[A/B] BERNSTEIN

Resilient

2Q23 Macro and Markets Perspective

Our Perspective: Resilient

Stock Rally a Welcome Surprise

We have to admit pleasant surprise with the market's rally this year. We didn't expect the economy to be as resilient nor the AI theme to yield such demonstrable impact in 2023. We've been on record calling 10/12/22 the bear market low—just know that the next few quarters won't be a straight line higher.

Bond Outlook Now Much Better

We're also on the record having said the Fed wouldn't cut this summer, disagreeing with consensus at the time. With the Fed likely only hiking one more time (July), we believe the outlook for Fixed Income is much improved. Investors in cash/short duration should now extend longer, capitalizing when rates inevitably fall.

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."

As of June 30, 2023
Source: Bernstein analysis

Key Economic and Market Expectations, 2023–2024

- **Global growth:** Gradual weakening for the next few quarters but not an imminent hard landing.

- **Inflation:** Receding, but the pace of progress has been slow and variable across geographies. That should continue.

- **Monetary policy:** Higher for longer - we expect tight policy for several quarters to come but only one more hike in the US.

- **Bond yields:** Likely near cycle peaks (once again). More downside than upside to rates from here if base case unfolds.

- **Earnings growth:** S&P 500 earnings expectations have been stable. We think 2H will bring revisions lower, but less revision than we originally expected given the economy's resilience.

AB Economic Team Forecasts

	2023	2024
US GDP	0.8%	1.0%
Global GDP	2.1%	1.9%
10Y Treasury Rate	3.75%	2.75%
Policy Rate	5.25%–5.50%	3.75%–4.00%
US Inflation	3.8%	2.5%

As of June 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 impact your asset allocation decisions and opportunities

The stock market priced a recession and bottomed in October and a new multiyear bull market has begun

Advice: Don't be underweight—ensure LT equity allocation is implemented

The Fed has 1–2 more hikes but no more and starts to cut in Q1 2024

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

The 2H 2023 equity market may be volatile given a softening consumer

Advice: Take necessary 2023 withdrawals now and DCA through 2H rather than all at once

A credit contraction will occur, impacting the private industries in need of perpetual capital

Advice: Lend into the contraction (e.g., to CRE, middle market corporate) gaining attractive yields and favorable terms
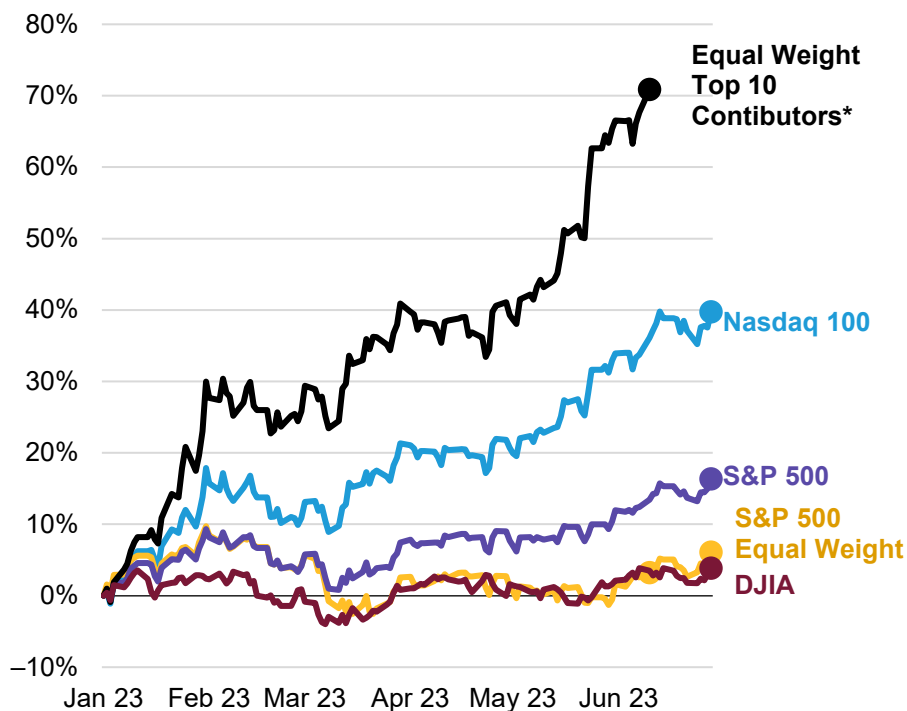
Why Are Equities Rallying?

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Reason: Leadership and Concentration Have Contributed

YTD Market and Cross-Sectional Returns

Equal Weight Top 10 Contibutors*
Nasdaq 100
S&P 500
S&P 500 Equal Weight
DJIA

S&P 500 YTD Contributions

	Apple	Microsoft	Nvidia	Alphabet	Amazon	Meta	Tesla	Broadcom	Advanced Micro Devices	Salesforce	Rest of Market	S&P 500
	3.0%	2.3%	2.1%	1.10%	1.3%	1.2%	1.2%	0.4%	0.2%	0.2%	3%	16%

As of June 30, 2023.
**References to specific securities discussed are not to be considered recommendations by AllianceBernstein L.P.**
*Contributors are companies listed on the Right-Hand Side chart.
Source: Bloomberg, FactSet, S&P, and Bernstein analysis

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Beyond Leaders, Average Stock 40% Cheaper

Rest of Market Not Expensive, Could Allow For Broadening of Performance
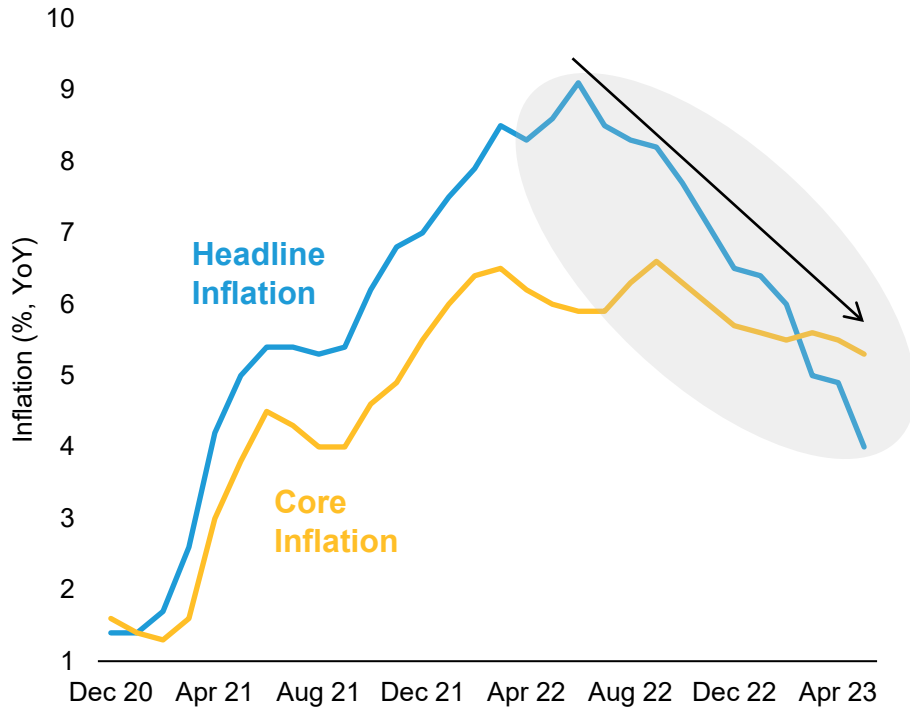
Average Forward Multiple of S&P 500 Stocks*
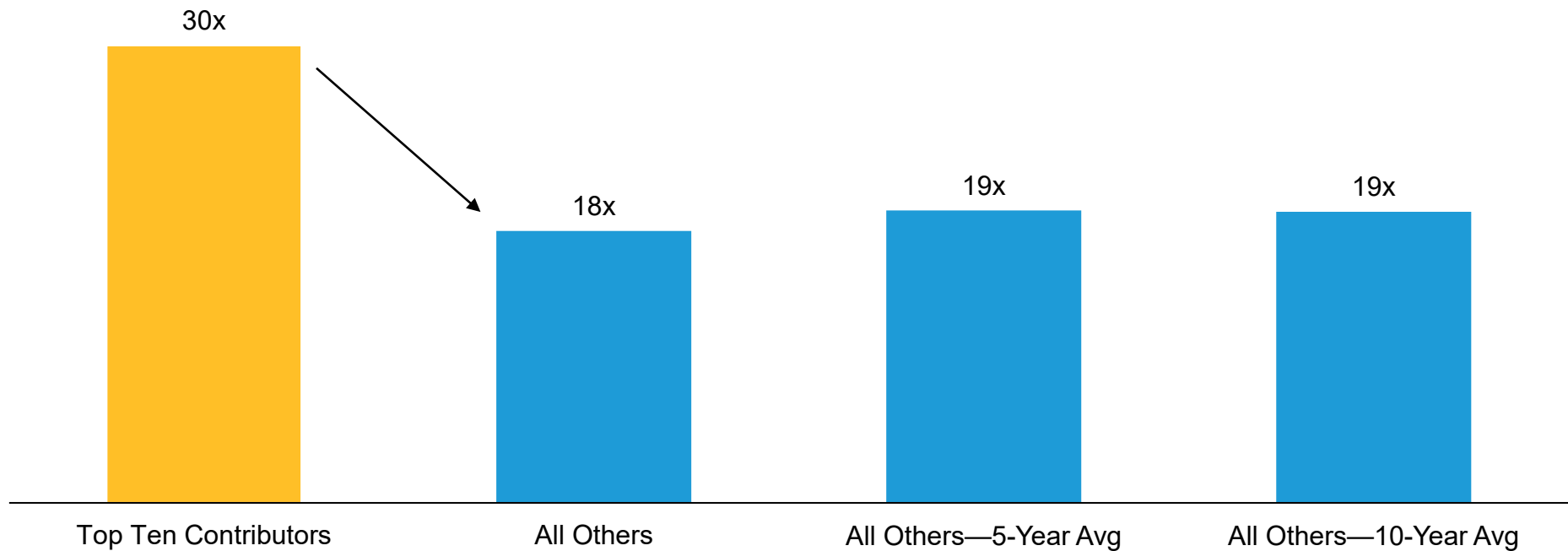
As of June 30, 2023. **Past performance does not guarantee future results.**
*Top 10 Stocks defined as largest YTD contributors to S&P 500 performance. The following stocks are include: Apple, Microsoft, NVIDIA, Alphabet, Amazon, Meta, Tesla, Broadcom, Advanced Micro Devices, Salesforce.
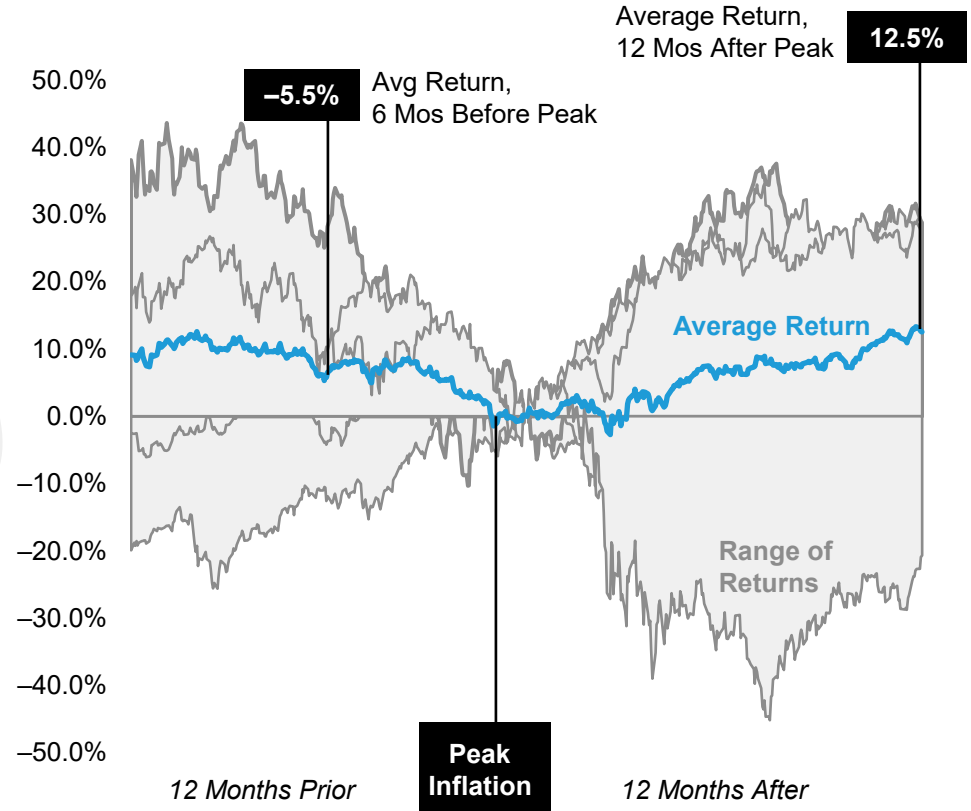Source: Bloomberg, FactSet, S&P, and Bernstein analysis

