



# Q4 2023 Macro Themes

NOW IT GETS INTERESTING

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## MACRO

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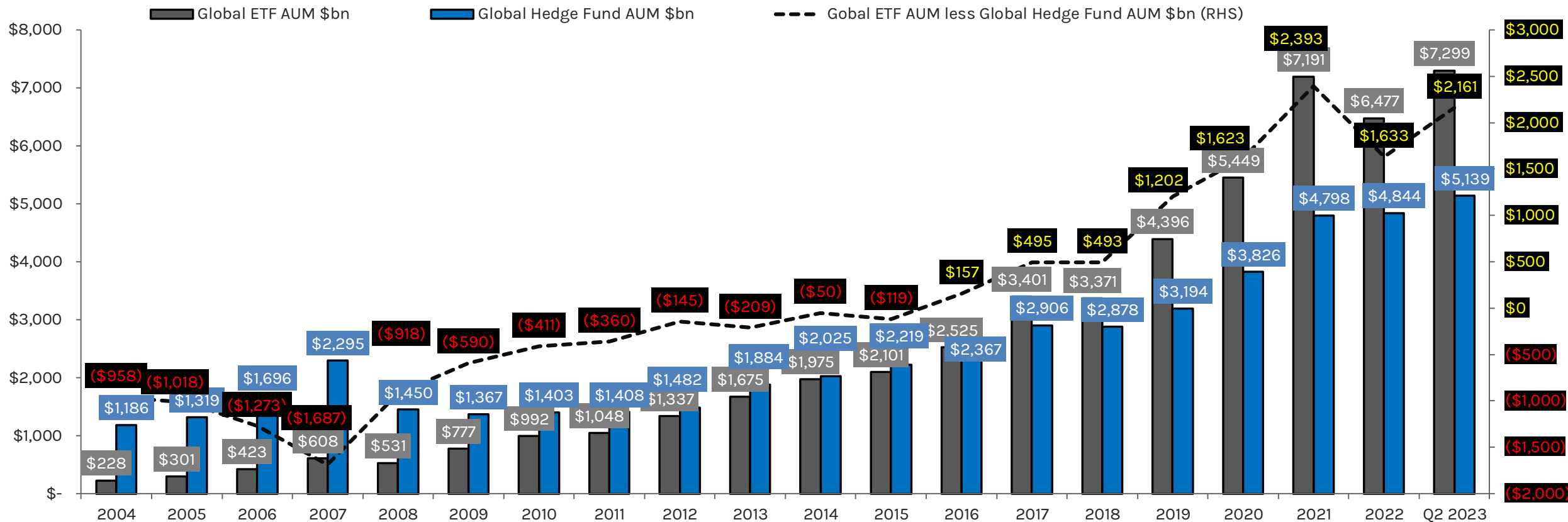
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Please submit questions\* to  
**qa@hedgeye.com**

\*Answered at the end of the call

# The Investment Landscape Has Evolved Tremendously

Stock-picking has given way to factor-picking and it's our job as investors to embrace this sea change, rather than fight it.

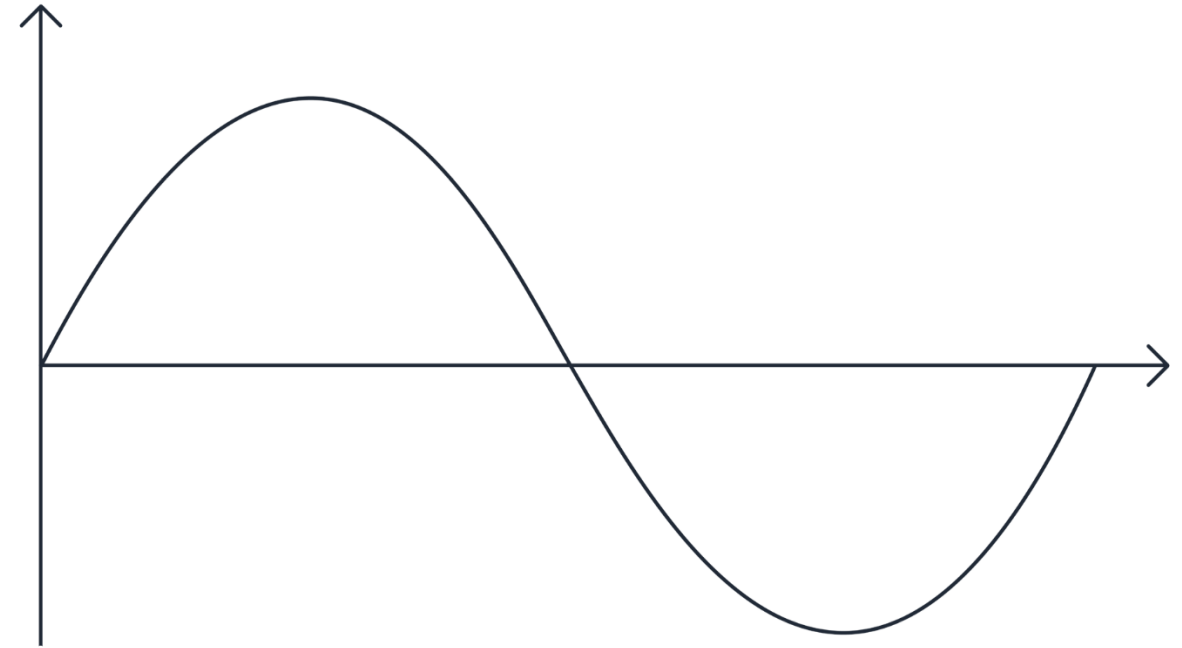
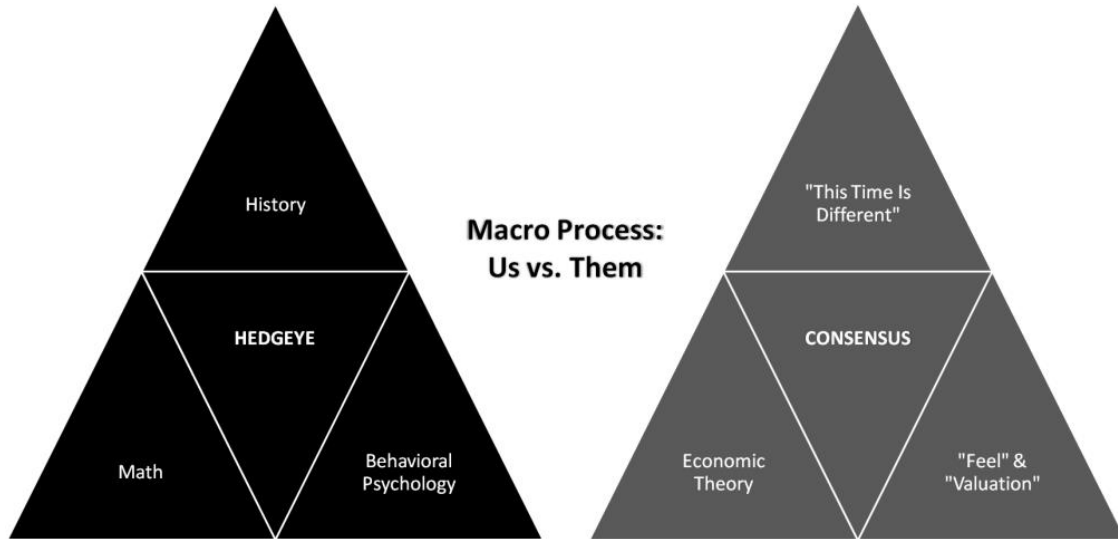


## Skate To Where The Puck Is Going Within Asset Management

AUM in listed ETFs surpassed \$7.3 trillion globally as of Q2 2023, topping global hedge fund assets by over \$2.1 trillion. Moreover, since 2015 ETF AUM has increased 247% with net assets from Hedge funds to ETFs increasing 1,276% since 2016. The proliferation of factor-based index investing and the concentration of hedge fund AUM at market-neutral platforms has made financial markets more sensitive to Macro risks than ever before. For example, JPM estimates systematic trading accounts for over 90% of US equity trading volume. Are your research and risk management processes equipped to compete for alpha in this new regime?



# ... So We Evolved Alongside It



## WE ARE DIFFERENTIATED FROM THE HERD

**Macroeconomic Research** and **Macro Risk Management** are two very different fields. We specialize in the latter, incorporating key lessons from behavioral finance such as Prospect Theory and Bayesian Inference into our analysis. **We don't "feel" anything with regards to the markets or the economy; if we can't contextualize it with math, we don't have a view on it.**

## ...BECAUSE WE FOCUS ON THE FACTS

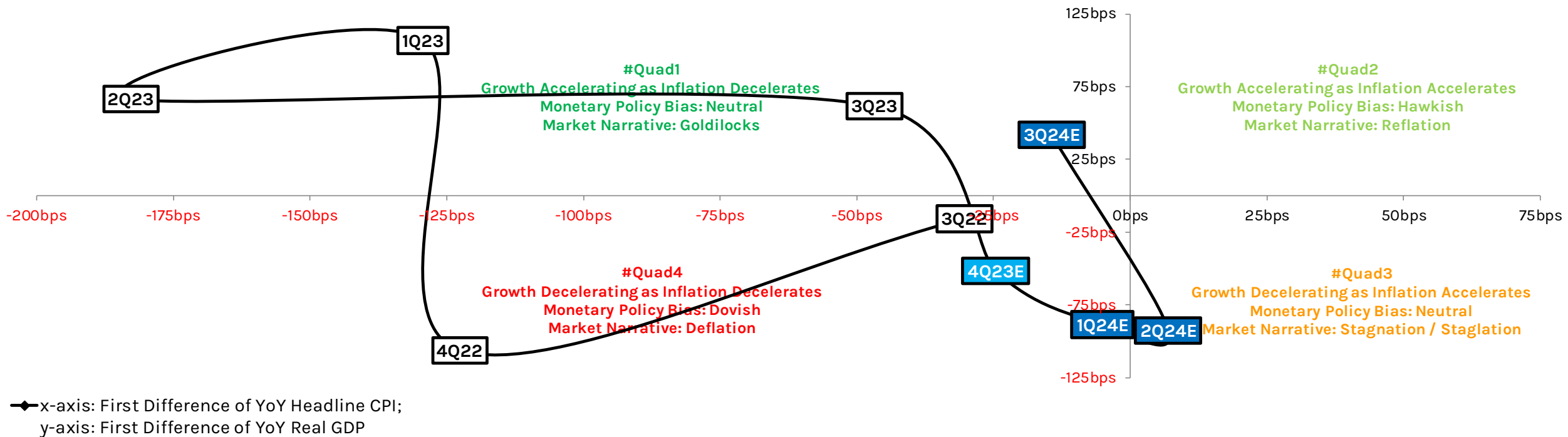
**Rate of change** accelerations and decelerations are facts, not opinions, and our process is focused on contextualizing these facts, rather opining on the validity of **absolute levels** of growth, inflation, and/or policy. **This focus helps us consistently spot inflections in the performance of key factor exposures, across asset classes, 3-6 months ahead of investor consensus.**

# What Are The Quads?

Our GIP Model is a quantitatively oriented, regime-based framework that helps investors proactively prepare for volatility phase transitions within and across asset classes by triangulating the three factors that matter most to Macro Risk Management – i.e. GROWTH, INFLATION, and POLICY.

United States	4Q20	1Q21	2Q21	3Q21	4Q21	1Q22	2Q22	3Q22	4Q22	1Q23	2Q23	3Q23	← Actuals   Estimates →	4Q23E	1Q24E	2Q24E	3Q24E
Real GDP QoQ SAAR	4.20%	5.20%	6.20%	3.30%	7.00%	-2.00%	-0.60%	2.70%	2.60%	2.20%	2.10%	5.20%	Real GDP QoQ SAAR	0.53%	-1.24%	-1.60%	6.92%
Real GDP YoY	-1.08%	1.57%	11.95%	4.74%	5.42%	3.57%	1.87%	1.71%	0.65%	1.72%	2.38%	3.00%	Real GDP YoY	2.48%	1.60%	0.67%	1.09%
2yr Comparative Base Effects	2.65%	1.54%	-2.69%	0.60%	1.05%	1.40%	2.21%	1.63%	2.17%	2.57%	6.91%	3.22%	2yr Comparative Base Effects	3.04%	2.64%	2.13%	2.36%
Headline CPI YoY	1.24%	1.90%	4.85%	5.34%	6.69%	7.96%	8.63%	8.33%	7.10%	5.81%	3.98%	3.51%	Headline CPI YoY	3.27%	3.22%	3.29%	3.14%
2yr Comparative Base Effects	2.12%	1.88%	1.09%	1.49%	1.64%	2.01%	2.61%	3.28%	3.96%	4.93%	6.74%	6.83%	2yr Comparative Base Effects	6.90%	6.89%	6.31%	5.92%

## United States



Data Source: BEA, BLS Light Blue box = Hedgeye Nowcast Model estimate. Dark Blue boxes = Hedgeye Comparative Base Effects Model estimates.

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# Highest/Lowest Expected Values By Quad Regime

## Quad 1: Goldilocks

### Best Asset Classes:

Equities, Credit, Commodities, FX

### Worst Asset Classes:

Fixed Income, USD

### Best Equity Sectors:

Tech, Consumer Discretionary, Materials, Industrials, Telecom

### Worst Equity Sectors:

Utilities, REITS, Consumer Staples, Financials, Energy

### Best Equity Style Factors:

High Beta, Momentum, Leverage, Secular Growth, Mid Caps

### Worst Equity Style Factors:

Low Beta, Defensives, Value, Dividend Yield, Small Caps

### Best Fixed Income Sectors:

BDCs, Convertibles, HY Credit, EM \$ Debt, Leveraged Loans

### Worst Fixed Income Sectors:

TIPS, Short Duration Treasuries, MBS, Treasury Belly, Long Bond

## Quad 2: Reflation

### Best Asset Classes:

Commodities, Equities, Credit, FX

### Worst Asset Classes:

Fixed Income, USD

### Best Equity Sectors:

Tech, Consumer Discretionary, Industrials, Energy, Financials

### Worst Equity Sectors:

Telecom, Utilities, REITS, Consumer Staples, Health Care

### Best Equity Style Factors:

Secular Growth, High Beta, Small Caps, Cyclical Growth, Momentum

### Worst Equity Style Factors:

Low Beta, Dividend Yield, Value, Defensives, Size

### Best Fixed Income Sectors:

Convertibles, BDCs, Preferreds, Leveraged Loans, HY Credit

### Worst Fixed Income Sectors:

Long Bond, Treasury Belly, Munis, MBS, IG Credit

## Quad 3: Stagflation

### Best Asset Classes:

Gold, Commodities, Fixed Income

### Worst Asset Classes:

Credit

### Best Equity Sectors:

Utilities, Tech, Energy, Industrials, Consumer Discretionary

### Worst Equity Sectors:

Financials, REITS, Materials, Telecom, Consumer Staples

### Best Equity Style Factors:

Secular Growth, Momentum, Mid Caps, Low Beta, Quality

### Worst Equity Style Factors:

Small Caps, Dividend Yield, Value, Defensives, Size

### Best Fixed Income Sectors:

Munis, EM \$ Debt, Long Bond, TIPS, Treasury Belly

### Worst Fixed Income Sectors:

BDCs, Preferreds, Convertibles, Leveraged Loans, HY Credit

## Quad 4: Deflation

### Best Asset Classes:

Fixed Income, Gold, USD

### Worst Asset Classes:

Commodities, Equities, Credit, FX

### Best Equity Sectors:

Consumer Staples, Utilities, REITS, Health Care, Telecom

### Worst Equity Sectors:

Energy, Tech, Industrials, Financials, Materials

### Best Equity Style Factors:

Low Beta, Dividend Yield, Quality, Defensives, Value

### Worst Equity Style Factors:

High Beta, Momentum, Leverage, Secular Growth, Cyclical Growth

### Best Fixed Income Sectors:

Long Bond, Treasury Belly, IG Credit, Munis, MBS

### Worst Fixed Income Sectors:

Preferreds, EM Local Currency, BDCs, Leveraged Loans, TIPS

# The Quads Provide A Reliable Starting Point For Asset Allocation And Keith's Quantitative Signaling Overlay Confirms Market Direction And Helps Risk Manage Core Exposures



Core to the process of selecting our core exposures is determining whether the ticker screens well from the perspective of Keith's proprietary risk management process, which employs PRICE, VOLUME and VOLATILITY as discrete factors in the calculus of levels that backtest well as critical momentum thresholds.

Assets where last price is greater than all three (in ascending order) are said to be in a "Bullish Formation" and all dips should be bought, insomuch that assets in the converse "Bearish Formation" should be repeatedly shorted on strength.



# A | B Testing Process: Quantify Investor Consensus

Monitoring Sector and Style factor Performance allows us to quantitatively track the evolution of our Macro Themes. Additionally, MEASURING and MAPPING key data sets within the CFTC COT report removes the qualitative guesswork from the process of tracking and ultimately FADING crowded positioning.

## STYLE FACTOR PERFORMANCE\*

		1D	1W	1M	3M	6M	YTD
FACTOR		% Chg	% Chg	% Chg	% Chg	% Chg	% Chg
Debt	High Debt/EV	0.7%	0.9%	3.0%	-7.9%	-1.7%	-1.9%
	Low Debt/EV	0.4%	1.5%	4.1%	-3.5%	4.6%	17.7%
SI	High Short Interest	1.0%	1.6%	1.4%	-10.8%	-1.9%	3.2%
	Low Short Interest	0.1%	0.8%	4.7%	-0.7%	6.2%	12.1%
BETA	High Beta	1.2%	2.0%	4.2%	-8.0%	7.0%	20.3%
	Low Beta	-0.7%	0.4%	3.0%	-3.1%	-3.8%	-4.1%
YIELD	High Yield	0.4%	1.0%	2.2%	-8.7%	-7.5%	-10.9%
	Low Yield	0.6%	1.6%	3.0%	-5.5%	5.9%	20.5%
MKT CAP	MCAP Bottom 25%	0.8%	1.2%	-0.2%	-11.6%	-5.9%	-6.7%
	MCAP Top 25%	0.2%	1.1%	5.9%	0.1%	8.8%	18.8%
Sales	Top 25% Sales Growth	0.3%	1.3%	6.5%	-1.2%	10.9%	26.2%
	Bottom 25% Sales Growth	0.7%	1.2%	0.2%	-9.7%	-5.8%	-8.3%
EPS	Top 25% EPS Growth	0.5%	1.3%	4.7%	-3.4%	6.5%	17.6%
	Bottom 25% EPS Growth	0.7%	1.4%	1.0%	-8.1%	-2.2%	-3.3%

\*Mean Performance of Top Quartile vs. Bottom Quartile, S&P500 Companies

## CFTC NON-COMMERCIAL NET LONG POSITIONING

METRIC	Latest	W/W Chg	3M Ave	6M Ave	1Y Ave	3Y		Z-Score		
						Max	Min	1Y	3Y	
EQUITIES	SPX (Index + E-mini)	(82,654)	(4,834)	(81,839)	(165,548)	(197,055)	248,601	(447,046)	1.10X	-0.10X
	VIX	(42,928)	(9,879)	(31,740)	(40,909)	(52,219)	(13,979)	(163,238)	0.55X	0.96X
	Russell 2000 (mini)	(66,265)	5,943	(60,591)	(63,675)	(60,873)	37,970	(120,386)	-0.60X	-0.48X
	Dow Jones (mini)	(36,513)	563	(26,835)	(18,657)	(17,064)	9,207	(37,076)	-1.92X	-2.58X
	Nasdaq (mini)	828	(17,345)	10,924	10,807	4,307	43,383	(24,622)	-0.25X	-0.44X
	Nikkei Index	(2,587)	(29)	(1,203)	(2,667)	(2,826)	2,324	(9,401)	0.12X	0.13X
RATES	10Y UST	(641,717)	(67,883)	(691,095)	(726,248)	(620,351)	238,882	(870,838)	-0.13X	-1.21X
	2Y UST	(1,399,661)	61,962	(1,316,130)	(1,193,606)	(883,697)	86,786	(1,461,623)	-1.54X	-2.45X
	5Y UST	(1,459,877)	6,557	(1,196,553)	(1,165,096)	(945,652)	148,962	(1,466,434)	-1.97X	-2.52X
	UST Bonds	(111,700)	519	(173,742)	(158,571)	(147,717)	49,853	(229,064)	0.82X	-0.14X
	30D Fed Funds	(150,121)	(71,074)	(197,179)	(184,450)	(139,213)	147,168	(320,917)	-0.15X	-0.70X
	Eurodollar	47,762	(6,488)	(155,950)	(489,828)	(691,454)	1,039,687	(1,411,302)	1.83X	0.80X
CURRENCIES	SUSD	19,717	274	14,962	12,275	13,494	44,971	(15,000)	1.11X	0.07X
	JPY	(129,984)	(25,304)	(109,637)	(105,912)	(78,848)	52,239	(129,984)	-1.65X	-1.60X
	EUR	114,866	23,814	98,782	134,375	152,278	198,934	(47,358)	-1.08X	0.47X
	GBP	(29,162)	(9,763)	2,772	23,791	3,827	66,045	(79,646)	-1.04X	-0.55X
	AUD	(71,163)	(5,954)	(79,730)	(64,184)	(50,613)	11,168	(98,824)	-1.10X	-0.93X
	CAD	(72,137)	(2,204)	(46,115)	(28,693)	(34,006)	50,344	(72,137)	-2.01X	-2.47X
	MXN	43,517	6,659	53,737	71,233	40,637	99,697	(64,080)	0.06X	0.85X
	NZD	(17,034)	(2,094)	(12,561)	(6,743)	(2,864)	17,126	(21,272)	-1.90X	-1.80X
CHF	(20,088)	(2,456)	(12,812)	(8,668)	(7,406)	16,275	(20,171)	-2.63X	-1.68X	
COMMODITIES	CRUDE OIL	245,386	(16,327)	329,810	276,592	265,089	594,465	170,119	-0.38X	-1.15X
	GOLD	92,660	(12,576)	57,962	75,646	83,822	175,694	(41,300)	0.22X	0.28X
	COPPER	(16,880)	(6,535)	(17,728)	(14,336)	(9,408)	80,564	(35,712)	-0.55X	-0.91X
	Natural Gas	(104,298)	(32,768)	(85,705)	(95,930)	(126,594)	39,816	(182,100)	0.61X	0.12X
	RBOB Gasoline	53,294	9,317	45,177	49,542	51,459	87,991	27,945	0.22X	0.25X
	ULSD Heating Oil	32,527	3,768	36,552	30,840	22,334	43,514	(14,002)	0.93X	1.22X
	Silver	21,476	5,772	17,749	18,984	20,046	58,462	(12,811)	0.13X	-0.26X
	Platinum	(3,757)	(10,742)	6,318	9,800	14,706	36,198	(8,246)	-1.85X	-1.60X
	Corn	(143,090)	(4,075)	(106,141)	(39,306)	41,343	557,581	(146,232)	-1.38X	-2.12X
	Soybeans	89,949	21,157	42,457	61,049	96,167	250,381	(6,254)	-0.11X	-0.52X
	Wheat	(70,298)	(998)	(72,362)	(64,802)	(63,197)	42,229	(107,489)	-0.33X	-1.42X
	Live Cattle	59,922	(13,288)	102,017	117,710	112,253	144,819	32,625	-2.24X	-1.09X
	Lean Hogs	21,934	1,215	22,342	19,182	9,434	101,947	(29,164)	0.51X	-0.70X
	Sugar	200,707	(8,745)	207,758	193,755	209,797	301,889	(9,197)	-0.33X	0.09X
	Cotton	6,765	(8,766)	45,109	35,768	19,819	127,919	(13,367)	-0.59X	-1.39X
	Coffee	28,849	5,524	(3,822)	(819)	1,996	72,005	(37,467)	1.32X	-0.06X
	Cocoa	73,550	2,852	74,257	73,799	52,349	86,695	(32,129)	0.77X	1.60X
	Orange Juice	2,722	87	3,330	3,457	4,189	6,673	(2,109)	-1.48X	-0.21X

# A | B Testing Process: Measure & Map The Volatility of Volatility

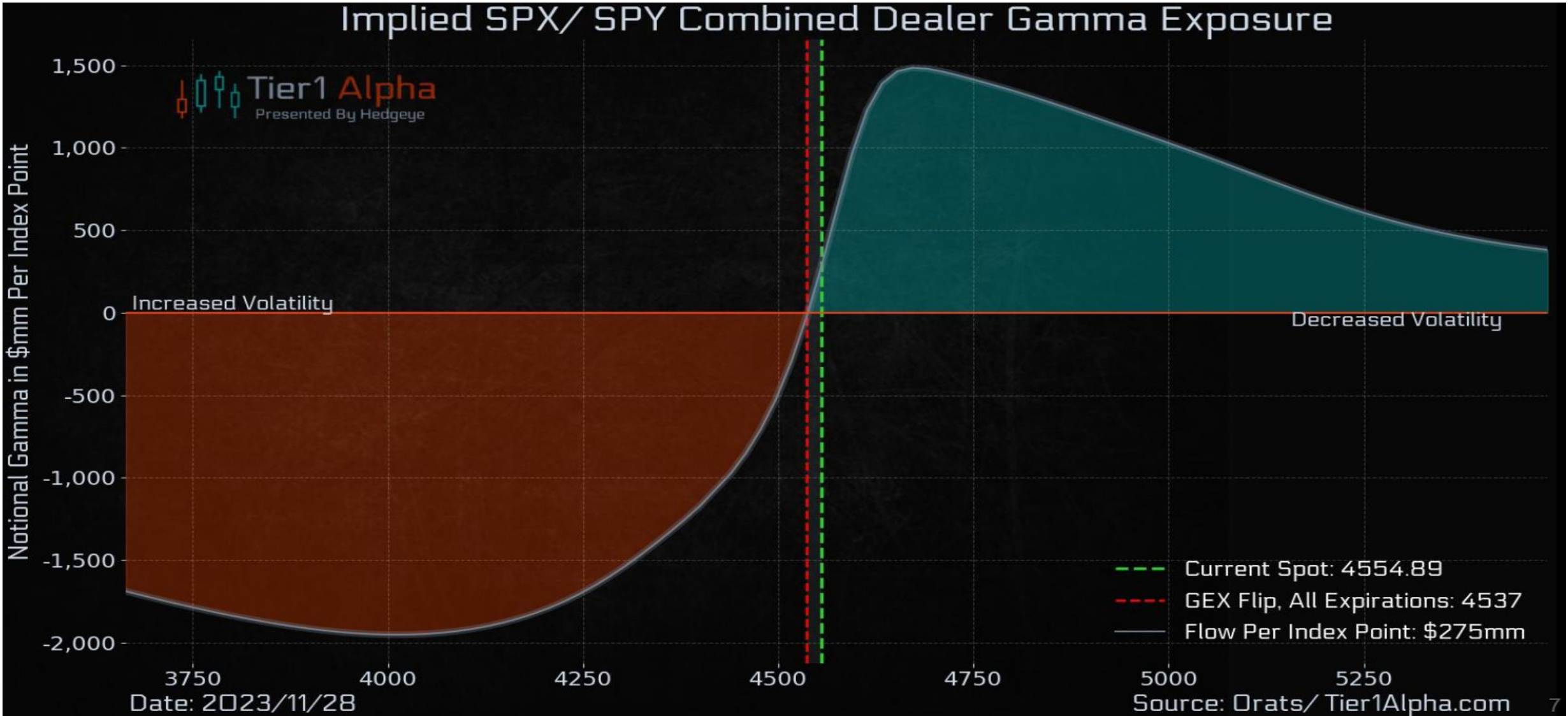
Deliberately studying the VOLATILITY OF VOLATILITY leads to high-probability decision-making opportunities. TIMING matters.

TIME WINDOW SETTING: VOLATILITY_30D PUT_IMP_VOL_30D	TICKER	TOTAL RETURN PERFORMANCE YTD %	IVOL PREMIUM/DISCOUNT IVOL / RVOL	Yesterday	1W Ago	1M Ago	TTM Z-Score	3Yr Z-Score	REALIZED VOLATILITY TRENDS MM %	PERCENTILE 10YR	IMPLIED VOLATILITY TRENDS MM %	PERCENTILE 10YR
<b>US EQUITIES</b>												
CURRENT												
SPDR S&P 500 ETF Trust	SPY	18.87%	3%	5%	3%	30%	-1.3	-1.0	0%	59%	-20%	20%
Power Shares QQQ Trust ETF	QQQ	46.39%	-3%	-2%	-1%	20%	-1.4	-0.8	-3%	58%	-21%	29%
I-Shares Russell 2000 ETF	IWM	2.65%	-23%	-25%	-26%	23%	-2.1	-2.0	37%	83%	-14%	32%
Materials Sector SPDR ETF	XLB	5.05%	18%	-13%	-30%	4%	-0.4	-0.4	-1%	51%	11%	57%
Communication Services SPDR ETF	XLC	46.24%	-30%	-33%	-31%	-14%	-1.5	-1.4	-7%	51%	-24%	4%
Energy Sector SPDR ETF	XLE	-3.94%	22%	14%	10%	4%	0.5	0.6	-17%	37%	-3%	46%
Financials Sector SPDR ETF	XLF	3.80%	-1%	-4%	-3%	24%	-1.3	-1.1	1%	47%	-20%	10%
Industrials Sector SPDR ETF	XLI	7.82%	48%	-26%	-34%	-6%	0.8	0.8	-15%	35%	32%	65%
Technology Sector SPDR ETF	XLK	48.58%	-9%	-15%	-20%	14%	-0.7	-0.6	-2%	51%	-22%	39%
Consumer Staples Sector SPDR ETF	XLP	-6.16%	-8%	-1%	-13%	165%	-0.8	-1.0	-14%	49%	-70%	23%
Real Estate Sector SPDR ETF	XLRE	0.00%	-31%	-34%	-36%	-1%	-1.8	-1.9	19%	87%	-16%	57%
Utilities Sector SPDR ETF	XLU	-11.36%	18%	-19%	-18%	-26%	0.3	0.0	-24%	81%	21%	87%
Health Care Sector SPDR ETF	XLV	-4.54%	-10%	-10%	32%	4%	-1.2	-1.2	13%	43%	-2%	15%
Consumer Discretionary Sector SPDR ETF	XLXY	30.86%	-23%	-29%	-26%	-2%	-1.8	-1.2	-1%	71%	-22%	52%
Retail SPDR ETF	XRT	6.77%	32%	25%	-9%	73%	-0.2	0.2	43%	76%	9%	79%
<b>INTERNATIONAL EQUITIES</b>												
I-Shares MSCI Emerging Markets ETF	EEM	4.17%	-10%	-8%	-7%	10%	-0.8	-0.7	12%	34%	-9%	11%
Euro Stoxx 50 Index	SX5E Index	15.21%	3%	2%	-16%	3%	-0.1	-0.2	-21%	21%	-21%	14%
I-Shares China Large-Cap ETF	FXI	-11.45%	11%	0%	10%	21%	0.6	0.4	7%	68%	-2%	80%
I-Shares MSCI Japan ETF	EWJ	14.79%	-9%	-16%	-9%	4%	-0.7	-0.8	-2%	58%	-14%	37%
<b>CURRENCIES</b>												
PowerShares US Dollar Index ETF	UUP	4.57%	166%	94%	84%	29%	1.8	2.7	26%	70%	160%	99%
Currency Shares Euro Trust ETF	FXE	2.65%	-11%	-13%	-15%	10%	-1.4	-1.2	14%	64%	-8%	40%
Currency Shares British Pound ETF	FXB	5.26%	-22%	-27%	-24%	-10%	-1.3	-1.4	22%	62%	6%	20%
Currency Shares Japanese Yen ETF	FXJ	-11.41%	-14%	-7%	-4%	2%	-0.7	-0.9	28%	69%	8%	46%
<b>COMMODITIES</b>												
SPDR Gold Shares ETF	GLD	11.73%	19%	21%	-9%	-9%	0.5	0.3	-25%	34%	-3%	32%
United States Oil Fund ETF	USO	3.44%	30%	25%	5%	11%	0.4	0.2	1%	59%	19%	69%
United States Natural Gas Fund ETF	UNG	-60.92%	28%	25%	24%	24%	1.0	0.6	5%	62%	9%	65%
Teucrium Corn ETF	CORN	-19.31%	17%	20%	17%	12%	0.0	-0.3	-1%	33%	4%	28%
TEUCRIUM SOYBEAN FUND	SOYB	-0.70%	20%	16%	15%	29%	0.1	0.0	27%	57%	19%	37%
VANECK STEEL ETF	SLX	19.68%	49%	-13%	-11%	27%	1.5	1.8	-3%	13%	13%	38%
<b>FIXED INCOME</b>												
I-Shares 20+ Year Treasury Bond ETF	TLT	-6.96%	-17%	-19%	-27%	-15%	-1.3	-1.5	-14%	92%	-16%	79%
I-Shares 7-10 Year Treasury Bond ETF	IEF	-1.99%	-1%	-20%	-8%	2%	-0.4	-0.6	-7%	88%	-10%	80%
I-Shares IBOXX IG Corporate Bond ETF	LQD	1.35%	2%	-4%	-4%	6%	-0.8	-1.0	-8%	88%	-12%	70%
I-Shares J.P. Morgan USD EM Bond ETF	EMB	2.23%	-17%	-6%	-17%	8%	-1.5	-1.2	2%	80%	-22%	19%
I-Shares IBOXX HY Corporate Bond ETF	HYG	3.02%	-23%	-33%	-34%	-3%	-1.3	-1.2	-5%	68%	-24%	32%
<b>MEGA-CAP</b>												
Apple	AAPL	10.61%	26%	24%	22%	66%	-0.1	0.2	1%	17%	-24%	11%
Amazon	AMZN	74.19%	-22%	-23%	-21%	-22%	-1.3	-1.1	-14%	68%	-14%	33%
Alphabet	GOOGL	53.00%	-34%	-34%	-35%	-27%	-1.6	-1.5	-6%	83%	-15%	40%
Facebook	META	176.05%	3%	4%	-2%	11%	-0.4	-0.2	-11%	47%	-18%	35%
Microsoft	MSFT	11.25%	0%	2%	2%	12%	-0.5	-0.6	-4%	52%	-15%	37%
Tesla	TSLA	98.20%	-17%	-18%	-14%	6%	-1.1	-1.0	20%	66%	-7%	33%

Data Source: CBOE, CME

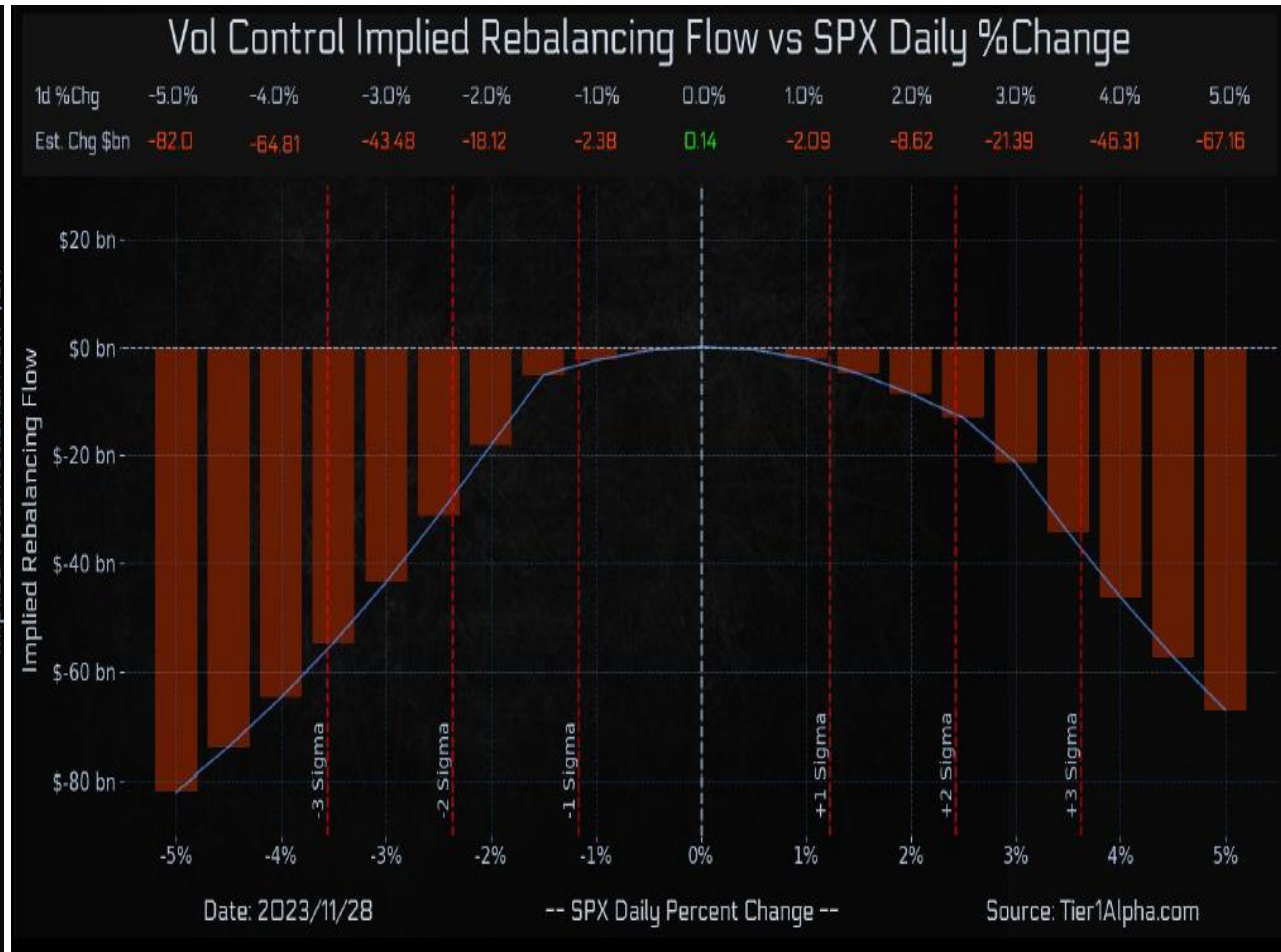
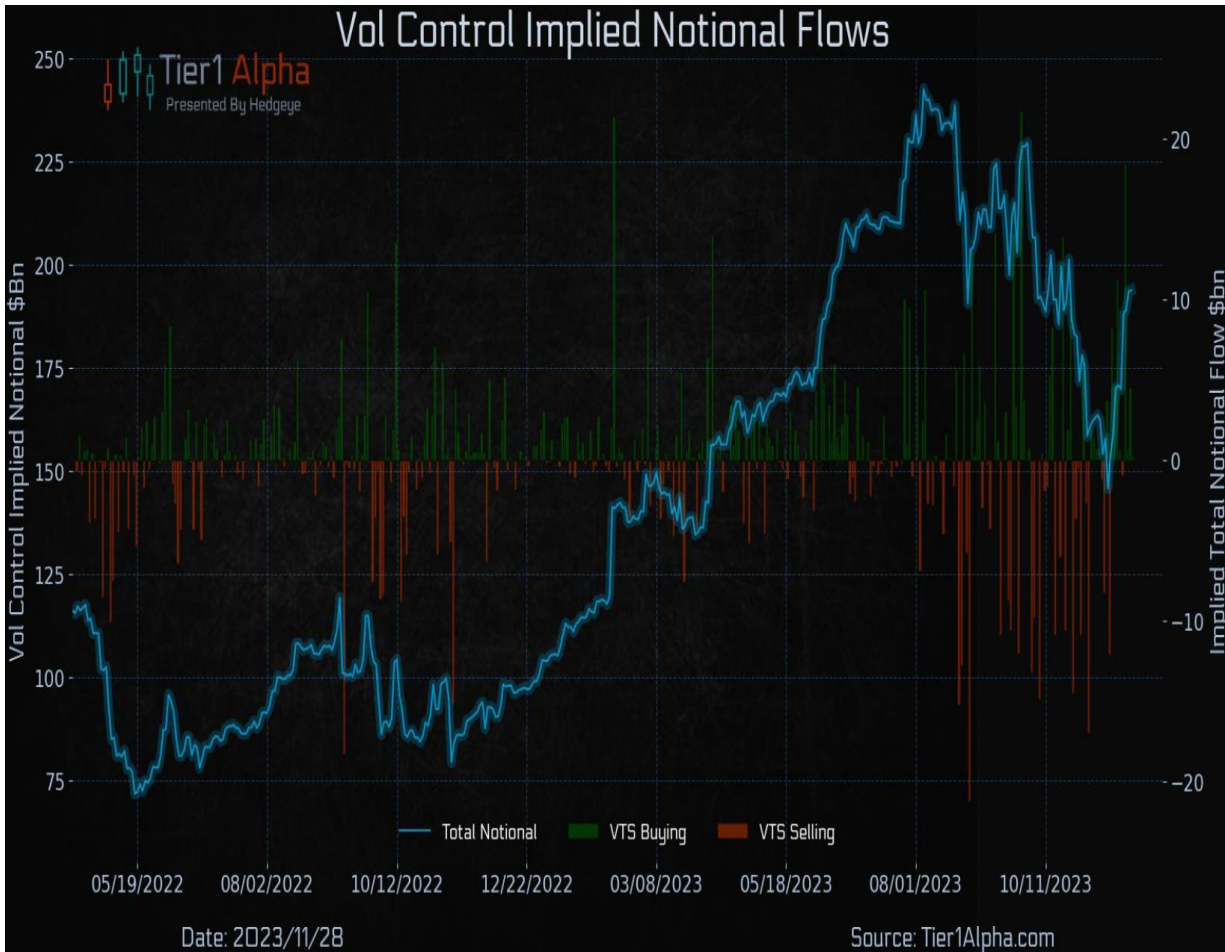
# Tier1 Integration | Tactical Market Structure Awareness & Risk Management

**THE THROTTLE:** Dealer gamma positioning can amplify (neg gamma) or dampen (pos gamma) price and volatility. Understanding the prevailing gamma regime and the Balance of Flows Risk associated with Dealer & Systematic Strat Positioning represents a baseline level of market structure awareness.





**THE TOGGLE:** Volatility remains the primary exposure toggle – directly for Vol Sensitive Strategies and indirectly for everyone else (even if they don't conceptualize it that way). Flow dynamics (can) sit independent of fundamentals Trends and increasingly influence/dominate short-term price action. Understanding the trigger levels and estimated magnitude of flows associated with Vol Control/CTAs/Risk Parity/Passive funds is key in tactically risk managing the immediate-term.



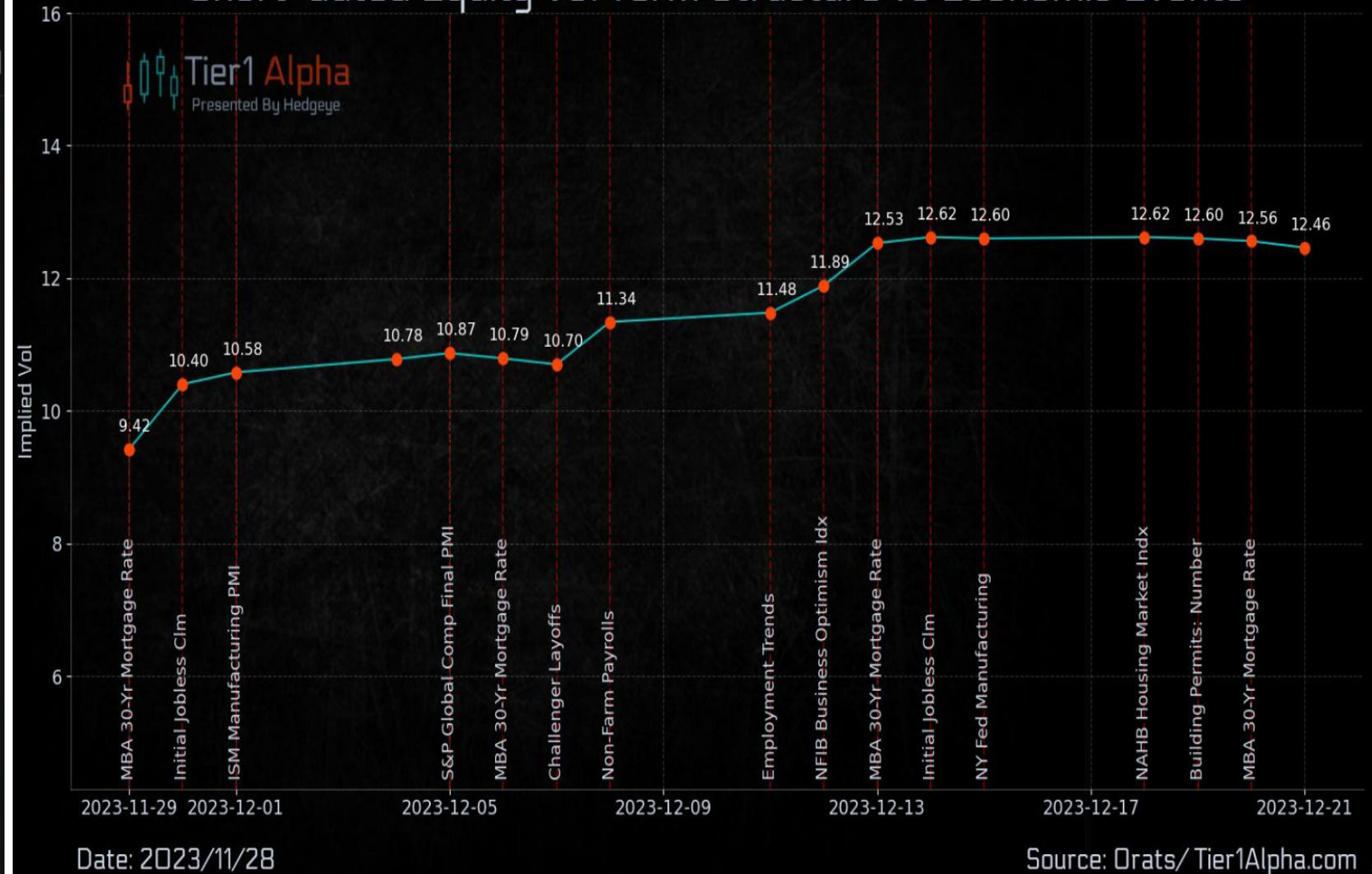
# Tier1 Integration | Risk Managing The Short-Dated Vol Curve

The proliferation of (ultra) short-dated options now allows hyper-specific targeting of data/event catalysts. Understanding the underlying vol structure associated with catalysts helps you navigate the flows dynamics surrounding the event.

## Economic Event Calendar With Short-Dated Options Positioning

Date	Event	Estimate	Previous	Impact	Call IV	Put IV	SPX IV	Expected Move	P/C Vol	P/C DI
2023-11-29	MBA 30-Yr Mortgage Rate	--	7.41	low	9.77	9.07	9.42	+/- 0.49%	1.12	2.77
2023-11-29	MBA Purchase Index	--	138.4	low	9.77	9.07	9.42	+/- 0.49%	1.12	2.77
2023-11-29	Mortgage Market Index	--	175.6	low	9.77	9.07	9.42	+/- 0.49%	1.12	2.77
2023-11-29	Mortgage Refinance Index	--	359.9	low	9.77	9.07	9.42	+/- 0.49%	1.12	2.77
2023-11-30	Initial Jobless Clm	220.0	209.0	high	10.95	9.86	10.4	+/- 0.77%	0.97	2.1
2023-11-30	Cont Jobless Clm	1.872	1.84	low	10.95	9.86	10.4	+/- 0.77%	0.97	2.1
2023-11-30	Consumption, Adjusted MM	0.2	0.7	low	10.95	9.86	10.4	+/- 0.77%	0.97	2.1
2023-11-30	PCE Price Index MM	0.1	0.4	low	10.95	9.86	10.4	+/- 0.77%	0.97	2.1
2023-11-30	Chicago PMI	45.4	44.0	medium	10.95	9.86	10.4	+/- 0.77%	0.97	2.1
2023-12-01	ISM Manufacturing PMI	47.6	46.7	high	11.14	10.03	10.58	+/- 0.96%	1.78	3.07
2023-12-05	S&P Global Comp Final PMI	--	50.7	high	11.44	10.04	10.74	+/- 1.25%	3.79	1.76
2023-12-05	ISM N-Mfg PMI	--	51.8	high	11.44	10.04	10.74	+/- 1.25%	3.79	1.76

## Short-dated Equity Vol Term Structure vs Economic Events





Longer-term context for Negative Gamma Environments helps illustrate the utility more clearly.



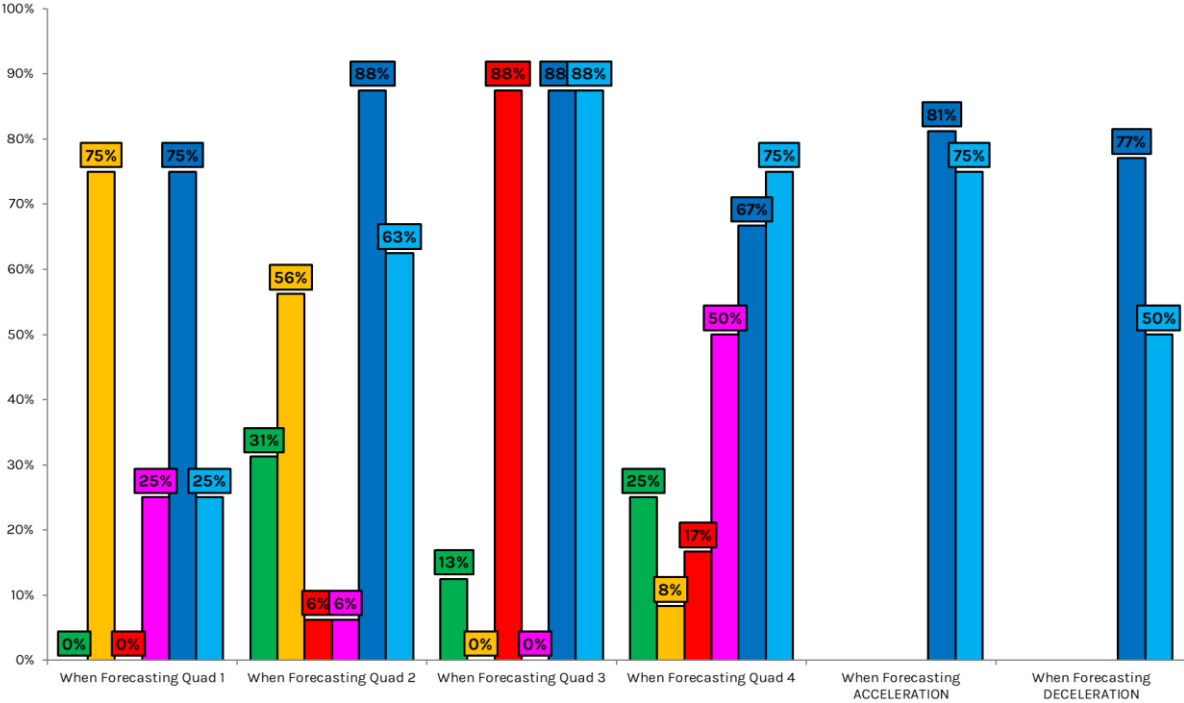
# Measuring And Mapping The Quads With Precision Ex Ante Matters To Driving Ex Post Returns

## US Comparative Base Effects Model Backtest

## US Nowcast Model Backtest

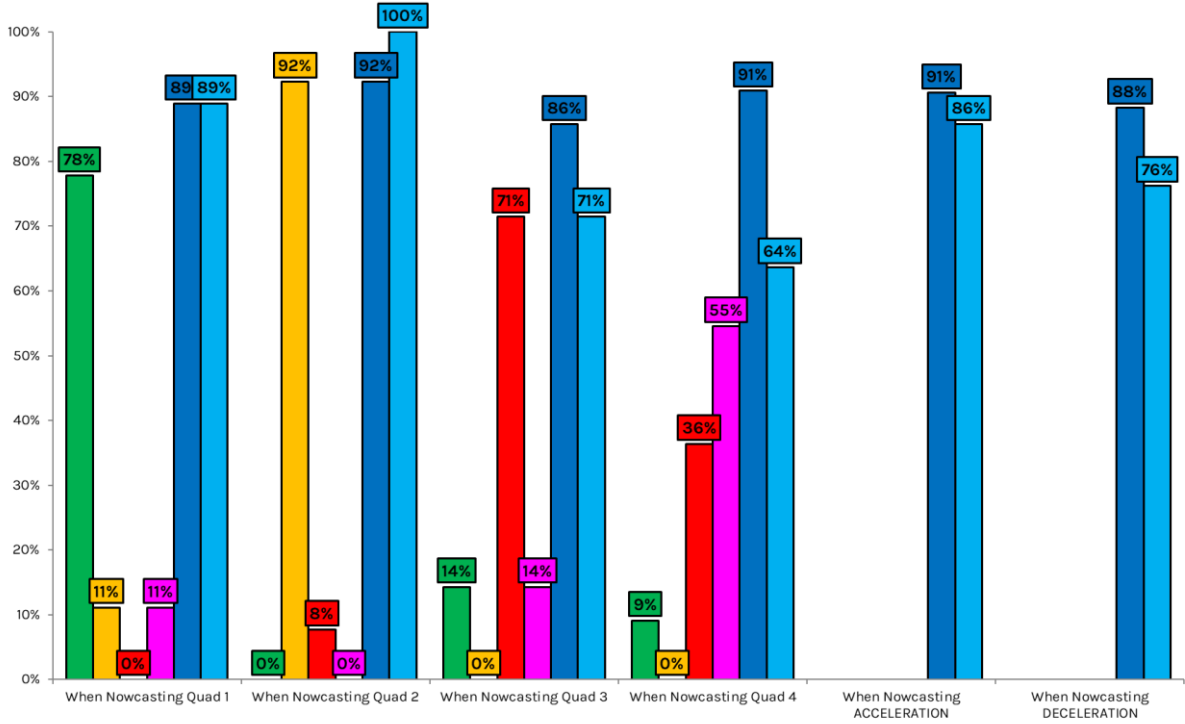
Hedgeye Comparative Base Effects Model Quad Projection Accuracy: United States

■ 1 ■ 2 ■ 3 ■ 4 ■ GDP Δ Accuracy ■ CPI Δ Accuracy



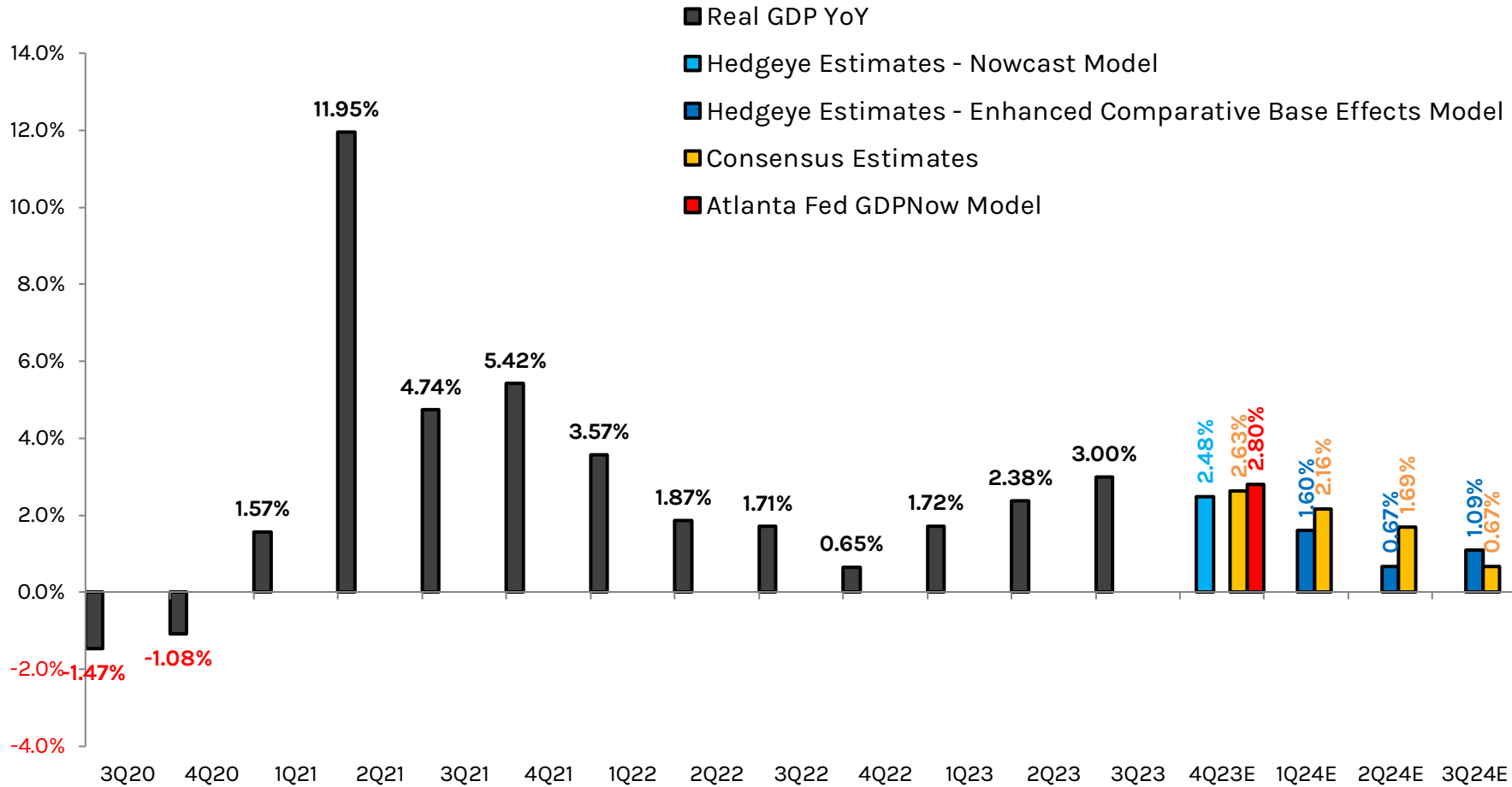
Hedgeye Nowcast Model Quad Projection Accuracy: United States

■ 1 ■ 2 ■ 3 ■ 4 ■ GDP Δ Accuracy ■ CPI Δ Accuracy



# US Real GDP YoY Projections

## United States



We use two distinct models to forecast the YoY growth rate of Real GDP and the combination of the two allows us to develop both a highly accurate real-time assessment of near-term economic momentum, as well as a high-probability scenario for where growth is likely to trend over the NTM.

Intra-quarter, we employ a stochastic nowcasting framework that anchors on nonlinear interpolation to relay rate of change signals from the individual features of the dynamic factor model to the base rate. In out-quarters where high-frequency data has yet to be reported, we employ a Bayesian Inference process that adjusts each of the preceding forecasted base rates inversely and proportionally to changes in the base effects.

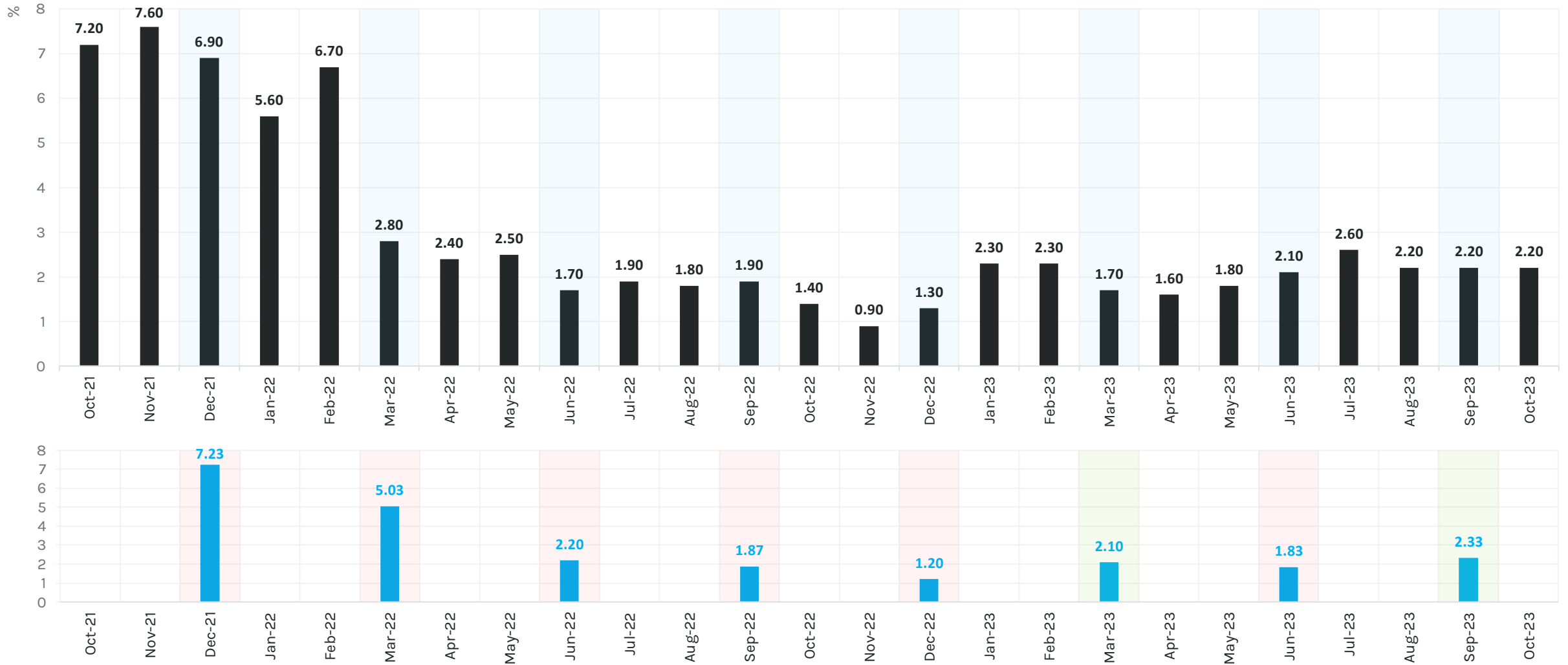
**All told, our US GDP nowcast model has an average absolute forecast error of 55bps and an 85% success rate in terms of accurately projecting the rate of change of GROWTH.**

Data Source: BLS, BEA, Atlanta Fed, FactSet

© Hedgeye Risk Management

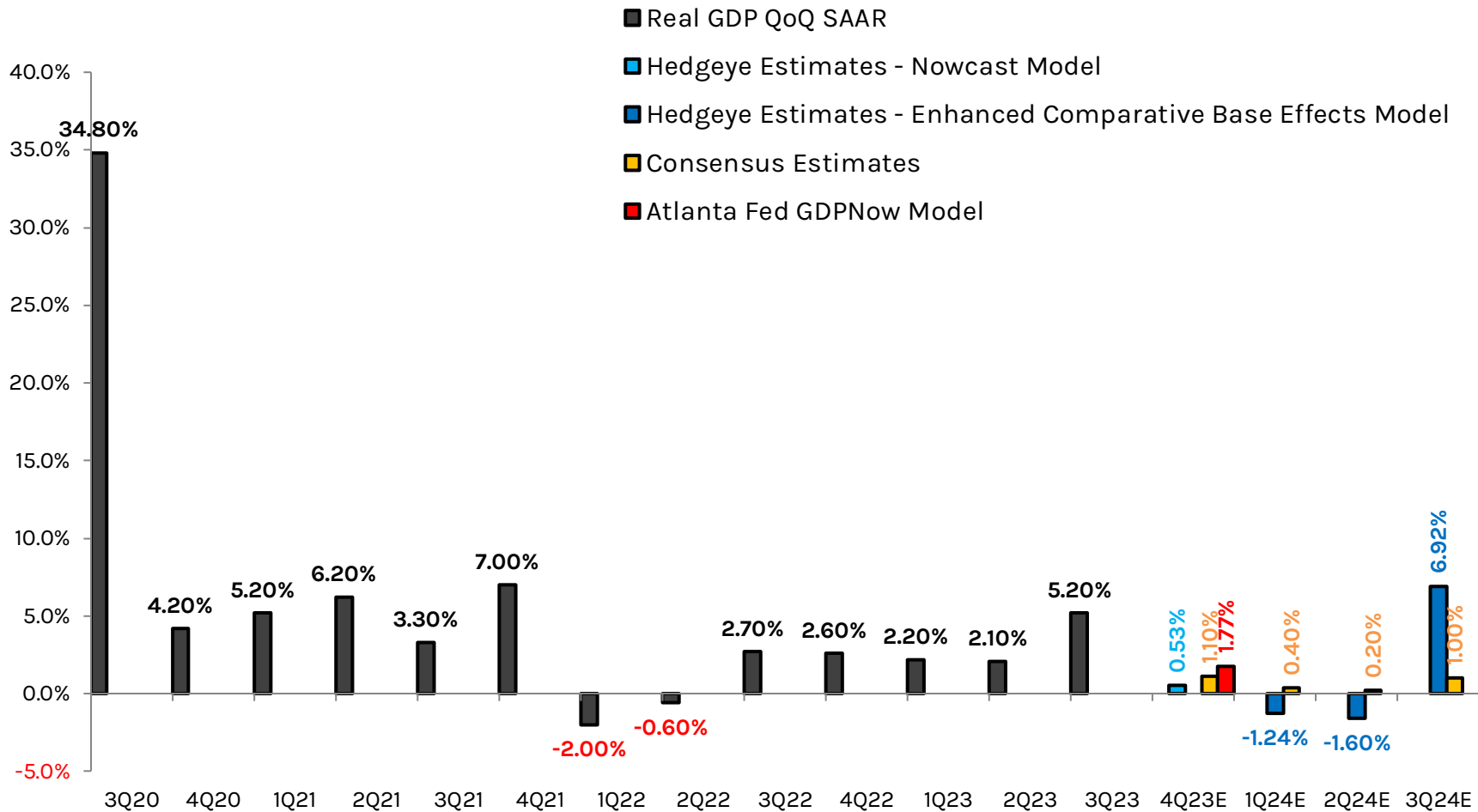
# Real PCE YoY

Monthly & Quarterly Figures | Green Shading = Sequential Acceleration ; Red Shading = Sequential Deceleration



# US Real GDP QoQ SAAR Projections

## United States



Data Source: BLS, BEA, Atlanta Fed, FactSet

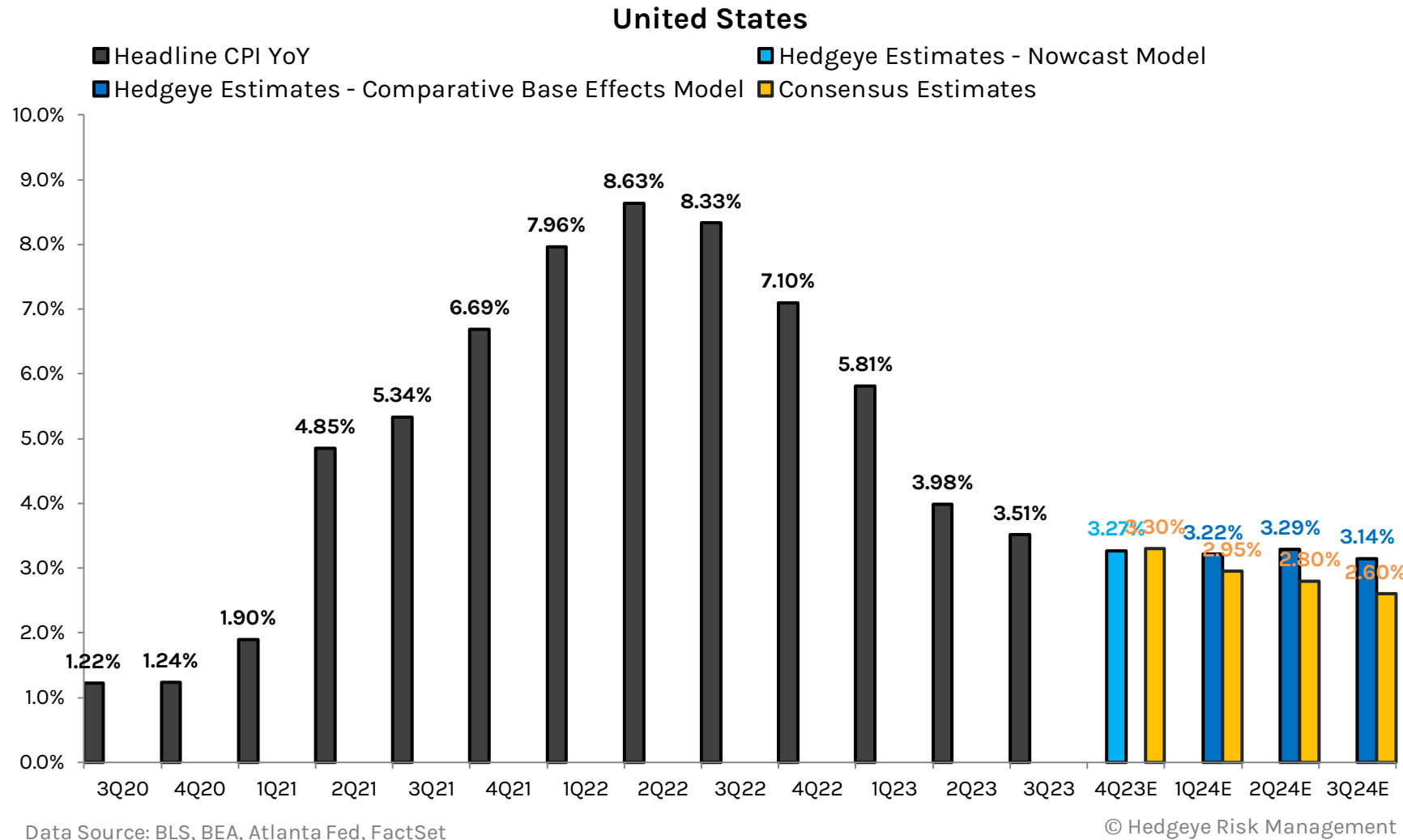
© Hedgeye Risk Management

One differentiating factor of our forecasting process is that we aim to solve for where the economy is trending on a **Full Investing Cycle** basis, rather than trying to identify super short-term economic momentum.

Our rigorous study of financial market history suggests the latter to be little more than noise in the context of making accurate intermediate-to-long-term investment decisions.

As such, we are comfortable departing from the [perceived] “best” practices of economist consensus by interpolating our QoQ SAAR forecasts from our forecasted YoY growth rates. Macroeconomic Theory ≠ Macro Risk Management.

# US Headline CPI YoY Projections



We use two distinct models to forecast the YoY growth rate of Headline CPI and the combination of the two allows us to develop both a highly accurate real-time assessment of near-term inflation momentum, as well as a high-probability scenario for where inflation is likely to trend over the NTM.

