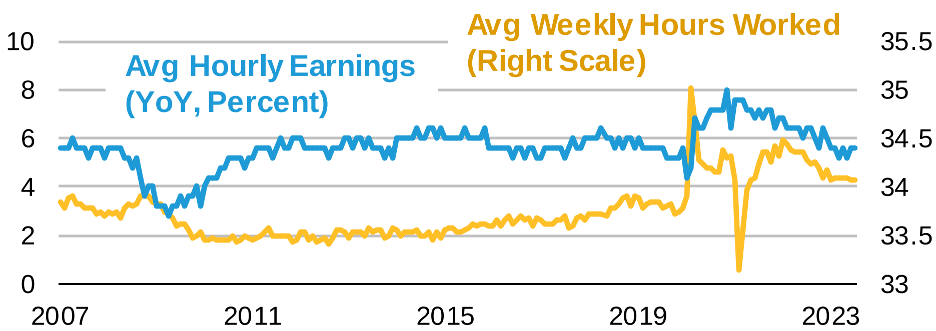
Monthly Net Change in Nonfarm Payrolls



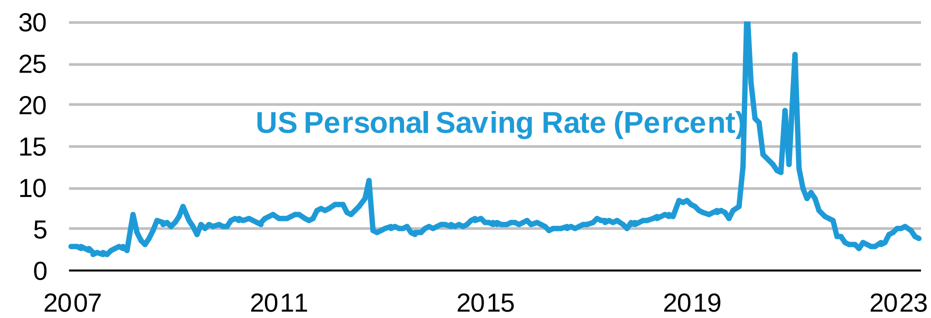
As of August 31, 2023. **Historical analysis is not necessarily indicative of future results.**
Source: US Bureau of Labor Statistics, and Bernstein analysis

A Consumer Slowdown Will Make the Near Term Somewhat Bumpy

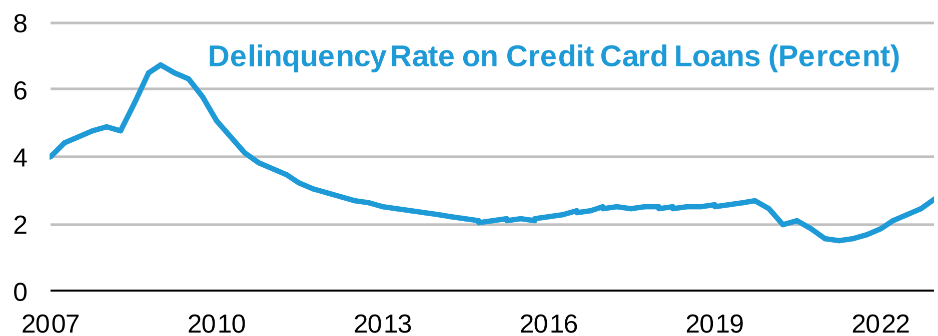
Weekly Hours and Earnings Are Declining



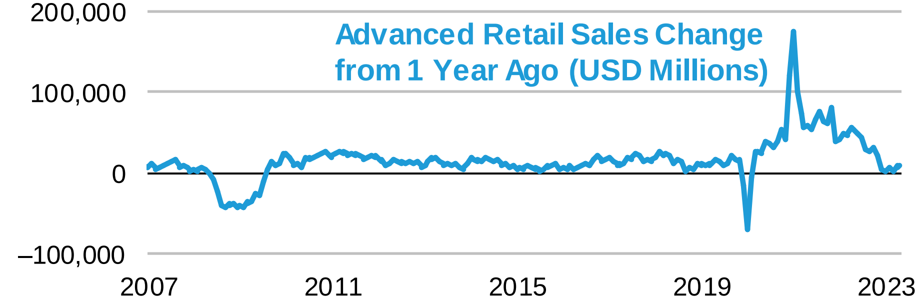
Personal Savings Are Falling



Card Delinquencies Ticking Higher



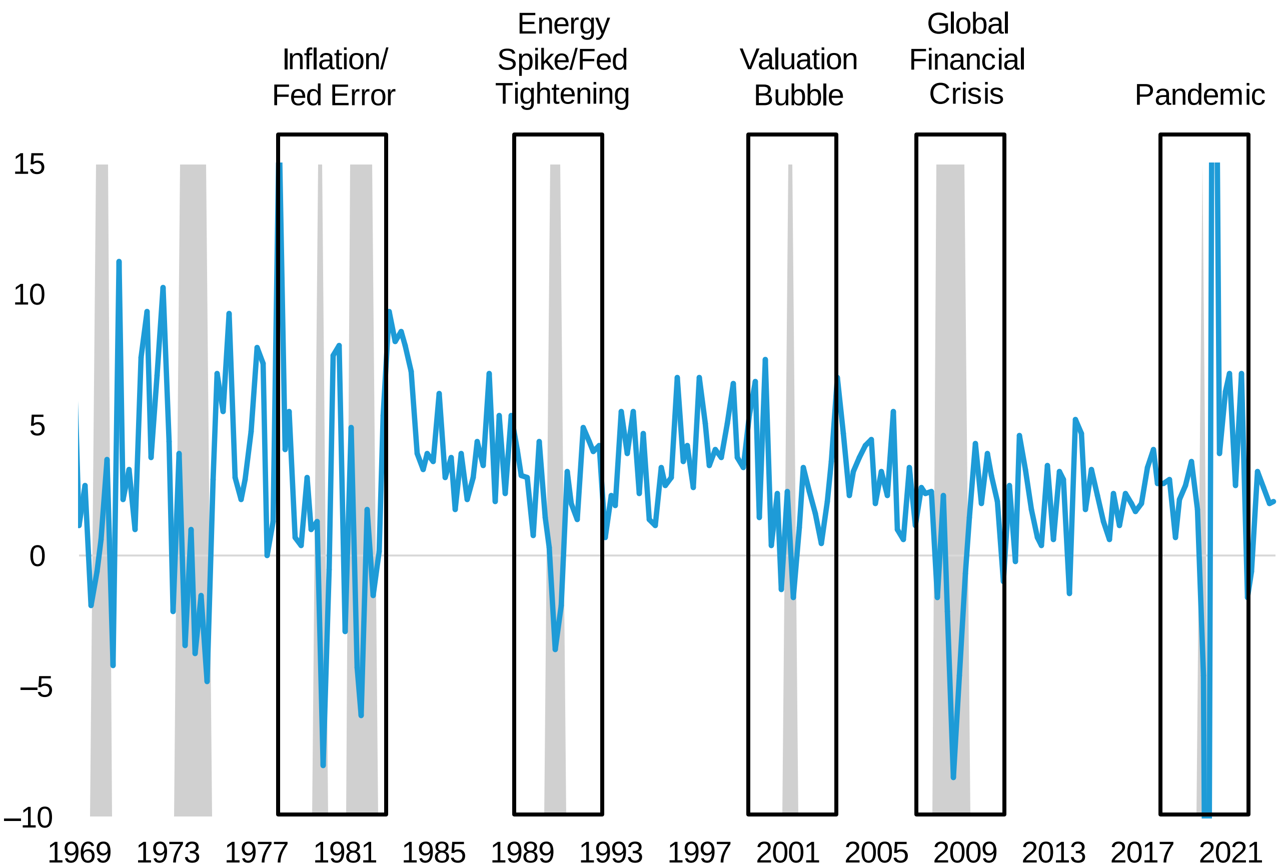
Retails Sales Are Declining



As of September 30, 2023. **Historical analysis is not necessarily indicative of future results.**
Source: Bloomberg, Federal Reserve of St. Louis, and Bernstein analysis

Exogenous Shock: Perhaps the Economy's Greatest Risk

US GDP (% Change from Proceeding Period)



Trying to forecast the unforecastable:

- Some shock risks can be identified in advance (e.g., oil spike, bubbles) while others cannot (i.e., unknown unknowns)
- A fragile and/or slow growing economy is most susceptible to exogenous shock
- The US experienced a shock in March (bank crisis) but survived due the strength of the consumer and regulator response
- With the consumer likely weaker in 2H23–1H24, the economy becomes more susceptible
- **It's not a guarantee that a shock will occur; however, if it does, the impact would be more acute**

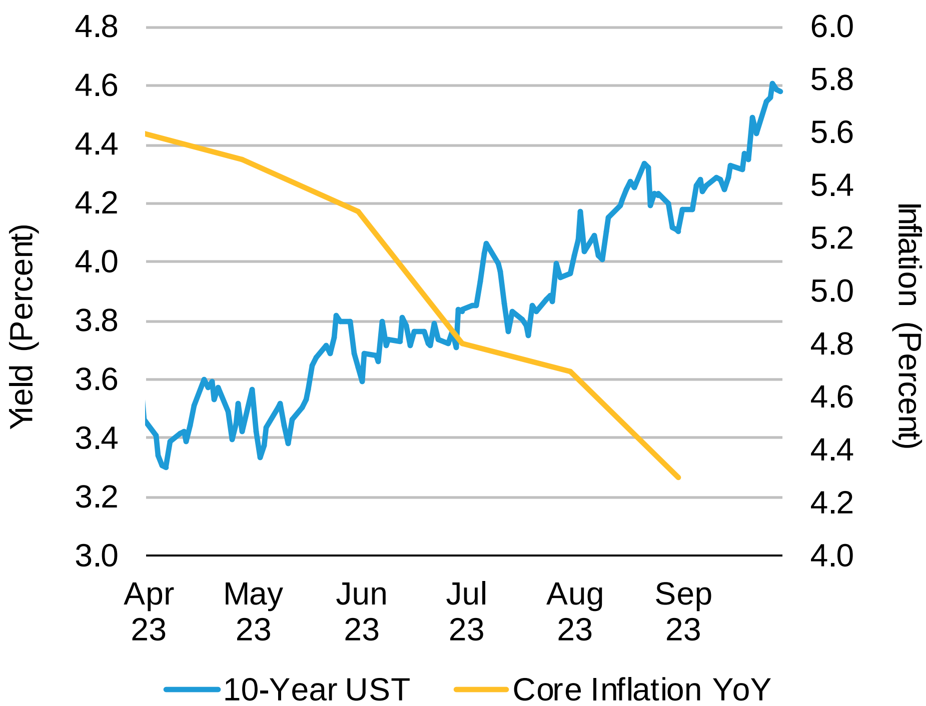
As of September 30, 2023. **Historical analysis is not necessarily indicative of future results. There is no guarantee that any estimates or forecasts will be realized.**

Source: AB

Why Have Rates Risen?

Steady Climb in Rates Despite Falling Inflation…

US Treasury Yields and Inflation



What has driven bond yields up?