Reason: Inflation Has Now Clearly Peaked

US Inflation Is Now Decelerating in Both Headline and Core

Headline Inflation

Core Inflation

Inflation (%, YoY)

Dec 20   Apr 21   Aug 21   Dec 21   Apr 22   Aug 22   Dec 22   Apr 23

Historically, Equities Rally After Inflation Peaks

Average Return, 12 Mos After Peak — **12.5%**

−5.5% Avg Return, 6 Mos Before Peak

Average Return

Range of Returns

Peak Inflation

12 Months Prior   *12 Months After*

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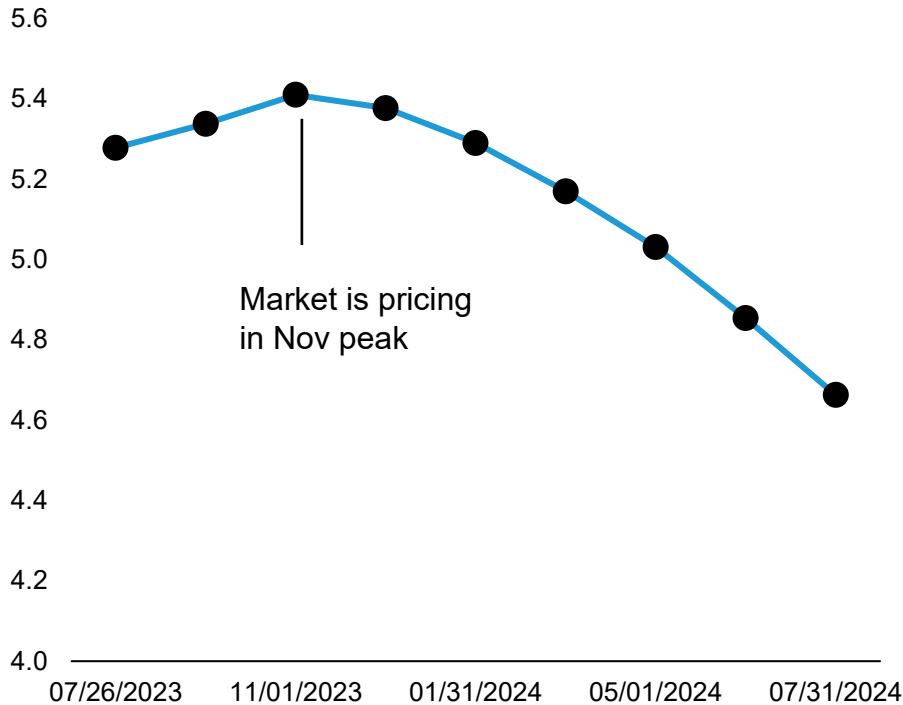
Past performance does not guarantee future results.

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

Source: Bloomberg, Bureau of Labor Statistics, S&P 500, and Bernstein analysis

Reason: Investors Are Anticipating Fed Funds Rate Peak This Fall

Market Implied Policy Rate (Percent)

S&P 500 Returns, Post Peak Fed Funds Effective Rate

Market is pricing in Nov peak

Average 8%

Positive Outcomes

Negative Outcomes

Tech Bubble

GFC

Months after Peak Fed Funds Rate
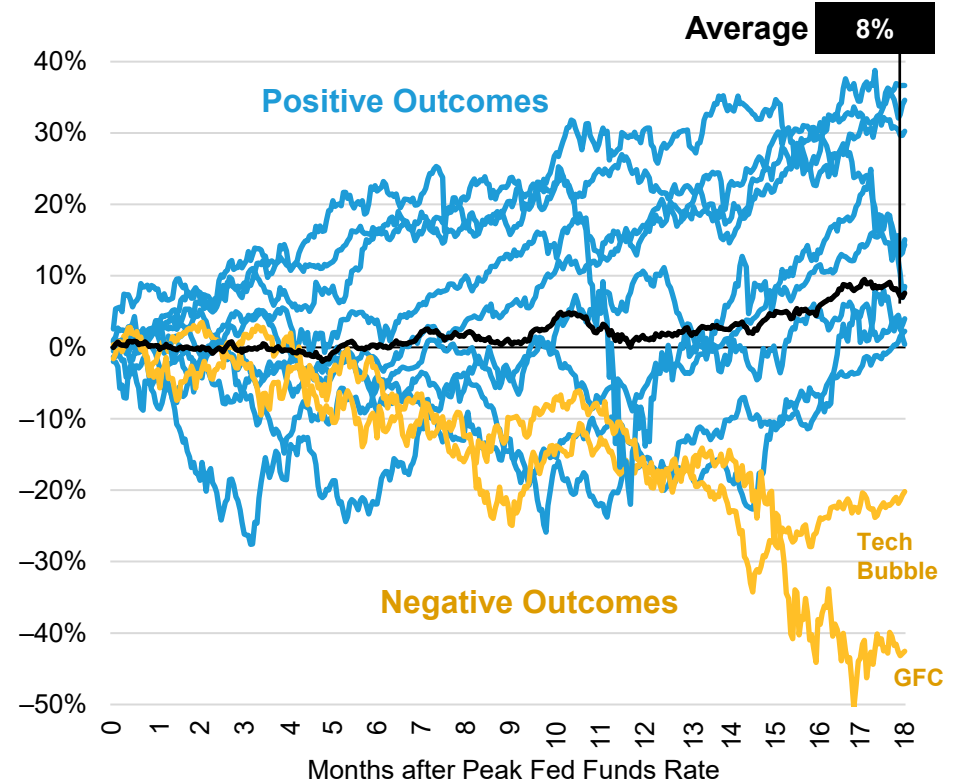
As of June 30, 2023
Past performance does not guarantee future results.
RHS Chart: Year associated with each peak rate and respective return are as follows: Oct 1957 30%, Nov 1959 14%, 8/1/1969 2%, 7/1/1974 4%, 6/1/1981 0%, 8/1/1984 34%, 3/1/1989 9%, 4/1/1995 37%, 7/1/2000 -20%, 4/1/2019 15%, 7/1/2007 -42%, Average 8%.
Source: Bloomberg, S&P, FactSet, Bernstein analysis

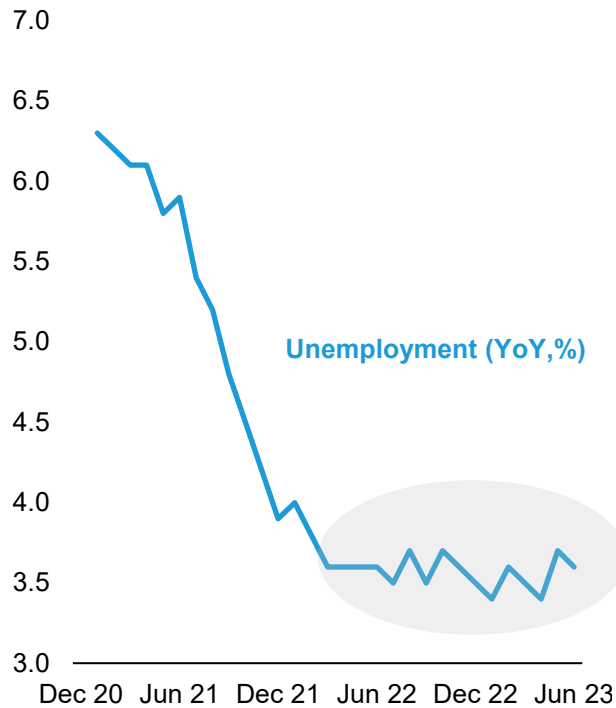# Reason: Stronger Consumer Has Buttressed Earnings…

Unemployment Remains at Historically Low Levels…

Unemployment (YoY,%)

(Line chart, y-axis 3.0 to 7.0, x-axis Dec 20, Jun 21, Dec 21, Jun 22, Dec 22, Jun 23)

…Bolstering Consumer Spending

Core Personal Consumption Expenditures (YoY,%)

(Line chart, y-axis 1.0 to 6.0, x-axis Dec 20, Jun 21, Dec 21, Jun 22, Dec 22, Jun 23)
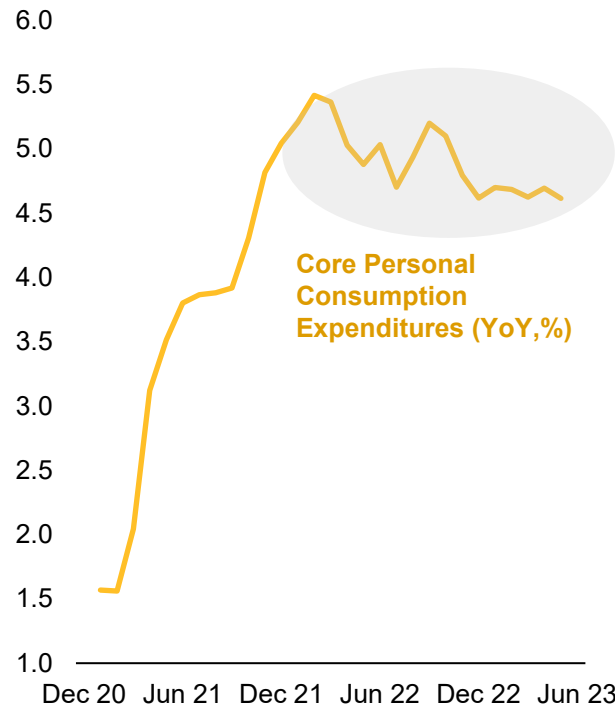
Keeping S&P 500 Earnings Afloat

(Bar chart)
- 2022: $216
- 2023 E: $219
- 2024 E: $245
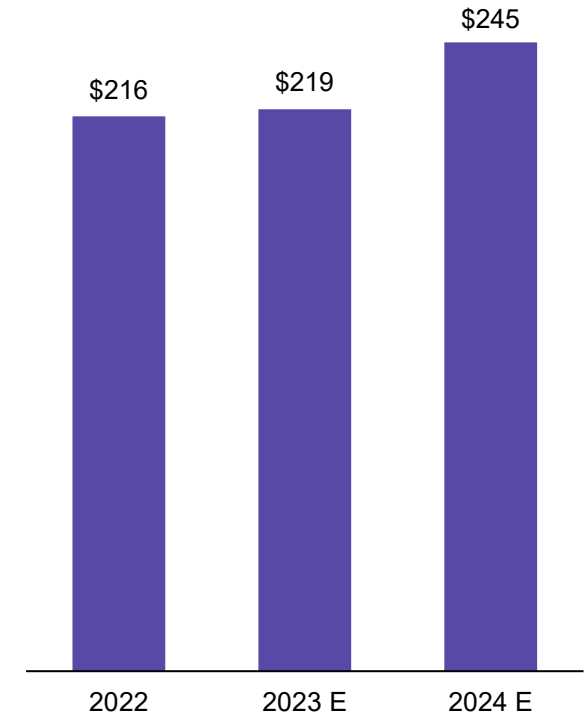
As of June 30, 2023

Past performance does not guarantee future results. Current analysis and forecasts do not guarantee future results.