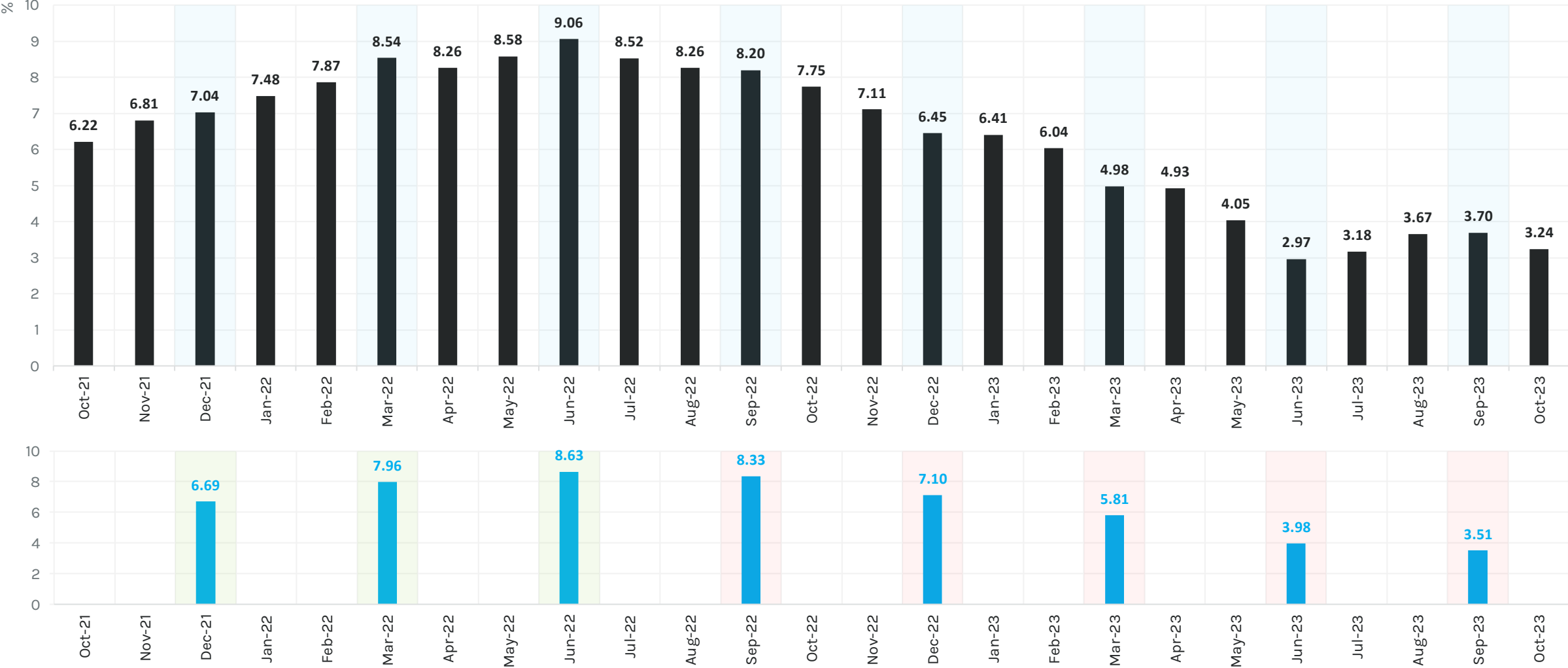
Intra-quarter, we employ a stochastic nowcasting framework that anchors on nonlinear interpolation to relay rate of change signals from the individual features of the dynamic factor model to the base rate. In out-quarters where high-frequency data has yet to be reported, we employ a Bayesian Inference process that adjusts each of the preceding forecasted base rates inversely and proportionally to changes in the base effects.

**All told, our US CPI nowcast model has an average absolute forecast error of 36bps and an 85% success rate in terms of accurately projecting the rate of change of INFLATION.**



# Headline CPI YoY

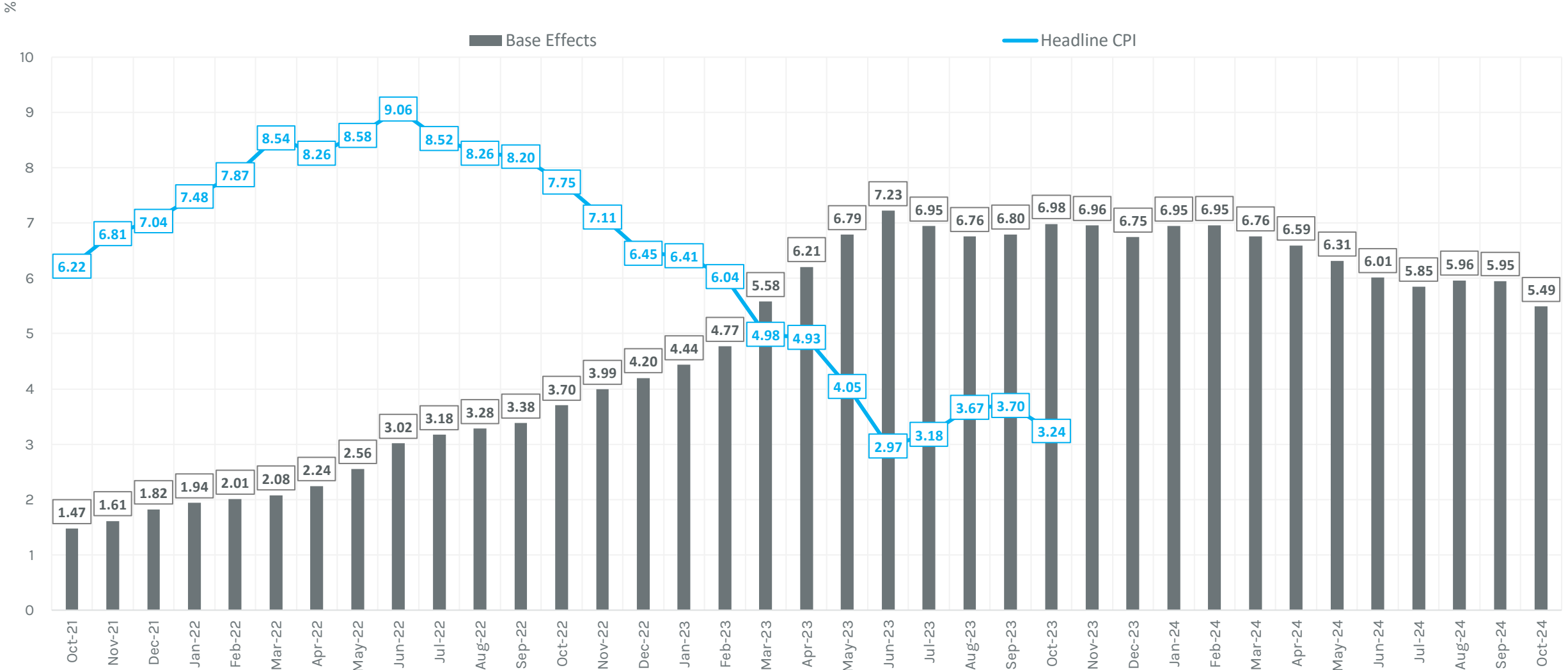
Monthly & Quarterly Figures | Green Shading = Sequential Acceleration ; Red Shading = Sequential Deceleration



# 2-Year Base Effects

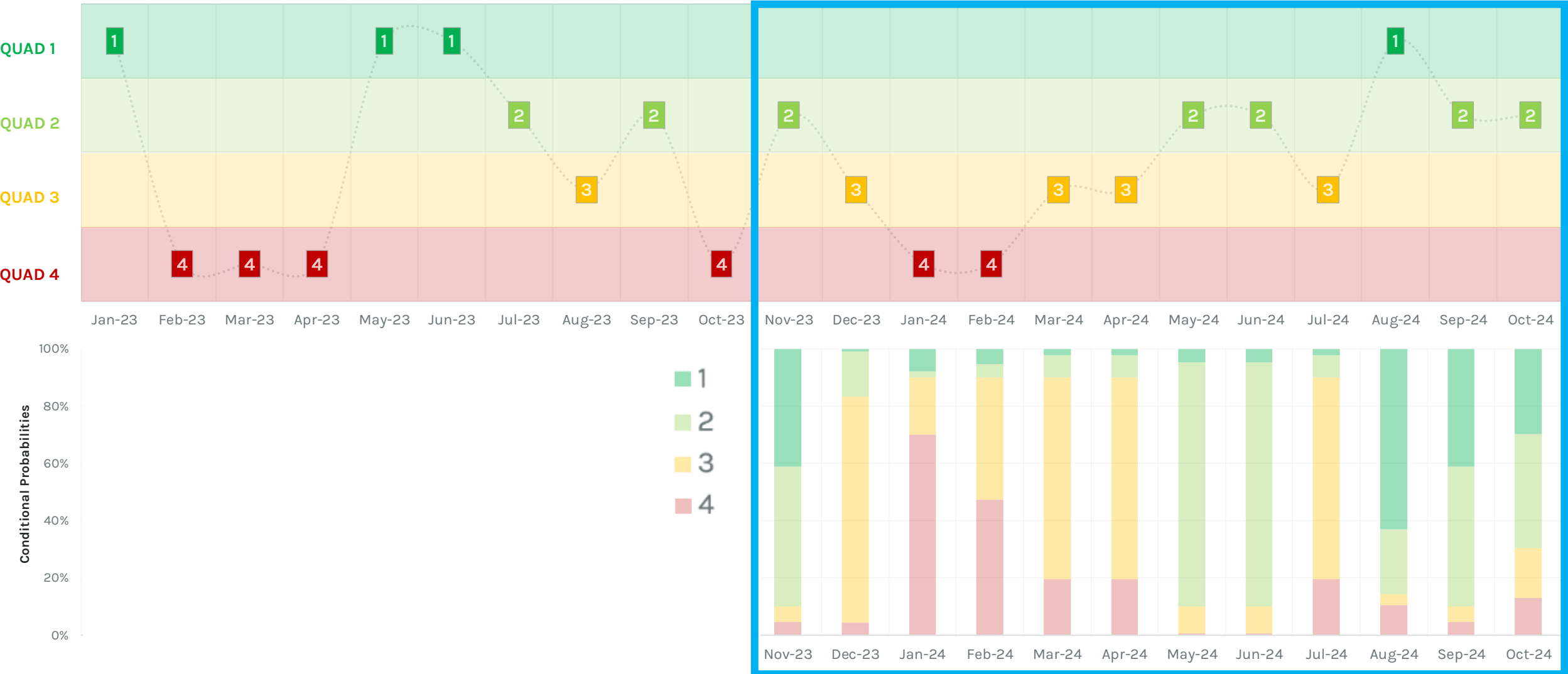
## Headline CPI

United States - Headline CPI



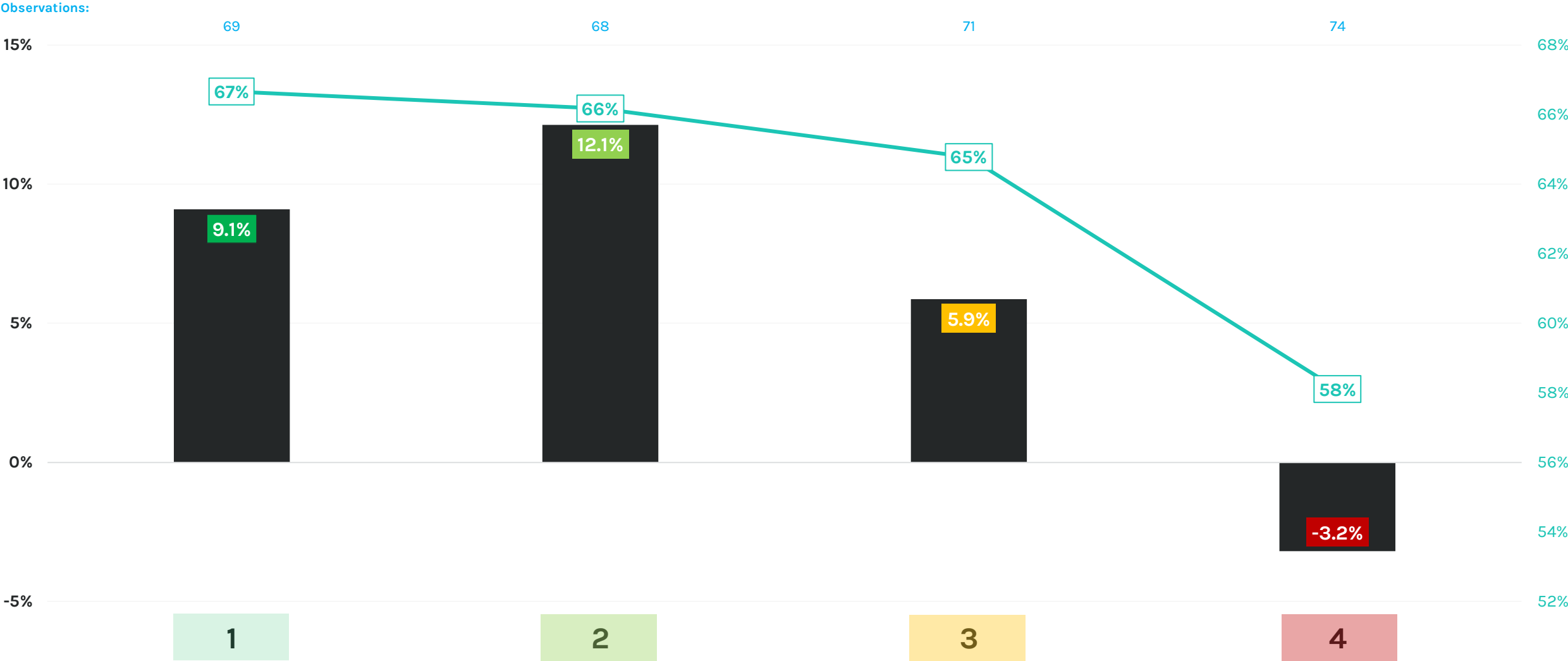
# Monthly Quads: NTM

We Utilize Real PCE as a Monthly Proxy for Real GDP. We have developed a proprietary, dynamic monthly system with a long-term directional accuracy of 76% that has accurately predicted 10 of the last 12 months on an out-of-sample basis.



# Monthly Quad Backtest

## S&P500: Conditional Performance (Annualized Monthly Returns Calculated Using Average Prices)

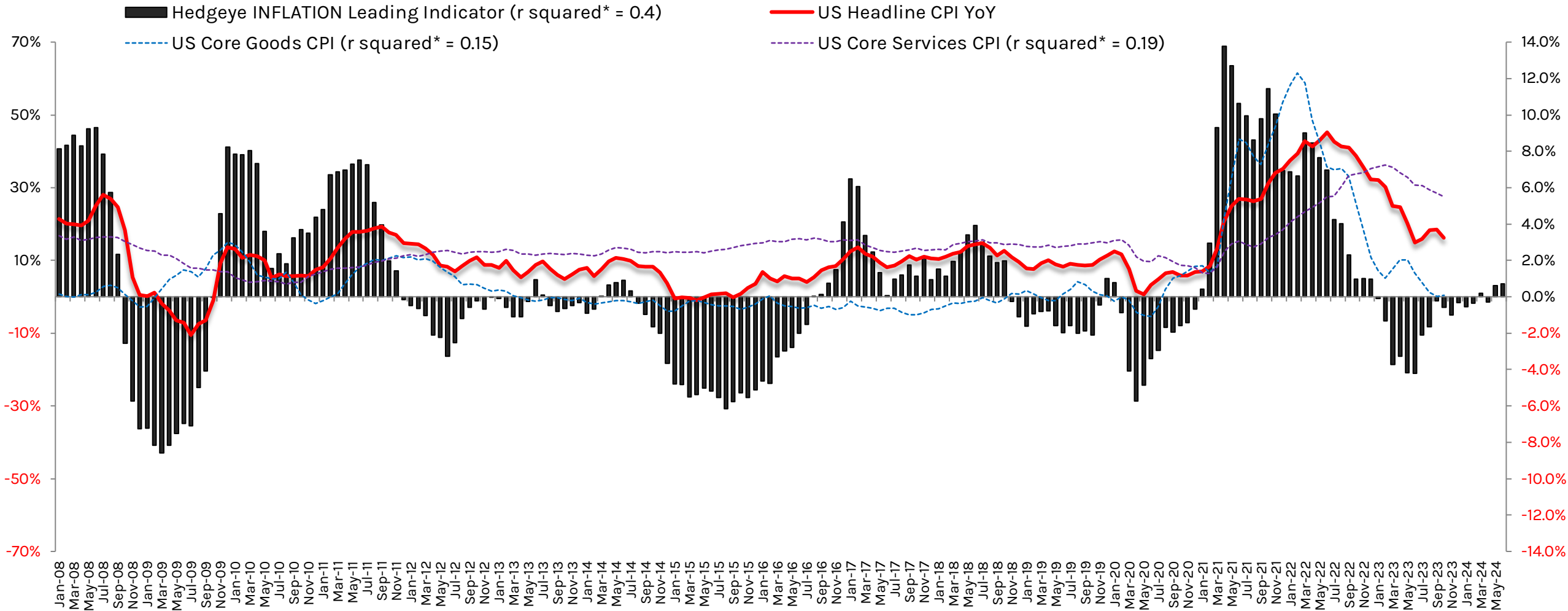


# US Real GDP Nowcast Model

Each of the following 30 features backtests as statistically significant with respect to predicting the rate of change of Real GDP growth and each feature's contribution to the overall signal is dynamically re-trained each quarter according to the relative strength of its first difference regression with the dependent variable.

HEDGEYE US NOWCAST MODEL SUMMARY	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	3Q23	4Q23	Δ	
Real PCE YoY (1)	2.38	2.52	1.68	1.93	1.84	1.86	1.37	0.87	1.28	2.31	2.30	1.74	1.56	1.84	2.06	2.60	2.15	2.23	2.23	-	-	2.33	2.23	-0.10	
Real Disposable Personal Income YoY (20)	-7.36	-4.73	-4.62	-4.32	-3.75	-2.29	-1.96	-1.64	-0.93	3.24	3.50	4.38	4.50	4.96	5.30	4.27	3.95	3.83	3.85	-	-	4.02	3.85	-0.16	
Personal Savings Rate % of DPI (17)	3.1	3.1	2.7	3.5	3.2	3.0	3.0	3.3	3.4	4.4	4.7	5.2	5.2	5.3	4.8	4.2	4.2	3.7	3.8	-	-	4.0	3.8	-0.2	
Headline Retail Sales YoY (4)	8.92	9.67	9.48	10.36	10.13	9.02	8.83	6.14	5.98	7.41	5.26	2.19	1.29	2.11	1.47	2.75	2.84	4.05	2.48	-	-	3.21	2.48	-0.73	
Retail Sales Control Group YoY (8)	7.48	8.93	7.63	9.36	8.27	8.46	7.37	5.82	6.50	6.44	6.30	4.07	3.73	4.03	3.52	4.53	3.73	4.01	3.54	-	-	4.09	3.54	-0.55	
Auto Sales YoY (11)	-22.80	-25.37	-15.36	-9.49	0.92	10.76	14.70	9.95	6.99	4.65	5.83	11.18	11.34	18.69	20.62	17.90	14.11	16.16	4.03	-	-	16.06	4.03	-12.03	
MBA Mortgage Purchase Index YoY (24)	-11.42	-13.34	-12.60	-15.71	-20.36	-29.54	-39.98	-41.09	-39.77	-36.69	-38.03	-38.03	-32.55	-29.91	-29.22	-25.70	-27.72	-26.35	-20.93	-20.68	-	-	-26.59	-20.80	5.78
Total Employees On Nonfarm Payrolls YoY (5)	4.88	4.79	4.54	4.38	4.15	4.00	3.67	3.43	3.20	3.27	2.81	2.67	2.64	2.58	2.40	2.18	2.05	2.01	1.89	-	-	2.08	1.89	-0.19	
Aggregate Hours Worked YoY (3)	3.98	3.89	3.94	3.78	3.55	3.40	3.37	2.54	2.01	3.27	2.22	1.79	2.05	1.69	1.81	1.29	1.75	1.42	1.01	-	-	1.49	1.01	-0.48	
Aggregate Labor Income YoY (6)	9.97	9.63	9.56	9.43	9.10	8.64	8.41	7.66	6.88	7.80	7.00	6.17	6.52	6.10	6.30	5.68	6.12	5.79	5.15	-	-	5.86	5.15	-0.71	
Monthly Initial Jobless Claims YoY (16)	-66.09	-57.65	-47.39	-40.72	-39.73	-43.77	-27.50	-11.62	-2.99	-15.62	-1.42	9.48	12.04	8.00	19.55	6.64	13.28	9.70	3.74	1.97	-	-	9.87	2.86	-7.02
Conference Board Consumer Confidence Index (14)	108.6	103.2	98.4	95.3	103.6	107.8	102.2	101.4	109.0	106.0	103.4	104.0	103.7	102.5	110.1	114.0	108.7	104.3	99.1	102.0	-	-	109.0	100.6	-8.5
Industrial Production YoY (2)	4.59	3.66	3.19	3.01	3.11	4.51	3.10	1.85	0.59	1.51	0.88	0.18	0.35	0.14	-0.37	0.13	0.06	-0.16	-0.68	-	-	0.01	-0.68	-0.69	
Capacity Utilization (19)	80.7	80.6	80.5	80.7	80.7	80.8	80.6	80.3	78.9	79.6	79.5	79.5	79.8	79.5	78.9	79.6	79.5	79.5	78.9	-	-	79.5	78.9	-0.6	
Durable Goods New Orders YoY (12)	10.63	9.33	9.51	8.89	6.31	8.28	8.03	3.11	5.31	1.91	0.61	4.09	4.33	5.67	8.49	3.20	3.22	7.09	0.33	-	-	4.50	0.33	-4.17	
Core Capital Goods New Orders YoY (15)	5.82	8.68	7.57	7.20	7.29	5.63	4.74	3.23	2.18	4.28	3.61	1.78	1.94	1.97	1.14	0.37	0.38	1.51	0.58	-	-	0.75	0.58	-0.17	
Factory Orders YoY (9)	16.71	15.84	15.53	12.79	10.78	11.06	10.13	5.82	5.42	3.94	2.07	0.47	0.02	-0.87	-0.17	-0.67	0.43	3.05	-	-	-	0.93	-	-	
Manufacturing & Trade Inventories YoY (29)	18.98	20.09	20.64	19.78	19.54	18.33	16.81	15.13	12.57	10.69	8.78	6.18	5.16	3.34	1.84	1.42	1.00	1.25	-	-	-	1.22	-	-	
Nonresidential Construction Spending YoY (30)	8.13	7.45	8.34	10.42	10.22	11.64	11.42	11.99	13.25	16.30	17.03	17.28	18.25	20.05	19.58	18.67	19.46	19.05	-	-	-	19.06	-	-	
Residential Construction Spending YoY (28)	25.61	24.09	20.40	15.09	11.46	8.68	5.79	1.40	-3.14	-6.15	-8.97	-10.65	-14.41	-11.75	-9.81	-7.86	-4.36	-2.07	-	-	-	-4.76	-	-	
ISM Manufacturing PMI (26)	55.9	56.1	53.1	52.7	52.9	51.0	50.0	49.0	48.4	47.4	47.7	46.3	47.1	46.9	46.0	46.4	47.6	49.0	46.7	-	-	47.7	46.7	-1.0	
ISM Non-Manufacturing PMI (18)	57.5	56.4	56.0	56.4	56.1	55.9	54.5	55.5	49.2	55.2	55.1	51.2	51.9	50.3	53.9	52.7	54.5	53.6	51.8	-	-	53.6	51.8	-1.8	
NFIB Small Business Optimism Index (21)	93.2	93.1	89.5	89.9	91.8	92.1	91.3	91.9	89.8	90.3	90.9	90.1	89.0	89.4	91.0	91.9	91.3	90.8	90.7	-	-	91.3	90.7	-0.6	
Exports YoY (7)	22.05	21.63	21.85	21.16	20.78	21.99	12.49	10.01	6.69	12.04	7.69	4.90	-1.36	-2.86	-4.19	-3.38	-2.35	0.49	-	-	-	-1.75	-	-	
Imports YoY (10)	24.10	22.84	19.93	16.82	14.05	14.42	13.36	2.40	2.04	3.80	0.54	-8.64	-4.86	-7.25	-8.24	-4.74	-4.50	-2.69	-	-	-	-3.98	-	-	
Rail Traffic YoY (13)	-4.35	-3.90	-3.22	-1.43	-0.37	-0.05	0.46	-1.31	-6.91	-5.99	-7.72	-9.84	-8.60	-7.55	-5.94	-5.89	-5.78	-2.68	-2.17	-1.14	-	-4.78	-1.65	3.13	
Headline CPI YoY (25)	8.26	8.58	9.06	8.52	8.26	8.20	7.75	7.11	6.45	6.41	6.04	4.98	4.93	4.05	2.97	3.18	3.67	3.70	3.24	-	-	3.51	3.24	-0.27	
PCE Deflator YoY (27)	6.62	6.69	7.12	6.62	6.52	6.56	6.35	5.93	5.44	5.48	5.19	4.44	4.45	3.96	3.20	3.37	3.41	3.42	3.01	-	-	3.40	3.01	-0.39	
Core PCE Deflator YoY (22)	5.25	5.07	5.19	4.96	5.21	5.47	5.33	5.09	4.87	4.90	4.84	4.78	4.76	4.69	4.28	4.25	3.80	3.65	3.46	-	-	3.90	3.46	-0.44	
M2 Money Supply YoY (23)	7.76	6.04	5.66	5.04	3.90	2.68	1.50	0.39	-0.89	-1.58	-2.18	-3.79	-4.48	-3.90	-3.75	-3.87	-3.85	-3.58	-3.30	-	-	-3.77	-3.30	0.47	

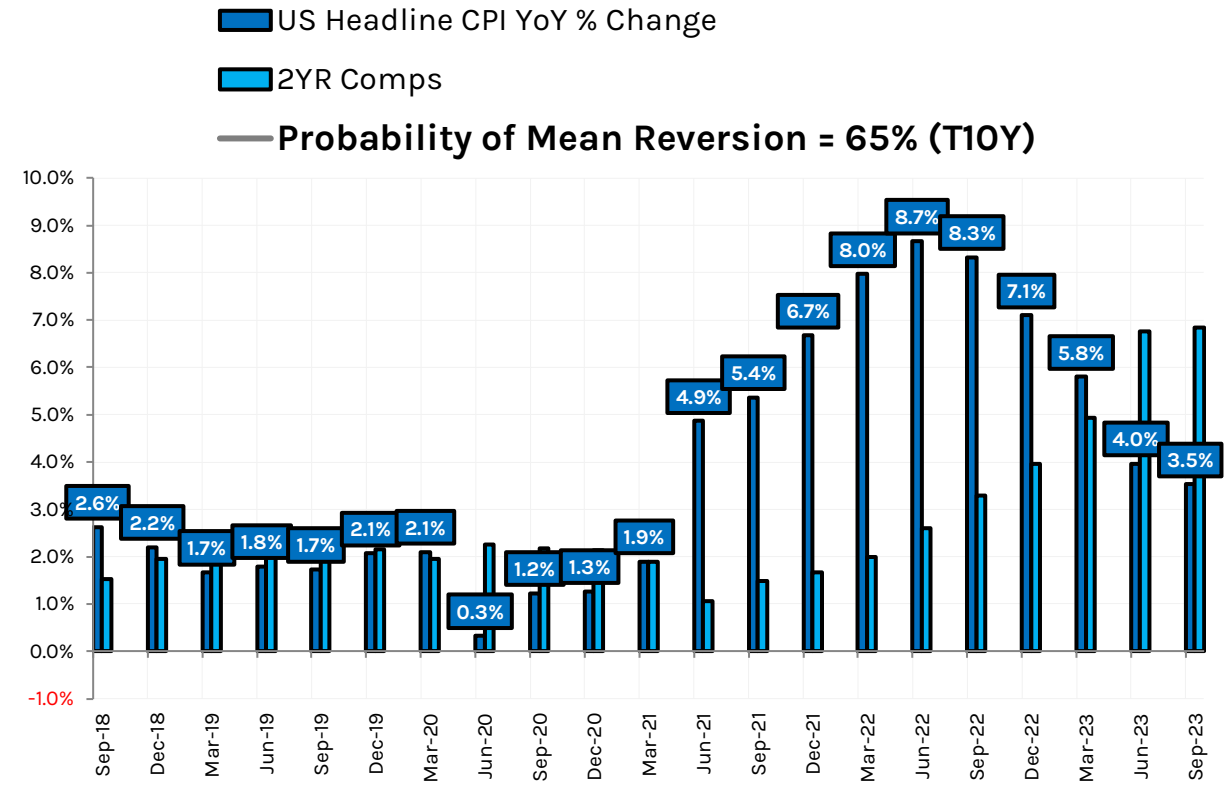
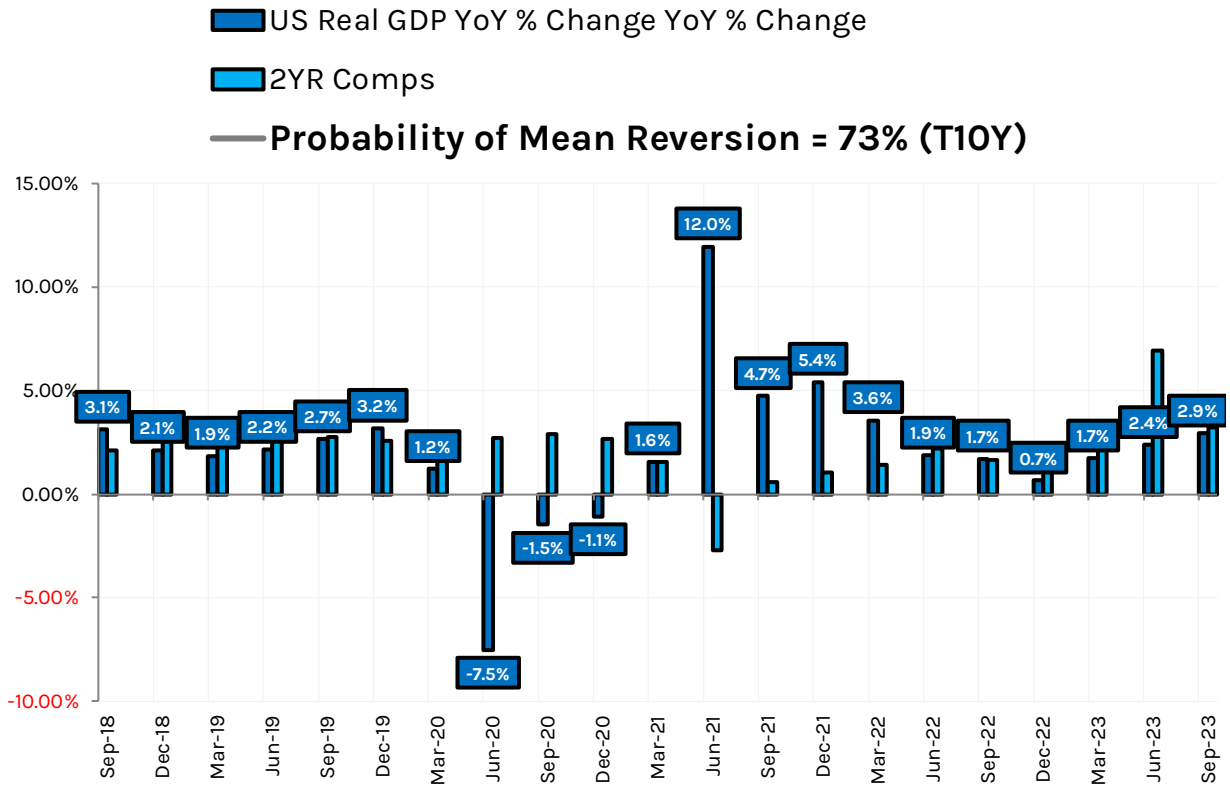
# US Headline CPI Nowcast Model



Asterisk denotes first difference regressions.

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# Base Effects Matter Because GDP and CPI Are More Or Less Stationary Processes When Analyzed On A YoY Rate Of Change Basis



Using the US economy as an example, the sign of the first difference of 2yr base effects explains INFLECTIONS in GROWTH and INFLATION 80% and 70% of the time, respectively. Moreover, easing or steepening base effects perpetuate MOMENTUM in GROWTH and INFLATION 80% and 76% of the time, respectively. These figures are near the modal outcomes of the GROWTH and INFLATION backtests across the near-50 economies we maintain detailed GIP Models for – which means base effects matter a lot to projecting the probable path forward for any economy.

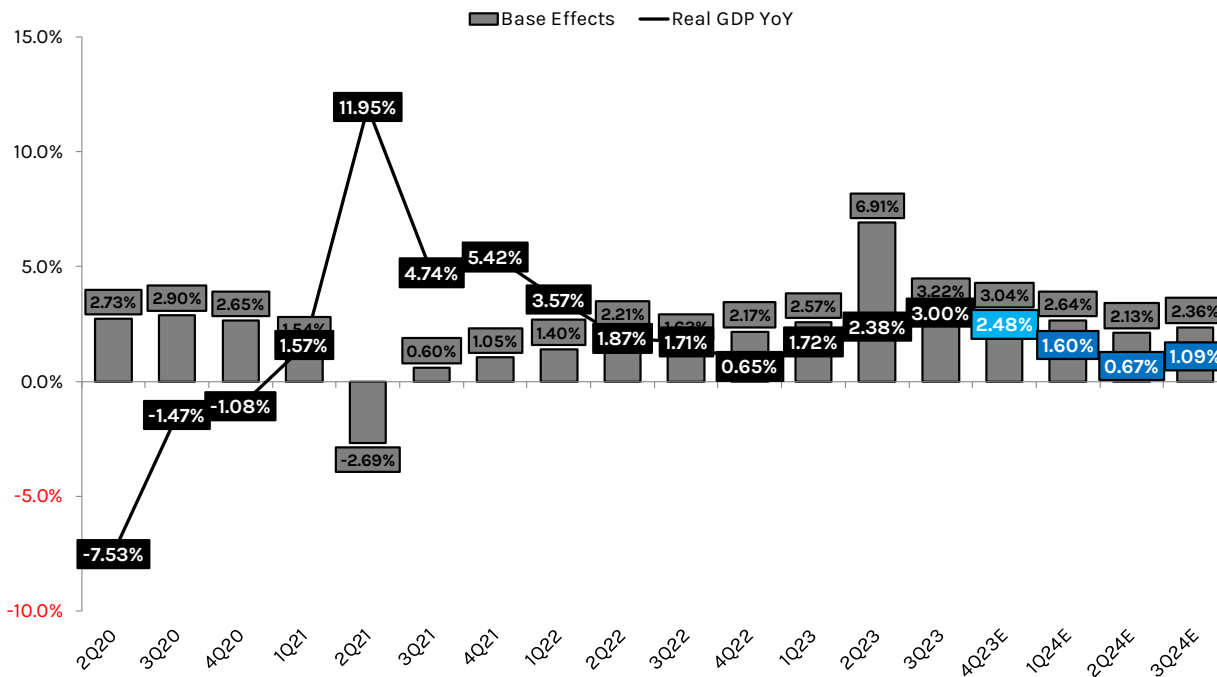
# IpsO Facto, Our Bayesian Inference #Process Is Built Upon Stochastic Principles

United States

GROWTH	2Q20	3Q20	4Q20	1Q21	2Q21	3Q21	4Q21	1Q22	2Q22	3Q22	4Q22	1Q23	2Q23	3Q23	4Q23E	1Q24E	2Q24E	3Q24E
Base Effects	2.73%	2.90%	2.65%	1.54%	-2.69%	0.60%	1.05%	1.40%	2.21%	1.63%	1.17%	1.57%	0.91%	3.22%	3.04%	2.64%	2.13%	2.36%
Real GDP YoY	-7.53%	-1.47%	-1.08%	1.57%	11.95%	4.74%	5.42%	3.57%	1.87%	1.71%	0.65%	1.72%	2.38%	3.00%	2.48%	1.60%	0.67%	1.09%
GIP Model Quad	4	2	2	2	2	3	2	3	3	4	4	1	1	1	4	4	3	1
Unconditional Probability Of Forecasted Delta															75%	80%	80%	80%
Conditional Probability Of Forecasted Delta															71%	85%	87%	67%
Conditional Probability Of Quad 1															19.1%	7.8%	6.0%	39.3%
Conditional Probability Of Quad 2															10.3%	6.9%	7.1%	27.6%
Conditional Probability Of Quad 3															24.6%	40.0%	47.2%	13.6%
Conditional Probability Of Quad 4															46.0%	45.3%	39.7%	19.5%

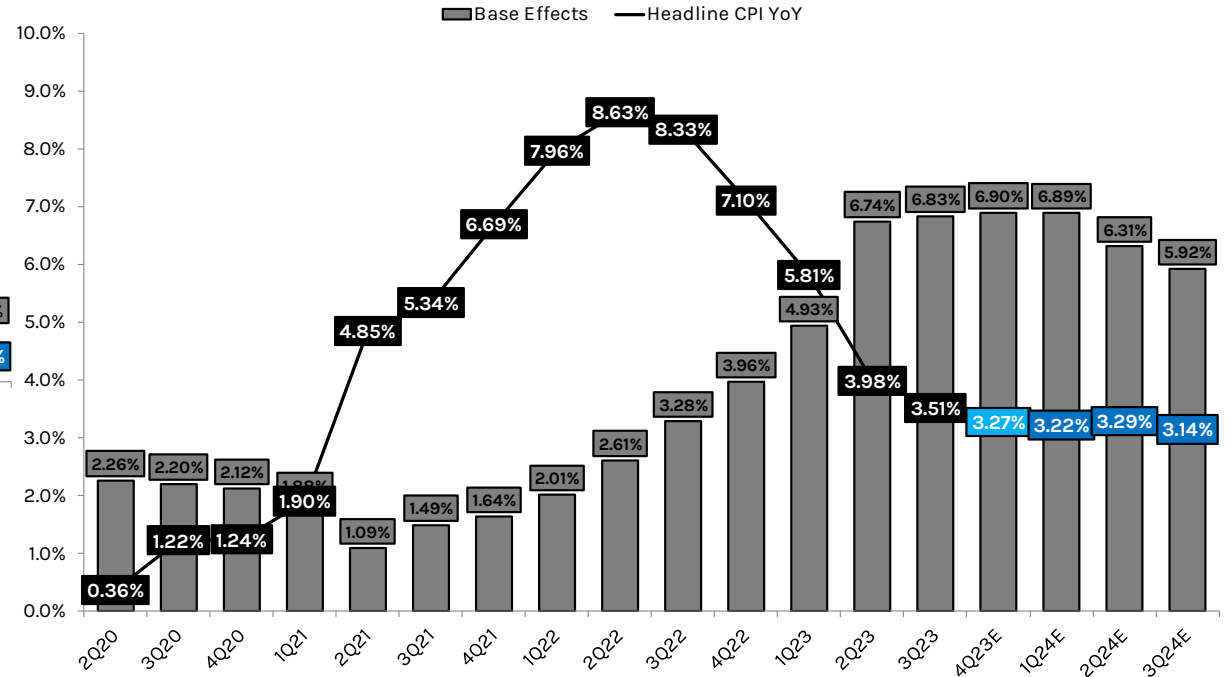
INFLATION	2Q20	3Q20	4Q20	1Q21	2Q21	3Q21	4Q21	1Q22	2Q22	3Q22	4Q22	1Q23	2Q23	3Q23	4Q23E	1Q24E	2Q24E	3Q24E
Base Effects	2.26%	2.20%	2.12%	1.88%	1.09%	1.49%	1.64%	2.01%	2.61%	3.28%	3.96%	4.93%	6.74%	6.83%	6.90%	6.89%	6.31%	5.92%
Headline CPI YoY	0.36%	1.22%	1.24%	1.90%	4.85%	5.34%	6.69%	7.96%	8.63%	8.33%	7.10%	5.81%	3.98%	3.51%	3.27%	3.22%	3.29%	3.14%
GIP Model Quad	4	2	2	2	2	3	2	3	3	4	4	1	1	1	4	4	3	1
Unconditional Probability Of Forecasted Delta															68%	68%	68%	68%
Conditional Probability Of Forecasted Delta															65%	53%	54%	59%
Conditional Probability Of Quad 1															19.1%	7.8%	6.0%	39.3%
Conditional Probability Of Quad 2															10.3%	6.9%	7.1%	27.6%
Conditional Probability Of Quad 3															24.6%	40.0%	47.2%	13.6%
Conditional Probability Of Quad 4															46.0%	45.3%	39.7%	19.5%

United States



Data Source: BEA, BLS . Light Blue box = Hedgeye Nowcast Model estimate. Dark Blue boxes = Hedgeye Comparative Base Effects Model estimates.

United States



Data Source: BEA, BLS . Light Blue box = Hedgeye Nowcast Model estimate. Dark Blue boxes = Hedgeye Comparative Base Effects Model estimates.



# The Quads Are Global

## G20 GIP Model Summary

11/30/2023	Hedgeye Macro GIP Model Signals													GROWTH					Strength Of Signal				INFLATION					Strength Of Signal							
	Actuals									Estimates				Real GDP YoY					NTM Δ	Conditional Probability Of Est. Δ				Headline CPI YoY					NTM Δ	Conditional Probability Of Est. Δ					
	3Q21	4Q21	1Q22	2Q22	3Q22	4Q22	1Q23	2Q23	3Q23	4Q23E	1Q24E	2Q24E	3Q24E	COUNTRY	3Q23	4Q23E	1Q24E	2Q24E	3Q24E	3Q24E Less 4Q23E	4Q23E	1Q24E	2Q24E	3Q24E	COUNTRY	3Q23	4Q23E	1Q24E	2Q24E	3Q24E	3Q24E Less 4Q23E	4Q23E	1Q24E	2Q24E	3Q24E
Argentina	3	4	3	2	3	3	3	3	2	3	2	2	4	Argentina	-3.11	-3.89	-3.44	-1.04	-1.14	275bps	61	56	84	51	Argentina	125.37	160.02	221.57	259.97	234.42	7440bps	98	98	98	98
Australia	4	2	3	2	2	3	3	4	4	4	1	1	4	Australia	1.76	0.70	0.85	1.07	0.76	5bps	94	56	59	63	Australia	5.70	4.92	4.43	4.15	3.83	-108bps	98	98	81	84
Brazil	3	3	2	2	4	4	1	4	3	2	3	3	2	Brazil	2.21	2.48	1.59	1.26	2.11	-37bps	57	73	59	72	Brazil	4.60	5.12	5.35	5.55	6.76	165bps	73	60	59	98
Canada	3	3	3	2	4	4	4	4	3	4	2	4	2	Canada	0.47	0.06	0.14	-0.06	1.93	187bps	62	52	56	98	Canada	3.69	3.20	3.42	3.37	3.47	27bps	84	65	54	57
China	4	3	1	3	2	4	4	1	4	4	3	2	4	China	4.60	4.40	2.73	3.90	3.57	-83bps	54	84	74	57	China	-0.07	-0.20	0.42	0.43	0.30	50bps	57	80	51	57
Eurozone	3	2	2	3	3	3	4	4	4	1	2	1	1	Eurozone	0.10	0.20	0.34	0.54	0.84	64bps	53	54	55	58	Eurozone	4.93	2.70	2.83	2.78	2.78	8bps	98	58	53	50
France	3	2	3	3	3	3	2	1	4	1	4	1	1	France	0.56	0.66	0.51	0.71	0.90	24bps	53	54	56	55	France	5.50	4.10	3.45	3.07	3.03	-107bps	98	98	81	53
Germany	3	3	2	3	3	3	4	4	4	1	3	1	1	Germany	-0.82	-0.25	-0.39	0.26	0.71	96bps	66	54	68	63	Germany	5.73	2.87	3.53	3.38	3.38	52bps	98	90	59	50
India	4	4	3	2	4	4	2	1	3	4	4	3	1	India	7.60	6.71	6.13	5.84	6.64	-7bps	64	59	55	63	India	6.43	4.93	4.22	4.54	3.76	-117bps	98	89	68	93
Indonesia	3	2	3	2	2	3	1	1	4	4	4	4	4	Indonesia	4.94	4.90	4.82	4.69	4.51	-39bps	53	55	59	62	Indonesia	2.88	2.59	2.48	2.38	2.21	-38bps	64	56	55	58
Italy	3	2	3	3	3	3	1	4	4	1	2	2	2	Italy	0.00	0.13	0.18	0.53	0.63	50bps	53	51	59	53	Italy	5.80	1.07	1.17	1.38	1.57	50bps	98	55	62	60
Japan	3	3	3	2	3	3	1	4	4	1	4	4	1	Japan	1.20	1.89	0.99	0.14	0.94	-95bps	71	78	76	75	Japan	3.17	3.03	2.97	2.30	2.18	-85bps	60	55	98	59
Mexico	4	3	2	2	2	4	4	4	4	1	3	3	2	Mexico	3.31	3.58	2.06	1.62	2.00	-158bps	56	81	59	58	Mexico	4.63	4.09	4.22	4.84	5.01	93bps	88	60	93	62
Russia	3	2	3	3	1	1	1	1	2	3	2	2	3	Russia	5.50	4.32	4.77	5.17	4.37	5bps	81	62	61	71	Russia	5.15	6.83	6.93	7.25	7.32	49bps	88	52	57	52
South Africa	3	3	2	3	2	4	4	1	4	2	3	2	3	South Africa	0.28	1.11	0.86	1.31	0.60	-50bps	70	56	61	67	South Africa	4.97	5.77	5.82	5.82	5.90	13bps	98	53	50	55
South Korea	3	2	3	3	2	4	4	1	1	2	2	1	4	South Korea	1.40	2.05	2.25	2.45	1.51	-54bps	83	60	60	98	South Korea	3.13	3.85	3.98	3.93	3.75	-10bps	98	61	54	65
Spain	3	2	3	2	3	4	1	4	4	3	4	2	1	Spain	1.80	1.60	1.20	1.34	1.59	-1bps	54	59	53	55	Spain	2.60	3.32	2.87	3.45	2.97	-35bps	88	74	81	76
Turkey	3	2	3	3	3	4	1	4	2	3	1	1	1	Turkey	5.93	2.60	2.88	3.00	3.17	56bps	98	54	52	53	Turkey	56.10	62.15	59.45	56.80	45.47	-1669bps	98	77	77	98
United Kingdom	3	2	2	3	3	3	4	1	1	4	4	1	2	United Kingdom	0.60	0.47	0.12	0.57	0.68	21bps	52	55	57	52	United Kingdom	6.73	4.42	4.03	3.45	3.87	-55bps	98	73	85	75
United States	3	2	3	3	4	4	1	1	1	4	4	3	1	United States	3.00	2.48	1.60	0.67	1.09	-139bps	71	85	87	67	United States	3.51	3.27	3.22	3.29	3.14	-13bps	65	53	54	59
MODE/MEDIAN	3	2	3	3	3	4	1	4	4	4	4	1	1	MODE/MEDIAN	1.58	1.75	1.10	1.16	1.30	-44bps	61	56	59	62	MODE/MEDIAN	4.95	3.97	3.76	3.45	3.61	-36bps	98	63	60	59

Data Source: Government Statistic Agencies, BIS, World Bank, and IMF. Intellectual Property of Hedgeye Risk Management.

LIGHT BLUE header = Hedgeye Nowcast Model estimates. BLUE header = Hedgeye Comparative Base Effects Model estimates. GREEN/RED shading in GDP and CPI projections denotes sequential acceleration/deceleration.

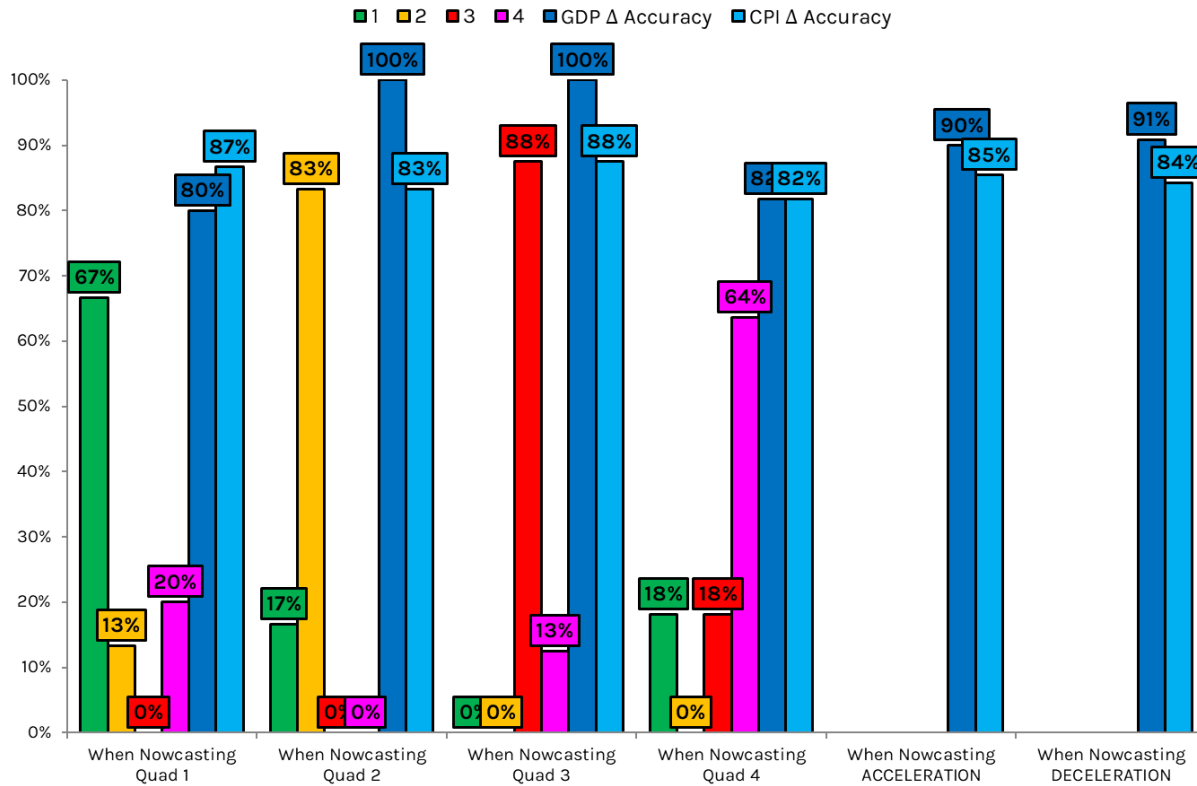
Conditional probability inversely proportional to the prior base rate's percentile score within a 95% confidence interval band around the projected GROWTH or INFLATION rate in a given quarter.

# ... As Are The Models

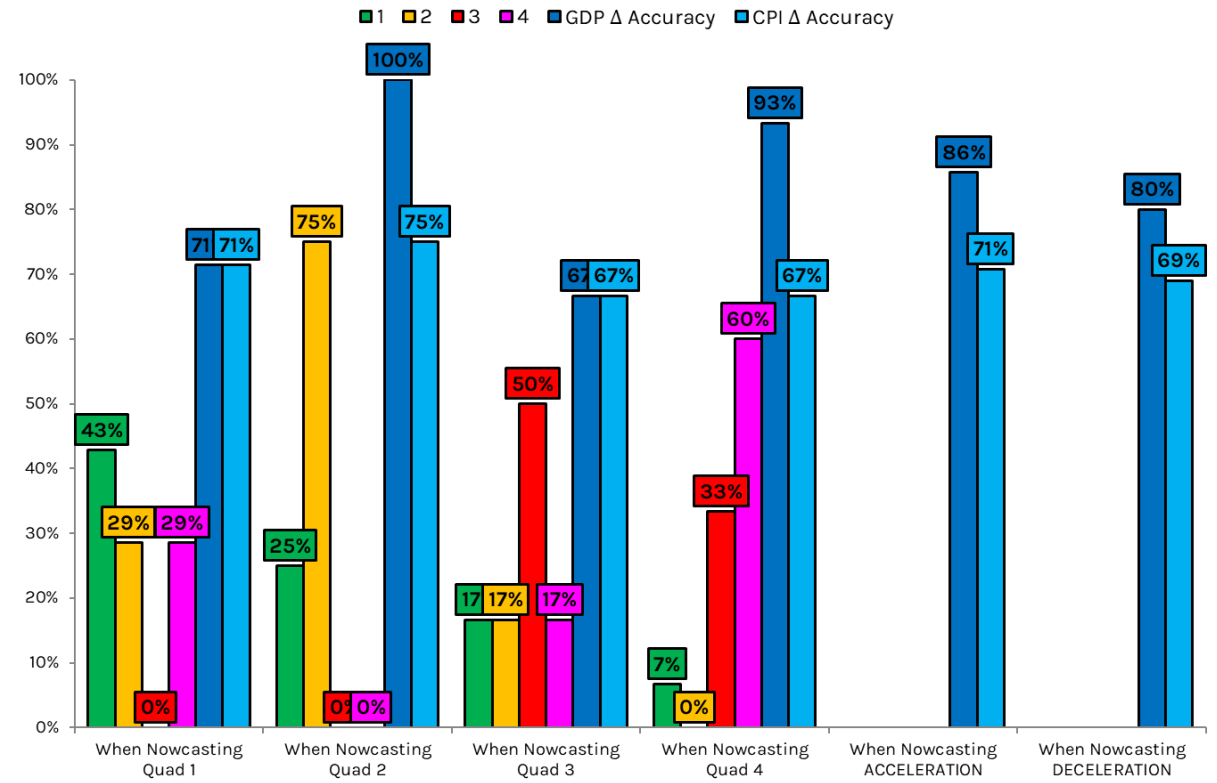
## Germany Nowcast Model Backtest

## China Nowcast Model Backtest

Hedgeye Nowcast Model Quad Projection Accuracy: Germany



Hedgeye Nowcast Model Quad Projection Accuracy: China



# ... As Are The Market Implications

## Germany GIP Model Market History Backtest: 10yr Bund Yield

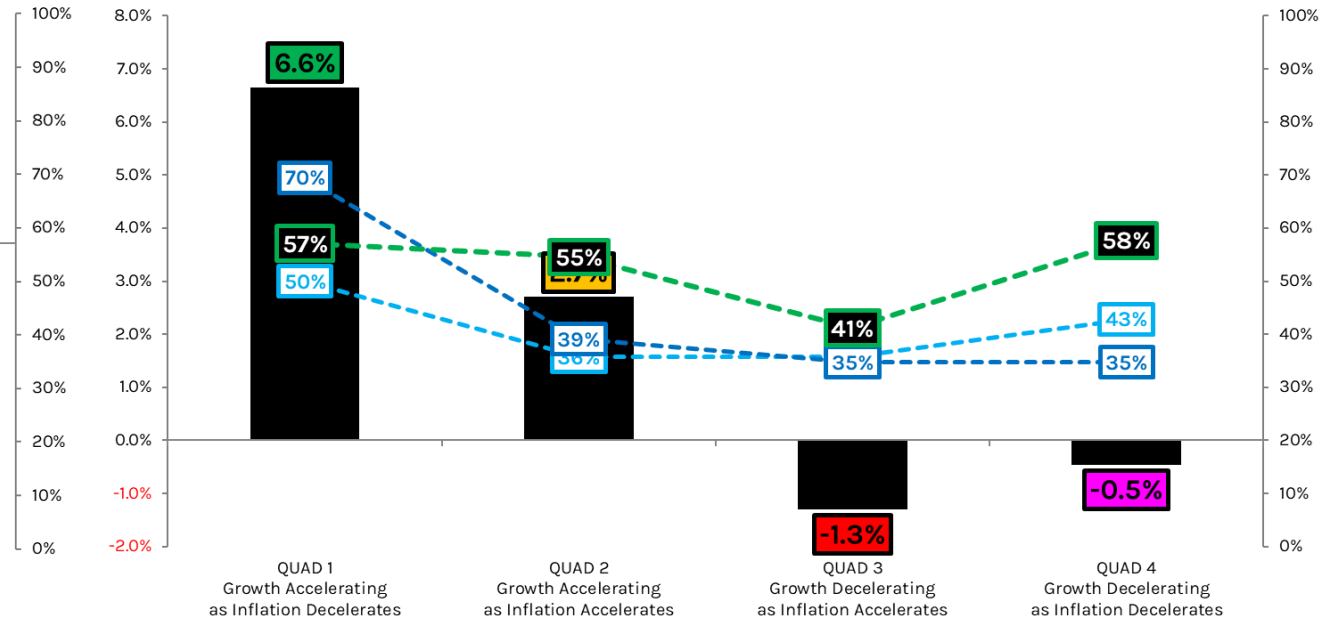
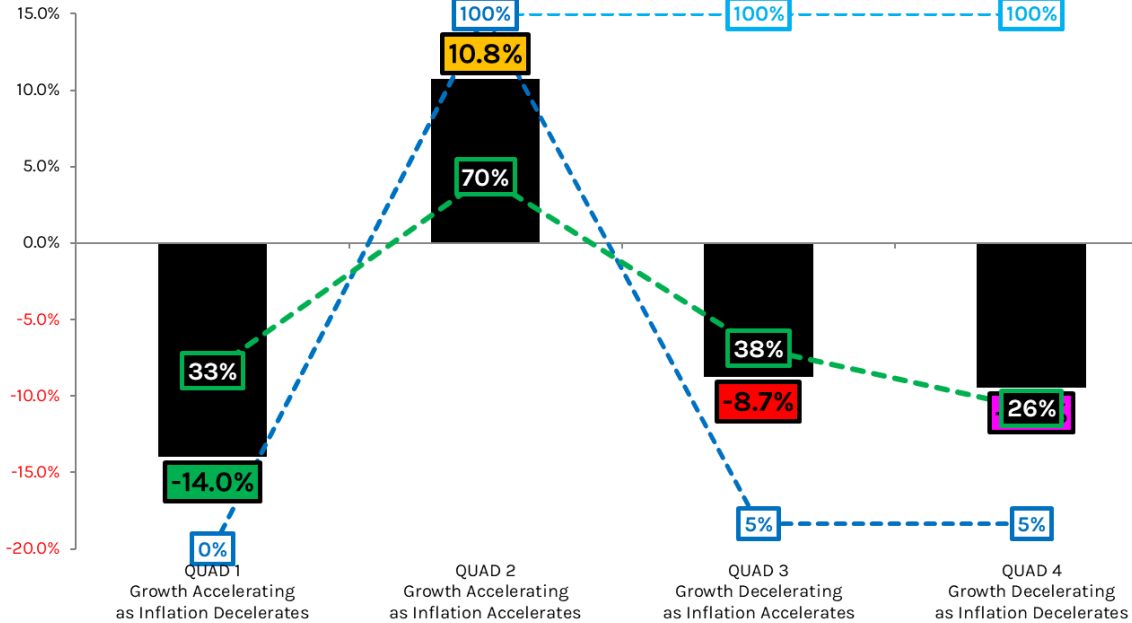
## China GIP Model Market History Backtest: Chinese Consumer Stocks

GERMANY GOVT BND 10 YR DBR

MSCI China Index

- Quarterly Expected Value, by Selected Economy's GIP Quadrant
- Percentile of Quarterly Expected Value, by Quadrant, within Respective Asset Class (rhs)
- Percentile of Quarterly Expected Value, by Quadrant, across Asset Classes (rhs)
- Percent Positive Ratio (rhs)

- Quarterly Expected Value, by Selected Economy's GIP Quadrant
- Percentile of Quarterly Expected Value, by Quadrant, within Respective Asset Class (rhs)
- Percentile of Quarterly Expected Value, by Quadrant, across Asset Classes (rhs)
- Percent Positive Ratio (rhs)



# The Quads Are Global

## Emerging Market GIP Model Summary

11/30/2023	Hedgeye Macro GIP Model Signals													GROWTH						Strength Of Signal				INFLATION						Strength Of Signal					
	Actuals									Estimates				Real GDP YoY					NTM Δ	Conditional Probability Of Est. Δ				Headline CPI YoY					NTM Δ	Conditional Probability Of Est. Δ					
	3Q21	4Q21	1Q22	2Q22	3Q22	4Q22	1Q23	2Q23	3Q23	4Q23E	1Q24E	2Q24E	3Q24E	COUNTRY	3Q23	4Q23E	1Q24E	2Q24E	3Q24E	3Q24E Less 4Q23E	4Q23E	1Q24E	2Q24E	3Q24E	COUNTRY	3Q23	4Q23E	1Q24E	2Q24E	3Q24E	3Q24E Less 4Q23E	4Q23E	1Q24E	2Q24E	3Q24E
Argentina	3	4	3	2	3	3	3	3	2	3	2	2	4	Argentina	-3.11	-3.89	-3.44	-1.04	-1.14	275bps	61	56	84	51	Argentina	125.37	160.02	221.57	259.97	234.42	7440bps	98	98	98	98
Brazil	3	3	2	2	4	4	1	4	3	2	3	3	2	Brazil	2.21	2.48	1.59	1.26	2.11	-37bps	57	73	59	72	Brazil	4.60	5.12	5.35	5.55	6.76	165bps	73	60	59	98
Chile	3	3	3	3	3	4	1	4	1	4	1	1	2	Chile	0.59	0.45	0.95	1.47	1.91	146bps	53	60	61	59	Chile	5.64	4.64	4.40	4.32	4.81	16bps	98	62	54	74
China	4	3	1	3	2	4	4	1	4	4	3	2	4	China	4.60	4.40	2.73	3.90	3.57	-83bps	54	84	74	57	China	-0.07	-0.20	0.42	0.43	0.30	50bps	57	80	51	57
Colombia	3	3	3	2	3	3	2	4	4	1	1	4	1	Colombia	-0.30	0.87	1.02	0.87	1.87	100bps	75	53	53	71	Colombia	11.40	9.99	8.32	8.00	7.77	-223bps	98	98	66	61
Czech Republic	3	2	2	3	3	4	3	4	1	1	4	2	2	Czech Republic	0.04	1.65	1.30	2.21	2.55	89bps	98	61	78	60	Czech Republic	8.07	8.03	5.13	5.47	6.13	-190bps	51	98	63	76
Greece	3	3	2	3	3	1	4	1	4	3	1	4	1	Greece	2.46	2.23	2.68	1.85	1.90	-33bps	54	58	64	51	Greece	3.13	3.40	2.90	2.30	2.07	-133bps	61	71	75	60
Hong Kong	3	4	4	1	3	1	2	3	1	2	3	1	4	Hong Kong	4.10	4.52	2.82	3.62	3.07	-145bps	64	98	76	68	Hong Kong	1.87	2.53	2.73	2.73	2.15	-38bps	80	59	50	76
India	4	4	3	2	4	4	2	1	3	4	4	3	1	India	7.60	6.71	6.13	5.84	6.64	-7bps	64	59	55	63	India	6.43	4.93	4.22	4.54	3.76	-117bps	98	89	68	93
Indonesia	3	2	3	2	2	3	1	1	4	4	4	4	4	Indonesia	4.94	4.90	4.82	4.69	4.51	-39bps	53	55	59	62	Indonesia	2.88	2.59	2.48	2.38	2.21	-38bps	64	56	55	58
Israel	3	2	3	3	3	3	1	4	1	4	4	1	2	Israel	3.40	3.07	2.52	2.96	3.24	17bps	59	64	61	57	Israel	3.73	3.53	3.12	3.00	3.13	-40bps	65	80	58	60
Malaysia	4	2	1	2	2	4	4	4	1	1	2	3	4	Malaysia	3.30	3.80	4.24	4.01	3.89	9bps	59	58	54	52	Malaysia	1.98	1.72	2.33	2.42	2.00	28bps	62	79	54	70
Mexico	4	3	2	2	2	4	4	4	4	1	3	3	2	Mexico	3.31	3.58	2.06	1.62	2.00	-158bps	56	81	59	58	Mexico	4.63	4.09	4.22	4.84	5.01	93bps	88	60	93	62
Peru	3	3	2	3	3	4	3	4	4	1	1	1	2	Peru	-1.00	1.53	1.96	2.24	2.34	81bps	78	55	53	51	Peru	5.50	4.21	4.00	3.53	4.37	16bps	98	63	78	98
Philippines	3	1	1	3	2	3	3	4	1	4	1	2	4	Philippines	5.90	4.90	5.45	5.93	5.78	88bps	69	61	59	53	Philippines	5.37	4.98	4.93	5.00	4.80	-18bps	69	52	53	60
Poland	3	2	2	3	3	3	4	4	1	1	1	1	2	Poland	0.50	1.87	2.12	2.57	2.77	90bps	94	58	65	57	Poland	9.70	6.55	5.82	5.65	6.15	-40bps	98	76	56	68
Russia	3	2	3	3	1	1	1	1	2	3	2	2	3	Russia	5.50	4.32	4.77	5.17	4.37	5bps	81	62	61	71	Russia	5.15	6.83	6.93	7.25	7.32	49bps	88	52	57	52
Saudi Arabia	1	2	2	2	3	3	4	4	4	1	1	1	2	Saudi Arabia	-4.50	1.94	3.36	3.60	4.35	241bps	98	81	55	66	Saudi Arabia	1.98	1.46	1.22	1.03	1.09	-38bps	72	60	58	53
South Africa	3	3	2	3	2	4	4	1	4	2	3	2	3	South Africa	0.28	1.11	0.86	1.31	0.60	-50bps	70	56	61	67	South Africa	4.97	5.77	5.82	5.82	5.90	13bps	98	53	50	55
South Korea	3	2	3	3	2	4	4	1	1	2	2	1	4	South Korea	1.40	2.05	2.25	2.45	1.51	-54bps	83	60	60	98	South Korea	3.13	3.85	3.98	3.93	3.75	-10bps	98	61	54	65
Taiwan	3	2	3	3	1	4	3	1	2	2	1	4	3	Taiwan	2.32	3.76	4.37	3.42	2.64	-112bps	96	69	80	75	Taiwan	2.45	3.06	2.99	2.95	3.01	-5bps	97	56	53	54
Thailand	4	2	2	2	2	4	1	4	4	1	4	2	4	Thailand	1.50	4.09	3.34	3.91	3.08	-101bps	97	63	60	65	Thailand	0.52	-0.24	-0.44	0.06	-0.04	21bps	85	59	73	55
Turkey	3	2	3	3	3	4	1	4	2	3	1	1	1	Turkey	5.93	2.60	2.88	3.00	3.17	56bps	98	54	52	53	Turkey	56.10	62.15	59.45	56.80	45.47	-1669bps	98	77	77	98
MODE/MEDIAN	3	2	3	3	3	4	4	4	4	1	1	1	4	MODE/MEDIAN	2.32	2.60	2.68	2.96	2.77	16bps	69	60	60	60	MODE/MEDIAN	4.63	4.21	4.22	4.32	4.37	16bps	88	62	58	62

Data Source: Government Statistic Agencies, BIS, World Bank, and IMF. Intellectual Property of Hedgeye Risk Management.

LIGHT BLUE header = Hedgeye Nowcast Model estimates. BLUE header = Hedgeye Comparative Base Effects Model estimates. GREEN/RED shading in GDP and CPI projections denotes sequential acceleration/deceleration.

Conditional probability inversely proportional to the prior base rate's percentile score within a 95% confidence interval band around the projected GROWTH or INFLATION rate in a given quarter.



## 1 Quad4 US Profit Recession & Credit Event, Reiterated

We're now slouching into month 20 of global/local macro deceleration, and the slope of the macro lines that matter remains negative. The Manufacturing economy is contractionary, Services is in discrete deceleration, credit availability is in conspicuous contraction, commodities & industrial metals are making lower lows, Europe is back to recessionary prints and the failed China re-opening catalyst has already pivoted to outright cuts & incremental stimulus. We'll discuss why quad 4 credit risk will continue to simmer and detail the consumer, labor & profit cycle implications associated with the cycle progressively transitioning from tethering to income/savings towards a more conventional tether to policy/credit at the same time that residual excess savings face exhaustion, income/discretionary consumption shocks (student loan repayments) lurk in queue and further fed tightening reflexively amplifies the macro deceleration.

## 2 China, Europe, and the #Quad4 Industrial Recession

This time is different – the Chinese economic engine won't be bailing out global growth as it did in the Post-GFC period. The promise of a great Chinese reopening has underdelivered, and the developed market consumption shift from goods to services has additionally weighed on Chinese manufacturing activity. Nowhere is this story told better than in the steady YTD downtrend across industrial metals, with recent easing in Chinese monetary policy further confirming this dynamic. Meanwhile, the European continent, having been spared from an energy crisis this past winter, is increasingly under the weight of elevated inflation, torpid manufacturing activity, tightening credit conditions, and renewed central bank hawkishness. More broadly, the confluence of weakening global demand concentrated, for now, within the goods economy and the new cost-of-capital reality terrorizing Capex plans worldwide; the #Quad4 industrial recession remains a persisting reality.

## 3 Long Japan, India, and South Korea

With growth expected to land in the top-half of the Quad Matrix (accelerating) over the next two quarters for each of these three geographies and with the signal incrementally confirming this trajectory, we are favoring foreign equity exposures in Japan, India, and South Korea. Japan is enjoying comparatively moderate and decelerating inflation while monetary policy remains accommodative and domestic spending is expected to increase in the post-pandemic yolo fashion of other developed economies that had relaxed Covid era restrictions much earlier. India also enjoys a comparatively superior fundamental setup with buoyant domestic demand fueled by government spending, moderating commodity prices, and strong credit growth.



1

## USA #Quad3 Stagflation

Easy CPI comps are fully rearview, Headline & Supercore Inflation are reaccelerating, Demand growth is back to Trend deceleration following the countertrend bounce in July and the inimical margin-negative Quad 3 duo of Demand ↓, Prices ↑ has now defined the prevailing reality domestically since late July. Meanwhile, the global/local industrial-mfg recession remains entrenched, the consumer retrench continues to intensify and the list of income/discretionary consumption shocks in queue continues to layer as “the Convergence” thesis we promulgated in 2Q remains on time and on script. We’ll detail where we are on that Convergence timeline, how long we expect the Stagflationary mojo to persist and how we’ll risk manage & allocate inside the current, idiosyncratic version of Quad3.

2

## The Big (G): Deficits & Debt

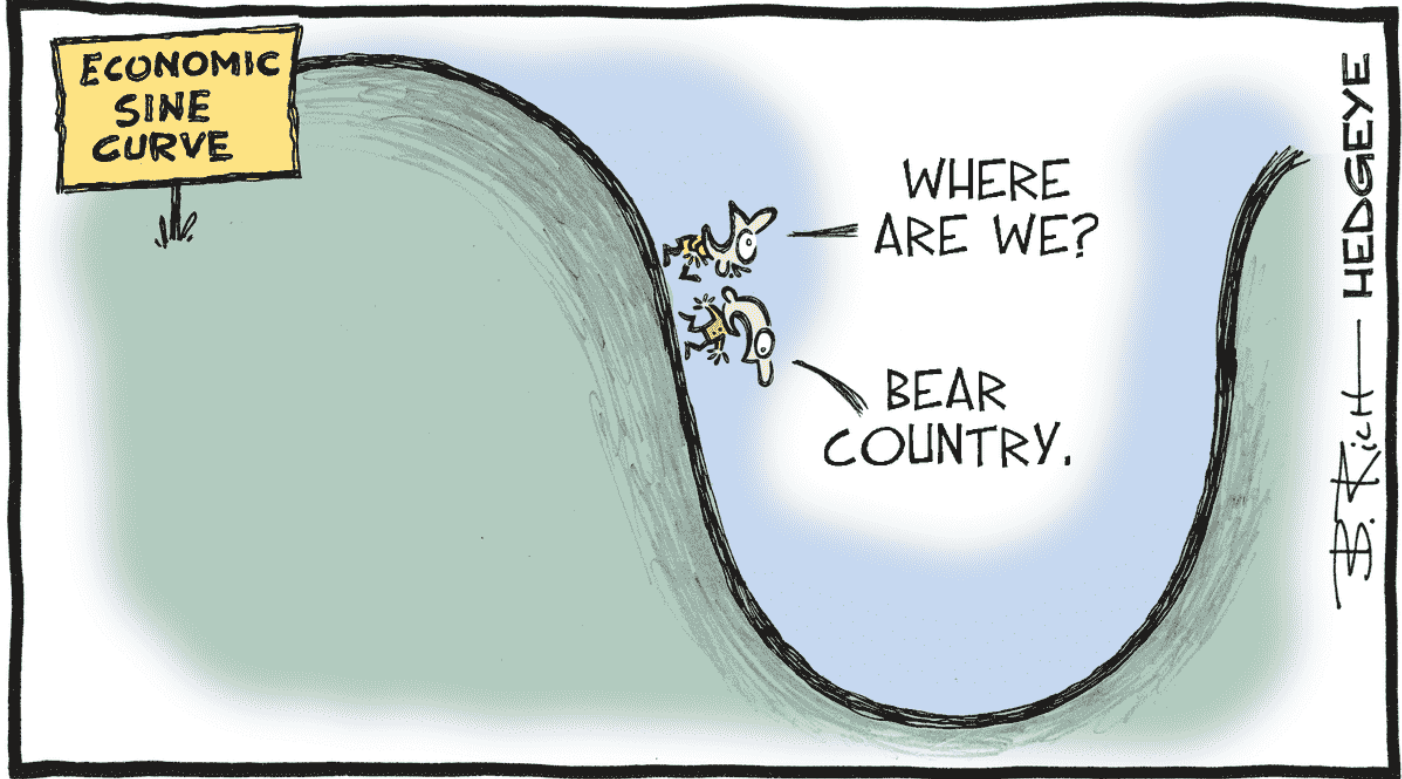
Federal spending saved Headline GDP in 1H with government sponsored reindustrialization initiatives supporting some of the highest nonresi investment contributions to GDP in 40 years. We’ll outline the probable trajectory of the fiscal impulse and the attendant growth/inflation/rates implications, discuss whether we’ve transitioned to a new secular regime of fiscal dominance and detail the multi-duration risks and allocation considerations associated with the vertical ascent in deficits/debt/interest expense nested within the secular evolution of Fourth Turning dynamics.

