

Cycle Indicators, Risk Metrics, & Portfolio Positioning

Week of December 4, 2023

John Davi

Founder, CEO, CIO – Astoria Portfolio Advisors



Nicholas Cerbone, CFA

VP, Quantitative Strategy – Astoria Portfolio Advisors



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Astoria's Portfolio Management Process



What are we trying to accomplish in our ETF portfolios?

- Astoria Uses Business Cycle, Earnings/Valuations, and Sentiment & Risk to Dictate our Asset Allocation/Portfolio Positioning. We incorporate a Dynamic Overlay depending on the 3 inputs above.
- Target OW assets that have earnings that are growing, cheaper than market, poor sentiment, and have a catalyst for upside
- Target UW assets that are **expensive**, earnings are **slowing**, **strong** sentiment, that **lack** a catalyst for upside
- Diversify our factor exposures
- Utilize liquid alternatives to hedge downside risk

Positive Business Cycle Indicators

- **Nonfarm Payrolls** continue to show strong job growth
- **MarketDesk's PMI Leading Indicator** suggests an **upcoming rebound** in the manufacturing sector over the next 6 months
- **US Real GDP** for **Q3 2023** printed a **5.2%** handle per the second estimate, even higher than the original 4.9%
- Credit spreads: **no significant widening** to note

Negative Business Cycle Indicators

- MarketDesk's US Aggregate Business Cycle Indicator – **neutral**; business cycle in slowdown phase
 - Strong labor market juxtaposed by historically weak **housing market, ISM New Orders and the yield curve**
- Leading Economic Indicator (LEI) – **contraction** mode for **19** straight months
- Labor market **may be starting to loosen** as seen by Oct **JOLTS** Job Openings and Nov **ADP Payrolls**
- US GDP growth expectations for 2024 point to a **mild slowdown**
 - Atlanta Fed GDPNow forecasting **real GDP growth of only 1.2% for Q4 2023**
 - **Both Q1 2024 and Q2 2024 are predicted to be less than 0.5%**. Consensus expects a reacceleration thereafter
- **Health of consumer is slowly deteriorating** (homes are worth less, credit is shrinking, inflation is eroding purchasing power)
- Net % of Banks Tightening Lending Standards & Forecast – **tightening** on the margin leading to less credit availability

Positive Earnings/Valuation Indicators

- **Q3 2023 Earnings Season:** The US earnings recession is now over
 - With 98% of companies reporting actual results, the **blended Y/Y earnings growth for Q3 2023 is 4.8%**, well ahead of the -0.3% estimate as of September 30th
 - As the prior three quarters saw declines, this will mark **the first quarter of positive growth since Q3 2022**
- Earnings expected to recover further/stabilize throughout **2024** amid **margin expansion**
- International Markets
 - **Attractively valued** with more upside potential in the event of a weakening dollar
 - Several European and Asian markets are up 15-20% YTD while trading at half the P/E of the S&P
 - Eventual weakening of the dollar means US exports are more attractive for buyers in other countries
- Valuations
 - Rest of US market (Mid, Small, Value, Dividends, Cyclical) are relatively **cheaper**
 - Parts of cyclical deserve to be **cheap**; but commodity cyclical are **structurally more attractive** given inflation will be higher and stickier for long – **OW** those in our strategic and risk managed models

Negative Earnings/Valuation Indicators

- Corporate Earnings: US large cap index valuations have increased again
- Earnings Indicators:
 - Short-term caution for Q4 2023 earnings as earnings revision breadth is weak and stimulus supporting consumer demand is fading
 - 64% of companies have issued negative EPS guidance for Q4 2023 which is above the 5-year average of 59% and above the 10-year average of 63%
- Valuations
 - CAPE Shiller 20-year highs; currently 31 vs 15 in GFC (2008) and 45 in tech bubble (2000)
 - S&P 500's stock multiple and forward P/E ratio remain elevated

Positive Sentiment

- International CB policy:
 - Japan and China continue to add liquidity
 - Europe further **behind** the tightening cycle
 - Net, we are **positive on Europe / Japan; they are cheaper and have a catalyst for upside**
- Fund flows:
 - **Defensive** in nature; tons going into treasury and money markets; **this is a contrarian indicator**

Negative Sentiment

- Yield curve has been **inverted** for some time; usually recession hits 100% of the time over the past half a century.
 - Avoiding a recession would be historically unprecedented with a yield curve as inverted as it is
 - 16 months between inversion and recession in 2006-2008; 18 months since July '22 inversion
- Lending standards are **tightening** which will lead to **less credit**
- S&P **concentration risk remains high**

Portfolio Positioning

Tactical Models

- Renaissance:
 - OW Quality; tilt away from concentration risk using EW strategies
 - Recently increased technology exposure using EW technology ETF
 - Outright positions in Europe/Japan
 - Slight OW/EW to Inflation Sensitive sectors but only Energy / Materials / Commodity Producers / Industrials (sector with best combo of improving fundamentals)
- MARS:
 - OW Quality; tilt away from concentration risk using EW strategies
 - Recently closed technology UW using EW technology ETF
 - OW Europe/Japan/Developed Markets

Strategic Models

- Slight UW to US, increased exposure/slight OW to Europe/Developed Markets
- OW Quality, Mix Value & Growth (this is a change from last year), and UW Cyclicals (including Tech / Comm Services / Consumer Disc)
- Tilt away from concentration risk using EW strategies
- EW Duration with the benchmark
- OW alts but mostly long/short and commodities

Portfolio Positioning

		Aggressive UW/OW	Growth & Inc UW/OW	MARS UW/OW	RMDI UW/OW	Renaissance UW/OW
Asset Allocation	Equity	1%	0%	5%	-1%	-2%
	US Equity	0%	-1%	1%	3%	14%
	Non-US Equity	1%	0%	4%	-4%	-15%
	Fixed Income	-8%	-6%	-12%	-5%	1%
	Alternative	7%	7%	7%	7%	1%
Equity Regions	United States	-1%	-1%	-5%	23%	15%
	Developed Markets	2%	2%	5%	-16%	-7%
	Emerging Markets	-2%	-2%	-1%	-8%	-8%
Equity Sectors	Basic Materials	2%	1%	5%	4%	2%
	Communication Service	-3%	-2%	-3%	-3%	-2%
	Consumer Cyclical	0%	0%	-1%	-3%	0%
	Consumer Defensive	3%	3%	0%	2%	0%
	Energy	2%	1%	6%	6%	4%
	Financial Services	-2%	-2%	-3%	-1%	-4%
	Healthcare	0%	1%	-3%	-1%	-1%
	Industrials	0%	0%	0%	-2%	0%
	Real Estate	0%	0%	0%	0%	-1%
	Technology	-2%	-2%	0%	-1%	3%
	Utilities	-1%	-1%	-1%	-1%	-1%

Source: BlackRock 360 Evaluator, Astoria Portfolio Advisors. Data as of December 8, 2023.

Portfolio Positioning

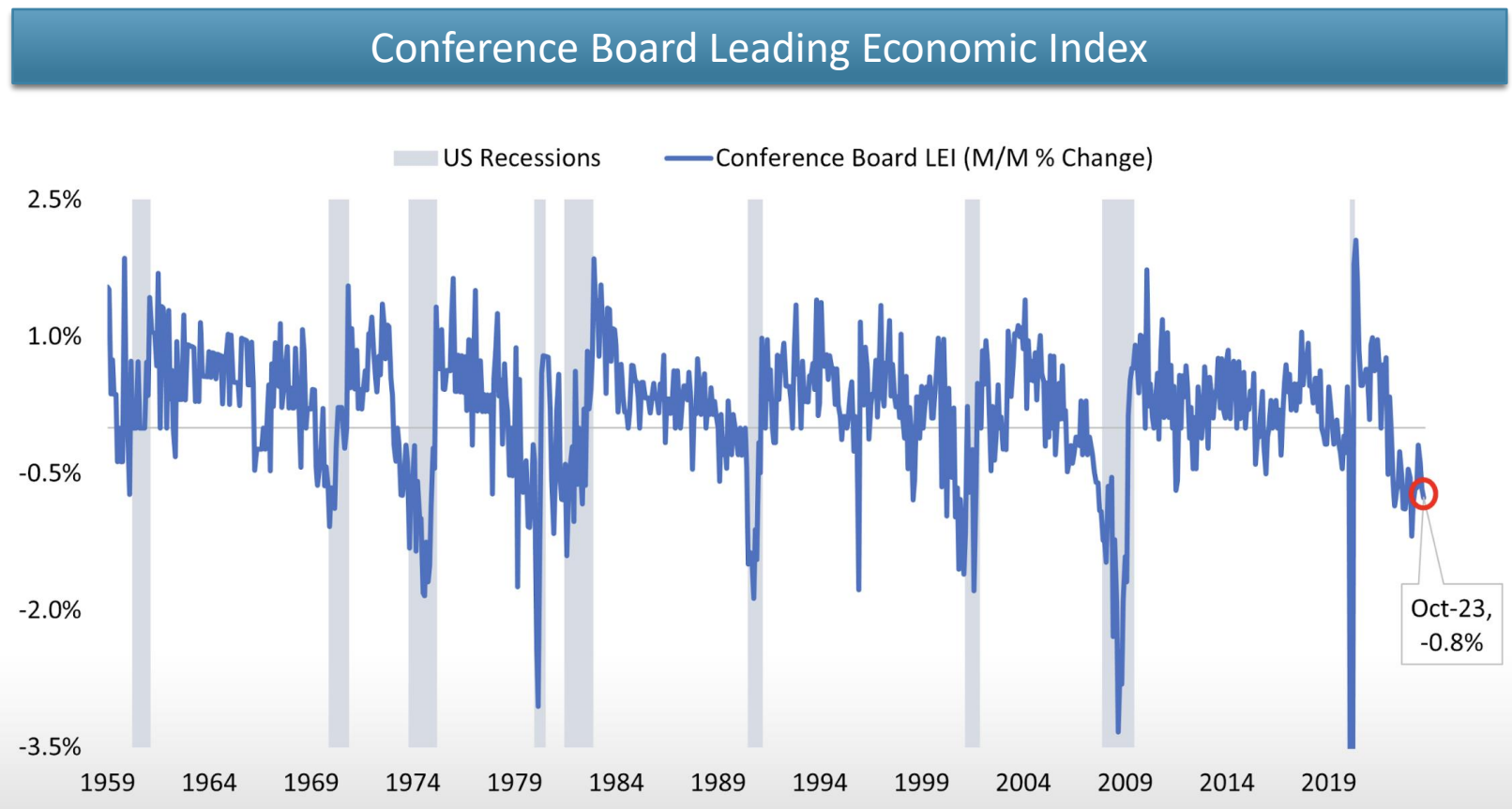
		Aggressive UW/OW	Growth & Inc UW/OW	MARS UW/OW	RMDI UW/OW	Renaissance UW/OW
Equity Style Box	Large	-8%	-6%	-18%	-13%	-10%
	Large Value	-5%	-5%	-2%	-6%	-4%
	Large Blend	0%	1%	-6%	-2%	-7%
	Large Growth	-3%	-2%	-10%	-4%	1%
	Mid	4%	2%	14%	6%	12%
	Mid Value	1%	0%	6%	2%	5%
	Mid Blend	1%	1%	5%	2%	5%
	Mid Growth	1%	1%	3%	2%	2%
	Small	3%	3%	3%	6%	-1%
	Small Value	0%	0%	0%	1%	-1%
	Small Blend	1%	1%	2%	3%	0%
	Small Growth	1%	1%	1%	2%	0%
Other Attrib	Standard Deviation	-0.8%	-0.9%	0.3%	-0.5%	0.4%
	Avg. Effective Duration	-0.2	0.1	-0.5	0.1	—
	12 Month Trailing Yield	0.1%	0.1%	0.0%	0.0%	-0.2%
Fixed Income Sectors	Government	14%	9%	10%	0%	—
	Municipal	-1%	-1%	-1%	18%	—
	Corporate	15%	20%	19%	7%	—
	Securitized	-28%	-28%	-28%	-25%	—
	Cash & Equivalents	0%	0%	0%	0%	—
Credit Quality	AAA	3%	-1%	0%	-32%	—
	Investment Grade	-3%	1%	0%	32%	—
	High Yield	0%	0%	0%	0%	—
	Not Rated	0%	0%	0%	0%	—

Source: BlackRock 360 Evaluator, Astoria Portfolio Advisors. Data as of December 8, 2023.

Business Cycle Indicators



The Conference Board's Leading Economic Index declined for the 19th straight month in October; longest streak of declines since 2007-08



Source: Conference Board, Astoria Portfolio Advisors. Data as of November 20, 2023.

November's NAHB HMI declined for the fourth straight month and printed at its lowest level since Dec 2022 while Existing Home Sales continue to decline

NAHB Housing Market Index



Source: FactSet, NAHB - National Association of Home Builders, Astoria Portfolio Advisors. Data as of November 16, 2023.

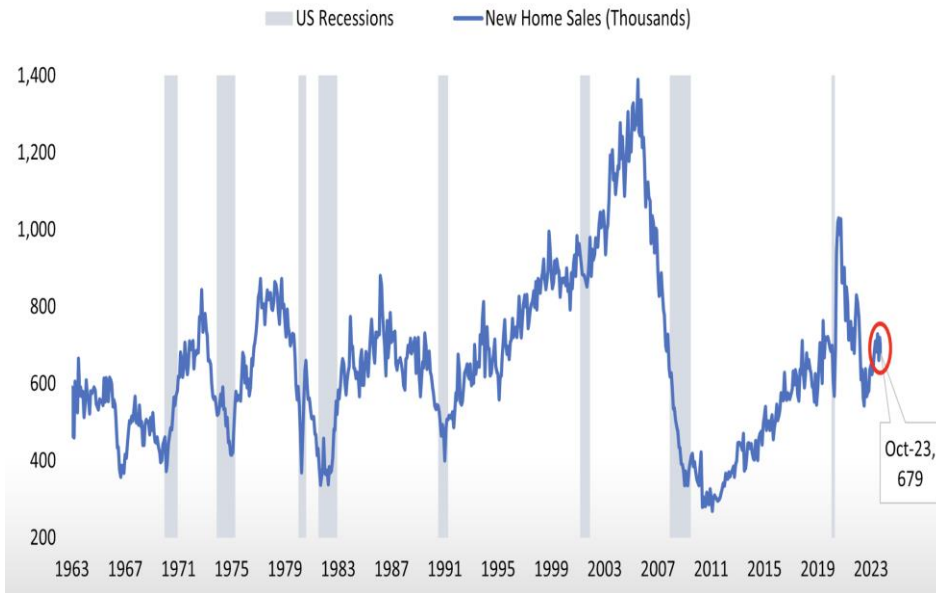
Existing Home Sales



Source: FactSet, US National Association of Realtors, Astoria Portfolio Advisors. Data as of November 21, 2023.