Decreasing Demand

- **Resilient Economy:** Better than expected growth has driven real rates higher
- **Fed Talk:** September FOMC meeting projections leaned hawkish
- **Fitch Downgrade:** Fitch downgraded US sovereign credit on news of increased debt issuance
- **Pivot in Japanese Monetary Policy:** Yields rose globally in anticipation of less Japanese demand

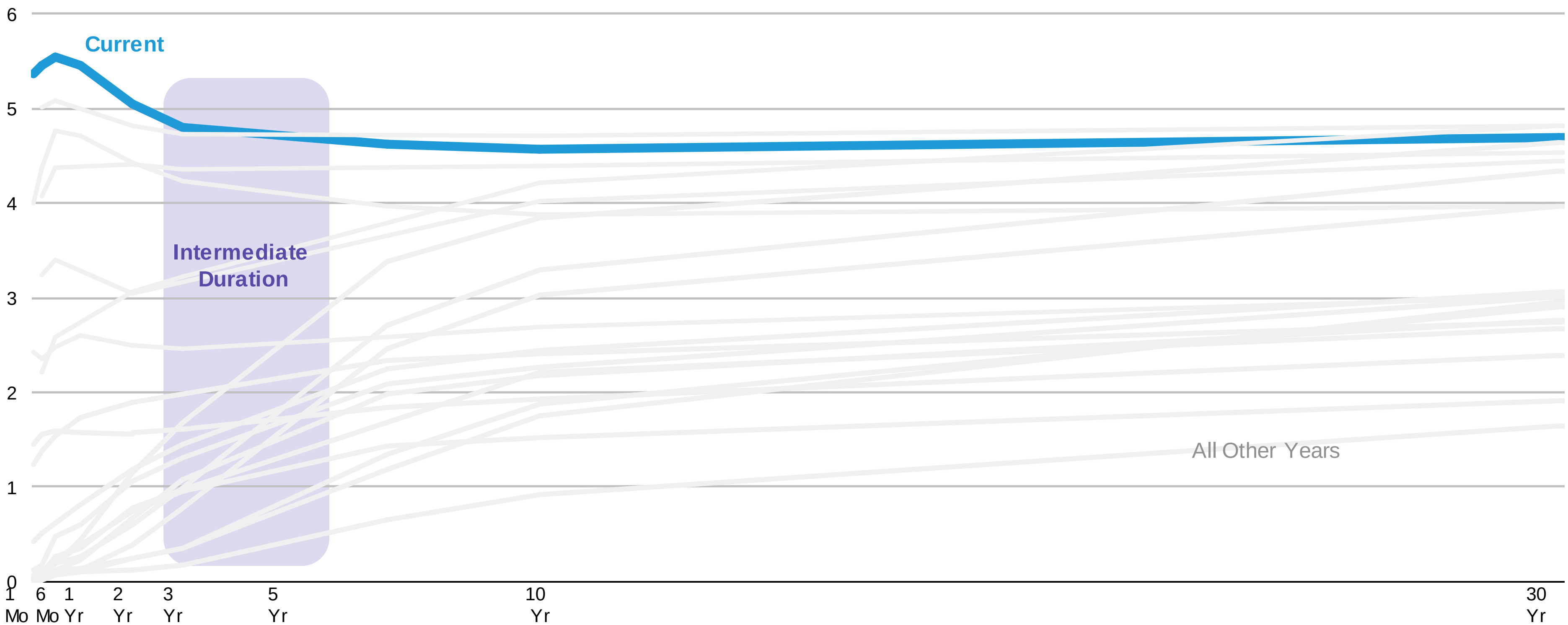
Increasing Supply

- **Increased Debt Issuance:** US Treasury surprised markets with significantly larger deficit funding need

As of September 30, 2023. **Historical analysis is not necessarily indicative of future results.**
Source: Bloomberg, Morningstar, and Bernstein analysis

…Creates Opportunity to Add Yield at Multi-Decade Highs

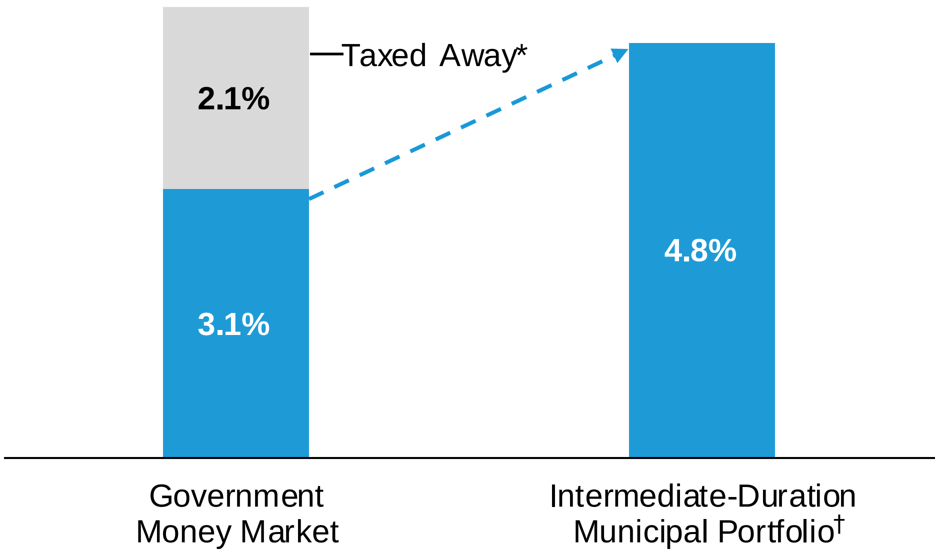
US Treasury Yield Curve by Calendar Year Since 2003



As of September 30, 2023. **Historical analysis is not necessarily indicative of future results.**
Source: Bloomberg and Bernstein analysis

Moving to Int. Munis Would Boost Income Without Pickup in Default Risk

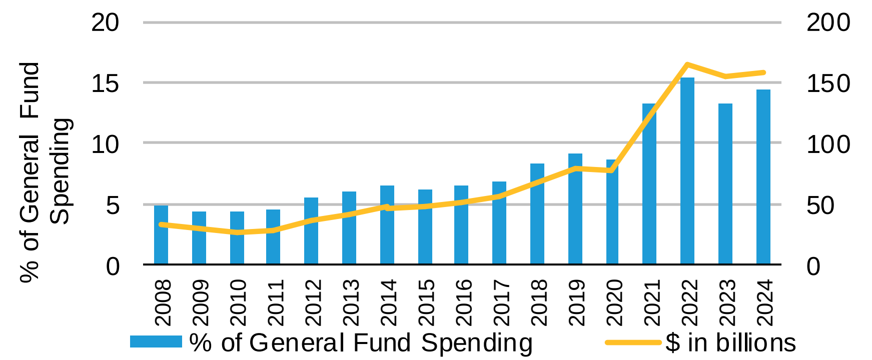
After-Tax Yield



10-Year Cumulative Default Rate Since 1970

Government Money Market	Investment Grade Municipals
0.0%	0.1%

State Rainy Day Funds Remain Historically Strong^



Current analysis does not guarantee future results.

*Assumes US federal top marginal rate of 37% plus 3.8% Affordable Care Act tax

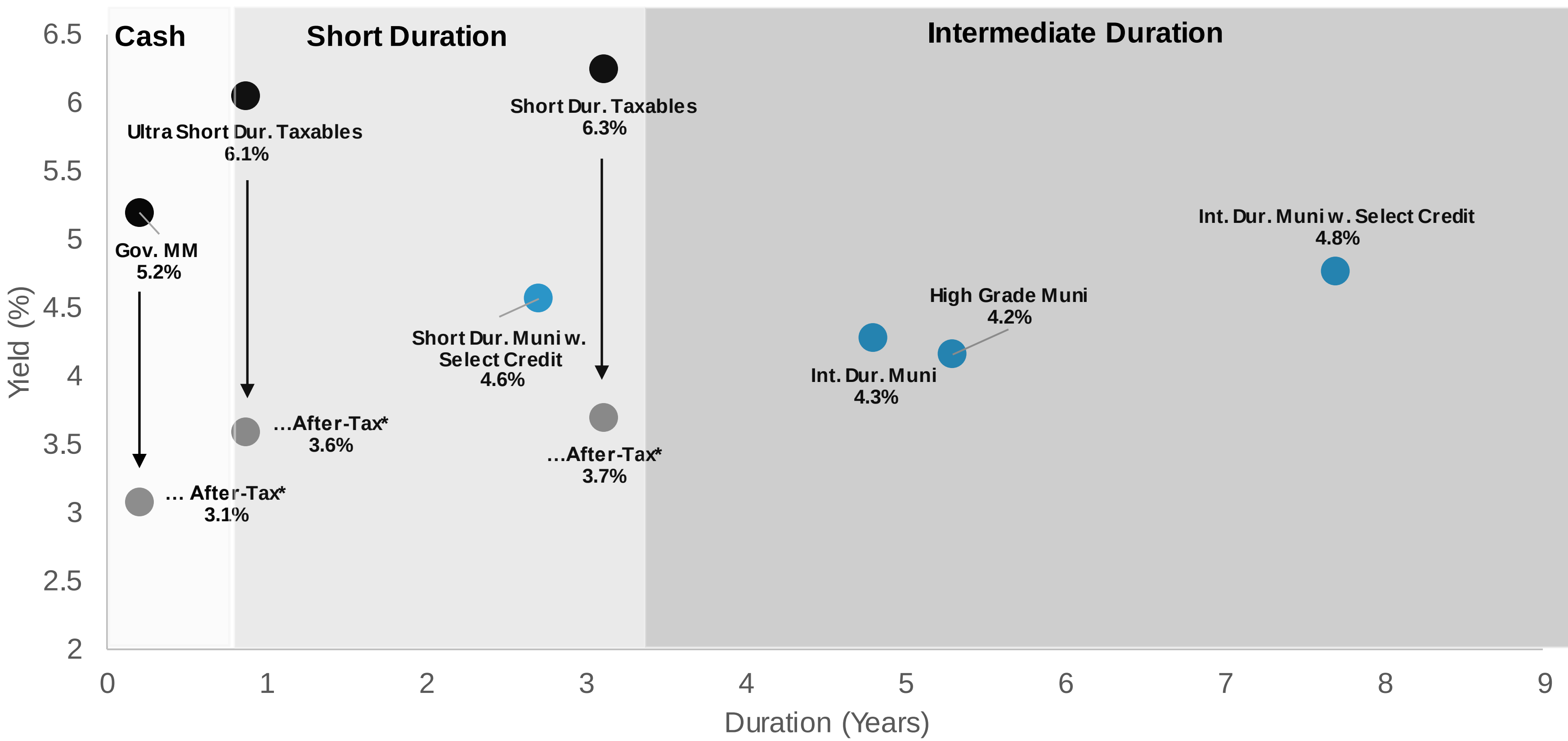
^ *Fiscal year 2023 is estimated as of spring 2023 and fiscal 2024 figures are projected based on governors' recommended budgets.