Source: Bloomberg, FactSet, Bernstein Analysis

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…And Earnings and Stock Performance Are Tightly Correlated

S&P 500 Stock Price and Earnings

S&P 500 Index Level (lhs) ——— Forward 12M EPS (rhs) ———
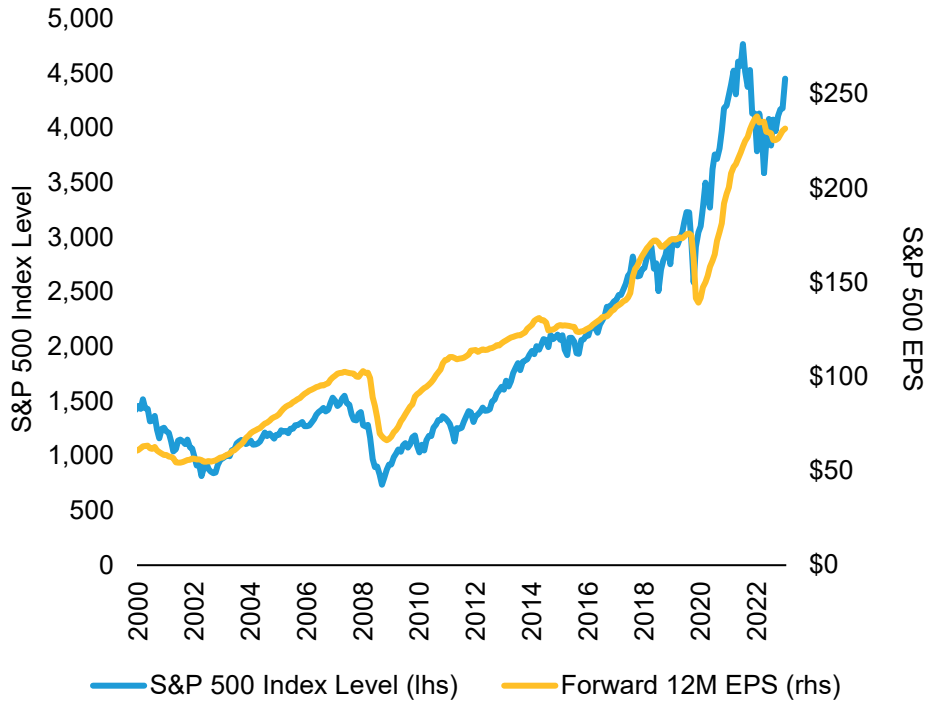
S&P 500 Stock Price and Earnings Growth

S&P 500 YoY Return ——— Forward 12M EPS Gro YoY ———
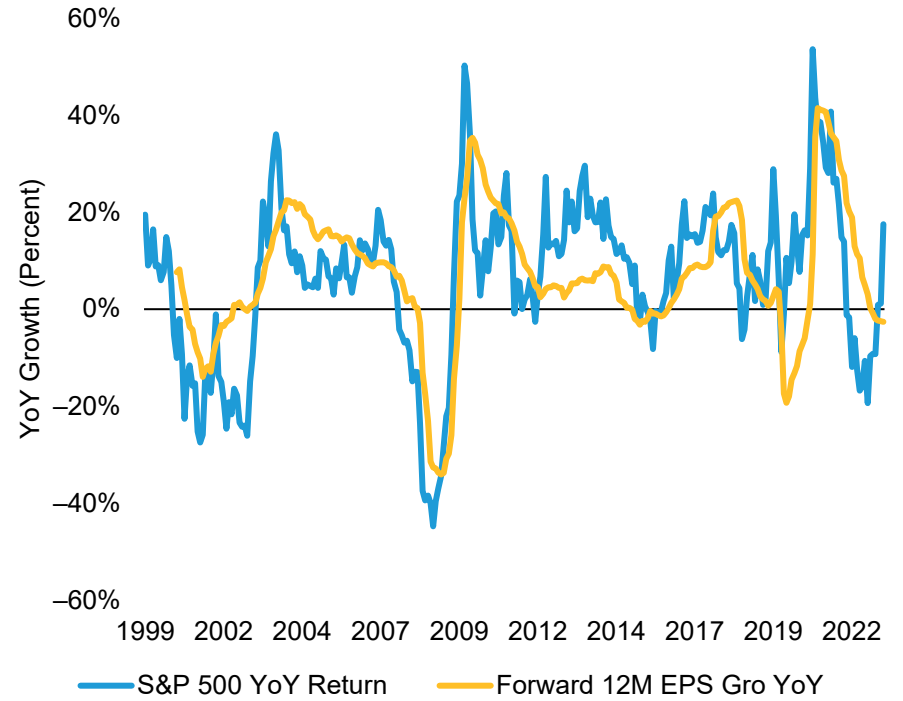
As of June 30, 2023. **Past performance does not guarantee future results.**
Source: Factset, S&P, Bernstein analysis

Has the Next Bull Market Begun?

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The Market's Resilience to Date Would Suggest So

Just look at what the economy has contended with and has trudged through…

Issue	Reason For Resilience
17+ months of war in Ukraine	Small economic countries + limited gas impact on Europe due to mild winter
~45% commodity price spike (1H 2022)	~33% 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	Ringfenced troubled banks; liquidity provided to stabilize deposits
$31T Debt Ceiling drama	Resolved and extended to 2025
500 bps of Fed hikes (i.e., the long and variable lag of monetary policy)	TBD—near-term concerns on slowing consumer, labor market weakness

As of June 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

We Believe We're Eight Months into the Next Bull Market…
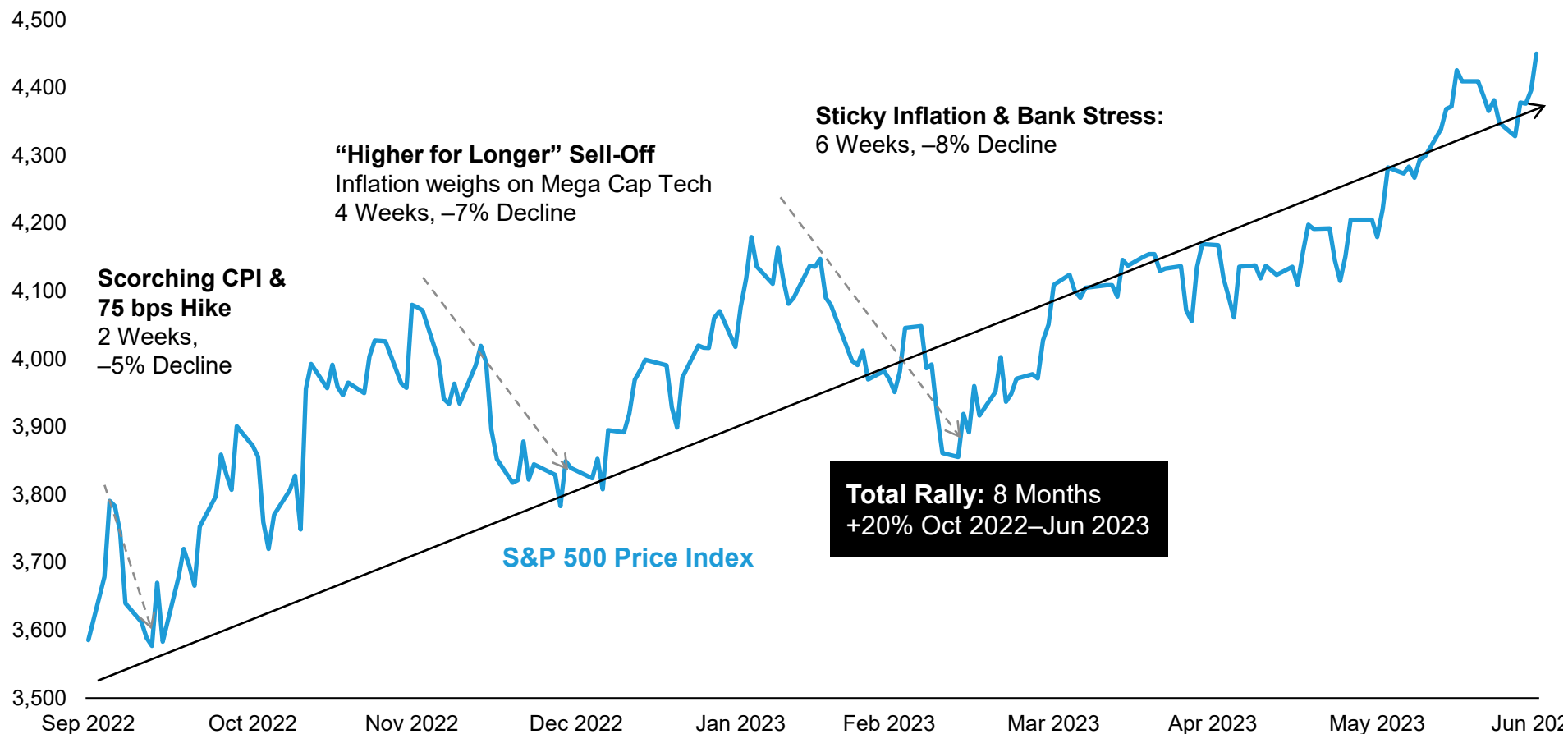
Scorching CPI & 75 bps Hike
2 Weeks, –5% Decline

"Higher for Longer" Sell-Off
Inflation weighs on Mega Cap Tech
4 Weeks, –7% Decline

Sticky Inflation & Bank Stress:
6 Weeks, –8% Decline

Total Rally: 8 Months
+20% Oct 2022–Jun 2023

S&P 500 Price Index

As of June 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, Bernstein analysis

…But a Consumer Slowdown Will Make 2H Bumpy …

Weekly Hours and Earnings Are Declining

Avg Weekly Hours Worked (Right Scale)

Avg Hourly Earnings (YoY, Percent)
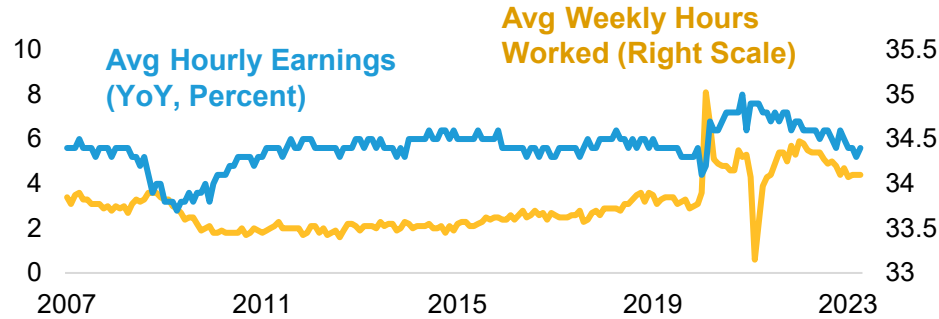
Personal Savings Is Falling

US Personal Saving Rate (Percent)
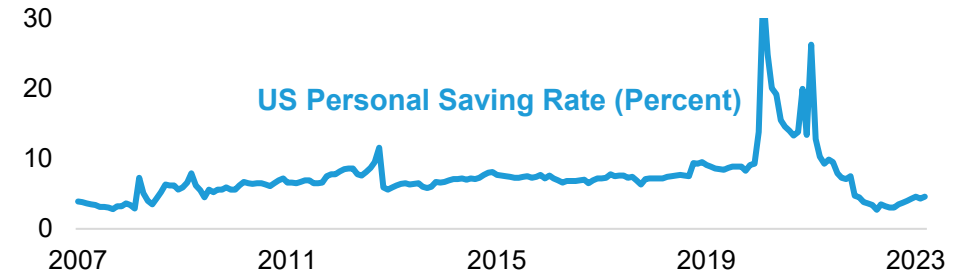
Card Delinquencies Ticking Higher