3

## Long India vs. Short Japan & Europe:

With both the signal and Quad outlook having deteriorated since the start of the quarter, we're changing our view on Japan to bearish, while maintaining our favorable view on India. Japanese ISM and Services prints have recently turned down and the Quad outlook now suggests Quad 4 beginning in Q1 and running through Q3 2024. Importantly, the signal confirms the outlook. Meanwhile, India is enjoying a comparatively strong fundamental setup with buoyant domestic demand fueled by government spending, moderated commodity prices (excluding Oil), and strong credit growth. Lastly, real growth on the European continent is poised to remain slow through at least 4Q23 as economic gravity imposes itself through the dual vectors of sticky-high inflation (worsened by recent dollar strengthening and energy reflation) and credit tightening as the global industrial recession continues to focus much of its impact in Europe with manufacturing activity hurting from weakened global goods demand and the new cost-of-capital reality terrorizing Capex plans worldwide.

# Q4 2023 Macro Themes



USA #Quad 3 Stagflation



# THE CONVERGENCE

## Our 2023 Conceptual Frameworks Remain On Time & On Script!

### 2023: Twin Transitions

Introduced March 2023

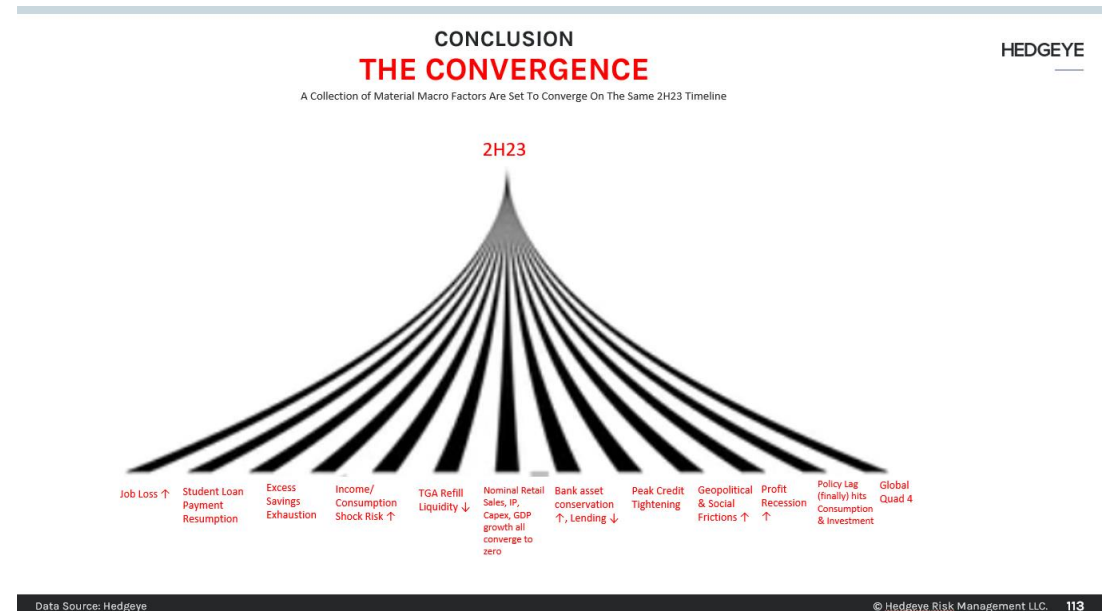
**Key** **Rate Tightening → Credit Tightening:** The transition from Rate Tightening to Credit Tightening has now fully commenced. Credit tightening impacts real economic activity reflexively and the impact will progressively intensify from here.

**Key** **Cycle Detethering from Income/Savings → Retethering to Policy/Rates:** The tethering to pandemic related stimulus has supported the plodding evolution of the cycle. But as savings are exhausted, labor begins to weaken and income shocks emerge, sensitivity to rate/credit conditions will increase ... making this second dynamic increasingly sensitive to the evolution of the first.

### CONVERGENCE

The Progressive Build & Slow Convergence of Macro Constraints

Introduced June 2023



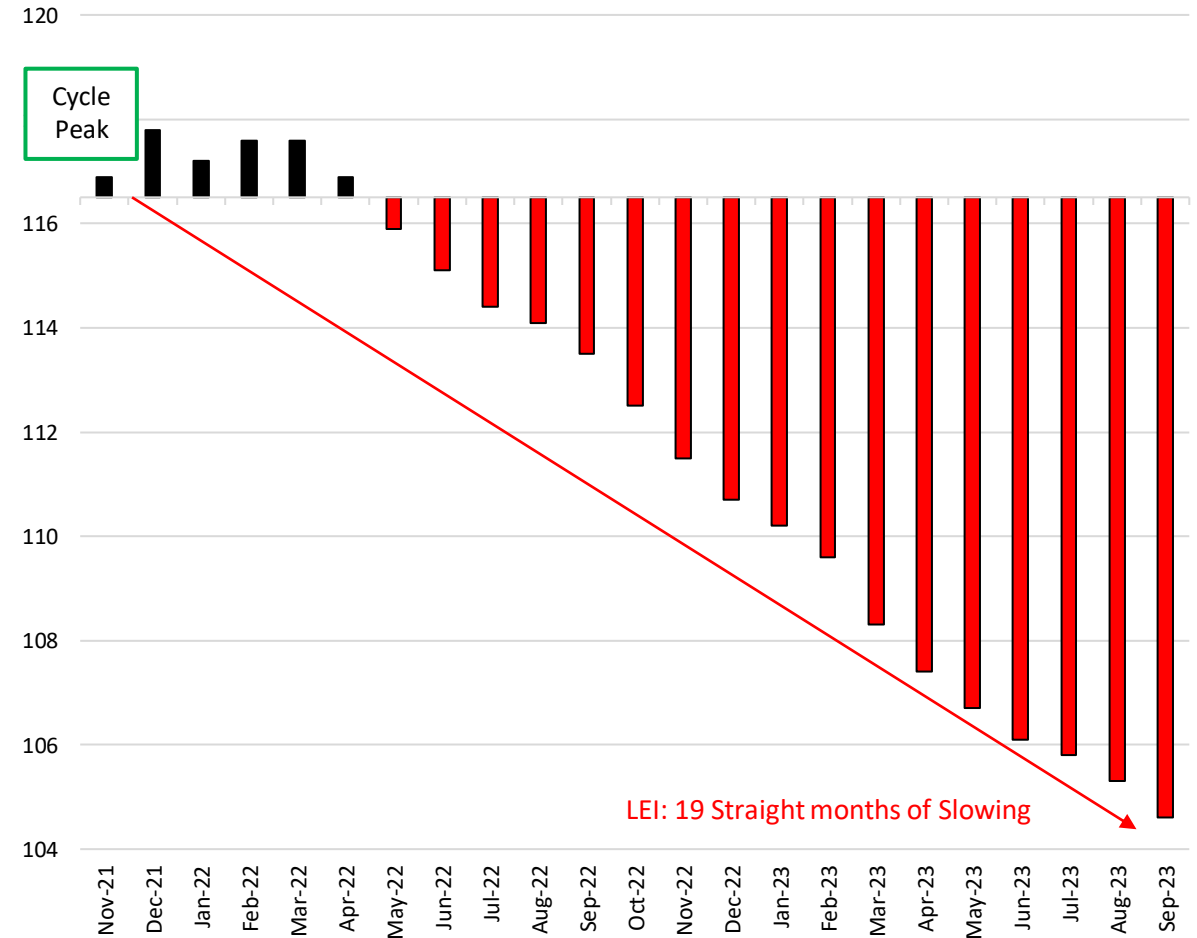
# 3Q Redux: Cycle-Time $\neq$ Calendar-Time

UPDATE: 23-Months of Deceleration & Counting for the most Sloth-ian cycle in modernity. #TheCycleDoes Not Move At the Speed of Breathless Social Media Myopia

UPDATE



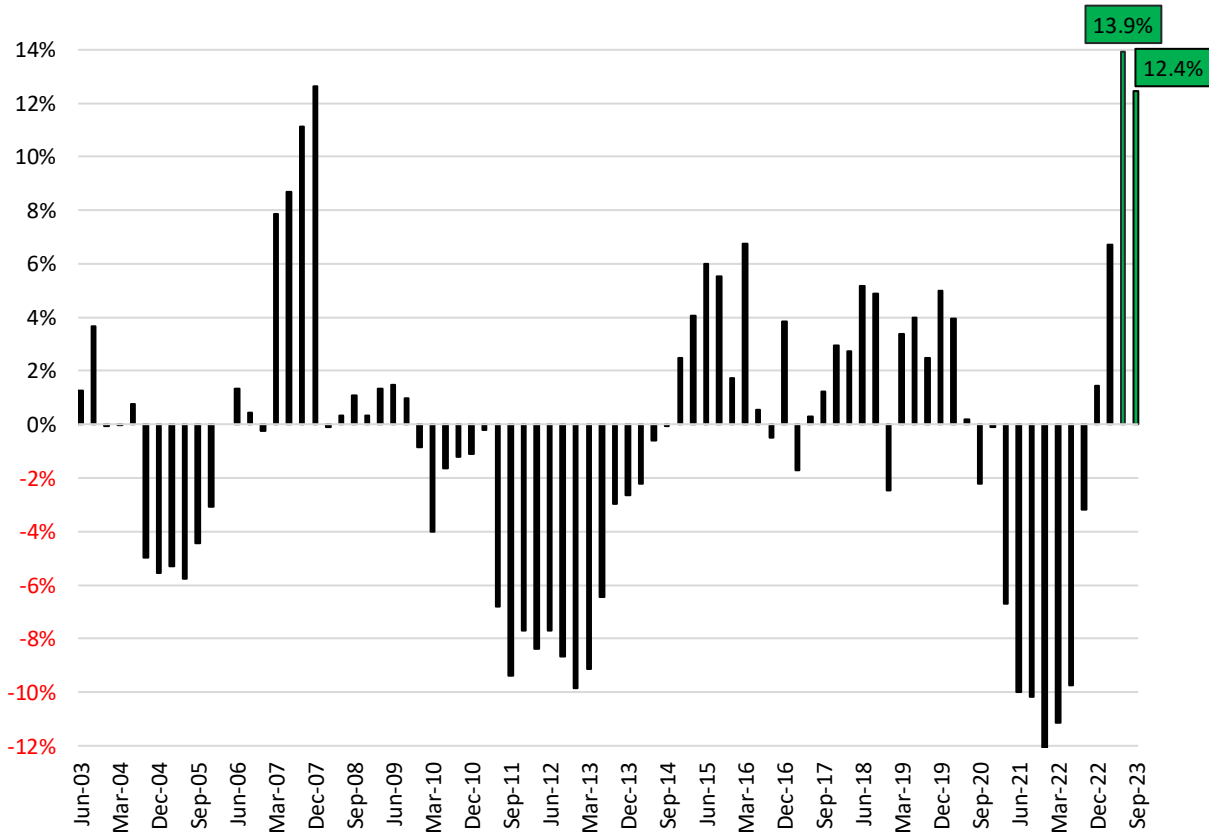
CONFERENCE BOARD LEI



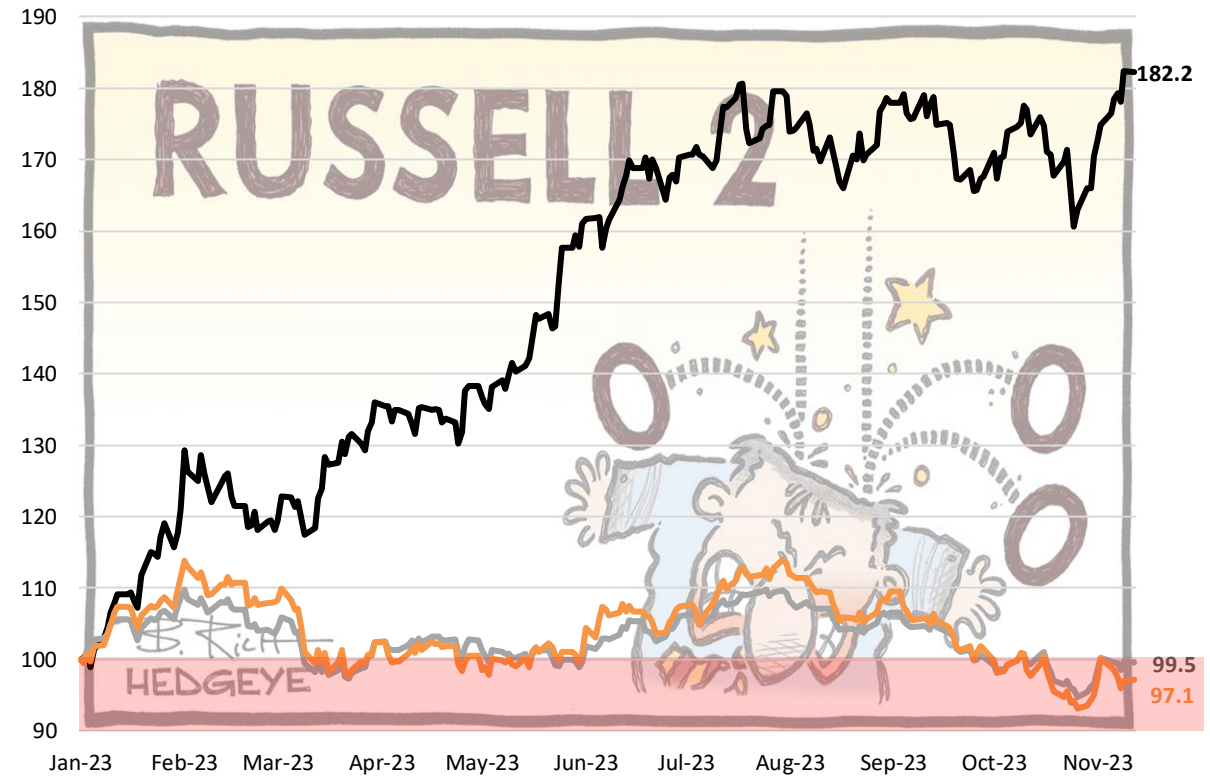
# 3Q Redux: Mega-Cap Tech & Mega “G” = The Economy

**UPDATE** → Government spending growth remained near the highest levels in decades in 3Q while the Performance Titanic has gone peak tilt.

Government Spending  
Structure Investment, Y/Y %

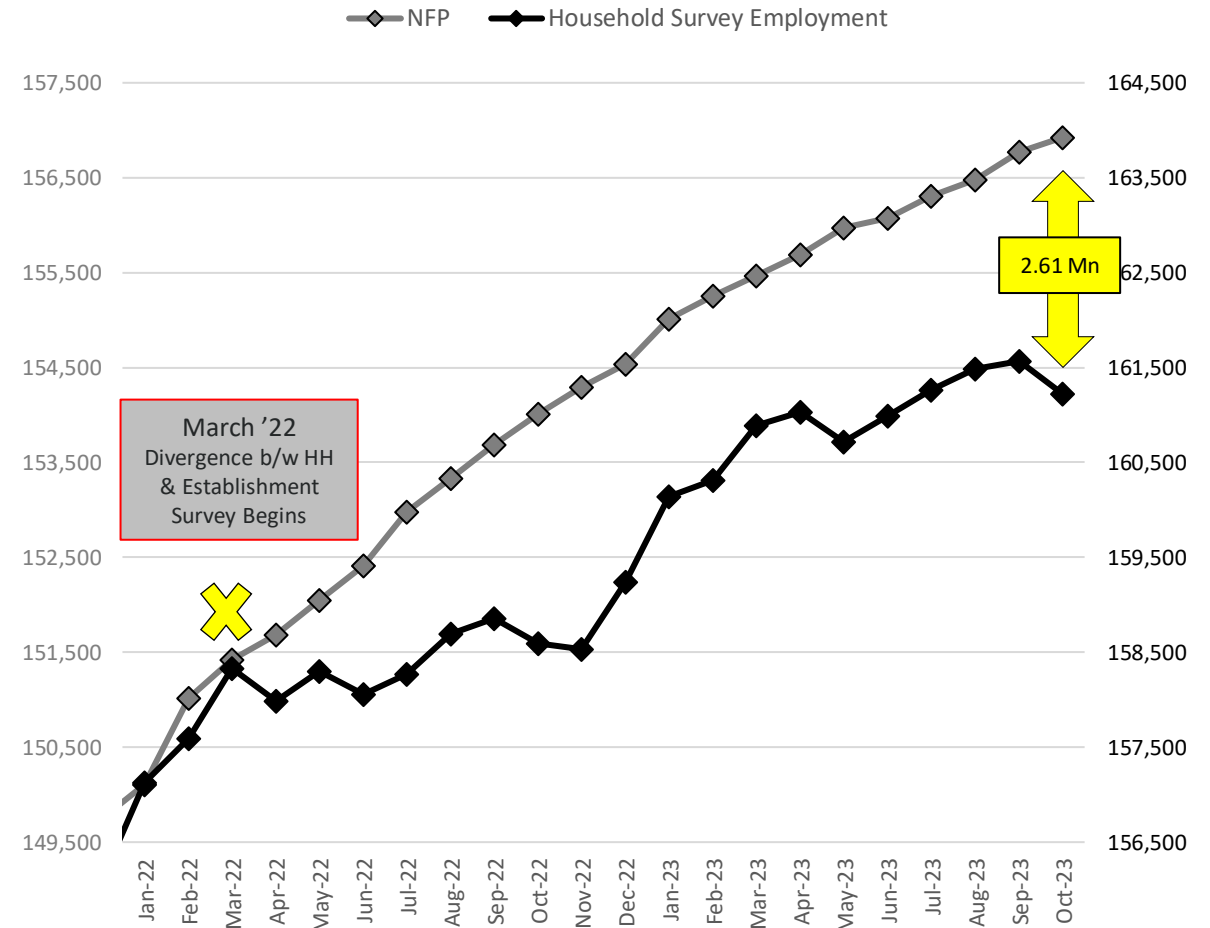
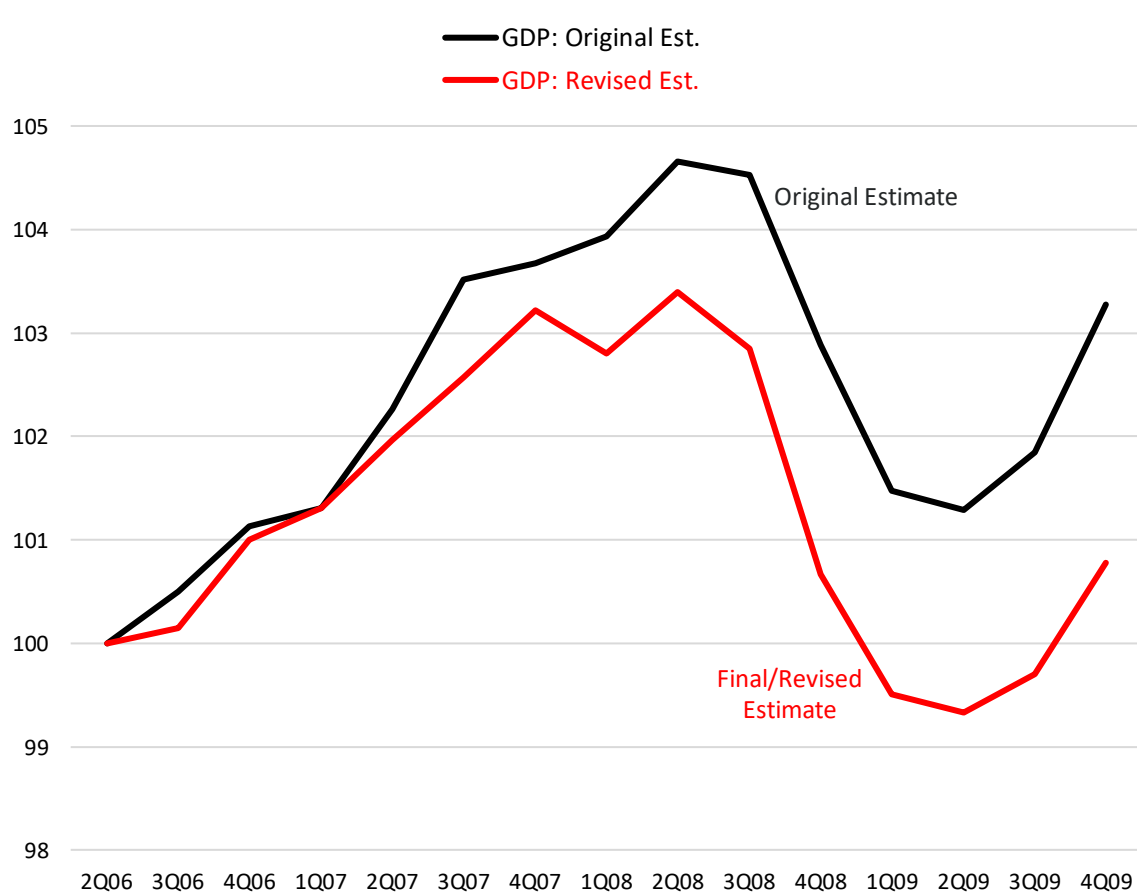


— Mega Cap Tech (normalized) — RSP (SPX Equal Weighted, Normalized) — IWM Equity



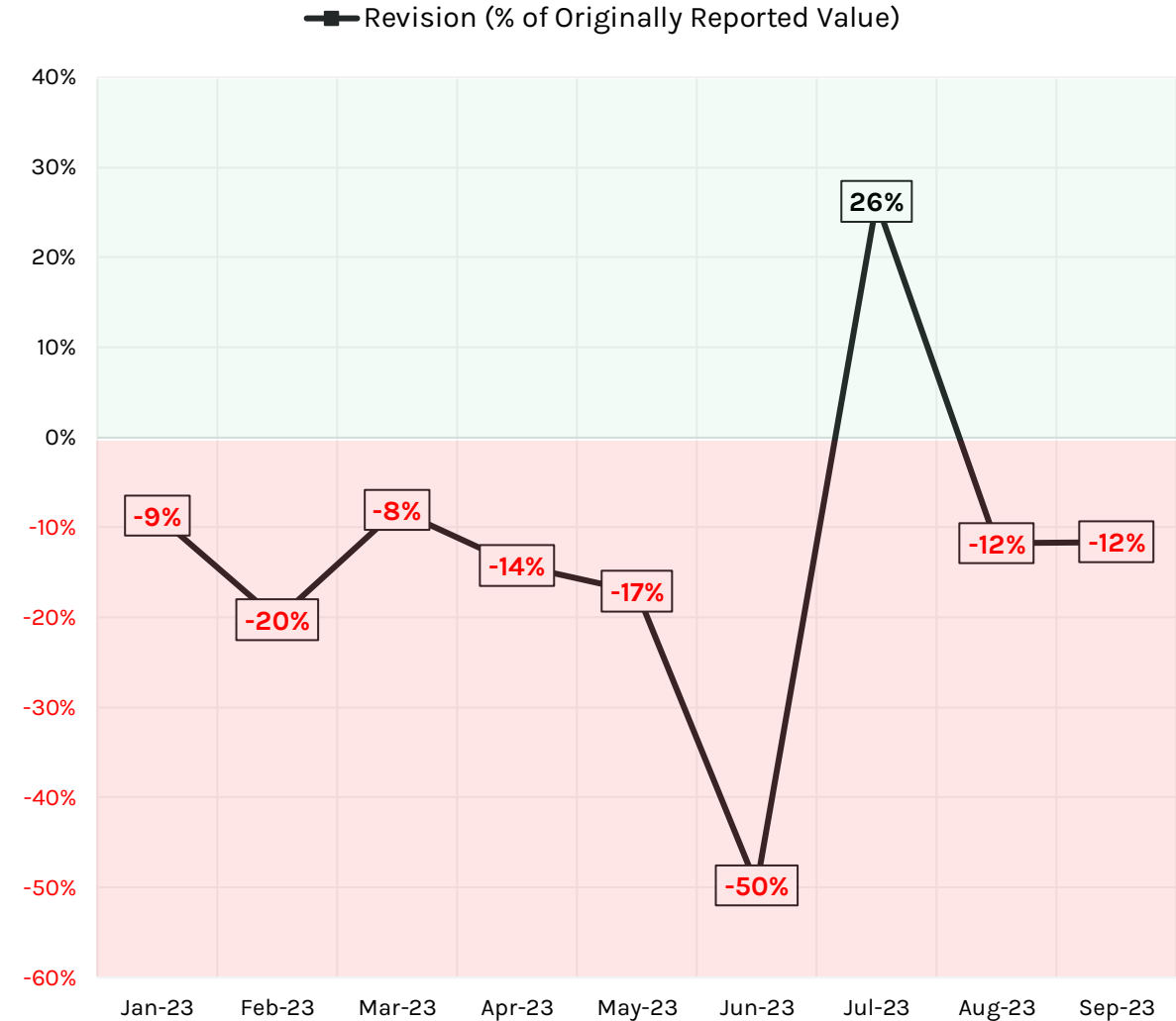
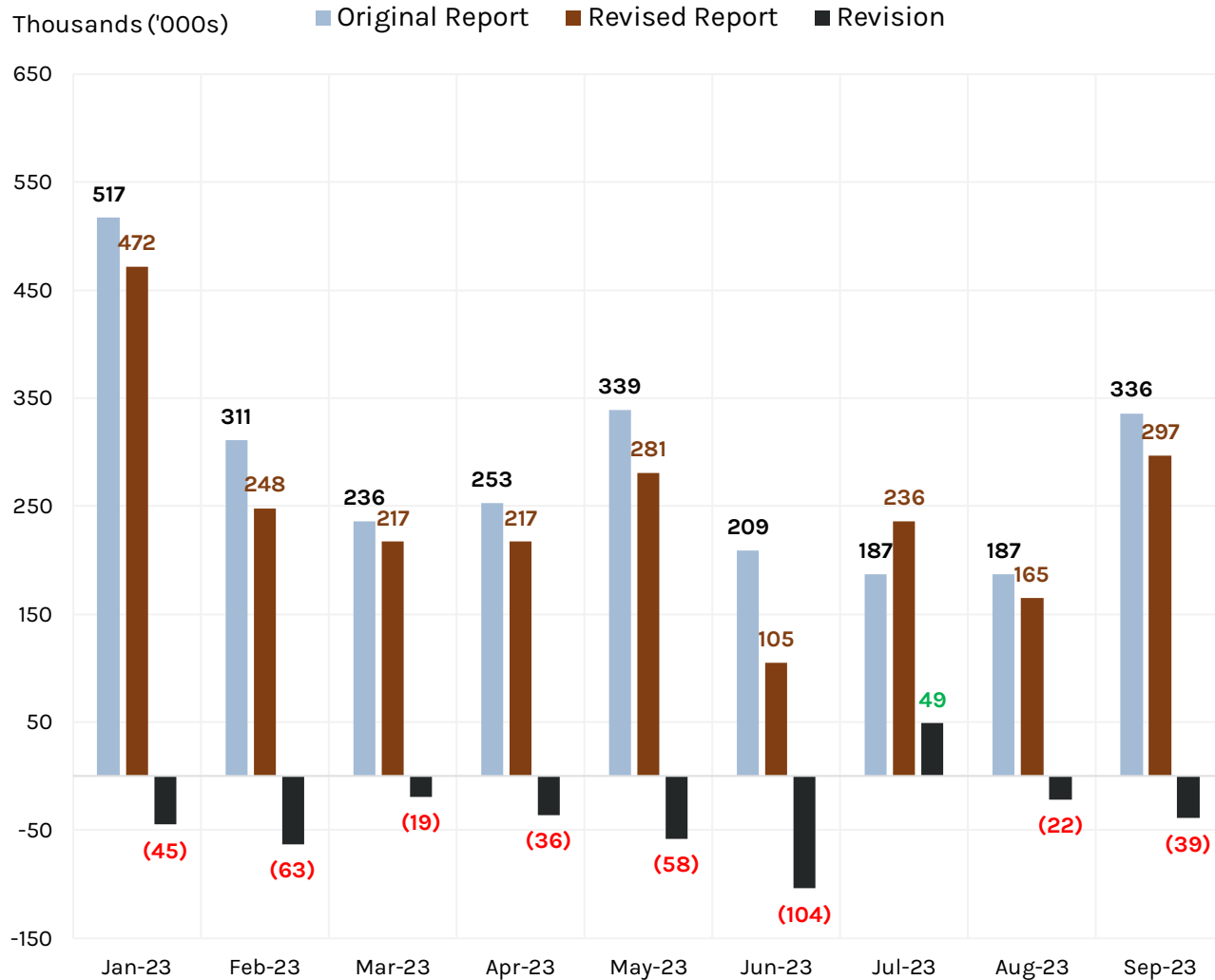
# Fundamentally ... The Funhouse Mirror of Reported Data

Things invariably look “best before the (cycle) crest” as the top of the cycle always appears strong, by definition, ... until it’s not (ie 3Q07 GDP of 4.9%). GDP in the GFC period received serial large-scale negative revisions for years. Something broke between the Household & Establishment estimates of Employment in March 2022 which has still not resolved.



# NFP → A YEAR OF NEGATIVE REVISIONS

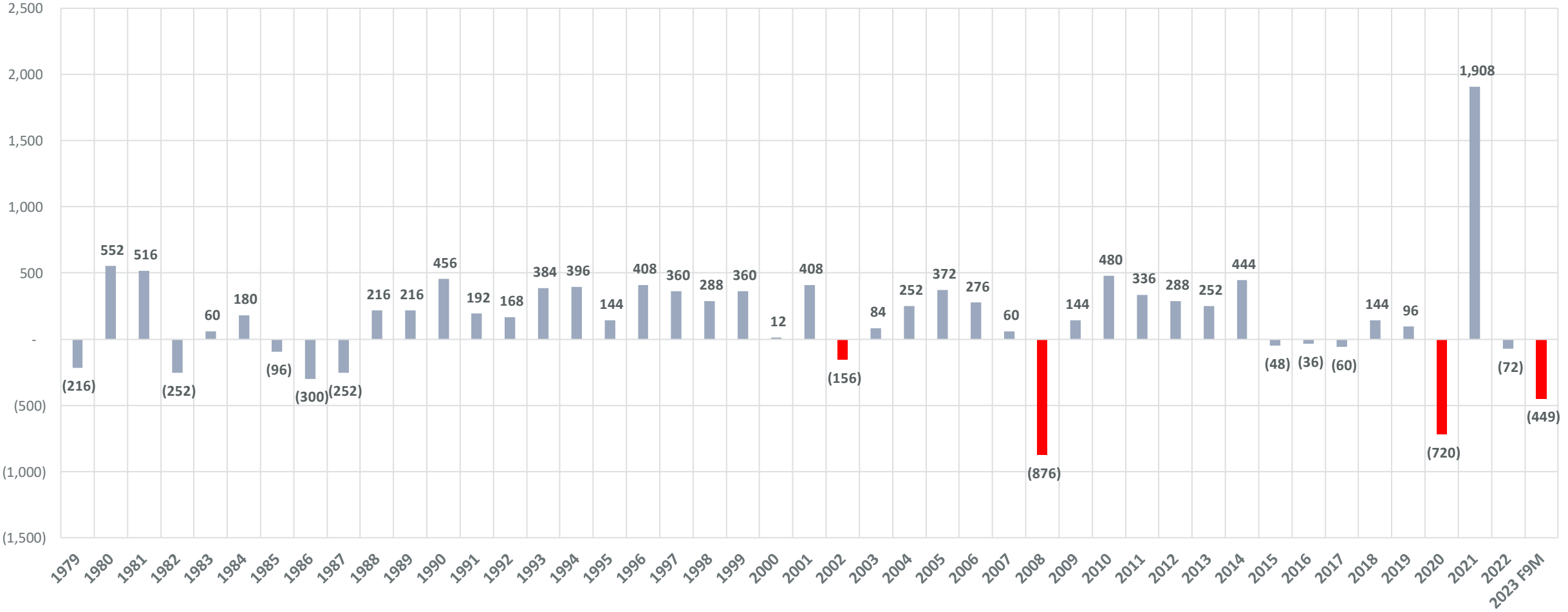
NFP = revised lower in eight of nine months this year. For perspective, the last time we had 7 consecutive negative revisions was during the GFC.



# 2023 = -449K In Cumulative Negative Payroll Revisions ... So Far

2023 is on track for one of the three worst years for downward revisions since 1979.

Full Year NFP Revisions (Monthly Changes Summed)



# April '22-March'23 Also Revised Lower By -306K

The Response Rate to the Employment Survey continues to make lower lows while the birth-death adjustment remains at peak squirreliness.

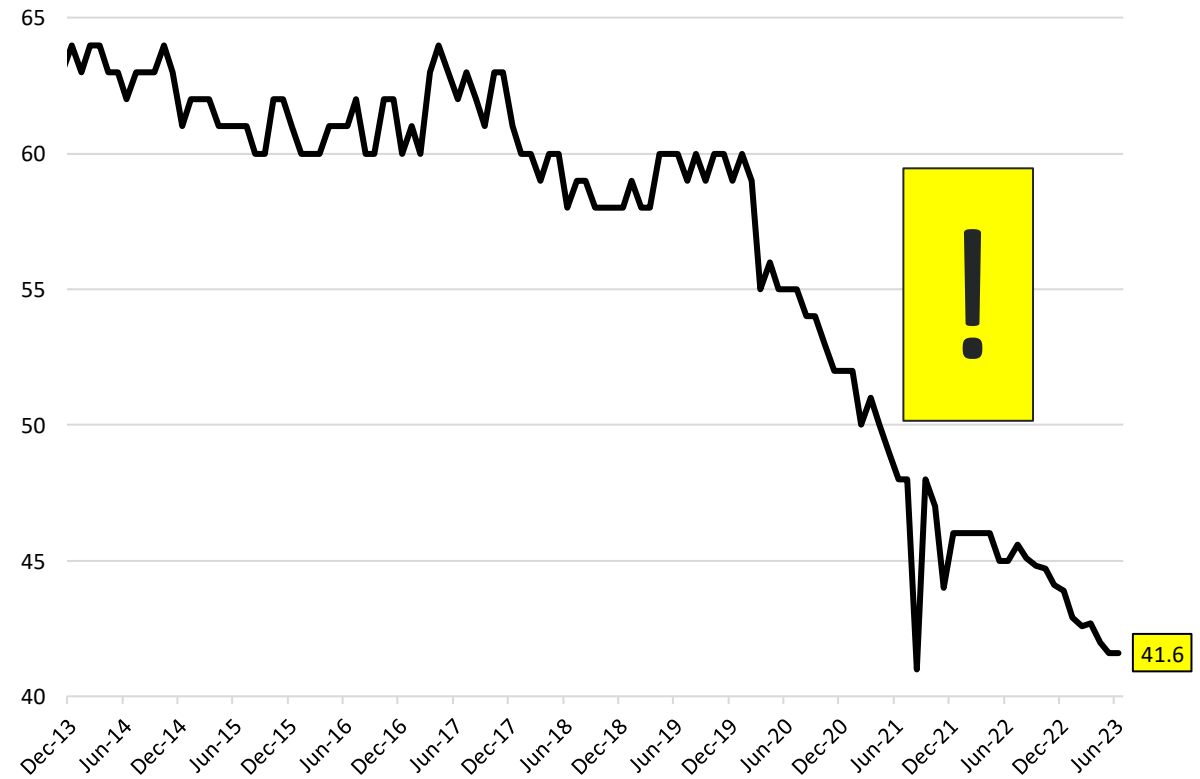
Signal ↓, Noise ↑

Response Rate: Current Employment Statistics

Table 1. National Current Employment Statistics March 2023  
Preliminary Benchmark Revisions by Major Industry Sector

	Benchmark revision (in thousands)	Percent benchmark revision
Total nonfarm	-306	-0.2
Total private	-358	-0.3
Mining and logging	(2)	(2)
Construction	30	0.4
Manufacturing	-43	-0.3
Trade, transportation, and utilities	-43	-0.2
Wholesale trade (1)	47.7	0.8
Retail trade (1)	38.2	0.2
Transportation and warehousing (1)	-146.4	-2.2
Utilities (1)	17.3	3
Information	-39	-1.3
Financial activities	47	0.5
Professional and business services	-116	-0.5
Private education and health services	-85	-0.3
Leisure and hospitality	-46	-0.3
Other services	-63	-1.1
Government	52	0.2

Footnotes:  
(1) Series are part of trade, transportation, and utilities.  
(2) Less than 0.05 percent or 500 jobs.





# All Good ... Just A Casual \$1.1T In Savings Revised Away!

AND SURELY HEALTH INSURANCE COSTS ARE DOWN **-34% Y/Y** AND ACCURATELY CAPTURE THE REAL-LIFE COST ASSOCIATED WITH COVERAGE! .. We Digress

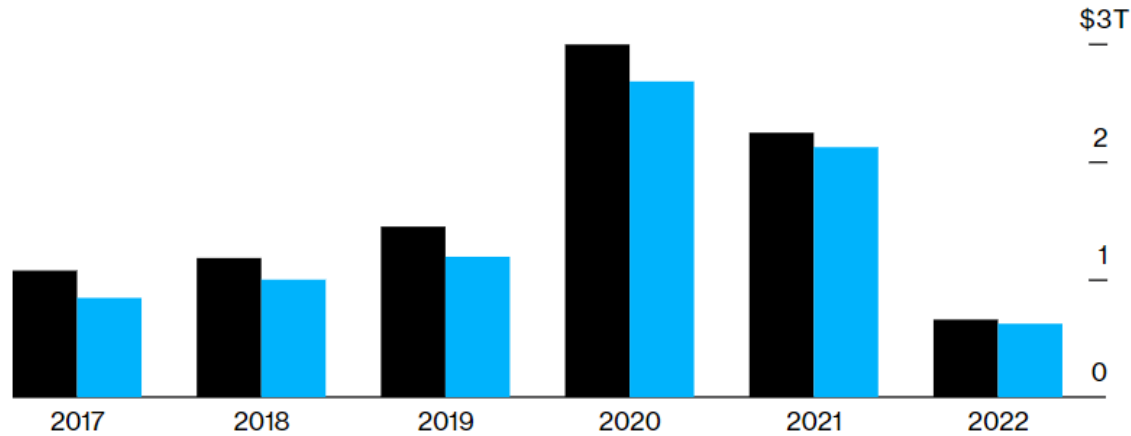
**This is serious though** ... when the magnitude of revisions are so large that it effectively leads to the opposite analytical conclusion relative to the conclusion derived from the initial data, the data integrity/investment conclusion/capital allocation implications are significant

US households saved some \$1.1 trillion less than previously thought over the past six years, according to revised government data

## Americans Saved Less Than Thought

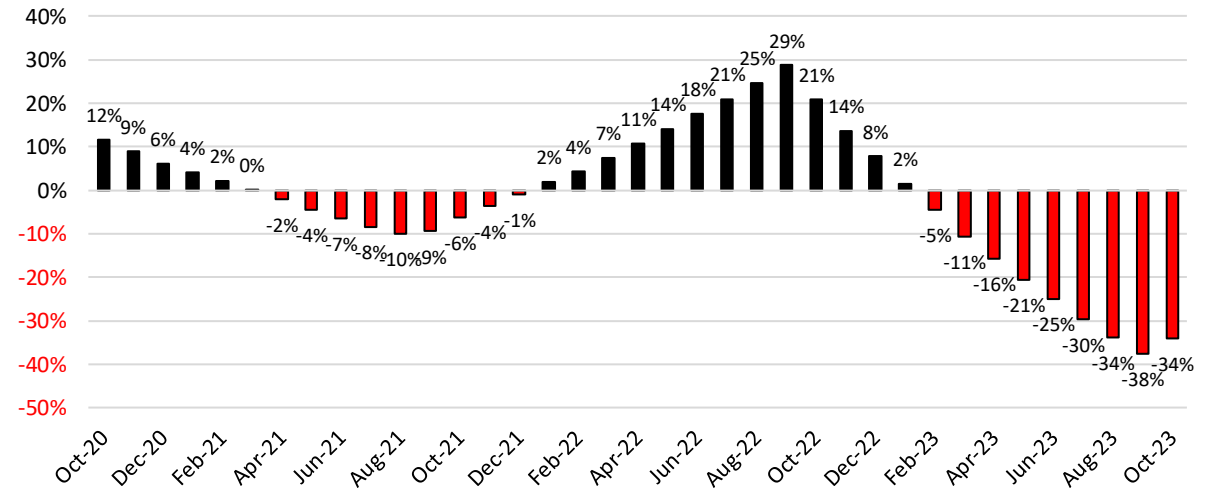
BEA update showed savings rate was actually lower in decades of data

■ Previously published ■ Revised

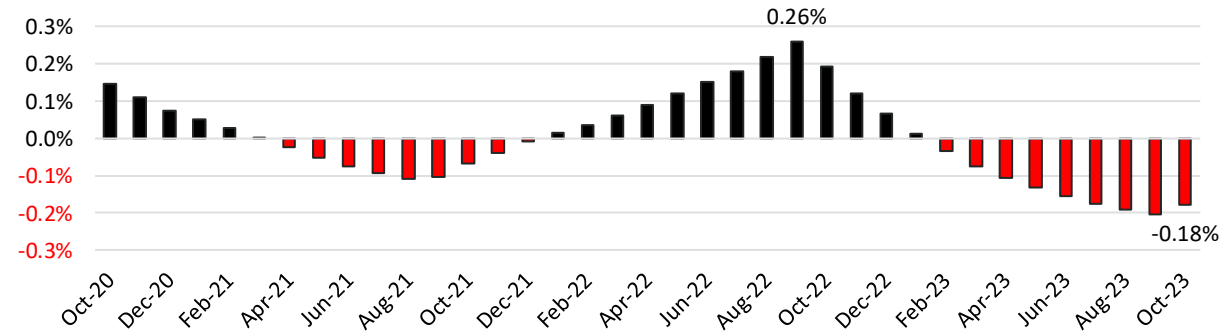


Source: Bureau of Economic Analysis

CPI Health Insurance, Y/Y %



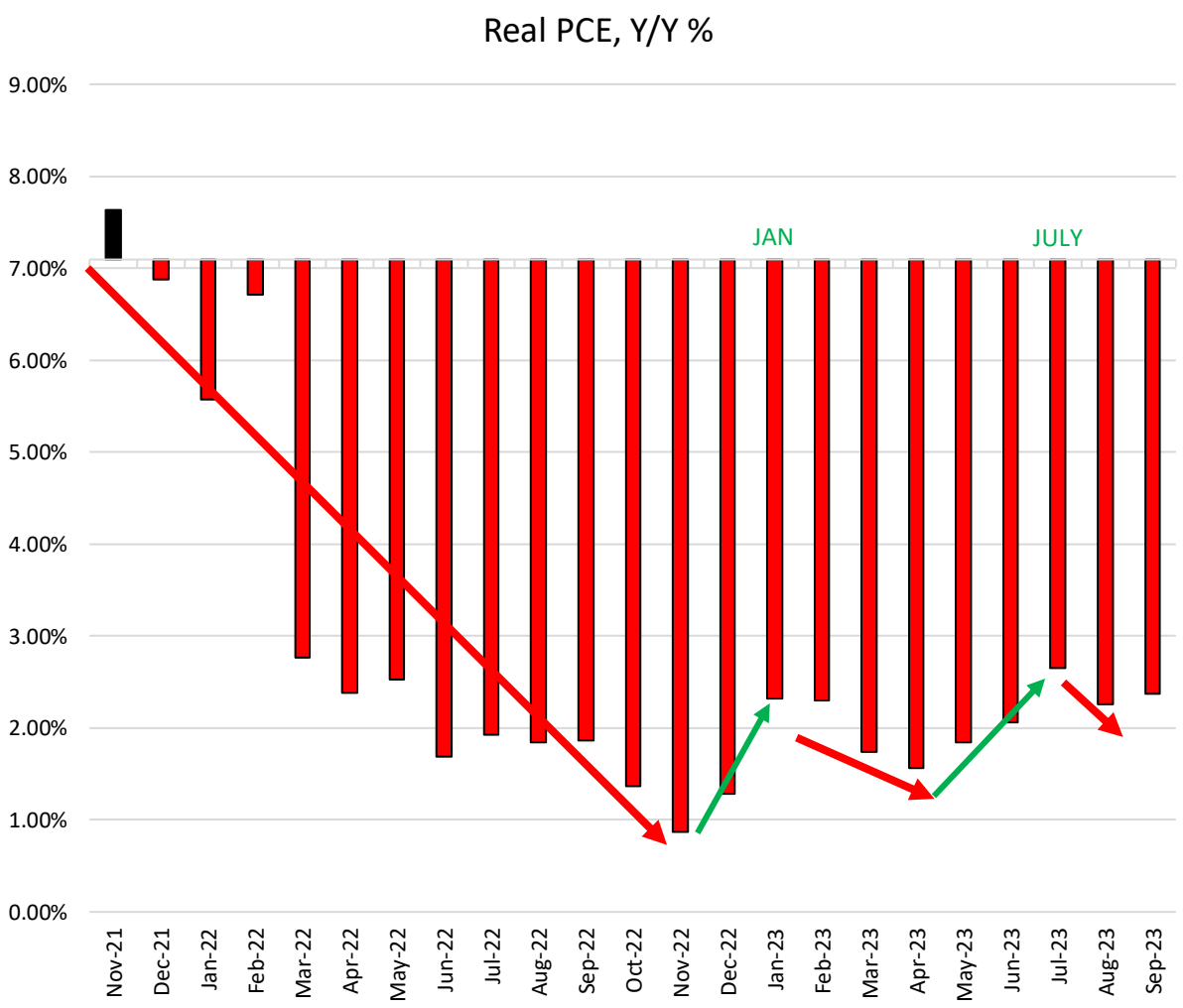
CPI Health Insurance - Contribution to Headline



# REARVIEW REPORT: JULY = The Peak in the Countertrend Bounce

Is July setting up as a January redux? Yes, (very) Probably

UPDATE: Aug/Sept = ↓



JULY

- Peak AI Euphoria
- Peak “Barbenheimer”
- Peak Summer Concert (Swift, Beyonce, etc)
- Sub 7% Mortgage Rates
- Trough In Gas Prices
- Peak in Equity Prices
- 12-month/cycle low in the Savings Rate

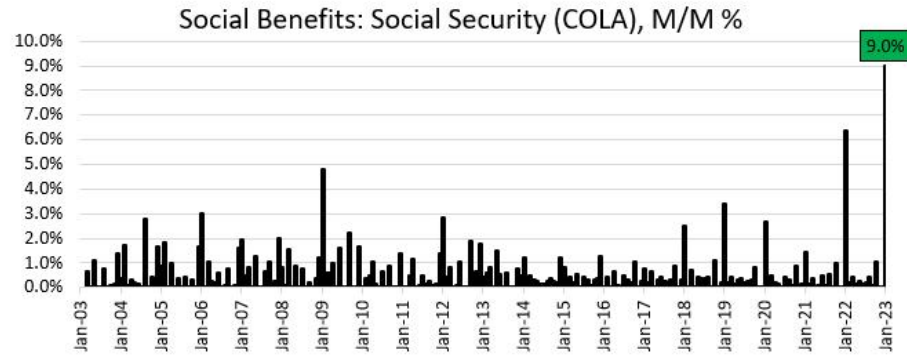
..... All of those are either nonrecurring or have since reversed

# JANUARY → NOISE-Palooza

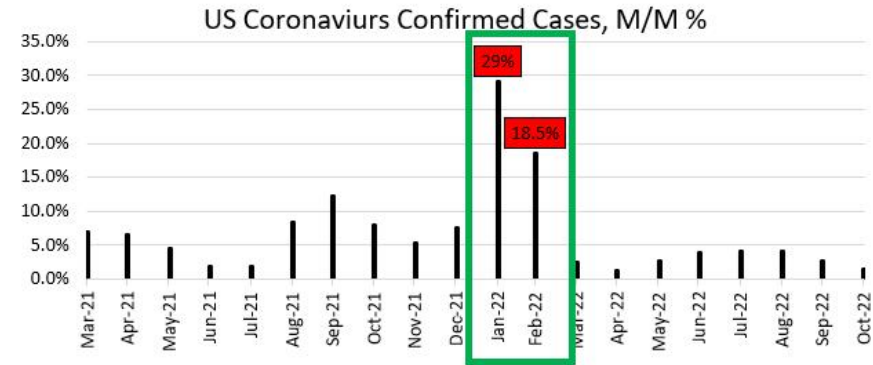
HEDGEYE

Warmer weather, Omicron comps, statistical updates/distortions, COLA increases, minimum wage increases, inflation index adjustments to the tax rate (i.e. less taxes collected/more nominal income) all (positively) impacted the January figures to some varying degree.

**JAN COLA/SSI Payments = +9% M/M, +11.5% Y/Y**



**Jan = Peak Omicron Comp**



**JAN NFP: Weather = Added +100K**

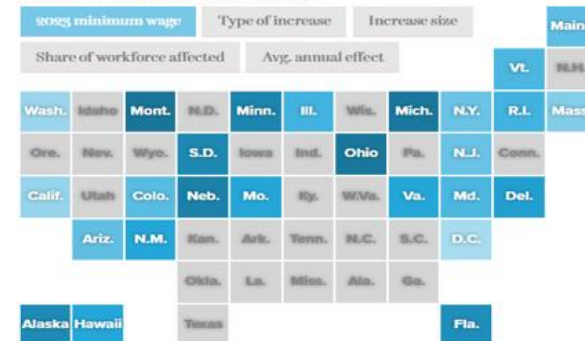
Weather-Adjusted Change in Total Nonfarm Employment (monthly change, seasonally adjusted)

Month	Official BLS (Not Weather-Adjusted)	County DPD Model (No Regional Heterogeneity)	County DPD Model (Regional Heterogeneity)
JAN-2023	504	397	405

San Fran Fed  
Weather adjustment added ~+100K  
to Headline NFP

**Jan → 23 States & 8.3M Workers = Min. Wage ↑**

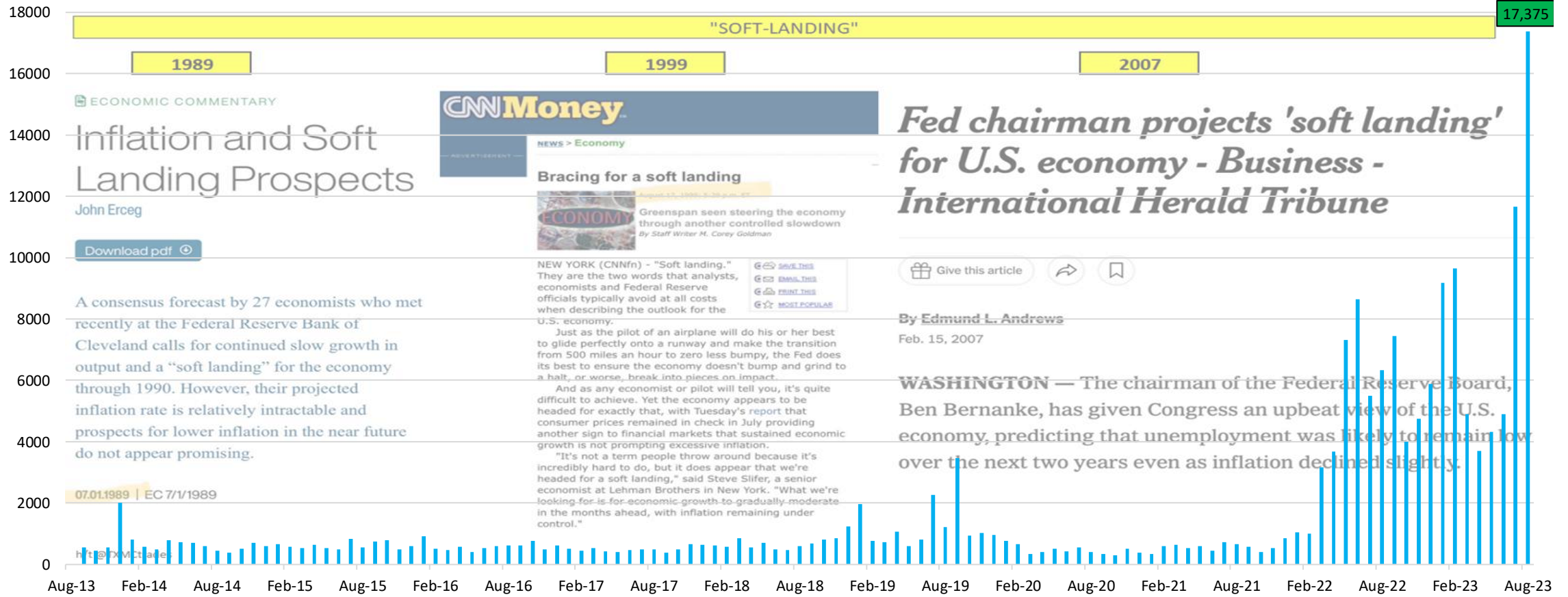
2023 minimum wage increase, type of increase, number of affected workers, and wage impacts by state



# “Soft-Landing” → The Contra-Signal Timing Was Sublime!

The latest amidst a storied history of soft-landing prognostications gone unrealized?

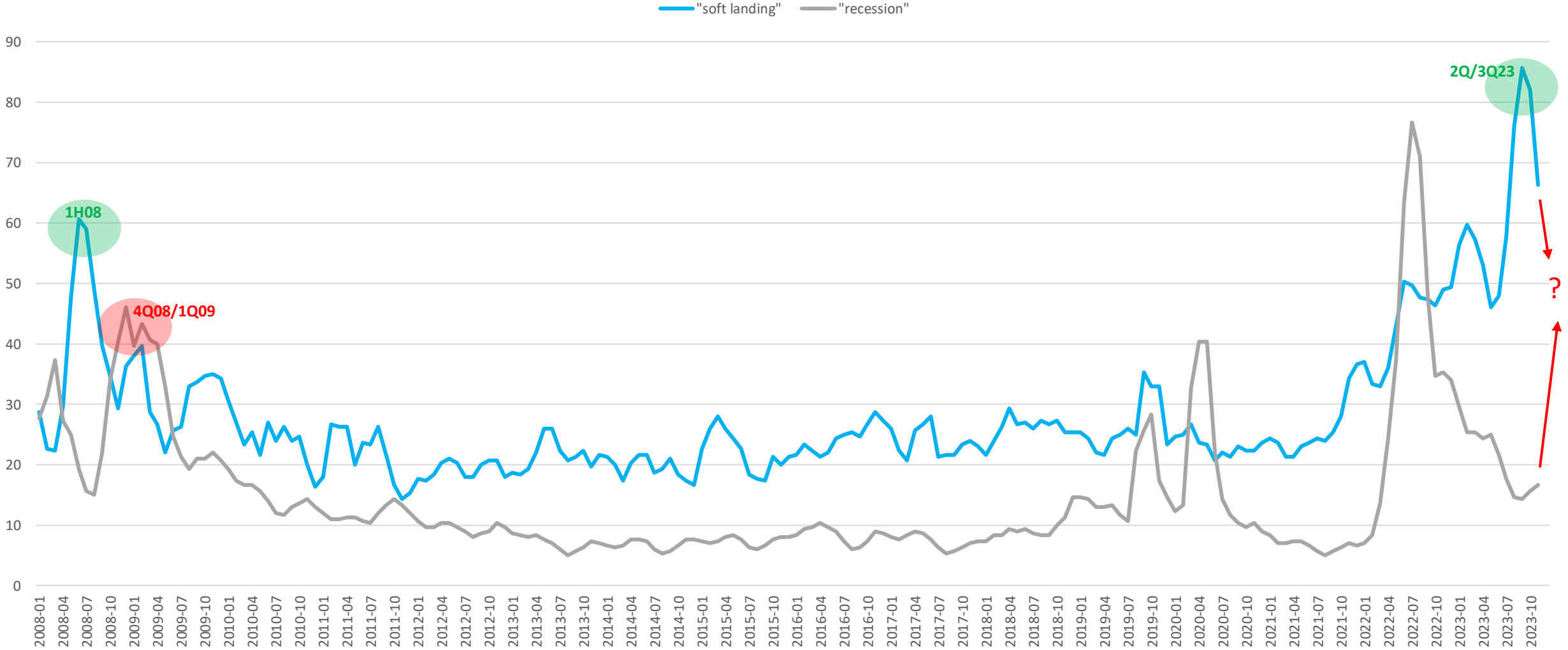
"Soft Landing" - Story Count Mentions



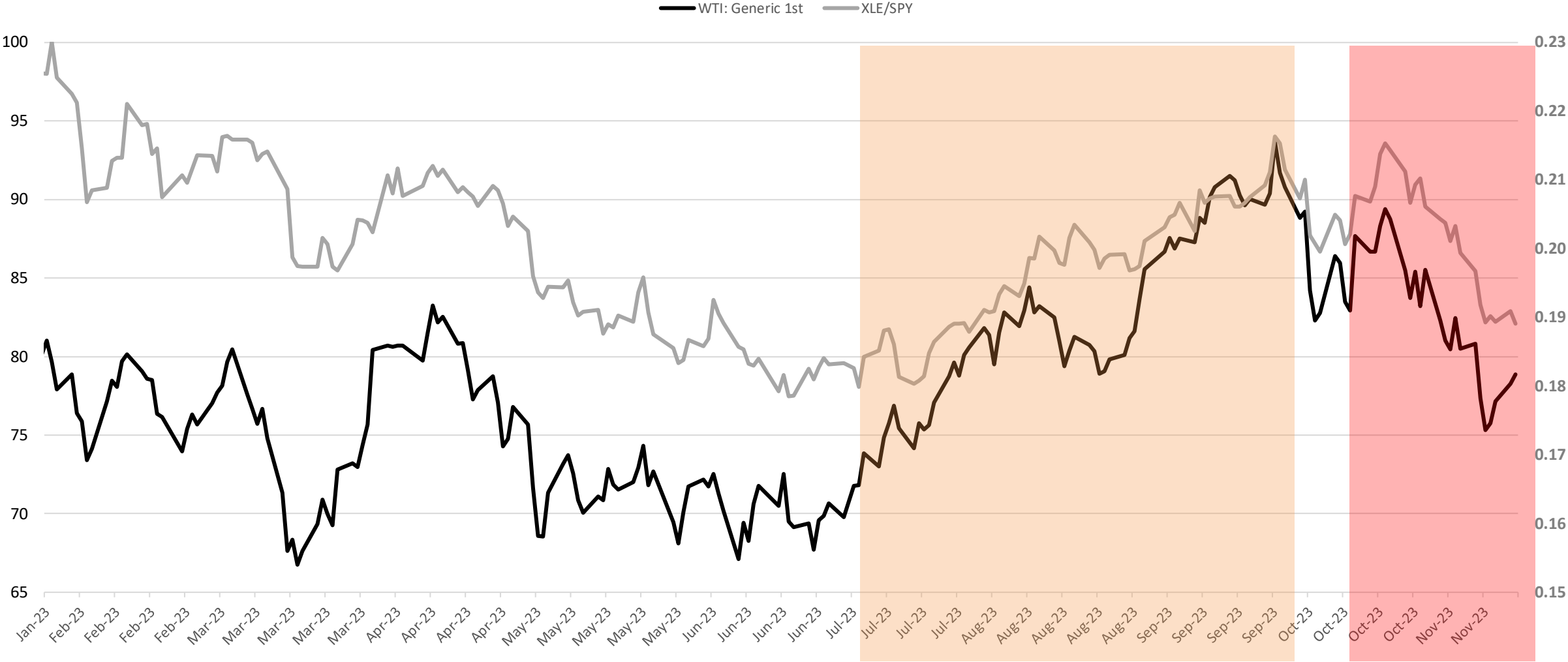
# Google Trends: Recession ↓, Soft Landing ↑ ... Has to Be Good Right?

There's obviously not a meaningful sample size but the historical pattern whereby "soft landing" optimism gives way to recessions reality (ie 2008-2009) is not particularly inspiring

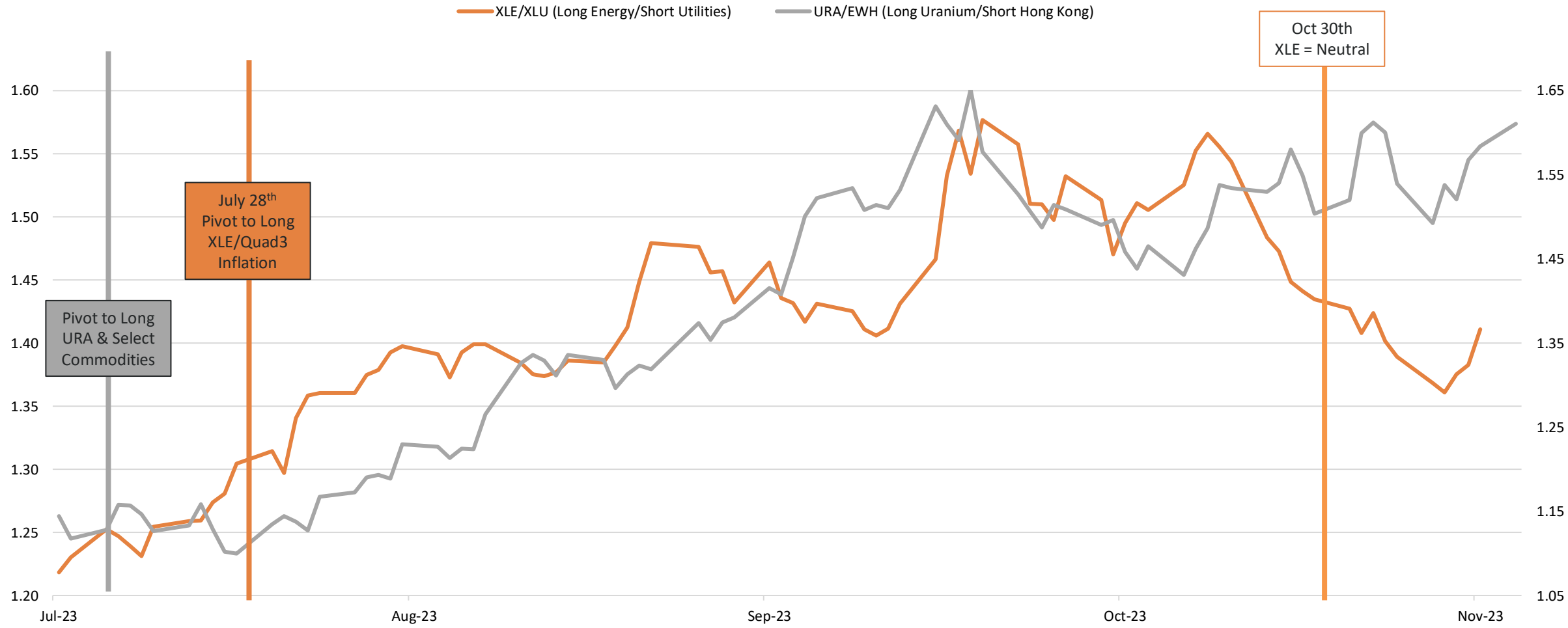
UPDATE: "Soft-landing" Trending Down, "Recession" Trending Up



July/Aug = Peak “Soft-Landing”. July-Sept = Inflation Accelerating. 4Q23 QTD = Quad 4



# PROCESS: The #Quad3 Pivot ...& Piv-out





# PROCESS (& Patience) > PANIC

In The Arena, Trying Stuff .... 15 Years In The Fishbowl!