†Represented by an intermediate-duration municipal portfolio with target duration of 7.2 years and average credit quality of A+

As of September 30, 2023 Source: Bloomberg, Moody's and AB

Greater After-Tax Return In Munis, Even At Short Duration

Yields and After-Tax Yields For Various FI Services



As of September 30, 2023. **Past performance and historical analysis do not guarantee future results.**

*Assumes US federal top marginal rate of 37% plus 3.8% Affordable Care Act tax

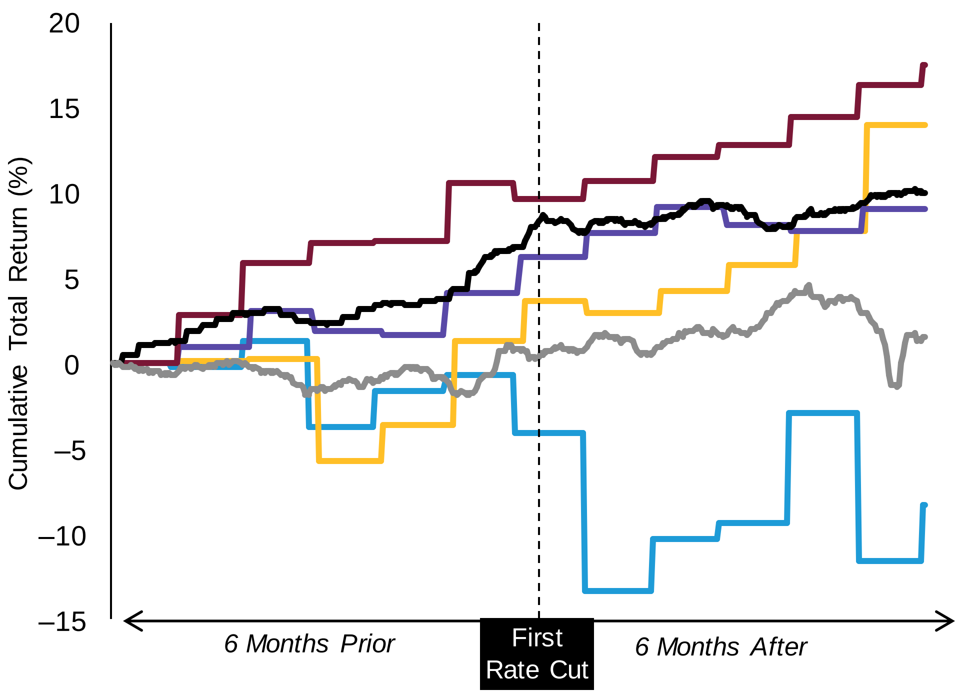
Source: Bernstein Analysis

Bonds Begin to Rally in Advance of First Cut

Fixed-income returns in rate-cut cycles since 1980, indexed to six months before first cut

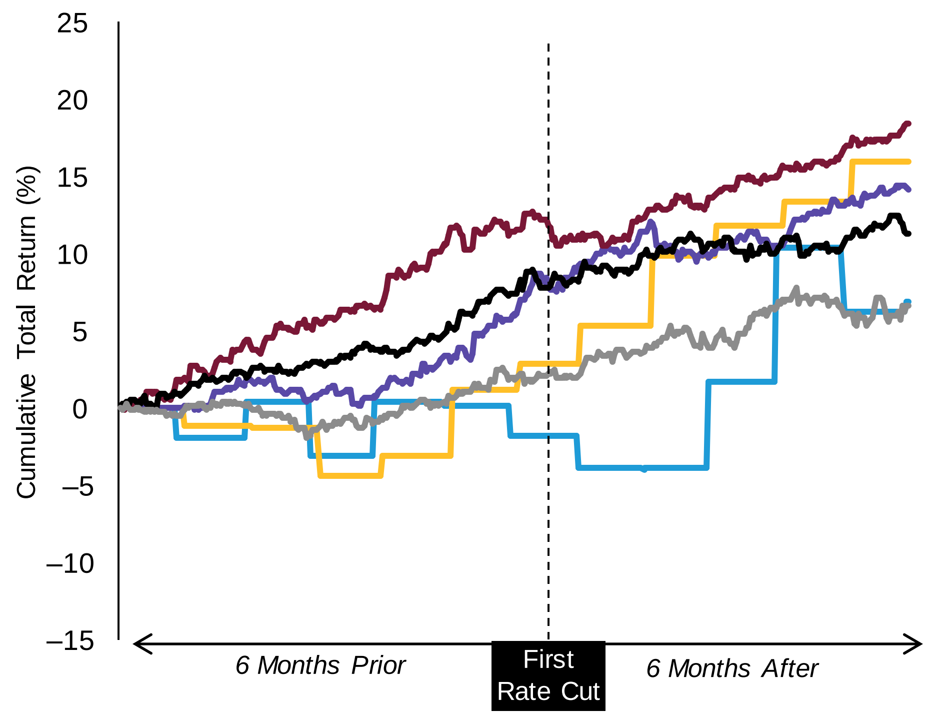
Municipal Bond Returns

Cumulative return, indexed to six months prior to rate cuts



Taxable Bond Returns

Cumulative return, indexed to six months prior to rate cuts



Rate Cuts Begin: Aug-81 Sep-84 Jun-89 Jul-95 Jan-01 Sep-07

As of September 30, 2023. **Past performance and historical analysis do not guarantee future results.**

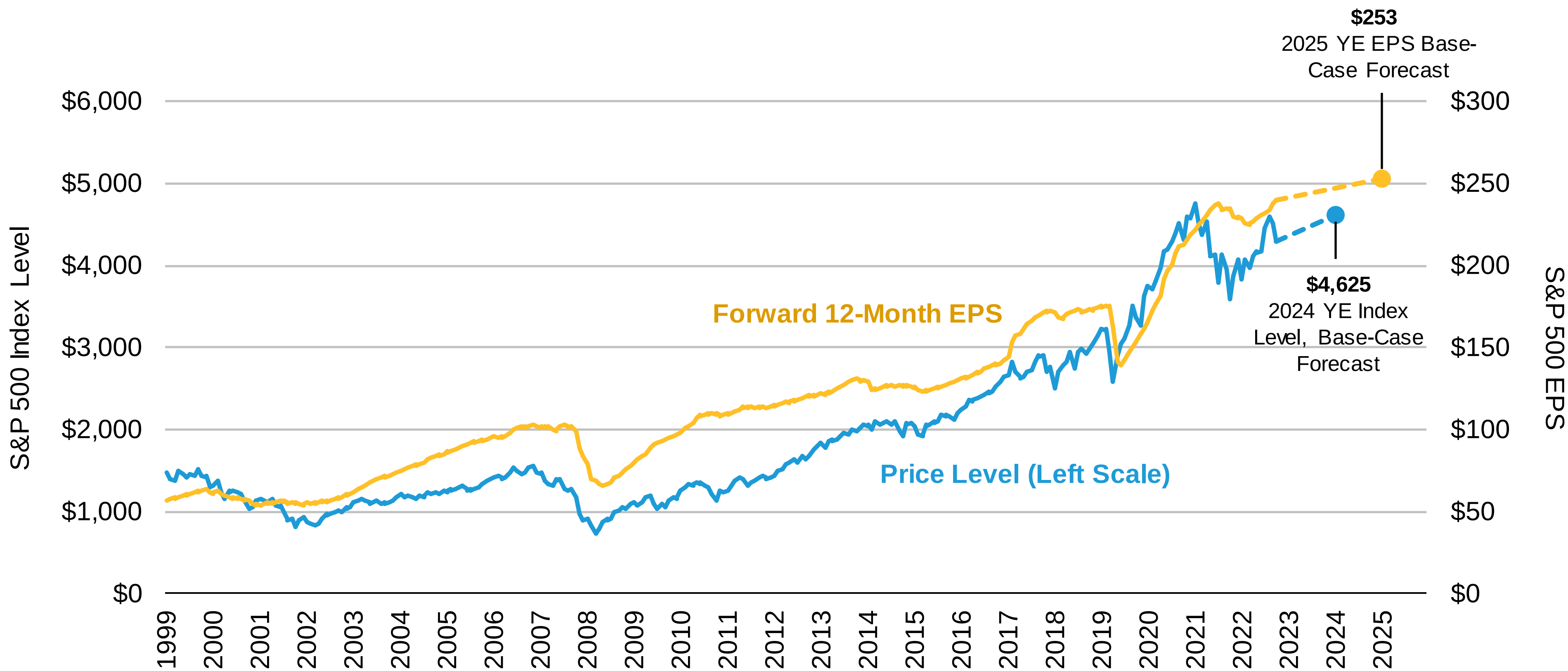
Municipal bonds represented by the Bloomberg Municipal Index. Taxable bonds represented by the Bloomberg US Aggregate Index.

Source: Bloomberg, Federal Reserve, and Bernstein analysis

Market Forecasts and What to Do

Equities Tend to Track Earnings over Time

S&P 500 Stock Price and Earnings

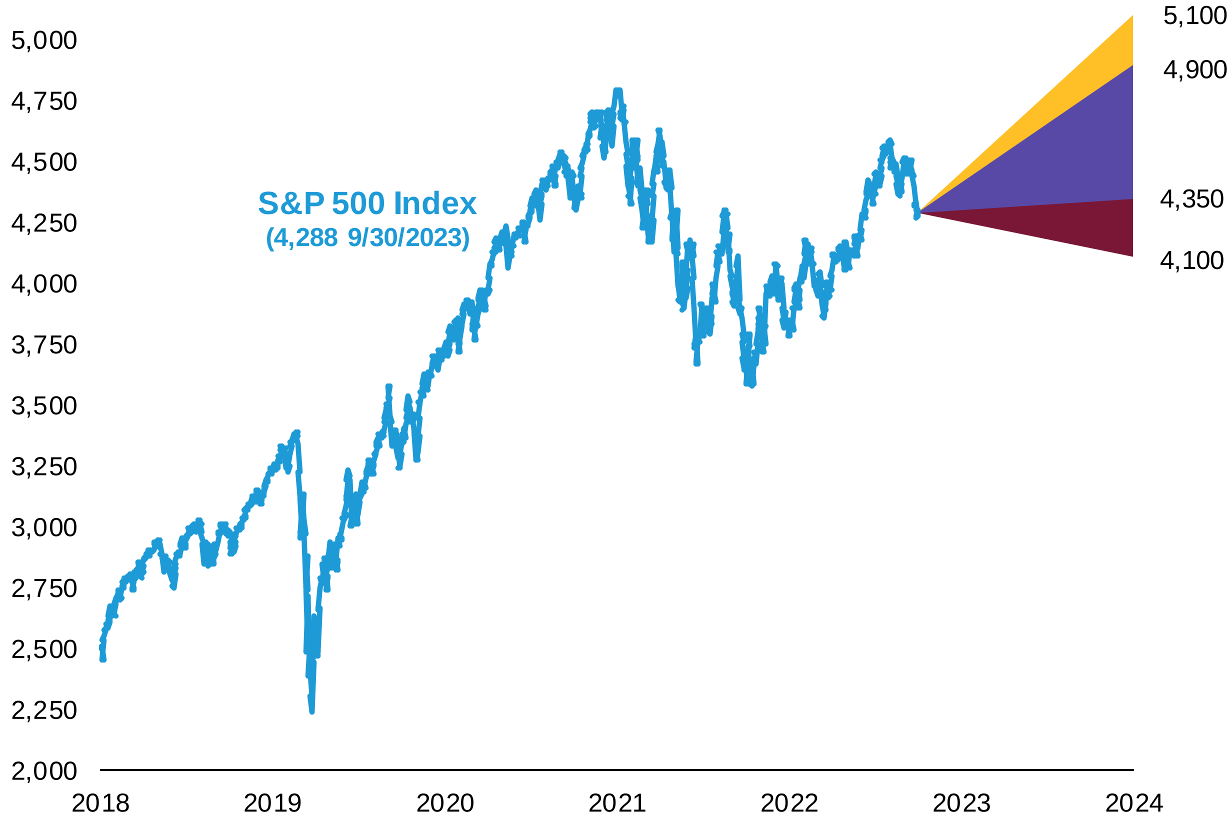


As of September 30, 2023. **Past performance does not guarantee future results. There is no guarantee that any estimates or forecasts will be realized.**