Delinquency Rate on Credit Card Loans (Percent)
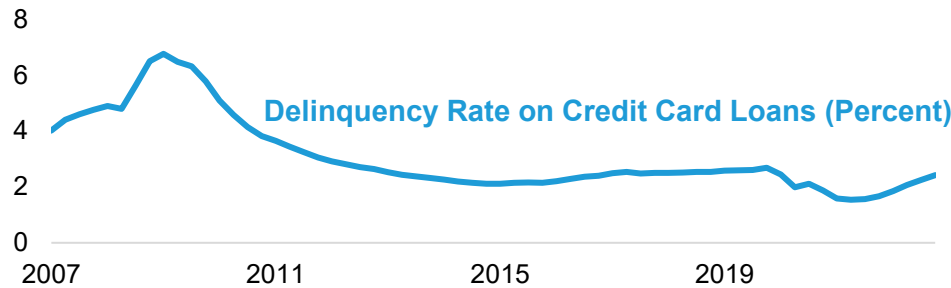
Retails Sales Are Declining
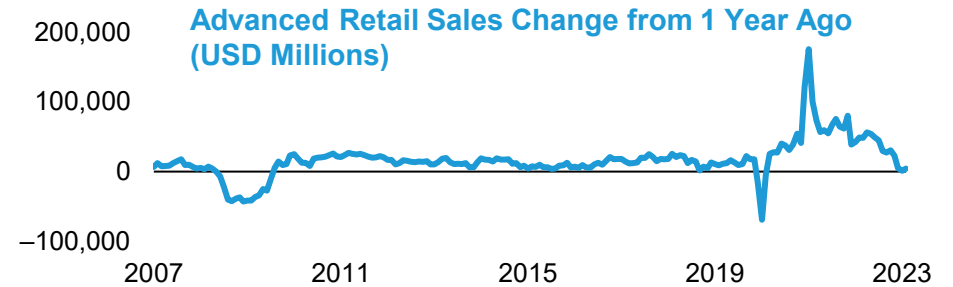
Advanced Retail Sales Change from 1 Year Ago (USD Millions)

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

…Yet Manageable

Job Openings and Limited Excess Should Soften the Slowdown

High Job Openings to Soften Job Losses

Debt by Sector relative to GDP vs. Start of GFC
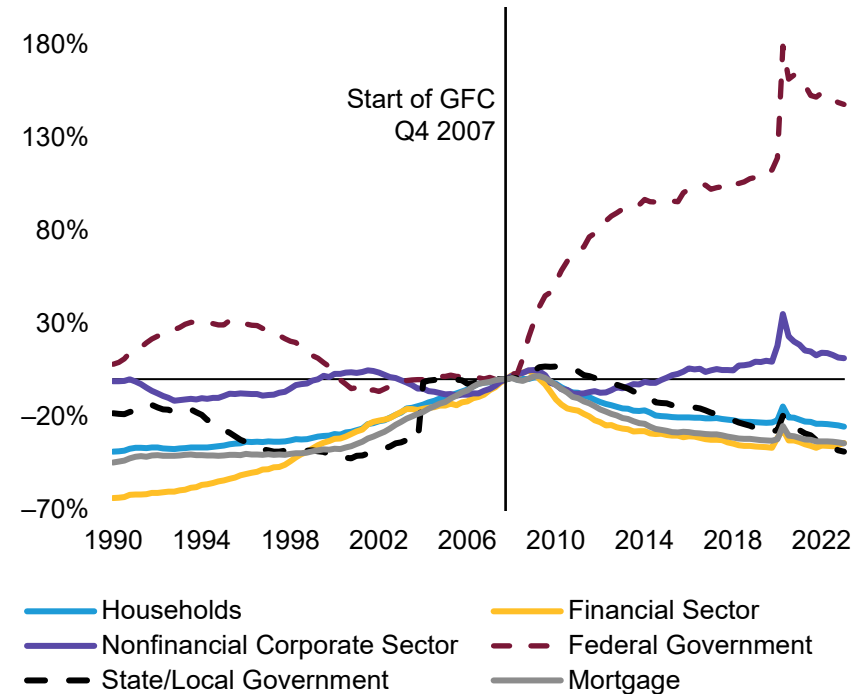
As of June 30, 2023. **Historical analysis is not necessarily indicative of future results.**
Source: Rifinitiv, Bloomberg, Bernstein analysis

Look Past the Near Term and Focus on Horizon

Scenario Analysis: S&P 500, YE 2024—not incl. dividends
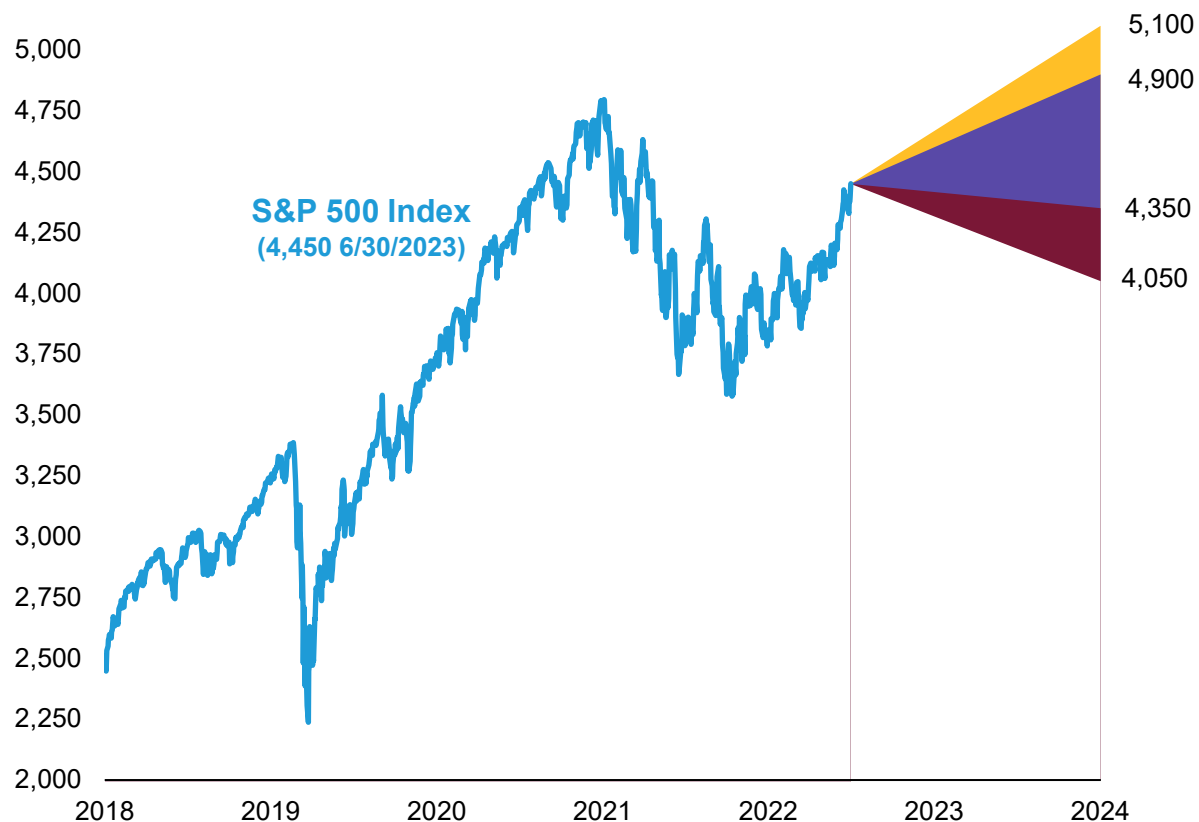
Bull: Inflation Craters + Rate Cuts

Inflation falls rapidly while growth merely slows. Fed feels comfortable enough with the path to begin cutting rates this summer. **Likelihood: 15%**

Base: Mild Recession / Soft Landing

Inflation decelerates modestly. Fed hikes (July) and holds through ~Q124. Economic growth slows toward 0-1%. **Likelihood: 65%**

Bear: Stubborn Inflation

Inflation doesn't slow further, causing the Fed to remain restrictive (well above 5%). Possibility of an "economic shock" increases. **Likelihood: 20%**

As of June 30, 2023. **Historical analysis is not necessarily indicative of future results. There is no guarantee that any estimates or forecasts will be realized.**
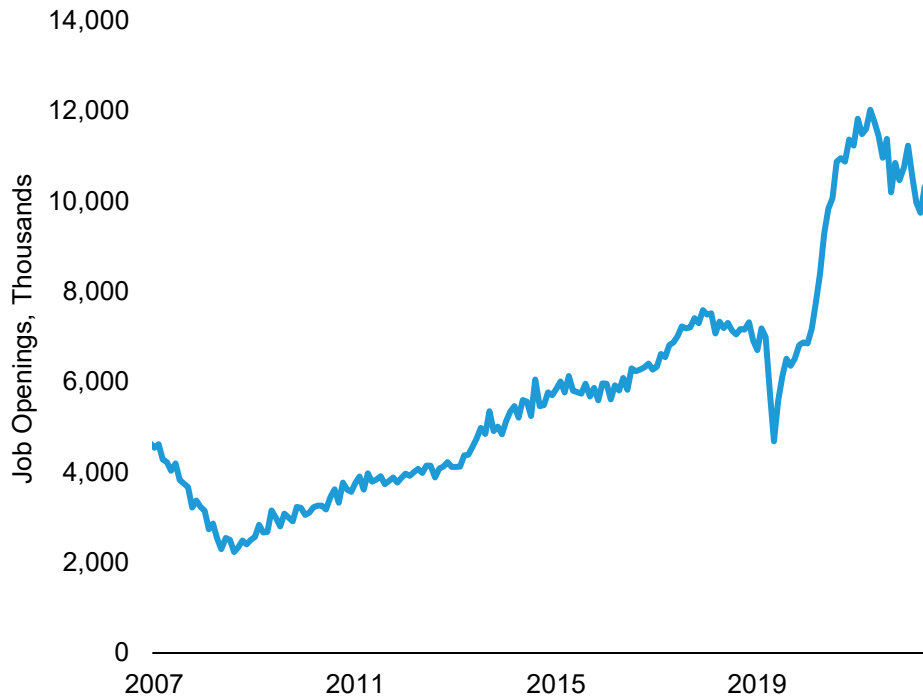Source: Bloomberg, S&P 500, and Bernstein analysis

What's Next for the Bond Market?

As Market Reset Fed Expectations, Bond Returns Partially Retraced Gains

10-Year US Treasury Yield

Oct 24, 2022: 4.25%

yield down price up

Apr 5, 2023: 3.3%

yield up price down

Jun 30, 2023: 3.8%
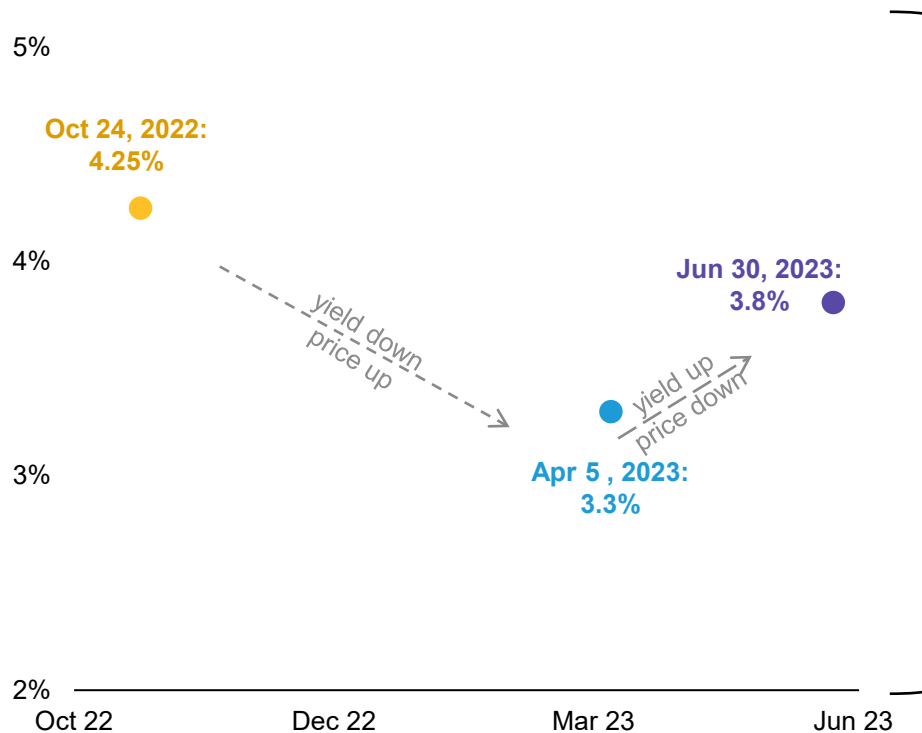
Bloomberg US Aggregate Index Price Level vs. Oct 24, 2022
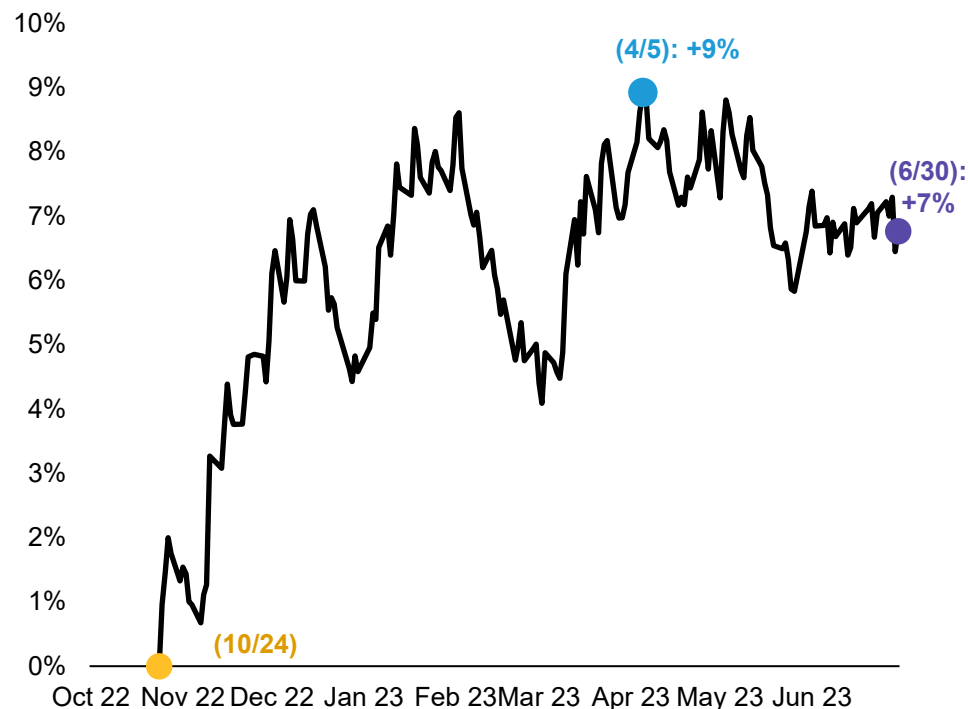
(4/5): +9%