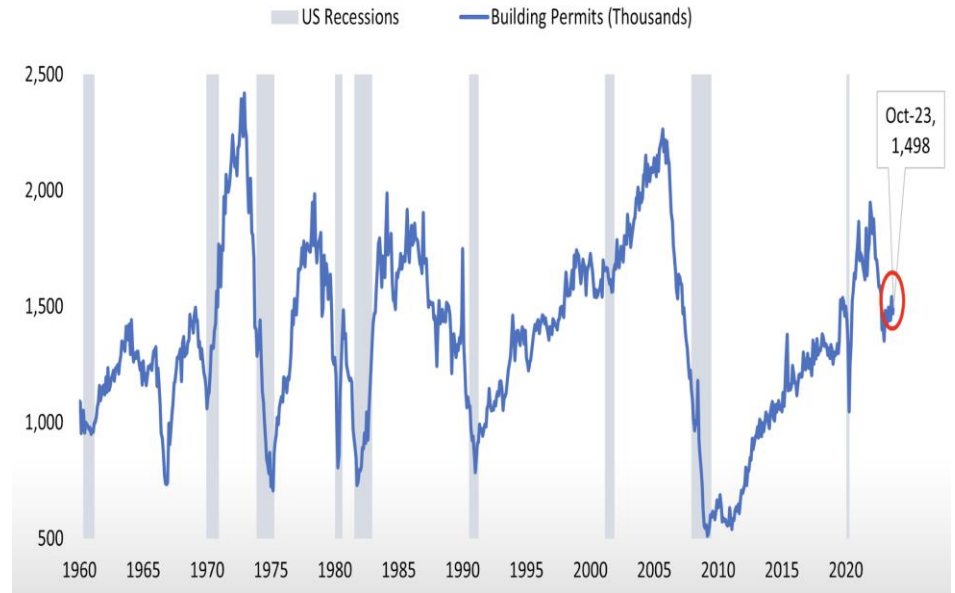
New Home Sales missed estimates and decreased in October while Building Permits improved

New Home Sales



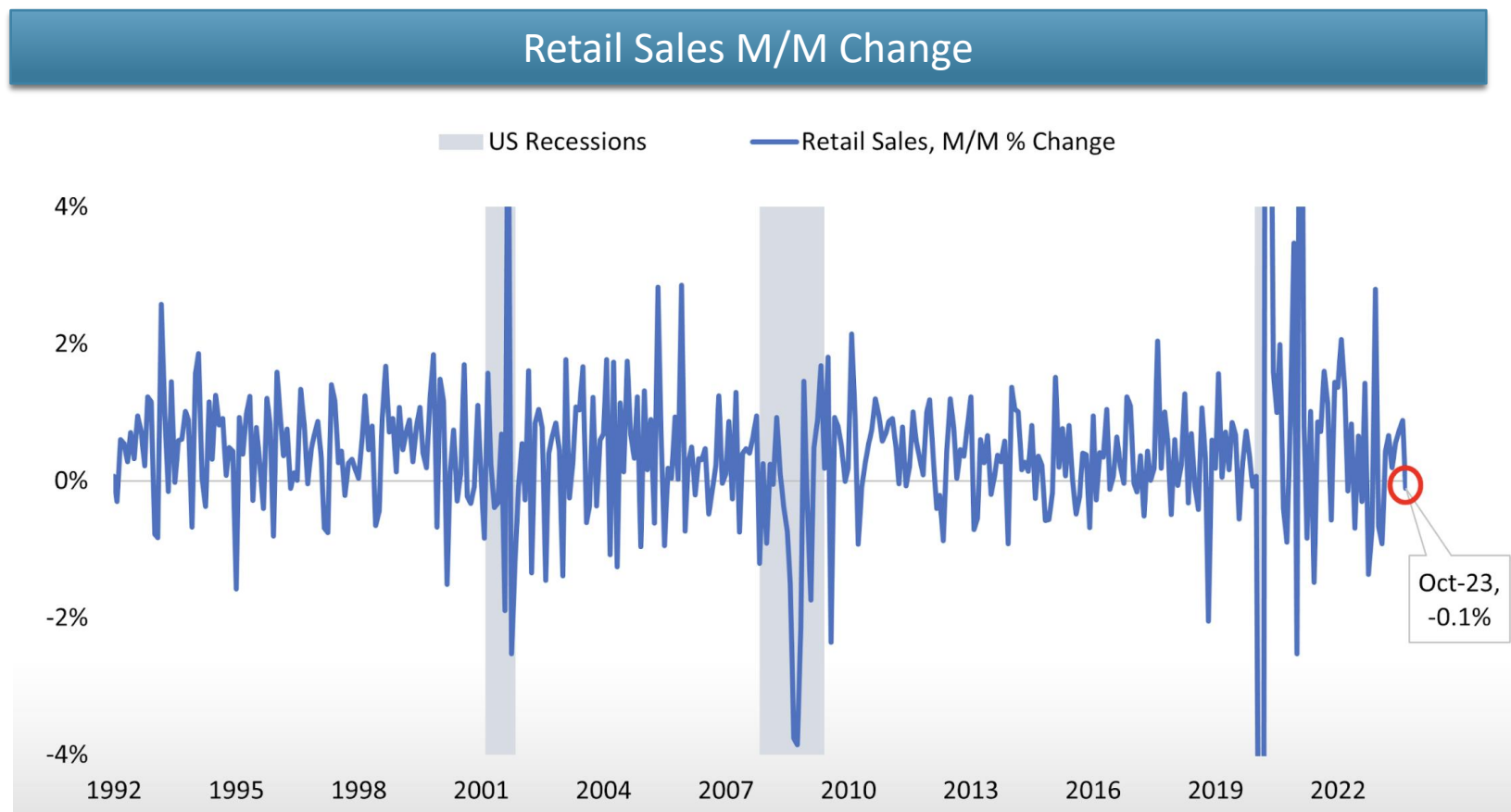
Source: FactSet, US Census Bureau, Astoria Portfolio Advisors. Data as of November 27, 2023.

Building Permits (Thousands)



Source: FactSet, US Census Bureau, Astoria Portfolio Advisors. Data as of November 27, 2023.

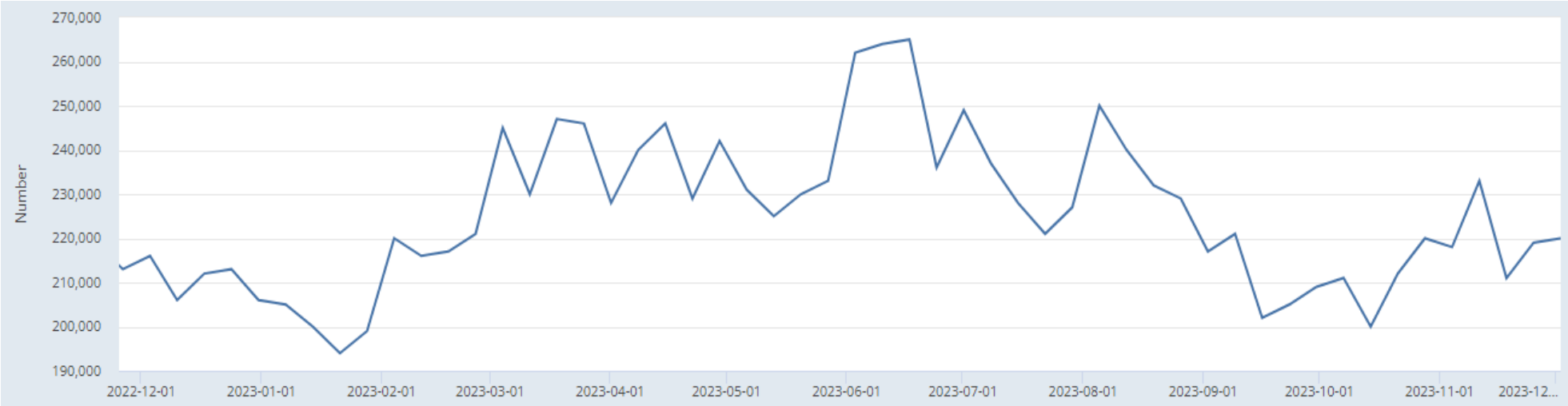
October Retail Sales worsened M/M for the first time since March



Source: FactSet, US Census Bureau, Astoria Portfolio Advisors. Data as of November 15, 2023.

Initial jobless claims remain controlled but have ticked upwards in recent weeks

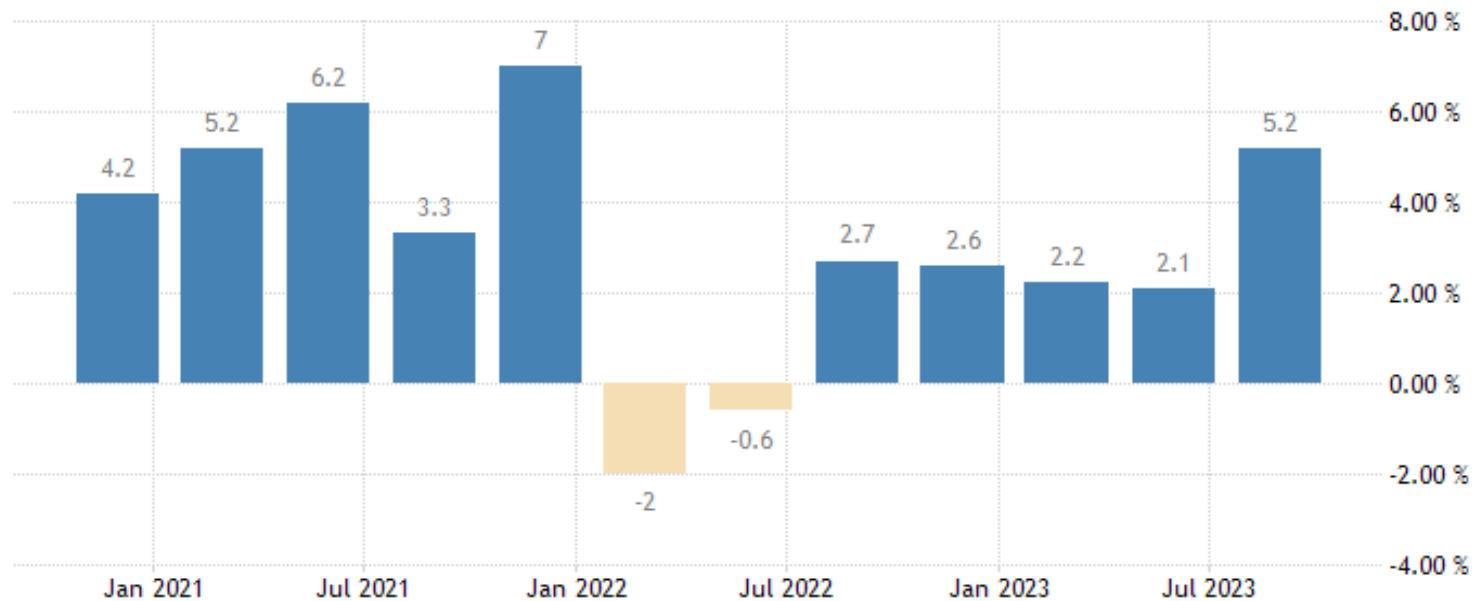
Initial Jobless Claims | 11/25/2022 to 12/06/2023



Source: FRED. Data as of December 6, 2023.

US Real GDP for Q3 2023 printed a 5.2% handle per the second estimate, even higher than the original 4.9%...

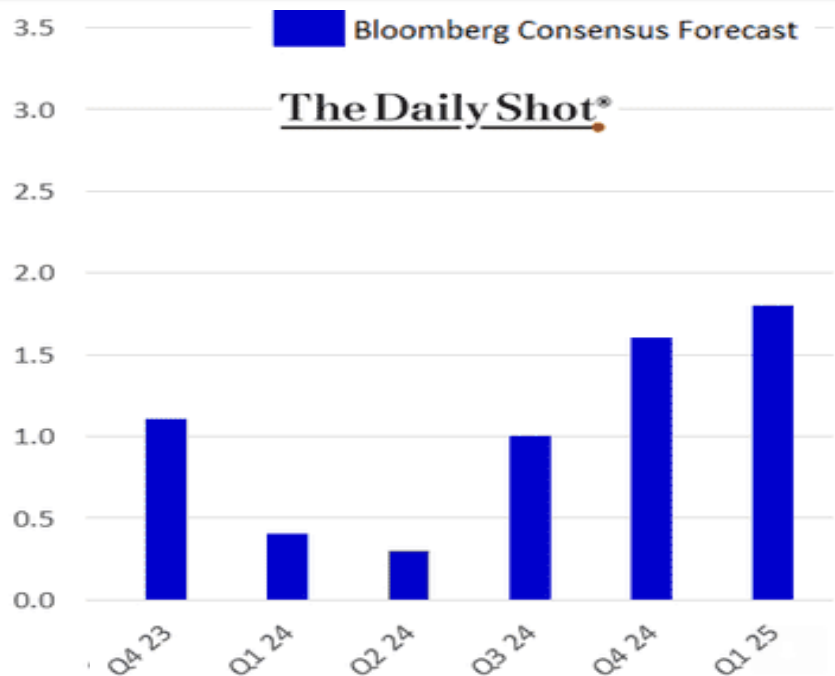
US Real GDP YoY % Change through Q3



Source: Trading Economics. Data as of December 7, 2023.

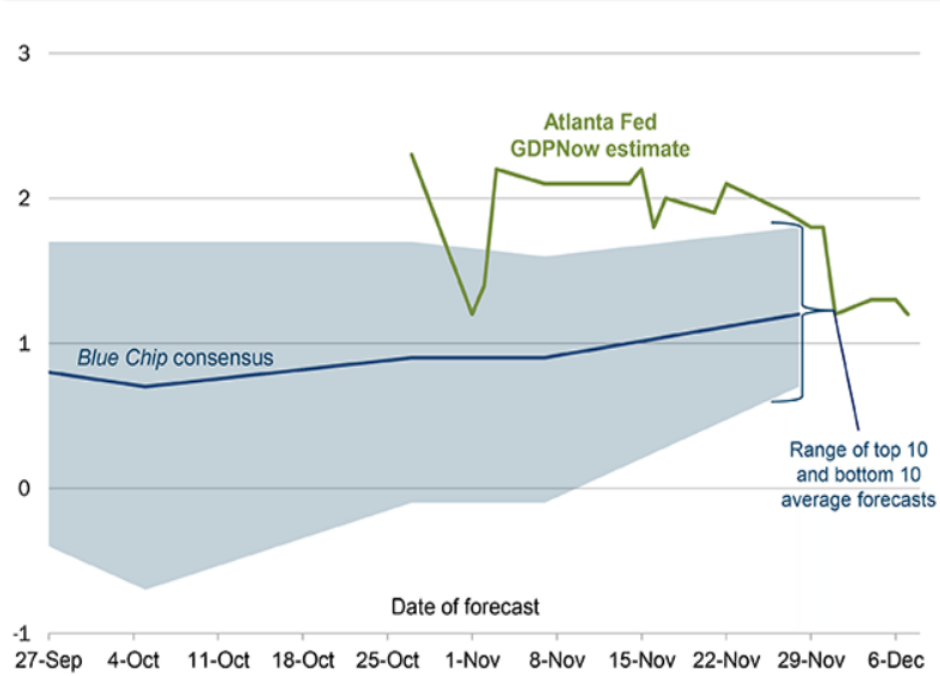
...However, growth is expected to slow ahead with Q4 2023 real GDP estimates at 1.2% and both Q1 2024 and Q2 2024 predicted to be less than 0.5%

US Real GDP YoY % Change through Q3



Source: The Daily Shot. Data as of December 7, 2023.

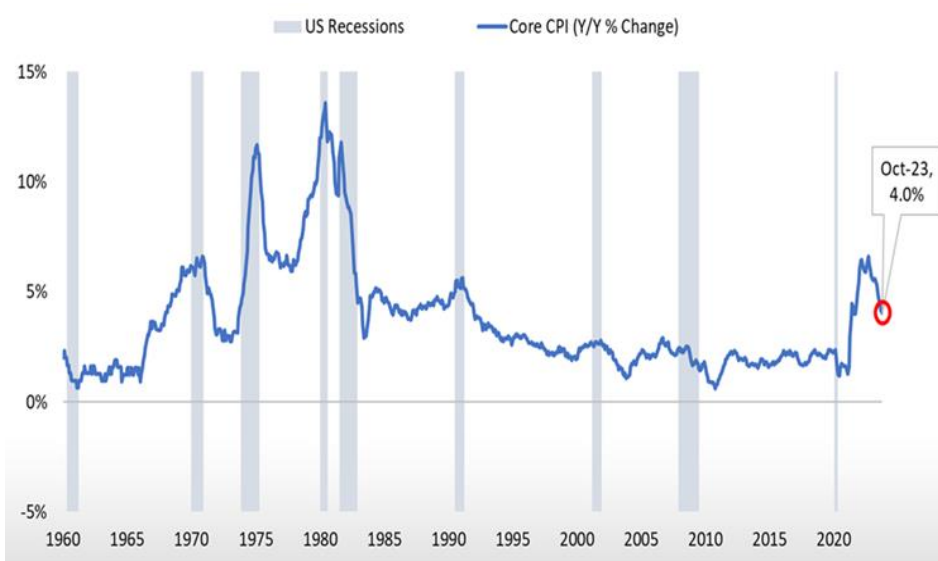
Atlanta Fed GDPNow Q4 2023 Real GDP Est.



Source: Blue Chip Economic Indicators and Blue Chip Financial Forecasts. Data as of December 8, 2023.