Source: FactSet, S&P, and Bernstein analysis

Look Past the Near Term and Focus on Horizon

Scenario Analysis: S&P 500, YE 2024—not incl. dividends



Bull Case

Inflation falls rapidly while growth merely slows. Fed feels comfortable enough with the path to begin cutting rates.
Likelihood: 10%

Base Case
Inflation decelerates modestly. Fed holds through ~1Q24. Economic growth slows toward 0%–1%.
Likelihood: 65%

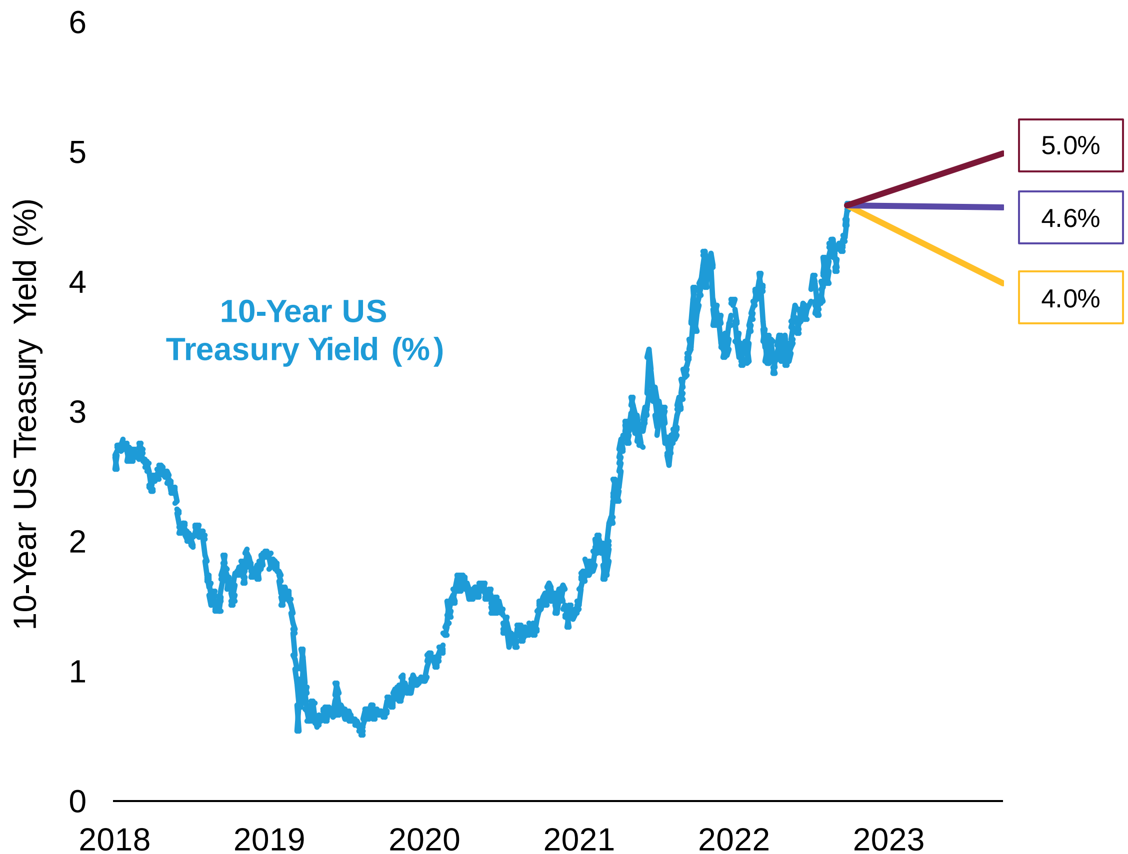
Bear Case

Inflation doesn't slow further, causing the Fed to remain restrictive (well above 5%). Possibility of an "economic shock" increases.
Likelihood: 25%

As of September 30, 2023. **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, and Bernstein analysis

The Path for Rates, Plus Bond Income, Will Drive Muni Returns

Scenario Analysis: Expected 12-Month Municipal Returns



US Treasury Rises to 5.0%

Inflation slows but only modestly, causing the Fed to remain restrictive, for longer. **In this case, an intermediate-duration municipal portfolio could return ~3%.**

US Treasury Stays at Current Level

Inflation falls throughout the year, at a pace that allows the Fed to put policy on hold**. In this case, an intermediate-duration municipal portfolio could return ~5%.**

US Treasury Falls to 4.0%

Inflation eases rapidly over the remainder of 2023, allowing the Fed to cut rates sooner than expected. **In this case, an intermediate-duration municipal portfolio could return ~7%.**

Past performance and historical analysis do not guarantee future results.
Display reflects expected returns of the Bloomberg Municipal Index under three scenarios: 10-year US Treasury yields rise to 5.00%, remain the same or decline to 4.00% over the next 12 months.
As of September 29, 2023
Source: Bloomberg and AB

Take What the Markets Give You

Markets are near-term-focused but HNW investors are long-term-oriented

Adding Capital to Accounts

Assumption: Markets may continue to be volatile and/or pull back near term

Additions: Utilize dollar-cost averaging strategy

Have Excess Cash/Money-Market Funds

Assumption: Interest rates are near peak levels and are more likely to be lower than higher in 12 mos.

Move excess cash/money-market assets into intermediate-duration high-grade bonds

Important note: Be sensitive to taxes—government money markets are taxable, reducing return!

Seeking Opportunity

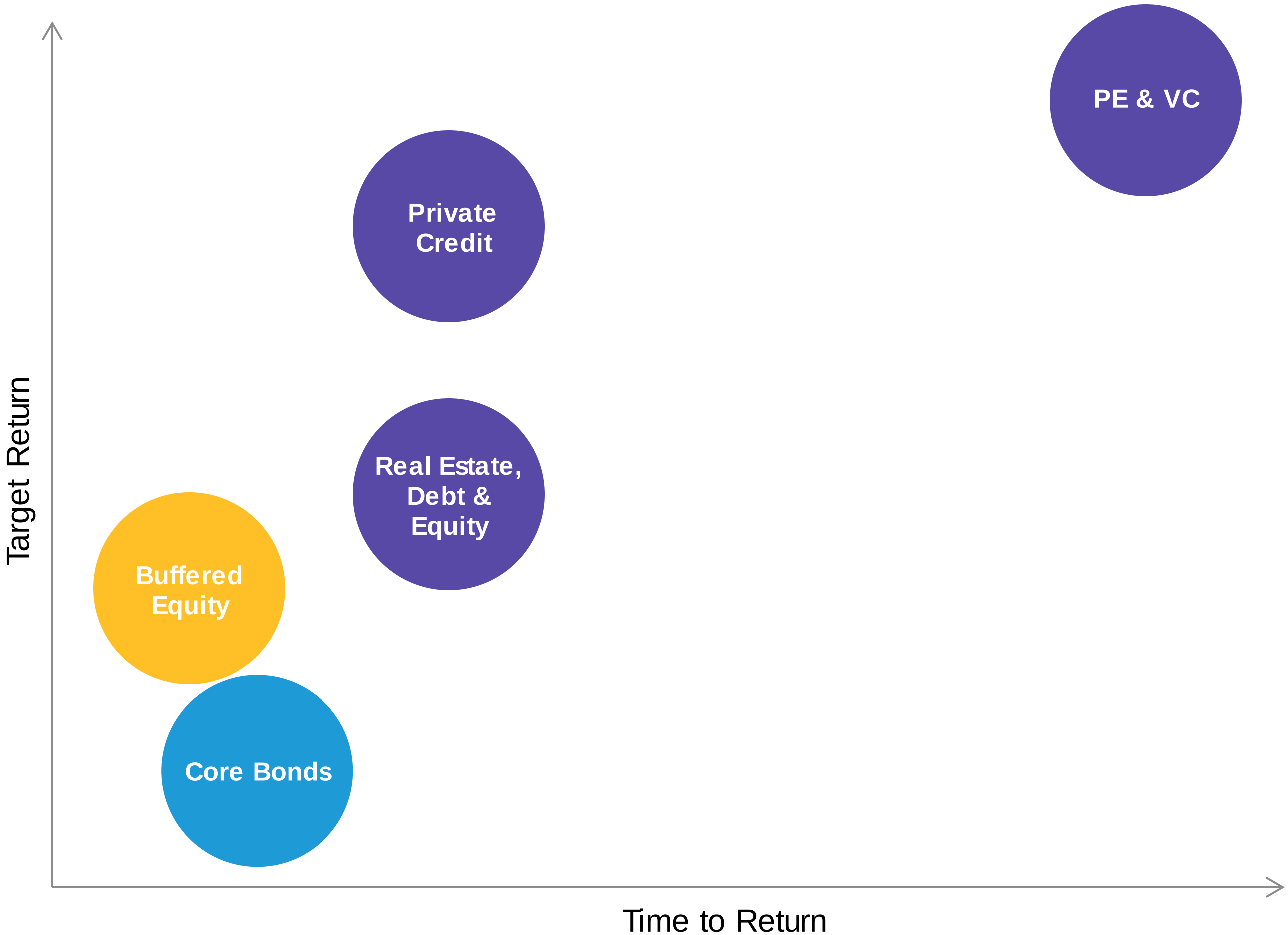
Assumption: Bank credit will continue to contract

Certain private asset classes will be affected by less credit extension

Take advantage of this market with private investments

Source: Bernstein analysis

Best Ideas: Prepare for Slowdown While Taking What Market Provides



Opportunities Catalyzed by the Current Environment:

Near-Term Volatility
Mitigating downside risk, while allowing for upside participation

Peak Rates
The hiking cycle will end soon and the economy is expected to slow in 2H23-1H24. Current yields plus potential for price appreciation looks appealing.

Liquidity Dislocation
Constrained supply of capital in private markets, creating opportunity for those who can provide liquidity

For illustrative purposes only. Past performance is no guarantee of future returns. Target returns are hypothetical performance and not projections, predictions or guarantees of future performance, and there can be no assurance that the target return will be achieved.