2008- Present: 7364 #Timestamped Positions

## HISTORY (2008-Present)

METRIC	No.	%
<b>TOTAL CLOSED POSITIONS</b>	<b>7364</b>	<b>100%</b>
<i>Total Longs</i>	3148	43%
<i>Total Shorts</i>	4216	57%
<b>TOTAL GAINS</b>	<b>5760</b>	<b>78%</b>
<b>TOTAL LOSSES</b>	<b>1582</b>	<b>21%</b>
<i>Total Breakeven (realized 0%)</i>	22	0%
MAX GAIN	876.6%	
Ave Gain	2.7%	
MAX LOSS	-91.5%	
Ave Loss	-3.3%	
<b>LONGS</b>		
	<b>No.</b>	<b>%</b>
Total Gains	2468	78%
Total Losses	666	21%
Total Breakeven (realized 0.0%)	22	1%
Total	3156	100%
Long Batting Ave	78.2%	
<b>SHORTS</b>		
	<b>No.</b>	<b>%</b>
Total Gains	3292	78.2%
Total Losses	916	21.8%
Total	4208	100%
Short Batting Ave	78.2%	

## Late June – Late July

Process > Panic

### Late June-Late July (4wks): RTA SUMMARY STATS

METRIC	No.	%
<b>TOTAL CLOSED POSITIONS</b>	<b>61</b>	<b>100%</b>
<i>Total Longs</i>	27	44%
<i>Total Shorts</i>	34	56%
<b>TOTAL GAINS</b>	<b>42</b>	<b>69%</b>
<b>TOTAL LOSSES</b>	<b>19</b>	<b>31%</b>
<i>Total Breakeven (realized 0%)</i>	0	0%
MAX GAIN	5.2%	
Ave Gain	1.6%	
MAX LOSS	-6.8%	
Ave Loss	-1.8%	
<b>LONGS</b>		
	<b>No.</b>	<b>%</b>
Total Gains	17	63%
Total Losses	10	37%
Total Breakeven (realized 0.0%)	0	0%
Total	27	100%
Long Batting Ave	63.0%	
<b>SHORTS</b>		
	<b>No.</b>	<b>%</b>
Total Gains	25	73.5%
Total Losses	9	26.5%
Total	34	100%
Short Batting Ave	73.5%	

## Last 10 Weeks

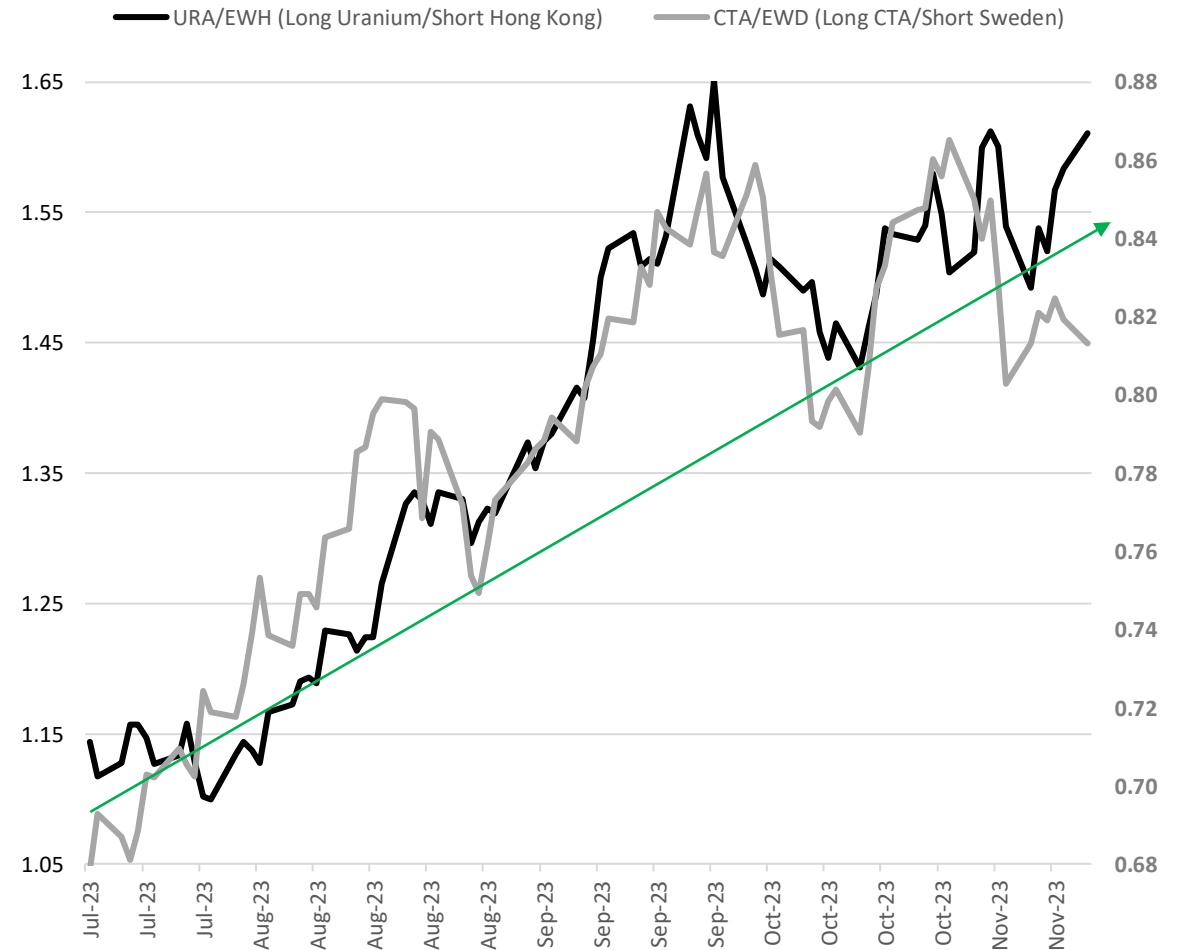
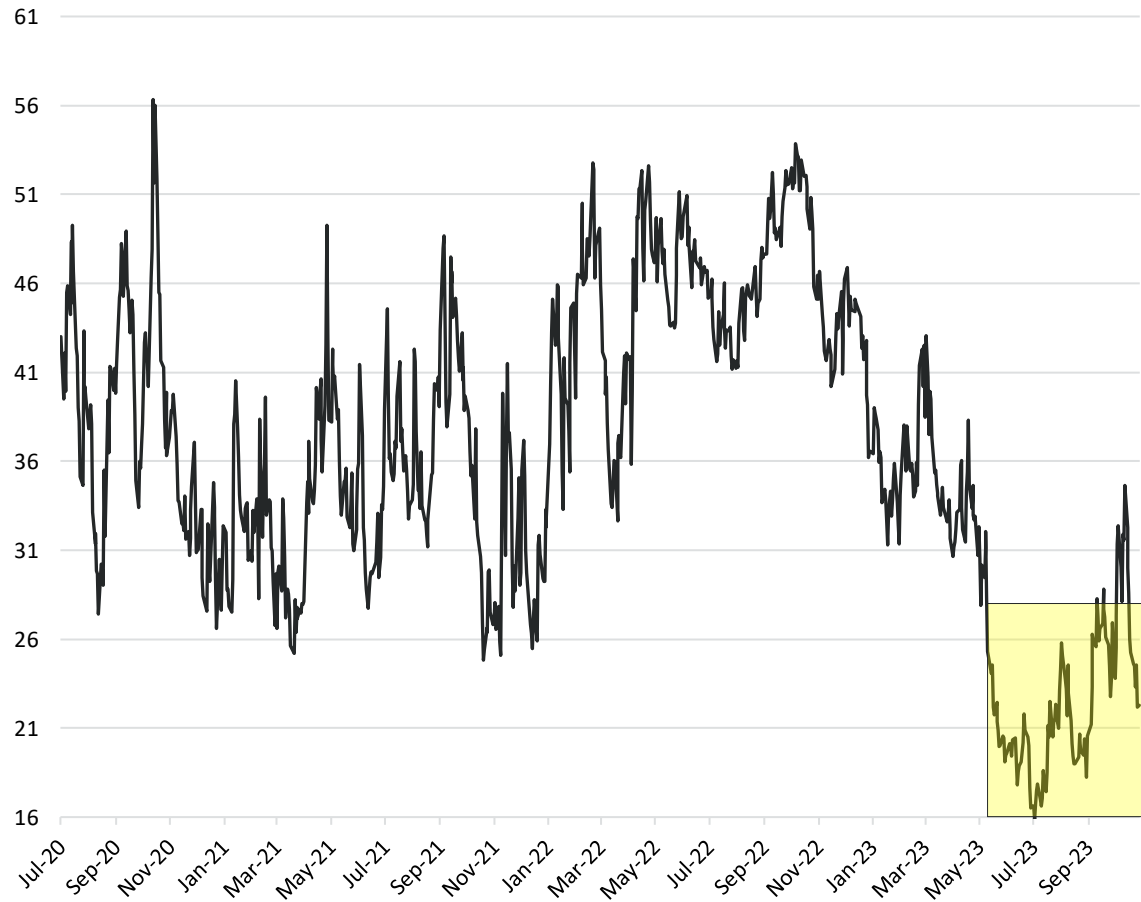
### LAST 10 WEEKS

METRIC	No.	%
<b>TOTAL CLOSED POSITIONS</b>	<b>141</b>	<b>100%</b>
<i>Total Longs</i>	24	17%
<i>Total Shorts</i>	117	83%
<b>TOTAL GAINS</b>	<b>126</b>	<b>89%</b>
<b>TOTAL LOSSES</b>	<b>15</b>	<b>11%</b>
<i>Total Breakeven (realized 0%)</i>	0	0%
MAX GAIN	26.9%	
Ave Gain	1.8%	
MAX LOSS	-2.9%	
Ave Loss	-1.5%	
<b>LONGS</b>		
	<b>No.</b>	<b>%</b>
Total Gains	15	63%
Total Losses	9	38%
Total Breakeven (realized 0.0%)	0	0%
Total	24	100%
Long Batting Ave	62.5%	
<b>SHORTS</b>		
	<b>No.</b>	<b>%</b>
Total Gains	111	94.9%
Total Losses	6	5.1%
Total	117	100%
Short Batting Ave	94.9%	

# #GoAnywhere Remains Everywhere Tourists Aren't

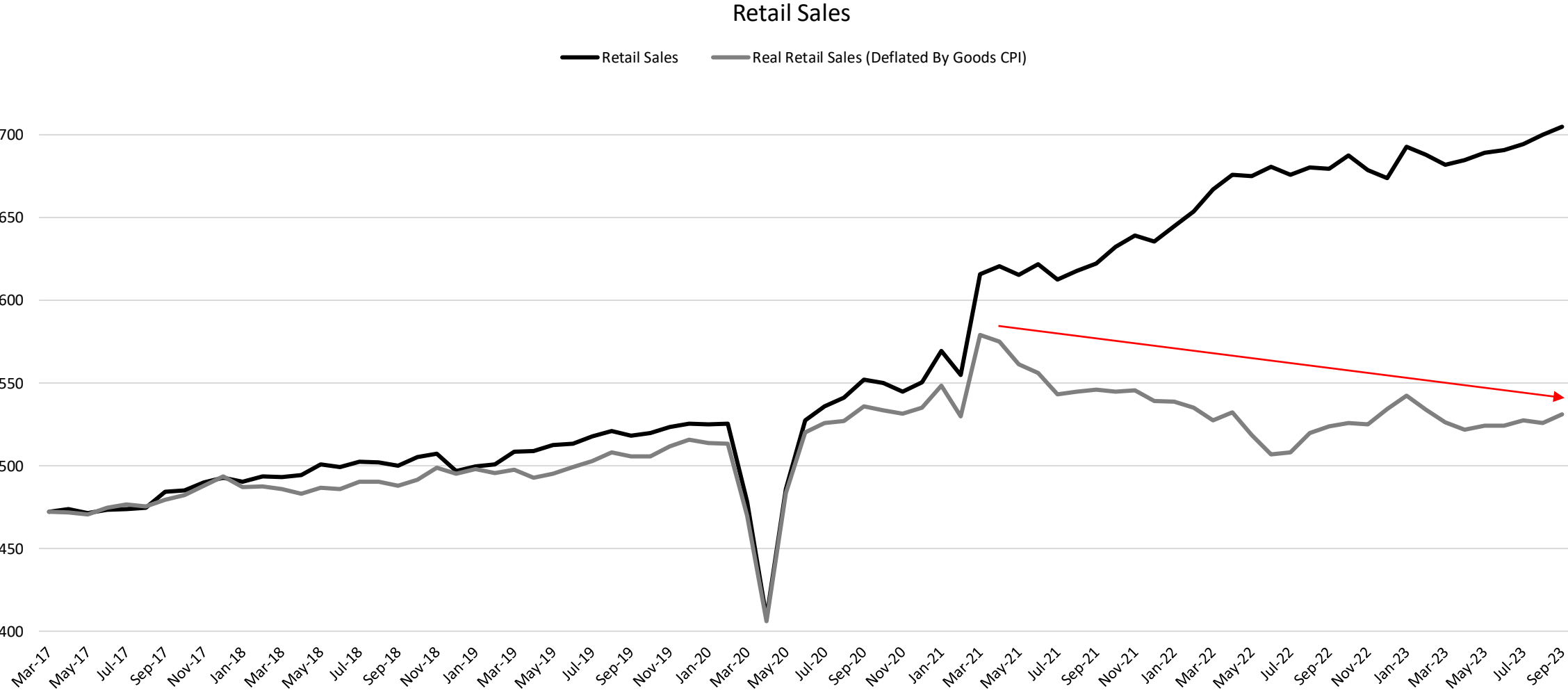
.... Equity Correlations ↓ + Performance Dispersion ↑ = Quantamental Risk Manager's Alpha-Ground

SPX: 3 Month Implied Correlation  
*(measures implied correlation of equities over next 3 months)*



# New Quarter, Same TREND: Let's Keep the 4Q 'Captain Obvious' Fundamental Review Tight

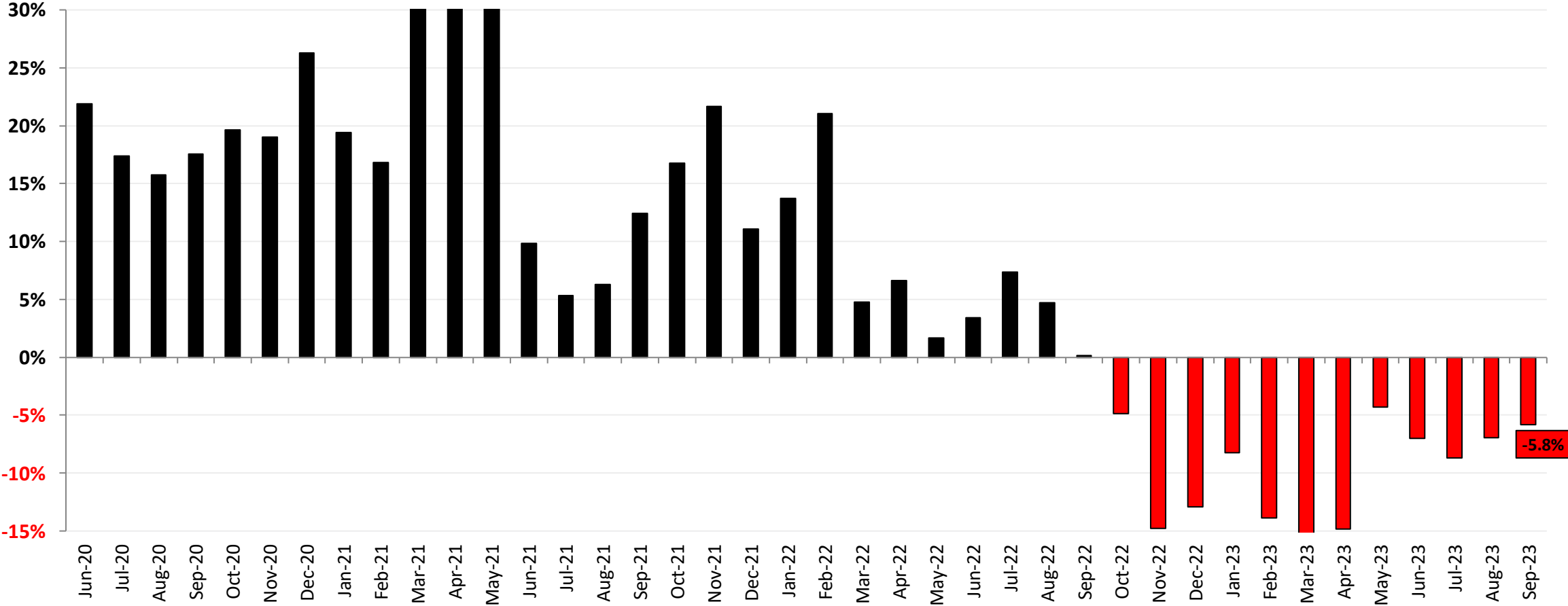
UPDATE → No Change in TREND



# Luxury Goods Consumption → Negative, Month 12

UPDATE → No Change in TREND ... and looks like we won't successfully comp the beginning of negative comps in October.

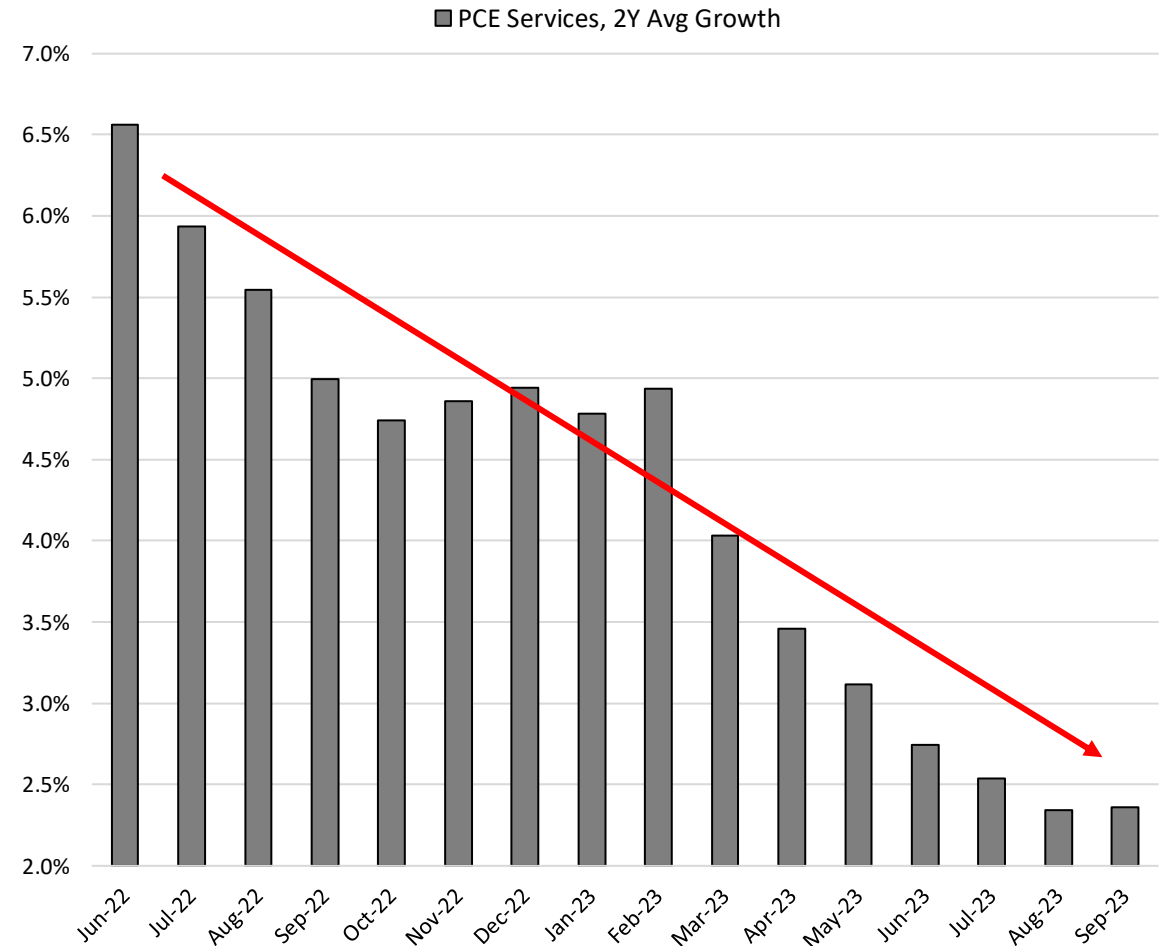
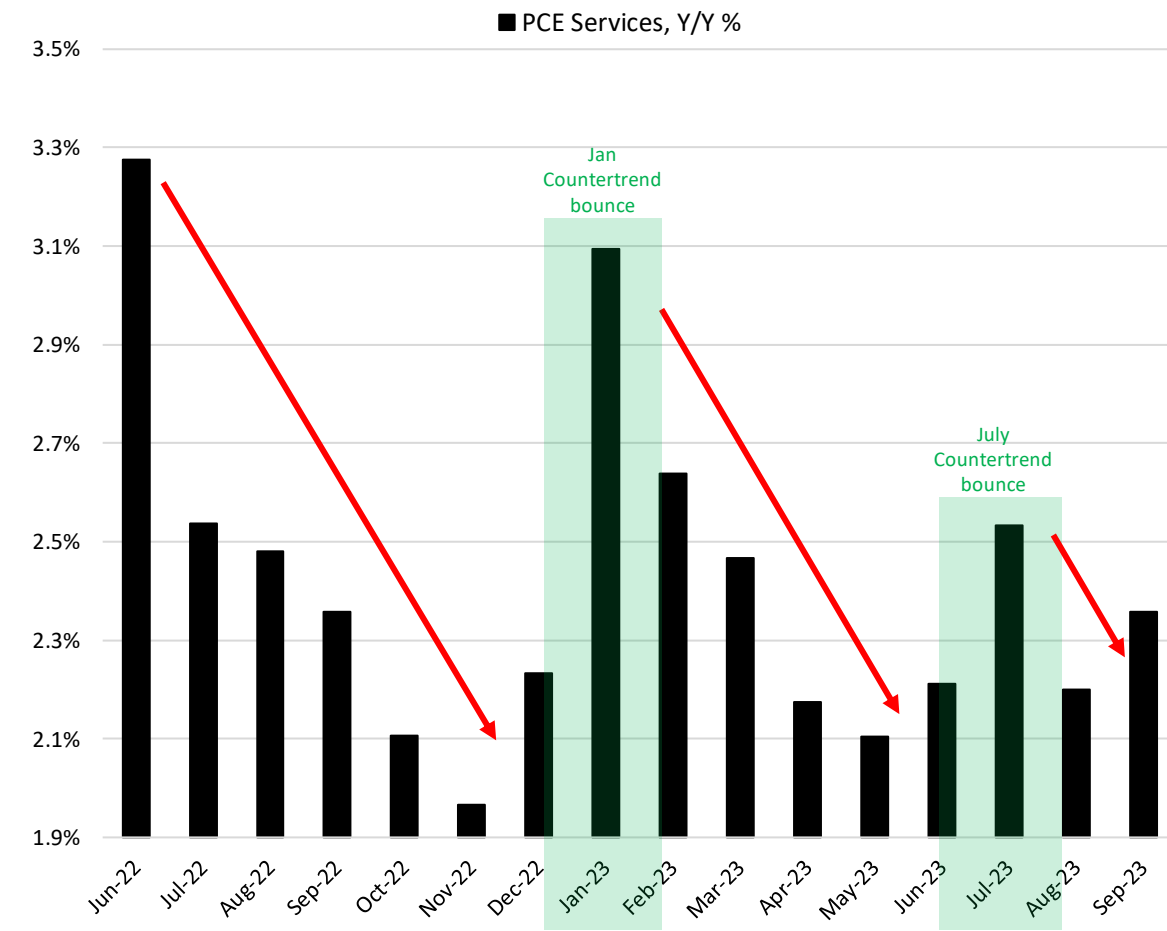
Luxury Goods Consumption, YoY %  
(PCE for Pleasure Boats, Aircraft, Jewelry, Watches)



# Services Consumption → No Change in **TREND**

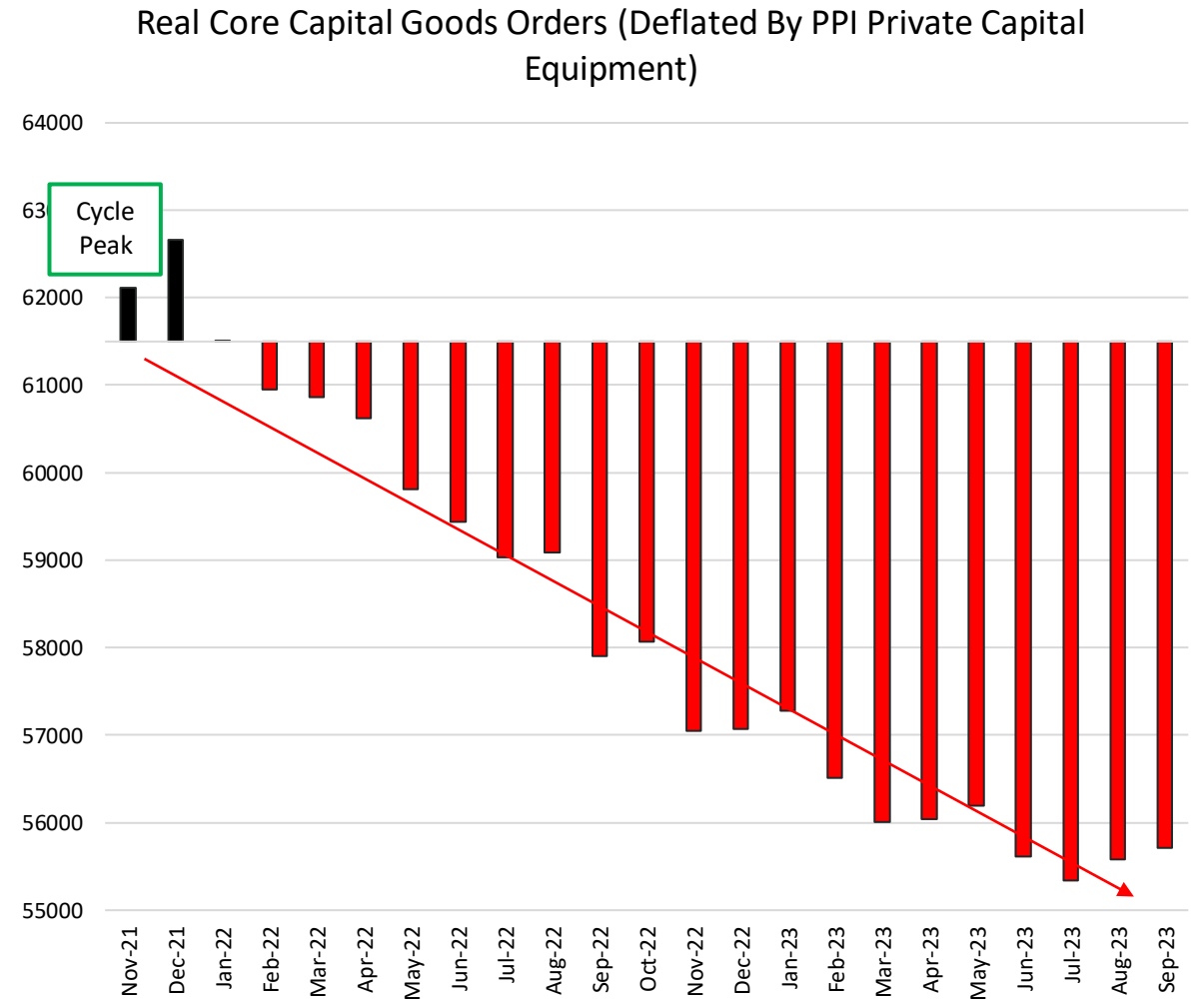
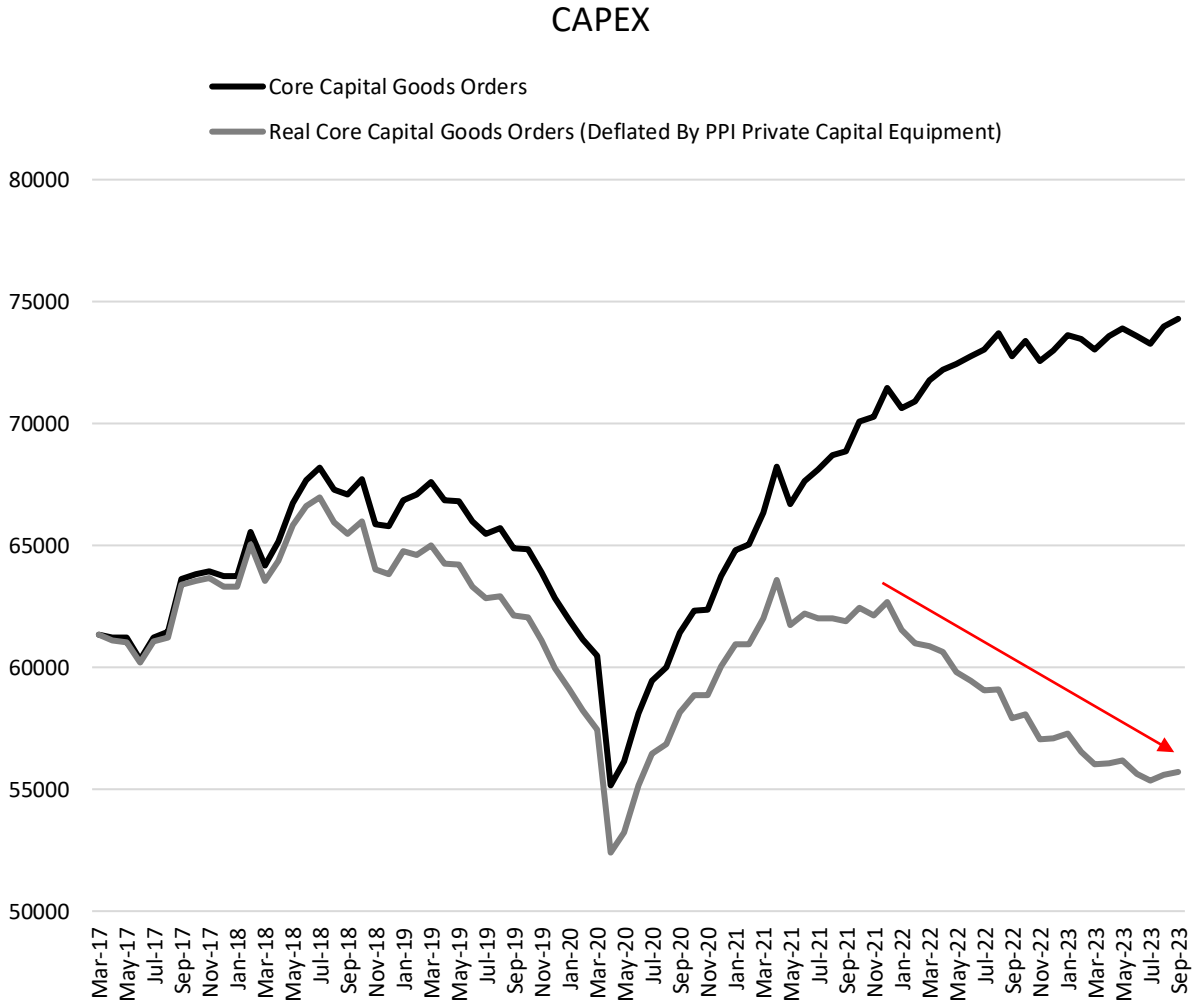
The **Jan** Countertrend bounce subsequently resolved lower and **July** is setting up as a similar deviation. Using 2Y Avg growth (right chart) to help normalize for comp dynamics, the RoC TREND remains clear.

**UPDATE: July = January** = Counter-trend bounce ... then back to decel



# CAPEX → No Change In TREND

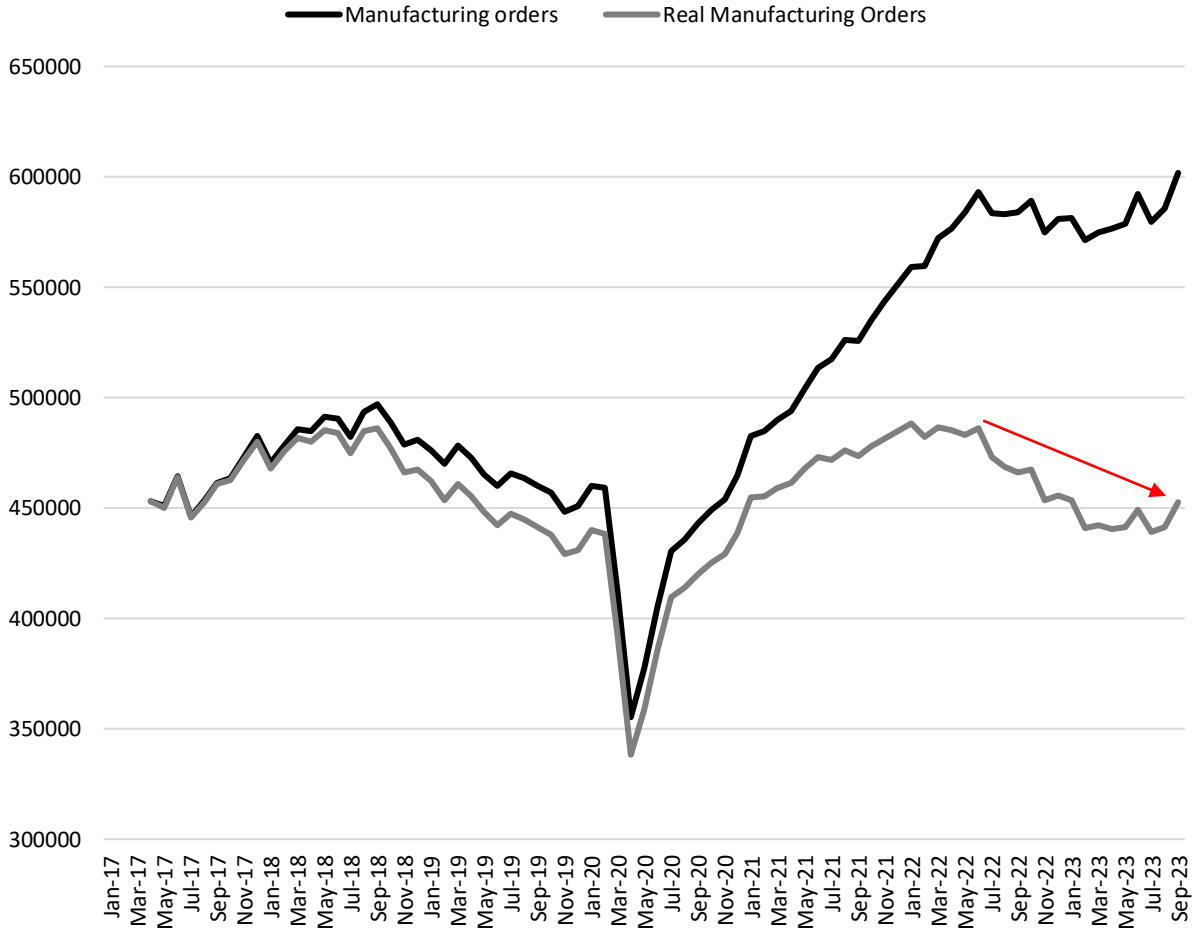
UPDATE → New Month(s), Same TREND



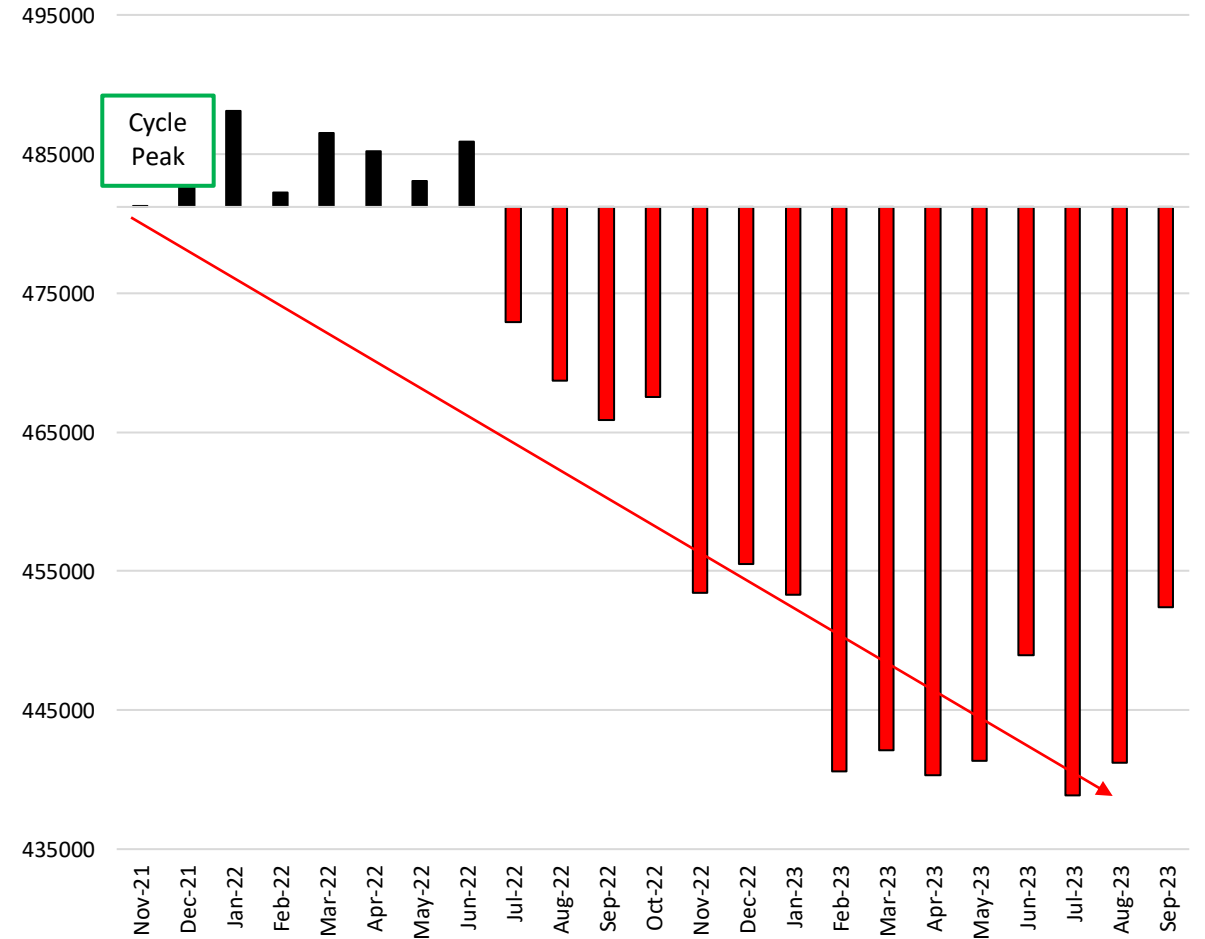
# Manufacturing → No Change In TREND

UPDATE → More TREND Decel. \*Note: Defense & Auto production ahead of impending strikes supported Activity in September

Manufacturing Orders



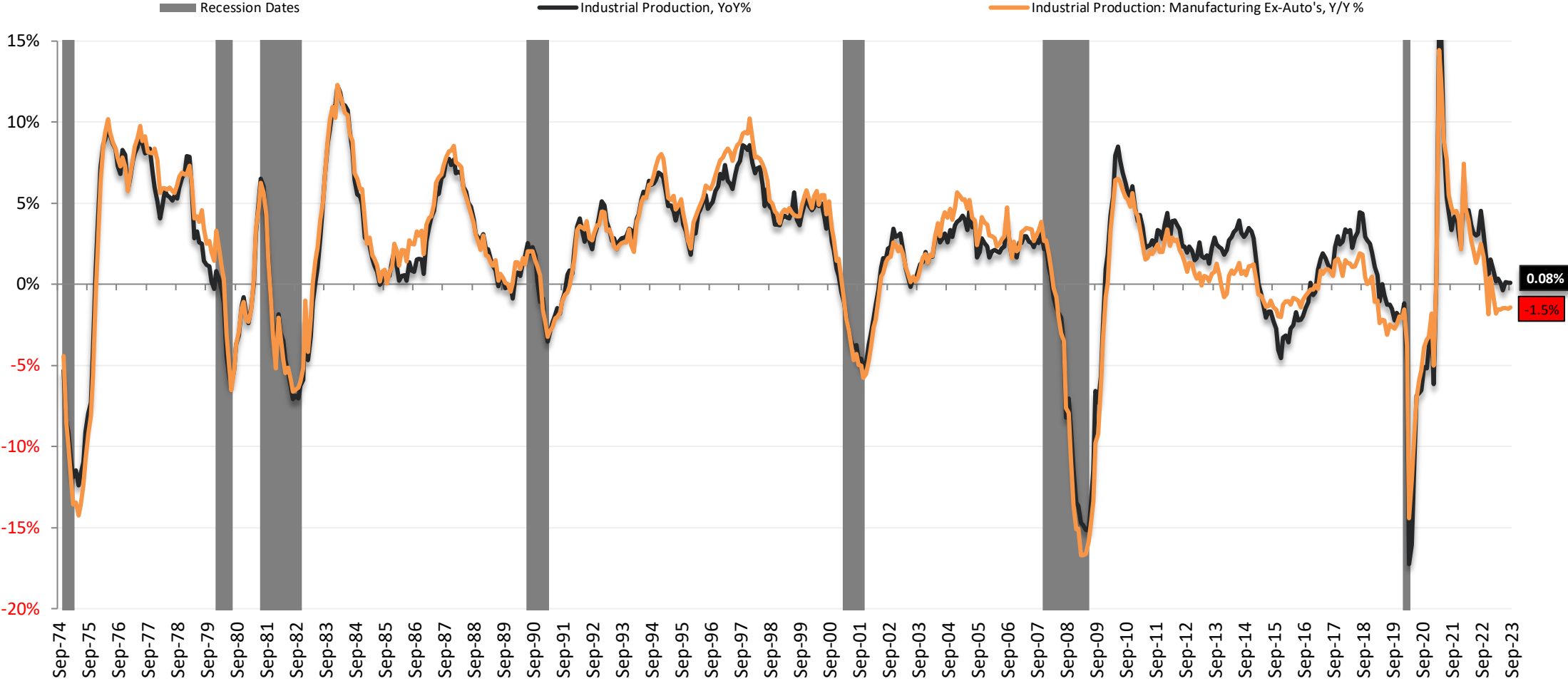
Real Manufacturing Orders





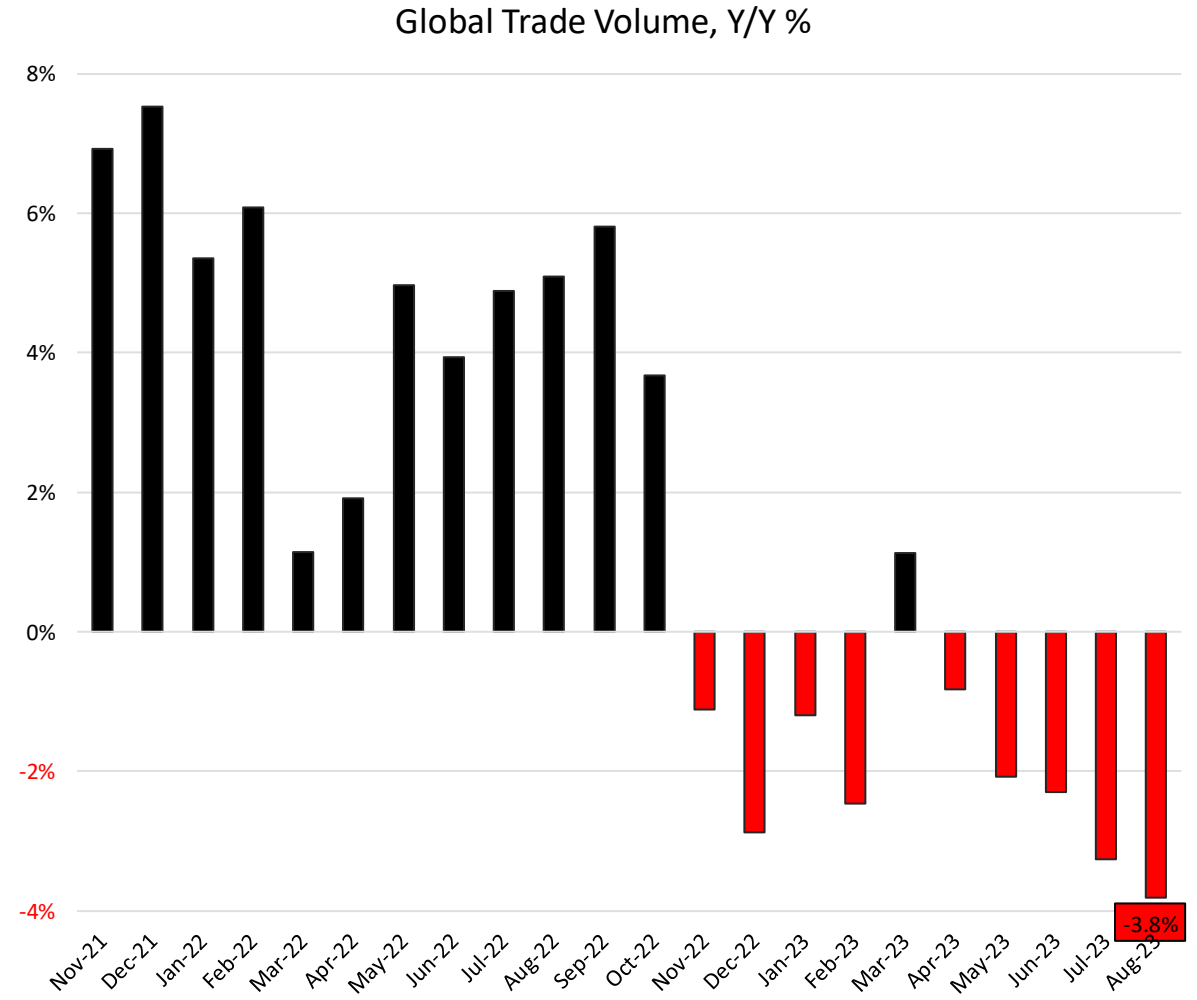
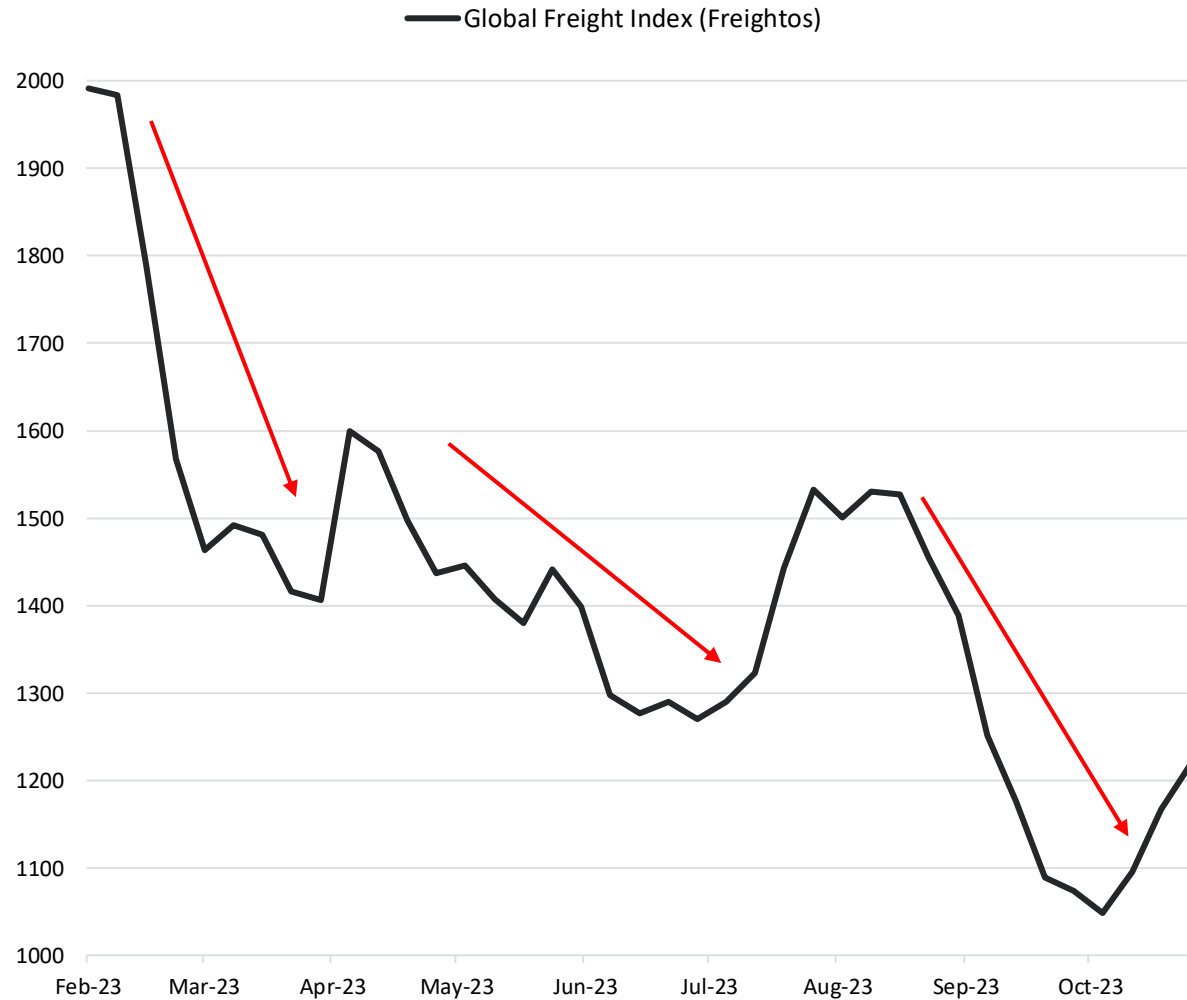
# Industrial Production → Dr. Zero

\*\*The Auto Strike will likely tag the reported IP/MFG production data for Oct\*\*



# Global/External Activity → No Change In **TREND**

UPDATE → **Worse**



# STAG-TEMBER → SHOCK-TOBER!

The Income Shock & Discretionary Consumption Beatings Will Continue Until Morale (& Wage/Consumption Growth) Capitulate!

## The Morale Capitulation Calendar

2023 SEPTEMBER						
SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28 YOU ARE HERE	29 1 Business Day Until You Get Here	30



- 1Q: SNAP Benefits End
- 2Q/3Q: Excess Savings Exhausted
- 2Q/3Q: SNAP Reduction pt. 2 (\$391/child → \$120/child)
- Sept 1<sup>st</sup>: Student Loan Interest Begins (re)Accruing
- Sept 14<sup>th</sup>: IRS Halts ERC Payments (\$250B)
- Sept 15<sup>th</sup>: UAW Strike Begins (Economic cost = \$200-600M/Day)
- Oct 1<sup>st</sup>: Student Loan Repayment Begins (\$10-15B/Mo)
- Oct 1<sup>st</sup>: Government Shutdown, Again! (-0.2% GDP/Wk)
- Oct 1<sup>st</sup>: Childcare-Cliff (\$24B Funding Expiring, ~3M Impacted)
- Oct 4<sup>th</sup>: Kaiser Permanente Worker Strike (75K HC Workers)
- Oct 15<sup>th</sup>: California Tax Extension Deadline - The Bill is (Finally) Due
- 4Q23: Health Insurance Premium Spike
- 4Q23-1H24: Continued Unwind of Pandemic Medicaid Coverage. (Coverage Loss for 8-24M people)
- 4Q23-3Q24: EIDL Pandemic Loan Repayment (\$380B in Loans)

# Government Shutdown

**UPDATE = Averted, Maybe!** ... the impacts below still hold if shutdown risk intensifies this week. \* Note that the Employment data for November was already collected so a shutdown on 11/20 would not impact the Dec NFP

## Shutdown Impact Summary

**GDP:** Fed Baseline Estimate = **-0.2% hit to GDP/week**

**Employees:** Federal Employees Paid Retroactively, Federal Contract Workers Unpaid (in prior shutdowns)

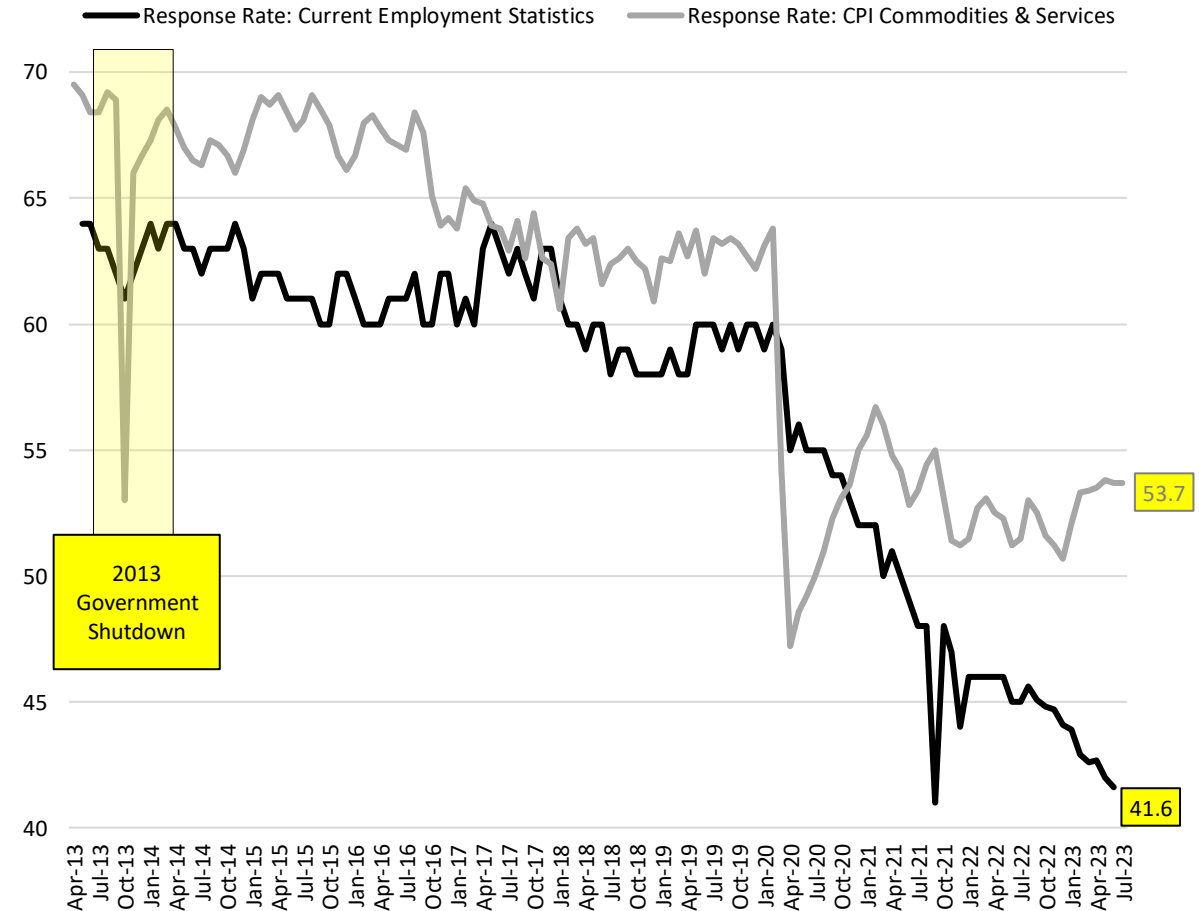
**Unemployment:** Household Survey Period = Oct 8-14. Federal Workers on furlough counted as unemployed (or on Temporary Layoff)

**NFP:** Furloughed Federal Workers = No impact on BLS estimate of NFP from Establishment Survey

**Jobless Claims:** Federal Workers are line-itemed separately & shouldn't directly impact headline number

**Data Reporting:** September data (for October release) mostly already collected. October could be heavily impacted wrt data collection & quality of Survey responses. October CPI data collection - which spans the whole month and is labor intensive - could be meaningfully impacted.

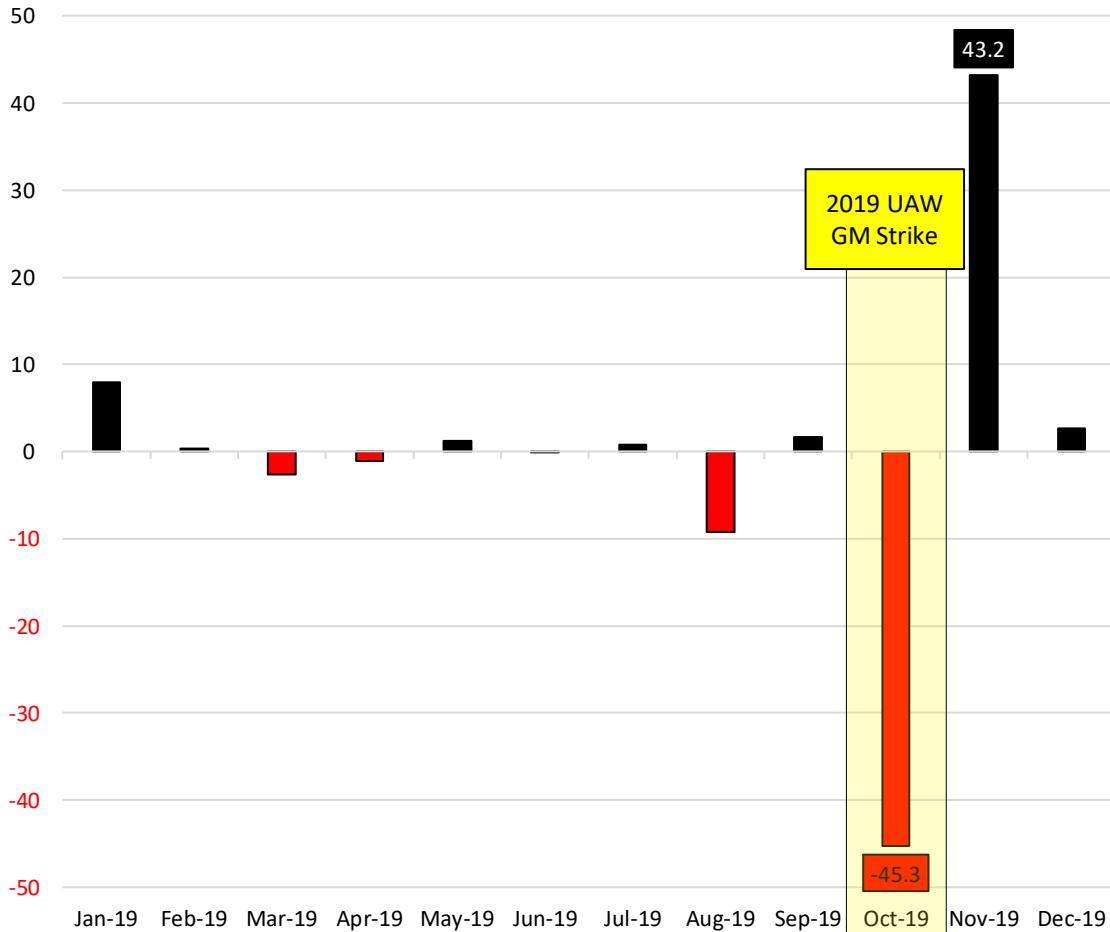
**Services:** Potentially significant disruption of administrative support services associated with federal agencies (ie tax returns request processing for real estate transactions, etc)



# UAW Strike

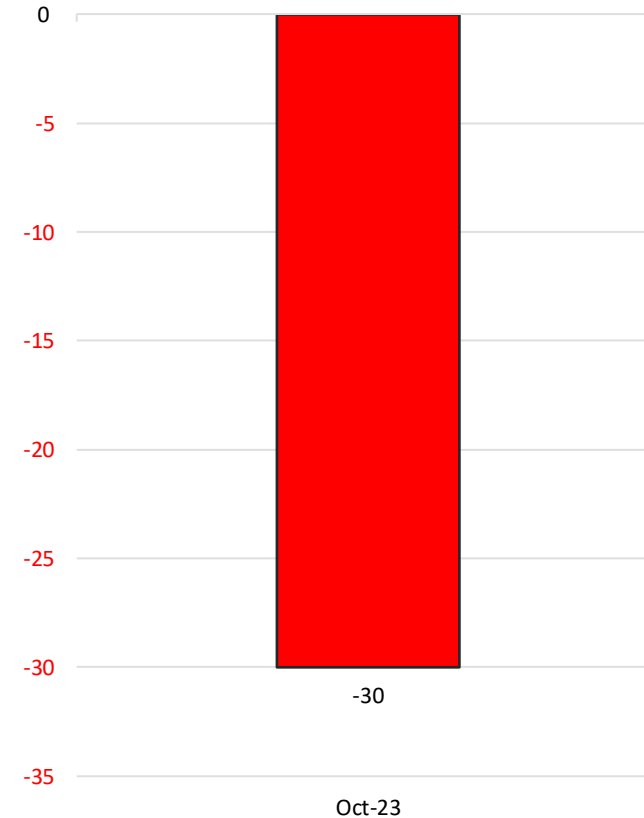
**UPDATE:** The UAW strike impacted NFP by at **-30K** while also idling associated production activity. Preliminary agreements were reached and workers are mostly back on the job. 75K striking Kaiser Permanente Healthcare Workers also successfully came to terms.

NFP: Transportation equipment manufacturing, M/M Chg



Oct '23

NFP: Transportation equipment manufacturing M/M Chg



# UAW Strike

**UPDATE = Higher (wage growth) For Longer ....** UAW workers have secured large pay/benefit increases with similar terms from GM/Ford. Strikes/Union negotiations have also secured big pay increases for hundreds of thousands of workers. Wages will step higher by at least 5% per year over the next 3-5 years.

## UAW

+25% (minimum)



## Kaiser Permanente

+21% (>5% per yr)



The tentative agreement:

- Establishes new minimum wages over 3 years for Coalition-represented employees that will reach \$25/hour in California and \$23/hour in other states where Kaiser Permanente operates
- Provides guaranteed across-the-board wage increases totaling 21% over 4 years
- Enhances employees' Performance Sharing Plan with minimum payout opportunities and a substantial maximum payout opportunity
- Increases investments in professional development and job training, and includes other initiatives to help address the staffing crisis in health care

Further details of the agreement will be made available later.

The Coalition unions have withdrawn their notices for a November strike.

## UPS

>5% per yr

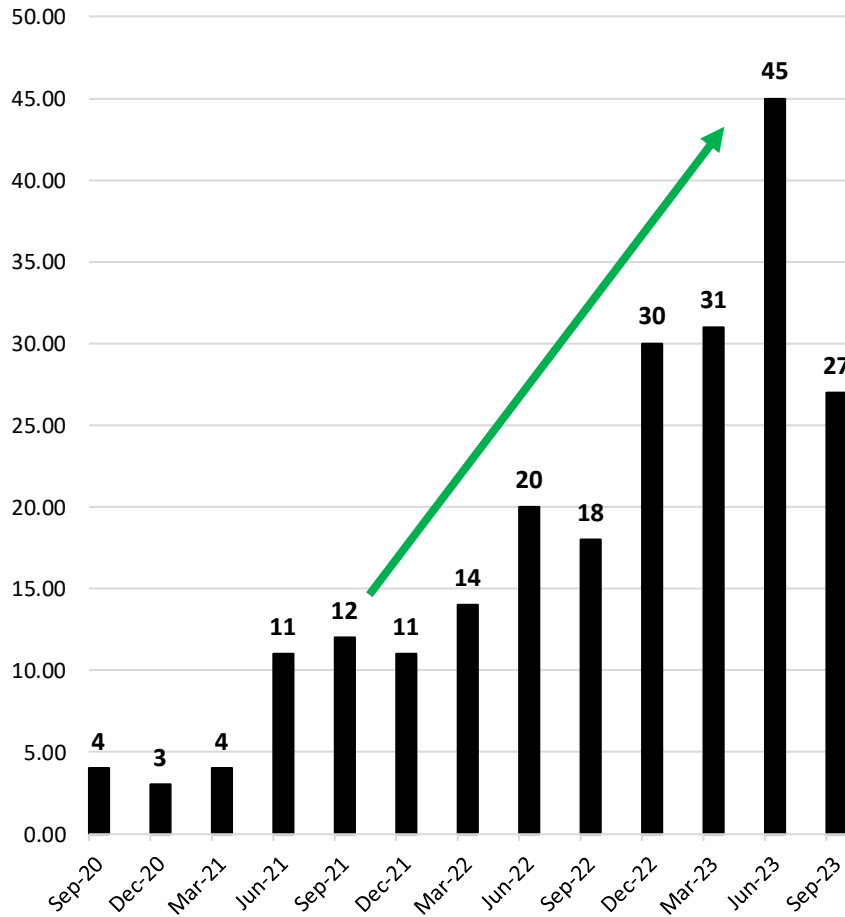
UPS and the Teamsters union, which represents about 340,000 workers at the delivery giant, reached a preliminary deal last month, narrowly averting a strike that could have rippled across the U.S. economy as the previous contract expiration on July 31 approached.

Part-time workers will make no less than \$21 an hour, up from a minimum of \$15.50 currently, according to the union. Part-time pay was a sticking point during labor negotiations. Full-time workers will average \$49 an hour. Current workers will get \$2.75 more an hour this year and \$7.50 an hour more over the five-year contract.

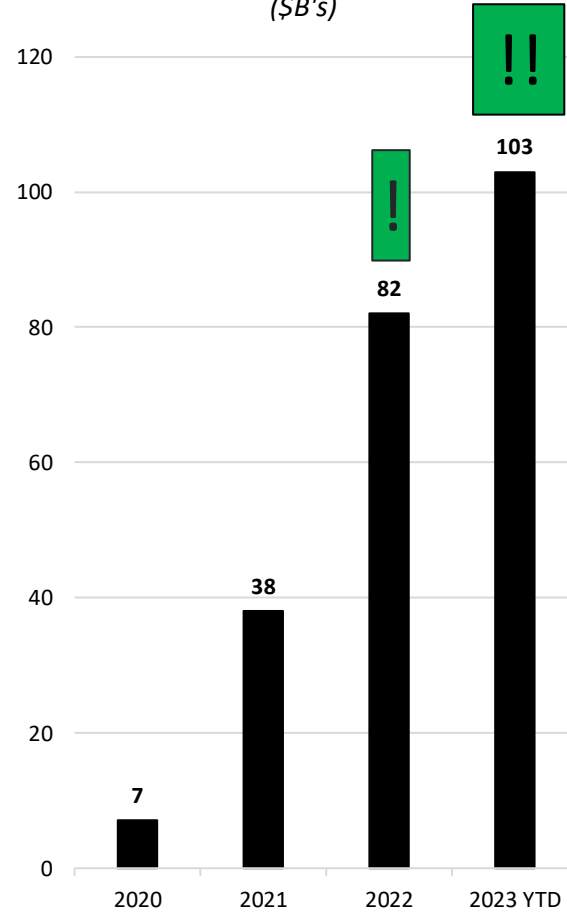
# 👋 Cease & Desist! ERC → \$250B in Consumption Support Now Stiff-Armed

The ERCT was a Pandemic credit available to small businesses and non-profits as an incentive to keep works employed and **allowed small businesses to receive up to \$26,000 per employee**. It's been fraught with fraud & abuse ... which is why the IRS shut it down in September. The spending associated with this \$250B in payments to individuals/small business owners will have a tail but **it will definitely build as a progressive drag on discretionary consumption**

ERC (Employee Retention Credit) Payments (\$B's)



ERC Payments, Annual (\$B's)



**Update:**  
IRS Offers Claimants Opportunity to Withdraw Their Claim via A Get Out Of Jail Free Card



Home / News / News Releases  
/ IRS announces withdrawal process for Employee Retention Credit claims; special initiative aimed at helping businesses concerned about an ineligible claim amid aggressive marketing, scams

**IRS announces withdrawal process for Employee Retention Credit claims; special initiative aimed at helping businesses concerned about an ineligible claim amid aggressive marketing, scams**

WASHINGTON — As part of a larger effort to protect small businesses and organizations from scams, the Internal Revenue Service today announced the details of a special withdrawal process to help those who filed an Employee Retention Credit (ERC) claim and are concerned about its accuracy.

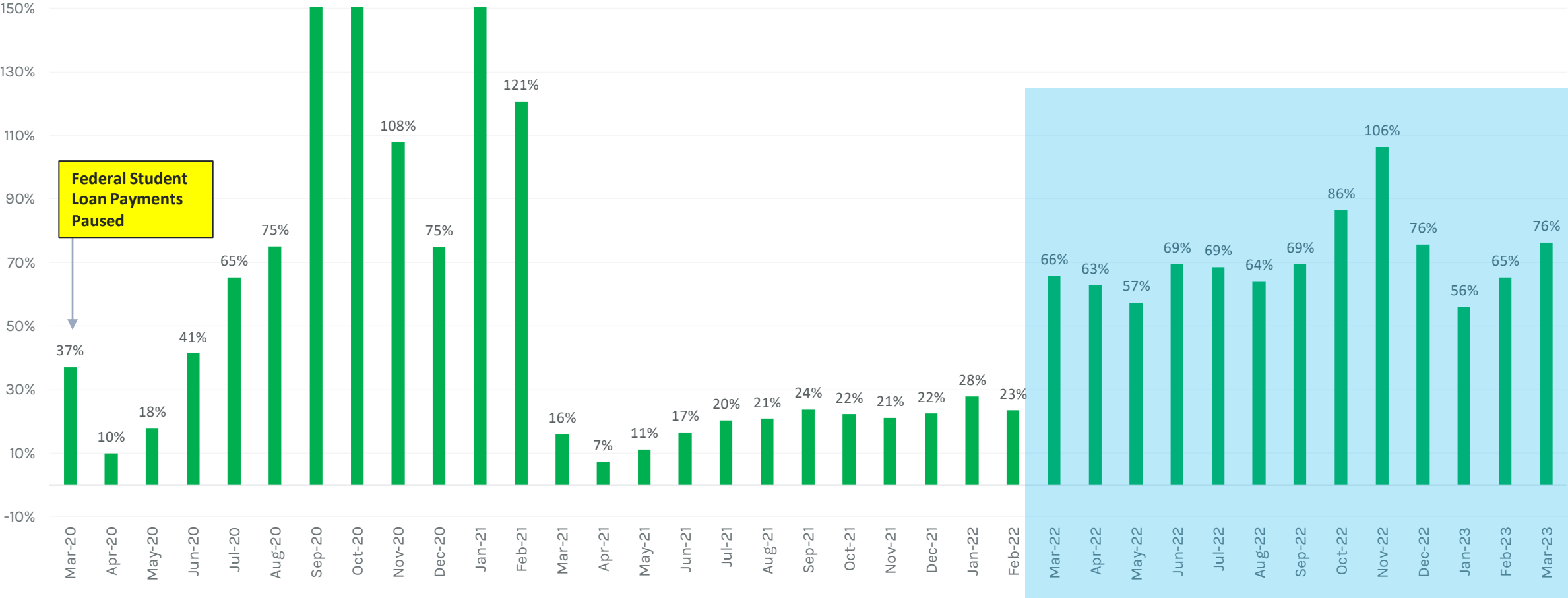
This new withdrawal option allows certain employers that filed an ERC claim but have not yet received a refund to withdraw their submission and avoid future repayment, interest and penalties. Employers that submitted an ERC claim that's still being processed can withdraw their claim and avoid the possibility of getting a refund for which they're ineligible.