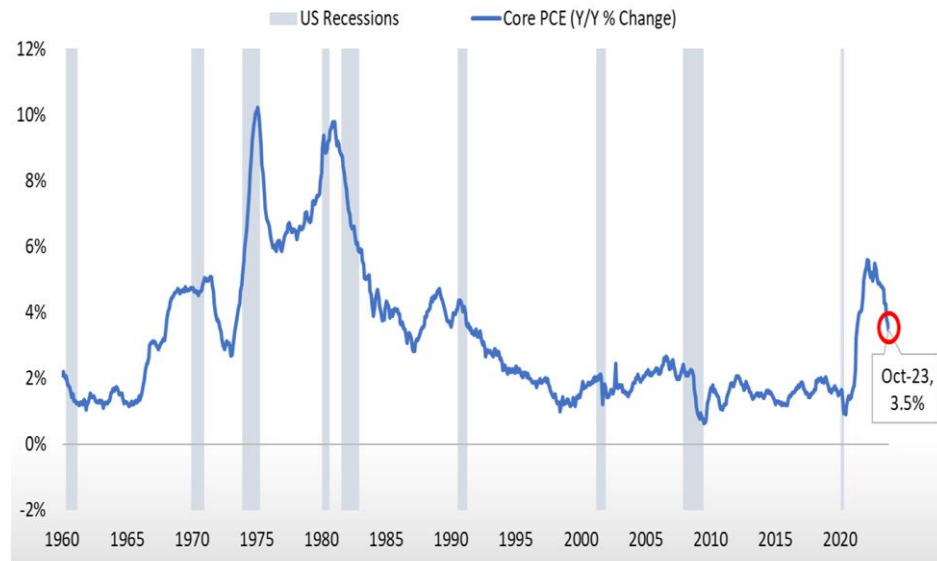
Core CPI Y/Y for Oct remains at double the Fed's 2% target and Core PCE prints for Oct suggest inflation remains stubborn

Core Consumer Price Index



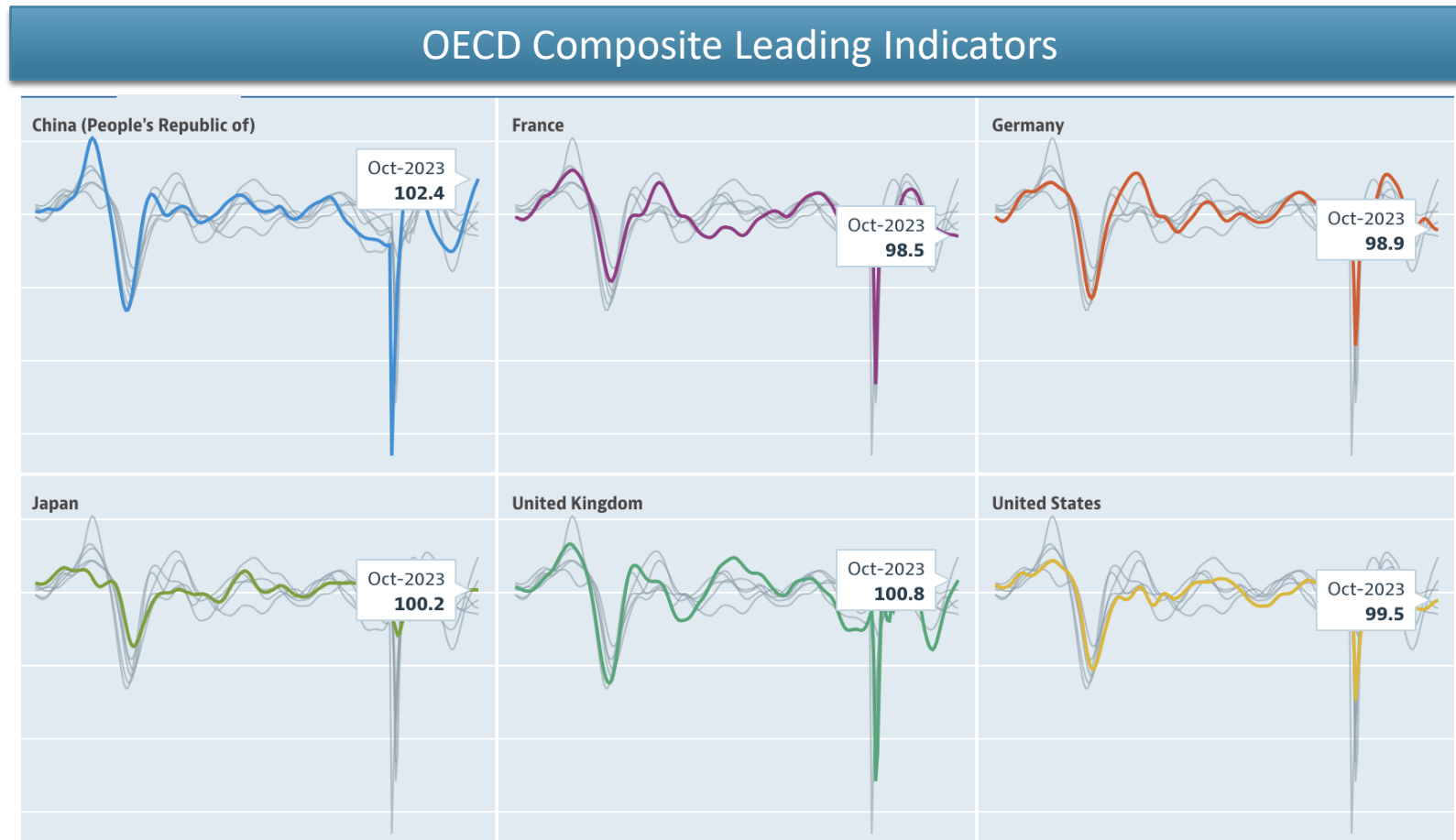
Source: FactSet, U.S. Department of Labor, Astoria Portfolio Advisors. Core CPI (Consumer Price Index) excludes the prices of food and energy. Data as of November 14, 2023.

Core Personal Consumption Expenditures Index



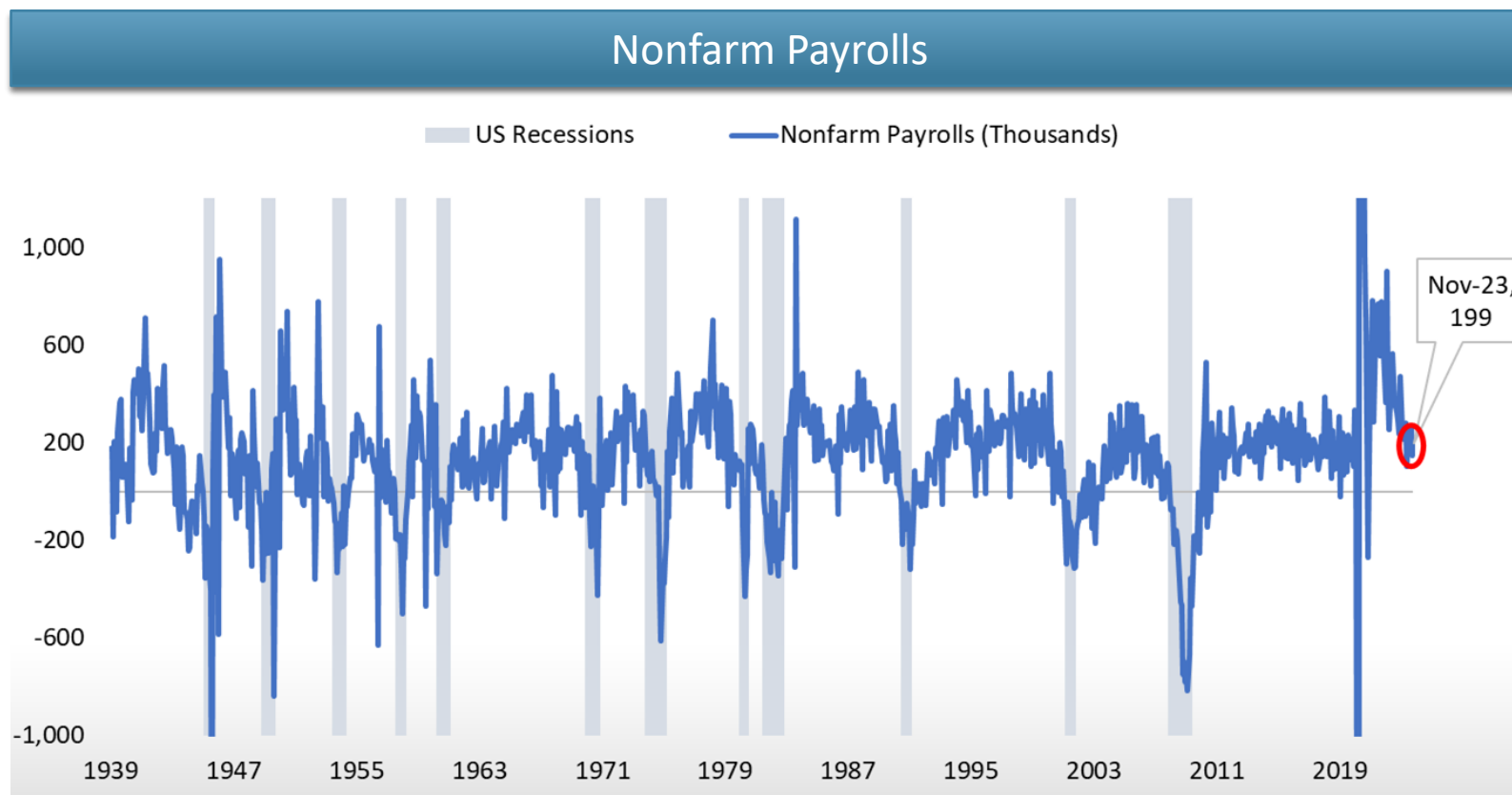
Source: FactSet, U.S. Bureau of Economic Analysis, Astoria Portfolio Advisors. Core PCE (Personal Consumption Expenditure) excludes the prices of food and energy. Data as of November 30, 2023.

OECD's Composite Leading Indicators are improving; China and UK markets have inflected higher relative to their competitors (100 = historical median)



Source: OECD.org. Data as of December 4, 2023.

Nov Nonfarm Payrolls continue to show strong job growth...



Source: FactSet, US Department of Labor, Astoria Portfolio Advisors. Data as of December 8, 2023.

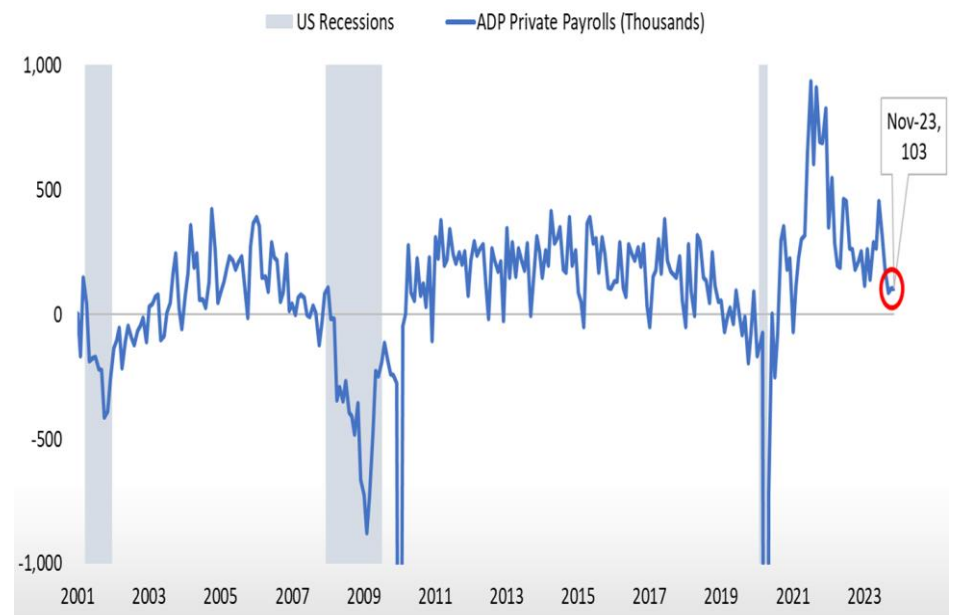
...while Oct JOLTS Job Openings, which saw 3rd straight monthly decline and lowest print since Mar 2021, and Nov ADP Payrolls are pointing to a loosening in the labor market

JOLTS Job Openings



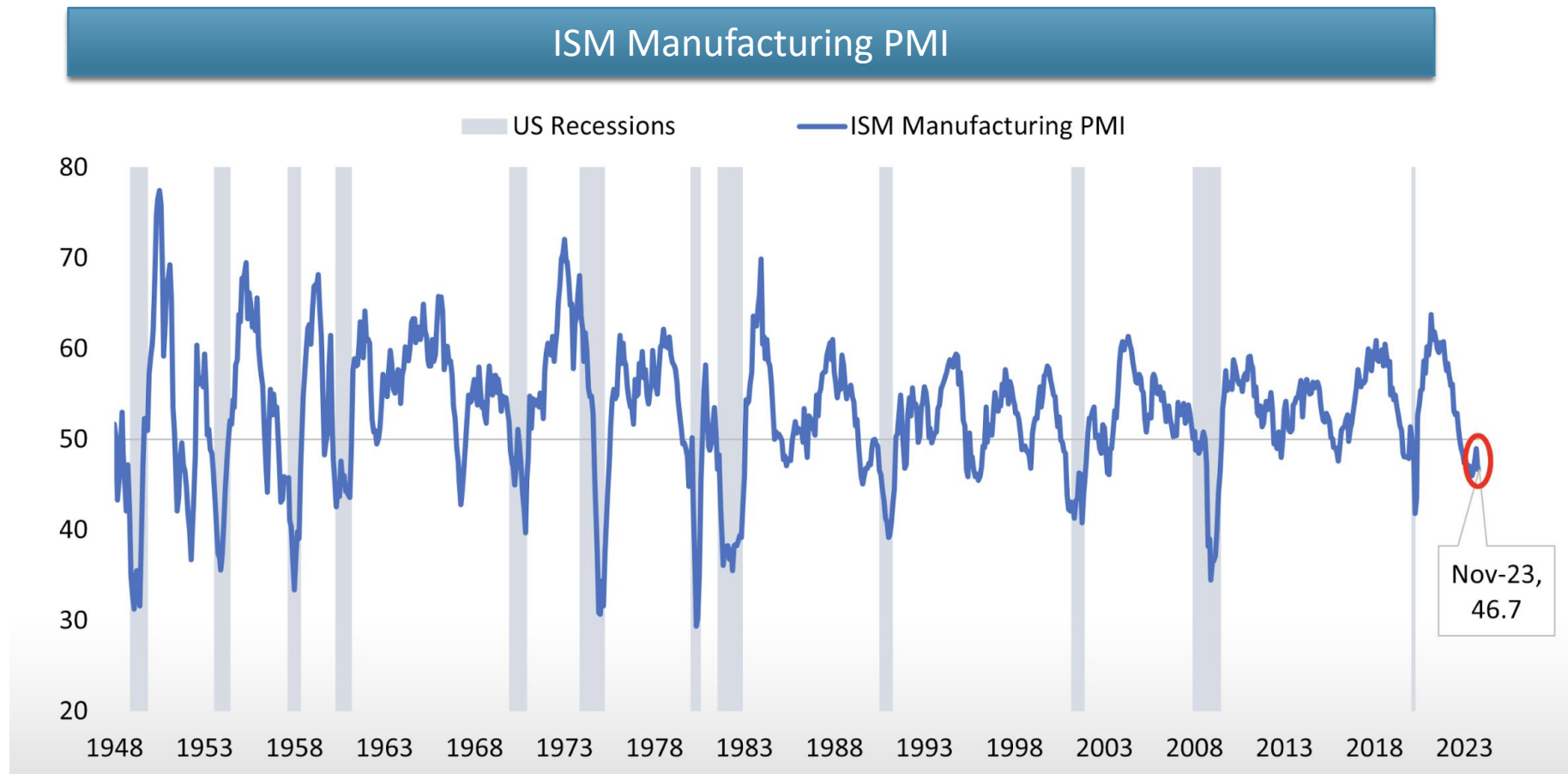
Source: FactSet, US Department of Labor, Astoria Portfolio Advisors. Data as of December 5, 2023.