(6/30): +7%

(10/24)

As of June 30, 2023. **Past performance does not guarantee future results.**
Source: Bloomberg, S&P 500, and Bernstein analysis

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Time Between Last Hike and First Cut Is Varied
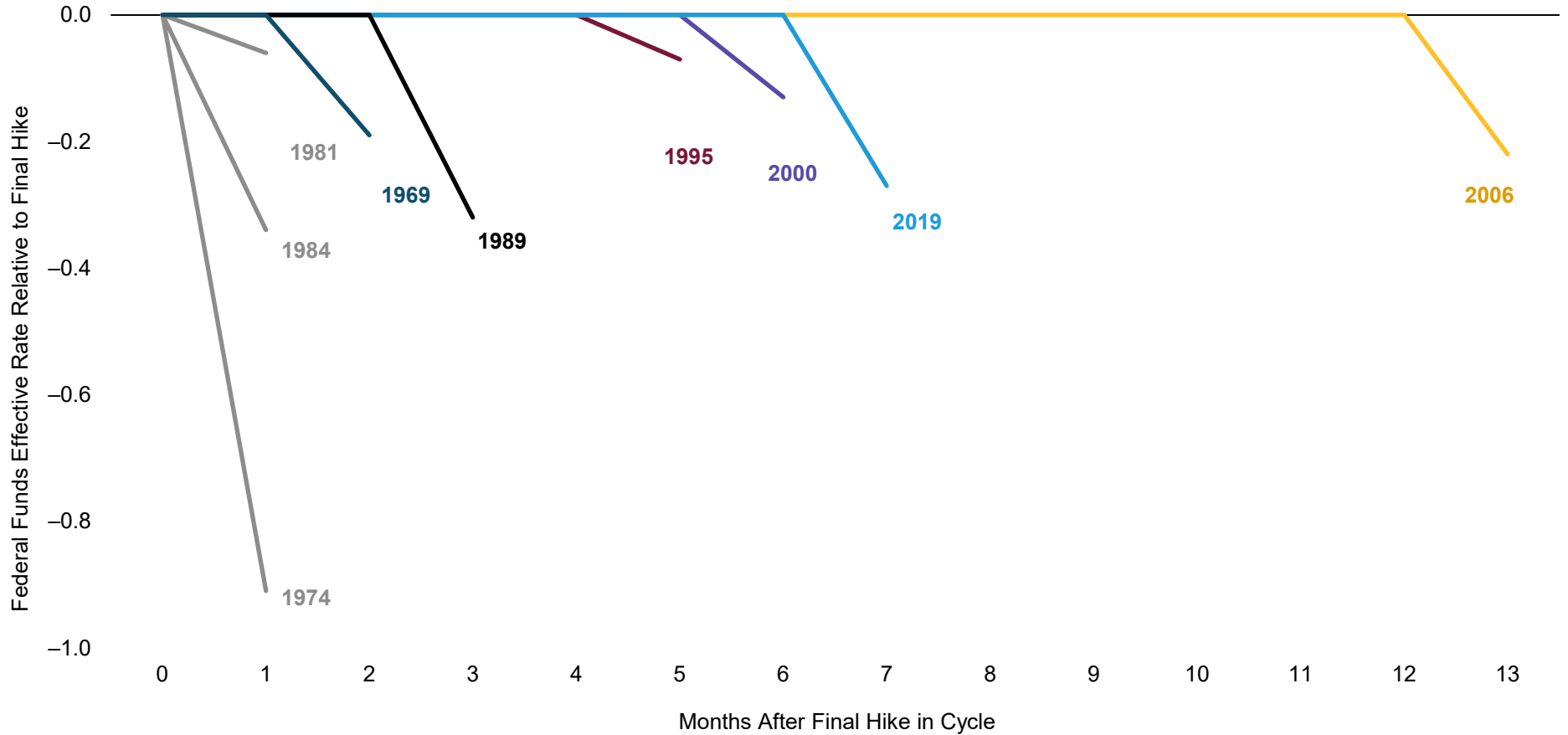
As of June 30, 2023. **Historical analysis is not necessarily indicative of future results.**
Source: Bloomberg, Bernstein analysis
T=0 is final hike in cycle. To smooth outcomes, Fed Funds effective rate rounded to 0 if within 10 bps.

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

Scenario Analysis: Expected 12-Month Municipal Returns

Chart: 10-Year US Treasury Yield (%) from 2018 to 2023, with three scenario endpoints labeled 4.0%, 3.75%, and 3.0%.
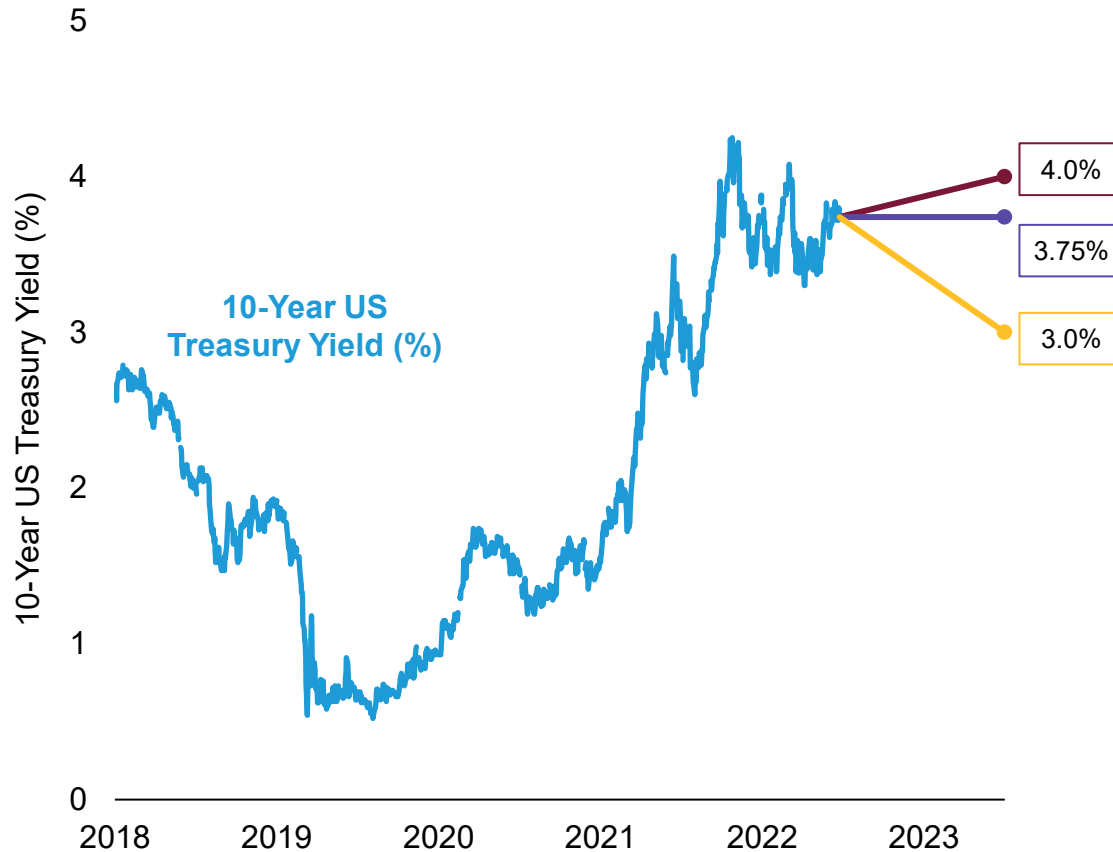
US Treasury Rises to 4.0%

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, or potentially cut toward year-end. **In this case, an intermediate-duration municipal portfolio could return ~4%.**

US Treasury Falls to 3.0%

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

As of June 23, 2023. **Past performance and historical analysis do not guarantee future results. There is no guarantee that any estimates or forecasts will be realized.**

Display reflects expected returns of a representative six-year-duration intermediate municipal index under three scenarios: 10-year US Treasury yields rise to 4.00%, remain the same, or decline to 3.00% over the next 12 months.
Source: Bloomberg and AB

Anatomy of Falling Rates (i.e., why you should extend bond duration now)

Illustrative Impact on Fixed Income Total Return and Income Representative Indices

Total Return, 12 months forward*
Percent

6.7%

2.8%
(Price Appreciation)

3.9%
(Income)

3.4%

2.8%

| Government Money Market (After-Tax) | Muni Money Market (After-Tax) | Muni Intermediate Duration (After-Tax) |

■ Income   ■ Price Appreciation

Starting Yield, 12 months forward†
Percent

2.1%

2.5%

3.6%

| Government Money Market (After-Tax) | Muni Money Market (After-Tax) | Muni Intermediate Duration (After-Tax) |
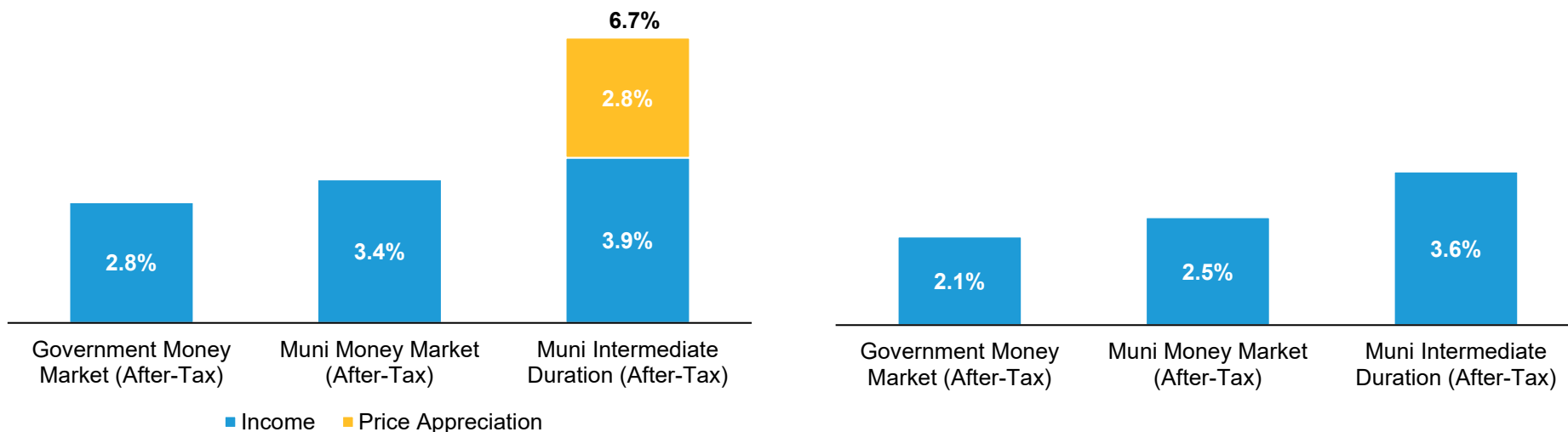
Duration detracts from performance when rates rise (i.e., 2022), but benefits the portfolio when rates fall.
If the Fed is near the end of their hiking cycle, or if rates fall due to economic and/or equity weakness, it's worth considering what will perform best from here: Money Market funds (no duration) or muni portfolios (4–6 year duration)

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What to Do?