# STUDENT LOANS → Discretionary Consumption Drag In Motion

While Inflation Has Lowered the Impact of Fixed Rate Student Loan Repayments, **We Are Looking at ~1.5 Percentage Point Growth Headwind to Real PCE Come September 2023**

Share of Real PCE Growth Attributable to Pause on Student Loan Payments



Federal Student Loan Payments Paused

# SHOCK-TOBER

**UPDATE:** Shock-tober is nearly undefeated thus far in RoC & fundamental deterioration terms

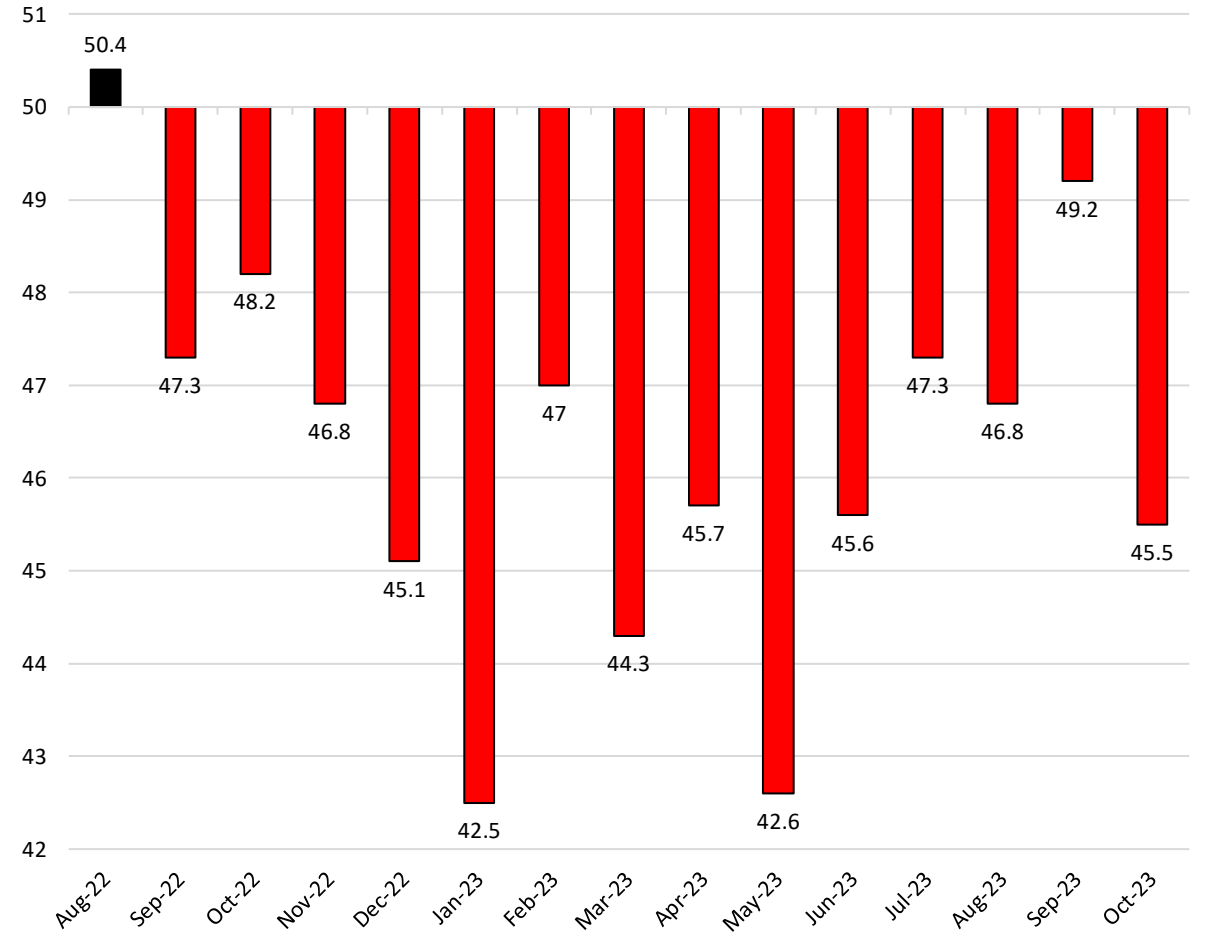
2023 NOVEMBER						
SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
<b>OCT Data Released Last Week of October</b> Philly Fed Services = Worse = MISS Richmond Fed Services = Worse = MISS KC Fed Services (Oct) = Worse = MISS Dallas Fed Mfg (Oct) = Worse = MISS Chicago PMI (Oct) = Worse = MISS Dallas Fed Services (Oct) = Worse Conf Board Consumer Confidence (Oct) = Worse = MISS			1 ADP = ↓ = MISS ISM Mfg ↓ = MISS Auto Sales = ↓ MISS	2 Initial Claims ↑ = MISS Cont. Claims ↑ = MISS	3 NFP ↓ = MISS ISM SRVCS ↓ = MISS	4
5	6 SLOOS Further Credit Cycle Tightening	7	8 NY FED 3Q23 Consumer Credit = Worse	9	10 Univ. Mich Confidence ↓ = Worse	11
12	13	14 NFIB Confidence ↓ = Worse  CPI ↓ = Beats, Kinda	15 YOU ARE (only) HERE	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

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# OCT → New Orders = 6-Month Low & 14<sup>th</sup> Straight Month of Contraction

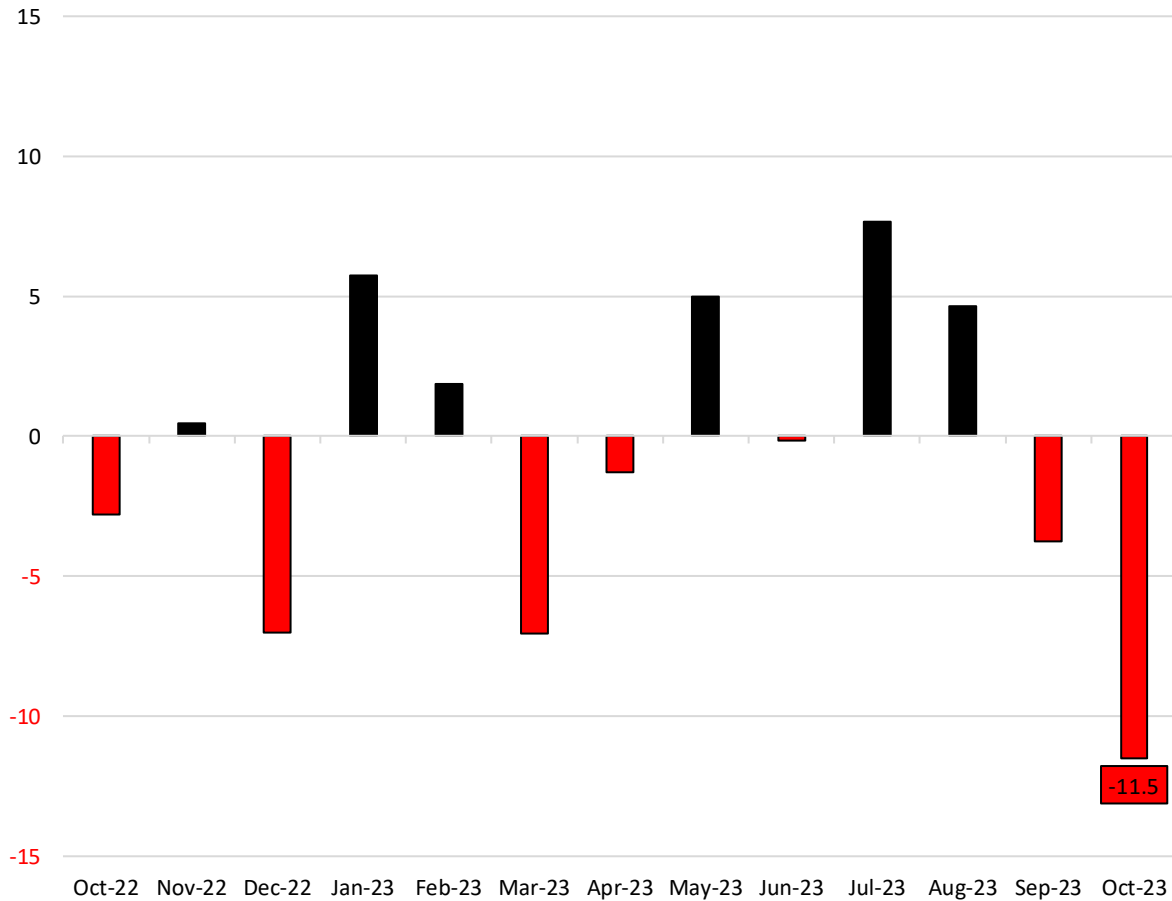


ISM New Orders

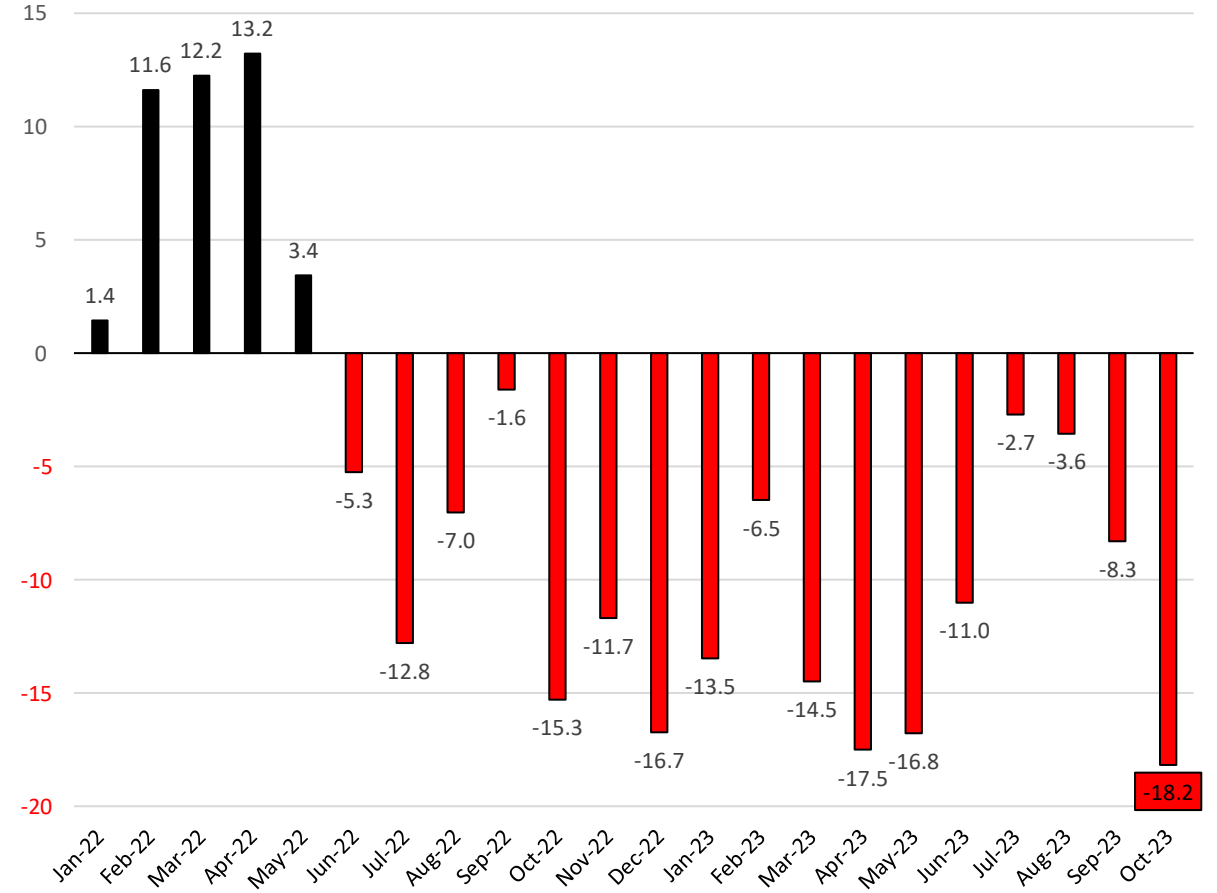


# OCT → Service Sector Revenue ↓↓, Current Conditions = **New Low**

Revenues: Fed Regional Services Survey Avg, M/M Chg  
(Dallas & Richmond)

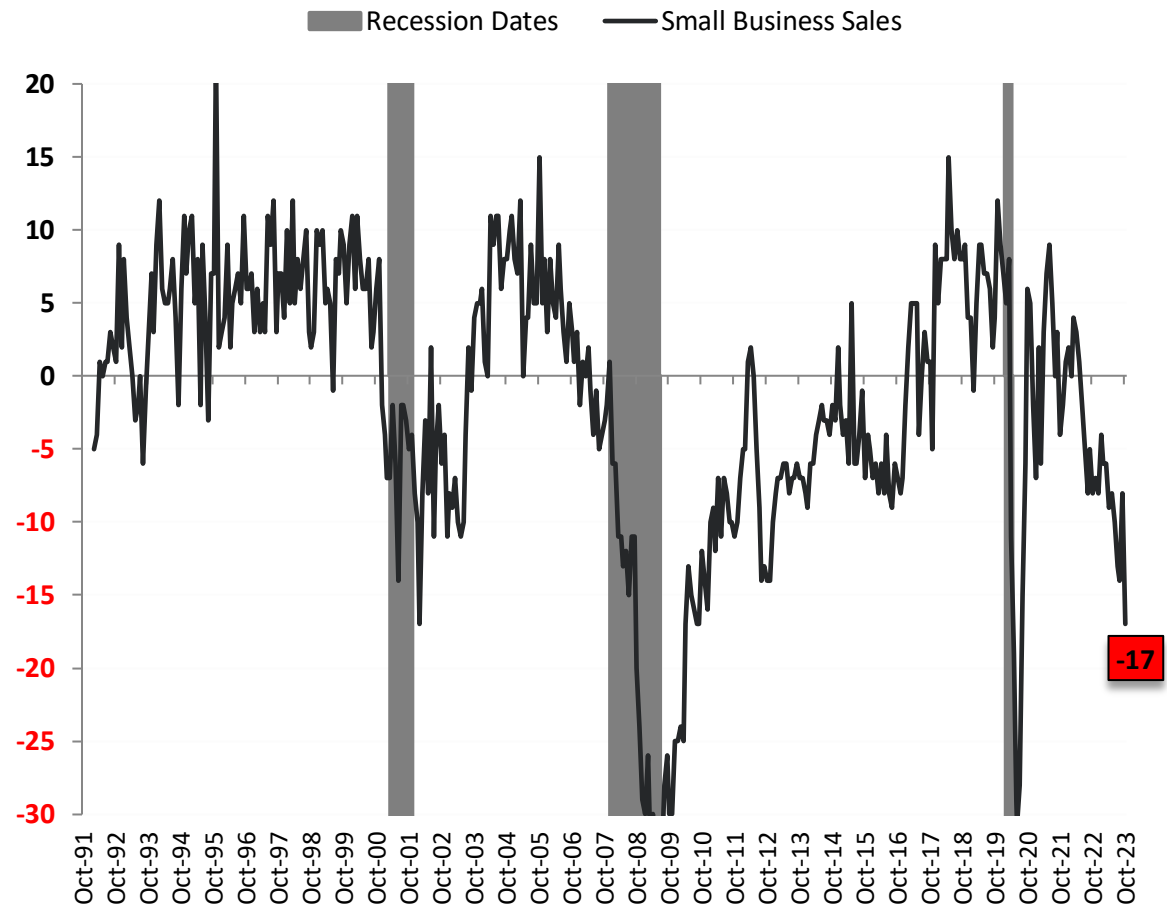


FED SERVICE SECTOR SURVEY COMPOSITE

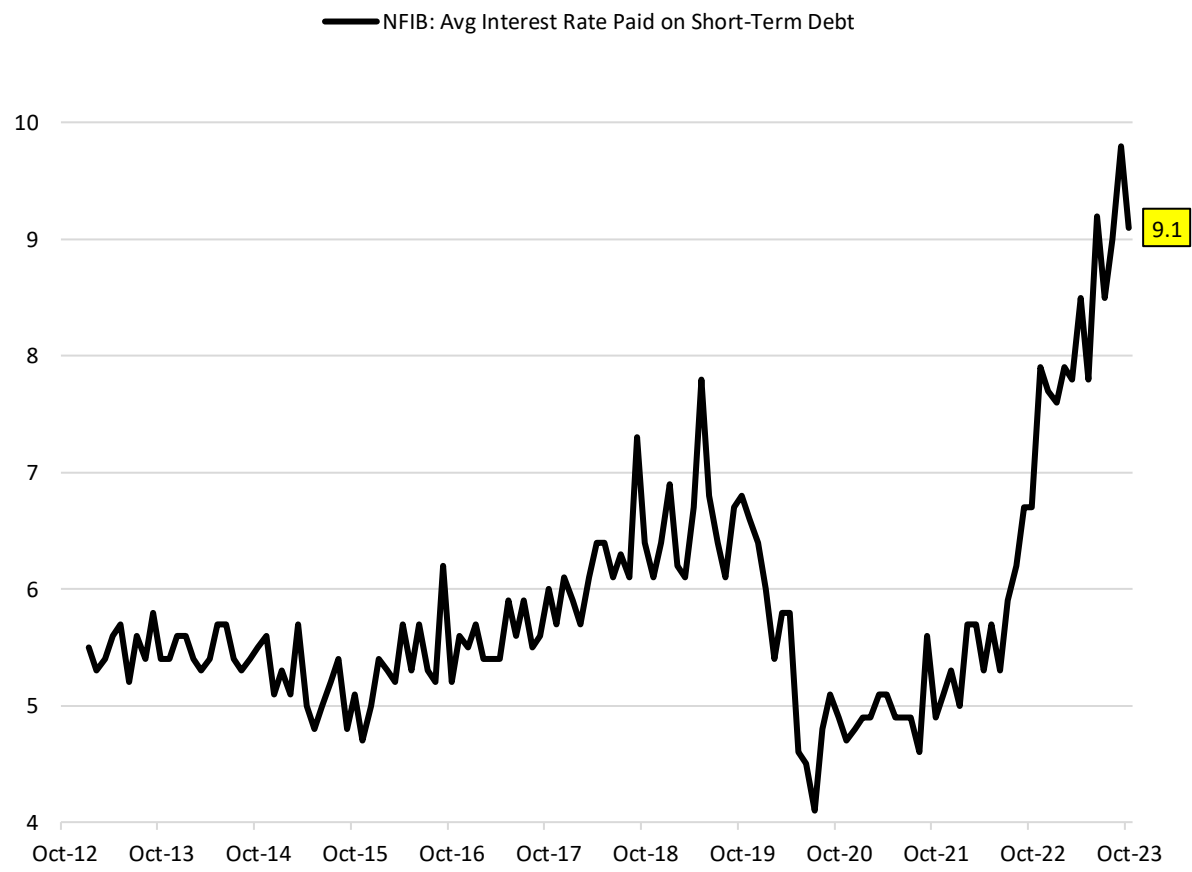


**OCT** → Small Business Revenue ↓↓, Cost of Capital ↑↑

NFIB SMALL BUSINESS SENTIMENT: (Actual) Sales

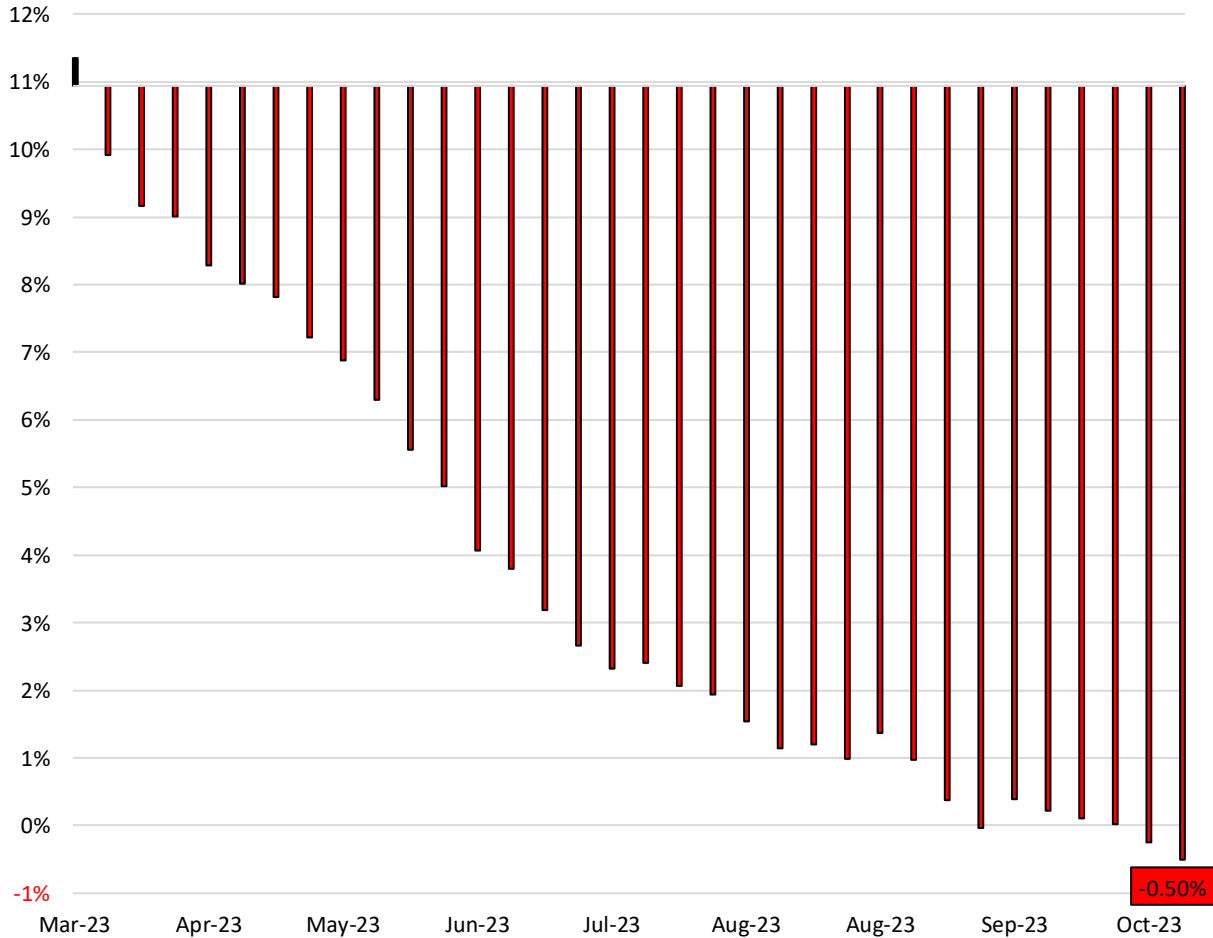


NFIB: Avg Interest Rate Paid on Short-Term Debt

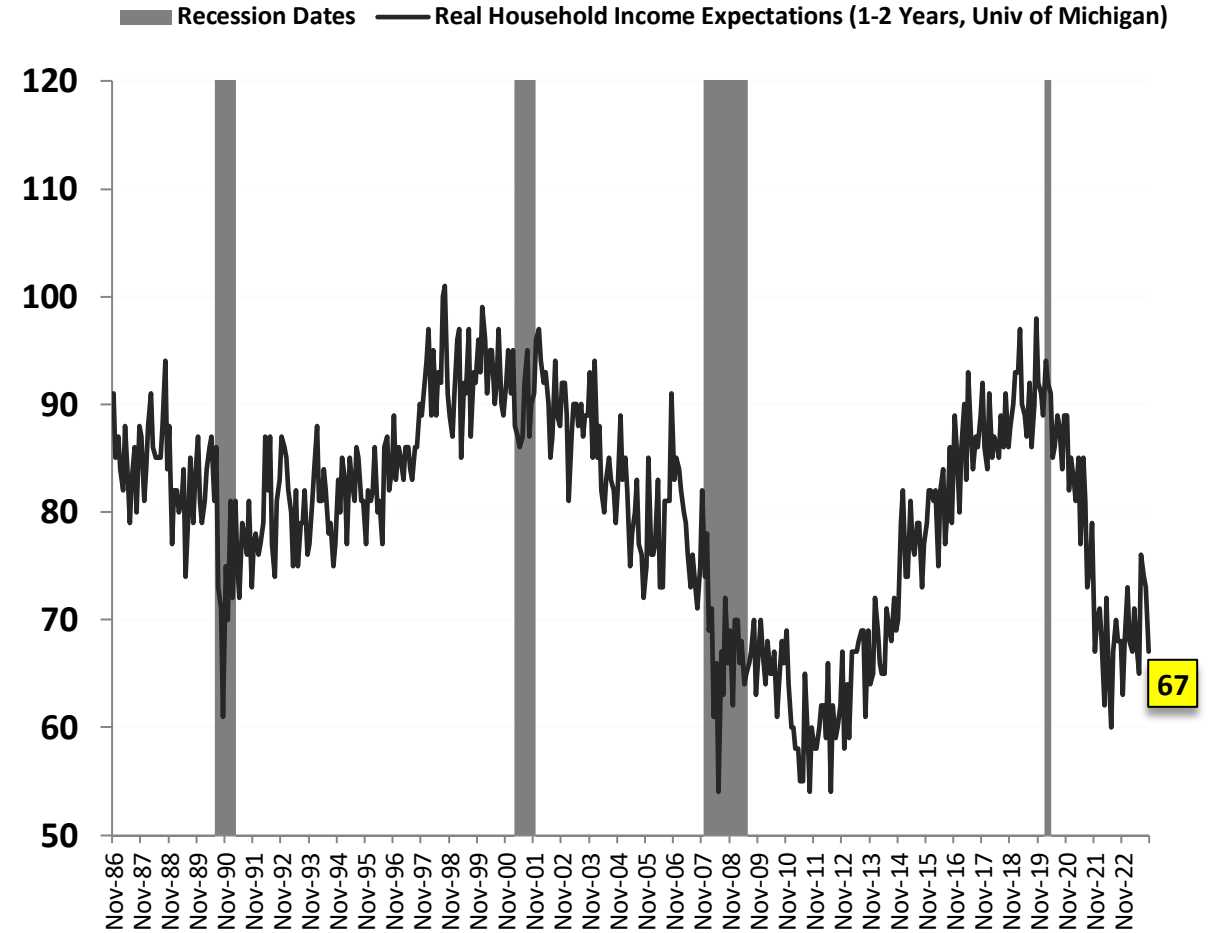


**OCT** → Loan Growth = Now (-) Y/Y, Consumer Confidence ↓

Bank Credit: C&I Loans, Y/Y %

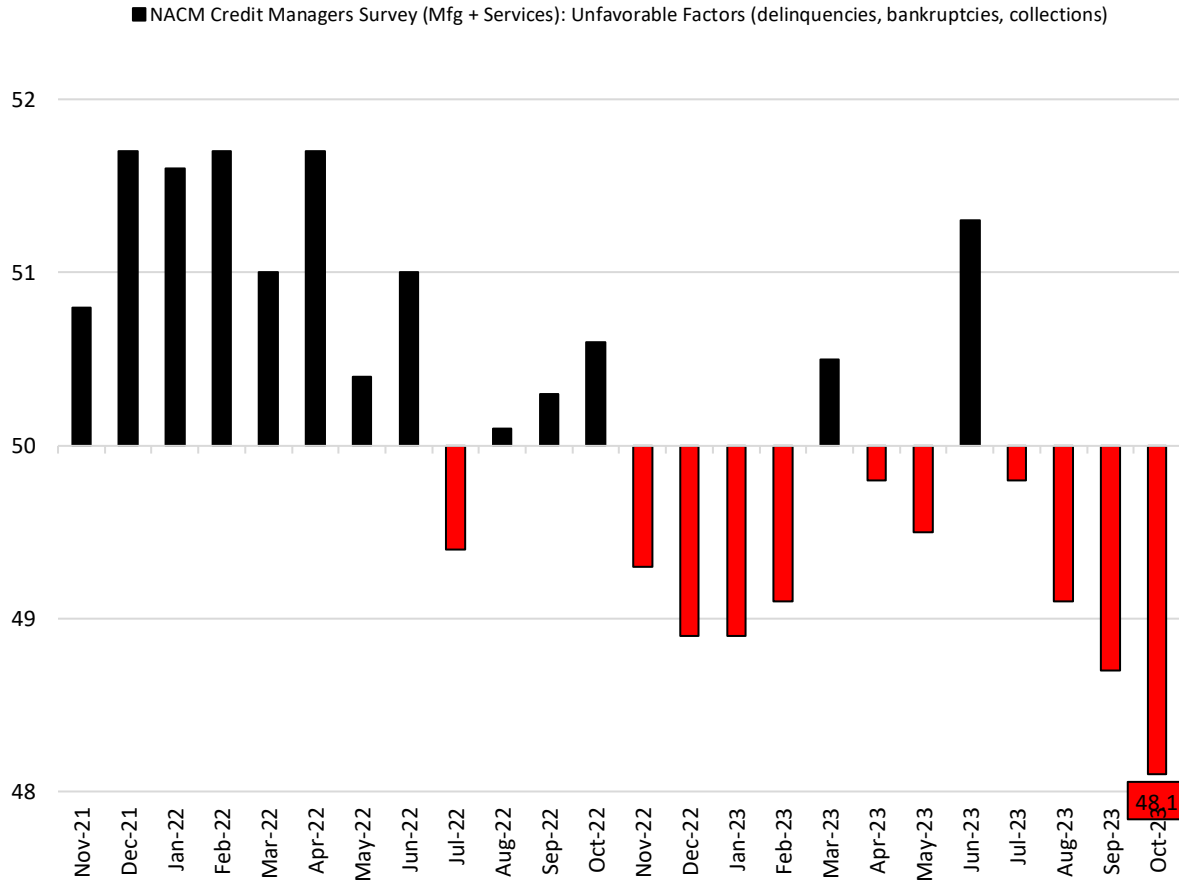


INCOME EXPECTATIONS

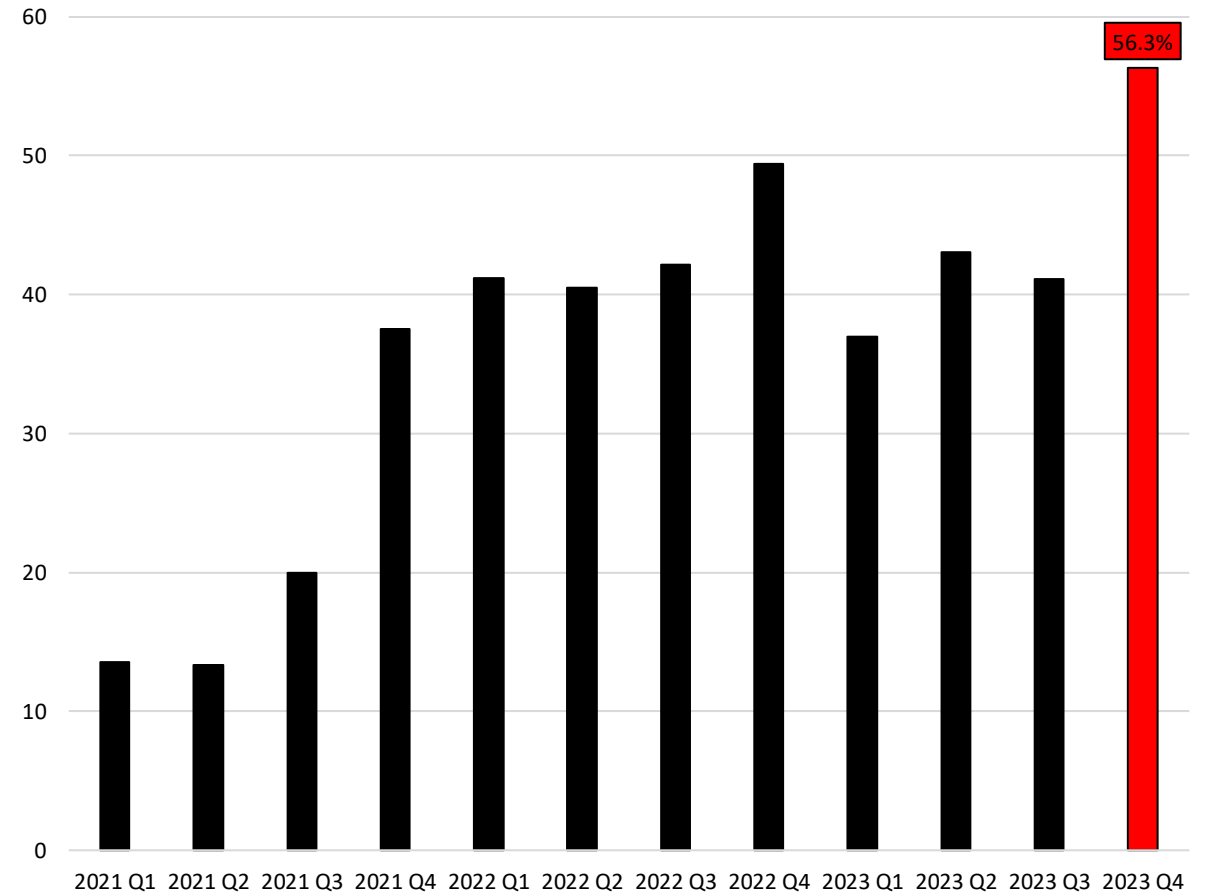


# OCT → Credit Conditions = New Lows, Negative Guidance = New Highs

NACM Credit Managers Survey (Mfg + Services): Unfavorable Factors



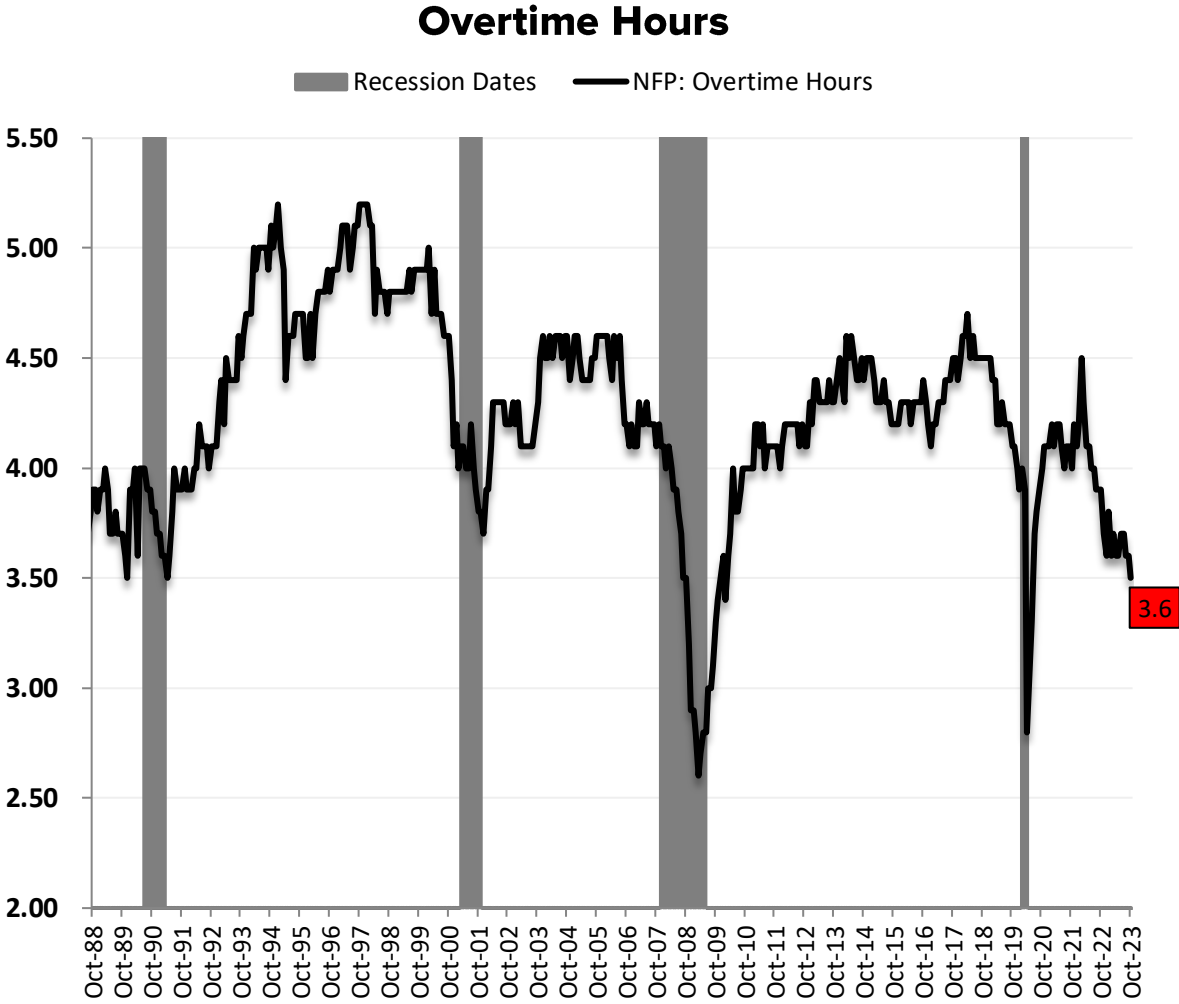
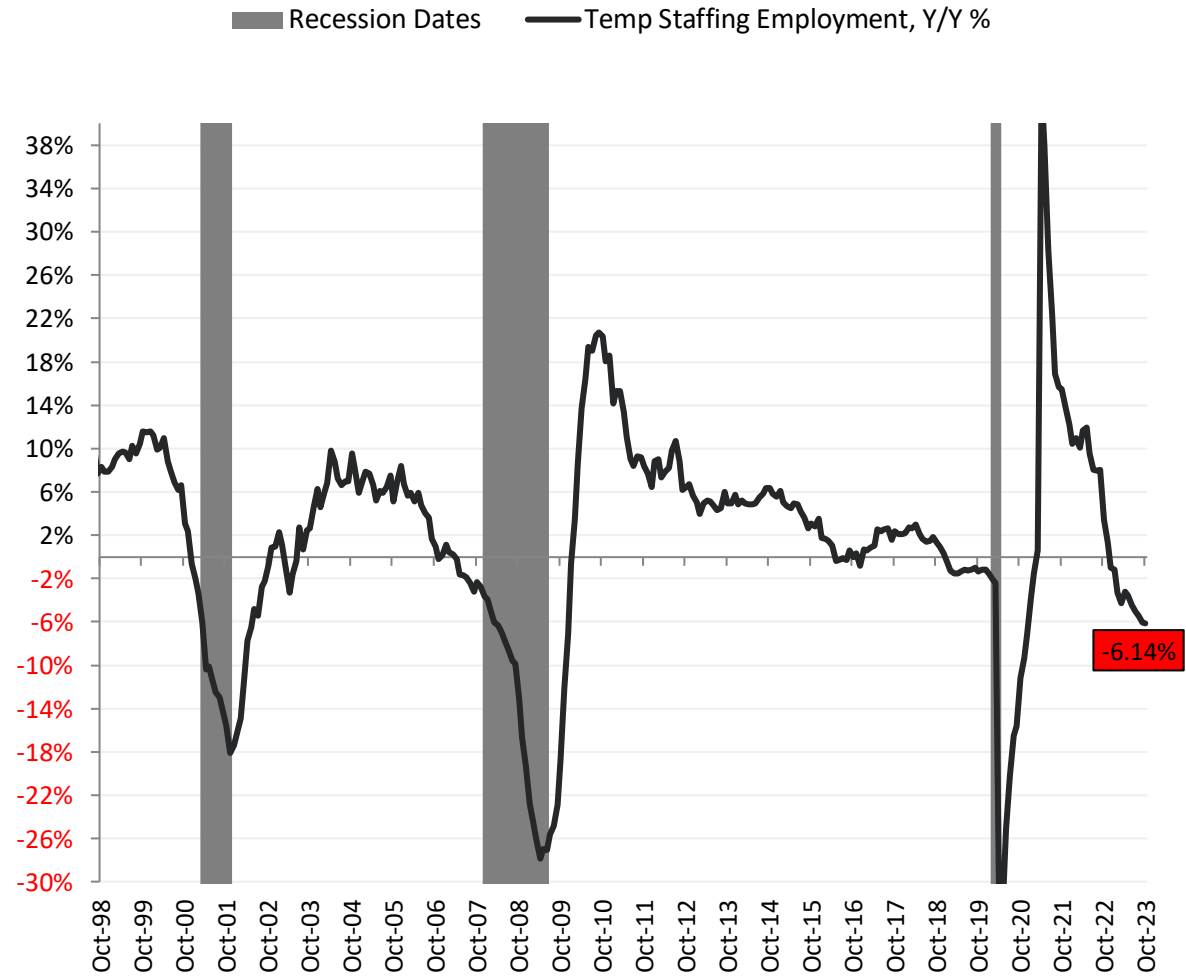
Negative Revenue Guidance  
Negative Revisions, % of Total Revisions





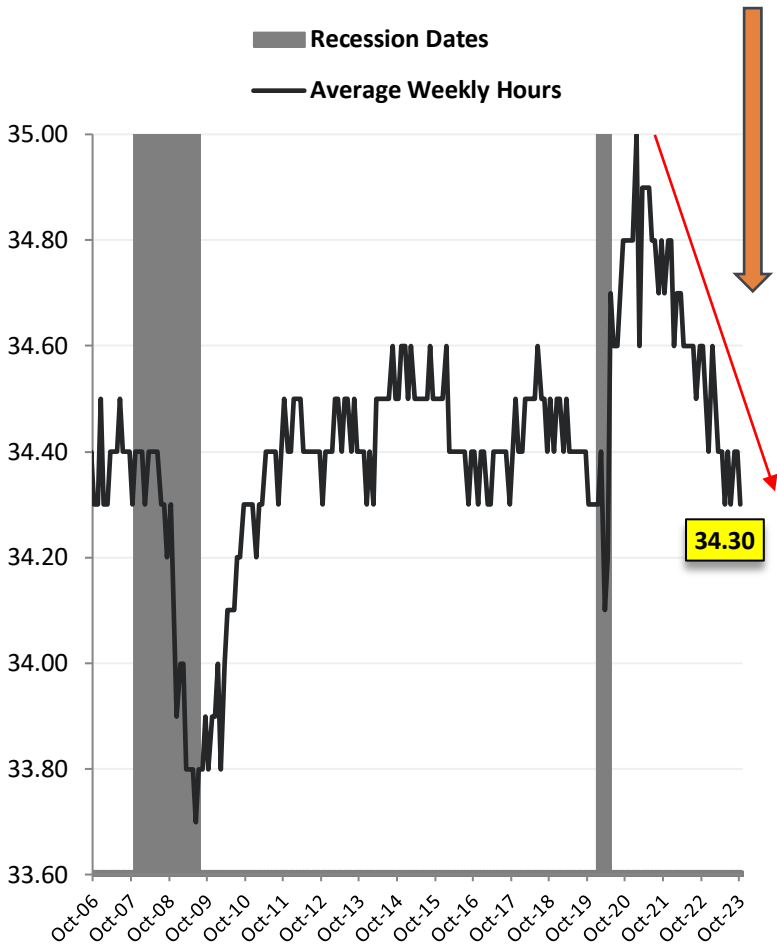
# OCT → TEMP STAFFING & OVERTIME HOURS = NEW LOWS

The most leading components of the labor data continue to deteriorate.

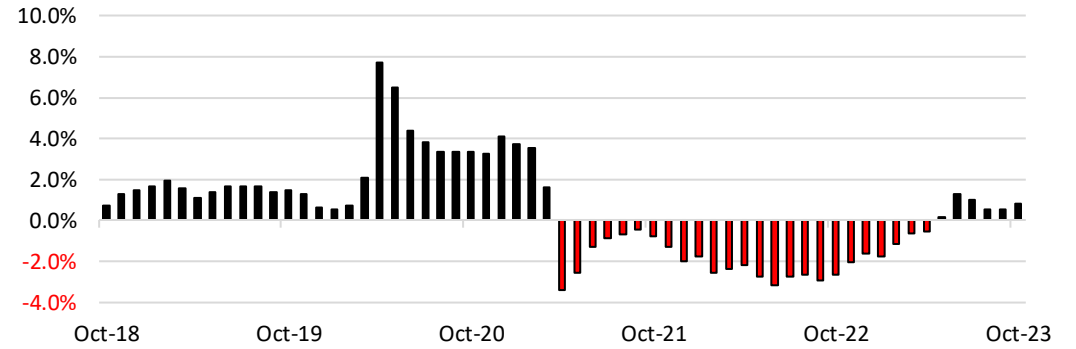


The **Decline in Hours Worked** turns **positive real hourly earnings growth** into **negative real weekly earnings growth** ... ie less actual money/purchasing power on a weekly basis.

**THIS** ..... **URNS THIS**  **Positive Real Hourly Earnings Growth**

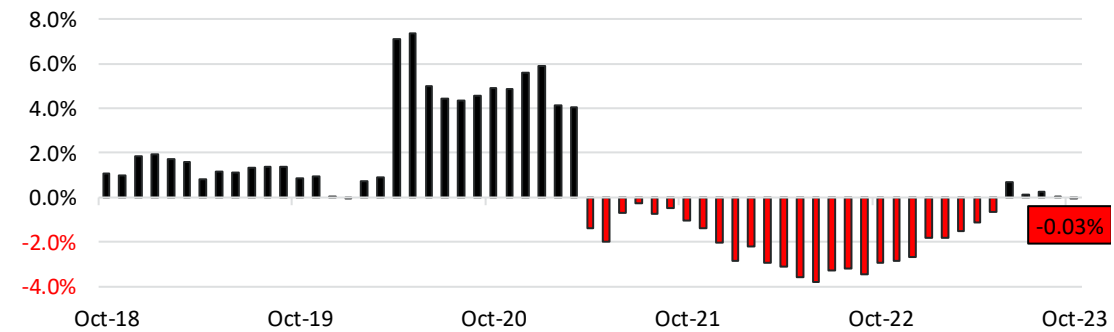


Real Avg Hourly Earnings, Y/Y %



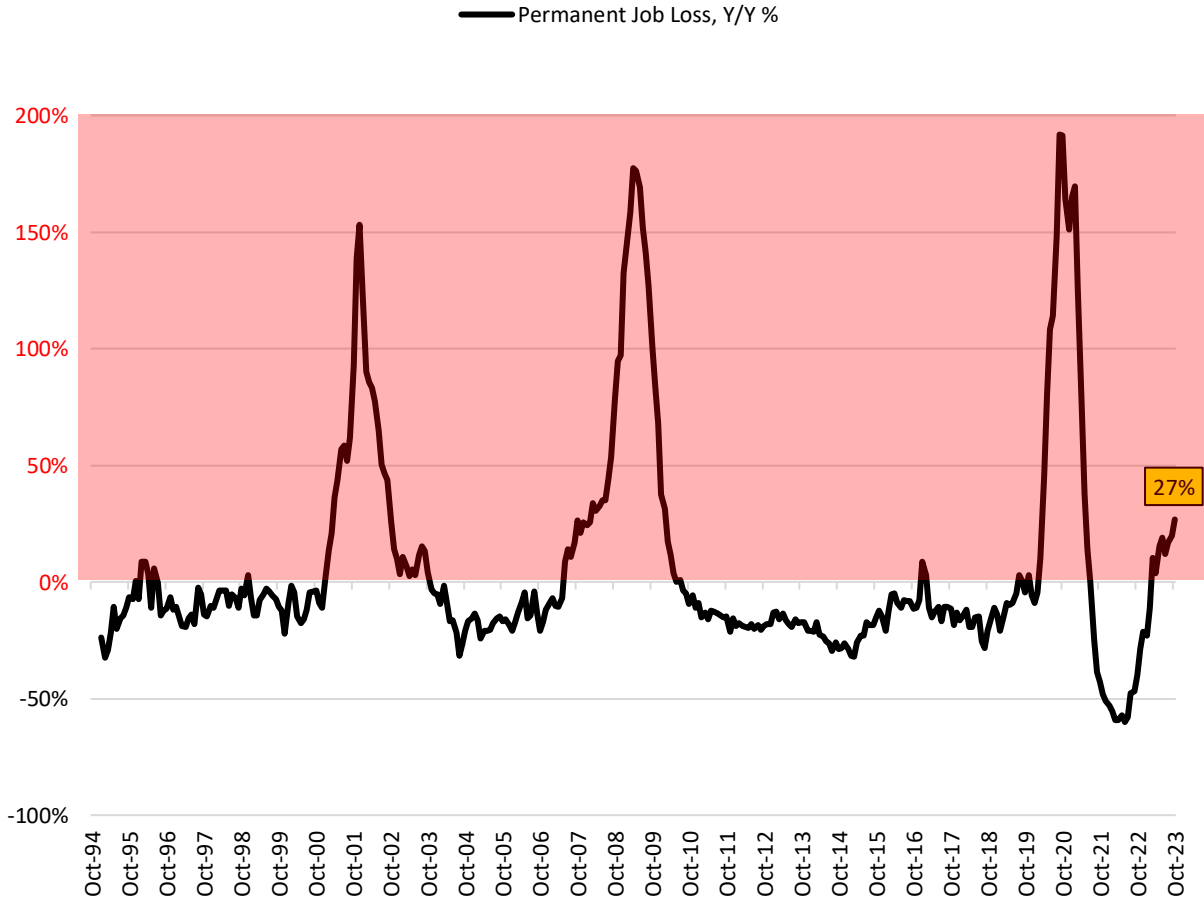
**INTO THIS**  **Negative Weekly Earnings Growth**

Real Avg Weekly Earnings, Y/Y %



# OCT → Permanent Job Loss ↑, Duration of Unemployment ↑

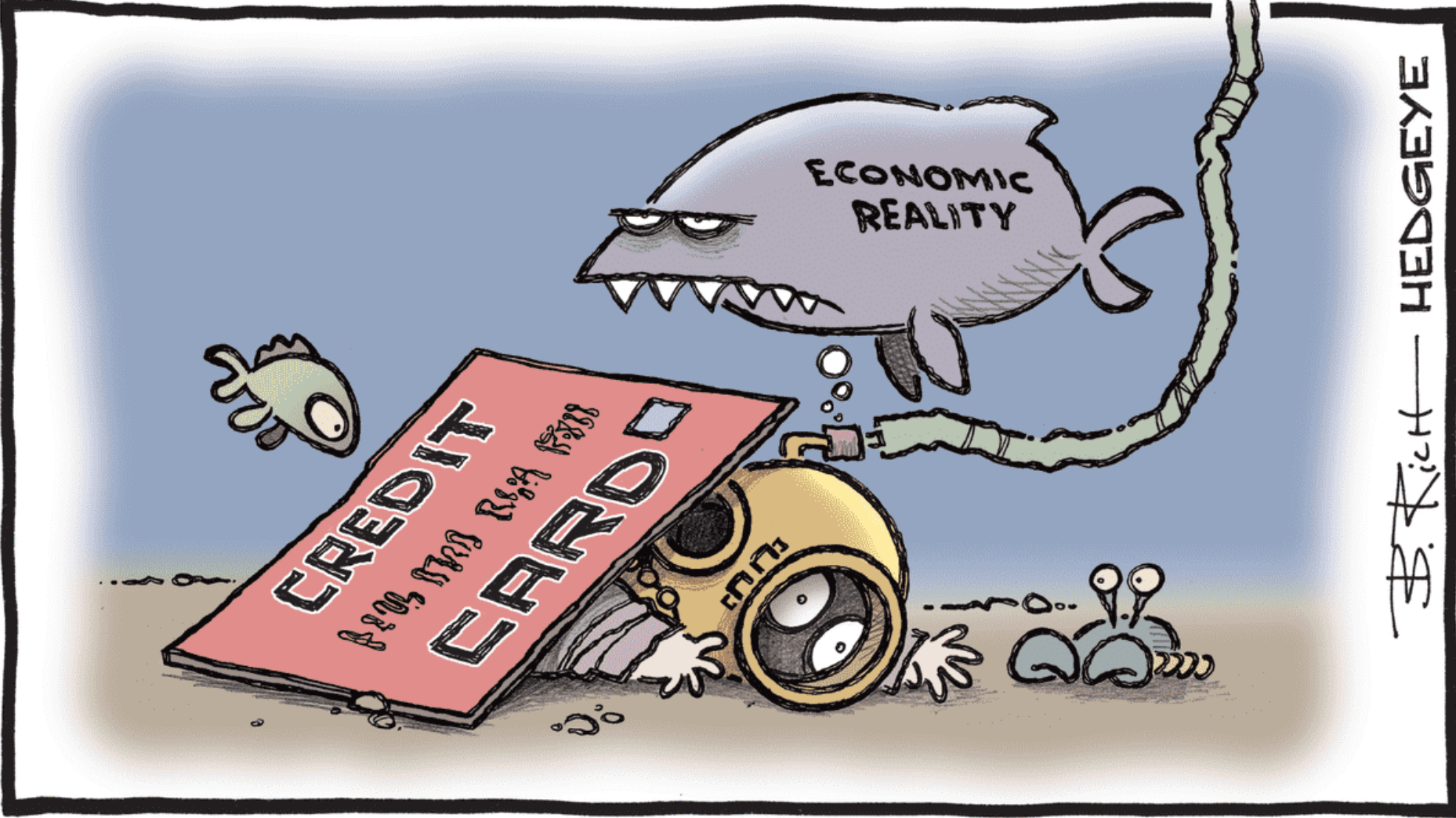
Permanent Job Loss, Y/Y %



Median Weeks of Unemployment, Y/Y Chg



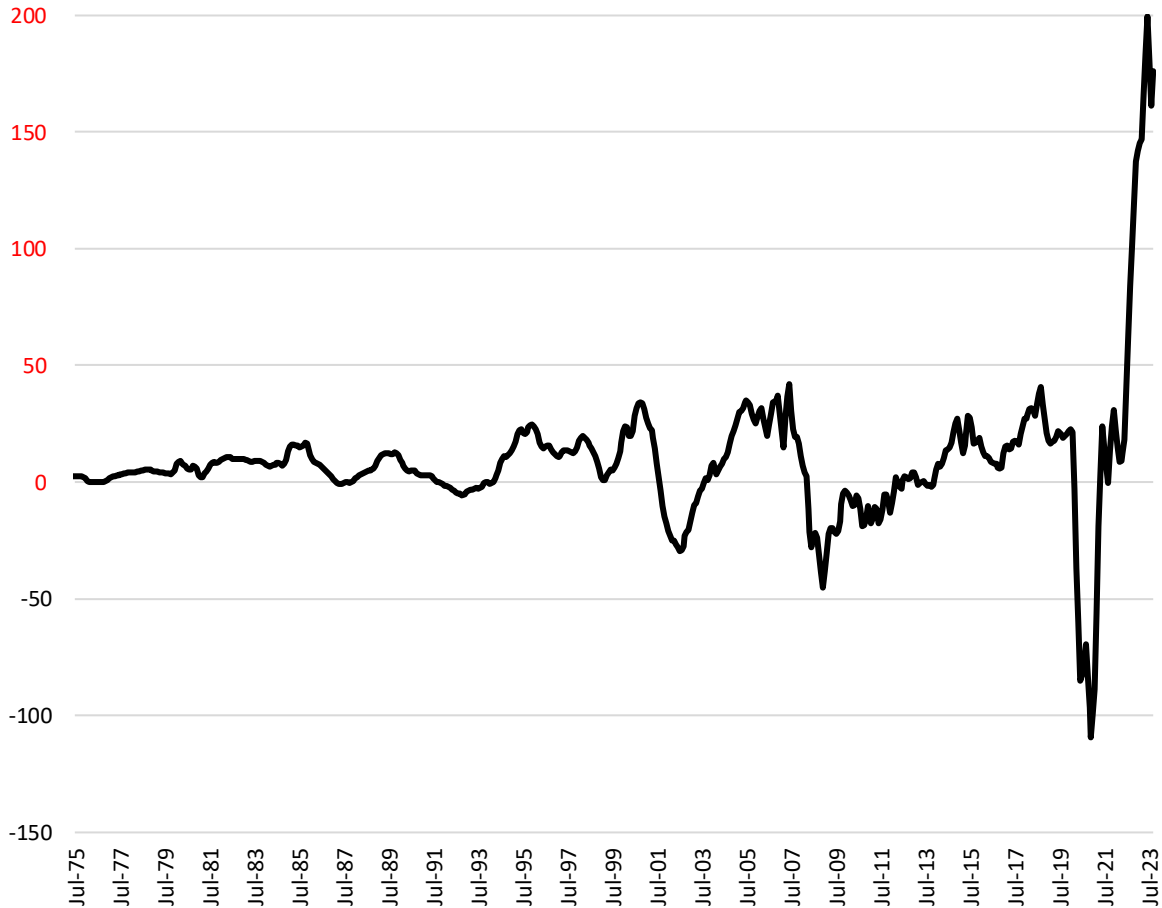
# CRITICAL THRESHOLDS & CAPITULATIONS



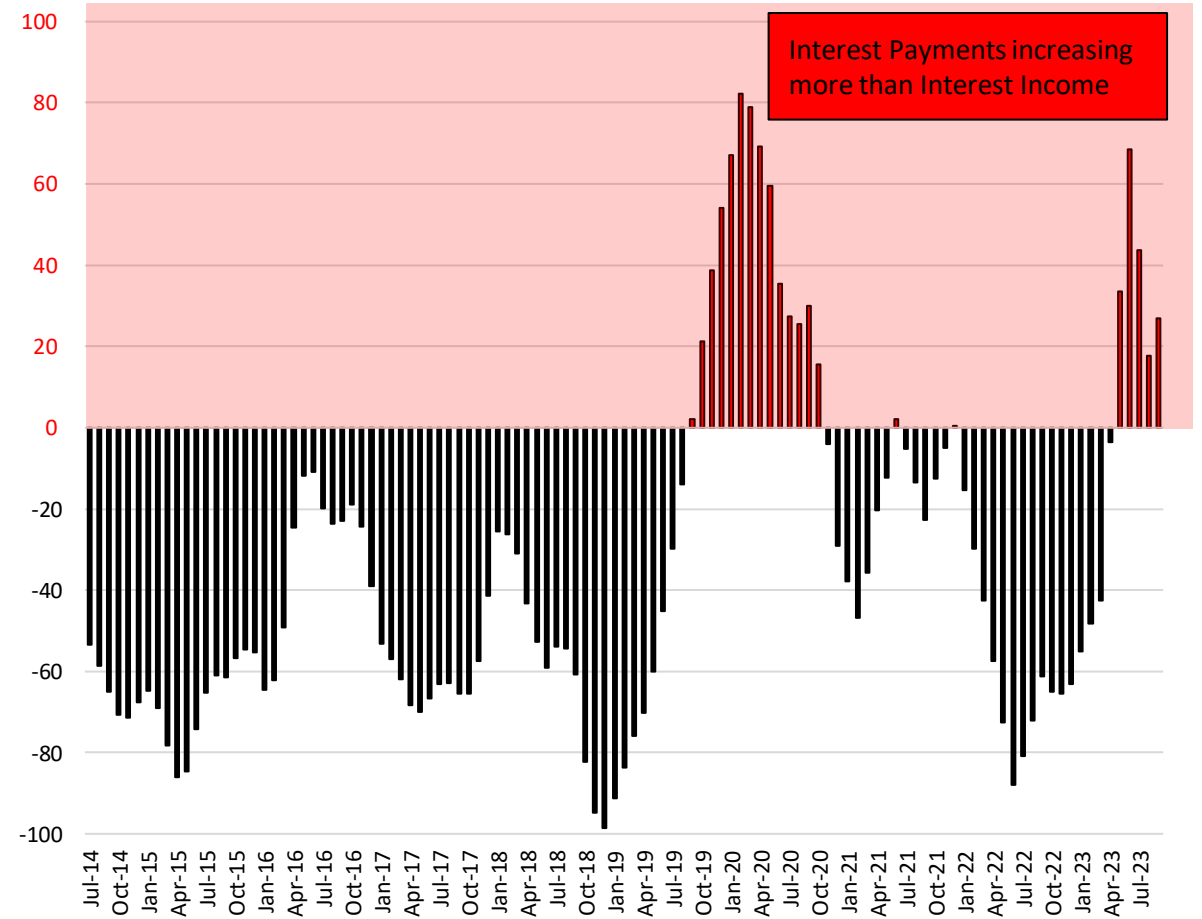
# Household Interest Payments Up ∞ Dollars!

Interest Income is obviously up as well but interest payments are growing more than interest income (RH chart). And its really only the top Income quintile that disproportionately benefits from interest income anyway.

Personal Interest Payments  
12M Chg (Billions of \$'s)

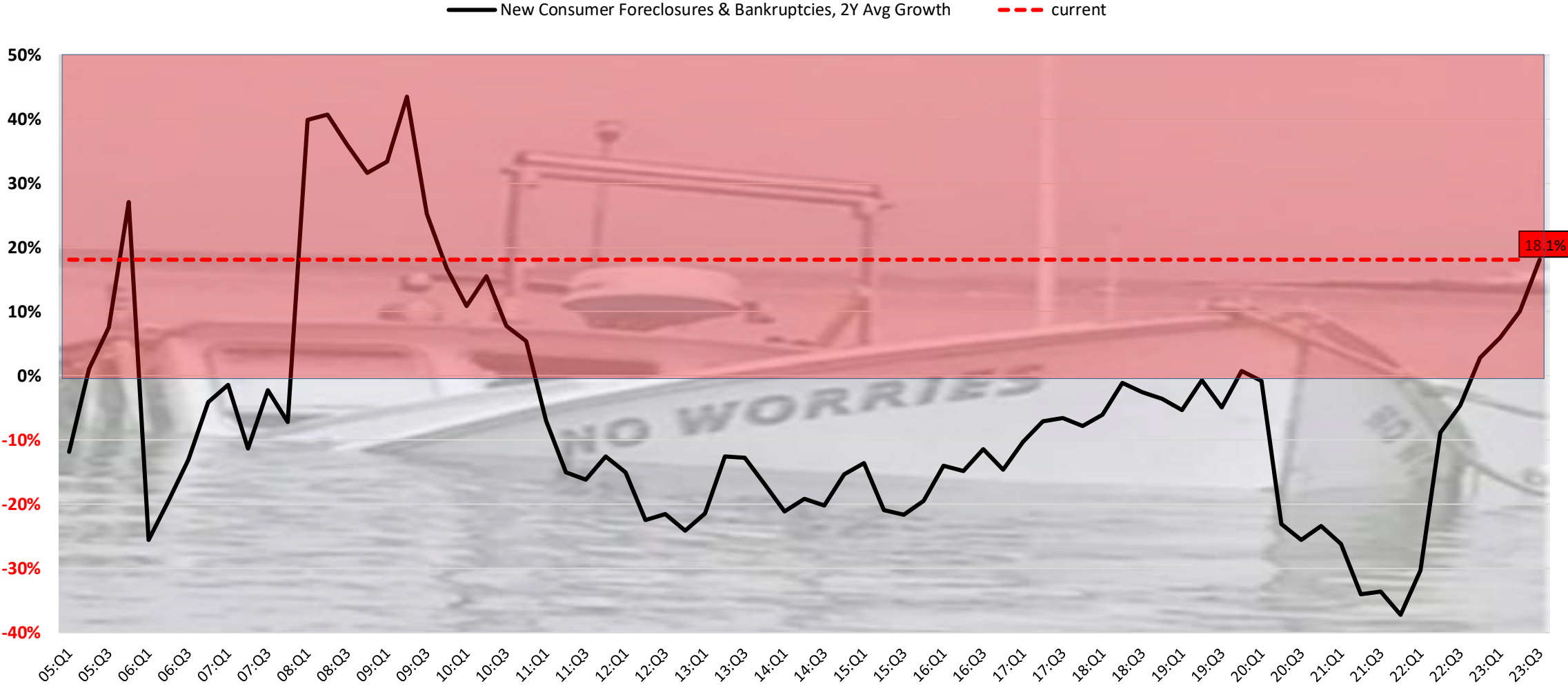


12M Chg: Personal Interest Payments - Personal Interest Income  
Billions of \$'s



# Consumer Foreclosures & Bankruptcies ... #UpOnly

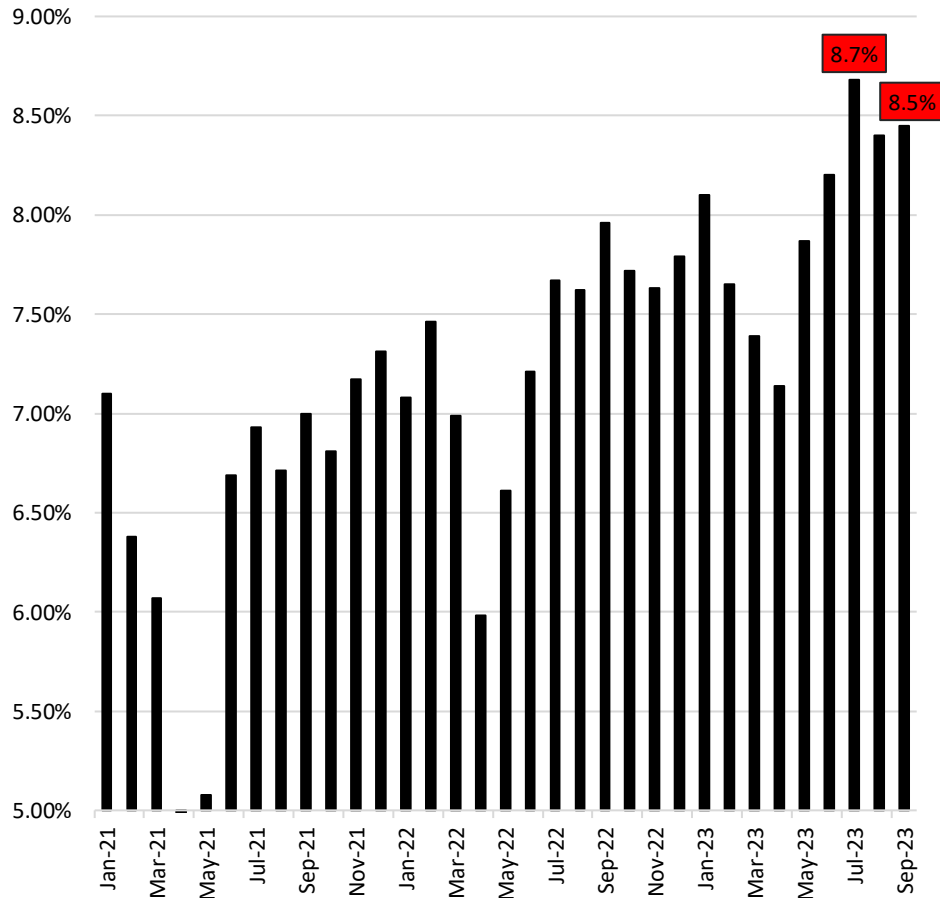
UPDATE: 3Q DATA = (A LOT) WORSE. The Consumer Foreclosure/Bankruptcy/Delinquency cycle continues to accelerate. There remains effectively no data suggesting that the prevailing trend somehow arrests & reverses.



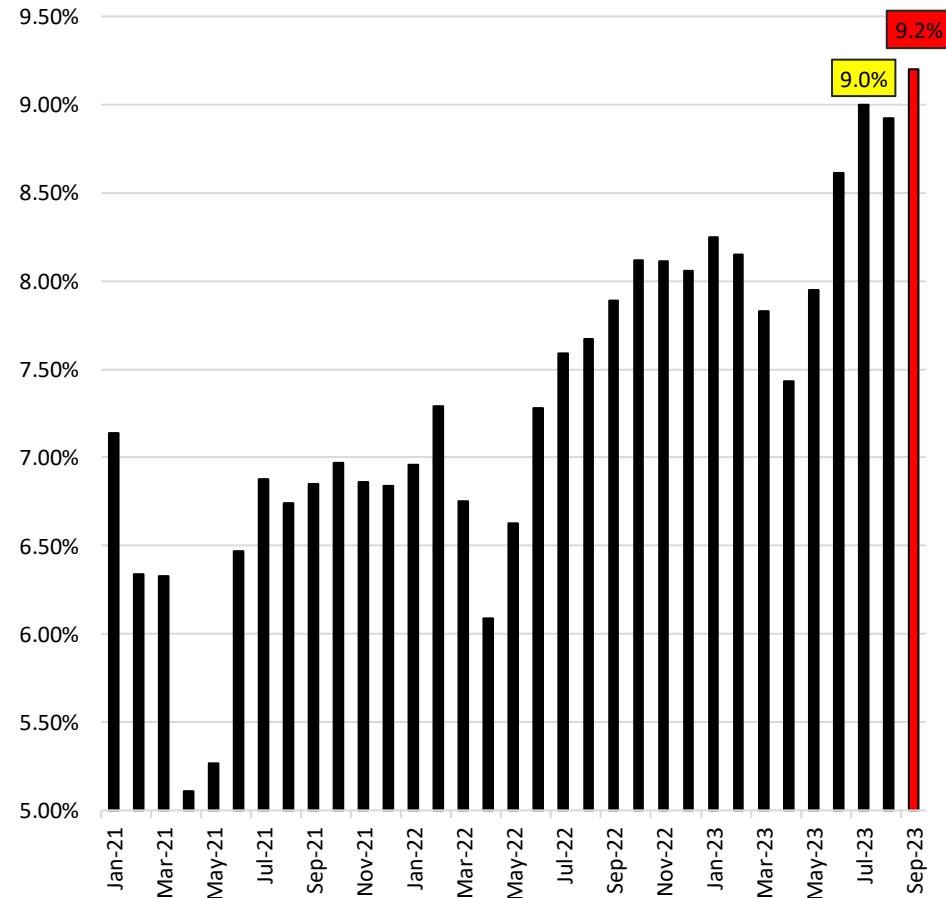
# Millennials/Gen-Z Leading the Capitulation

**UPDATE:** A step function higher for Gen-Z in recent months and Higher Highs in Credit Card delinquency rates for Millennials

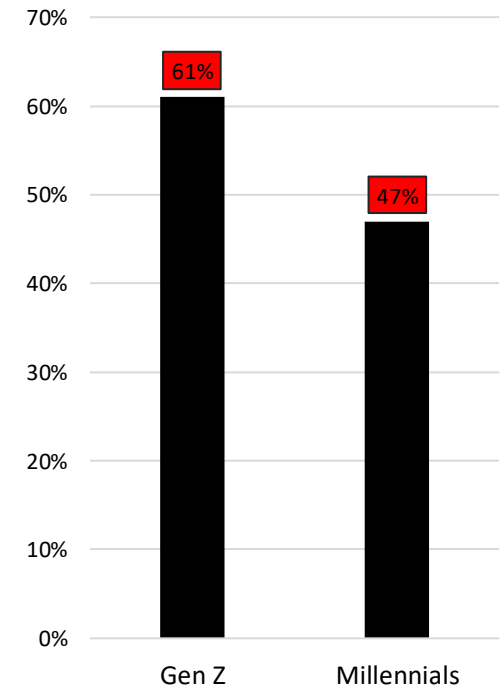
Gen-Z (sub-prime): CC Delinquency Rate



Millennials (sub-prime): CC Delinquency Rate



I am somewhat or very financially dependent on my parents



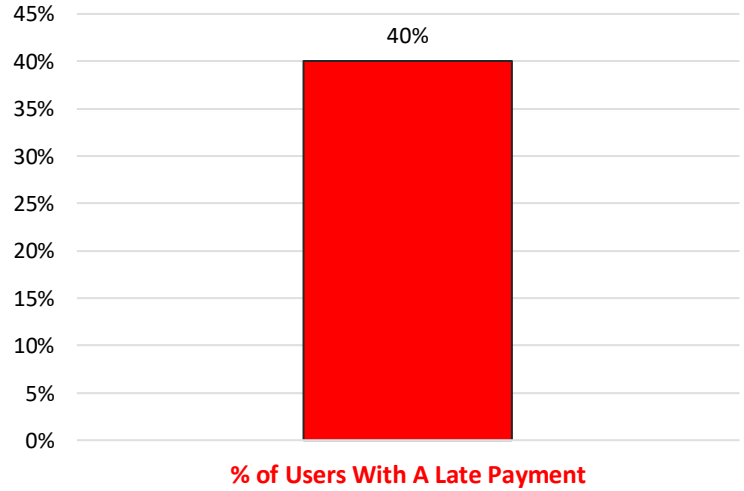
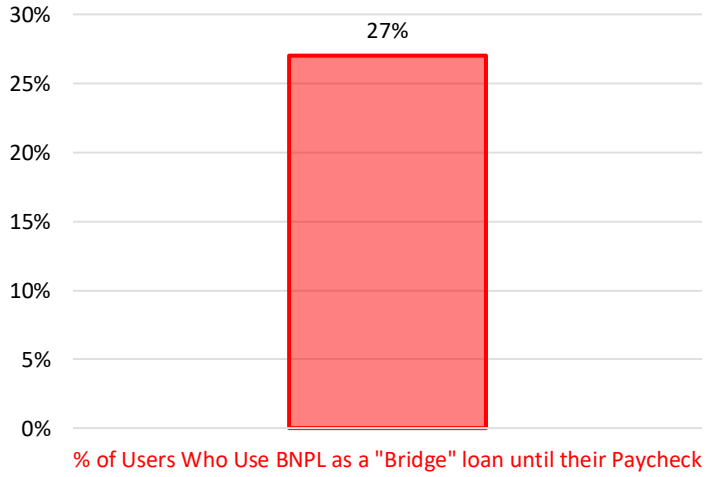
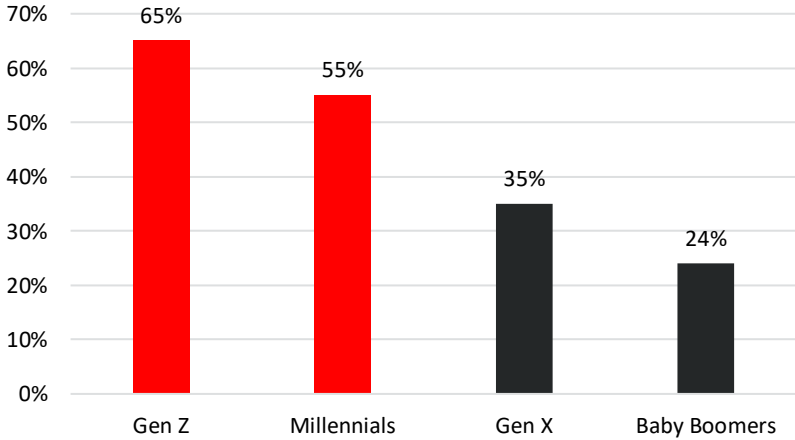


# Sigh ... Gen-Z/Millennials Building the BNPL (Buy Now Pay Later) “Bridge” To Nowhere

Sooo ... the individuals – primarily Gen-Z & Millennials - with the least capacity to take on incremental debt are using BNPL services as bridge loans to buy everyday items and then missing a meaningful percentage of payments.

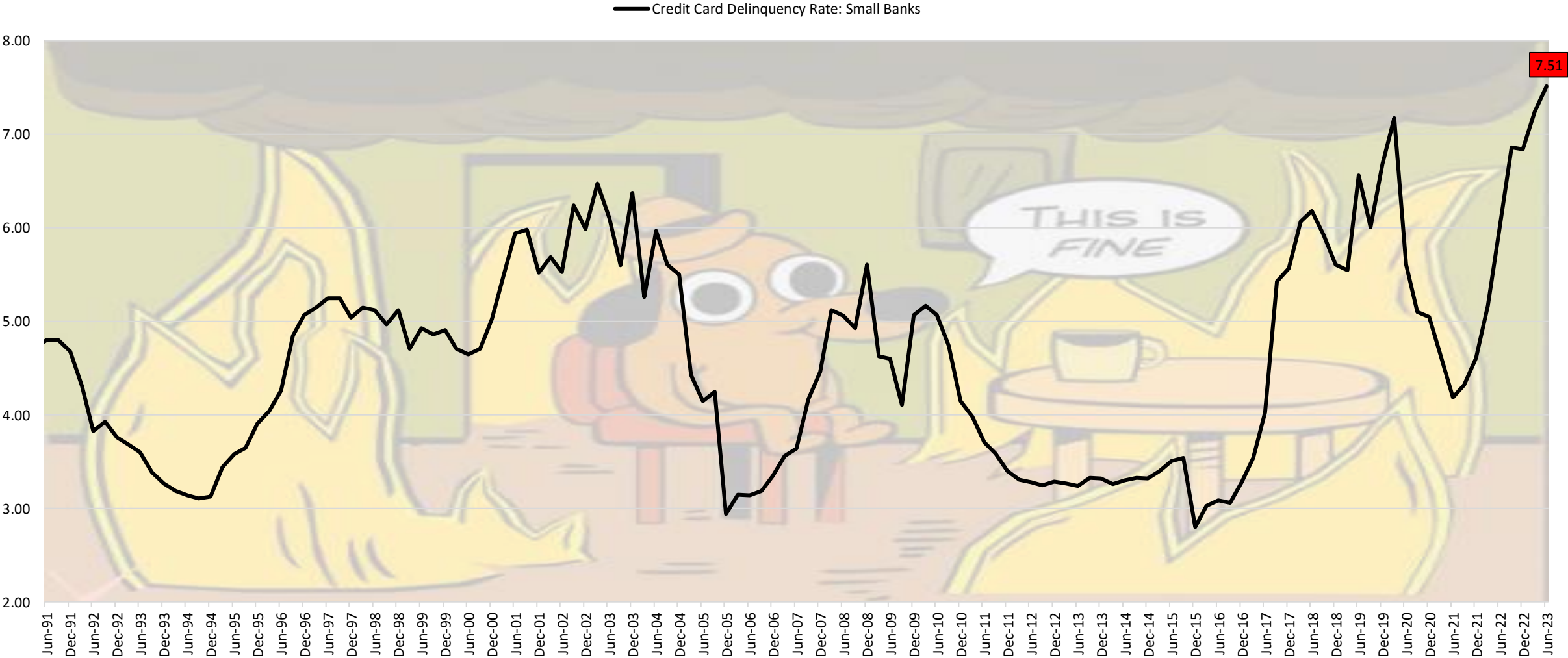


% Who Use BNPL Services



# Small Bank CC Delinquency Rate = **ATH**

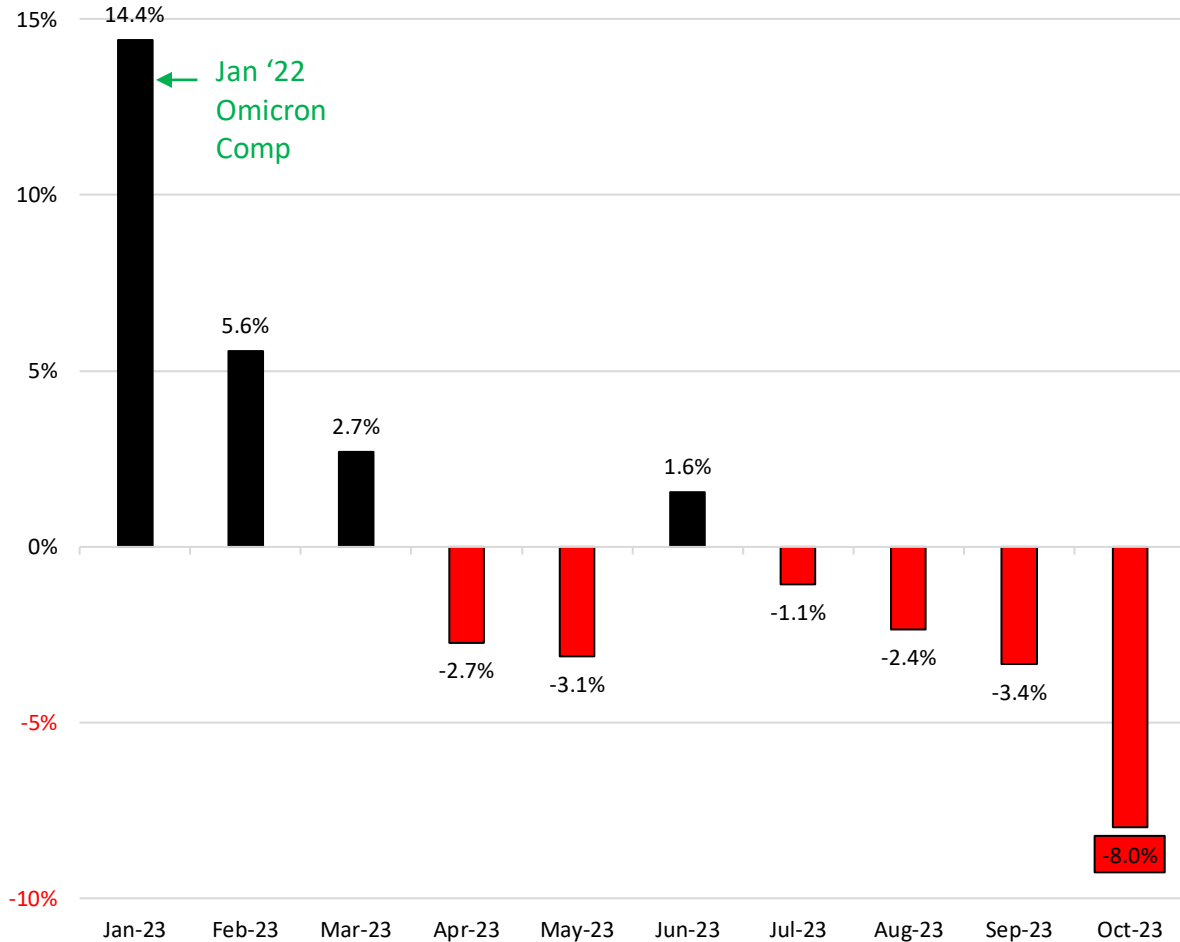
This is fine ...