ADP Payrolls



Source: FactSet, ADP, Astoria Portfolio Advisors. Data as of December 6, 2023.

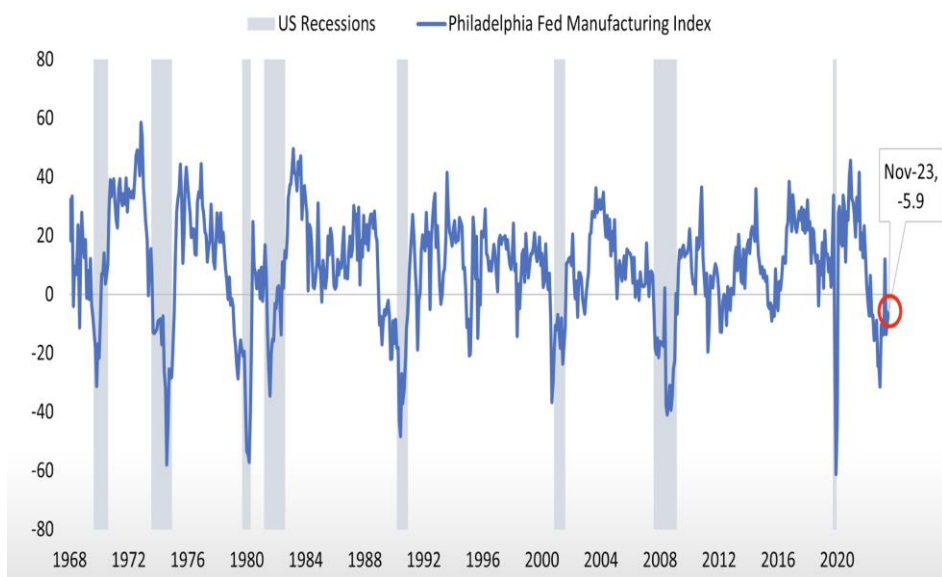
The ISM Manufacturing PMI missed estimates and stagnated in Nov; remains in contraction mode



Source: FactSet, ISM - Institute for Supply Management, Astoria Portfolio Advisors. Data as of December 1, 2023.

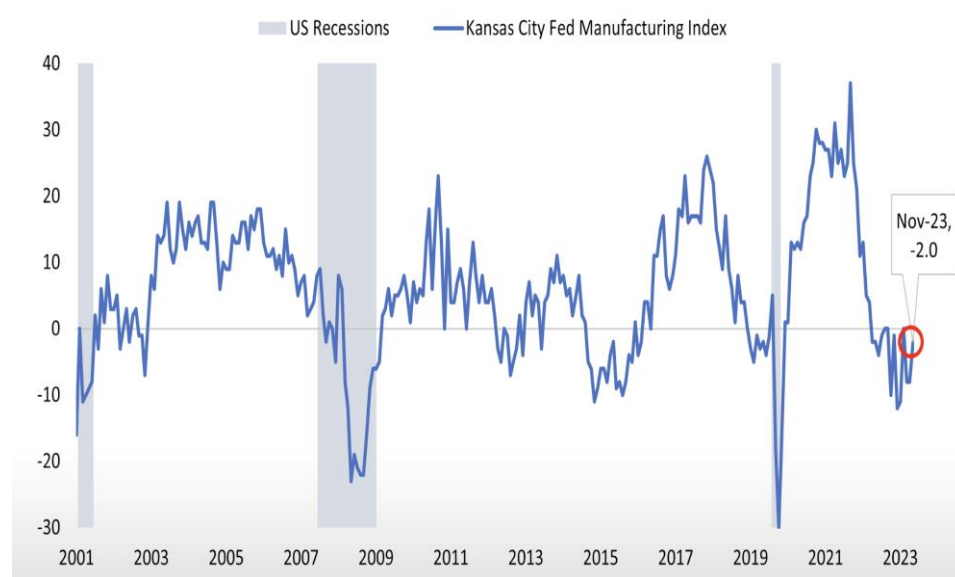
Other manufacturing indicators, such as the Philadelphia Fed Manufacturing Index and Kansas City Fed Manufacturing Index, improved in Nov but remain in contractionary territory

Philadelphia Fed Manufacturing Index



Source: FactSet, Federal Reserve Bank of Philadelphia, Astoria Portfolio Advisors. Data as of November 16, 2023.

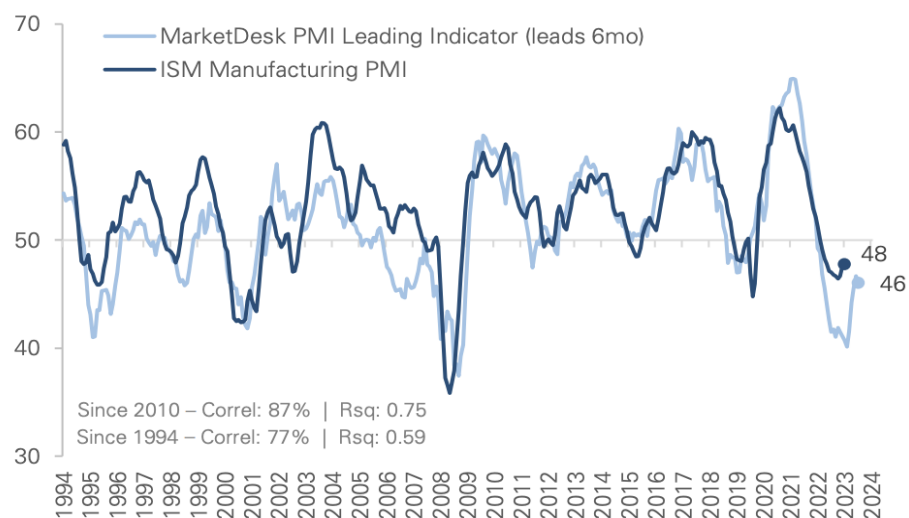
Kansas City Fed Manufacturing Index



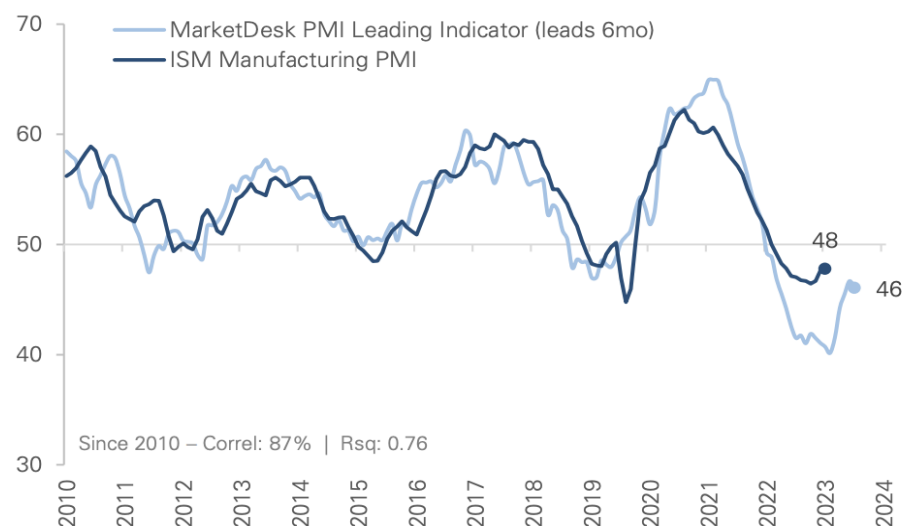
Source: FactSet, Federal Reserve Bank of Kansas City, Astoria Portfolio Advisors. Data as of November 16, 2023.

MarketDesk's PMI Leading Indicator suggests an upcoming rebound in the manufacturing sector over the next 6 months

Actual PMI | Market Desk PMI Leading Ind.



Market Desk PMI Leading Ind. Since 2010



Source: MarketDesk Quant Pack, ISM. Both lines smoothed with 3-month average. Data as of December 1, 2023.

Consumer health indicators are a mixed bag

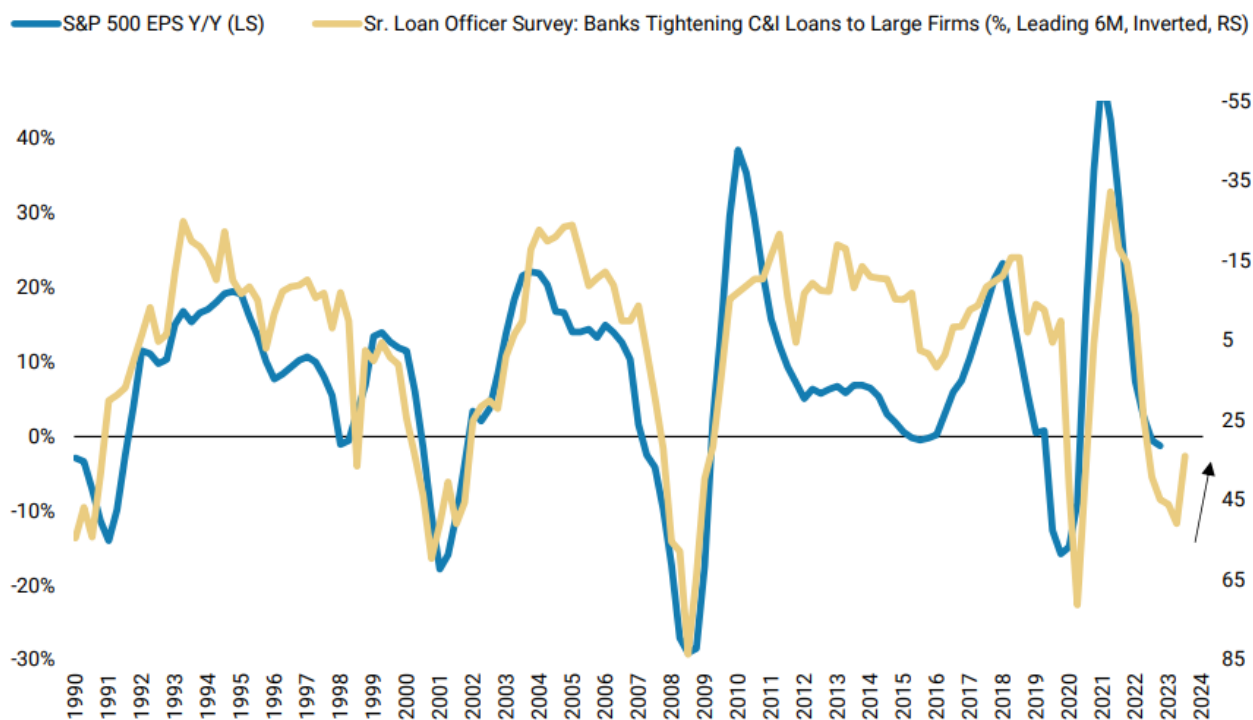
US Consumer Health Indicator Components | 5 Year Range in Percentile

Composite Input	Category	6m Ago	3m Ago	1m Ago	Latest	Current	5-Year Range in Pctl (%)
Unemployment Rate (%)	Labor Markets	3.4%	3.5%	3.8%	3.9%	— Neutral	42
Quit Rates (%)	Labor Markets	2.4%	2.3%	2.3%	2.3%	▼ Weak	12
Nonfarm Payrolls (Y/Y Growth)	Labor Markets	1.9%	1.9%	1.7%	1.7%	— Neutral	48
S&P 500 (Proxy for 401k Values)	Net Worth / Savings	4,180	4,508	4,194	4,568	▲ Strong	95
U.S. Home Prices	Net Worth / Savings	297k	308k	311k	312k	▲ Strong	100
Personal Savings Rate (%)	Net Worth / Savings	5.0%	4.8%	4.0%	3.9%	▼ Weak	18
Personal Income (Y/Y Growth)	Income	17.4%	14.7%	16.4%	17.6%	— Neutral	45
Disposable Income (Y/Y Growth)	Income	16.4%	13.4%	15.6%	17.2%	— Neutral	67
Non-Revolving Credit (Y/Y Growth)	Household Debt	2%	1%	-2%	-2%	▲ Strong	100
Revolving Credit (Y/Y Growth)	Household Debt	10%	5%	9%	9%	— Neutral	37
Consumer Sentiment Index	Sentiment	103	111	104	102	▼ Weak	22

Source: MarketDesk Quant Pack, Bureau of Labor Statistics. Note regarding the 5-Year Range: • denotes current & — denotes the datapoint's 6-month change. Data as of December 1, 2023

Commercial and industrial loan growth will likely continue to experience declines, per the Senior Loan Officer Survey; historically, loan growth closely leads the S&P

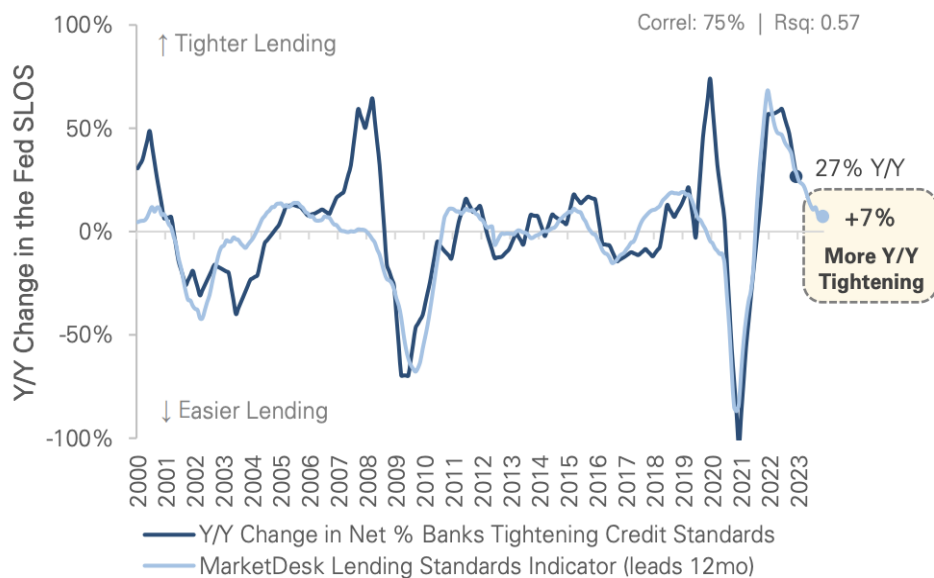
SLOS Banks Tightening Commercial & Industrial Loans (Leading 6M) | S&P 500 EPS Y/Y



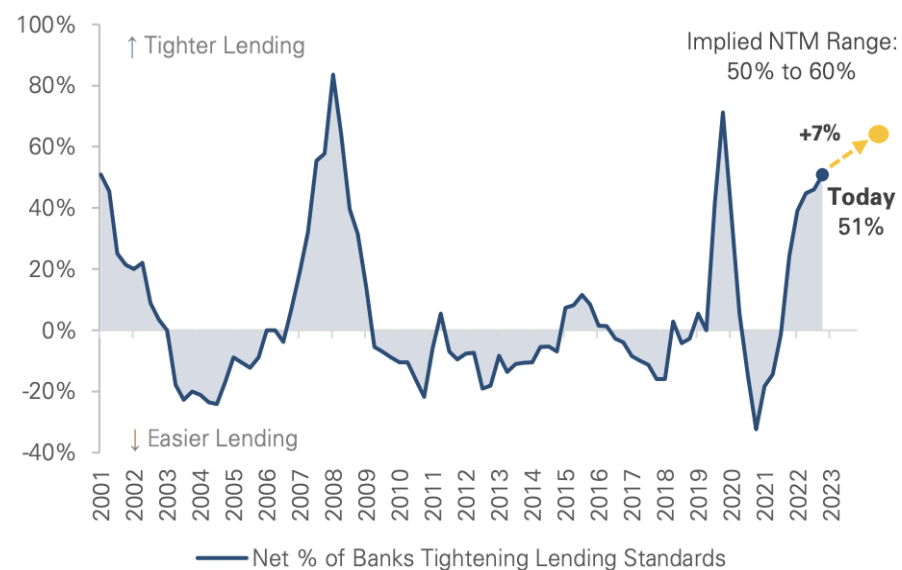
Source: Haver Analytics, Morgan Stanley Research. Data as of November 13, 2023.