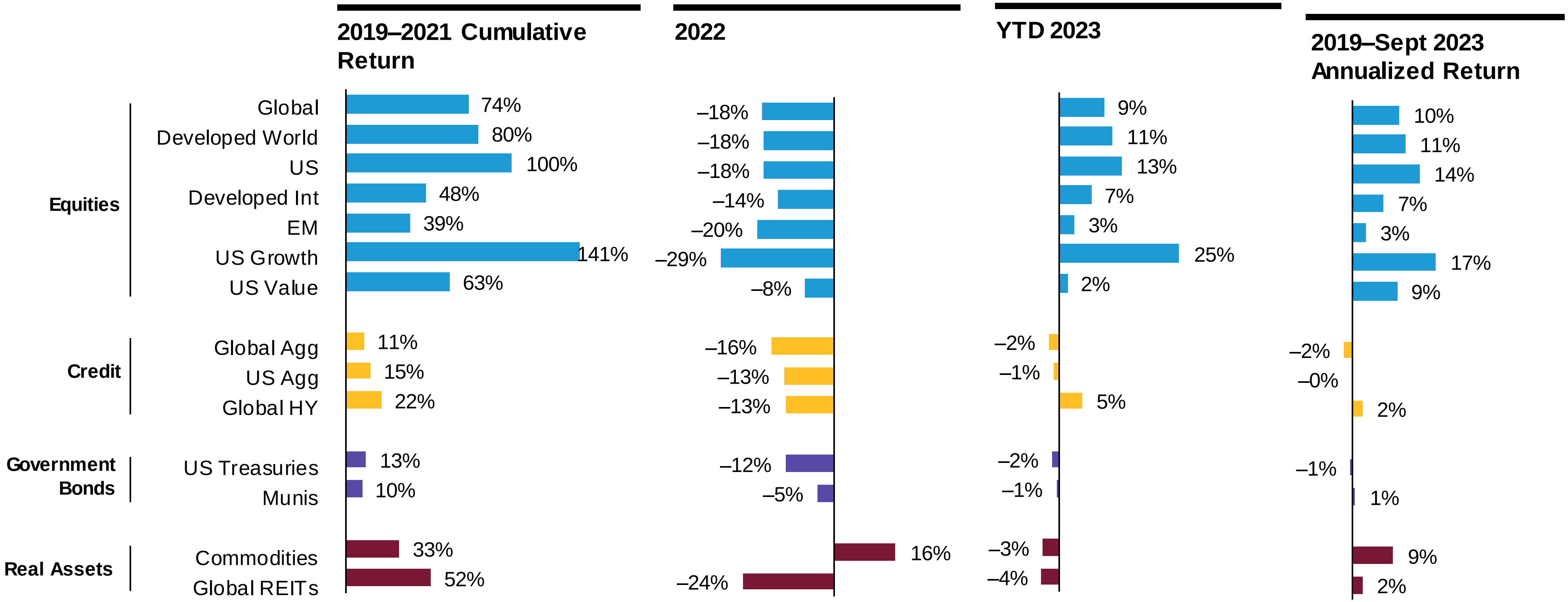
As of September 30, 2023

Source: Bernstein analysis

Appendix

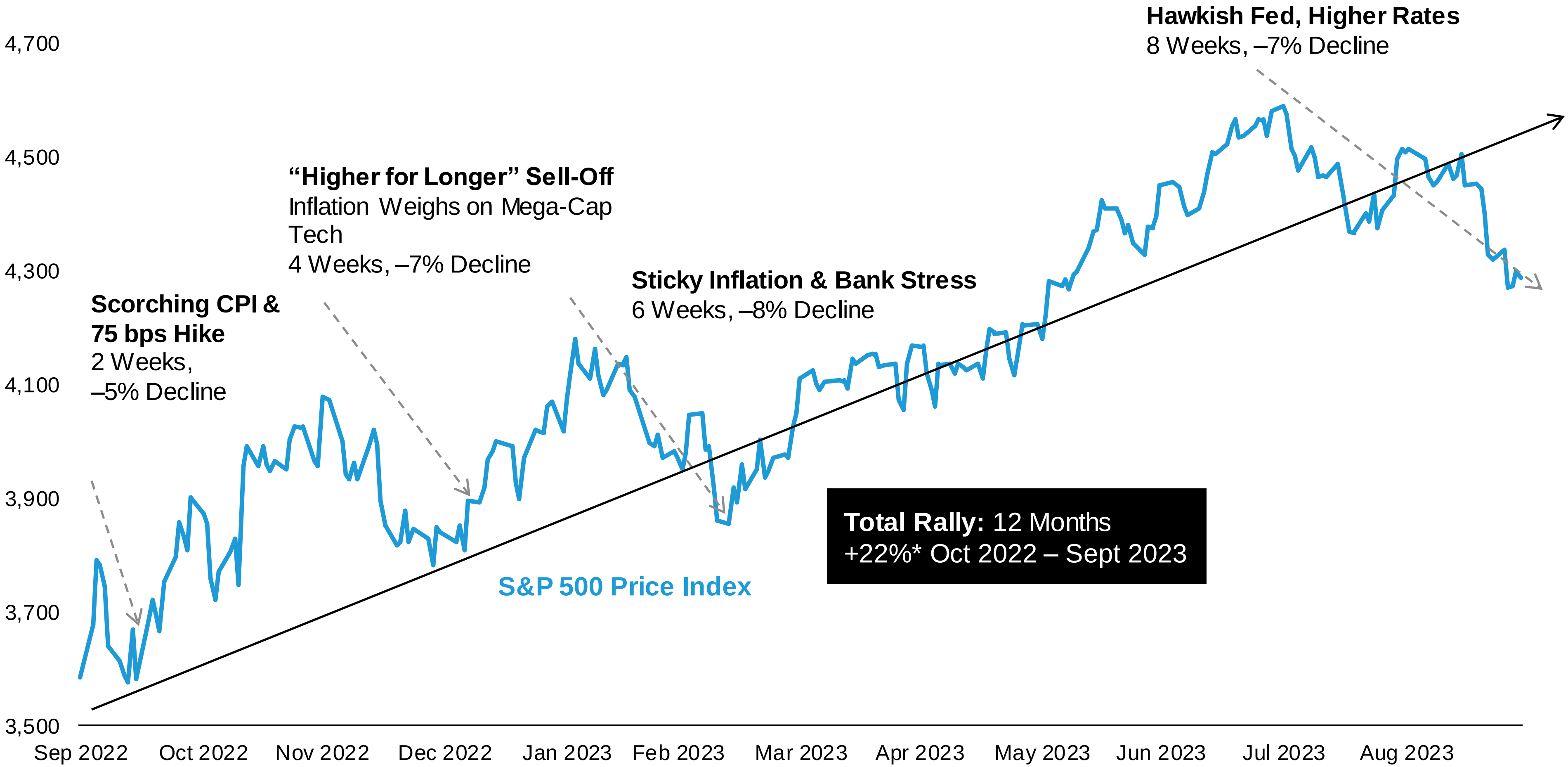
Markets Have Reversed YTD After a Hostile 2022

Long-term investors remain on track—returns in US dollars



As of September 30, 2023. **Historical analysis is not necessarily indicative of future results.** Asset classes represented as follows: (Equities) Global—MSCI ACWI IMI, Developed—MSCI World Index, US—S&P 500 Index, Dev Int—MSCI World ex USA, EM—MSCI Emerging Markets IMI Index, US Growth—Russell 1000 Growth Index, US Value—Russell 1000 Value Index, (Credit) Global Agg—Bloomberg Global Aggregate, US Agg—Bloomberg US Aggregate Index, Global HY—Bloomberg Global High Yield Index, (Government Bonds) US Treasuries—Bloomberg US Treasury Index, Munis—Bloomberg 1–10-Yr Inter-Short Municipal Bond Blend, Commodities—Bloomberg Commodity Index, Global REITs—S&P Global REIT Index.
Source: Bloomberg, MSCI, Russell, S&P, and AB

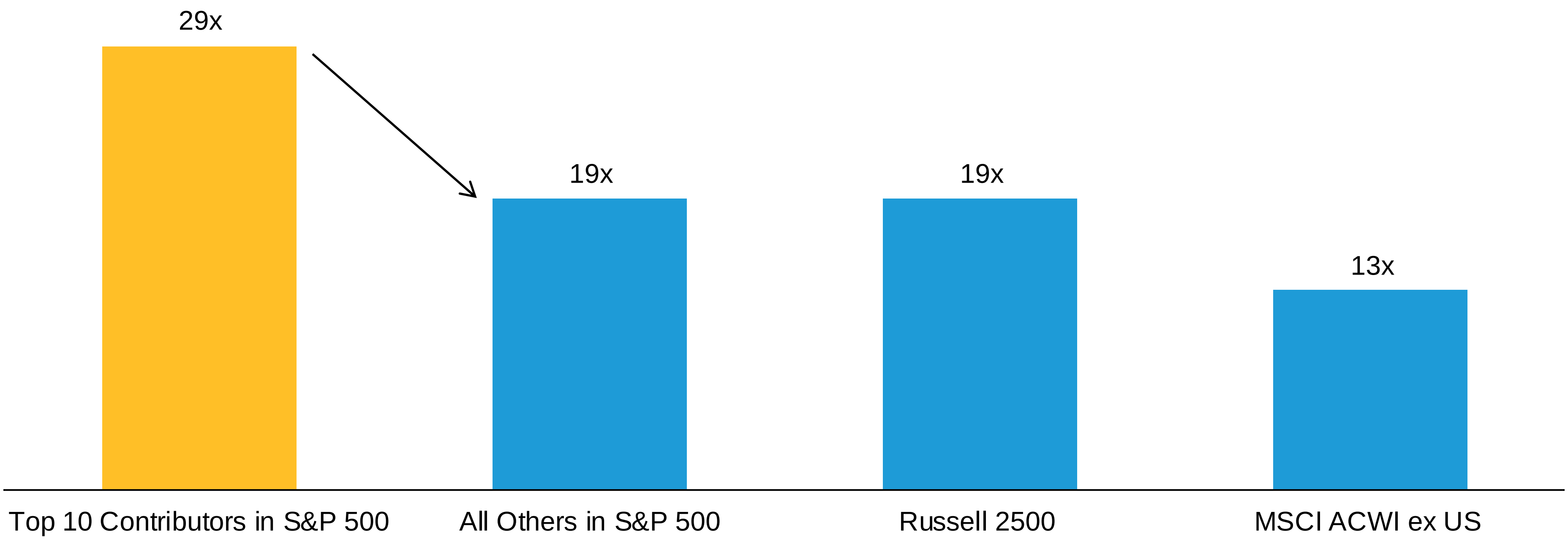
We Believe We're One Year into the Next Bull Market



As of September 30, 2023. **Historical analysis is not necessarily indicative of future results. There is no guarantee that any estimates or forecasts will be realized.**
*12-month total return. Source: Bloomberg, S&P, and Bernstein analysis

Beyond Leaders, Valuations More Reasonable

12 Month Forward Price to Earnings Ratio

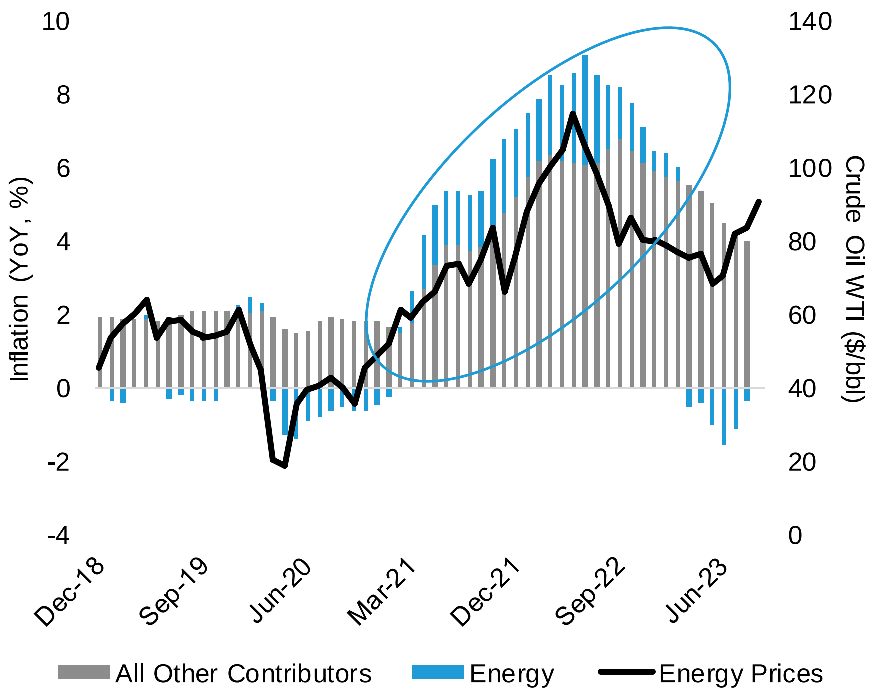


As of September 30, 2023. **Past performance does not guarantee future results.**
Top 10 stocks defined as largest YTD contributors to S&P 500 performance. The stocks include: Apple, Microsoft, NVIDIA, Alphabet, Amazon, Meta, Tesla, Broadcom, Eli Lilly & Co, Adobe. Warner Brother is excluded from "all others" average as data is outliar.
Source: Bloomberg, FactSet, S&P, and Bernstein analysis