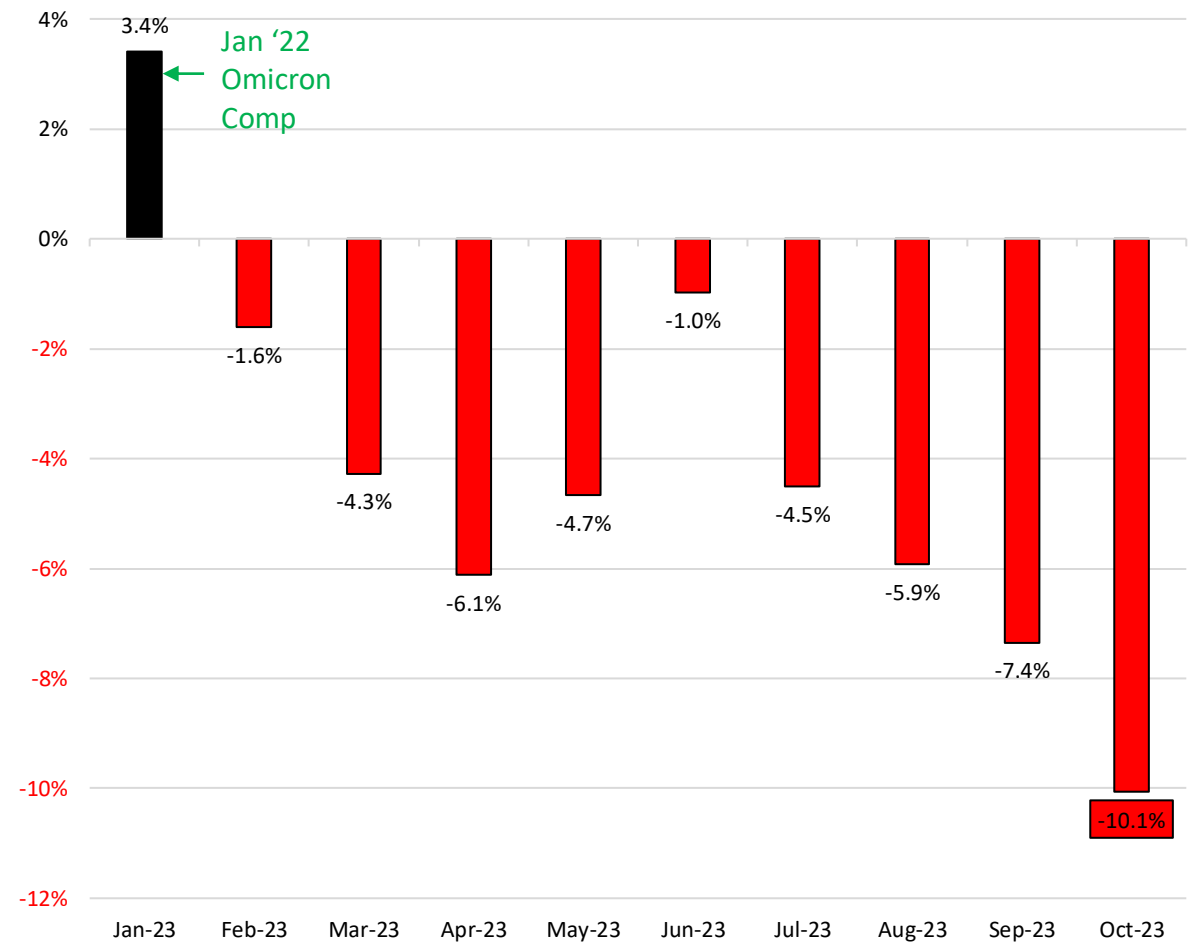
# Is The Consumer Capitulation In Motion?

**UPDATE: Does the below look better?** .... Take a mosaic or preponderance of evidence approach to interpreting this section of slides. That balance of consumption growth risk should be self-evident. *\*Also note the looming January comps*

Restaurants (GICS Level 3): Traffic, Y/Y %



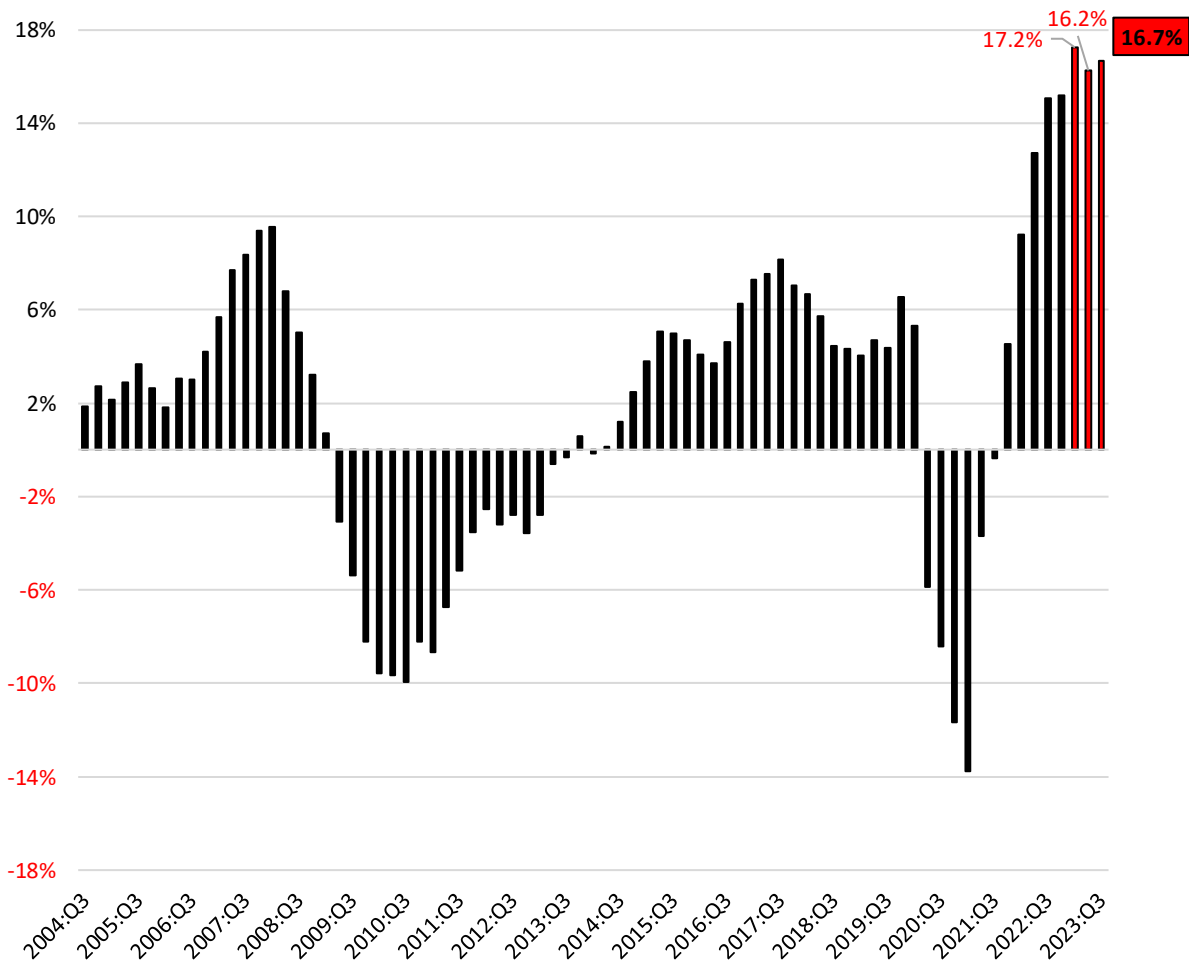
Discretionary Retail: Traffic, Y/Y%



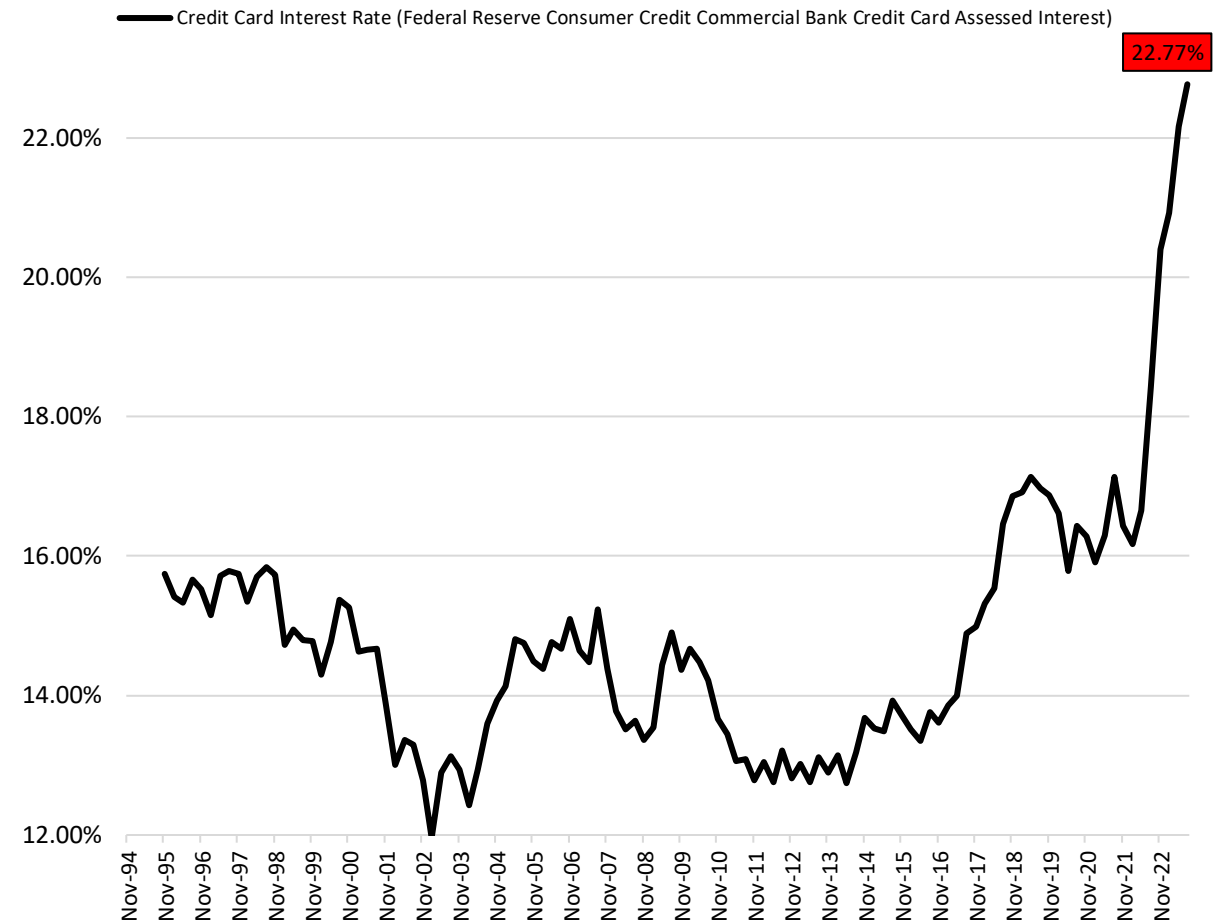
# Squeeze = Intensifying: We're Just Going To Keep Updating This Chart

**UPDATE: Balance ↑, Interest Rate ↑ (AGAIN).** Either consumers continued to borrow more as interest rates rose further in an attempt to smooth consumption **or the increase is due to accrued interest, in which case those balances will continue to compound** and further strain the capacity for discretionary/pseudo-discretionary consumption.

### Consumer Credit Card Balances, Y/Y %



### Credit Card Interest Rate

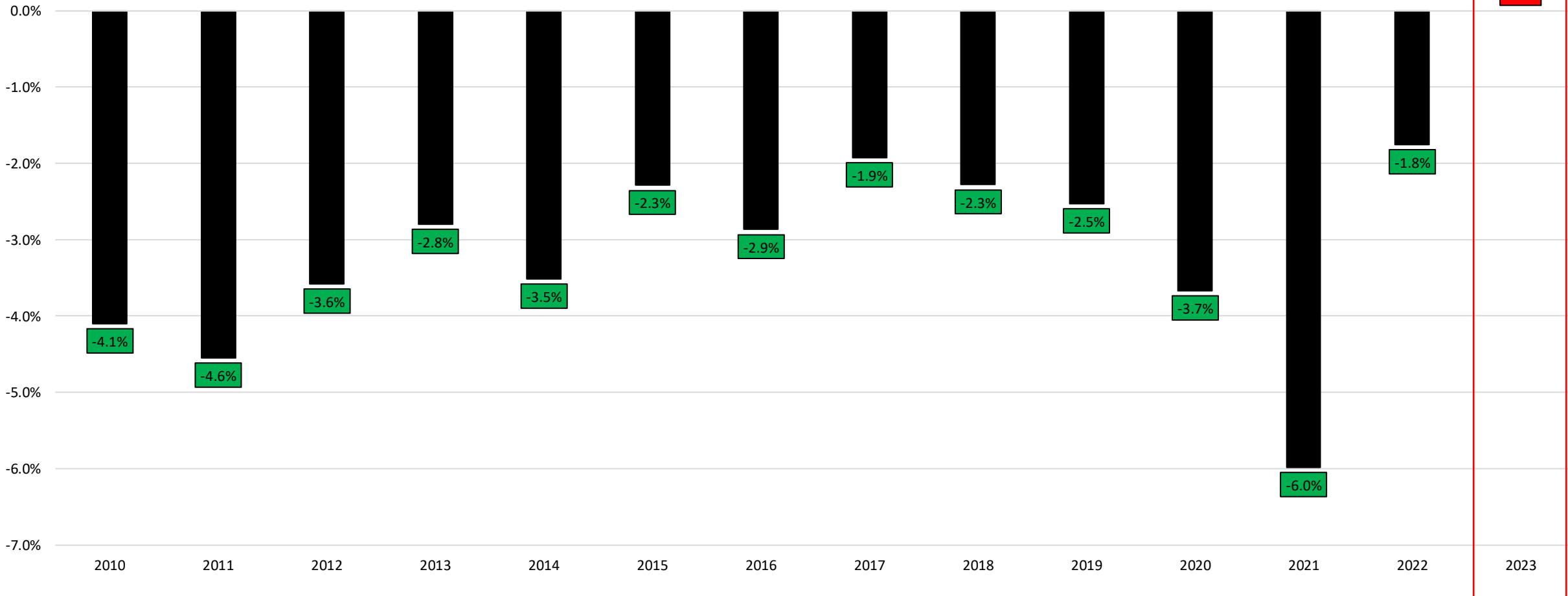


# Initial Speculation = **They Can't Pay**. Growing Confirmation = **They Can't Pay**

The latest NY Fed data showed consumers failed to pay down (post-holiday) credit card debt in 1Q for the first time in at least a decade. When we first got the data we speculated around why. A growing body of evidence has since supported that initial speculation

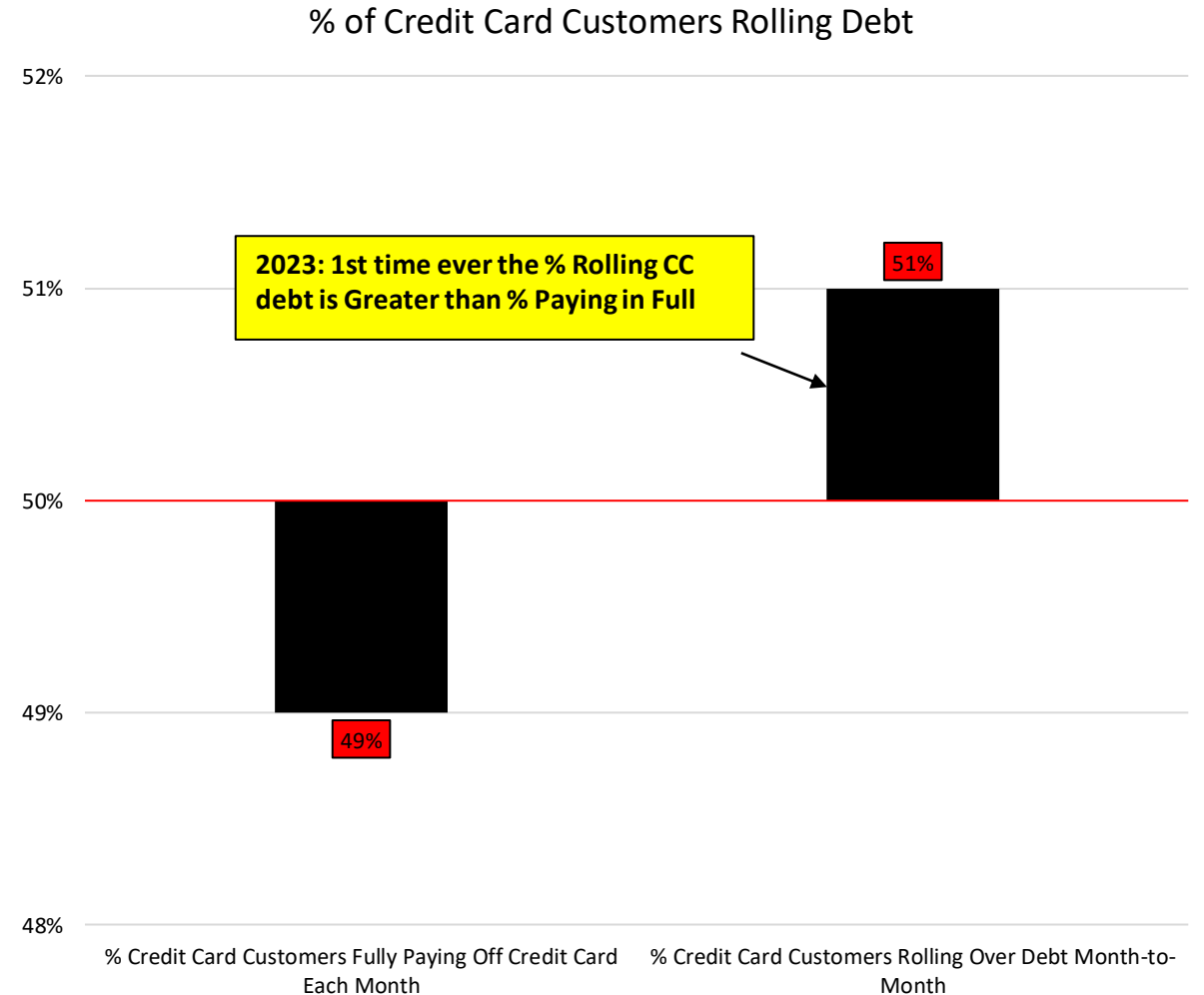
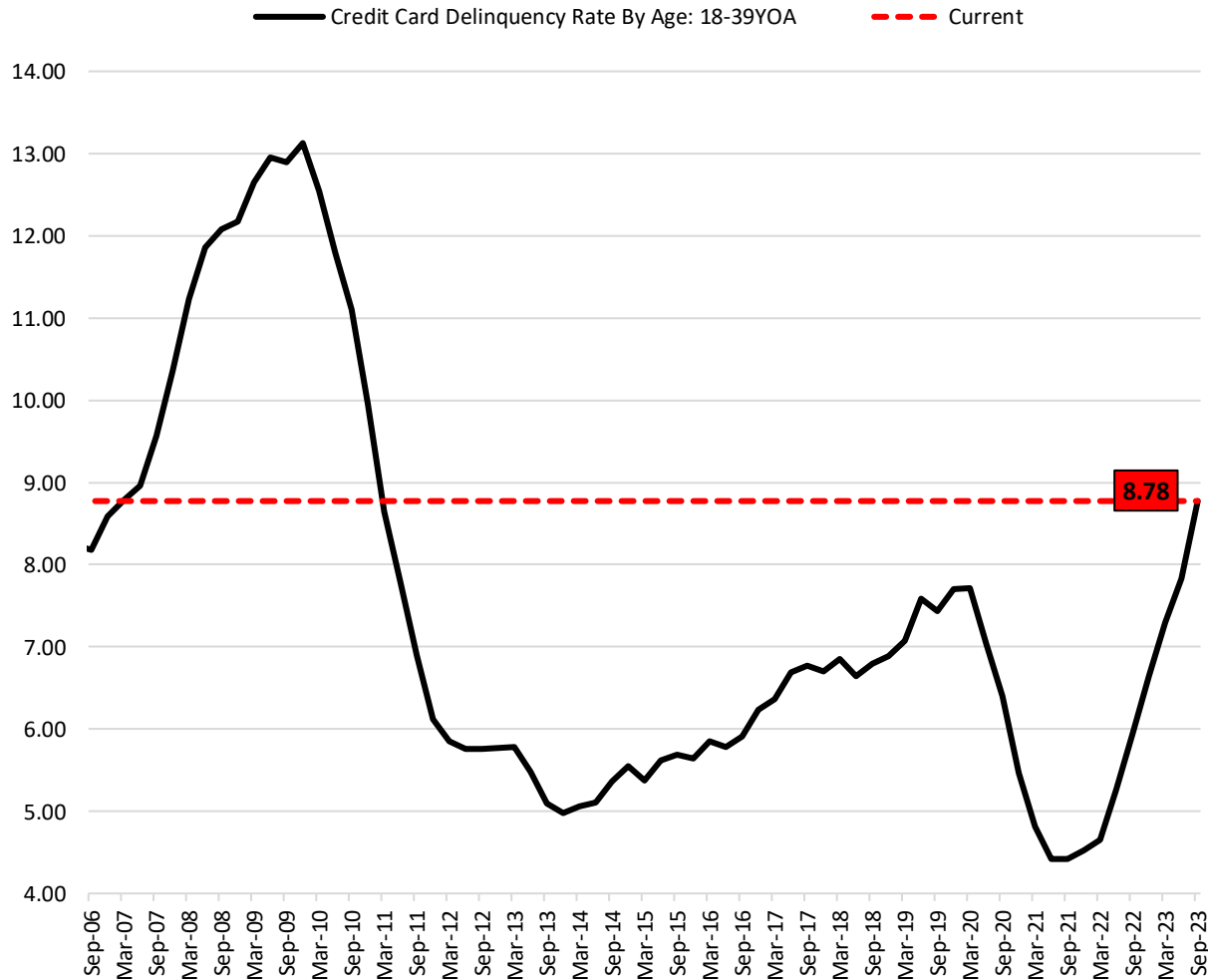
### Change in Credit Card Debt in 1Q

*% change from 4Q to 1Q in each year*



# Psst ... They Can't (Pay)!

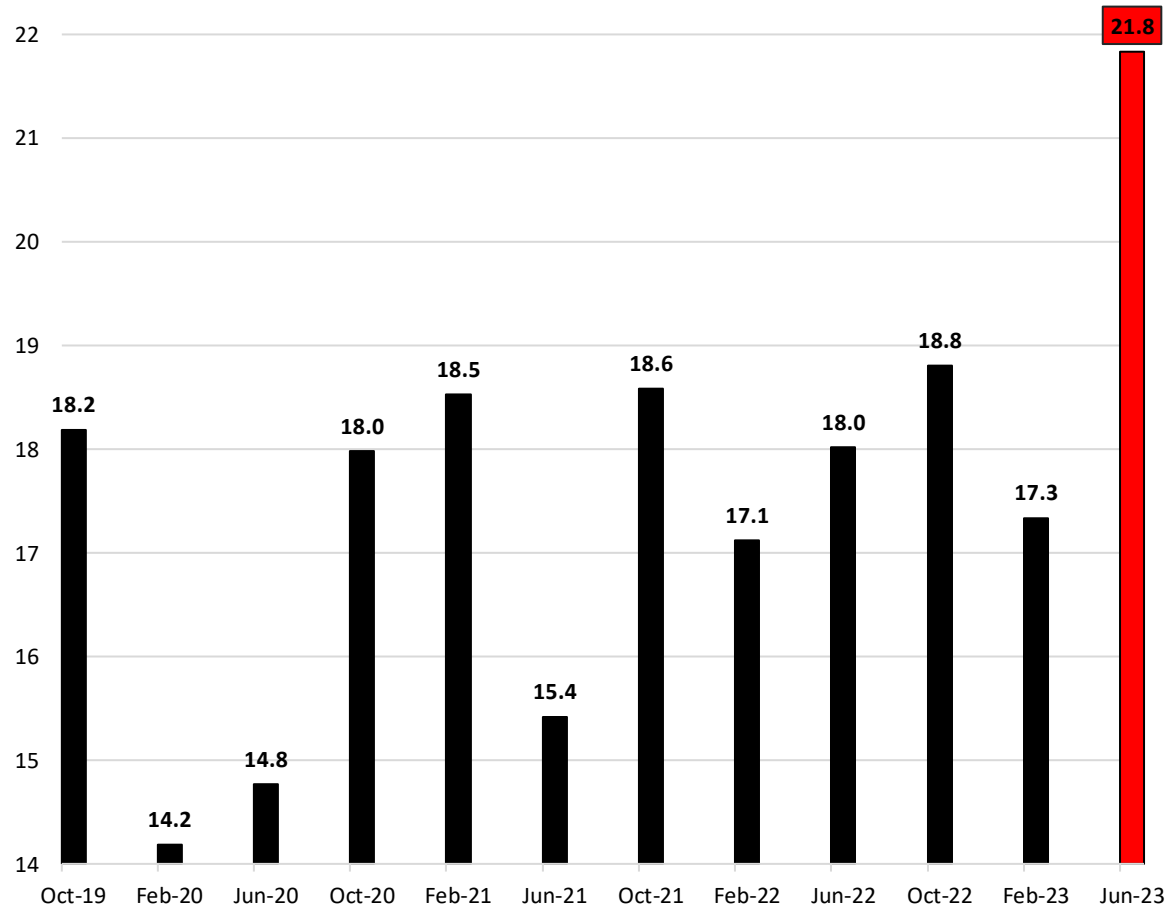
**UPDATE: 3Q DATA =WORSE.** Delinquencies are at GFC levels and rising and more **CC customers are rolling debt than paying it off on a monthly basis for the first time ever**



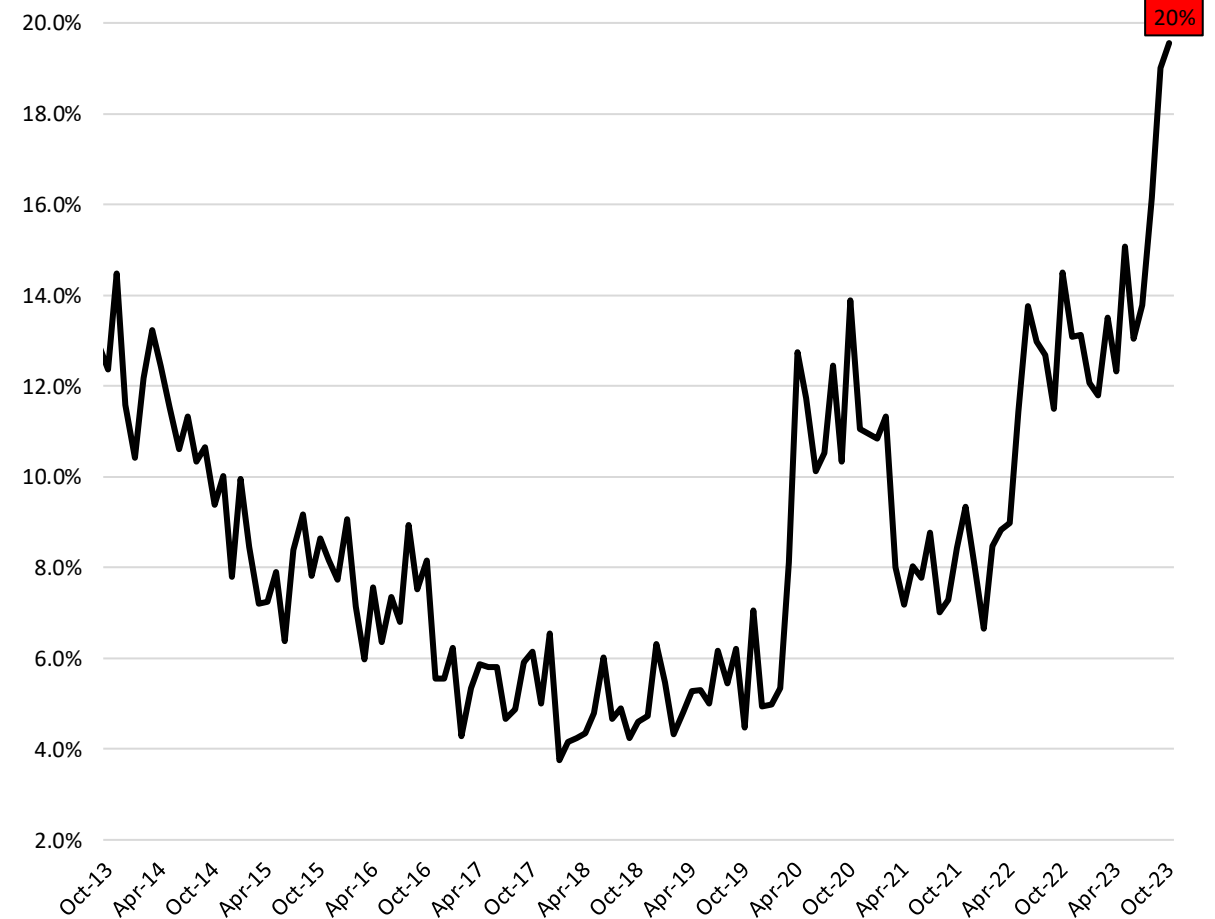
# Consumer Loan Rejection Rates ↑↑, Availability of Credit ↓↓

**UPDATE: Credit Availability ↓, Again.** Consumer May Very Likely Not Be Able To Borrow Even If They Wanted To. Lending Conditions are deteriorating, and the consumer credit box is tightening, quickly.

Consumer Credit Rejection Rate (NY FED)



Households Credit Availability: % Reporting Much Harder to Obtain Credit  
NY FED SCE Survey

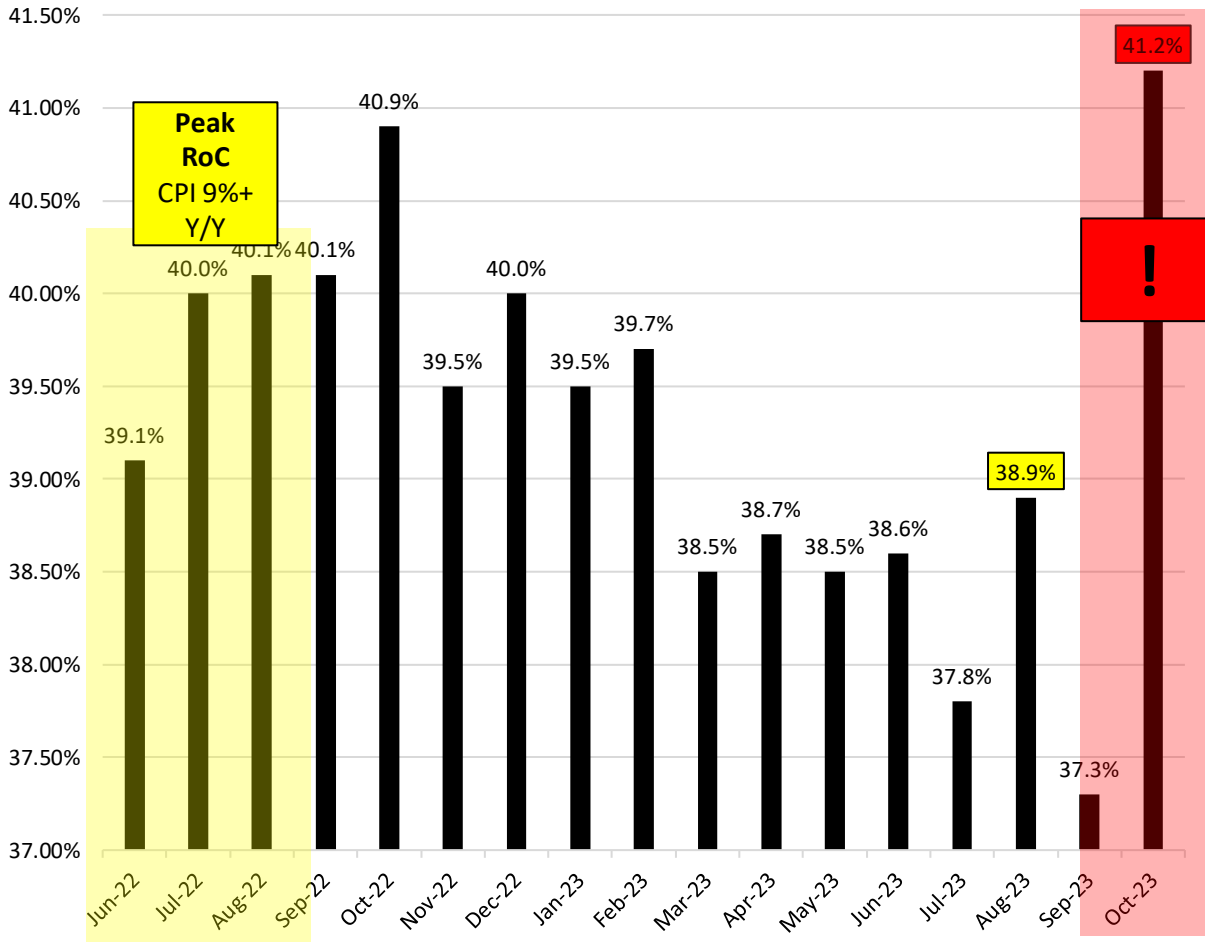




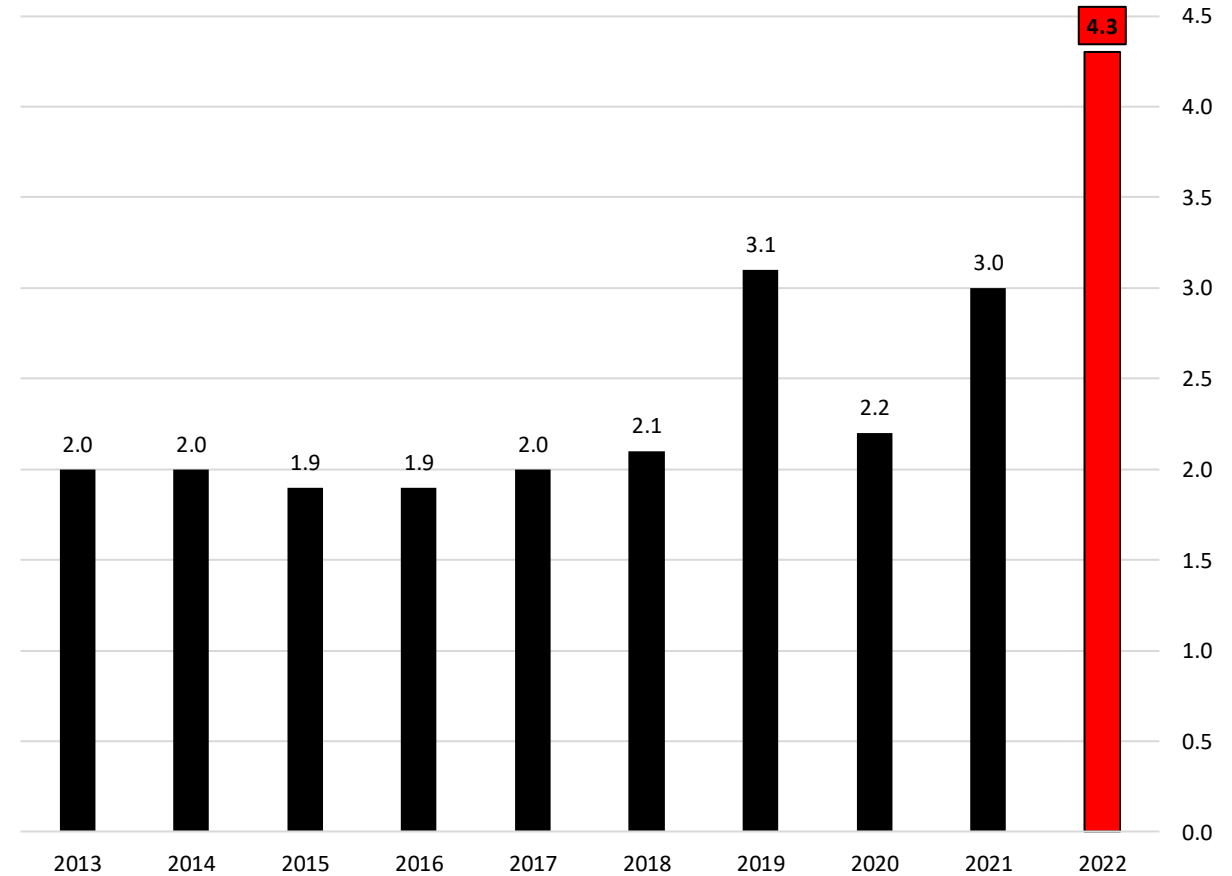
# Not A Coincidence → Inflation/Cost of Living Re-accelerating, Difficulty Paying for Typical Expenses ↑

**UPDATE: NEW HIGH** in percentage of households being squeezed. It's certainly doesn't appear to be isolated as the mosaic of confirming data continues to layer.

Difficulty Paying for Usual Household Expenses



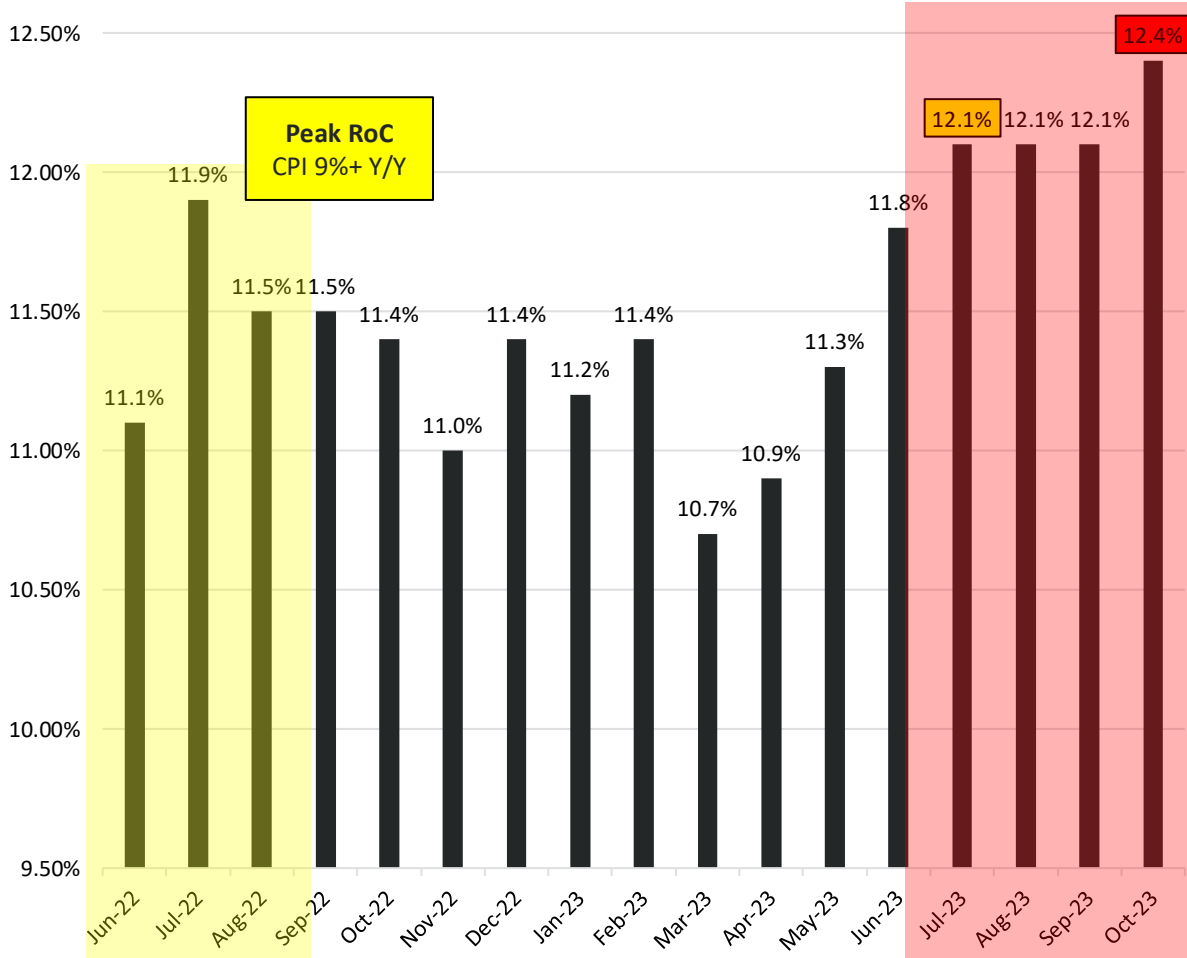
Fidelity: 401K Hardship Withdrawal Rate



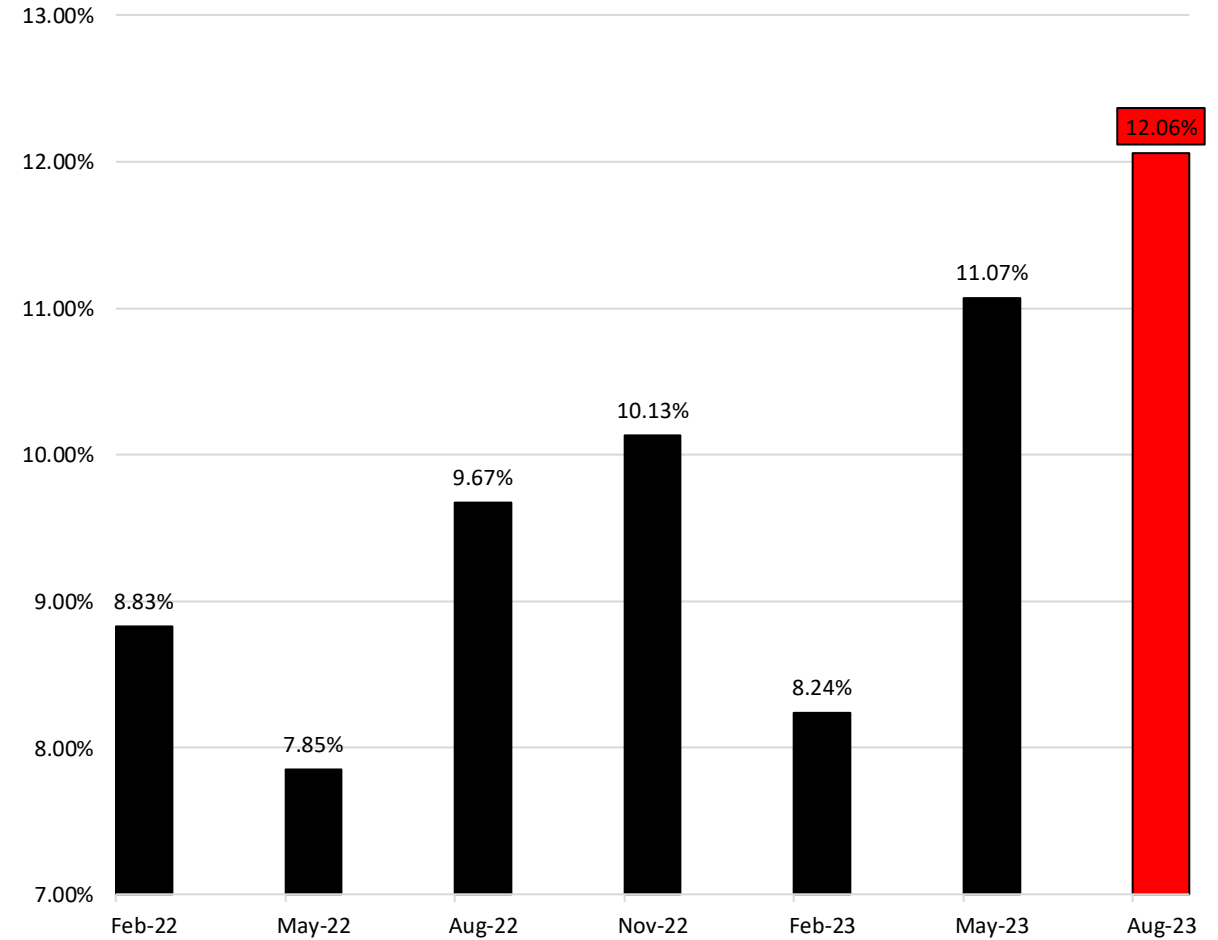
# Food Scarcity & Utility Shutoff Rates = Higher Highs

UPDATE: Different Metric, Same Consumer Squeeze Intensifying Signal = NEW HIGH

Food Scarcity: Sometimes or Often Not Enough Food

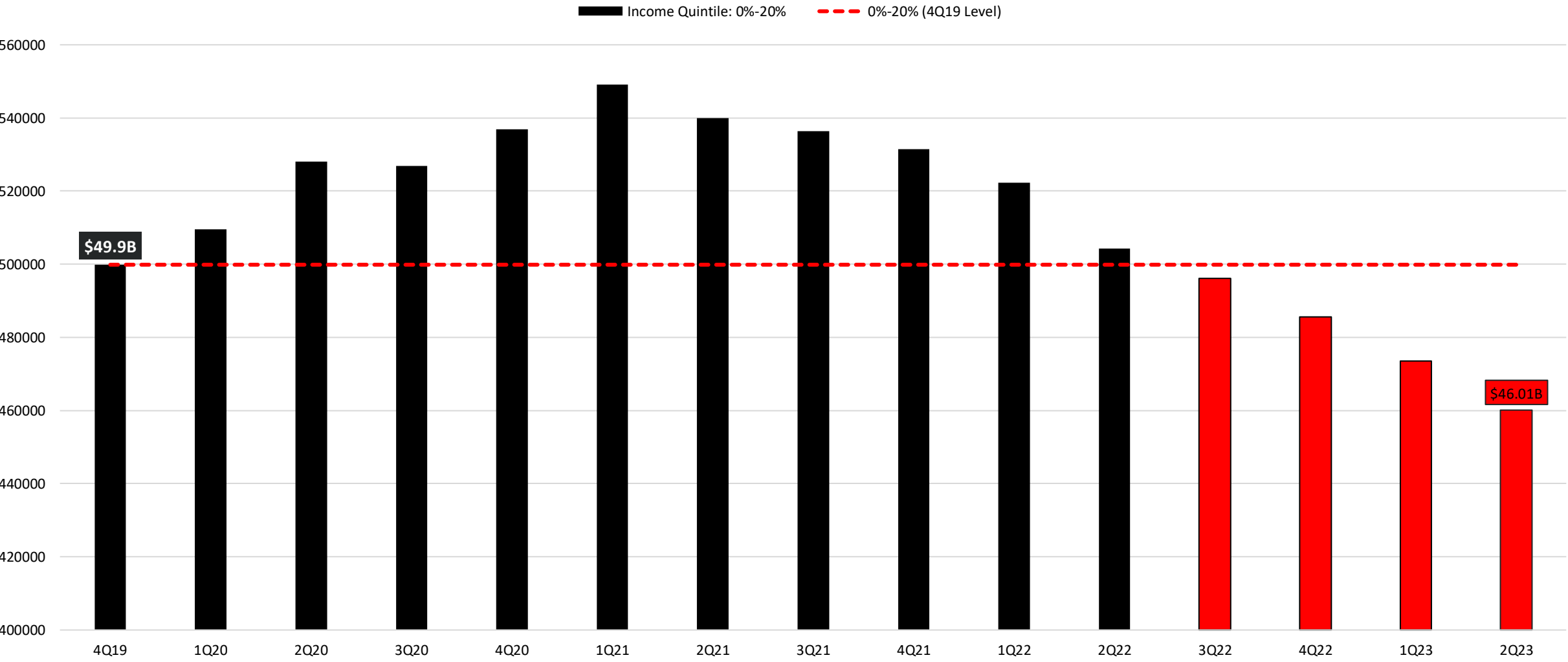


ENERGY INSECURITY: UTILITY SHUT-OFF RATE



# “Excess Savings”: From **BAD** → **WORSE**

The latest 2Q Data is not encouraging. The purchasing power associated with Savings for the bottom income quintile is down -8% vs. 4Q19 and has been negative for a full year.



# Quick Intermission: A Model and A Mantra

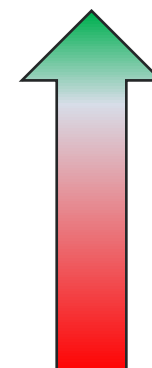
## Fourth Turning Tinderbox

- **The Rich** disproportionately Benefit from Higher Rates as they get paid on their excess liquidity.
- **The Rich** disproportionately Benefit from reflation in asset prices as they own a disproportionate share of financial assets.
- **Big Banks** consolidate share amidst Banking Stress & Liquidity flight
- **Large Cap** as a factor exposure outperforms amidst Quad 4 precarity

- **Bottom Slant of the K** gets plugged with higher (cost of living) inflation while broadly missing out on the income upside associated with higher rates
- **Bottom Slant of the K** loses discretionary consumption capacity as share of wallet goes to service higher debt costs
- **Bottom Slant of the K** becomes increasingly vulnerable to income shocks (ie end of student loan moratoria) as any residual cash cushion is exhausted and the above play out in reflexive & compounding fashion.

## FRAGILITY MANIFESTS FIRST AT THE FRINGES

Impact progressively metastasizes up the quality and vulnerability hierarchy so long as Quad3/Quad 4 Remain the Trajectory

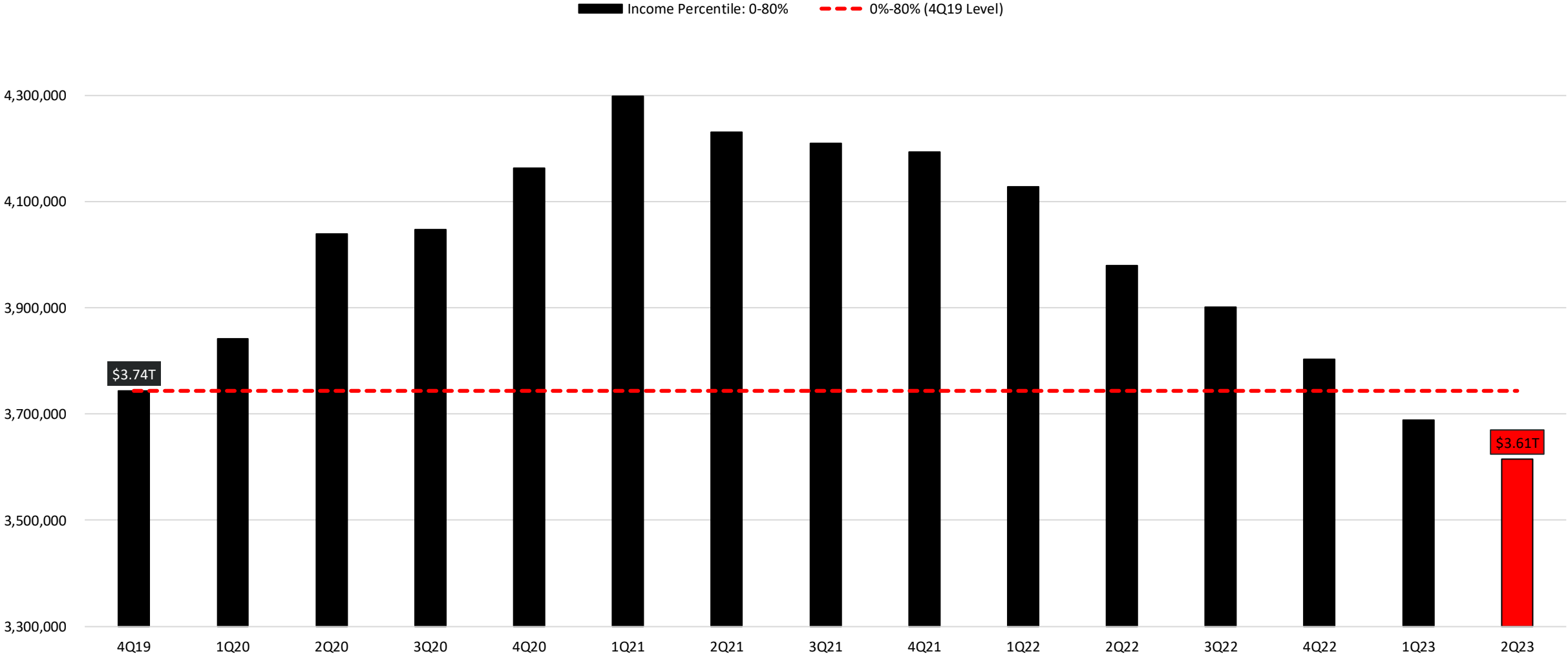


Macro Tightening Impacts the Fragile First

- **Markets:** high beta, smaller cap, non-profitable spec growth
- **Credit:** smaller cap, weaker balance sheet, lower earnings
- **Macro:** lower income, low savings, less assets/collateral, more rate sensitive, more vulnerable to income

# The Impact Is Metastasizing

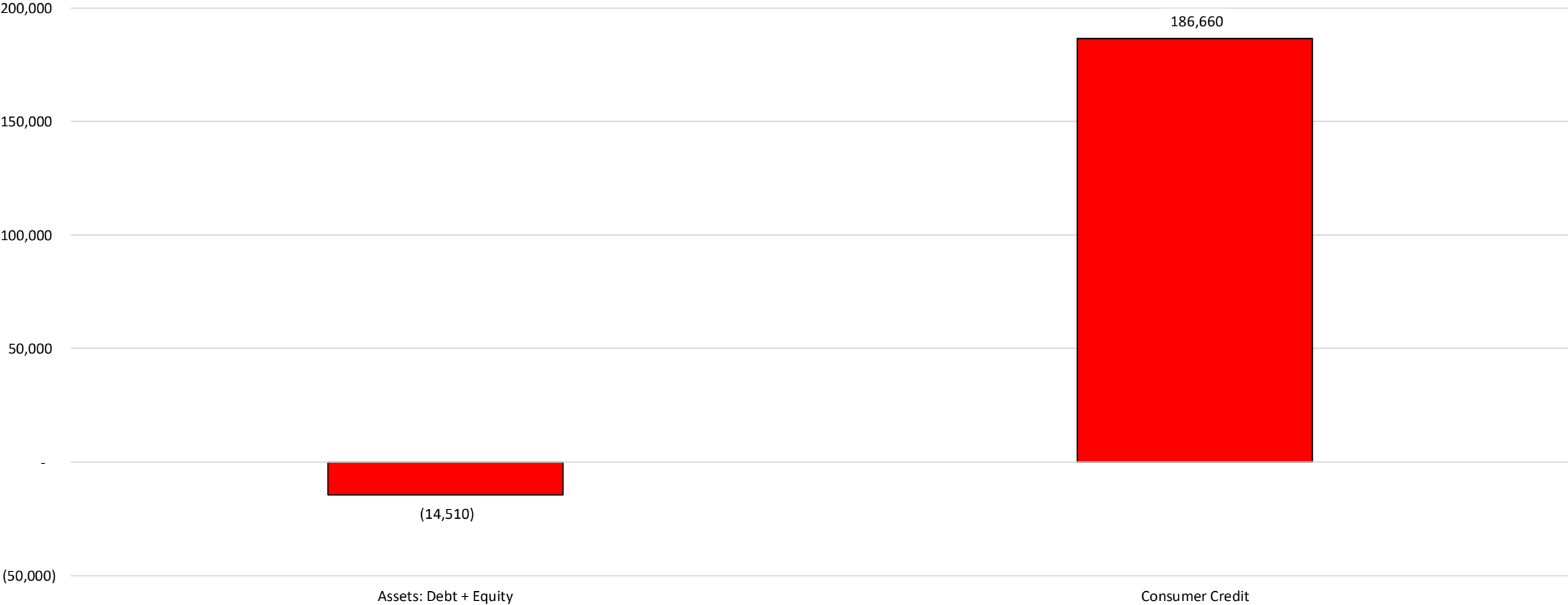
Collectively, **The Bottom 80% of the Income Distribution Has Now More Than Exhausted Their Savings/Consumption Cushion.** The Purchasing Power associated with that savings is now -3.4% below 4Q19 levels.



# ALL THAT'S LEFT IS THE DEBT .....

\*UPDATE: We should get the 3Q update in the next couple weeks

Bottom 50% of Households  
*Chg Since Start of Hiking Cycle (1Q22), millions*



# 4Q KISS: Let's Keep It Simple Here In 4Q

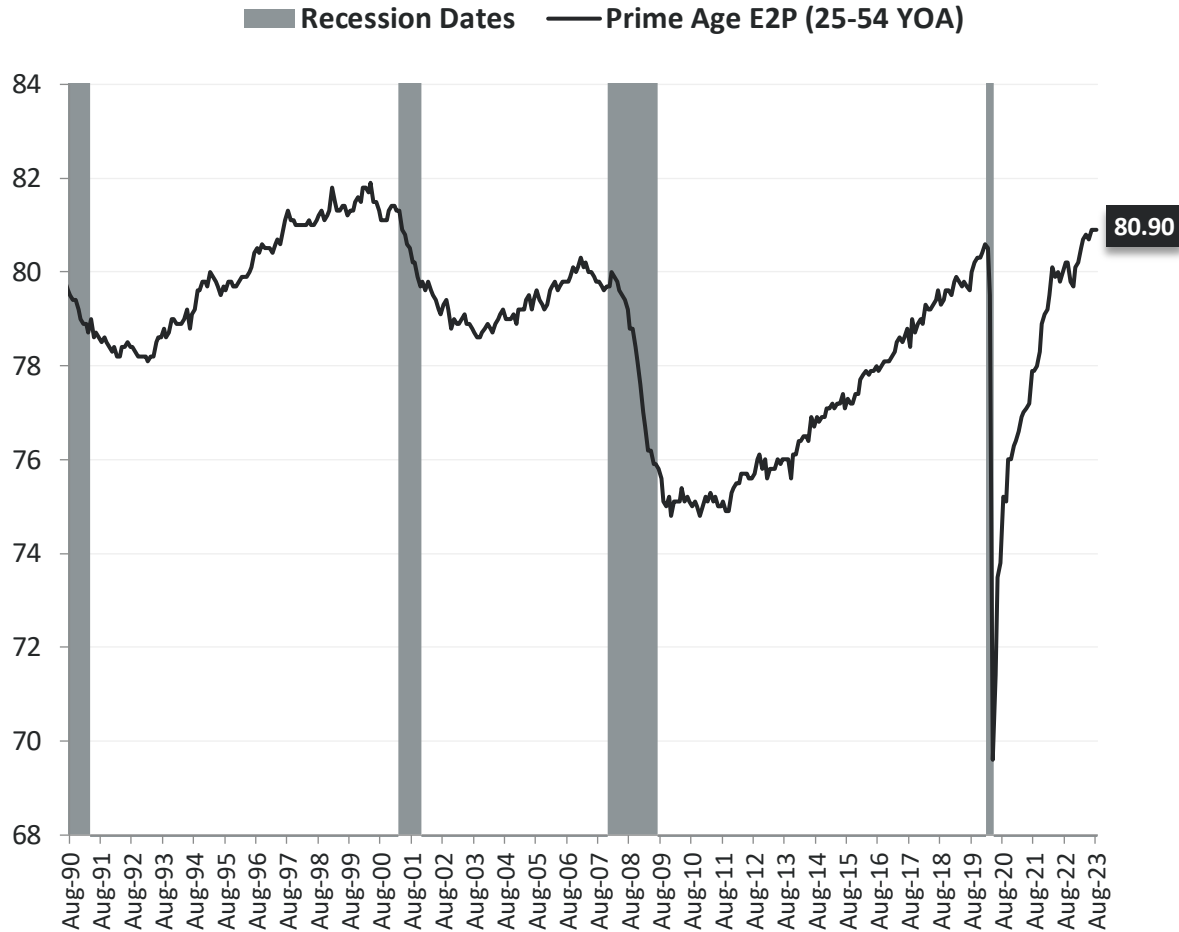
If the **Cost of Capital** Is Rising ....

Bloomberg US Agg Corporate YTW

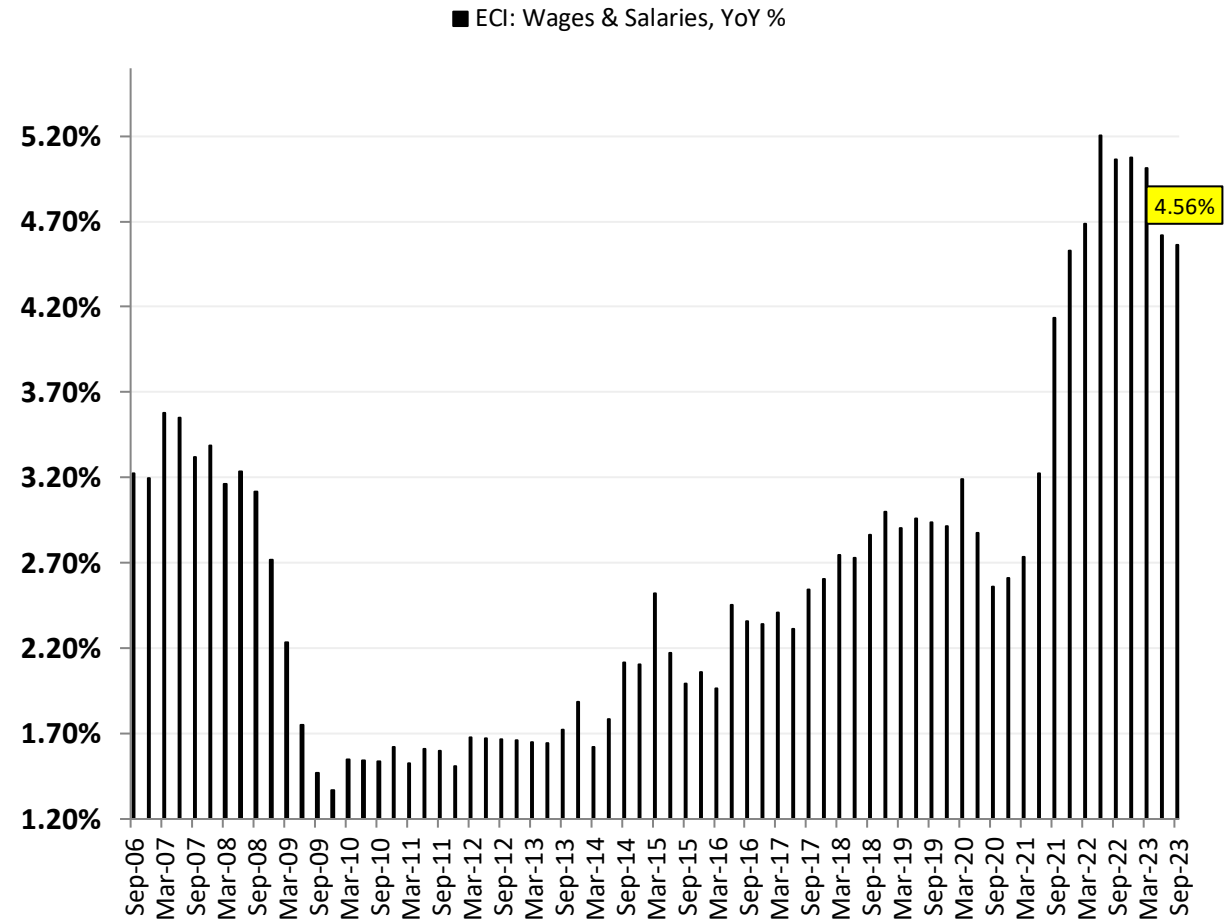


# Labor Remains Tight

the prime age employment-to-population ratio is back at 4-decade highs (i.e. Tight) and wage input costs continue growing faster than output prices.



## Employment Cost Index: Wages & Salaries





# Pricing Power is Past Peak & Falling



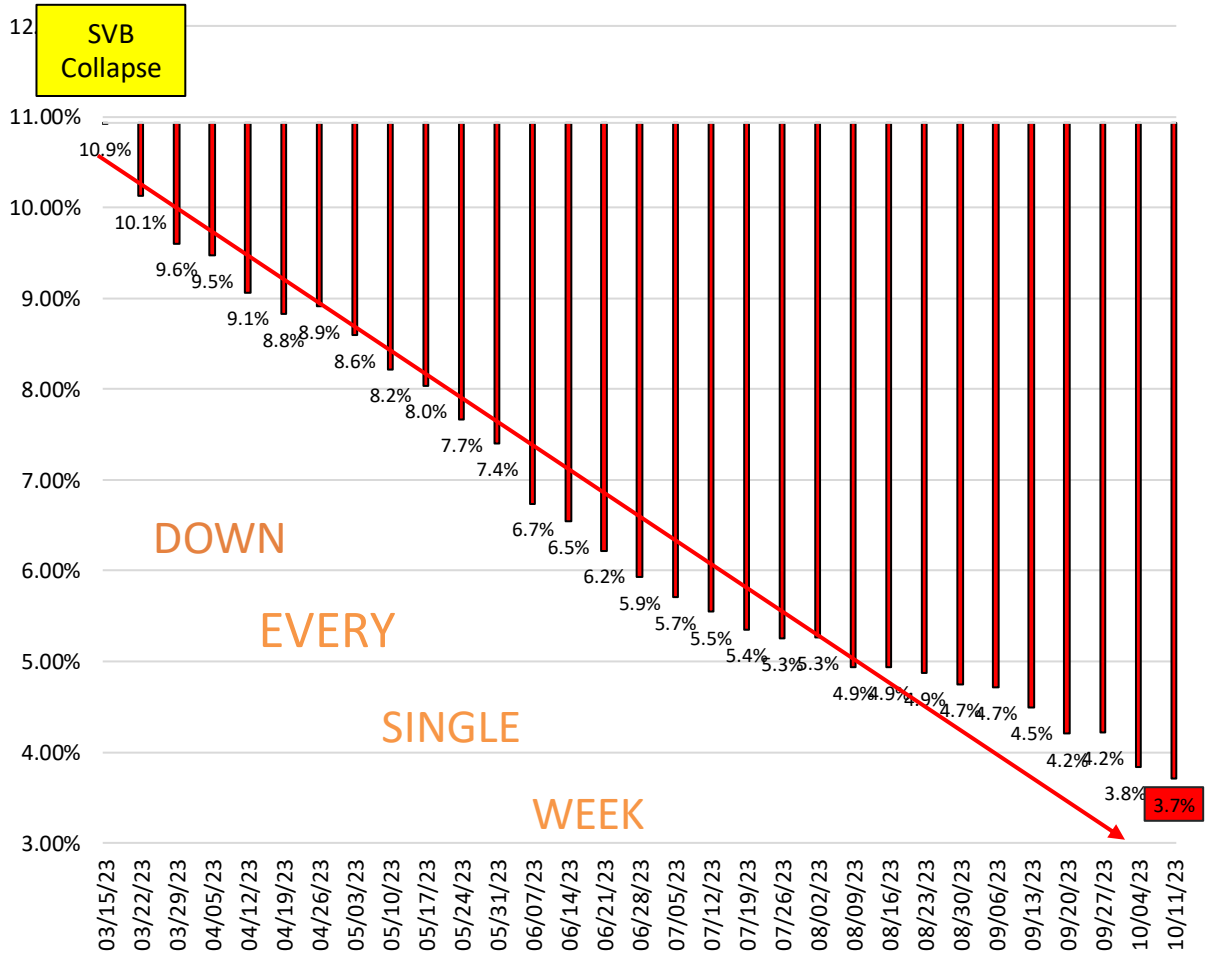
# Cost & Availability of Corporate Credit Is Tightening

**UPDATE** = Credit continues to tighten and loan growth slow ... which will continue to feed threwh to economic activity in feed forward fashion.