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Take What the Markets Give You

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

Adding To or Withdrawing From Accounts

Assumption: markets may be volatile and/or pull back near term

Additions: Utilize Dollar Cost Averaging Strategy

Withdrawals: (e.g. Large Needs, Foundation Spend, IRA RMD): Raise capital in NT, place in MM until needed

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

Seeking Opportunity

Assumption: Bank credit will continue to contract

Certain private asset classes will be impacted by less credit extension. Take advantage of this lenders' market

Private lending to corporate and commercial real estate

Bank Lending Pullback Should Impact Those Needing Perpetual Capital

Commercial Real Estate and Middle Market Corporate Likely Most Impacted

Total Bank Lending (USD Billions)
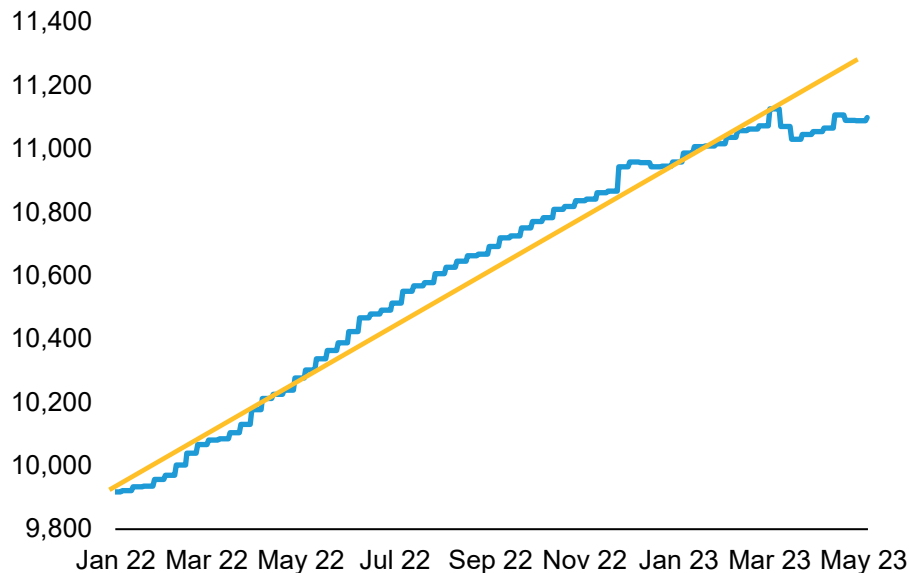
YoY Growth Rate of Total Lending
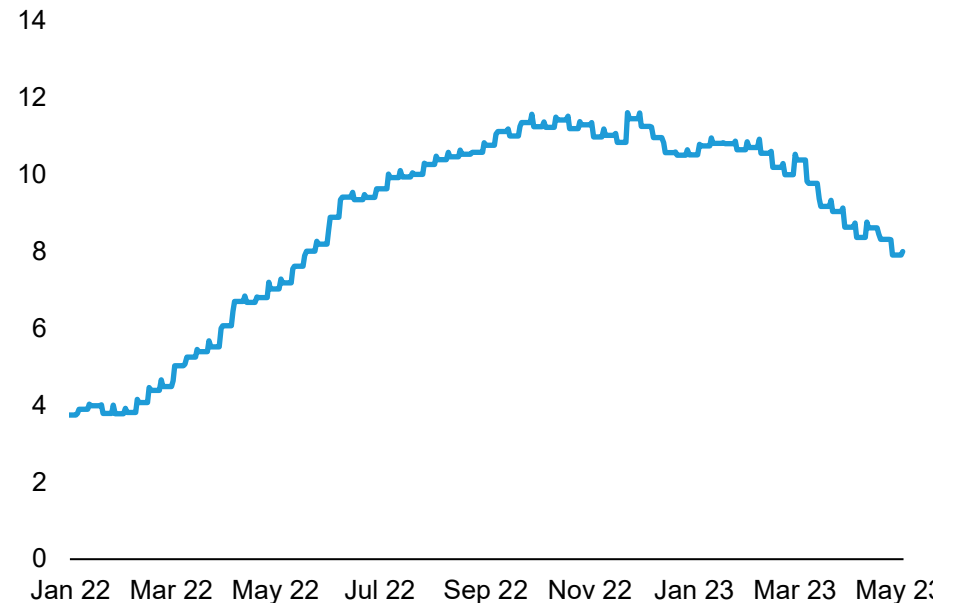
- Total lending (large and small banks combined) has flatlined since SVB.

- The growth rate of loans outstanding is positive in YoY terms, but the evident deceleration implies a hit to growth.

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Best Ideas for 2H 2023 and Beyond

Target Return (vertical axis) / Time to Return (horizontal axis)

- Private Corporate Credit
- Real Estate Debt
- Buffered Equity
- Core Bonds
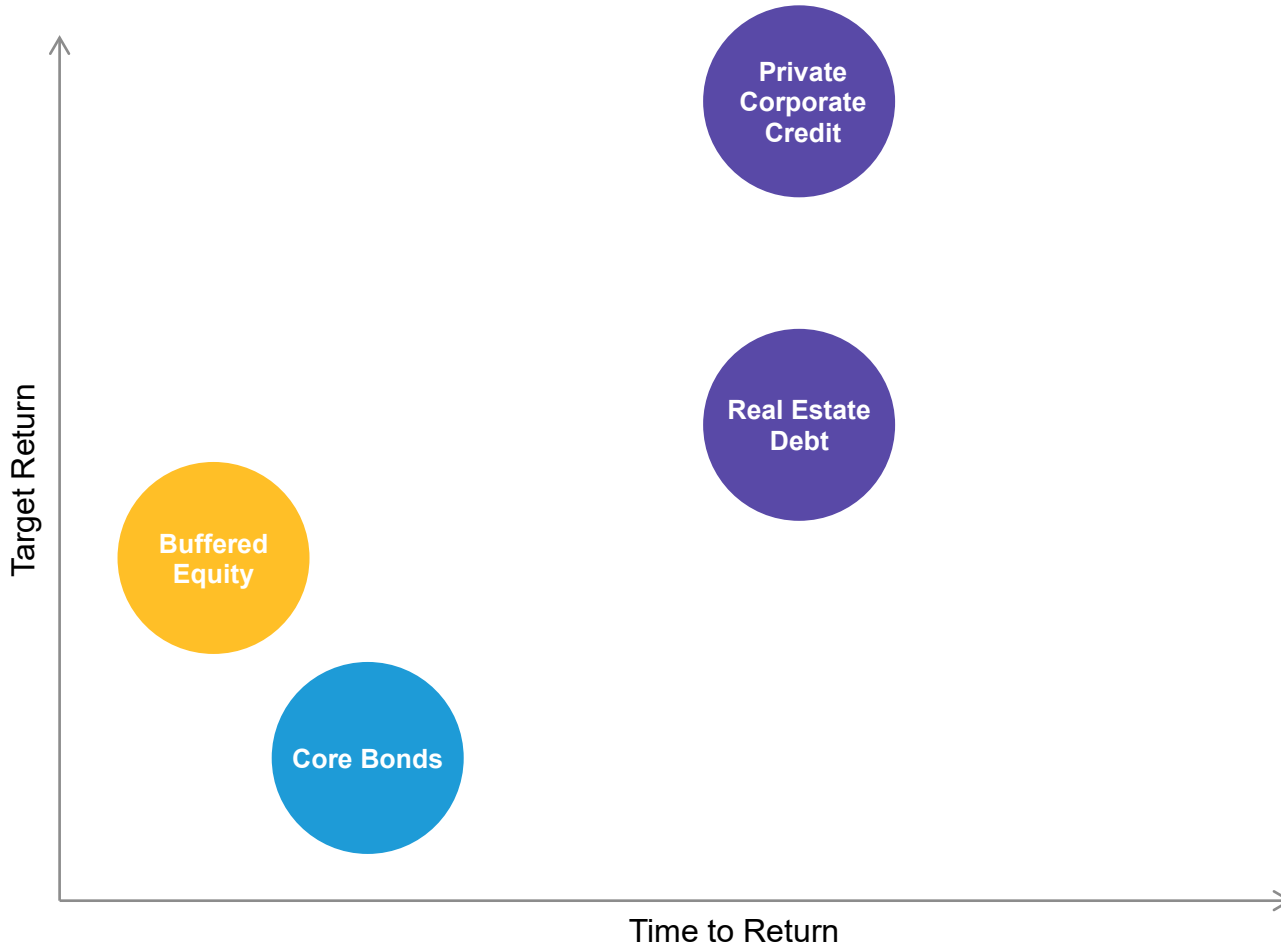
Opportunities Catalyzed by the Current Environment:

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 2H. 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 June 30, 2023
Source: Bernstein analysis

Appendix

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What Happened to That Recession Everyone Was Expecting?!

2023 Consensus Forecasts Over Time (YoY, % Change)
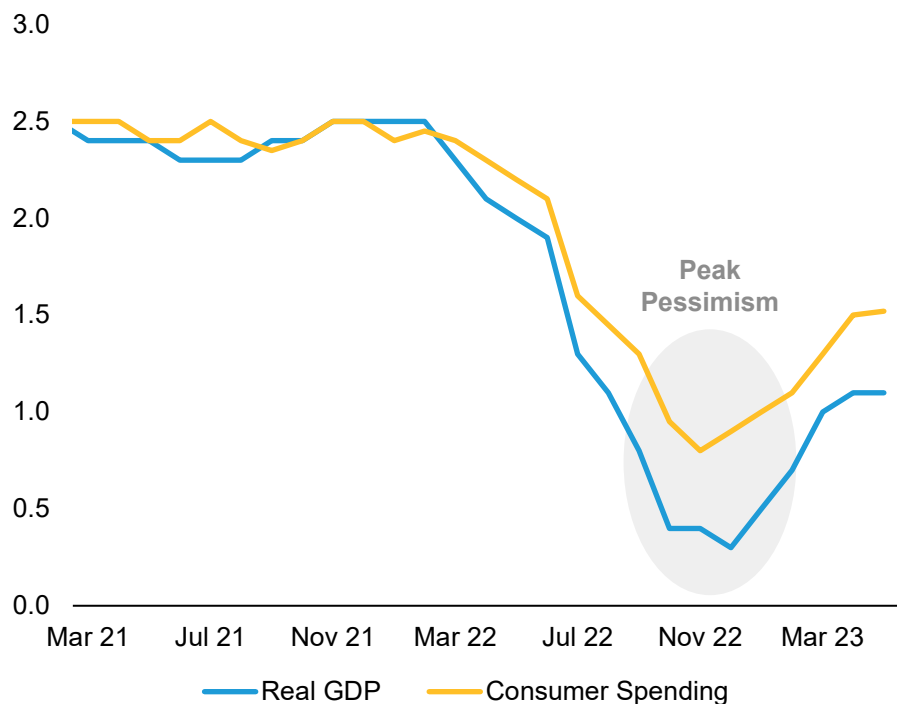
- Forecasters were most negative on the economy in mid-October

- Not surprisingly, that's when the stock market hit its lows

- Economic activity has since been better than feared, fueling the stock rally

- We expect a slightly negative 4Q23 and 1Q24 US GDP. The magnitude of the softness will be more important than the sign (i.e., "−")

As of June 30, 2023. **Past performance and historical analysis do not guarantee future results.**
Source: Refinitiv Datastream, Bernstein analysis