Lending standards remain tight, with MarketDesk's leading indicator suggesting further tightening to come

Y/Y Chg. Net % Tightening | MarketDesk Y/Y Ind.



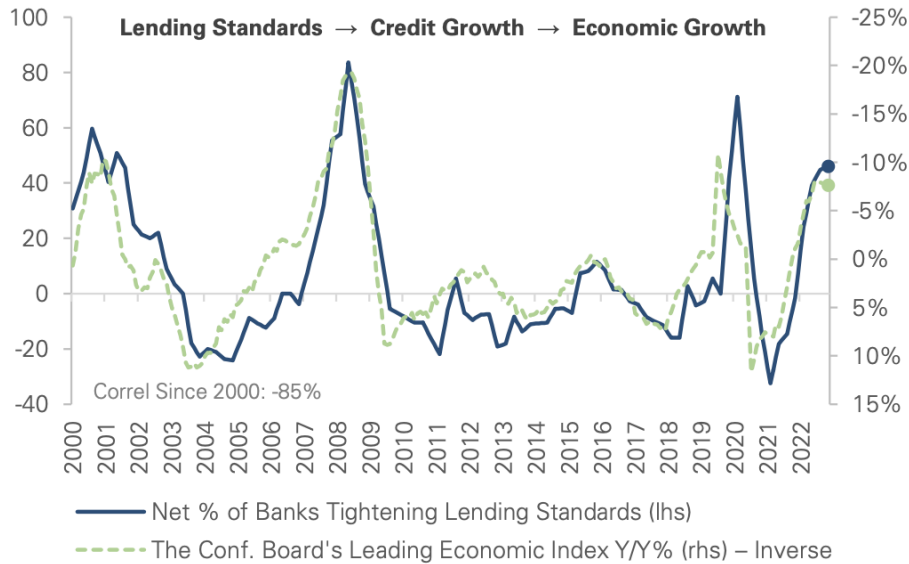
Net % Banks Tightening Lend. Stand. & Forecast



Source: MarketDesk Quant Pack, Federal Reserve. Data as of December 1, 2023.

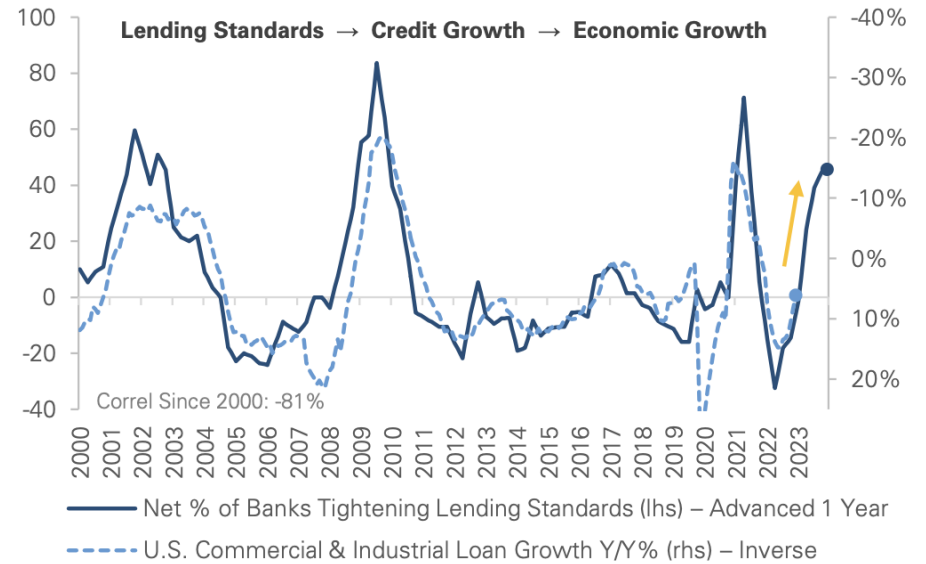
Further tightening likely causes a credit contraction, slowing loan and economic growth

Historical Lending Conditions & US Econ. Growth



Source: MarketDesk Quant Pack, Federal Reserve, The Conference Board.
 Data as of September 1, 2023.

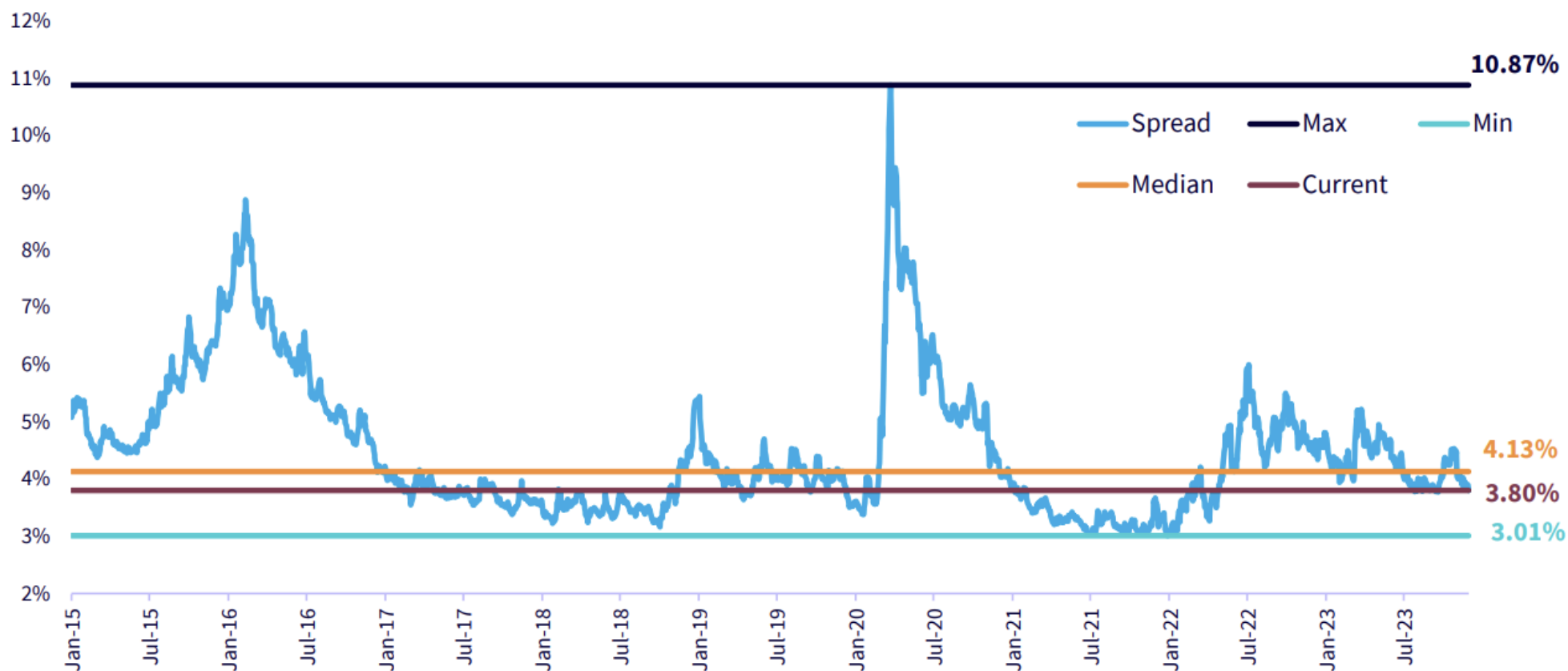
Historical Lending Conditions & US Loan Growth



Source: MarketDesk Quant Pack, Federal Reserve. Data as of September 1, 2023.

High Yield Credit Spreads are near historical averages, suggesting moderate levels of investor confidence

High Yield Credit Spreads – 1/2/15 to 10/20/23



Source: WisdomTree Daily Dashboard. Data as of December 4, 2023.

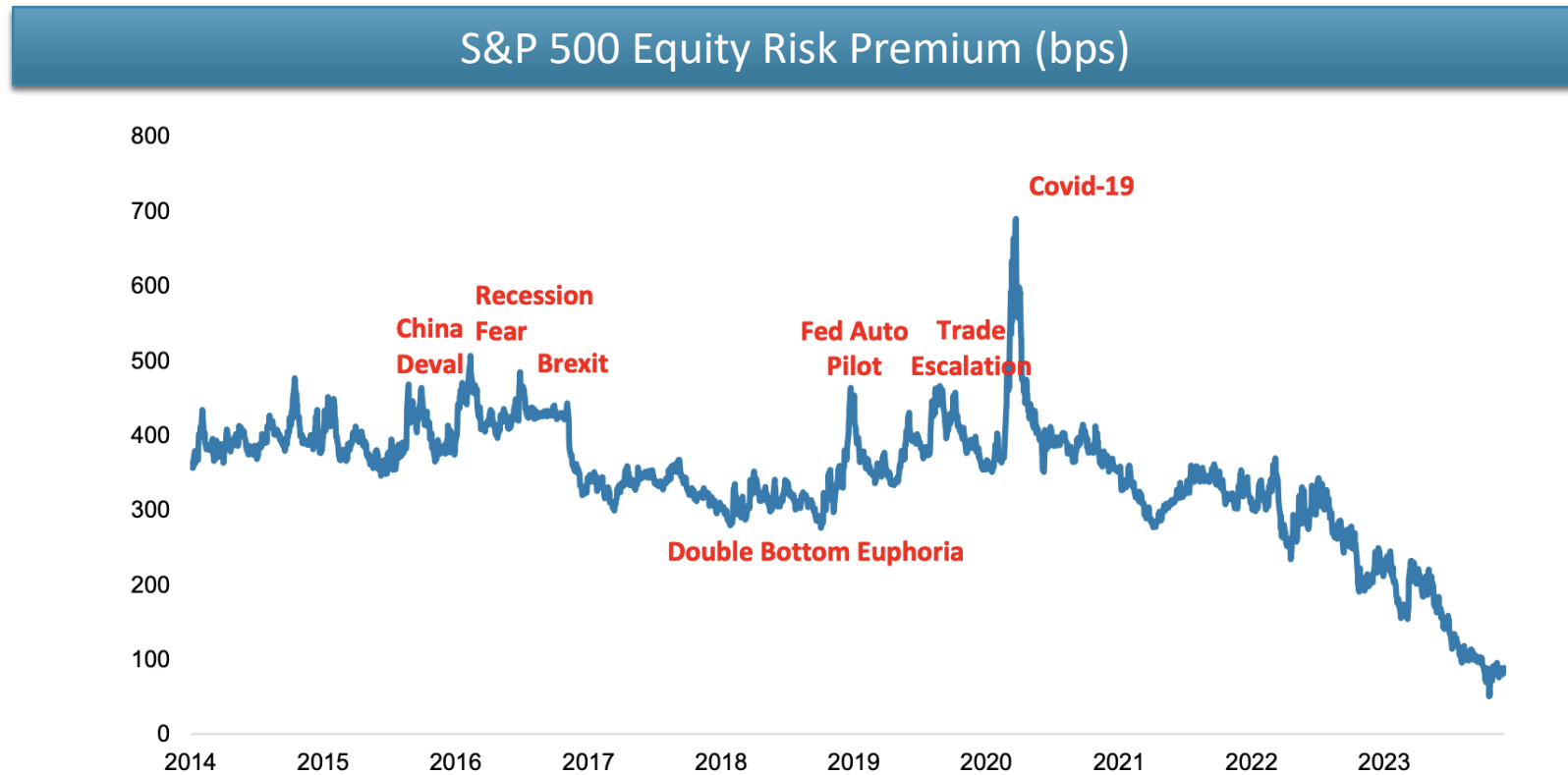
Credit cash indices remain near 10-year highs, while the yield curve remains near 10-year lows

Percentile Range for Several Bond Indices/Metrics

	Latest	WoW Change	10Y Max	10Y Min	10Y Avg	Metric	Percentile vs History		
							10Y %ile	10Y Range 0 = Low 100 = High	
Bonds									
10Y UST Yield (bps)	434	-7	498	50	230	Yield, Bps	98%		
10Y Bund Yield (bps)	245	-18	297	-84	54	Yield, Bps	95%		
10-2Y US Curve (bps)	-36	13	262	-109	73	Yield, Bps	11%		
10-2Y Bund Curve (bps)	-37	6	173	-89	61	Yield, Bps	7%		
US Real Yields (bps)	214	-2	252	-119	34	Yield, Bps	98%		
Credit Cash Indices									
US IG Yield (%)	5.6%	-0.2%	6.4%	1.7%	3.4%	Yield, %	95%		
US IG Spread (bps)	104	-6	373	80	124	Spread, Bps	23%		
US HY Yield (%)	8.4%	-0.2%	11.7%	3.5%	6.4%	Yield, %	86%		
US HY Spread (bps)	370	-10	1,100	262	426	Spread, Bps	36%		
EU IG Yield (%)	4.1%	-0.2%	4.7%	0.1%	1.4%	Yield, %	90%		
EU IG Spread (bps)	148	-2	247	73	121	Spread, Bps	79%		
EU HY Yield (%)	8.0%	-0.2%	10.6%	2.7%	4.6%	Yield, %	92%		
EU HY Spread (bps)	426	-4	904	219	386	Spread, Bps	70%		
EMBI Spread (bps)	339	-9	662	271	370	Spread, Bps	34%		
SNRFIN CDS (bps)	78	-1	165	41	78	Spread, Bps	51%		
Italian Bond Spreads (bps)	178	1	327	89	166	Spread, Bps	65%		
CDS Credit Indices									
iTraxx Main Spread (bps)	68	0	139	41	68	Yield, Bps	51%		
iTraxx XOver Spread (bps)	371	-5	712	205	321	Yield, Bps	78%		
CDX IG Spread (bps)	62	0	148	44	67	Yield, Bps	40%		
CDX HY Spread (bps)	403	0	871	269	381	Yield, Bps	68%		

Source: Morgan Stanley Research. Data as of December 4, 2023.

S&P 500 Equity Risk Premium is at 20-year lows

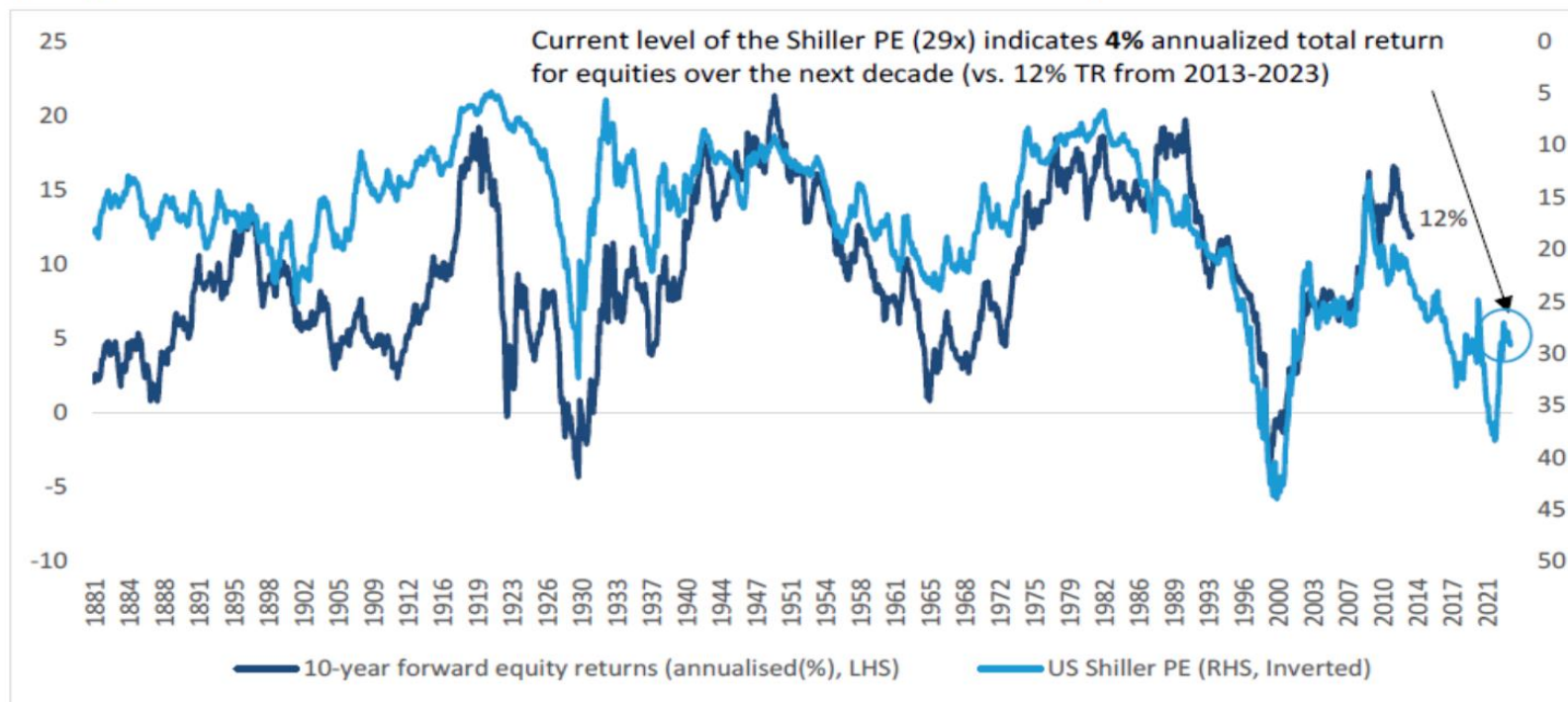


Source: Bloomberg, Morgan Stanley Research. Note: Equity Risk Premium is calculated as the S&P 500 forward 12M earnings yield minus the nominal 10-Year Treasury. Data as of December 4, 2023.