## COMMERCIAL LENDING

Commercial & Industrial Loans	3Q22	4Q22	1Q23	2Q23	3Q23
<b>Tightening Standards</b>					
Large and Medium Firms	39.1	44.8	46.0	50.8	33.9
Small Firms	31.8	43.8	46.7	49.2	30.4
<b>Increasing Spreads</b>					
Large and Medium Firms	30.2	44.8	62.3	68.3	50.0
Small Firms	25.4	32.8	58.3	66.1	44.6
<b>Stronger Demand</b>					
Large and Medium Firms	-8.8	-31.3	-55.6	-51.6	-30.5
Small Firms	-21.9	-42.2	-53.3	-47.5	-49.1
Commercial Real Estate Loans	3Q22	4Q22	1Q23	2Q23	3Q23
<b>Tightening Standards</b>					
Construction and Land Development	57.6	69.2	73.8	71.7	64.9
Nonfarm and Nonresidential	52.9	57.6	66.7	68.3	67.2
Multifamily	39.7	56.7	64.5	63.3	65.5
<b>Stronger Demand</b>					
Construction and Land Development	-47.0	-62.1	-67.2	-51.7	-52.6
Nonfarm and Nonresidential	-45.6	-68.2	-73.8	-58.3	-50.0
Multifamily	-26.5	-49.3	-72.6	-50.0	-55.2

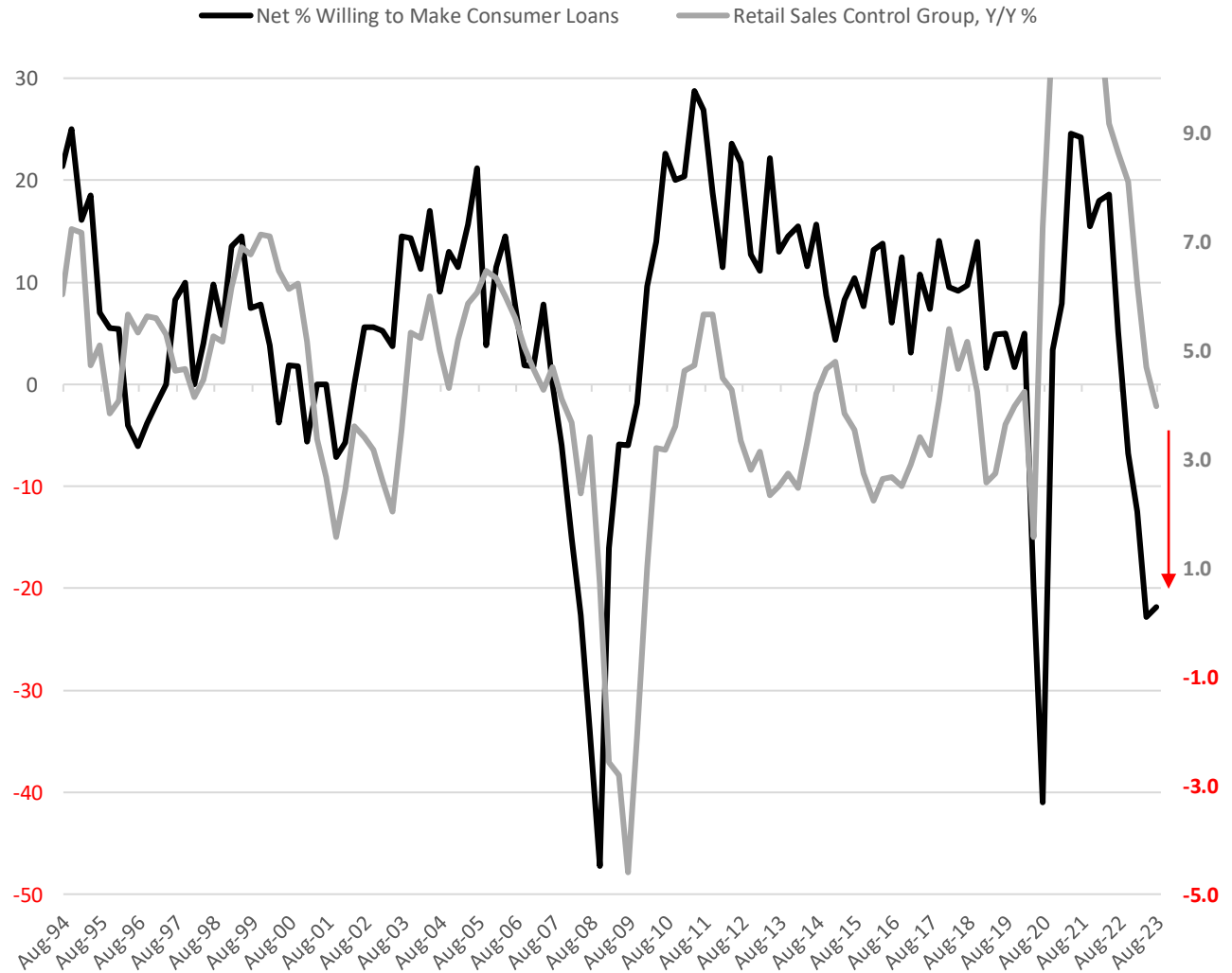
Bank Credit: Loans & Leases, Y/Y %



# The Cost & Availability of **Consumer Credit** = ↓

**UPDATE** = Still tightening ... & the gray line (retail sales) still has some recoupling to do with the black line (consumer credit availability)

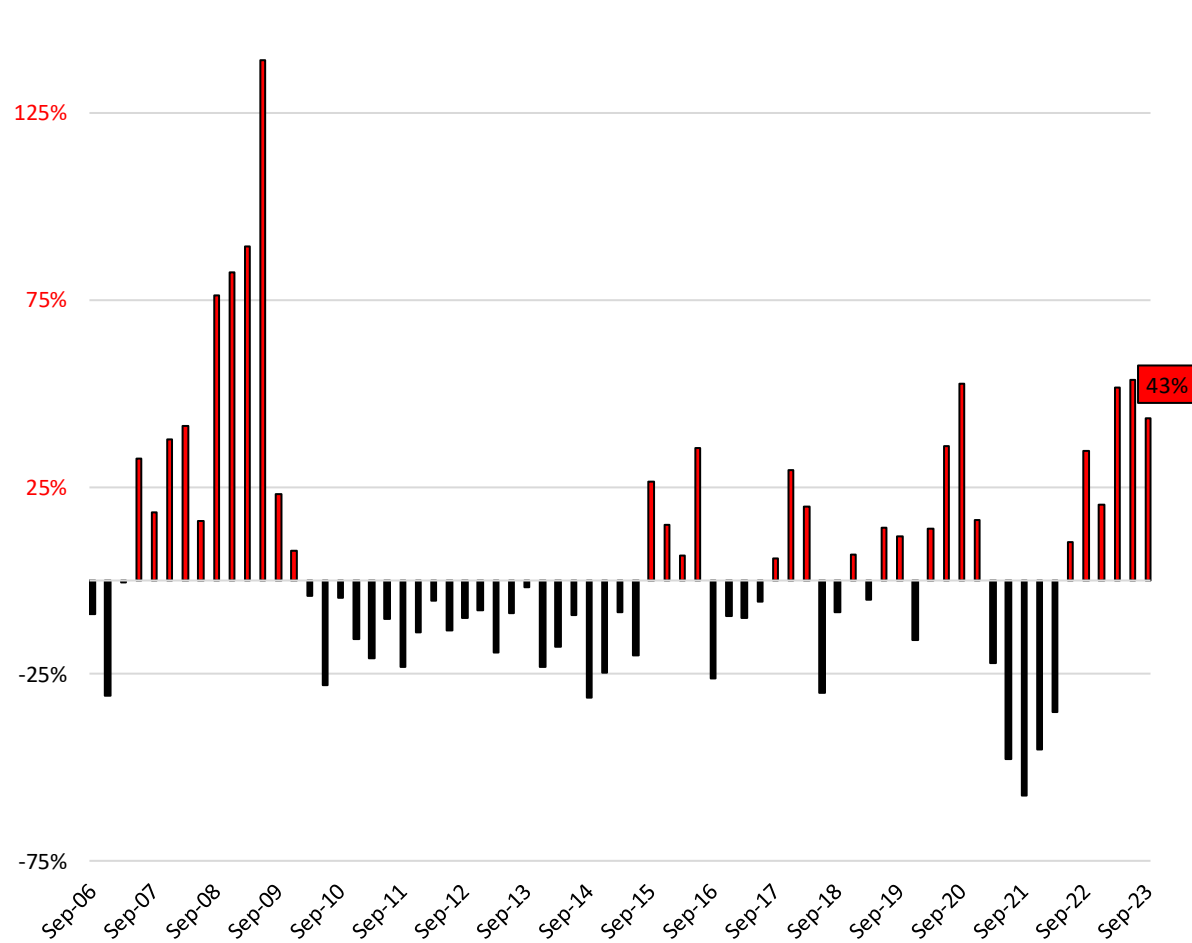
CONSUMER LENDING					
Residential Mortgage Loans <sup>(4)</sup>	3Q22	4Q22	1Q23	2Q23	3Q23
<b>Tightening Standards</b>					
GSE-eligible Government	1.7	1.8	1.9	5.4	10.0
GSE-eligible Government	1.9	3.8	3.9	5.7	2.1
QM non-jumbo, non-GSE-eligible	-3.4	6.9	11.5	12.5	14.3
QM-jumbo	5.2	15.3	18.5	19.6	26.0
Non-QM jumbo	7.4	14.5	21.6	21.6	23.9
Non-QM non-jumbo	3.8	5.8	16.7	18.4	20.5
Subprime	11.1	14.3	33.3	16.7	14.3
<b>Stronger Demand</b>					
GSE-eligible Government	-86.2	-93.0	-52.7	-27.3	-53.1
GSE-eligible Government	-79.6	-86.8	-47.1	-28.3	-43.8
QM non-jumbo, non-GSE-eligible	-76.3	-87.9	-41.5	-33.9	-55.1
QM-jumbo	-81.0	-88.1	-57.4	-33.9	-54.0
Non-QM jumbo	-79.6	-85.5	-56.9	-38.8	-60.9
Non-QM non-jumbo	-72.2	-84.6	-50.0	-44.9	-59.1
Subprime	-50.0	-85.7	-50.0	-9.1	-71.4
<b>Household Loans</b>					
	3Q22	4Q22	1Q23	2Q23	3Q23
<b>Tightening Standards</b>					
Credit Cards	18.8	28.3	30.4	36.4	28.9
New and Used Autos	2.0	17.3	27.5	14.6	14.6
Consumer Loans Excl. Credit Cards and Autos	13.6	10.2	23.6	20.8	29.4
<b>Stronger Demand</b>					
Credit Cards	10.6	-11.1	-2.2	0.0	-9.1
Auto	-28.0	-39.2	-26.5	-21.3	-24.4
Consumer Excl. Cards and Auto	-3.4	-25.9	-14.5	-23.1	-26.0
<b>Increased Willingness to make Installment Loans</b>					
	-6.8	-12.5	-22.8	-21.8	-20.4



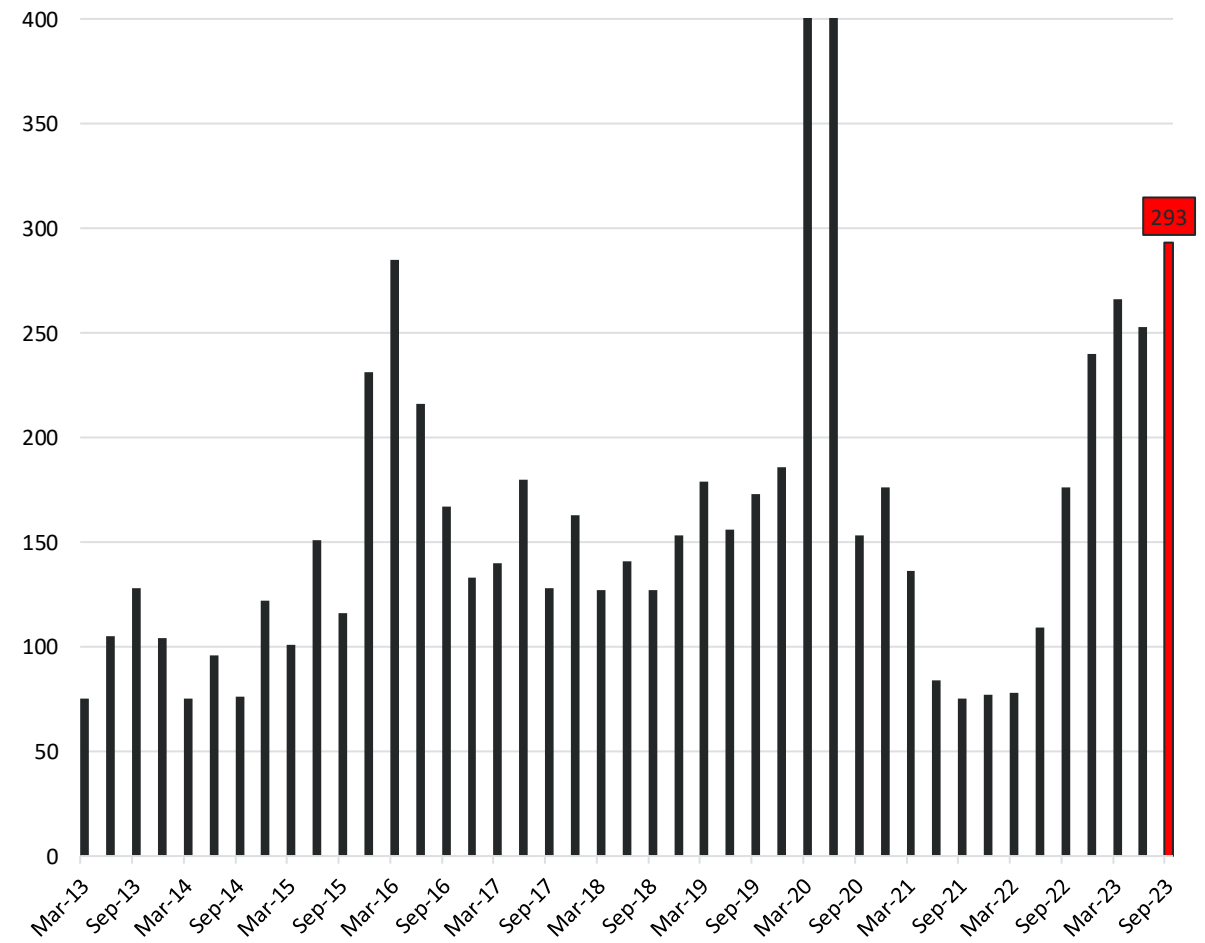
# The Credit/Bankruptcy Cycle Remains In Motion

Corporate Credit Rating Downgrades are now at the highest level in over a decade (ex-Pandemic peak) and the corporate bankruptcy cycle has clearly inflected ... and will continue north as macro pressure persists and ZIRP era debt gets rolled.

Business Sector Ch.11 Bankruptcies

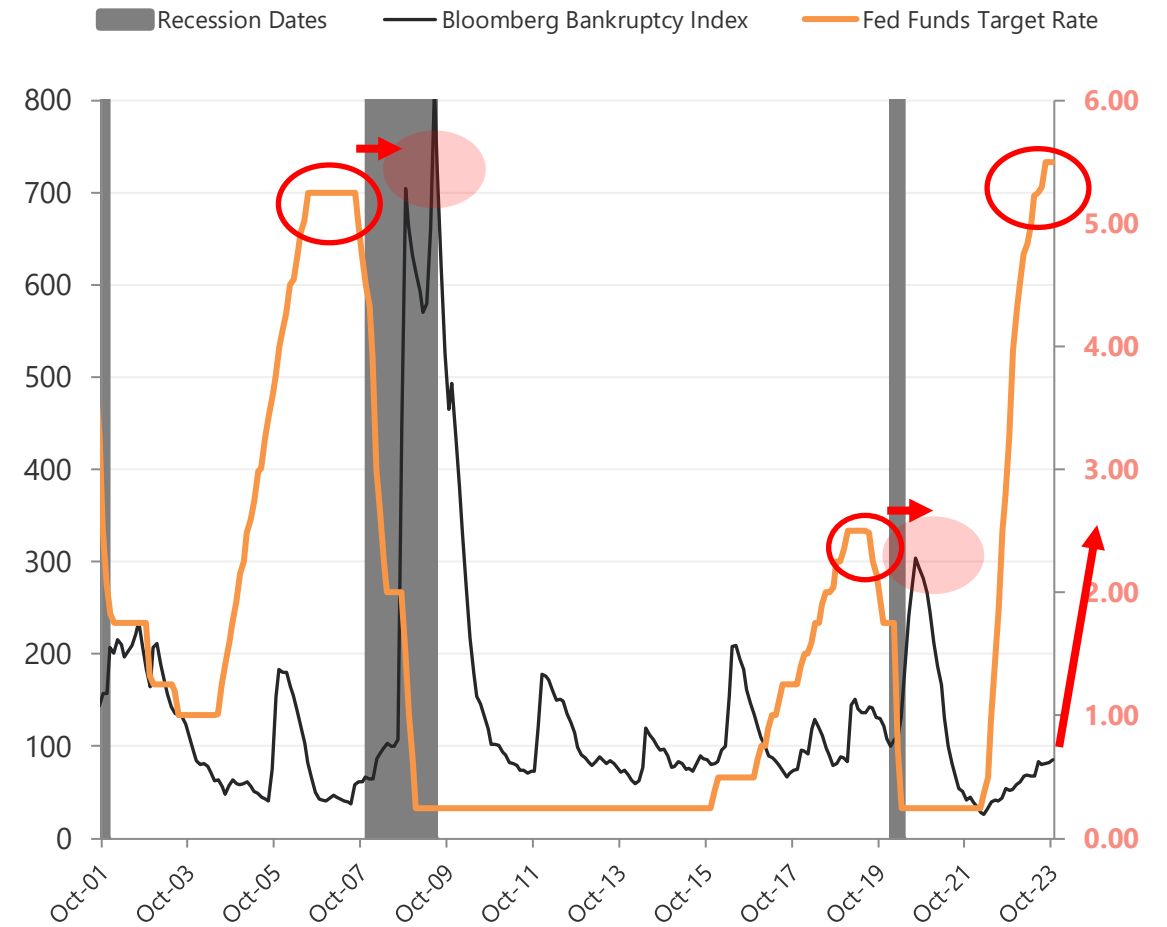
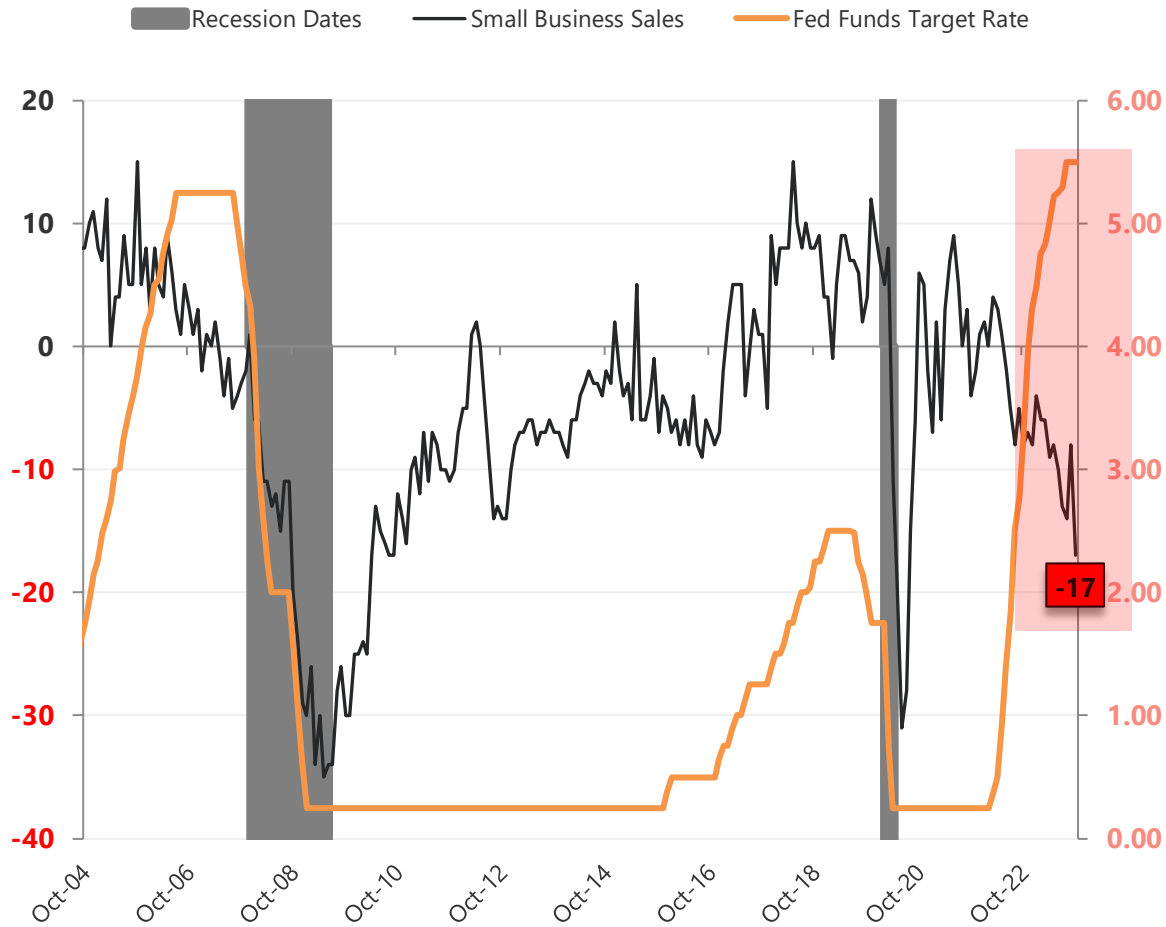


U.S. Corporate Ratings Downgrades



# Demand Is Slowing And The Fed Remains Tight Into the Macro Capitulation

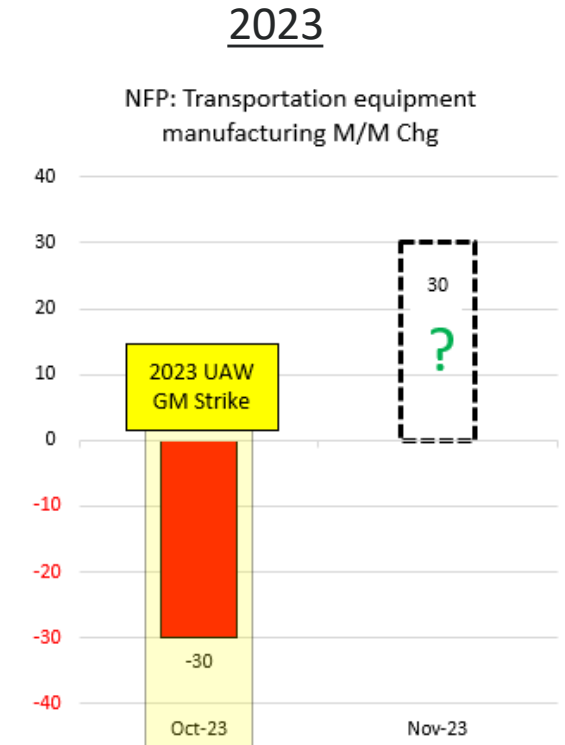
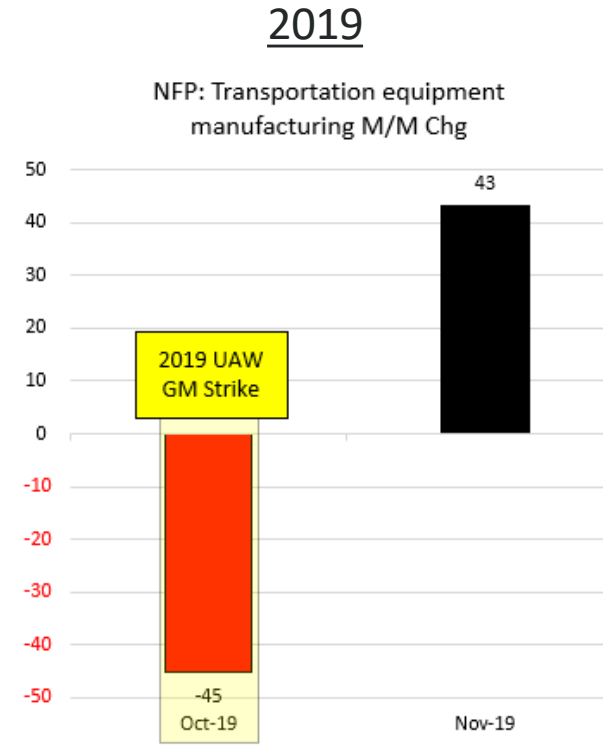
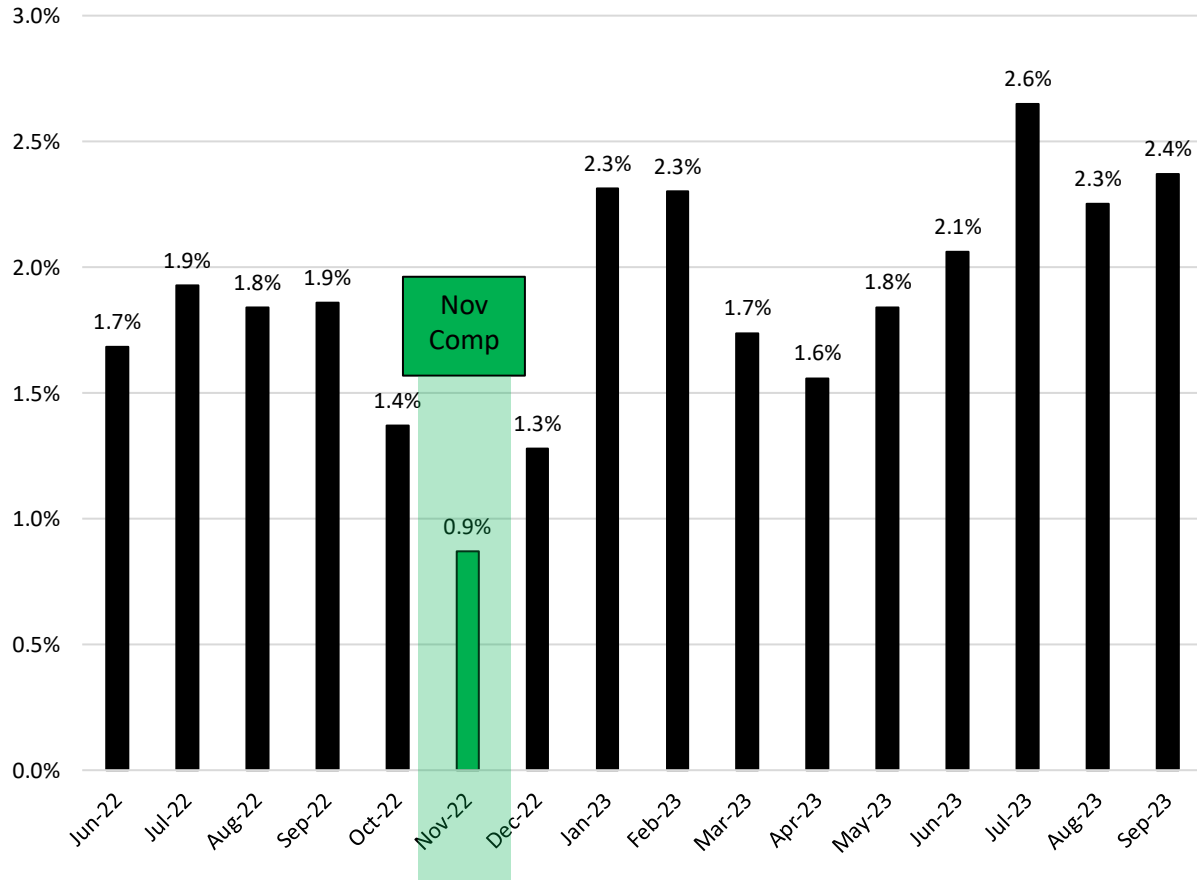
We are “**recession**” agnostic and **RoC-centric**. Consider the preponderance of confluent data we’ve presented and think about whether the balance of risk is towards an imminent immaculate (positive) inflection or further deceleration.



# Now Breathe! NOV → A Quantum of (comp) Solace!

**Shock-tober** → **November** where **easy comps** and a **reversal in UAW impacts** (add 30-45K to NFP, IP/Auto Manufacturing rebound, Regional Survey data in impacted areas) should support sequential/YoY strength → **January** = Cycle back in driver's seat + extremely difficult comps

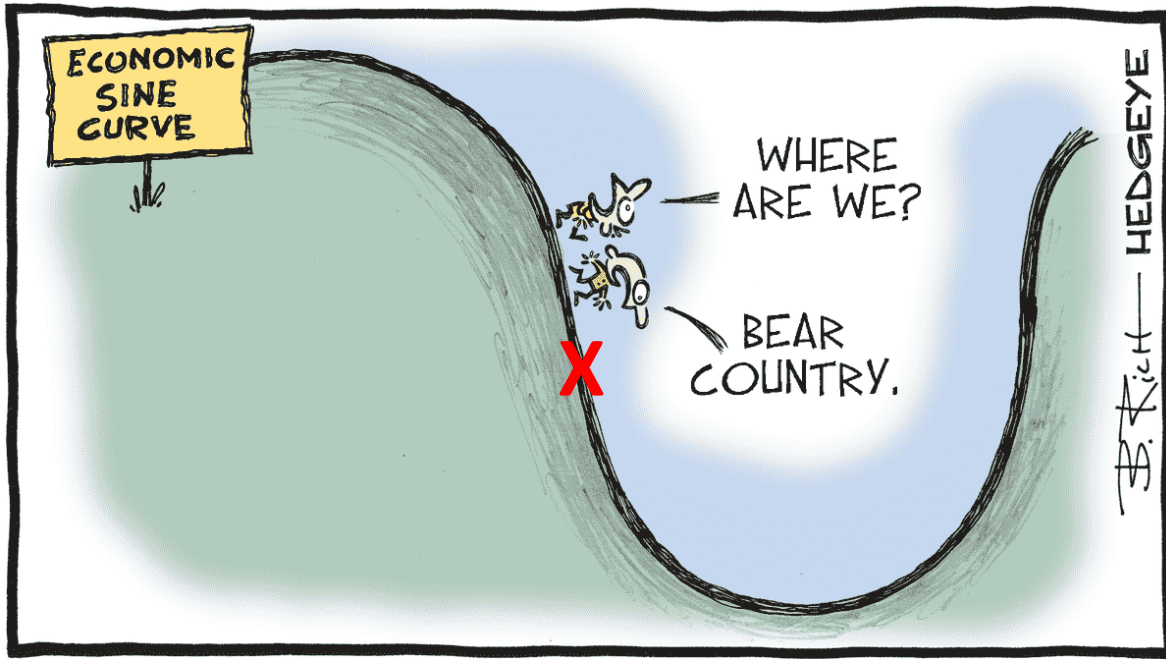
Real Consumption, Y/Y %



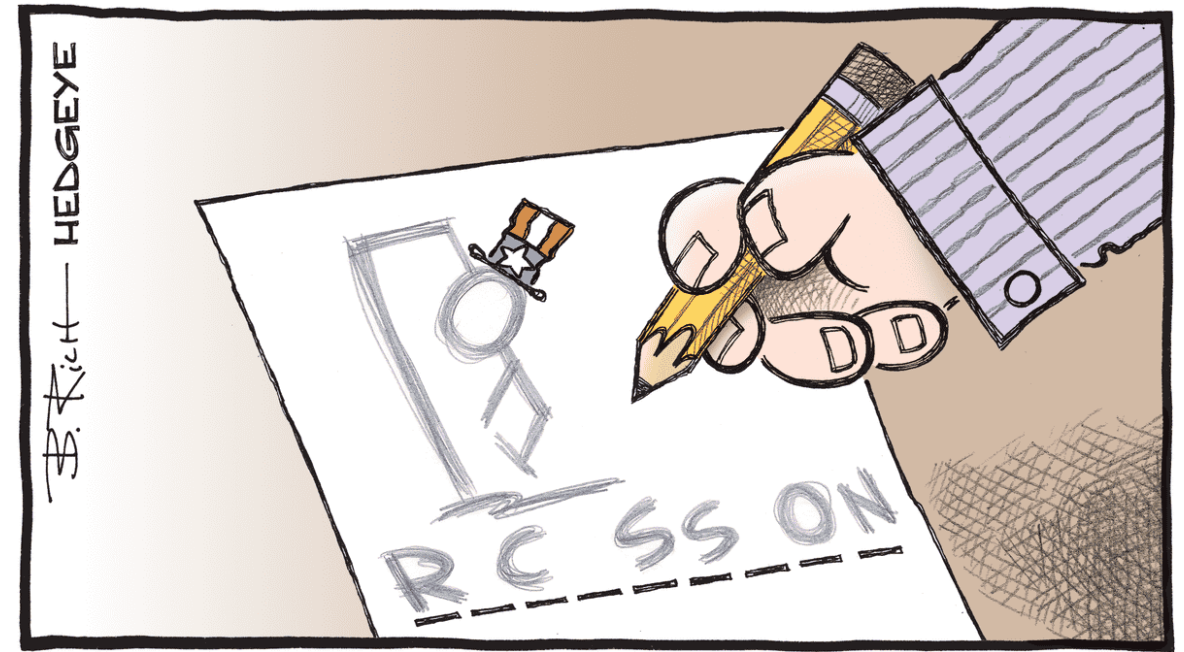


There's (perceived) Scarcity Value in Sophistication. But "Complex" and "Correct" Aren't (necessarily) Synonymy's.

So long as Quad3/Quad4 remains the trajectory, it's less about divining the destination (recession) and more about simply risk managing **The Convergence Chop** and the **Cycle Gravity** associated with getting from **Picture 1** to **Picture 2**.



1.



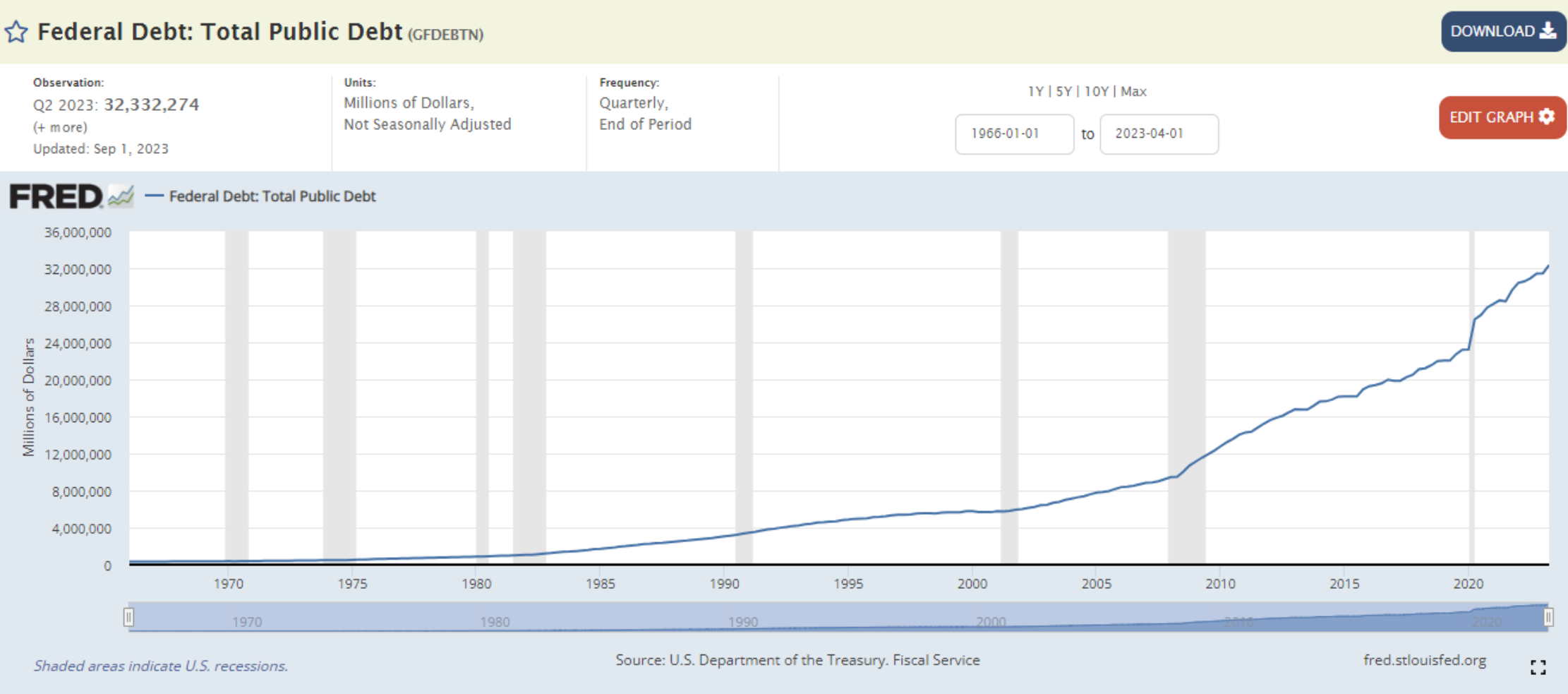
2.





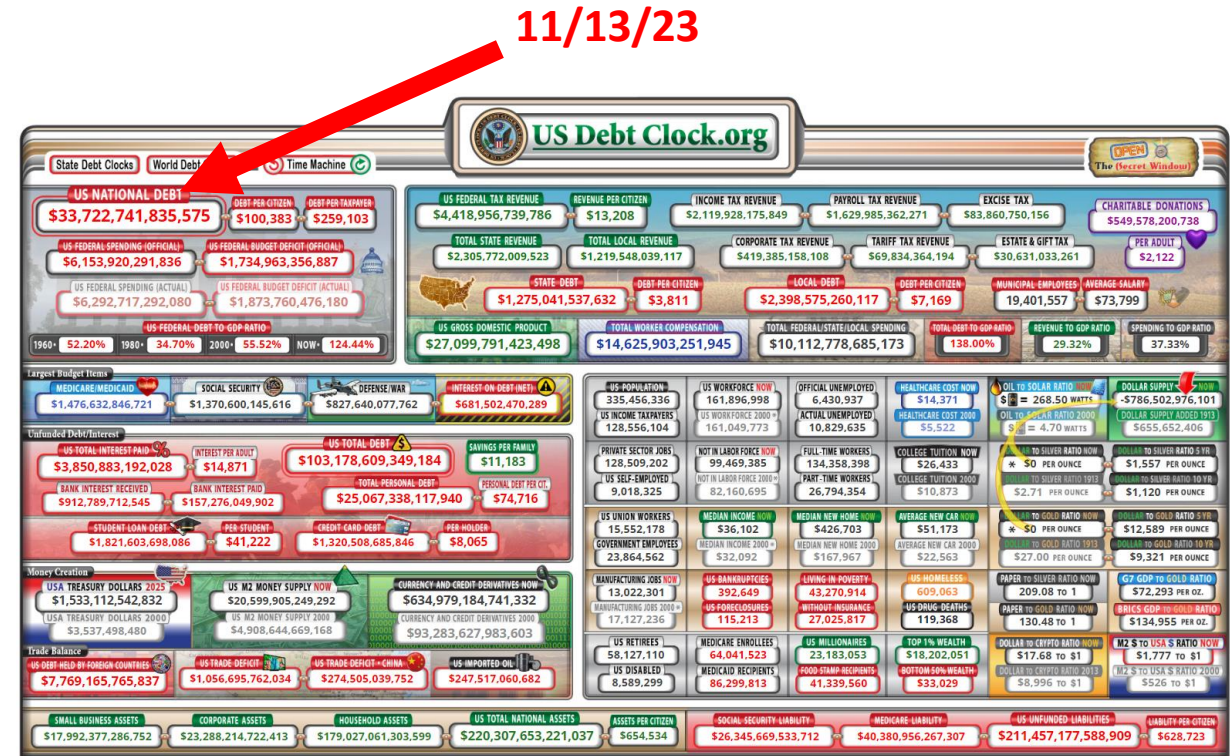
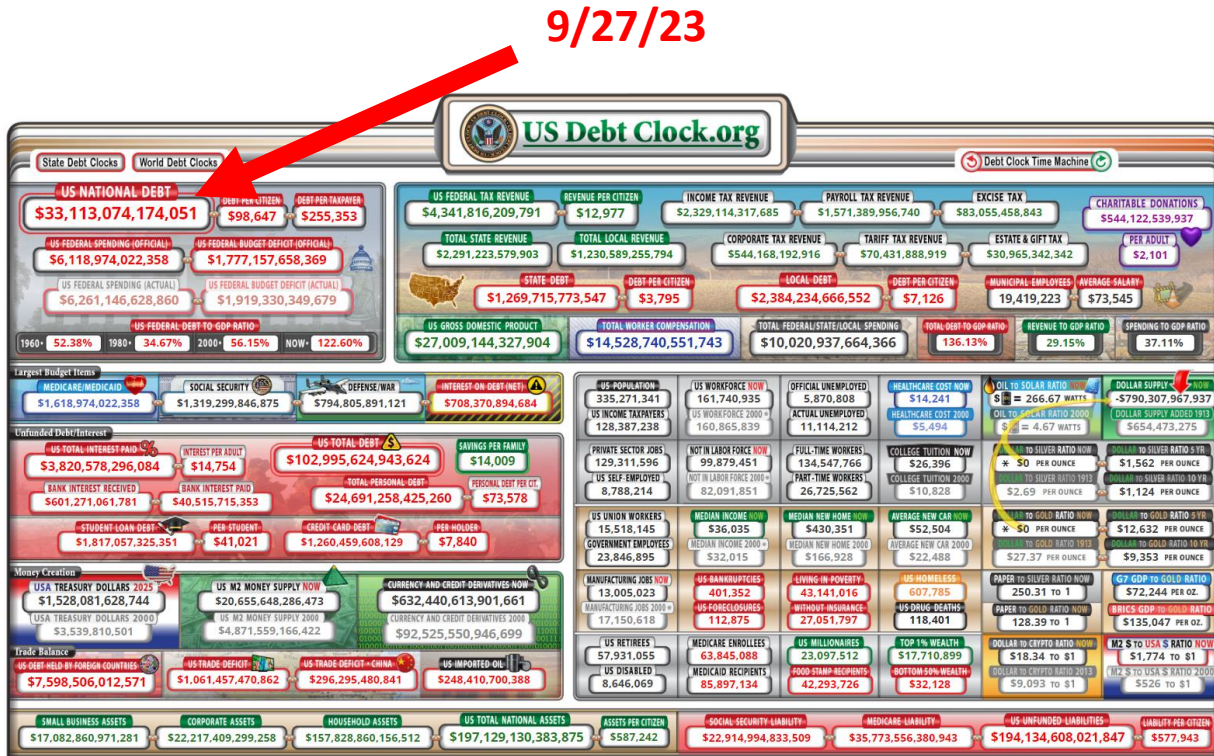
# US Federal Debt: \$32 Trillion (\$26T Held By Public)

Federal Debt has grown from \$372B in 1970 to \$32.3T in 2023 (+85x, aka +8,500%)



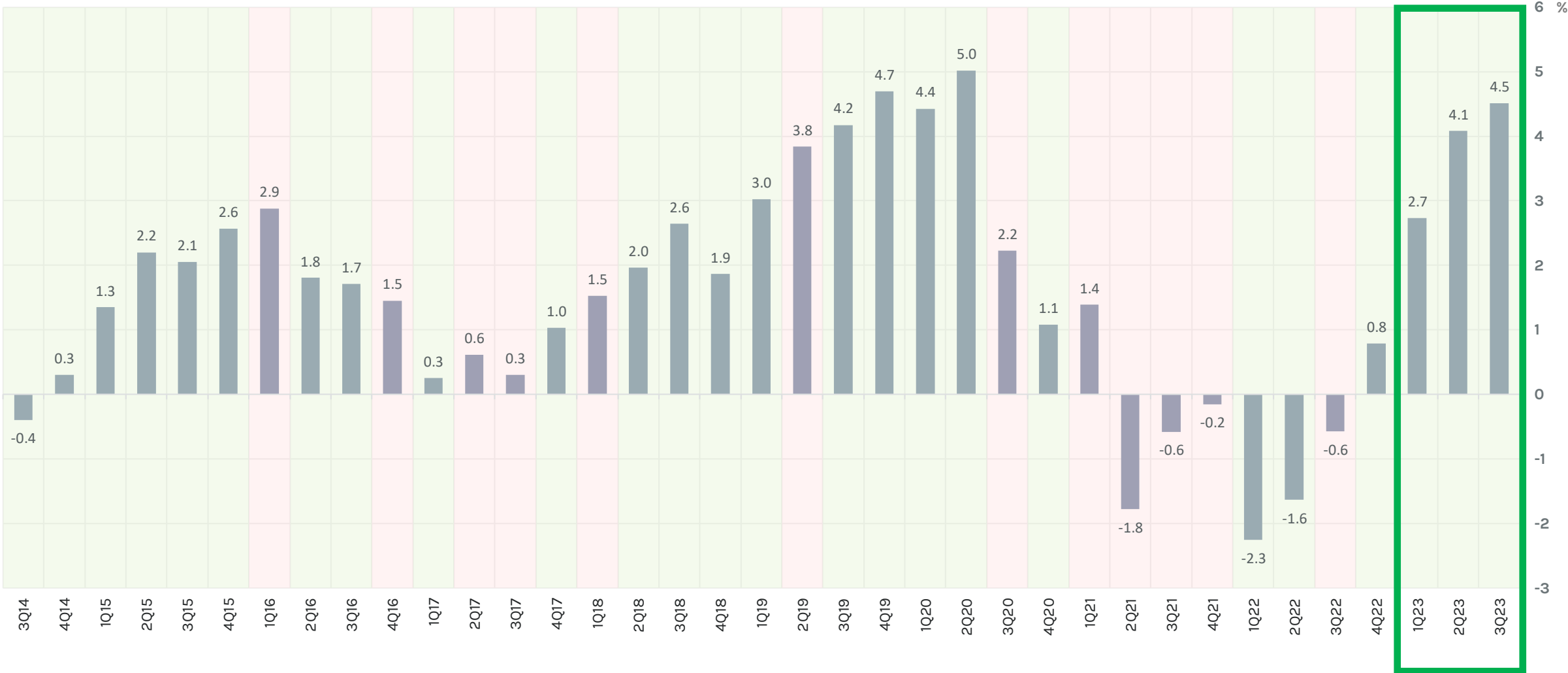
# US Federal Debt: \$33.7 Trillion (\$26T Held By Public)

In the 6 weeks since our Q4 Themes Deck, US National Debt has grown from \$33.1 Trillion to \$33.7 Trillion.



# Real Government Expenditure YoY

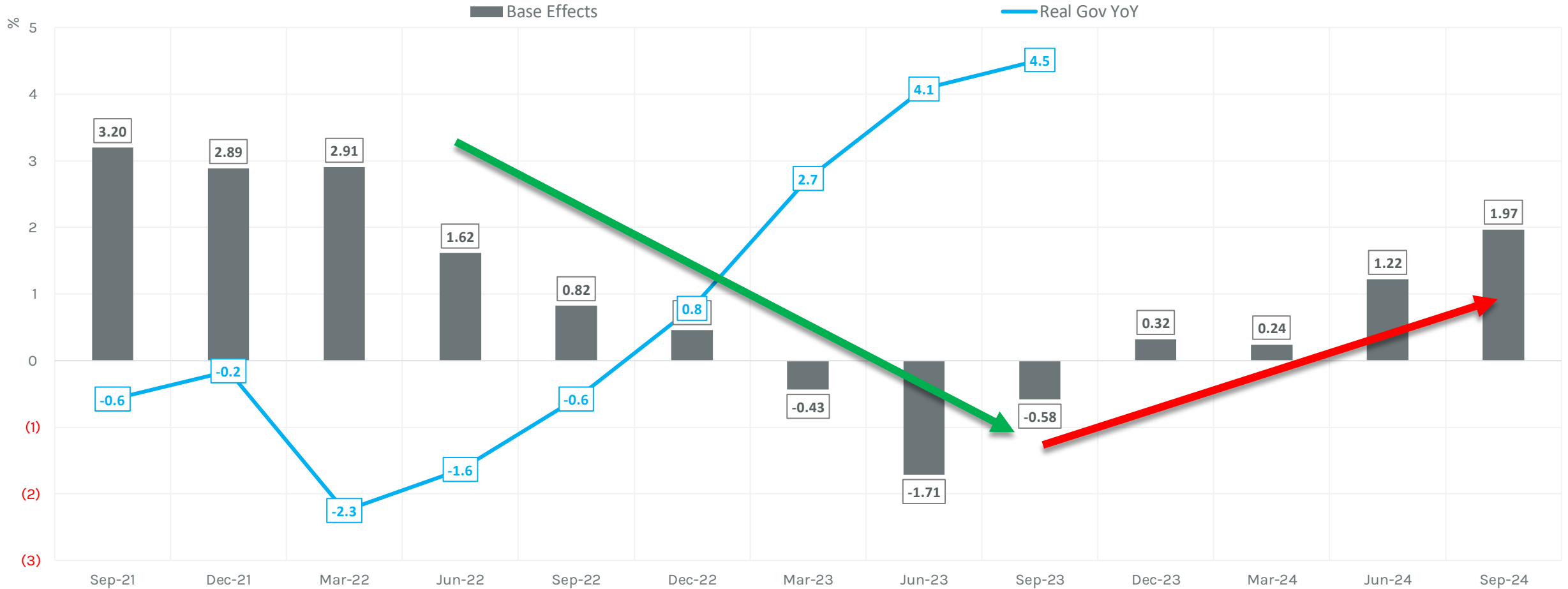
The Acceleration in Government Spending Has Been The Hero of 2023



# Tailwinds Turning to Headwinds

## Base Effects Broadly Steepen Through 3Q24

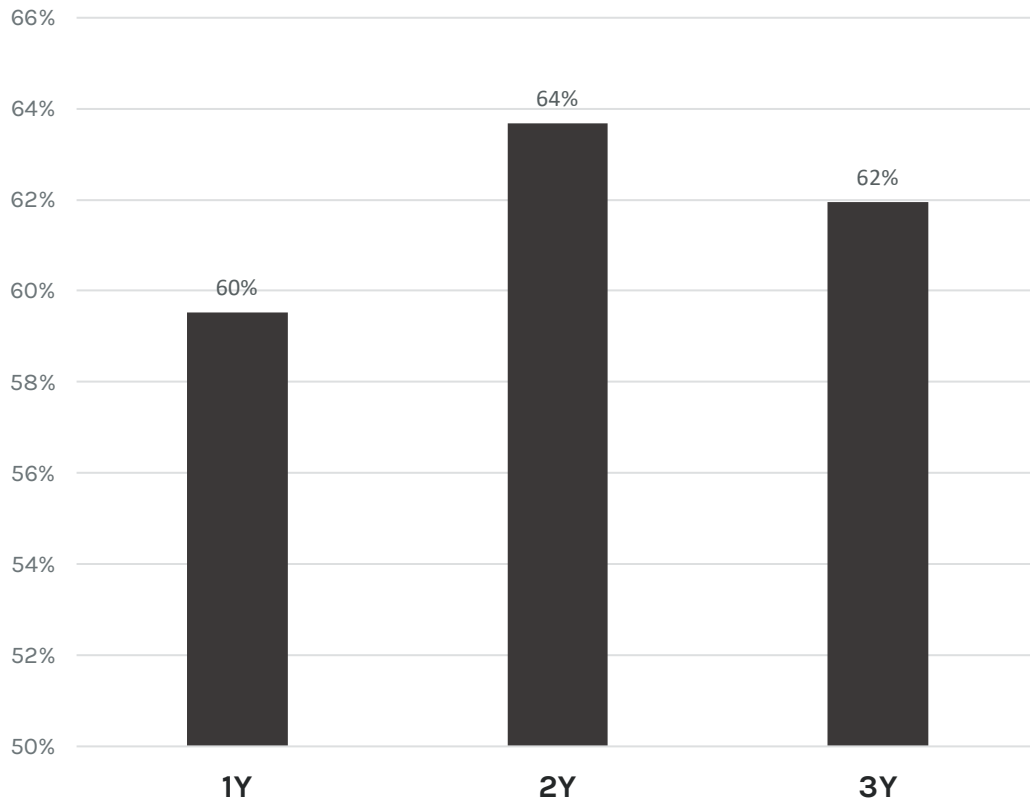
United States - Real Government Expenditure (YoY)



# Looking Forward

## The Totality of Base Effects Through 3Q24 Indicate a Slowing Rate of Growth in Government Spending

Directional Accuracy



	Real Gov Growth			X-Year Compare			Base Effects		
	Growth (YoY)	Δ QoQ	Δ QoQ	1Y	2Y	3Y	1Y	2Y	3Y
9/30/2020	2.22	-2.79	Decel	4.17	3.41	2.37	0.34	0.51	0.23
12/31/2020	1.08	-1.14	Decel	4.69	3.28	2.53	0.52	-0.13	0.16
3/31/2021	1.39	0.31	Accel	4.43	3.72	2.99	-0.27	0.44	0.46
6/30/2021	-1.78	-3.17	Decel	5.02	4.43	3.60	0.59	0.70	0.61
9/30/2021	-0.58	1.20	Accel	2.22	3.20	3.01	-2.79	-1.23	-0.59
12/31/2021	-0.15	0.43	Accel	1.08	2.89	2.55	-1.14	-0.31	-0.47
3/31/2022	-2.25	-2.10	Decel	1.39	2.91	2.95	0.31	0.02	0.40
6/30/2022	-1.64	0.62	Accel	-1.78	1.62	2.36	-3.17	-1.29	-0.59
9/30/2022	-0.57	1.06	Accel	-0.58	0.82	1.94	1.20	-0.80	-0.42
12/31/2022	0.79	1.36	Accel	-0.15	0.46	1.87	0.43	-0.36	-0.07
3/31/2023	2.73	1.95	Accel	-2.25	-0.43	1.19	-2.10	-0.89	-0.69
6/30/2023	4.08	1.35	Accel	-1.64	-1.71	0.53	0.62	-1.28	-0.65
9/30/2023	4.52	0.43	Accel	-0.57	-0.58	0.36	1.06	1.13	-0.18
12/31/2023				0.79	0.32	0.57	1.36	0.89	0.21
3/31/2024				2.73	0.24	0.62	1.95	-0.08	0.05
6/30/2024				4.08	1.22	0.22	1.35	0.98	-0.40
9/30/2024				4.52	1.97	1.12	0.43	0.75	0.90

Observation Period: 1Q1947 - 2Q2023



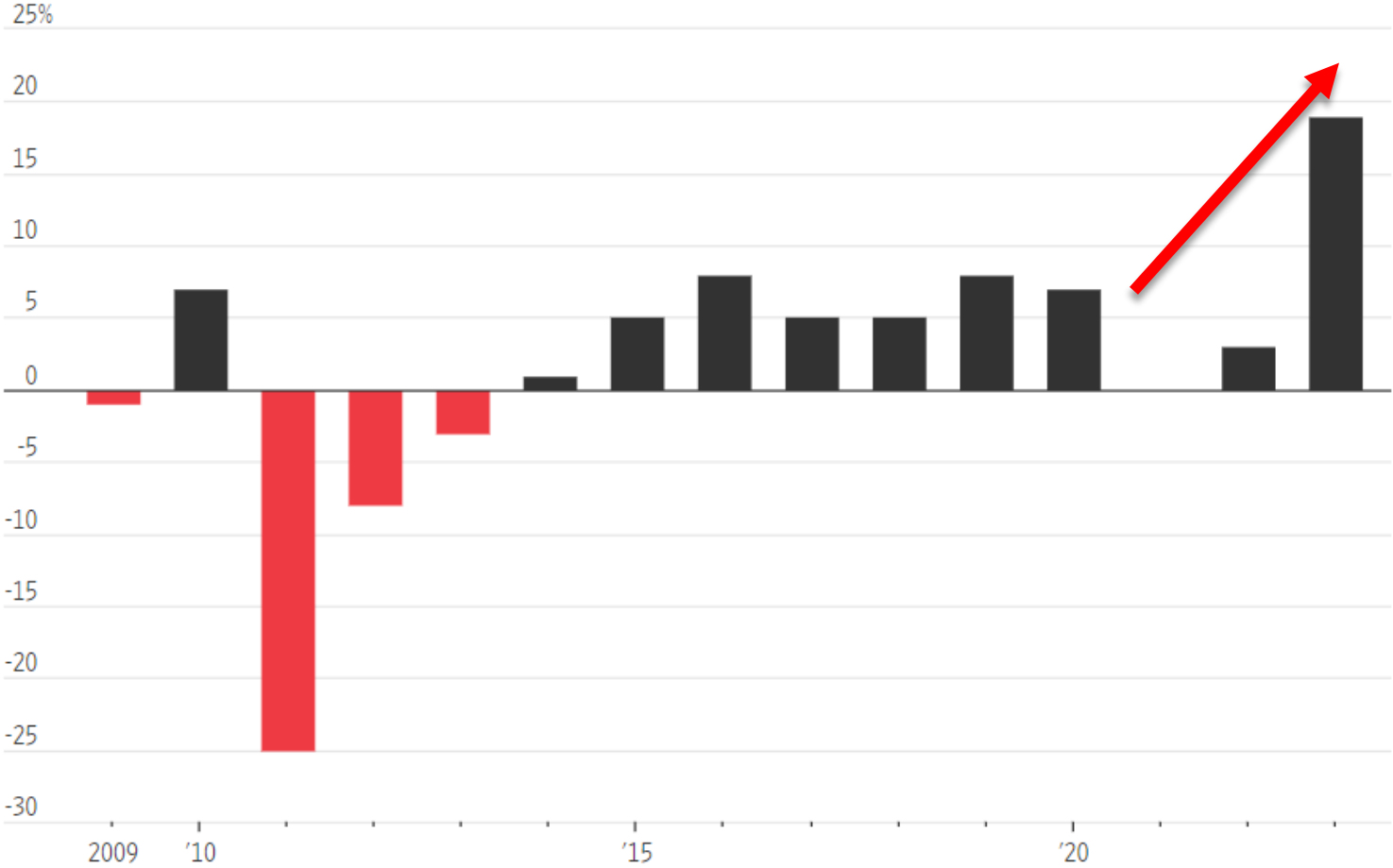
# Government Hiring Has Been A Rocket In 2023

It's Not Only GDP Growth that has benefitted from Govt Spending. Payroll gains have seen the 2023 lift as well.

Public sector jobs tend to average ~5% of total payroll growth over time.

2023 has seen almost 20% of payroll growth come from the public sector.

Public-sector jobs as a percentage of payroll gains



Source: U.S. Bureau of Labor Statistics, Current Employment Statistics, ZipRecruiter analysis

# CBO Outlook Next Ten Years

The CBO projections represent an important starting point for thinking about Govt spending.

The most recent CBO 10-Year Budget Projection (Issued May 2023) assumes total Federal Outlays of \$6.418T in Fiscal 2024 (Fiscal YE Sep) vs. \$6.354T in Fiscal 2023, a \$64B increase.

On a \$26T economy, this represents just a +24bps increase to GDP.

Yes, but what about the IRA, the BIL and the CHIPS Act, you say?

**Table 1.**  
**CBO's Baseline Budget Projections, by Category**

	Actual, 2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total	
													2024– 2028	2024– 2033
<b>In Billions of Dollars</b>														
<b>Revenues</b>														
Individual income taxes	2,632	2,525	2,475	2,517	2,768	3,019	3,123	3,248	3,380	3,517	3,652	3,806	13,902	31,505
Payroll taxes	1,484	1,562	1,633	1,703	1,778	1,849	1,920	1,993	2,068	2,147	2,226	2,307	8,884	19,625
Corporate income taxes	425	475	479	489	495	494	506	514	520	527	527	539	2,462	5,089
Other	357	252	261	266	276	295	370	387	400	416	436	450	1,469	3,558
<b>Total</b>	<b>4,897</b>	<b>4,815</b>	<b>4,848</b>	<b>4,974</b>	<b>5,317</b>	<b>5,658</b>	<b>5,919</b>	<b>6,142</b>	<b>6,368</b>	<b>6,607</b>	<b>6,841</b>	<b>7,102</b>	<b>26,716</b>	<b>59,777</b>
On-budget	3,831	3,681	3,652	3,719	4,006	4,295	4,504	4,674	4,846	5,027	5,204	5,407	20,176	45,334
Off-budget	1,066	1,133	1,196	1,255	1,311	1,363	1,415	1,468	1,522	1,580	1,637	1,695	6,540	14,443
<b>Outlays</b>														
Mandatory	4,133	3,980	3,828	4,023	4,205	4,400	4,738	4,760	5,120	5,386	5,675	6,141	21,195	48,277
Discretionary	1,664	1,712	1,845	1,939	1,995	2,055	2,112	2,153	2,209	2,260	2,313	2,373	9,947	21,255
Net Interest	476	663	745	773	835	912	1,003	1,084	1,165	1,252	1,350	1,440	4,268	10,559
<b>Total</b>	<b>6,273</b>	<b>6,354</b>	<b>6,418</b>	<b>6,735</b>	<b>7,035</b>	<b>7,367</b>	<b>7,854</b>	<b>7,997</b>	<b>8,494</b>	<b>8,898</b>	<b>9,338</b>	<b>9,955</b>	<b>35,409</b>	<b>80,091</b>
On-budget	5,192	5,142	5,094	5,314	5,529	5,776	6,170	6,223	6,614	6,908	7,230	7,734	27,884	62,593
Off-budget	1,081	1,212	1,324	1,421	1,506	1,591	1,683	1,774	1,880	1,990	2,107	2,221	7,526	17,498
<b>Deficit</b>														
On-budget	-1,361	-1,461	-1,442	-1,595	-1,524	-1,481	-1,666	-1,549	-1,768	-1,881	-2,026	-2,327	-7,708	-17,259
Off-budget	-15	-79	-129	-165	-195	-228	-268	-306	-358	-410	-470	-526	-986	-3,055
Primary Deficit	-900	-877	-826	-988	-883	-797	-931	-771	-961	-1,039	-1,147	-1,412	-4,425	-9,755
<b>Debt Held by the Public</b>	<b>24,252</b>	<b>25,767</b>	<b>27,388</b>	<b>29,246</b>	<b>31,054</b>	<b>32,866</b>	<b>34,895</b>	<b>36,830</b>	<b>39,015</b>	<b>41,347</b>	<b>43,861</b>	<b>46,709</b>	n.a.	n.a.
<b>Memorandum:</b>														
Gross Domestic Product	25,016	26,238	27,266	28,610	29,932	31,251	32,525	33,811	35,133	36,488	37,874	39,288	149,585	332,179

# HOUSE-SENATE BUDGET/APPROPS TARGETS

House numbers are \$140B lower than the Senate's, and both are down from 2023 Levels.

Differences between the House and Senate's twelve appropriation bills for FY 2024 amount to \$140 billion

Appropriation Bills (Billions)	Enacted FY 2023	House FY 2024	Senate FY 2024	Difference (House from Senate)
Agriculture	\$25.5	\$17.8	\$26.0	\$(8.2)
Commerce-Justice-Science	\$83.9	\$58.4	\$69.5	\$(11.1)
Defense	\$805.5	\$826.4	\$831.3	\$(4.8)
Energy-Water	\$70.1	\$52.4	\$56.7	\$(4.4)
Financial Services	\$27.8	\$11.5	\$17.0	\$(5.5)
Homeland Security	\$82.1	\$83.1	\$81.6	\$1.4

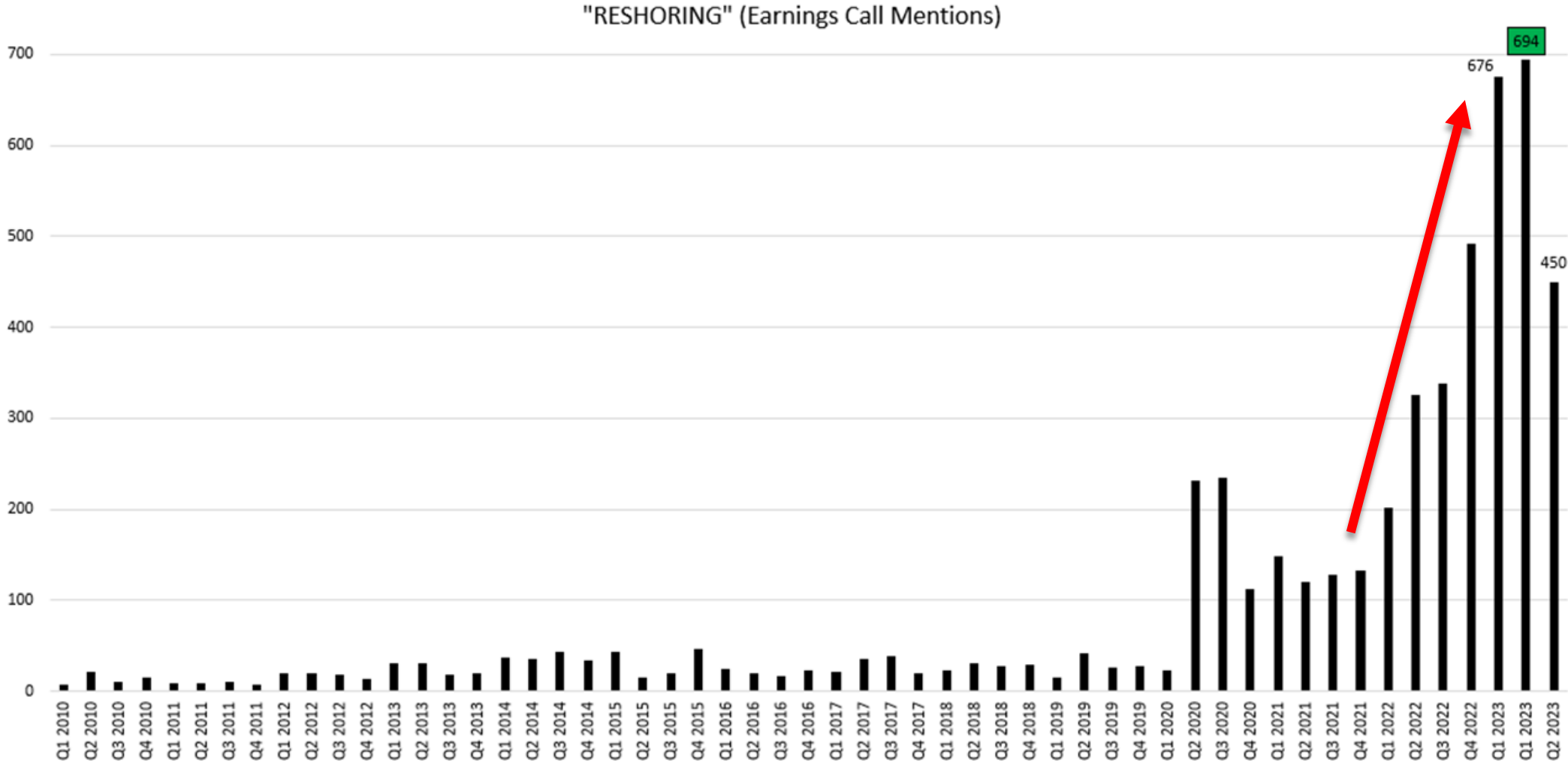
Interior-Environment	\$55.5	\$28.1	\$42.7	\$(14.6)
Labor-HHS-Education	\$213.1	\$147.0	\$202.2	\$(55.2)
Legislative Branch	\$6.9	\$5.3	\$4.7	\$0.6
Military Construction-VA	\$154.2	\$155.7	\$154.4	\$1.3
State and Foreign Operations	\$64.2	\$41.4	\$58.4	\$(17.0)
Transportation-HUD	\$126.1	\$65.2	\$88.1	\$(22.9)
<b>Total</b>	<b>\$1,714.9</b>	<b>\$1,492.2</b>	<b>\$1,632.5</b>	<b>\$(140.3)</b>

SOURCES: Congressional Research Service, Appropriations Committee, H.R. 2617 (as modified by S.A. 6552), the Consolidated Appropriations Act, 2023, December 2022.



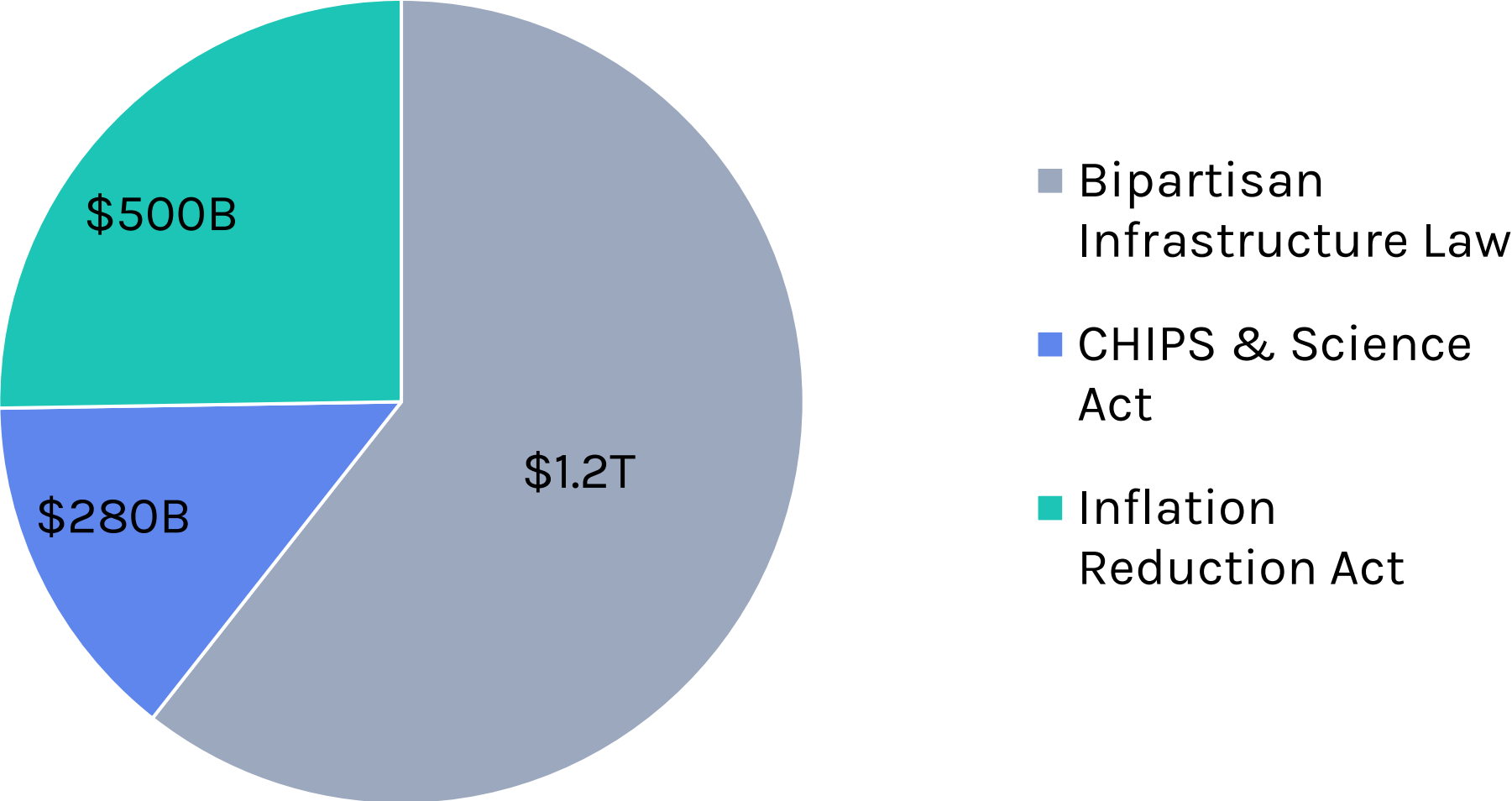
# Deglobalization & Protectionism Increasingly Look Like The Next Hinge in (macro) History ...

.... and that is not disinflationary OR good for China



# Here Comes The Big G!

Three bills together come out to roughly ~\$2T in government infrastructure spending over the next 10 years.



# The Inflation Reduction Act – Part 1

Wait, what's the cost of this program?

## The Inflation Reduction Act: Here's what's in it

October 24, 2022 | Article

Share Print Download Save

The Inflation Reduction Act contains \$500 billion in new spending and tax breaks that aim to boost clean energy, reduce healthcare costs, and increase tax revenues.

McKinsey & Company - Listen to the article: The Inflation Reduction Act: Here's what's in it

SOUNDCLOUD

**T**he Inflation Reduction Act of 2022 (IRA), signed into law on August 16, 2022, directs new federal spending toward reducing carbon emissions, lowering healthcare costs, funding the Internal Revenue Service, and improving taxpayer compliance.<sup>[1]</sup>

DOWNLOADS

[Article \(12 pages\)](#)

## A Year Into Biden's Climate Agenda, the Price Tag Remains Mysterious

The uncapped incentives of the Inflation Reduction Act mean spending sparked by the historic US climate law could triple initial estimates and push past \$1 trillion.