Investing Around Recessions: Rules of Thumb Don't Apply

Historical Return Before and After Recessions
Percent
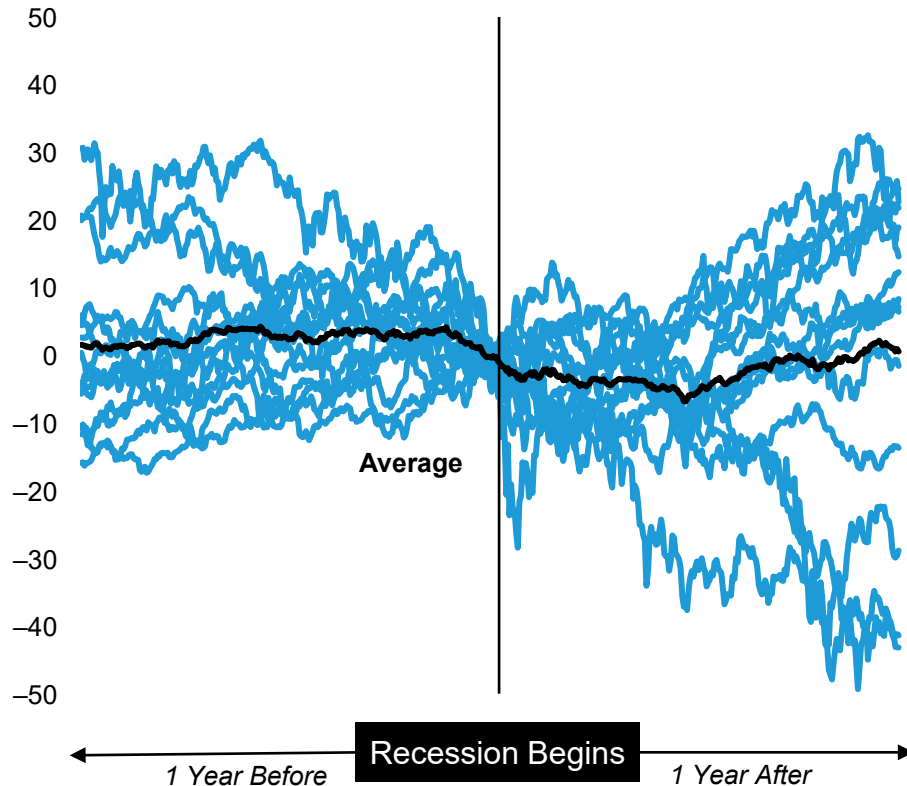
- Historical evidence doesn't show a consistent pattern of returns while being investing around recessions. Each cycle is different

- Historically, markets tend to bottom after the recession officially begins. Yet the economy has been stronger than expected recently, and certainly better than the peak pessimism period of Fall 2022.

- Absent an unforecastable economic shock this cycle, we think the market bottomed in Q4 2022 while anticipating the economy's downturn.

As of June 30, 2023. **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, and 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

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 9 extensions and over 3 years. Separately, the Supreme Court ruled against debt cancellation.

- **The Scale:** Over 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 towards 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

Unemployment Rate—Bachelor's Degree and Higher, 25 Yrs. and over (percent)

2.1%
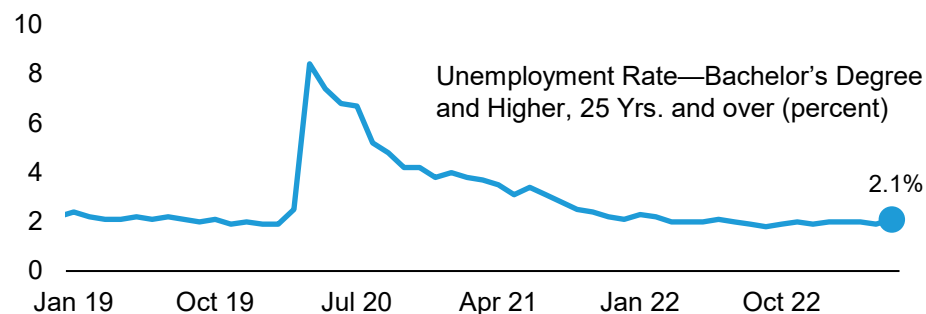
Most Borrowers have less than $25k Debt
Distribution of Student Loan Borrowers
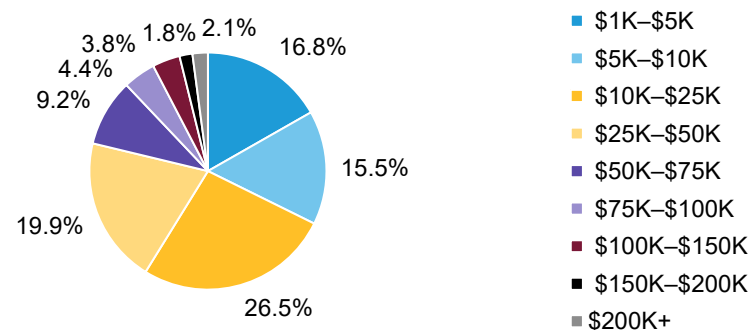
- $1K–$5K — 16.8%
- $5K–$10K — 15.5%
- $10K–$25K — 26.5%
- $25K–$50K — 19.9%
- $50K–$75K — 9.2%
- $75K–$100K — 4.4%
- $100K–$150K — 3.8%
- $150K–$200K — 1.8%
- $200K+ — 2.1%

As of June 30, 2023. **Historical analysis is not necessarily indicative of future results. There is no guarantee that any estimates or forecasts will be realized. Distribution of student loan borrowers as of Q4 2021, latest available data.**
Source: Federal Reserve of St. Louis, Federal Reserve of NY, Bloomberg, 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 has 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% avg 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.

China Reopening

Reopening Falls Flat, Leaving Investors Underwhelmed

Intensifying Pressure on Exports has been a Key Driver

- **Cyclical Pressure:** slowing global growth from aggressive monetary policy around the world, coupled with normalization of consumption away from the early pandemic surge in goods, is causing a sharp decline in overseas demand.

- **Structural pressure:** shifting global supply chains since the start of the US-China trade war 5 years ago already erased over half the gains China achieved in US market share since signing WTO in 2001. Meanwhile, China's market share in Europe also has started to fall.

  - These dual pressures are causing investors to downgrade expectations for Chinese exports (and thus economic) growth.

- **Potential Tailwinds?** That said, pent-up demand and additional fiscal/ monetary support may provide a tailwind for the economy

China Manufacturing PMI

Expanding

Contracting

49
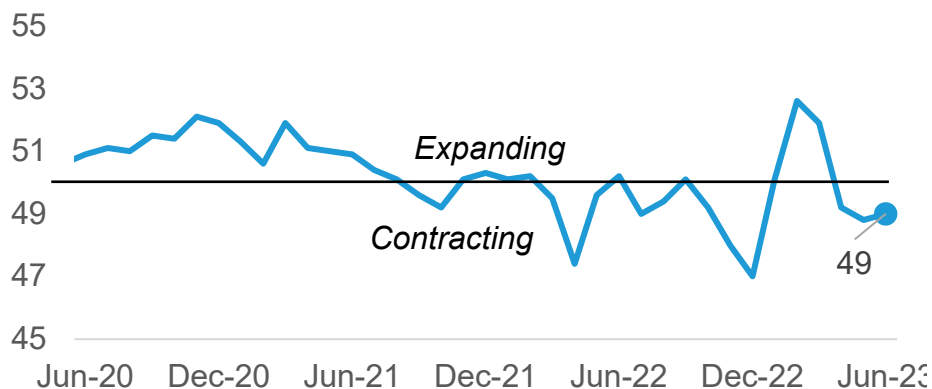
China's Share of Total US Imports (%)
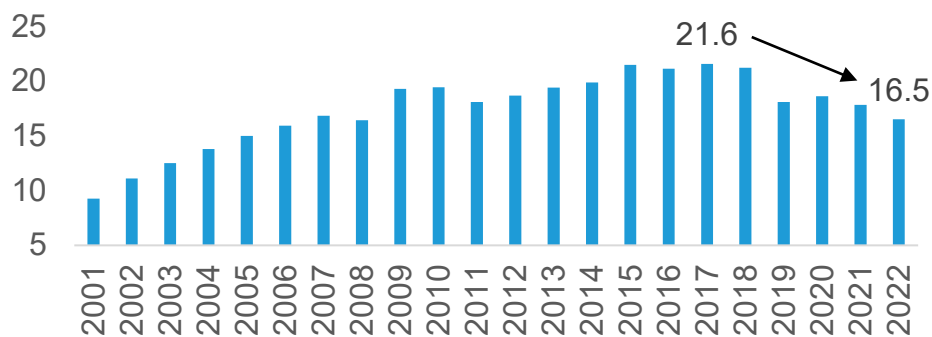
21.6

16.5

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

Markets have Reversed YTD after a Hostile 2022

Long Term Investors Remain on Track - Returns in US dollars

	2019–2021 Cumulative Return	2022	YTD 2023	2019–June 2023 Annualized Return
Equities				
Global	74%	−18%	13%	11%
Developed World	80%	−18%	15%	12%
US	100%	−18%	17%	16%
Developed Int	48%	−14%	11%	8%
EM	39%	−20%	6%	4%
US Growth	141%	−29%	29%	19%
US Value	63%	−8%	5%	11%
Credit				
Global Agg	11%	−16%	1%	−1%
US Agg	15%	−13%	2%	0%
Global HY	22%	−13%	5%	3%
Government Bonds				
US Treasuries	13%	−12%	2%	0%
Munis	10%	−5%	1%	1%
Real Assets				
Commodities	33%	16%	−8%	8%
Global REITs	52%	−24%	3%	4%
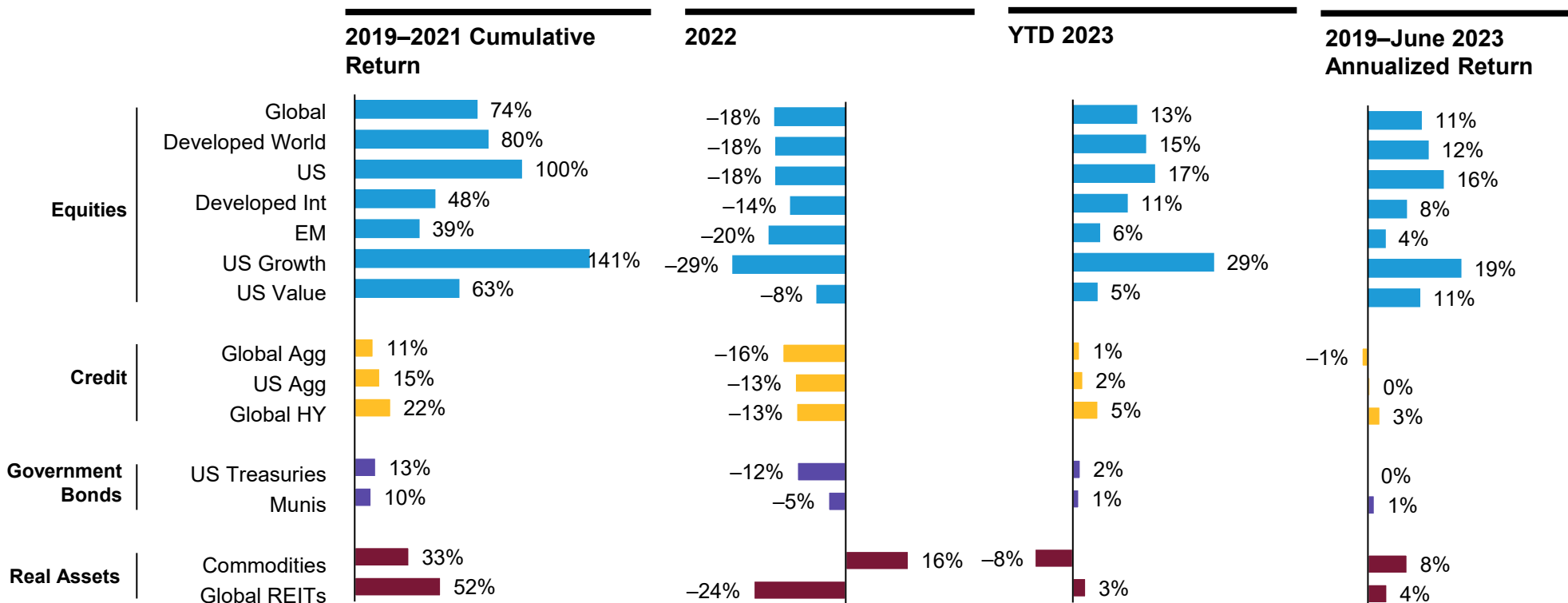
As of June 30, 2023. **Historical analysis is not necessarily indicative of future results.** Asset classes represented as follows: (Equities) Global—MSCI ACWI IMI, Developed—MSCI World Index, US—S&P 500 Index, Dev Int—MSCI World ex USA, EM—MSCI Emerging Markets IMI Index, US Growth—Russell 1000 Growth 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, Russell, MSCI, S&P 500, and AB