US Shiller PE has historically been a good indicator of 10-year forward equity returns

US Shiller PE | 10-Year Forward Equity Returns (%)

EXHIBIT 7: **US Shiller PE has historically been a good predictor of 10 year forward equity returns. Current level (29.3x) is consistent with 4% annualised return over the next decade for US equities.**



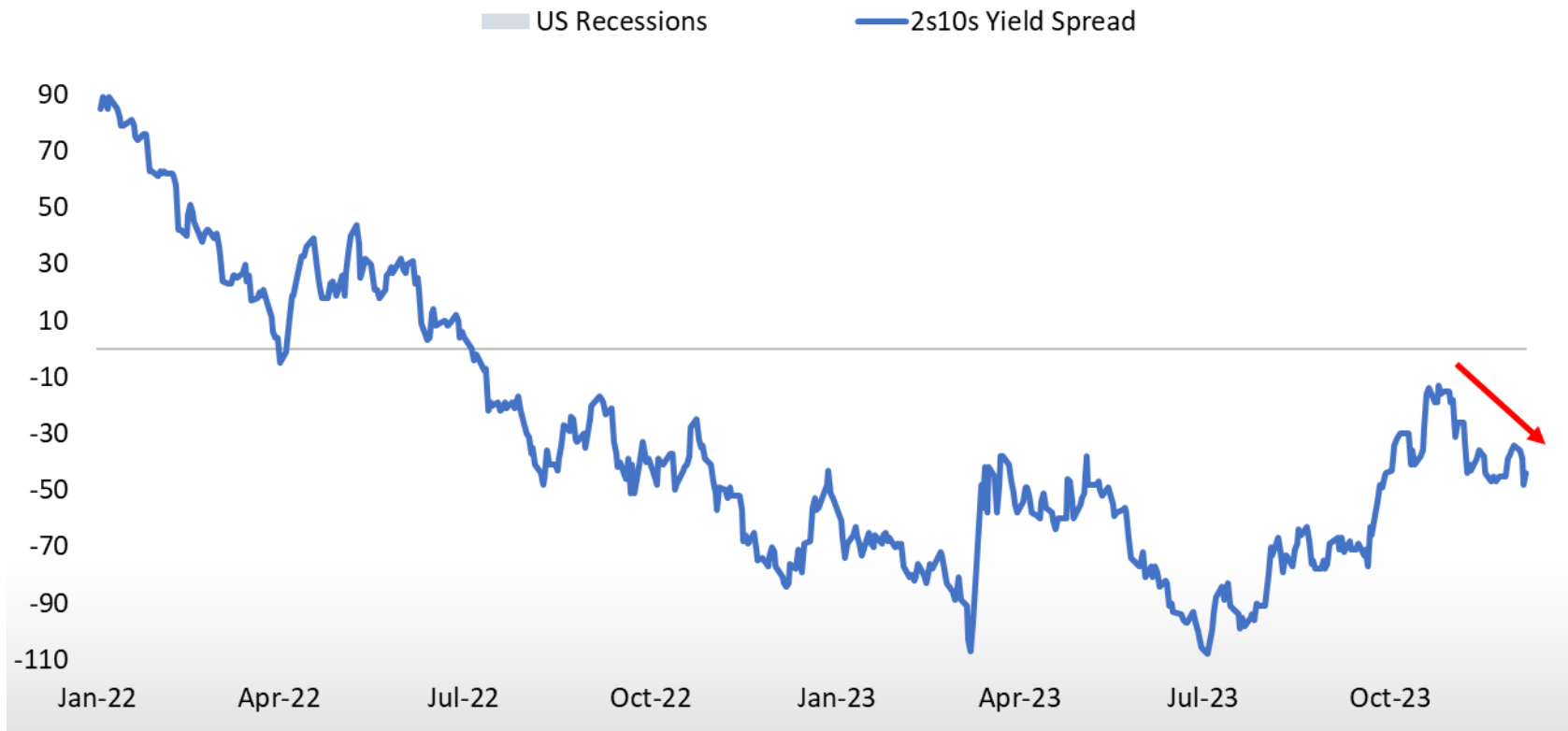
Source: Bloomberg, John Authers. Data as of July 24, 2023.

Earnings/Valuation Indicators



10-year yields have come down in the past month after softer inflation prints were released in Nov, causing more and earlier rate cuts to be priced in for 2024

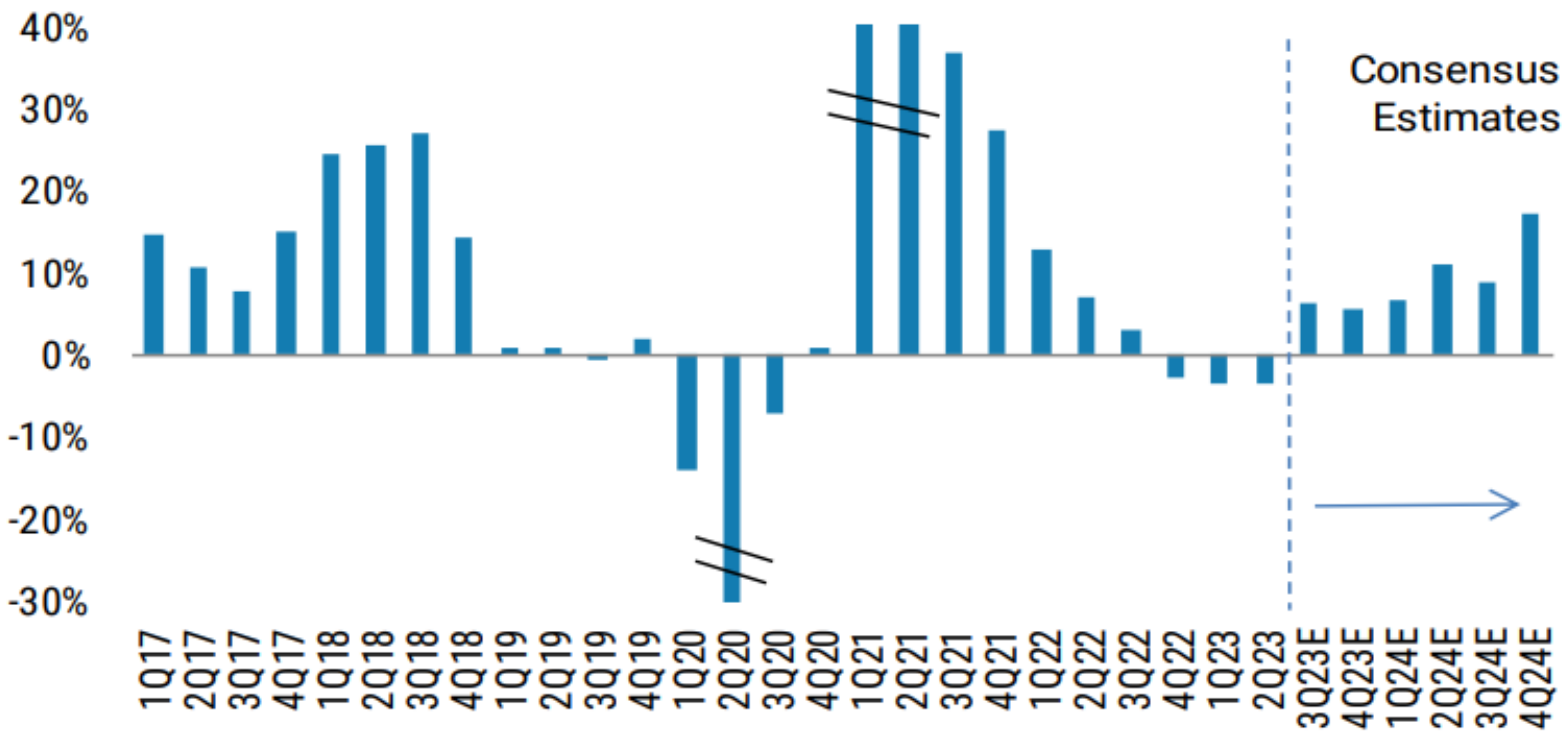
10-Year vs. 2-Year Bond Spread



Source: FactSet, Astoria Portfolio Advisors. Data as of December 7, 2023.

As stimulus supporting consumer demand is fading, there is caution for Q4 2023 earnings. But, amid margin expansion, earnings are expected to recover further/stabilize in 2024

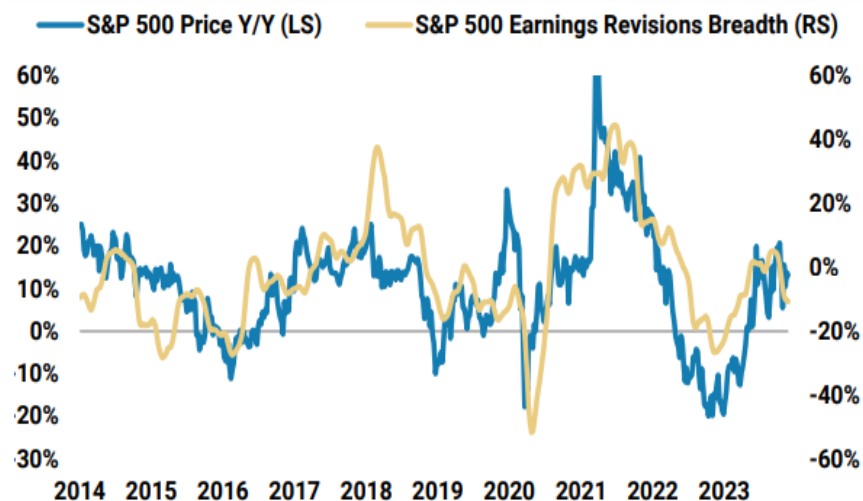
S&P 500 Y/Y EPS Growth (%)



Source: Morgan Stanley Research. Data as of December 4, 2023.

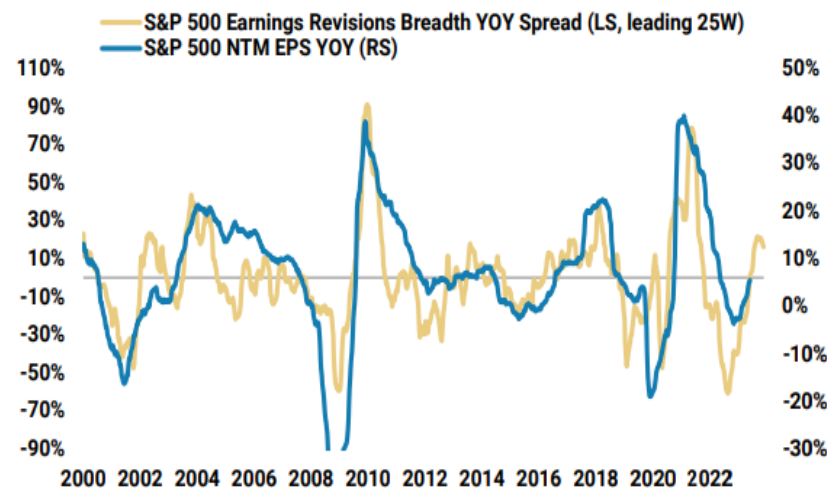
S&P 500 earnings revisions breadth moves with price but leads EPS. Though earnings revision breadth has weakened recently, forward estimates suggest >10% NTM EPS growth

US Earnings Revisions Breadth | Price Y/Y

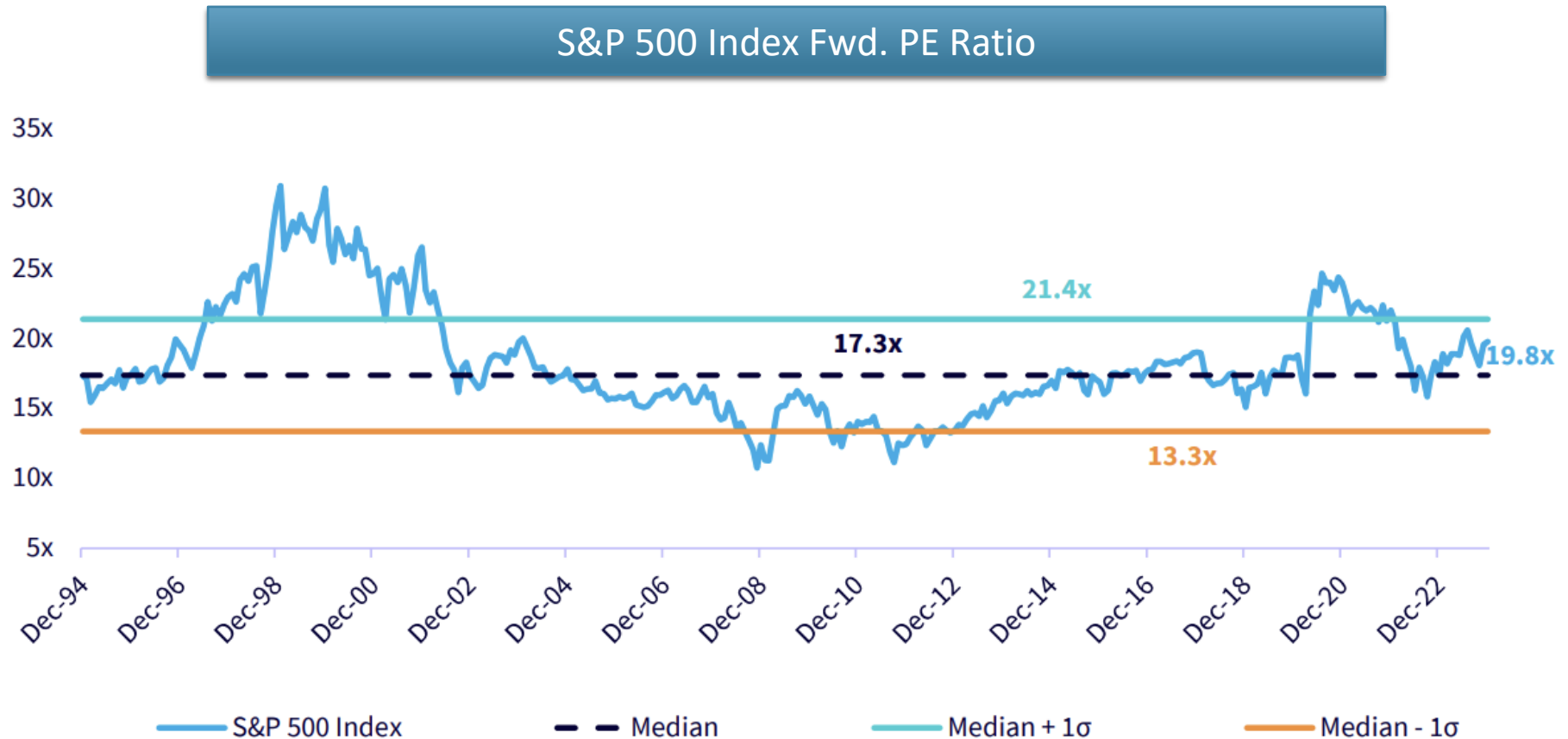


Source: FactSet, Morgan Stanley Research. Data as of December 4, 2023.