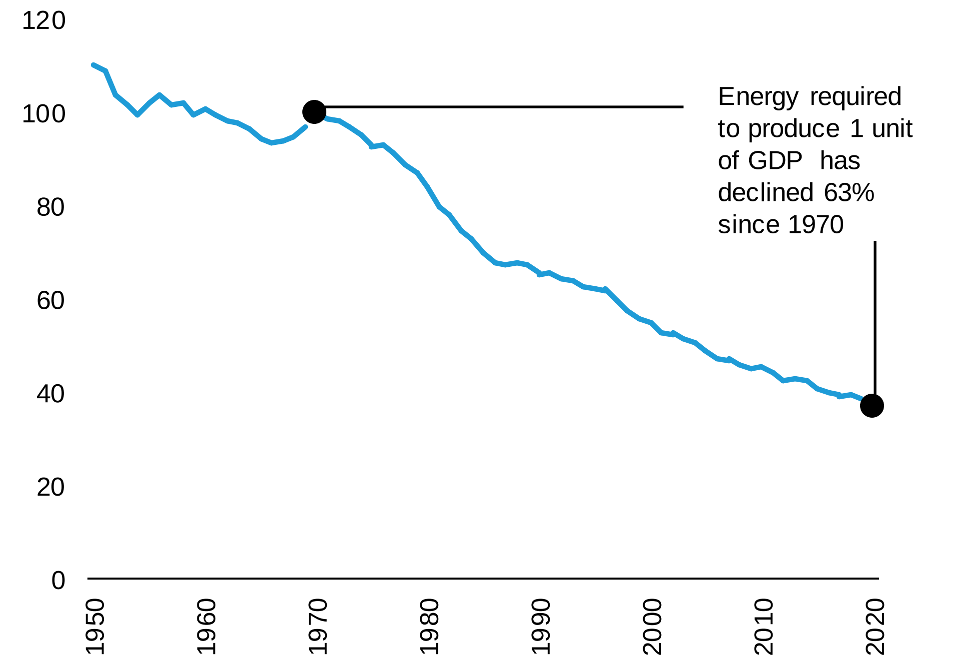
What Do Rising Oil Prices Mean for the Economy?

Higher Headline Inflation, Though Less Impact on Economy Than Past Episodes

Contribution to Inflation and Oil Prices



Energy Intensity, indexed to 1970



Past performance does not guarantee future results.

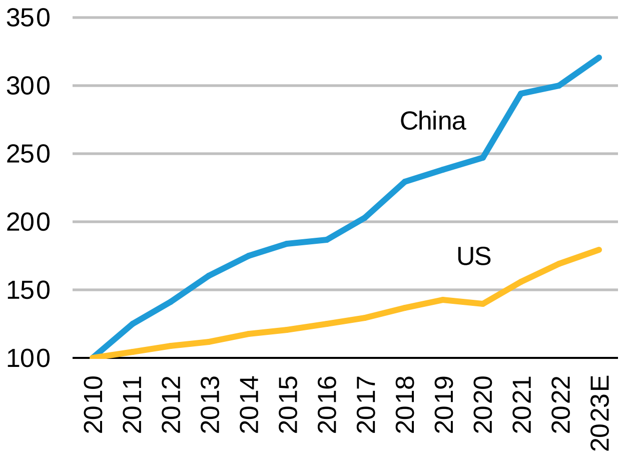
As of September 30, 2023

Source: Bloomberg, Bernstein Analysis

China's Economy Is Slowing, and for Good Reason

China's Economy Has Been on a Rapid Growth Trajectory

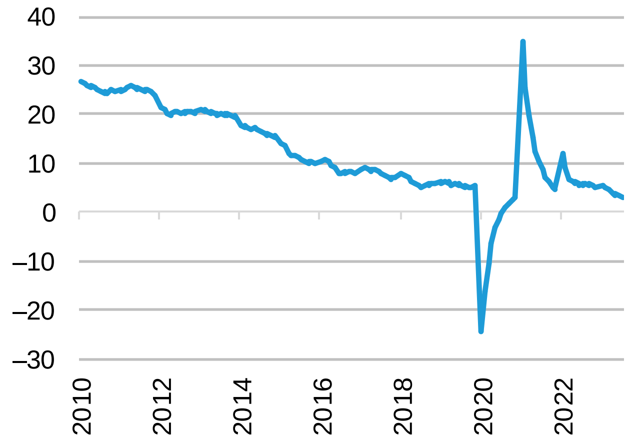
Indexed real gross domestic product (2010 = 100)



- The Chinese economy has more than tripled in size since 2010—an unsustainable long-term growth rate.

And Is Transitioning Away from Heavy Reliance on Investment

Fixed asset investment, year-over-year change (percent)



- Slower growth is driven by a transition away from an export-driven, investment-led model.
- Sectors with more positive medium-term outlooks continue to thrive.
- Replacing lost activity in real estate and heavy investment will take time, catalyzing the slowdown.

Key Takeaways

- Slower growth in one of the world's largest economies will likely lead to lower global growth.
- A central investor fear is that the downshift in growth could cause systemic financial instability in the banking sector or local government—though that's not our base case.
- We expect China's economy to slow, and for that slower growth to last through the economic transition.
- While there are financial risks to this downshift, attempting to boost growth could lead to excessive leverage.
- We believe that slower, but more sustainable, growth is a healthier medium-term path.

Past performance does not guarantee future results.

As of August 31, 2023

Upper LHS chart: 2023 is a full-year estimate.

Source: International Monetary Fund, Refinitiv Datastream, and AB

Student Loans

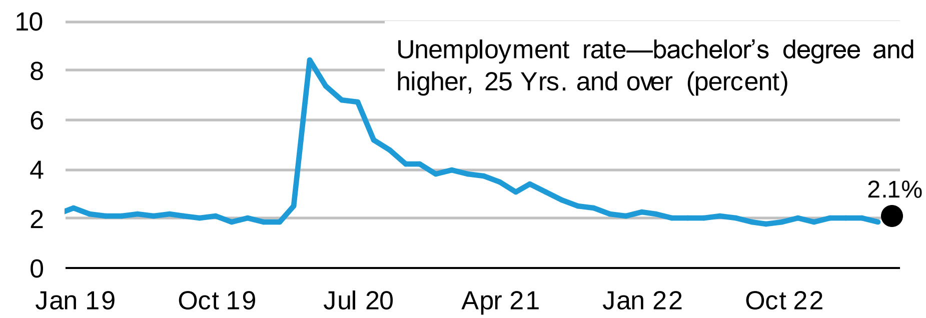
A Substantial Expense, but Likely Won't Break the Bank

A Big Bill…but Not Enough to Change the Base Case

- **What's happened:** Federal student loan payments are set to resume in October 2023 after nine extensions and over three years. Separately, the Supreme Court ruled against debt cancellation.
- **The scale:** More than 40M borrowers, owing ~$1.6T
- **Will the borrowers be able to pay?** Most will.
    - Unemployment remains low, particularly for those with a bachelor's degree and higher (2.1%).
    - Most borrowers (~60%) have less than $25K in debt.
    - Existing and potentially new policies (e.g., more generous income-based repayment) to dampen impact.
  - But some won't—delinquencies likely to rise toward pre-pandemic levels.
- **What does this mean for the consumer and, by extension, the economy?** Likely negative for 4Q consumption, but only on the margin.
  - We already expect slowing in the economy
  - Still consistent with mild recession scenario

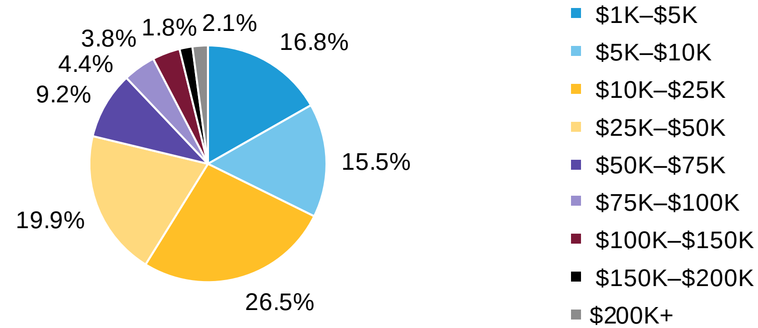
Unemployment Remains Low

Particularly for those with bachelor's degree and higher



Most Borrowers Have Less than $25k in Debt

Distribution of Student Loan Borrowers



As of September 30, 2023. **Historical analysis is not necessarily indicative of future results. Distribution of student loan borrowers as of 4Q2021, latest available data**

Source: Bloomberg, Federal Reserve of NY, Federal Reserve of St. Louis, and AB

Commercial Real Estate Debt

Compelling near-term investment opportunity

Catalysts

- **Growing Funding Gap**
  - Maturity wall of ~1.5T in CRE debt maturing by 2025, with ~$525M to be funded by regional banks.
  - Yet high-profile bank failures to cause pullback in regional bank lending.
- **Increased Debt Yields**
  - Base rates have risen 500 bps, over the past year, and spreads have widened due to decreased liquidity and greater economic uncertainty.
- **Market Reset**
  - Rising interest rates have increased cost of borrowing, lowering real estate demand and pushing prices lower.
- **Evolving Market Dynamics**
  - Traditional lenders are looking to reduce their exposure due to full balance sheets or increased regulatory scrutiny.

Opportunities

- **Alternative Lenders to Benefit from Increased Market Share**
  - Alternative lenders have estimated $300M of dry powder on the sidelines or $900M–$1.2T (with 2.0x–3.0x leverage) to fill that void.
- **Higher Rates and Wider Spreads Boost Real Estate Debt Yields**
  - Rise in rates has directly increased the coupon payment CRED lenders received on their loans, coupled with wider spreads.
- **Market Reset Creates Attractive Entry Point**
  - The Fed's hiking cycle has caused 15% average drop in property valuations over the past year, while lenders are coming in at lower LTVs and requiring higher spreads.
- **Idiosyncratic Investment Opportunities for Experienced Managers**
  - Alternative lenders can find deals at very attractive pricing, generating significant idiosyncratic returns.
  - Experienced managers with well-established platforms and strong market reputations are best positioned to source and structure these select transactions.