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

Projected* and Actual Returns** (Annualized)

3 Years into Plan:
10-yr forecasted return as of Dec '19

8.8%
4.8%
1.1%

2019 2020 2021 2022 2023 2024 2025 2026

5 Years into Plan:
10-yr forecasted return as of Dec '17

9.2%
5.2%
1.5%

2017 2018 2019 2020 2021 2022 2023 2024 2025 2026 2027

7 Years into Plan:
10-yr forecasted return as of Dec '15

9.2%
5.2%
1.5%
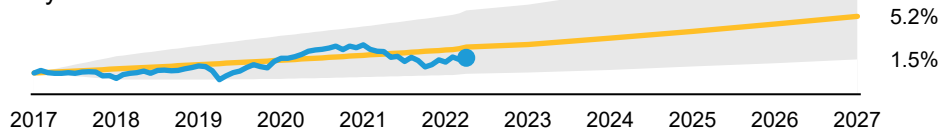
2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025
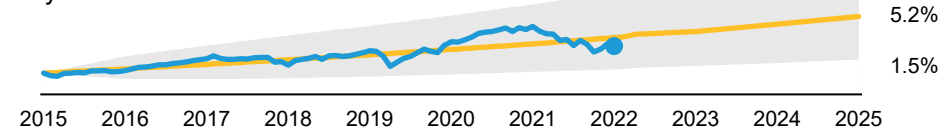
Expected Returns by Asset Class (10-Year Annualized Growth Rates, %)
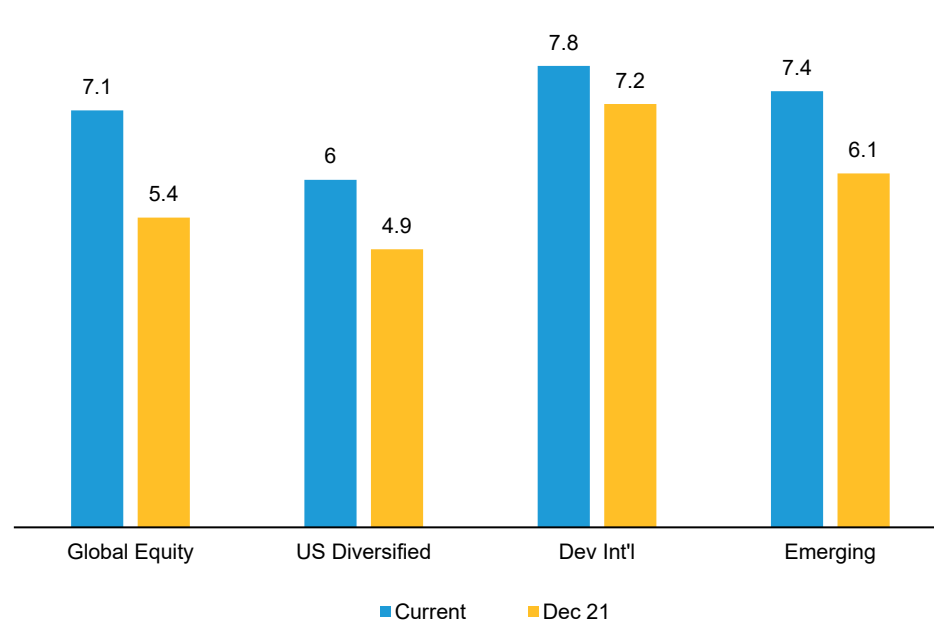
Asset Class	Current	Dec 21
Global Equity	7.1	5.4
US Diversified	6	4.9
Dev Int'l	7.8	7.2
Emerging	7.4	6.1

■ Current   ■ Dec 21

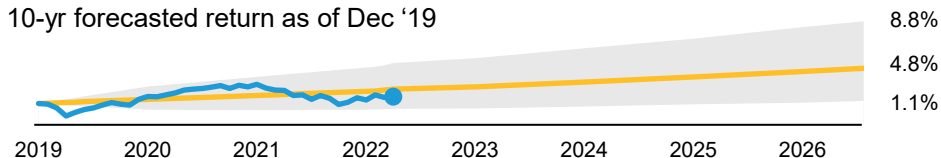**Past performance does not guarantee future results. There is no guarantee that any estimates or forecasts will be realized.** *Great markets represents 10th percentile, typical markets represents 50th percentile, and hostile markets represents 90th percentile. Based on Bernstein's estimates of the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

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

Growth of a Dollar

Panels:
- **Dev Int:** Apr 1984–Dec 1987
- **Emerging Markets:** Jan 1988–Nov 1994
- **US:** Dec 1994–Mar 2000
- **Emerging Markets:** Apr 2000–Dec 2007
- **US:** Jan 2008–Mar 2023

Annual Returns (%)

Year	Row 1	Row 2	Row 3	Row 4
1984	7	6	5	
1985	56	41	32	
1986	69	42	19	
1987	25	16	5	
1988	40	28	23	17
1989	65	32	17	11
1990	-3	-11	-17	-23
1991	60	30	18	12
1992	11	8	-5	-12
1993	75	33	23	10
1994	8	5	1	-7
1995	38	21	11	-5
1996	23	13	6	6
1997	33	16	2	-12
1998	29	24	20	-25
1999	66	27	25	21
2000	-9	-13	-14	-31
2001	-3	-12	-17	-21
2002	-6	-16	-20	-22
2003	56	39	33	29
2004	26	20	15	11
2005	34	14	9	5
2006	32	26	20	16
2007	39	11	9	5
2008	-37	-41	-43	-53
2009	79	32	30	26
2010	19	15	12	8
2011	2	-6	-12	-18
2012	18	17	16	16
2013	32	27	23	-3
2014	14	5	-2	-5
2015	1	-1	-1	-15
2016	12	11	8	1
2017	37	25	22	22
2018	-4	-9	-14	-15
2019	31	28	22	18
2020	18	18	16	8
2021	29	22	11	-3
2022	-15	-18	-18	-20
YTD 23	17	15	12	5

Legend: ■ US ■ Developed International ■ Emerging Markets ■ World

As of June 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
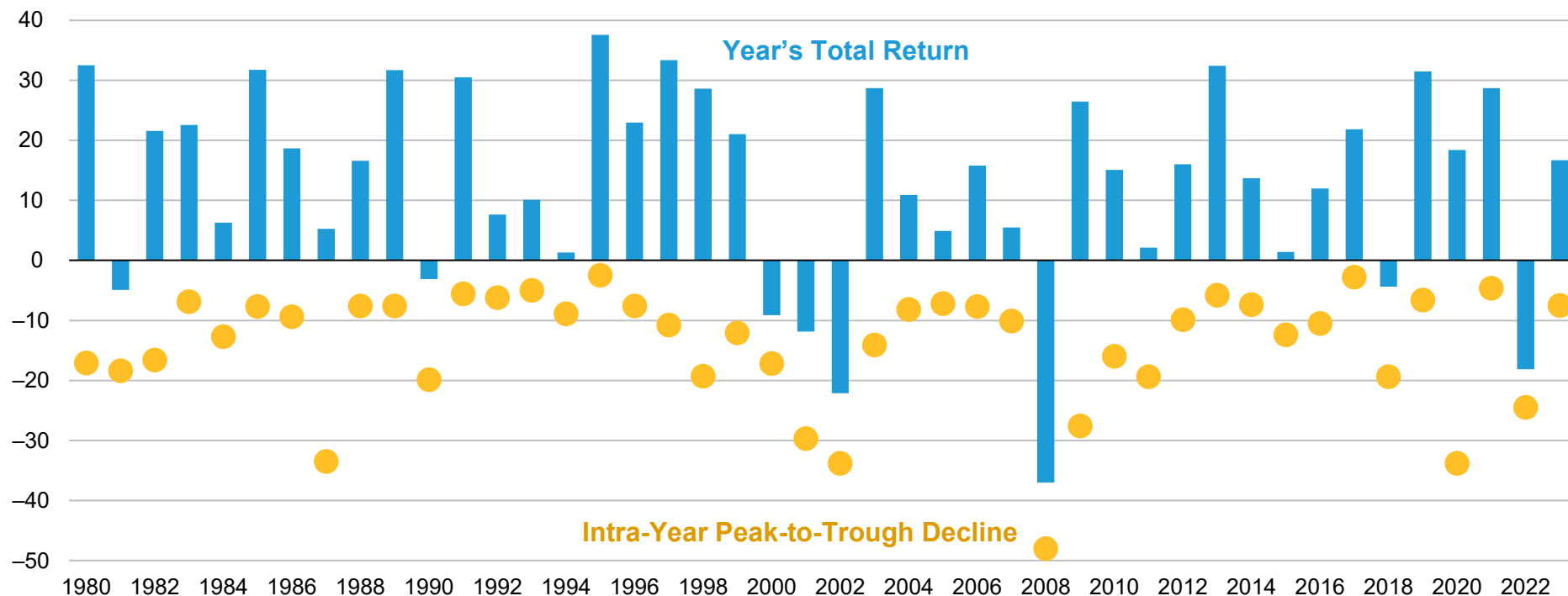
Year's Total Return

Intra-Year Peak-to-Trough Decline

~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	N/A	N/A
Mean Excluding 2022	**13**	**−34%**	**32**	**46**	**26%**	**39%**

After a Bear Market Troughs
% Recovery Occurring in…

First Month: 26%
First Three Months: 39%

BERNSTEIN

Market Sell-Offs: Last 60 Years

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

AB BERNSTEIN

Ten-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	3.5%	3.6%	3.6%	0.5%	4.9%
Short-Term Treasuries	4.2%	4.3%	4.0%	1.2%	4.1%
Short-Term Taxables	4.5%	4.6%	4.5%	1.5%	4.2%
Short-Term Diversified Municipals	2.6%	2.7%	2.6%	0.9%	2.9%
Int.-Term Treasuries	3.9%	4.1%	4.1%	5.2%	3.0%
Int.-Term Taxables	4.4%	4.5%	4.8%	5.6%	3.4%
Int.-Term Corporates	4.7%	4.8%	5.3%	6.5%	4.0%
Int.-Term Diversified Municipals	2.6%	2.7%	2.8%	4.5%	2.9%
Global Int.-Term Taxables (Hedged)	4.2%	4.4%	4.5%	4.6%	3.7%
Int.-Term TIPS	4.8%	5.2%	4.9%	3.7%	7.2%
High Yield	5.8%	6.5%	8.8%	13.2%	7.9%
Global Large-Cap (Unhedged)	7.1%	8.3%	2.6%	15.7%	14.7%
US Diversified	6.0%	7.5%	2.1%	16.5%	15.4%
US Value	6.0%	7.5%	2.4%	16.1%	15.2%
US Growth	6.0%	7.8%	1.9%	18.2%	16.8%
US Mid-Cap	6.1%	7.9%	1.9%	17.8%	16.9%
US Small/Mid-Cap	6.1%	8.1%	1.8%	18.6%	17.8%
US Small-Cap	6.1%	8.4%	1.6%	20.4%	19.6%
Developed International	7.8%	9.7%	3.6%	18.0%	16.7%
Emerging Markets	7.4%	10.4%	3.2%	22.6%	20.0%
Global REITs	6.0%	7.7%	4.3%	17.1%	16.0%
Real Assets	6.2%	7.3%	3.6%	13.6%	14.3%
Diversified Hedge Fund	6.2%	6.5%	3.2%	10.8%	14.8%

Based on 10,000 simulated trials each consisting of ten-year periods. Reflects AB's estimates and the capital-market conditions of December 31, 2022. For hedge fund asset classes, "Mean Annual Income" represents income and short-term capital gains.

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

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 impact 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 finally (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 Capital 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 gain 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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