US Earnings Revisions Breadth | EPS Y/Y



Despite mild decreases, S&P 500's forward P/E ratio remains historically elevated; suggests unattractive valuations for prospective buyers. Astoria believes equal weighting is more optimal.



Source: WisdomTree. Data as of December 4, 2023.

Despite expensive valuation, when excluding the top-7 companies of the S&P 500, it is trading in line with historical averages

S&P 500 Index Fwd. PE Ratio

Exhibit 1: Equal-weighted S&P 500 trades in line with the historical average, both on fwd P/E...

S&P 500 median fwd P/E vs. top 7 P/E (1986-8/23)

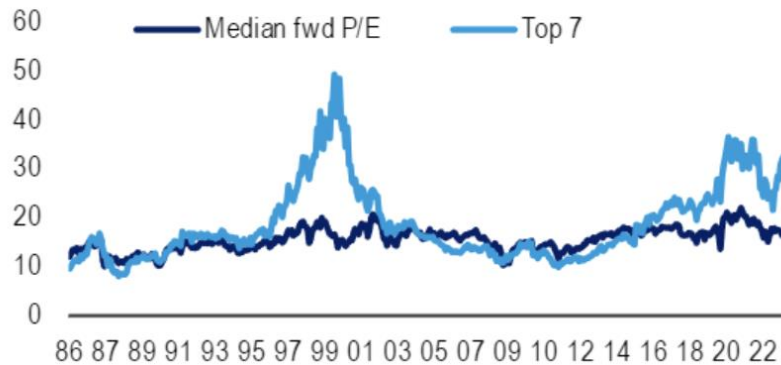
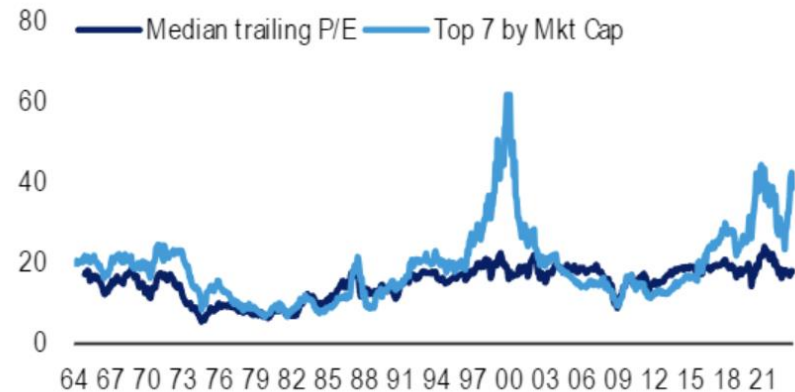


Exhibit 2: ...and on trailing P/E

S&P 500 median trailing P/E vs. top 7 P/E (1986-8/23)



Source: FactSet, BofA US Equity and Quant Strategy. Data as of September 17, 2023.

Sector Valuations

Fundamentals			
Index / S&P Sectors	Price to Earnings	Est. Price to Earnings	Fwd. 12-month Growth Est.
Info. Tech.	35.62	27.28	30.6%
Financials	14.72	14.51	1.2%
Health Care	24.80	18.02	37.7%
Cons. Disc.	31.37	25.67	22.2%
Comm. Svcs.	21.86	17.09	27.9%
Industrials	21.78	19.19	13.5%
Cons. Staples	21.23	19.24	10.3%
Energy	10.55	10.83	-2.6%
Real Estate	38.02	37.76	0.7%
Materials	19.36	19.47	-0.6%
Utilities	21.10	15.95	32.3%
S&P 500	23.18	19.76	17.3%
Russell 1000 Value	17.60	15.24	15.4%
Russell 1000 Growth	33.68	26.76	25.8%

Source: WisdomTree, FactSet, S&P, Russell, You cannot invest directly in an index. Data as of December 4, 2023.

US valuations continue to be expensive; Rest of World (ROW) is relatively cheaper with more upside potential. When rates come down, USD will likely weaken, providing support for int'l companies

Country Valuation Matrix

	Latest	WoW Change	10Y Max	10Y Min	10Y Avg	Metric	Percentile vs History	
							10Y %ile	10Y Range 0 = Low 100 = High
Global Equities								
MSCI ACWI	836	0.2%	886	411	613	Level	94%	
MSCI ACWI N12M PE	16.2	0.0%	20.7	11.3	15.9	N12M P/E	71%	
MSCI ACWI Trailing PBV	2.7	-2.7%	3.2	1.7	2.4	PBV	84%	
MSCI ACWI Earnings Revisions Ratio (%)	-6.6	2.5	17.0	-37.3	-2.5	ERR	20%	
MSCI Europe	1,856	0.2%	1,960	1,154	1,575	Level	92%	
MSCI Europe N12M PE	12.5	0.4%	18.0	10.3	14.3	N12M P/E	12%	
MSCI Europe Trailing PBV	1.9	-1.3%	2.2	1.3	1.8	PBV	73%	
MSCI Europe Earnings Revisions Ratio (%)	-7.9	2.4	24.6	-51.1	-2.9	ERR	19%	
S&P 500	4,568	0.2%	4,797	1,742	2,982	Level	97%	
MSCI US N12M PE	19.3	0.3%	24.2	13.2	18.1	N12M P/E	78%	
MSCI US Trailing PBV	4.3	-0.3%	5.1	2.5	3.5	PBV	85%	
MSCI US Earnings Revisions Ratio (%)	-2.2	2.8	38.4	-50.9	-0.7	ERR	45%	
FTSE 100	7,454	-0.4%	8,014	4,994	6,993	Level	78%	
MSCI UK N12M PE	10.3	0.0%	16.5	8.5	13.1	N12M P/E	11%	
MSCI UK Trailing PBV	1.7	-0.5%	2.0	1.2	1.8	PBV	31%	
MSCI UK Earnings Revisions Ratio (%)	-8.7	0.6	16.2	-49.3	-3.9	ERR	25%	
TOPIX	2,375	-0.1%	2,430	1,133	1,668	Level	99%	
MSCI Japan N12M PE	14.3	-0.5%	18.9	10.4	14.0	N12M P/E	63%	
MSCI Japan Trailing PBV	1.4	-3.3%	1.6	1.0	1.3	PBV	68%	
MSCI Japan Earnings Revisions Ratio (%)	2.1	0.8	15.0	-21.9	0.0	ERR	57%	
MSCI EM	987	-0.1%	1,445	689	1,031	Level	39%	
MSCI EM N12M PE	11.6	-1.7%	16.6	9.1	12.0	N12M P/E	38%	
MSCI EM Trailing PBV	1.6	-4.4%	2.3	1.2	1.6	PBV	40%	
MSCI EM Earnings Revisions Ratio (%)	-9.9	2.5	8.9	-25.3	-3.8	ERR	8%	

Source: Morgan Stanley Research. Data as of December 4, 2023.

Europe has positive EPS momentum and appealing estimate revisions with cheaper valuations relative to US markets. Japan also has stronger estimate revisions relative to the US

European and Japanese Market Fundamentals

Ticker	Name	Country/Region	2024 E PE ratio	Growth Estimate		EPS Momentum (QTR LTM)	YTD Return
				(NTM / QTR LTM)	Estimate Revisions (NTM)		
EZU	iShares MSCI Eurozone ETF	Eurozone	11.8	5%	2%	8%	18.8%
HEDJ	WisdomTree Europe Hedged Equity Fund	Europe (Hedged)	9.7	1%	5%	4%	23.4%
IEUR	iShares Core MSCI Europe ETF	Europe	12.2	7%	2%	2%	14.6%
SPY	SPDR S&P 500 ETF Trust	United States	18.6	11%	2%	0%	21.4%
MCHI	iShares MSCI China ETF	China	9.3	14%	1%	-2%	-10.1%
EWJ	iShares MSCI Japan ETF	Japan	14.1	8%	4%	-3%	16.9%
DXJ	WisdomTree Japan Hedged Equity Fund	Japan (Hedged)	11.8	7%	4%	-8%	44.6%
EEM	iShares MSCI Emerging Markets ETF	Emerging Markets	11.4	15%	4%	-12%	5.7%
MEDIAN			11.8	7%	3%	-1%	
AVG			12.4	8%	3%	-1%	

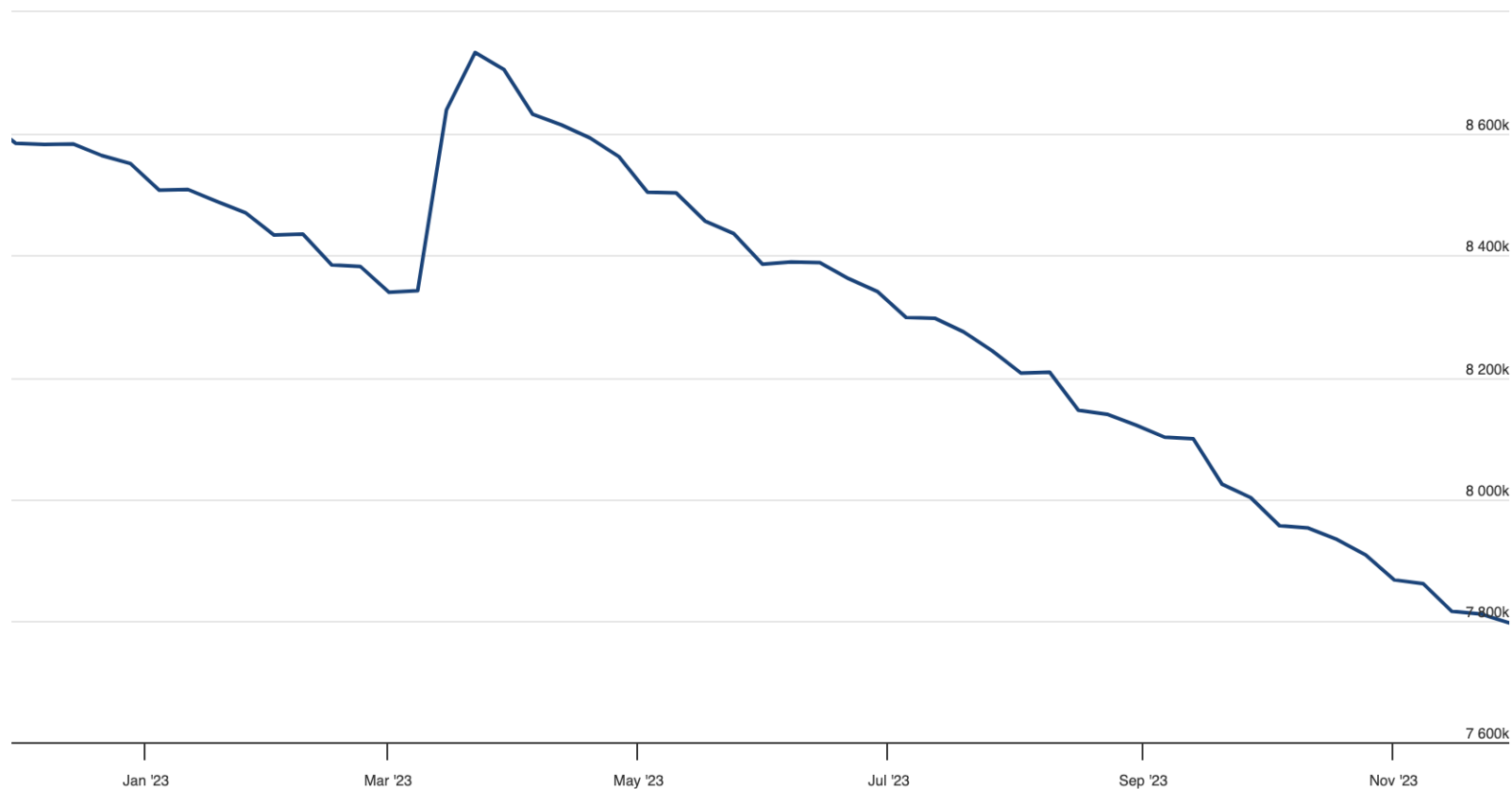
Source: FactSet, Astoria Portfolio Advisors. Data as of December 4, 2023.

Sentiment & Risk Indicators



The spike in the Fed's balance sheet that occurred during the banking crisis earlier this year has now been completely undone, and the Fed's assets continue to decrease

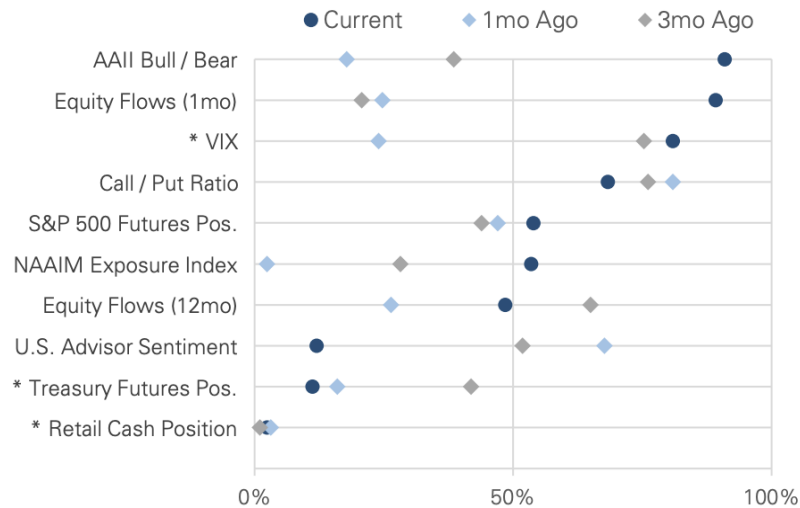
Total Assets of the Federal Reserve | 11/28/22 to 11/28/23



Source: FRED. Data as of December 4, 2023.