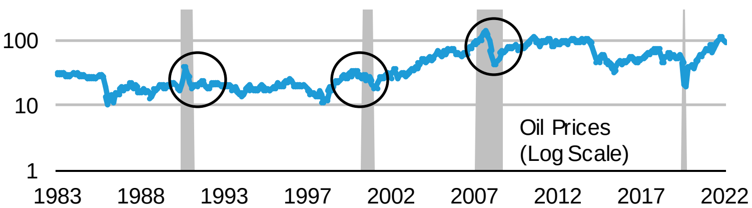
As of September 30, 2023. **Historical analysis is not necessarily indicative of future results. There is no guarantee that any estimates or forecasts will be realized.**

Source: Bloomberg, UBS, and AB

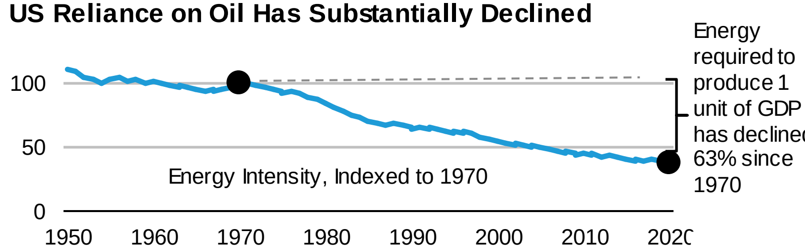
Many Historical Challenges Do Not Appear in the Economy Today

Today’s economic landscape differs from past recessions

Oil Shocks Have Historically Coincided with Recessions

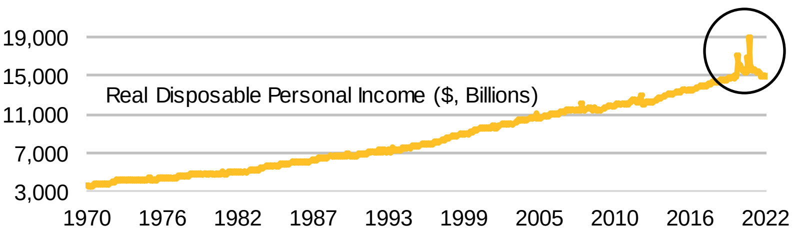


US Reliance on Oil Has Substantially Declined

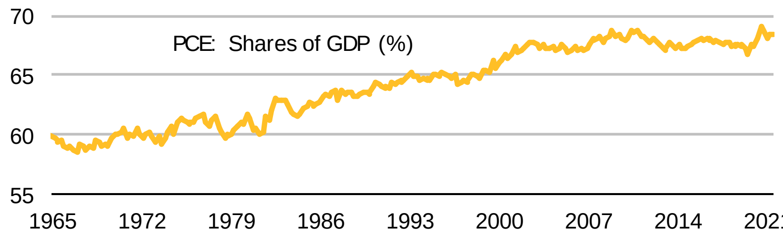


Oil shocks triggering prior recessions have a different impact on today’s economy.

Consumers Entered 2022 with Unprecedented Disposable Income

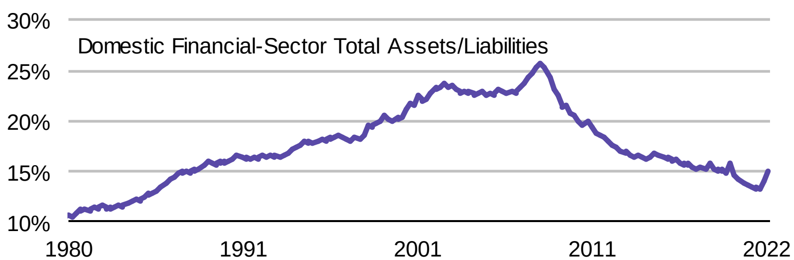


And the US Economy Is Increasingly Reliant on Consumption

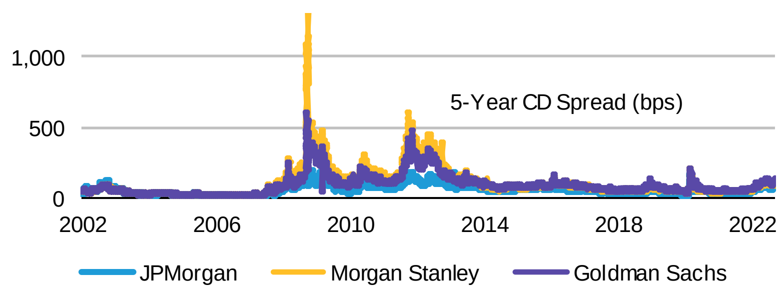


While overtightening is a realistic outcome, the strong consumer and increased reliance on consumption will cushion the blow.

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.

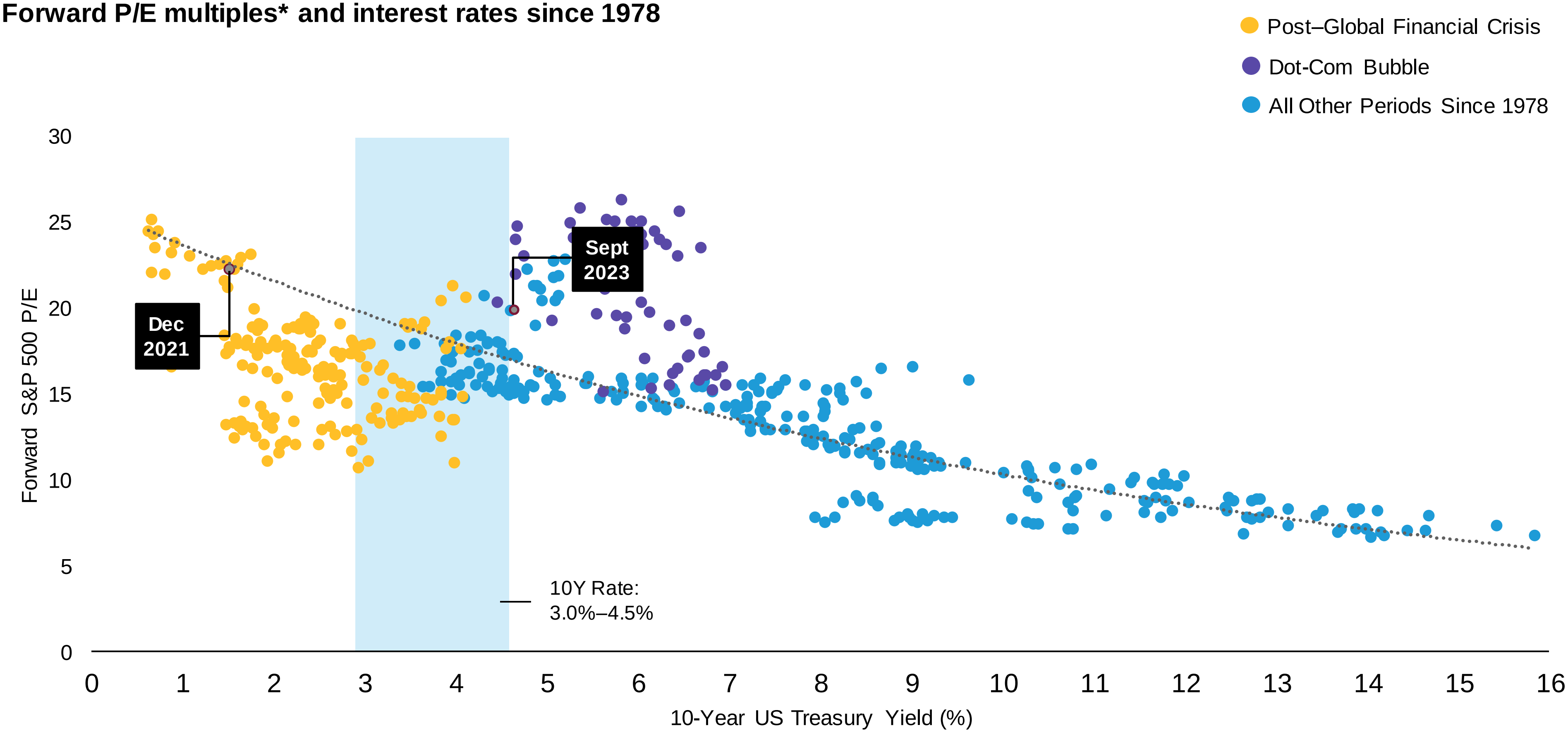
As of September 30, 2022. **Historical analysis is not necessarily indicative of future results. There is no guarantee that any estimates or forecasts will be realized.**

Source: Bloomberg. Federal Reserve of St. Louis, AB

BERNSTEIN

Stock Valuations Relative To Interest Rates

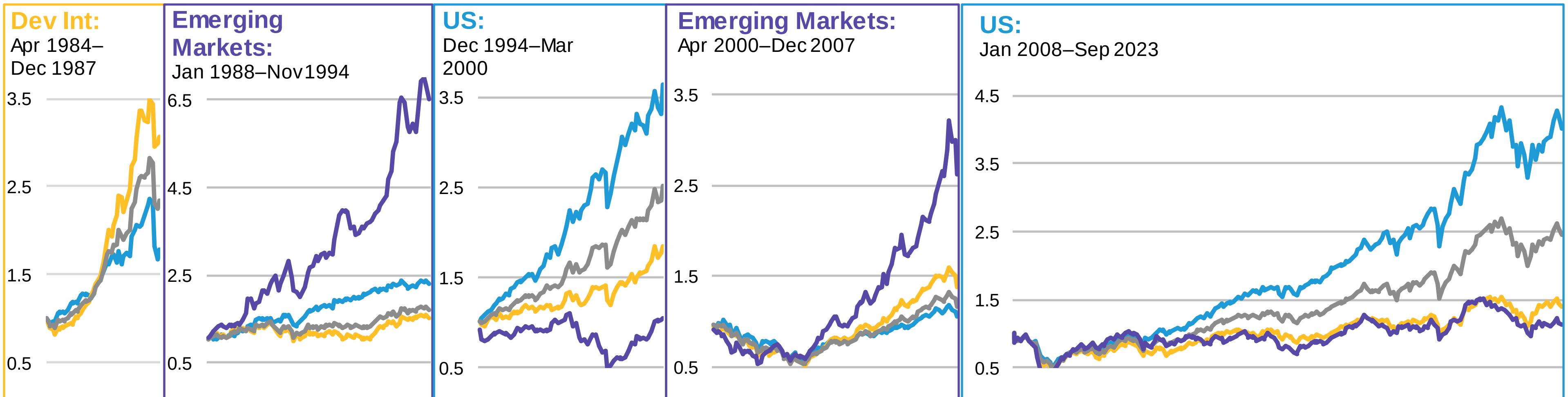
Forward P/E multiples* and interest rates since 1978



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

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

Growth of a Dollar



Annual Returns (%)

	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
	7	56	69	25	40	65	–3	60	11	75	8	38	23	33
	6	41	42	16	28	32	–11	30	8	33	5	21	13	16
	5	32	19	5	23	17	–17	18	–5	23	1	11	6	2
					17	11	–23	12	–12	10	–7	–5	6	–12

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
	29	66	–9	–3	–6	56	26	34	32	39	–37	79	19
	24	27	–13	–12	–16	39	20	14	26	11	–41	32	15
	20	25	–14	–17	–20	33	15	9	20	9	–43	30	12
	–25	21	–31	–21	–22	29	11	5	16	5	–53	26	8

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	YTD 23
	2	18	32	14	1	12	37	–4	31	18	29	–15	13
	–6	17	27	5	–1	11	25	–9	28	18	22	–18	11
	–12	16	23	–2	–1	8	22	–14	22	16	11	–18	7
	–18	16	–3	–5	–15	1	22	–15	18	8	–3	–20	5