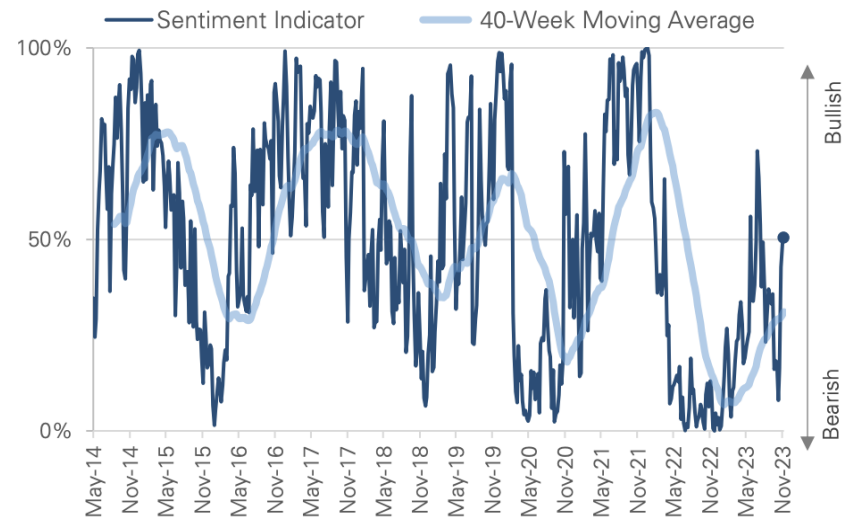
Investor sentiment is beginning to recover after a sharp drop at the start of Q4

10Y %ile of Sentiment Composite Inputs



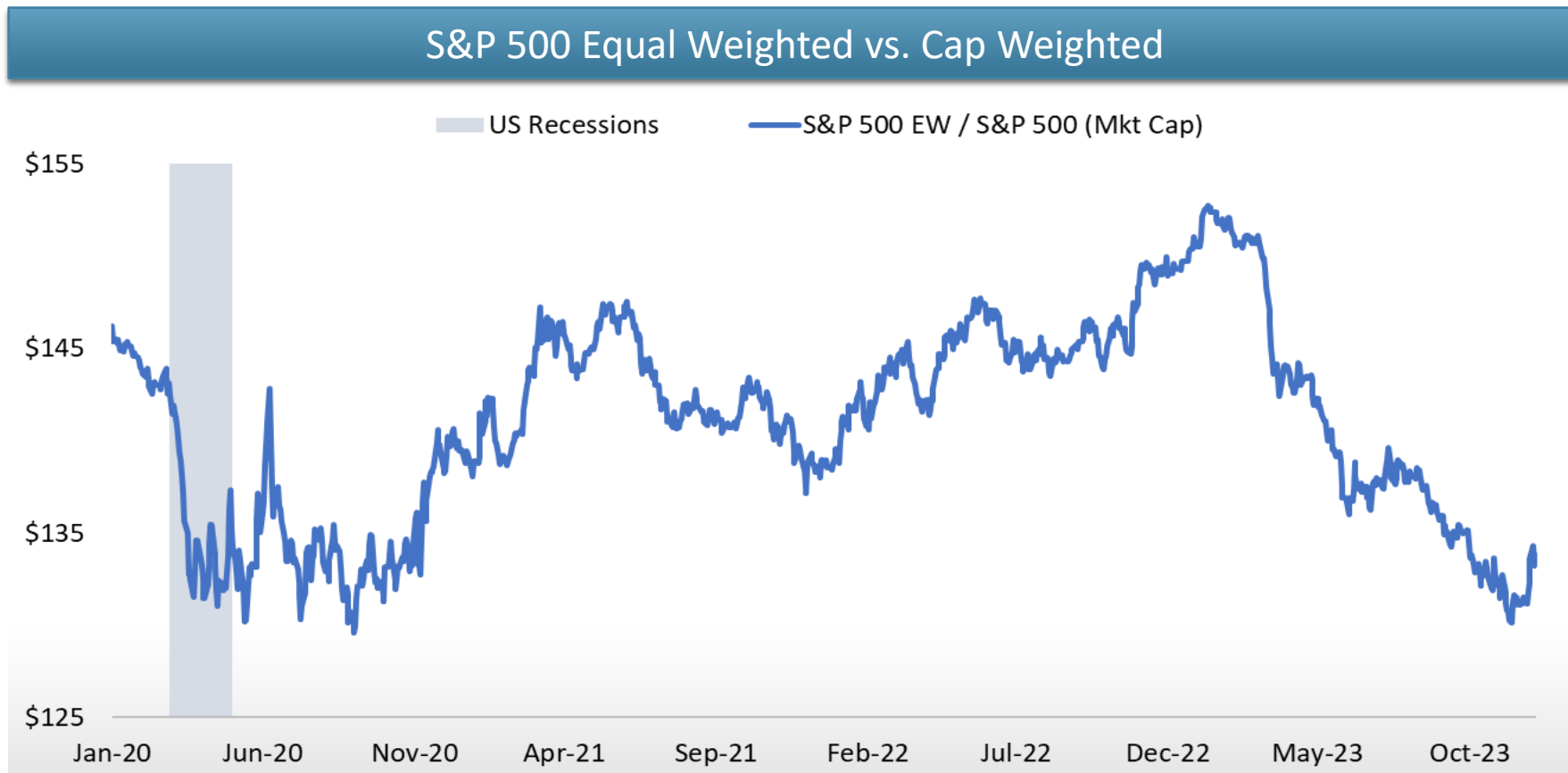
Source: MarketDesk Quant Pack. Note: Asterisk (*) denotes inverse sentiment reading. Data as of December 1, 2023.

Historical US Sentiment Ind. Past 10Y



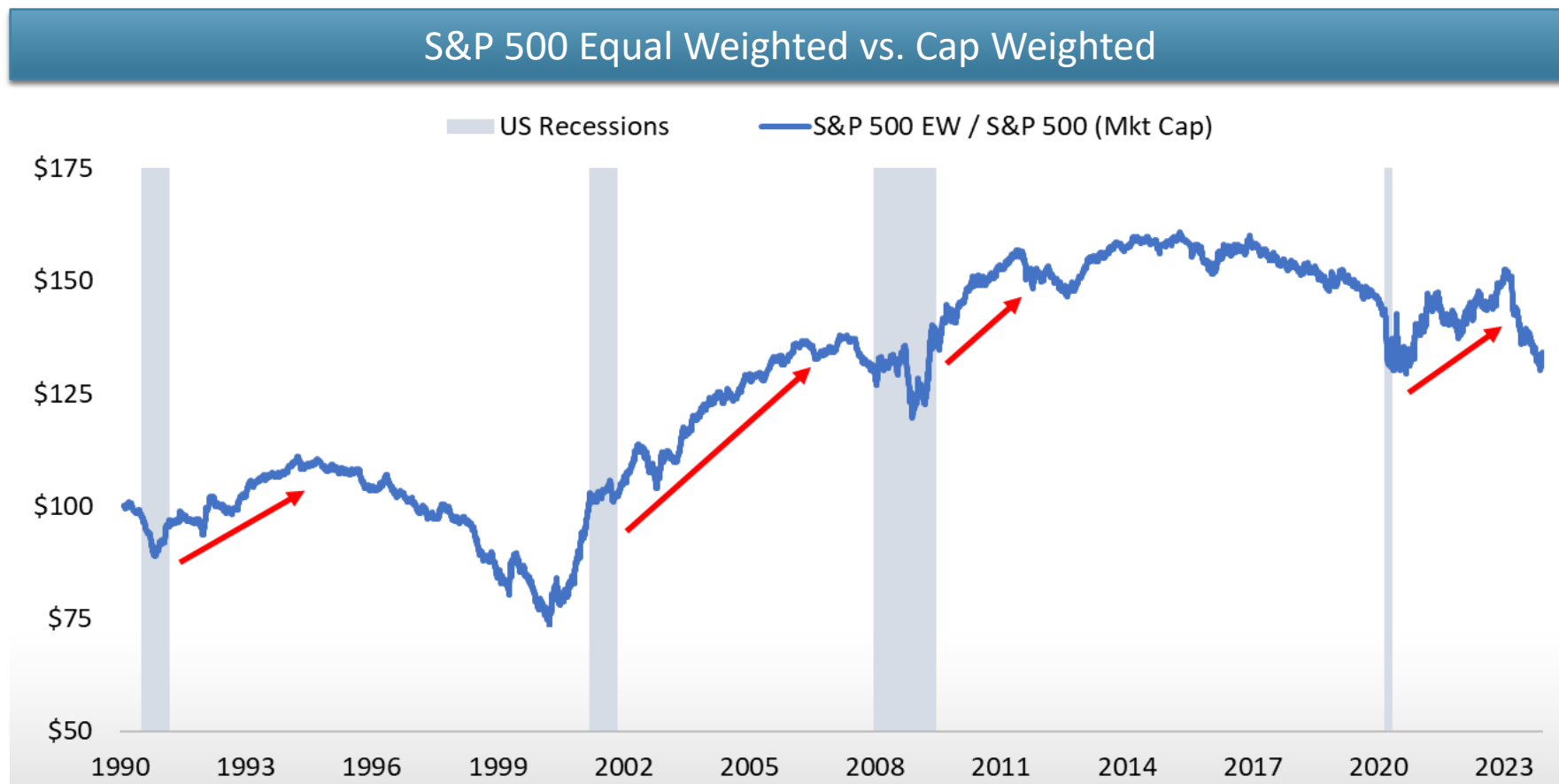
Source: MarketDesk Quant Pack. Data as of December 1, 2023.

As evidenced by the ratio between the equal weighted and cap weighted S&P, breadth improved in July but has deteriorated thereafter. However, it has strengthened in recent weeks...



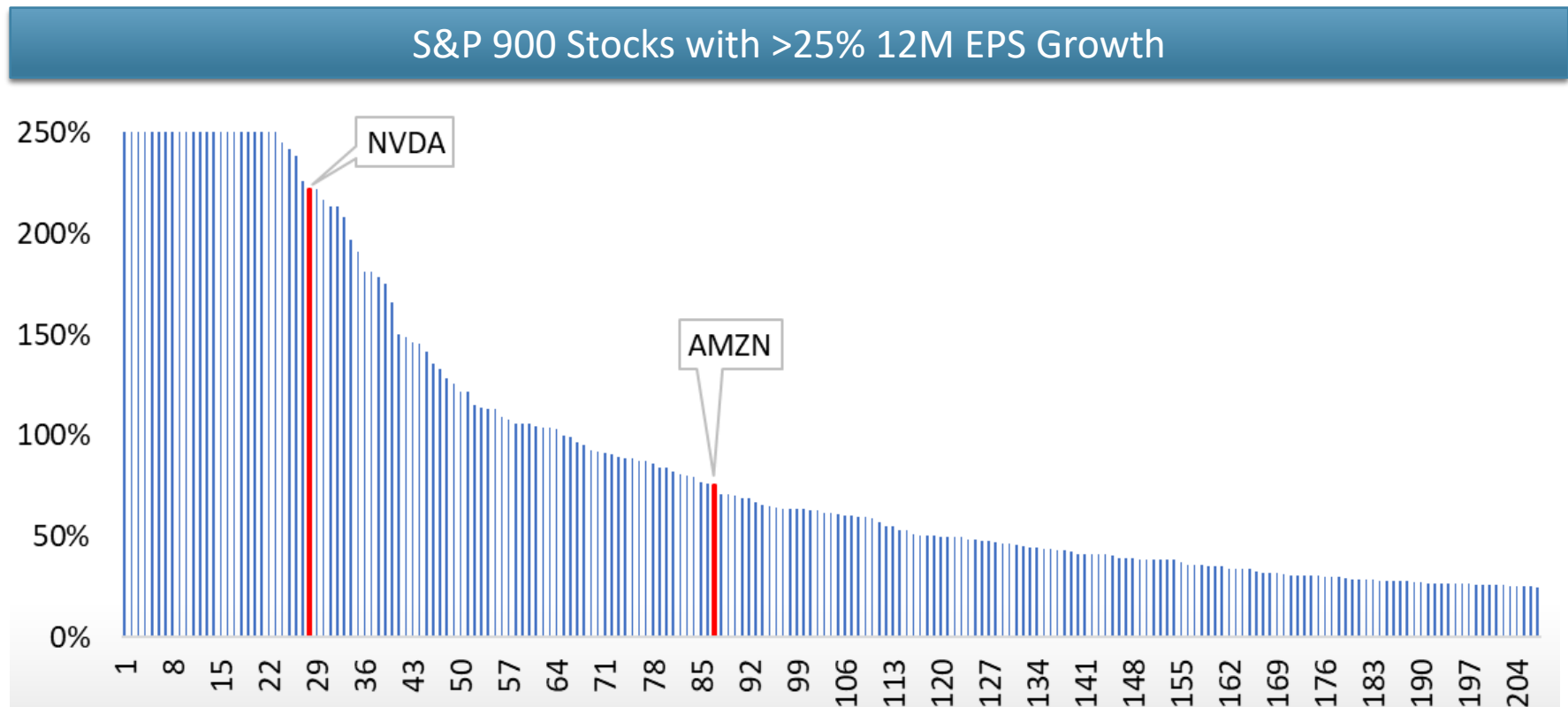
Source: FactSet, Astoria Portfolio Advisors. Data from January 31, 1990, through December 7, 2023. Calculations use monthly price returns. January 31, 1990 = \$100. Chart is abbreviated to show only calculations from January 1, 2020 through December 7, 2023. Past performance is not indicative of future results.

... and history implies that equal weighted outperforms market cap weighted when the economy comes out of a recession as breadth increases on the back of improved economic conditions



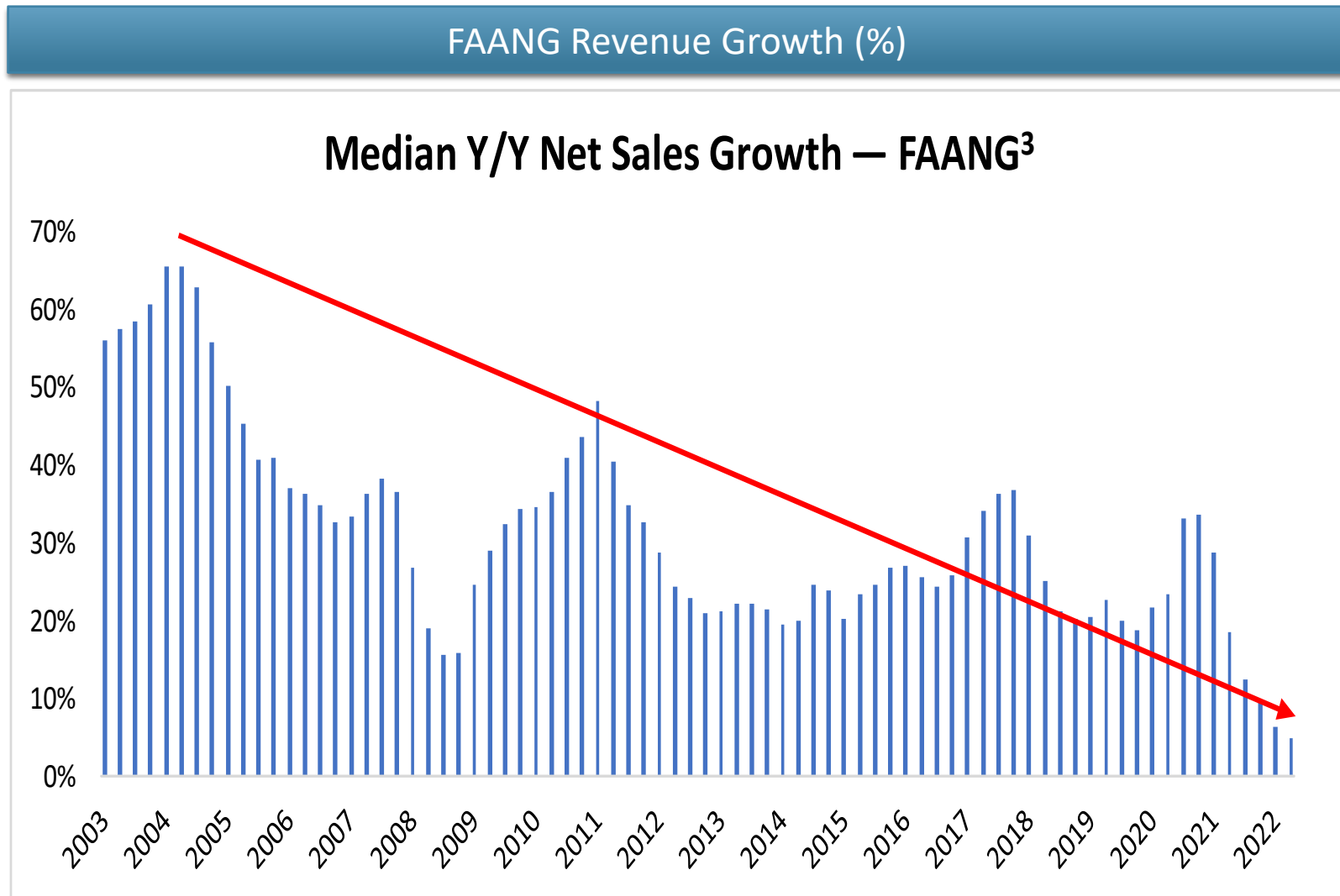
Source: FactSet, Astoria Portfolio Advisors. Data from January 31, 1990, through December 7, 2023. Calculations use monthly price returns. January 31, 1990 = \$100. Chart is abbreviated to show only calculations from January 1, 2020 through December 7, 2023. Past performance is not indicative of future results.

When analyzing 900 constituents in the S&P 900 Index, 207 saw earnings growth greater than 25% over the LTM. Only 2 of the “Magnificent Seven” stocks (NVDA & AMZN) make that list



Source: FactSet, Astoria Portfolio Advisors. Data as of November 30, 2023. Trailing EPS growth calculations use quarterly last twelve months reporting basis.

FAANG stocks' revenue growth is at 20-year lows



Source: FactSet, Astoria Portfolio Advisors. Data from December 31, 2003, through March 31, 2023. Year over year net sales growth is calculated on quarterly last twelve months basis. 1. FAANG represents the following stocks: META (previously known as FB), AAPL, AMZN, NFLX, and GOOGL. As META did not IPO until May 18, 2012, public historical data is limited. As a result, sales data for this stock for the period December 31, 2003, through September 30, 2011, has been omitted, and only the median of the remaining four companies is displayed. Past performance is not indicative of future results.

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