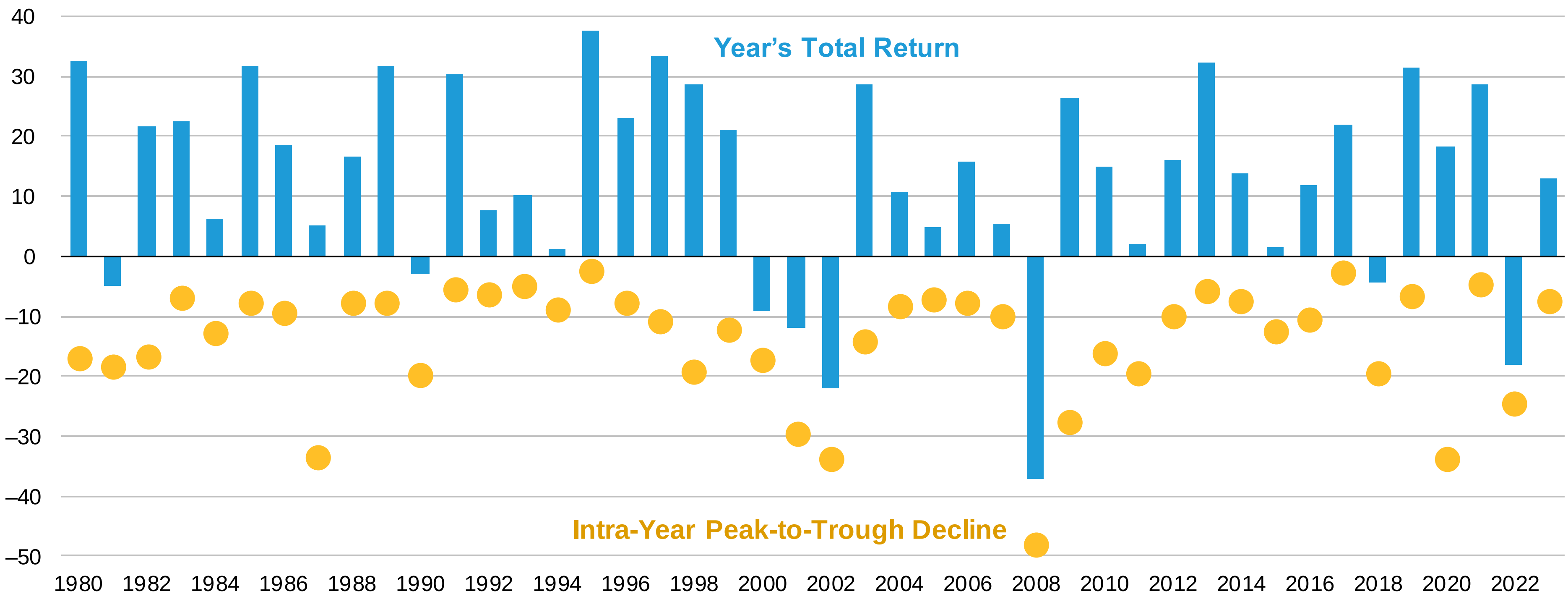
US | Developed International | Emerging Markets | World

As of September 30, 2023. **Past performance does not guarantee future results.**

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

Stocks Have Mostly Risen Despite Intra-Year Corrections

S&P 500 (%) by Calendar Year



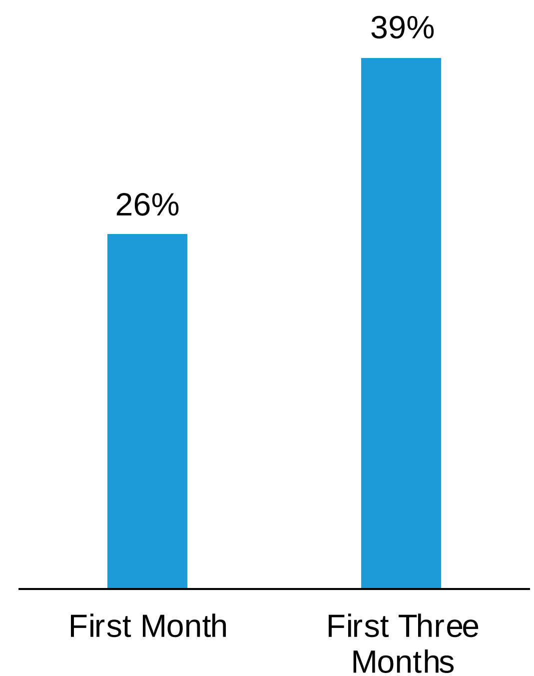
As of September 30, 2023. **Past performance does not guarantee future results.**

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

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

Peak Month	Peak-to-Trough Months	Peak-to-Trough Fall	Peak-to-Recovery Months	Weeks from Start to Down 20%	% of Recovery in 1st Month Following Trough	% of Recovery in 1st 3 Months Following Trough
5/29/1946	12	–25%	40	15	25%	31%
12/12/1961	6	–27%	16	24	22%	19%
2/9/1966	8	–20%	13	34	36%	46%
11/29/1968	18	–33%	28	73	11%	31%
1/11/1973	21	–45%	42	47	19%	15%
11/28/1980	20	–20%	22	89	52%	97%
8/25/1987	2	–33%	21	8	14%	22%
9/1/2000	25	–47%	74	27	13%	20%
10/9/2007	17	–55%	54	40	20%	30%
2/19/2020	1	–34%	6	3	49%	78%
1/3/2022	10	–25%	N/A	23	34%	33%
Mean Excluding 2022	**13**	**–34%**	**32**	**46**	**26%**	**39%**

After Bear-Market Troughs
% Recovery Occurring in…



As of September 30, 2023

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

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

Source: Bloomberg, S&P, and AB

Market Sell-Offs: Last 60 Years

					Cumulative Returns		
Peak Month	**Trough Month**	**Peak-to-Trough Months**	**Peak-to-Trough Fall**	**12-Month Return Following Trough**	**3-Year Return Following Trough†**	**5-Year Return Following Trough†**	**10-Year Return Following Trough†**
12/12/1961	6/26/1962	6	–27%	37%	75%	106%	186%
2/9/1966	10/7/1966	8	–20%	37%	40%	61%	101%
11/29/1968	5/26/1970	18	–33%	49%	71%	56%	143%
1/11/1973	10/3/1974	21	–45%	44%	77%	123%	326%
11/28/1980	8/12/1982	20	–20%	66%	110%	299%	495%
8/25/1987	10/19/1987	2	–33%	28%	55%	119%	464%
9/1/2000	10/9/2002	25	–47%	36%	62%	121%	127%
10/9/2007	3/9/2009	17	–55%	72%	116%	209%	400%
2/19/2020	3/23/2020	1	–34%	78%	80%	N/A	N/A
1/3/2022	10/12/2022	10	–25	N/A	N/A	N/A	N/A
Average Excluding 2022		13	–35%	50%	76%	137%	280%

As of September 30, 2023

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

*Peak-to-trough draw down since 1/3/2022

†3-, 5-, and 10-year returns exclude sell-offs where data have not occurred.

Sell-offs are defined as a market decline of 20% from its previous high through the low est close after the 20% decline. All returns in this analysis are based on the S&P 500 total-return index, w hich 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

10-Year Capital-Markets Projections: Asset Classes

	Median 10-Year Growth Rate	Mean Annual Return	Mean Annual Income	One-Year Volatility	10-Year Annual Equivalent Volatility
Cash Equivalents	3.7%	3.9%	3.9%	0.5%	5.0%
Short-Term Treasuries	4.4%	4.5%	4.2%	1.2%	4.4%
Short-Term Taxables	4.7%	4.8%	4.7%	1.5%	4.5%
Short-Term Diversified Municipals	2.7%	2.9%	2.7%	0.9%	3.0%
Int.-Term Treasuries	3.9%	4.1%	4.1%	6.0%	3.2%
Int.-Term Taxables	4.3%	4.4%	4.9%	6.3%	3.6%
Int.-Term Corporates	4.5%	4.7%	5.4%	7.1%	4.2%
Int.-Term Diversified Municipals	2.6%	2.7%	2.9%	4.9%	3.0%
Global Int.-Term Taxables (Hedged)	4.1%	4.3%	4.6%	5.2%	3.8%
Int.-Term TIPS	4.2%	4.7%	4.6%	4.1%	7.4%
High Yield	5.2%	5.9%	8.6%	13.2%	8.1%
Global Large-Cap (Unhedged)	6.4%	7.6%	2.3%	15.7%	14.8%
US Diversified	4.9%	6.4%	1.9%	16.5%	15.5%
US Value	5.2%	6.6%	2.1%	16.2%	15.3%
US Growth	4.6%	6.4%	1.6%	18.3%	17.0%
US Mid-Cap	5.0%	6.7%	1.6%	17.9%	17.1%
US Small/Mid-Cap	4.9%	6.8%	1.5%	18.7%	17.9%
US Small-Cap	4.8%	7.0%	1.4%	20.4%	19.7%
Developed International	6.9%	8.8%	3.4%	18.1%	17.0%
Emerging Markets	6.9%	9.9%	3.5%	22.4%	20.1%
Global REITs	5.8%	7.5%	4.8%	19.1%	16.3%
Real Assets	5.4%	6.6%	3.7%	13.9%	14.5%
Diversified Hedge Fund	6.0%	6.3%	3.3%	10.6%	15.0%

Based on 10,000 simulated trials each consisting of ten-year periods. Reflects AB's estimates and the capital-market conditions of June 30, 2023. 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.

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	1.4%	1.8%	2.1%	2.2%	2.2%	2.0%
Age 65	2.0	2.4	2.6	2.8	2.8	2.6
Age 75	3.0	3.4	3.6	3.8	3.7	3.7

Estimated Core Capital—Spending $100,000

USD Millions

Allocation	0/100	20/80	40/60	60/40	80/20	100/0
Age 55	$7.4	$5.5	$4.8	$4.5	$4.6	$4.9
Age 65	4.9	4.1	3.8	3.6	3.6	3.8
Age 75	3.3	2.9	2.8	2.6	2.7	2.7

*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, 19.7% developed foreign markets, 10.9% emerging markets, 10.2% US Low Vol Equity, 5.4% 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, 2023. Data do not represent past performance and are not a promise of actual future results. See Notes on Wealth Forecasting at the end of this presentation for further details. All information on longevity and mortality-adjusted investment analyses in this study are based on mortality tables compiled in 2000. To reflect that high net worth individuals live longer than average, we subtract three years from each individual's age (e.g. a 55 year-old would be modeled as a 52 year-old), In our mortality adjusted analyses, the lifespan of an individual varies in each of our 10,000 trials in accordance with mortality tables.

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

Notes on the 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.

Notes on the Bernstein Wealth Forecasting System (cont.)

2. **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 Markets 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 the Bernstein Wealth Forecasting System (cont.)

3. **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 at the end of 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.

4. **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 December 31, 2022. Therefore, the first 12-month period of simulated returns represents the period from December 31, 2022, through December 31, 2023, and not necessarily the calendar year of 2023. A description of these technical assumptions is available on request.

5. **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.

6. **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.

Notes on the Bernstein Wealth Forecasting System (cont.)

7. **Tax Rates**

   Bernstein's Wealth Forecasting Analysis has used the following tax rates for this analysis:

Taxpayer	Scenario	Start Year	End Year	Federal Income Tax Rate	Federal Capital-Gains Tax Rate	State Income Tax Rate	State Capita-Gains Tax Rate	Tax Method Type
Client	All	2023	2025	40.8%	23.8%	0.0%	0.0%	Top Marginal
Client	All	2026	2032	43.4%	23.8%	0.0%	0.0%	Top Marginal

The federal income tax rate represents Bernstein's estimate of either the top marginal tax bracket or an "average" rate calculated based upon the marginal rate schedule. The federal capital-gains tax rate is represented by the lesser of the top marginal income tax bracket or the current cap on capital gains for an individual or corporation, as applicable. 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 income tax rate represents Bernstein's estimate of the “average” rate calculated based upon the applicable state's marginal tax schedule. Where an applicable state tax code permits the exclusion of a portion of capital-gains income from gross income for purposes of calculating state income tax, such exclusions have been included in the calculation.

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.

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