US President Joe Biden speaks at a groundbreaking for an Arcosa Wind Towers manufacturing facility in Albuquerque, New Mexico, on Aug. 9, nearly a year after he signed the Inflation Reduction Act. *Photographer: Ramsay De Give/Bloomberg*

By [Leslie Kaufman](#)  
August 16, 2023 at 5:00 AM EDT

# The Inflation Reduction Act – Part 2

## How big could this thing get?

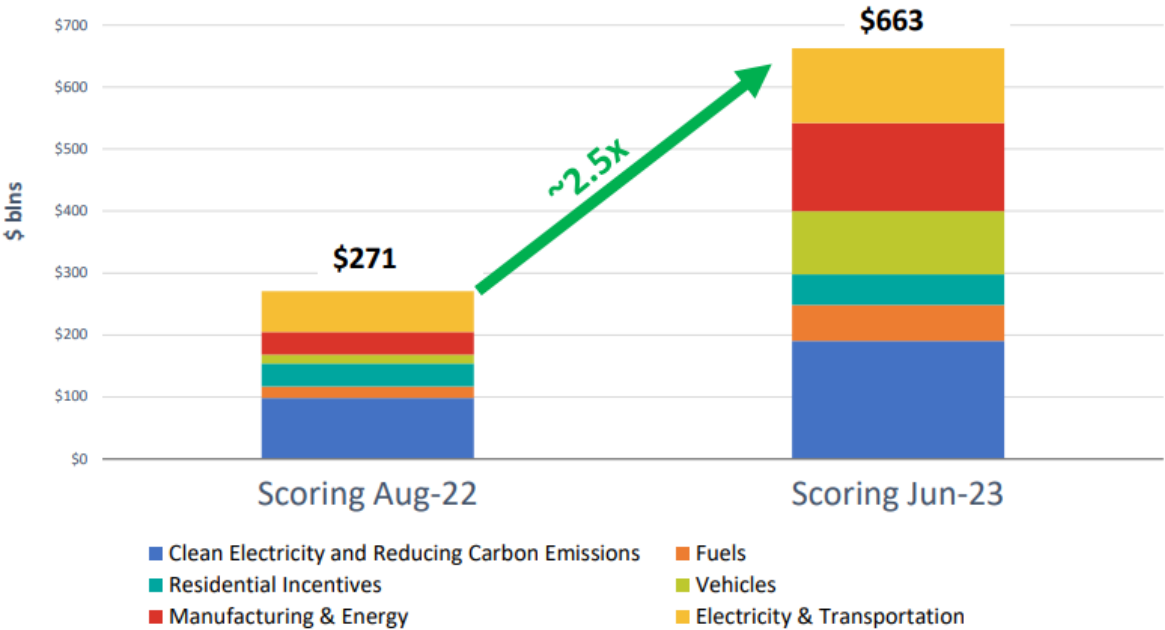
The Inflation Reduction Act was signed into law in August 2022.

It was “marketed” as a climate-friendly, inflation-fighting bill that contained \$500B in new spending and tax incentives and was largely paid for by enabling Medicare to negotiate lower prescription drug prices with some added corporate taxes.

That was the pitch back in 2022. However, since then, the cost estimates have ballooned with more recent estimates for the clean energy/climate portions of the law now being projected at 2-3x their earlier estimates.

## Infrastructure spending – Uncapped Inflation Reduction Act estimates increased significantly

IRA Energy Security Government Spending on Credits & Incentives



**Substantial increase in government credits & incentives**

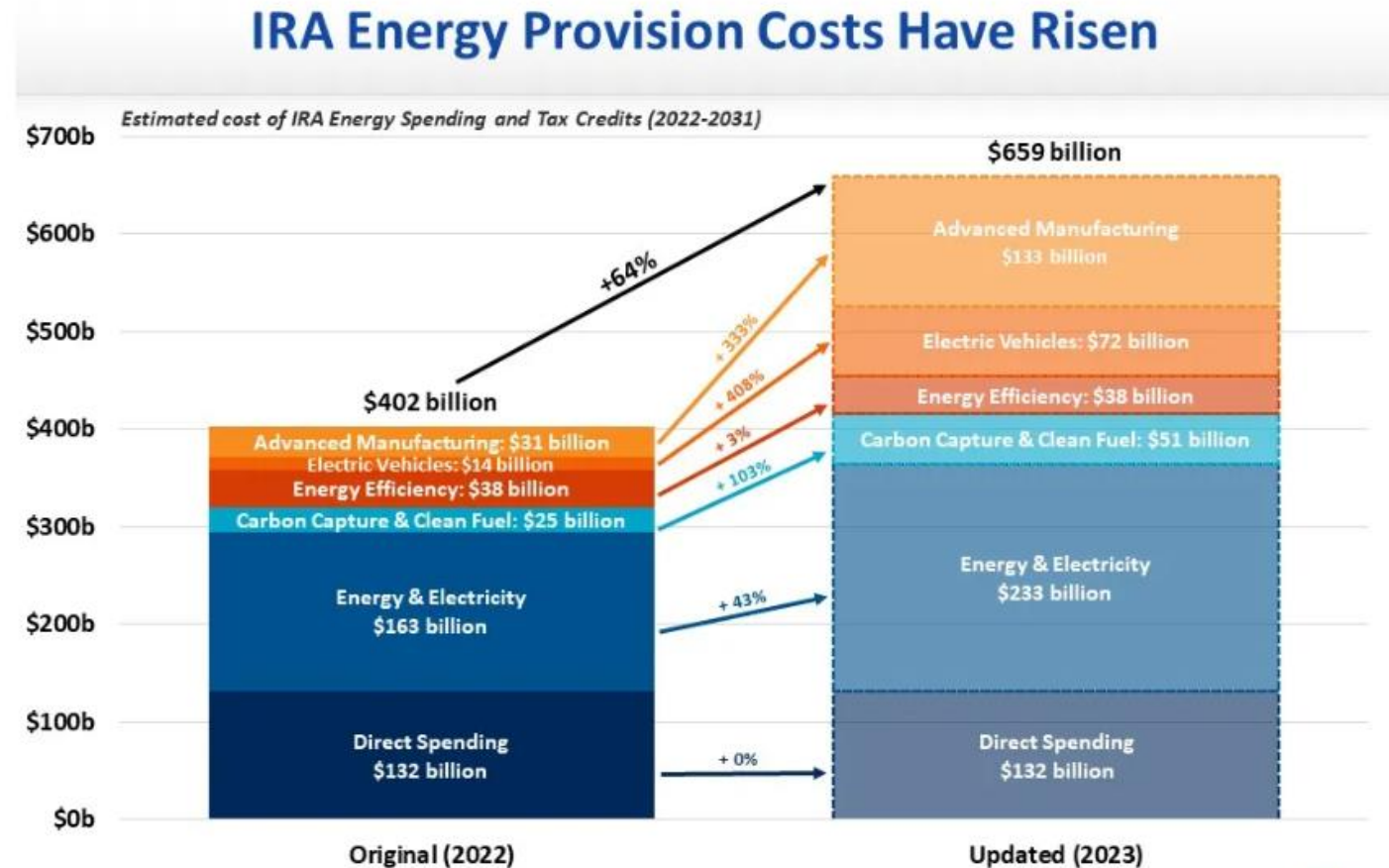


# The Inflation Reduction Act – Part 3

2-3x estimated cost increase in just the last 12mos is a bit alarming.

The Committee for a Responsible Federal Budget (CRFB) has published estimates of \$660B in spending from 2022-2031, a meaningful increase from the initial estimates.

The driver of this increase is the uncapped provisions for tax incentives for both businesses and individuals.



Note: Updating the estimated budget effect of the IRA in full would require re-estimating the non-energy provisions as well

Sources: Committee for a Responsible Federal Budget, Congressional Budget Office, Joint Committee on Taxation





# The Inflation Reduction Act – Part 4

But, amazingly, even at that pace, it still doesn't move the gross GDP needle by much.

Interestingly, even when one factors in the much higher more recent estimates for spending, the climb from 2023 to 2024 is still unremarkable in the context of broader GDP.

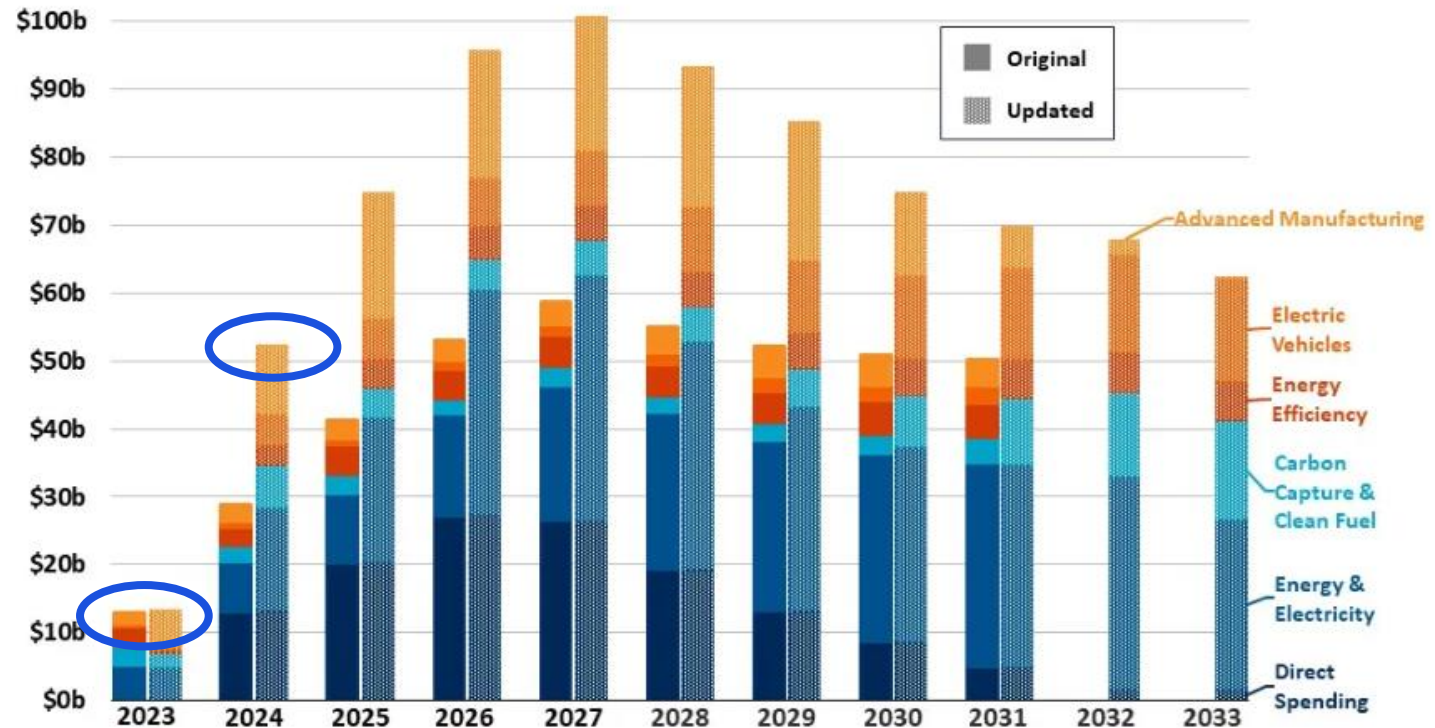
Fiscal 2023 saw IRA energy spending of ~\$13B, while the forecast for Fiscal 2024 is for ~\$52B.

That increase, \$39B, on a GDP base of \$26T, is equal to +15bps growth.

Consider that student loan repayments will potentially reduce PCE by up to \$48B per QUARTER, or roughly -74bps.

Understandably, Industrials Analysts are very positively inclined toward this, but the impact in the aggregate to GDP is less material.

## Annual Costs of IRA Energy Provisions



Note: Updating the estimated budget effect of the IRA in full would require re-estimating the non-energy provisions as well

Sources: Committee for a Responsible Federal Budget, Congressional Budget Office, Joint Committee on Taxation



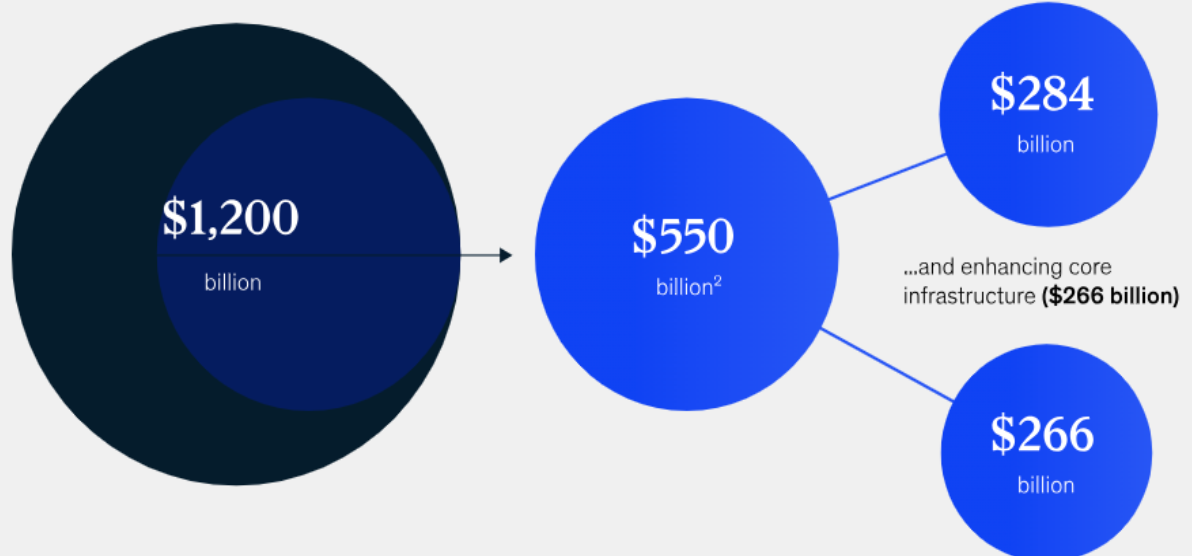
# The Bipartisan Infrastructure Law (BIL) + CHIPS Act

The BIL contains \$550B in new spending while the CHIPS Act directs \$280B in new spending over 10 years.

The US Bipartisan Infrastructure Law will authorize \$550 billion in new spending.

**Bipartisan Infrastructure Law (BIL) investments**

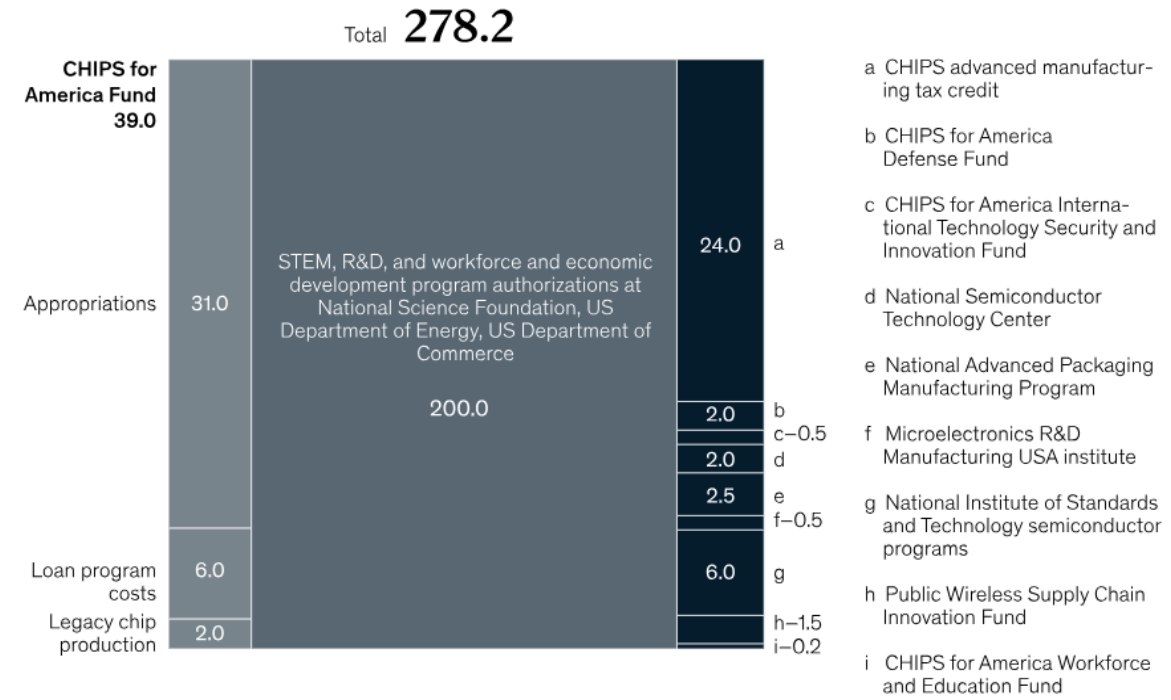
The act allocates about \$1.2 trillion<sup>1</sup> over 10 years ...  
 ...including \$550 billion in new spending...  
 ...divided between improving the surface-transportation network (\$284 billion)...



<sup>1</sup>Fact sheet: President Biden announces support for the Bipartisan Infrastructure Framework," June 24, 2021, whitehouse.gov.  
<sup>2</sup>Numbers presented for 5-year spending horizon; <sup>3</sup>Updated fact sheet: Bipartisan Infrastructure Investment and Jobs Act," August 2, 2021, whitehouse.gov.  
 Source: CBO cost estimate analysis; Infrastructure Investment and Jobs Act of 2021, H.R. 3684, 117th Cong. (2021)

The CHIPS and Science Act of 2022 directs \$280 billion in spending over the next ten years, with the bulk for scientific R&D.

**CHIPS and Science Act funding for 2022–26, \$ billion**



Source: Creating Helpful Incentives to Produce Semiconductors (CHIPS) and Science Act of 2022, H.R. 4346, 117th Cong. (2022)

# The Bipartisan Infrastructure Law (BIL)

## Government Accounting is not for the faint of heart.

Admittedly, Government accounting is byzantine, and represents an entire skill set unto itself.

That being said, we believe our understanding of the BIL outlays is on point.

The net step-ups in outlays (spending) from Fiscal 2023 to Fiscal 2024 is estimated to go from ~\$10B net in 2023 to ~\$32B net in 2024, for an increase of roughly ~\$22B.

Again, \$22B is a lot of money, but only amounts to an increase of ~8bps in GDP.



Congressional Budget Office  
Cost Estimate

Revised August 9, 2021

**Table 1.**  
**Summary of Estimated Budgetary Effects of Senate Amendment 2137 to H.R. 3684, the Infrastructure Investment and Jobs Act, as Proposed on August 1, 2021**

	By Fiscal Year, Millions of Dollars											2021-2026	2021-2031		
	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031				
<b>Increases or Decreases (-) in Direct Spending</b>															
Changes in Direct Spending															
Estimated Budget Authority	0	-6,592	1,490	387	-262	15,191	16,957	15,150	15,288	19,925	-9,221	10,214	68,315		
Estimated Outlays	0	-9,911	-23,877	-17,013	-19,248	-5,603	-3,815	-5,650	-5,542	-1,189	-17,775	-75,650	-109,619		
<b>Increases in Revenues</b>															
Changes in Revenues															
Estimated Revenues	0	8,495	1,071	2,842	4,157	4,657	4,966	5,331	5,658	6,071	6,430	21,221	49,681		
<b>Increases in Discretionary Spending</b>															
Changes in Discretionary Spending															
Budget Authority	0	162,996	70,088	68,497	68,057	66,215	1,989	2,025	2,072	2,145	2,222	435,853	446,306		
Estimated Outlays	0	14,044	33,918	49,058	61,144	69,961	62,556	50,082	34,651	23,322	16,712	228,125	415,448		
<b>Net Increases or Decreases (-) in the Deficit</b>															
<b>Total Changes</b>	<b>0</b>	<b>-4,362</b>	<b>8,970</b>	<b>29,203</b>	<b>37,739</b>	<b>59,701</b>	<b>53,775</b>	<b>39,101</b>	<b>23,451</b>	<b>16,062</b>	<b>-7,493</b>	<b>131,254</b>	<b>256,148</b>		
On-Budget	0	-4,362	8,970	29,203	37,739	59,706	53,800	39,156	23,535	16,182	-7,358	131,259	256,572		
Off-Budget	0	0	0	0	0	-5	-25	-55	-84	-120	-135	-5	-424		

Sources: Congressional Budget Office; staff of the Joint Committee on Taxation.

Components may not sum to totals because of rounding; enactment is assumed on October 1, 2021.

Senate Amendment 2137 to H.R. 3684 would provide contract authority (a form of mandatory budget authority) over the 2022-2026 period for the Department of Transportation to continue funding highway and transit system construction programs, motor carrier safety programs, and highway and motor vehicle safety programs funded from the Highway Trust Fund.

Historically, the contract authority provided in transportation legislation has been controlled by limitations on obligations contained in annual appropriation acts. CBO expects that the practice would continue under Senate Amendment 2137 to H.R. 3684; thus, CBO's estimate of mandatory outlays under the bill is significantly lower than the contract authority provided. For more information on the split budgetary classification of surface transportation programs funded from the Highway Trust Fund, see Congressional Budget Office, *The Highway Trust Fund and the Treatment of Surface Transportation Programs in the Federal Budget* (June 2014), [www.cbo.gov/publication/45416](http://www.cbo.gov/publication/45416).

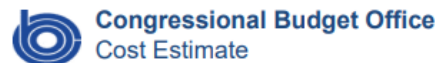


# The CHIPS & Science Act

The CHIPS Act appears to have the smallest incremental contribution to GDP of the 3 infrastructure bills.

The CHIPS Act looks set to contribute a fairly small amount of incremental spend in Fiscal 2024 relative to Fiscal 2023.

The Y/Y increase is equal to roughly ~\$3B, or +1bp to GDP.



July 21, 2022

**Table 1. Summary**  
**Estimated Budgetary Effects of H.R. 4346, as Amended by the Senate and as Posted by the Senate Committee on Commerce, Science, and Transportation on July 20, 2022**

[www.commerce.senate.gov/services/files/CFC99CC6-CE84-4B1A-8BBF-8D2E84BD7965](http://www.commerce.senate.gov/services/files/CFC99CC6-CE84-4B1A-8BBF-8D2E84BD7965)

	By Fiscal Year, Millions of Dollars										2022-2026	2022-2031
	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031		
<b>Increases in Budget Authority and Outlays</b>												
<b>Division A. CHIPS Act of 2022</b>												
Budget Authority	24,150	8,875	6,825	6,650	7,150	550	0	0	0	0	53,650	54,200
Estimated Outlays	0	2,324	5,570	7,975	9,314	8,327	6,608	5,101	3,867	2,858	25,183	51,944
<b>Division B. Research and Innovation<sup>a</sup></b>												
Estimated Budget Authority	0	5	170	490	830	853	873	903	923	943	1,495	5,990
Estimated Outlays	0	1	13	47	119	250	442	632	773	853	180	3,130
<b>Division C. Supplemental Appropriations to Address Threats to the Supreme Court of the United States<sup>b</sup></b>												
Budget Authority	19	0	0	0	0	0	0	0	0	0	19	19
Estimated Outlays	0	17	2	0	0	0	0	0	0	0	19	19
<b>Total</b>												
Estimated Budget Authority	24,169	8,880	6,995	7,140	7,980	1,403	873	903	923	943	55,164	60,209
Estimated Outlays	0	2,342	5,585	8,022	9,433	8,577	7,050	5,733	4,640	3,711	25,382	55,093
<b>Increases or Decreases (-) in Revenues</b>												
<b>Division A. CHIPS Act of 2022</b>	0	-2,993	-5,616	-6,606	-6,908	-2,337	118	65	19	7	-22,123	-24,251
<b>Net Increase in the Deficit</b>												
<b>Effect on the Deficit</b>	0	5,335	11,201	14,628	16,341	10,914	6,932	5,668	4,621	3,704	47,505	79,344

Sources: Congressional Budget Office; staff of the Joint Committee on Taxation.

See also CBO's Cost Estimates Explained, [www.cbo.gov/publication/54437](http://www.cbo.gov/publication/54437); How CBO Prepares Cost Estimates, [www.cbo.gov/publication/53519](http://www.cbo.gov/publication/53519); and Glossary, [www.cbo.gov/publication/42904](http://www.cbo.gov/publication/42904).

# CBO 10-Year Projections Revisited

At the end of the day, we come back to the CBO's 10-Year forecast, which incorporates all of these bills.

As stated earlier, while it's possible that the CBO is underestimating the IRA by a decent amount, the projected increase from 2023 to 2024 remains unremarkable.

Even if we gross the IRA up to some of the upper estimates out there, it still doesn't move the needle by a meaningful degree.

**Table 1.**  
**CBO's Baseline Budget Projections, by Category**

	Actual, 2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total	
													2024– 2028	2024– 2033
<b>In Billions of Dollars</b>														
<b>Revenues</b>														
Individual income taxes	2,632	2,525	2,475	2,517	2,768	3,019	3,123	3,248	3,380	3,517	3,652	3,806	13,902	31,505
Payroll taxes	1,484	1,562	1,633	1,703	1,778	1,849	1,920	1,993	2,068	2,147	2,226	2,307	8,884	19,625
Corporate income taxes	425	475	479	489	495	494	506	514	520	527	527	539	2,462	5,089
Other	357	252	261	266	276	295	370	387	400	416	436	450	1,469	3,558
<b>Total</b>	<b>4,897</b>	<b>4,815</b>	<b>4,848</b>	<b>4,974</b>	<b>5,317</b>	<b>5,658</b>	<b>5,919</b>	<b>6,142</b>	<b>6,368</b>	<b>6,607</b>	<b>6,841</b>	<b>7,102</b>	<b>26,716</b>	<b>59,777</b>
On-budget	3,831	3,681	3,652	3,719	4,006	4,295	4,504	4,674	4,846	5,027	5,204	5,407	20,176	45,334
Off-budget	1,066	1,133	1,196	1,255	1,311	1,363	1,415	1,468	1,522	1,580	1,637	1,695	6,540	14,443
<b>Outlays</b>														
Mandatory	4,133	3,980	3,828	4,023	4,205	4,400	4,738	4,760	5,120	5,386	5,675	6,141	21,195	48,277
Discretionary	1,664	1,712	1,845	1,939	1,995	2,055	2,112	2,153	2,209	2,260	2,313	2,373	9,947	21,255
Net Interest	476	663	745	773	835	912	1,003	1,084	1,165	1,252	1,350	1,440	4,268	10,559
<b>Total</b>	<b>6,273</b>	<b>6,354</b>	<b>6,418</b>	<b>6,735</b>	<b>7,035</b>	<b>7,367</b>	<b>7,854</b>	<b>7,997</b>	<b>8,494</b>	<b>8,898</b>	<b>9,338</b>	<b>9,955</b>	<b>35,409</b>	<b>80,091</b>
On-budget	5,192	5,142	5,094	5,314	5,529	5,776	6,170	6,223	6,614	6,908	7,230	7,734	27,884	62,593
Off-budget	1,081	1,212	1,324	1,421	1,506	1,591	1,683	1,774	1,880	1,990	2,107	2,221	7,526	17,498
<b>Deficit</b>														
On-budget	-1,361	-1,461	-1,442	-1,595	-1,524	-1,481	-1,666	-1,549	-1,768	-1,881	-2,026	-2,327	-7,708	-17,259
Off-budget	-15	-79	-129	-165	-195	-228	-268	-306	-358	-410	-470	-526	-986	-3,055
Primary Deficit	-900	-877	-826	-988	-883	-797	-931	-771	-961	-1,039	-1,147	-1,412	-4,425	-9,755
<b>Debt Held by the Public</b>	<b>24,252</b>	<b>25,767</b>	<b>27,388</b>	<b>29,246</b>	<b>31,054</b>	<b>32,866</b>	<b>34,895</b>	<b>36,830</b>	<b>39,015</b>	<b>41,347</b>	<b>43,861</b>	<b>46,709</b>	n.a.	n.a.
<b>Memorandum:</b>														
Gross Domestic Product	25,016	26,238	27,266	28,610	29,932	31,251	32,525	33,811	35,133	36,488	37,874	39,288	149,585	332,179

# Q4 2023 Macro Themes



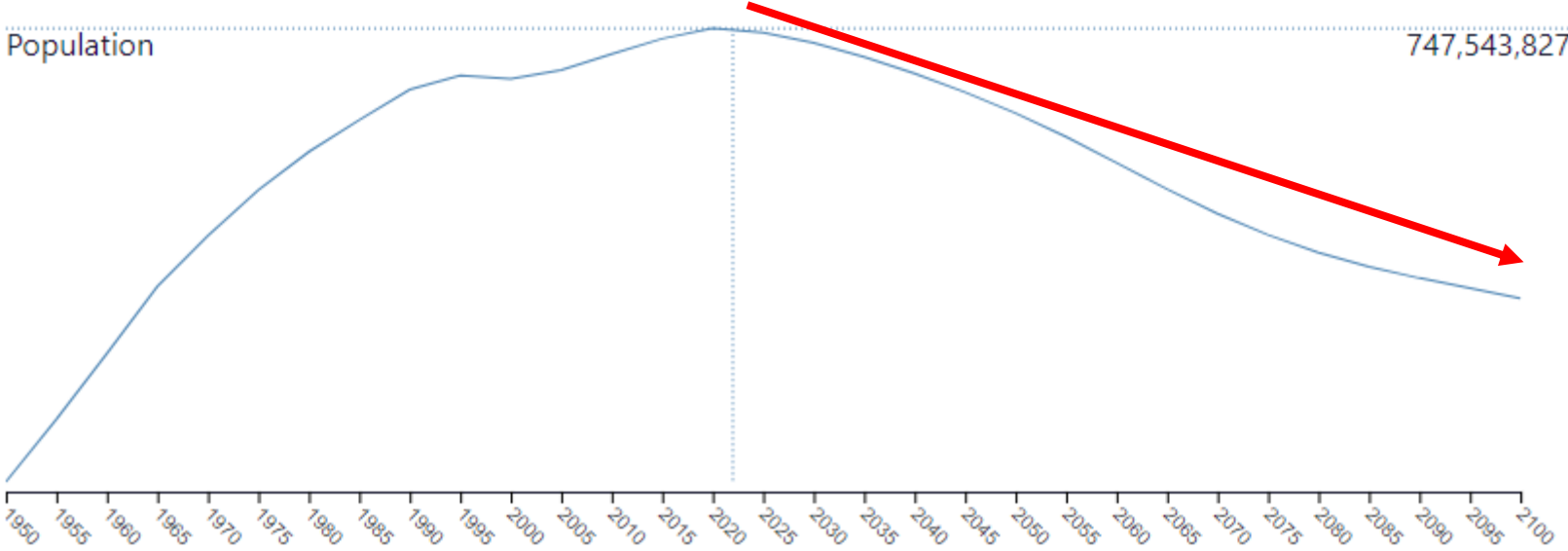
Long India vs.  
Short Japan & Europe

# Short Europe



# Long-Term Demographics: Europe

Europe's Population Is Already Past-peak.

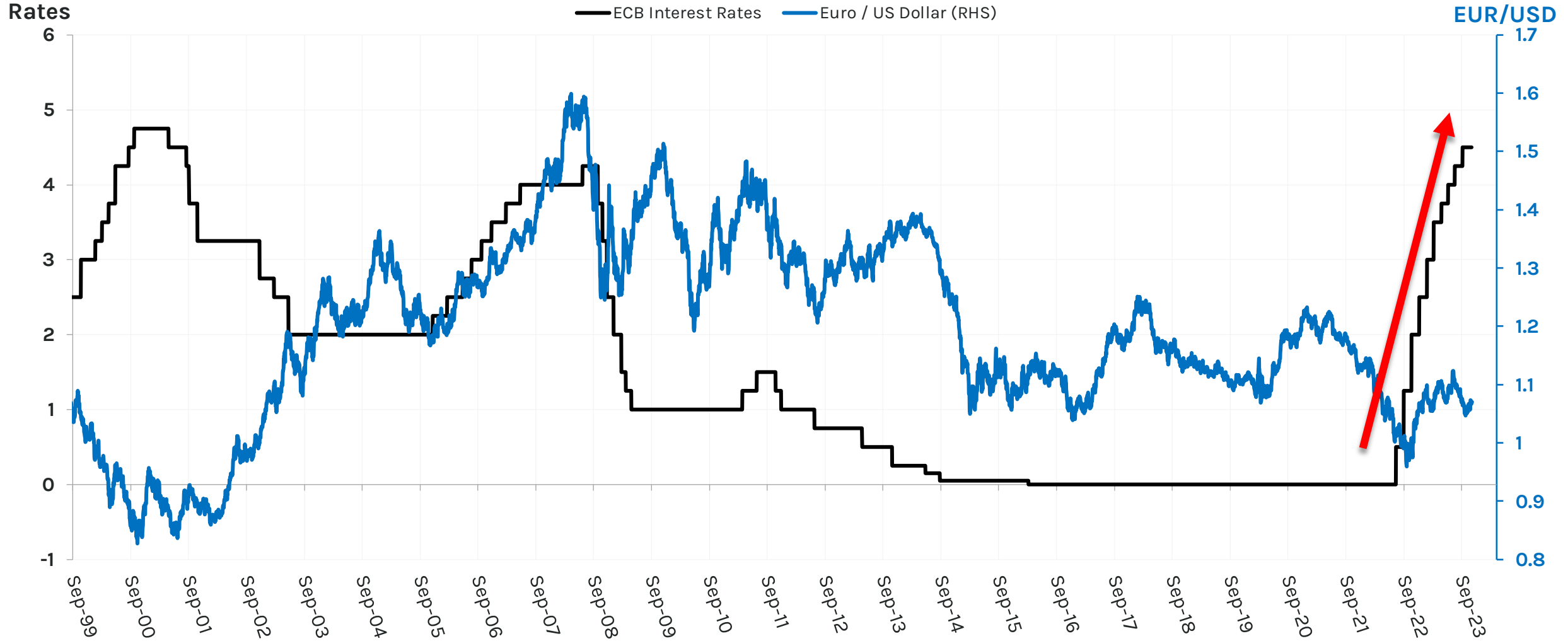




# ECB Rates - Tightening

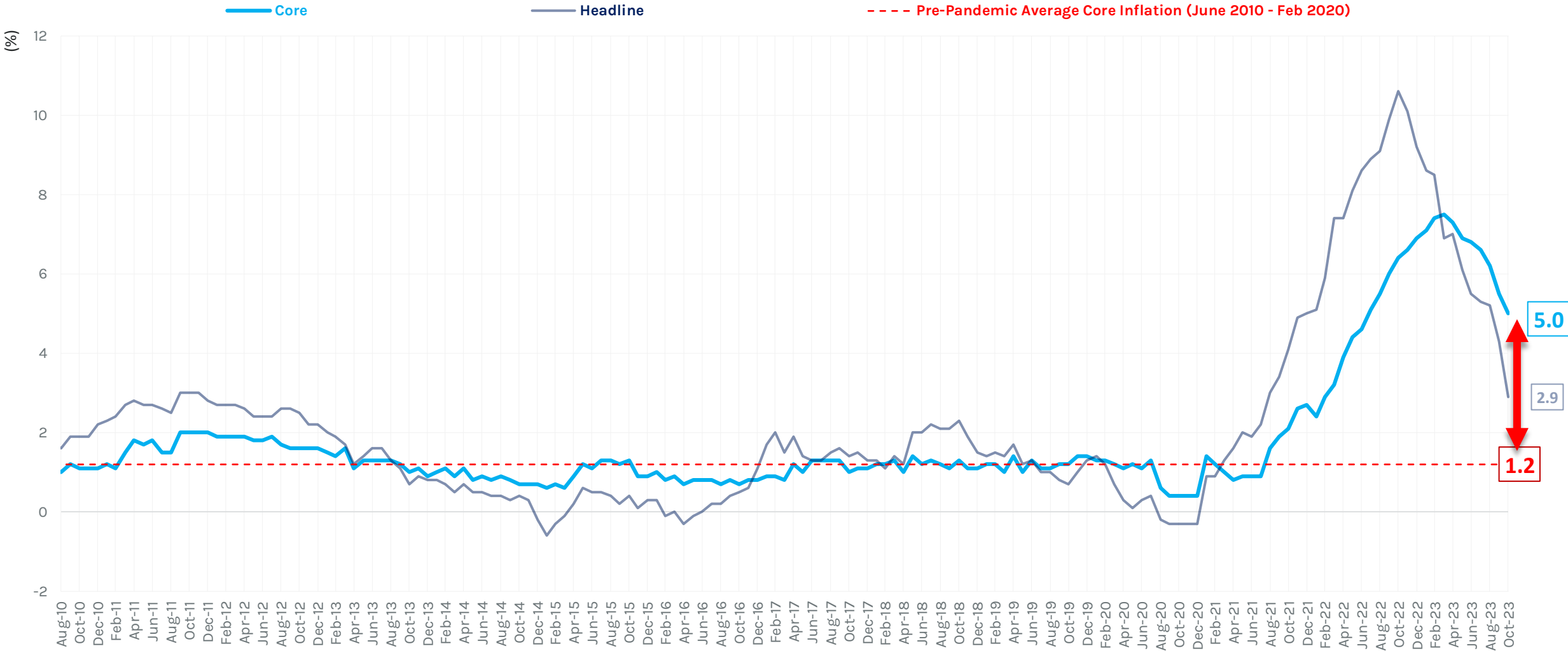
ECB Rates have risen +450 bps in the last 15 months

The ECB Raises Rates Into A #Quad4 Slowdown



# And Yet, ECB's Tightening Has Yet to Rein In Core Inflation

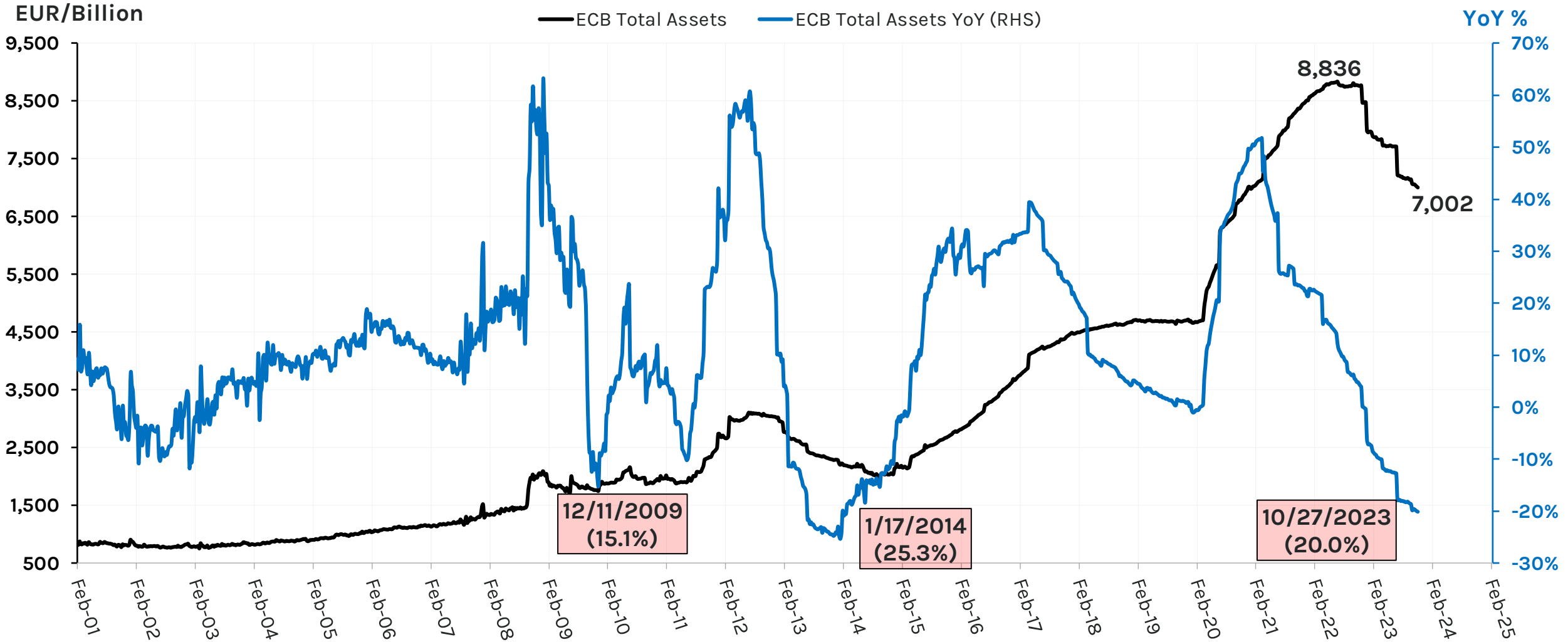
While finally slowing, Core Eurozone Inflation remains ~4x the pre-Pandemic average.



# European Central Bank Total Assets

Liquidity moving steadfastly in reverse. Down -20% Y/Y.

## ECB Total Assets Continue To Decline to -20% YoY

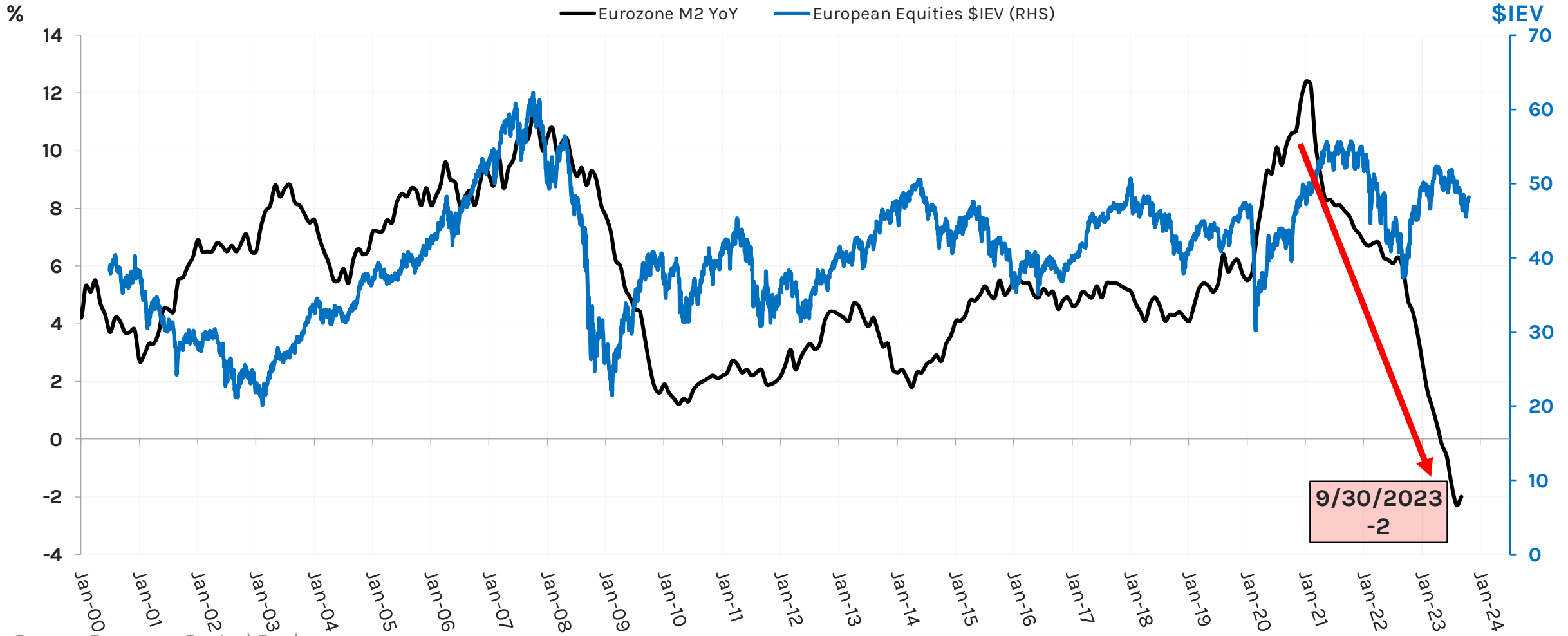




# Eurozone M2 - Negative Growth

Outright negative, and ATL RoC

## Eurozone M2 Remains Near **All Time Lows**

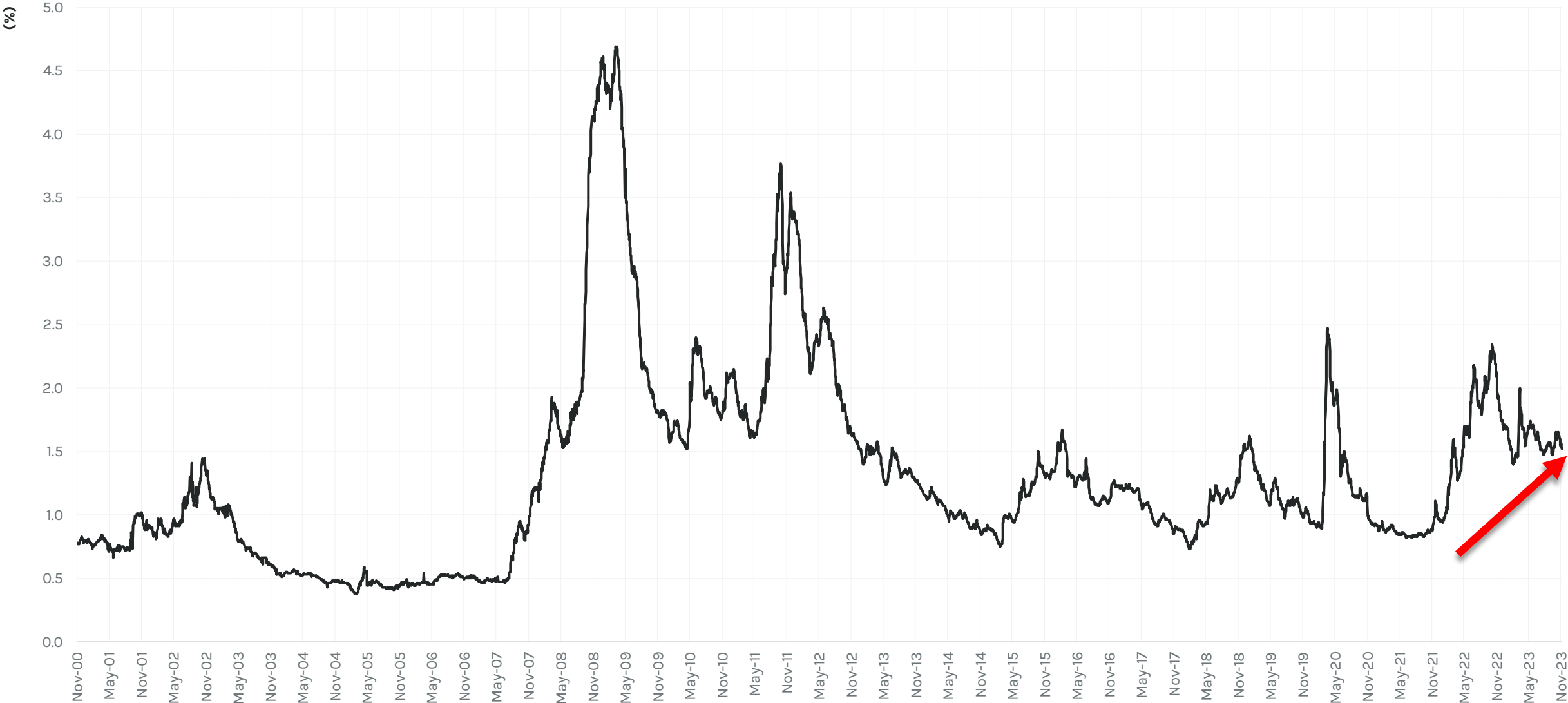


Source: European Central Bank

© Hedgeye Risk Management

# Corporate Credit Spreads are Elevated & Not Moving Any Lower

## EuroAgg Corporate Average OAS



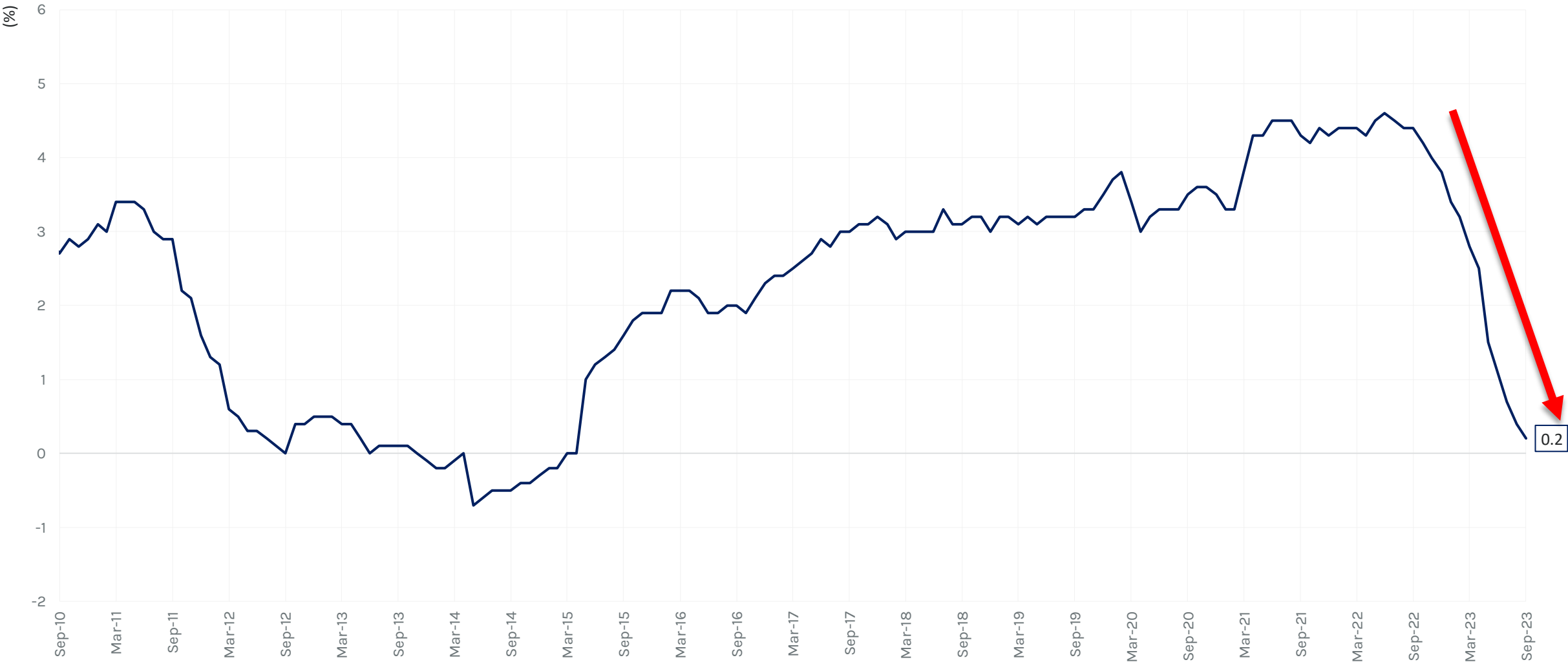
# Credit Availability ↓ As Credit Conditions Tightening

Euro-Area Credit Impulse is trending lower. Credit Impulse is the relationship between the change in net credit flows relative to prior period GDP. Credit Impulses are strongly correlated with annual Real GDP growth.



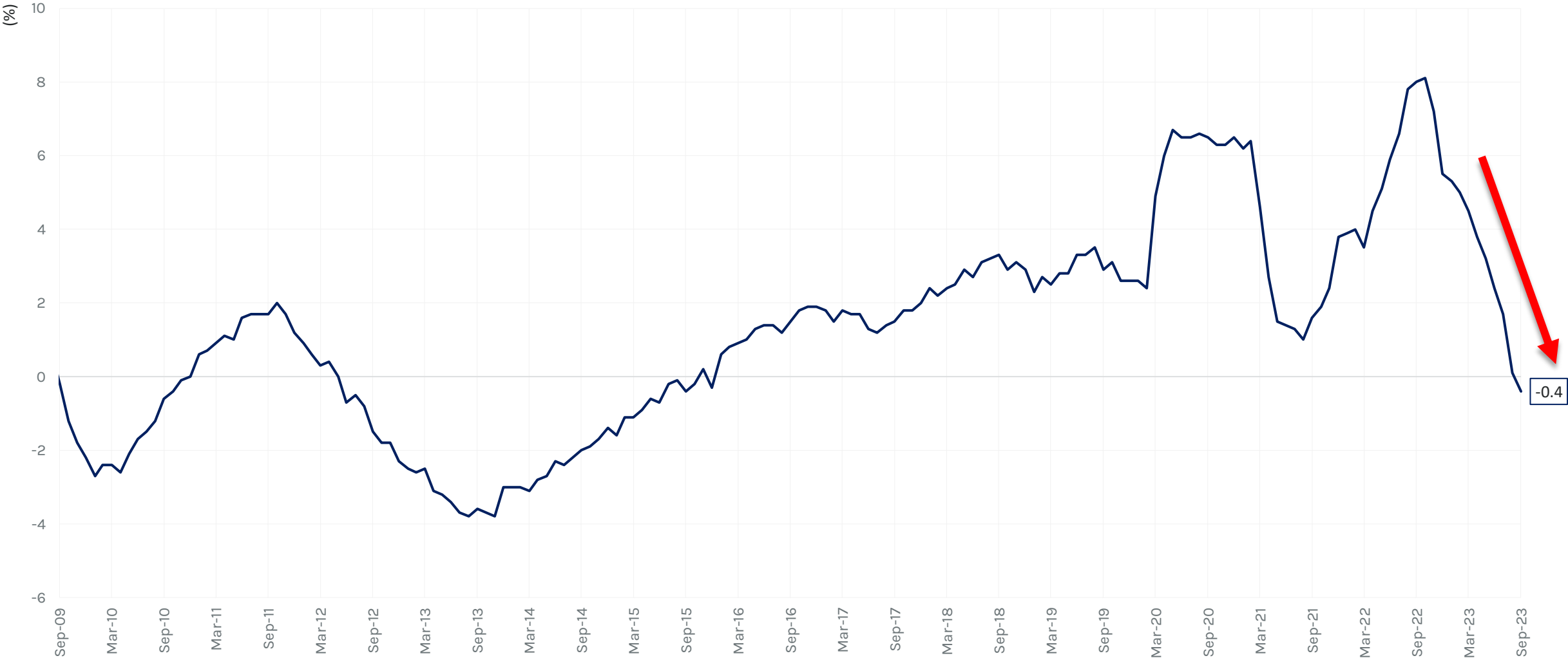
# Eurozone Bank Lending To Households In RoC Freefall

## Loans Made by Monetary Financial Institutions to Households (%YoY)



# Lending to Corporate Sector? Same Story.

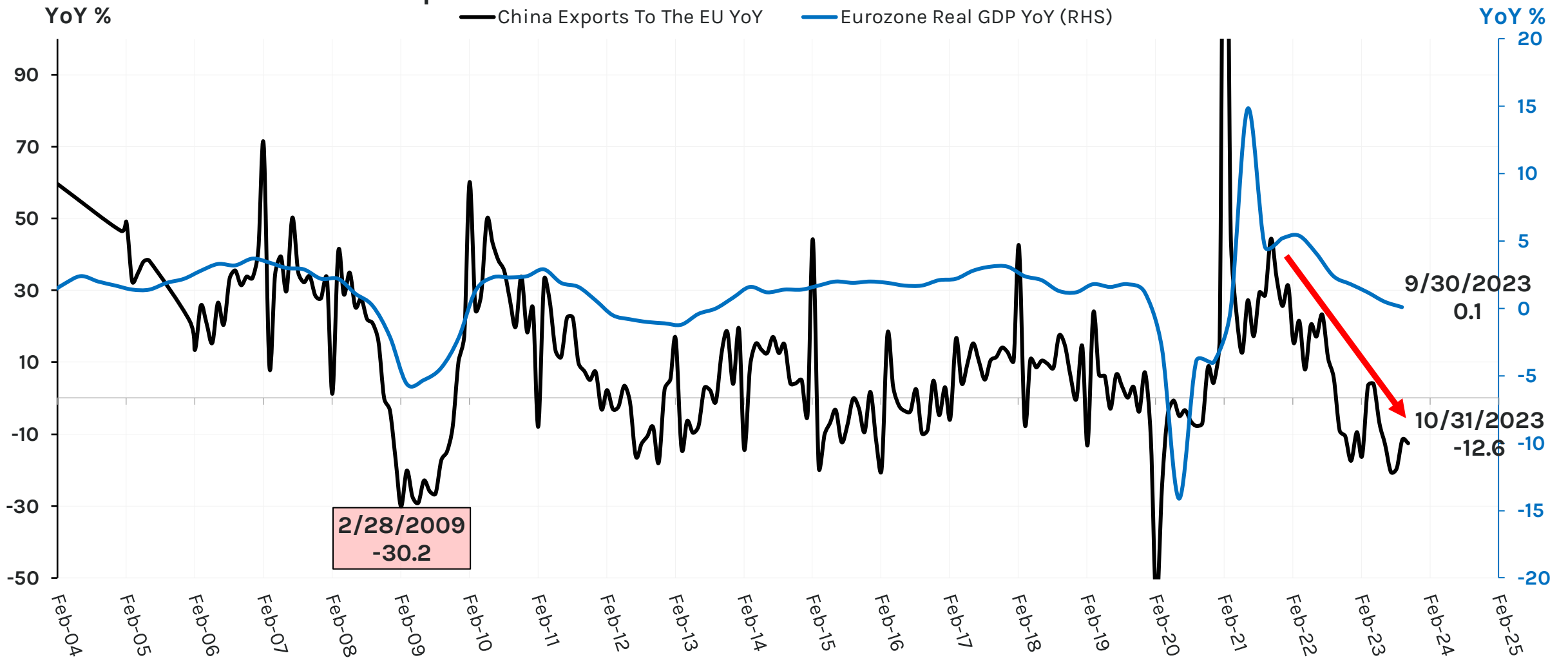
## Loans Made by Monetary Financial Institutions to Non-Financial Corporations (%YoY)



# Chinese Exports to the EU ↓

Chinese Exports to the EU lead RoC in EU Growth by 3-4mos. Extremely weak Q2/Q3 Chinese Export numbers suggest significant weakness ahead for Q4 EU Growth.

## Exports To The Eurozone from China are Down -20.6% YoY

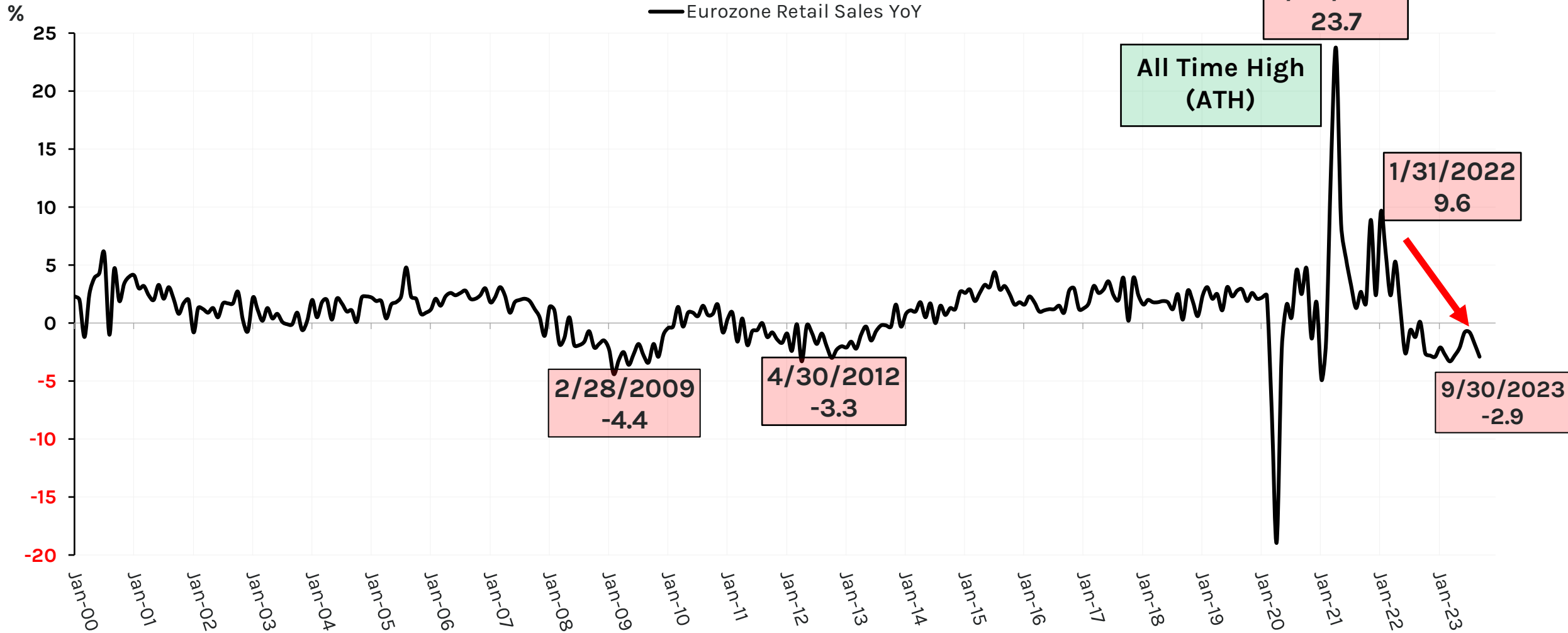


© Hedgeye Risk Management

# Retail Sales ↓

Viewed in the context of the longer-term, the negative trend is particularly notable

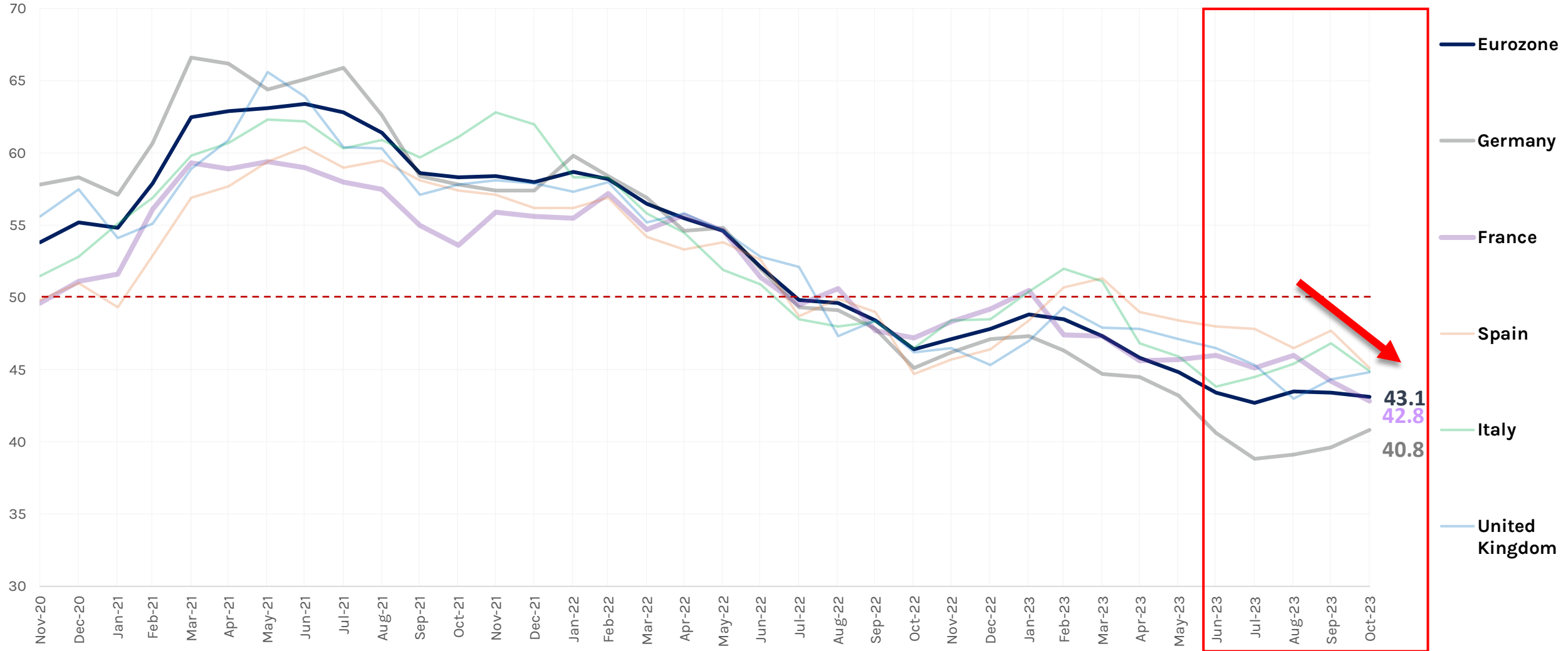
**Eurozone Volume Retail Sales Remains Contractionary At -2.9% YoY**





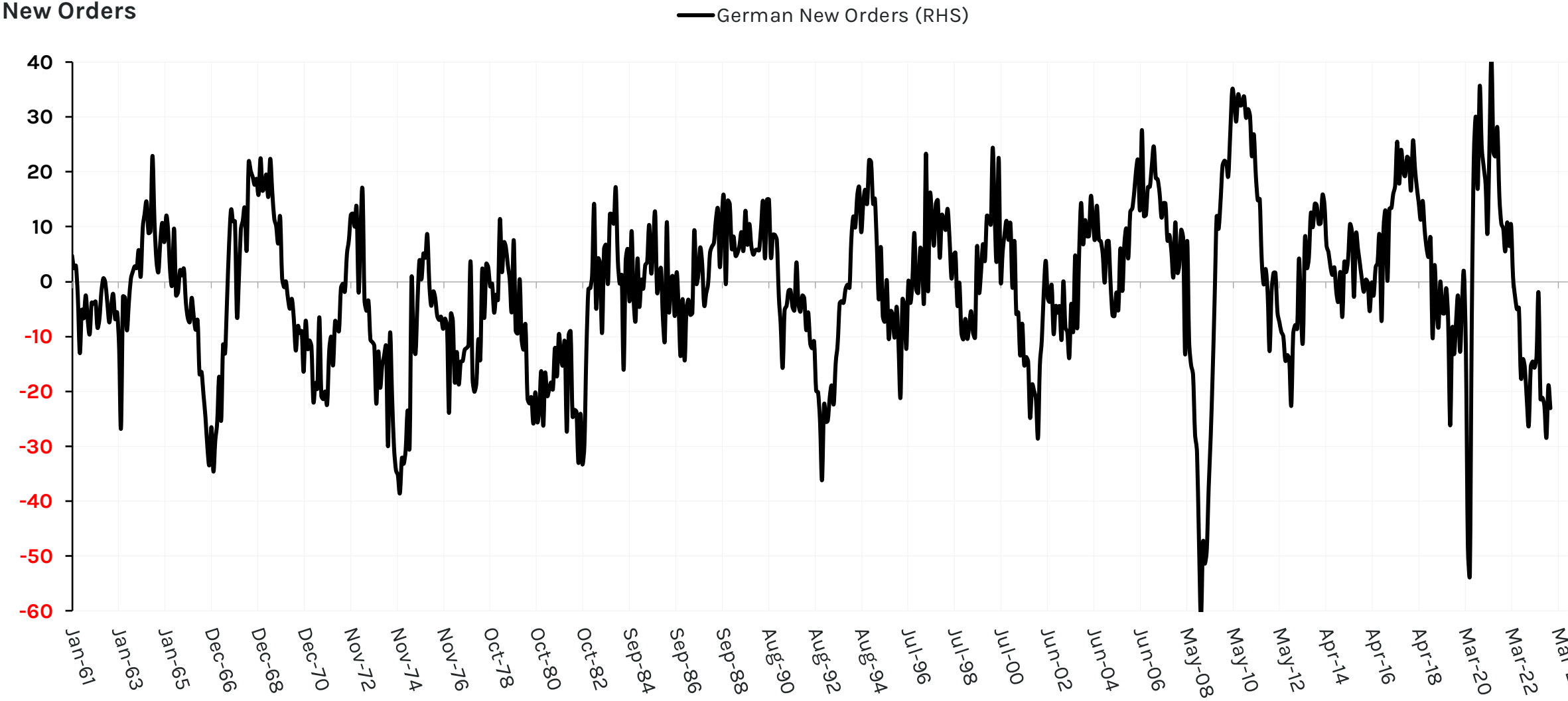
# Eurozone Manufacturing PMI ↓

## Eurozone Manufacturing Is Uniformly Contractionary



# German New Orders Continue To Plummet

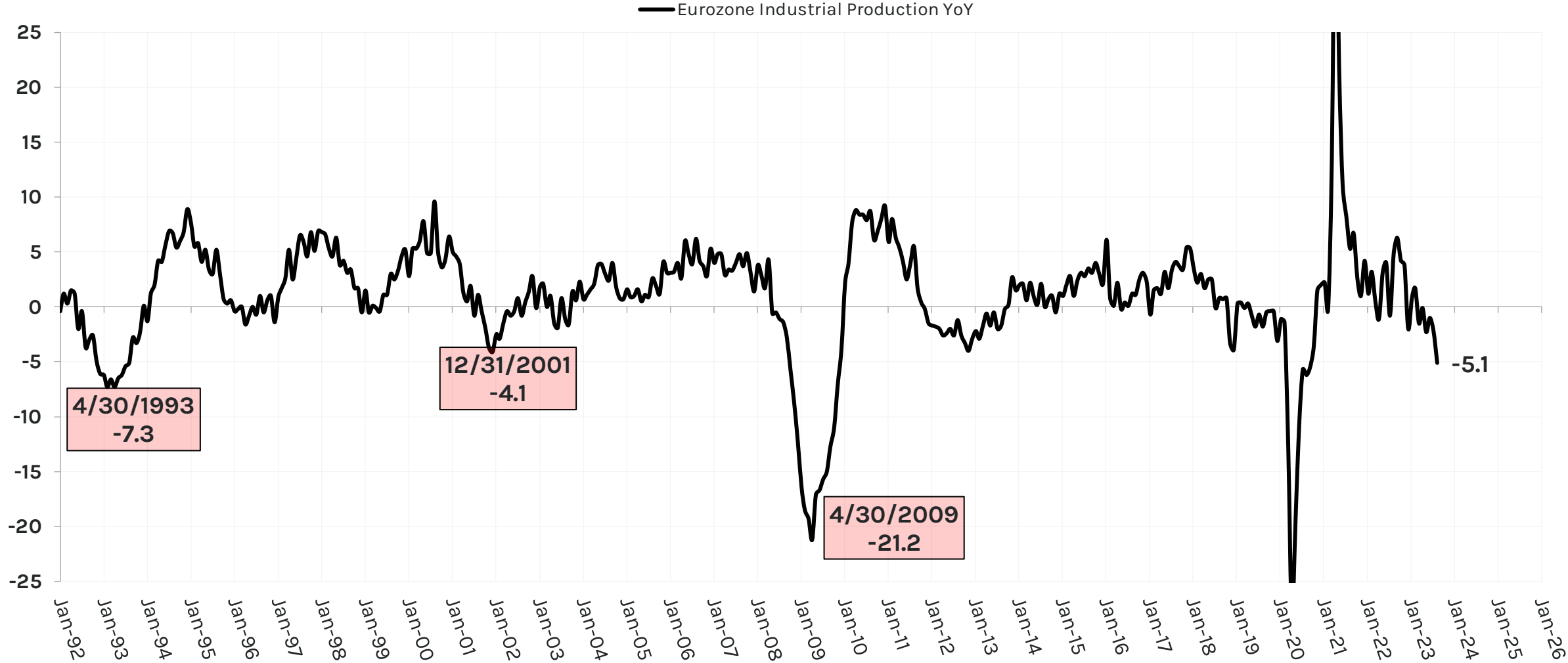
New Orders Are Making Cycle lows and are already past the lows of 2000



# Industrial Production - Negative

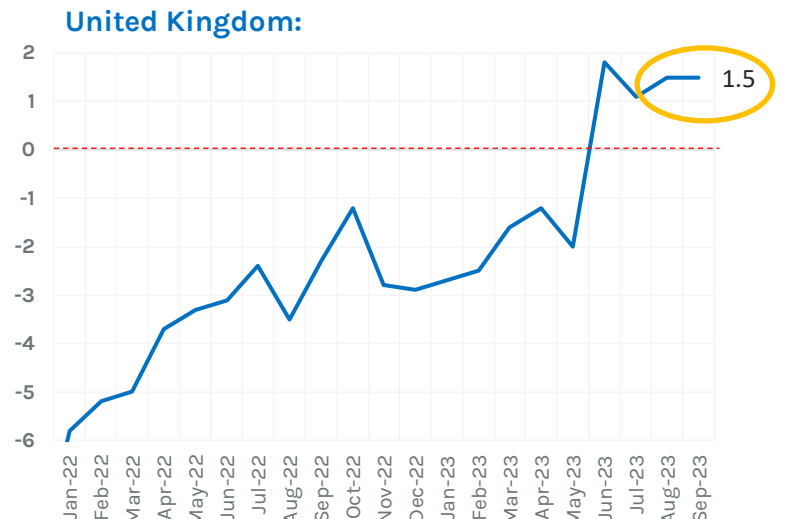
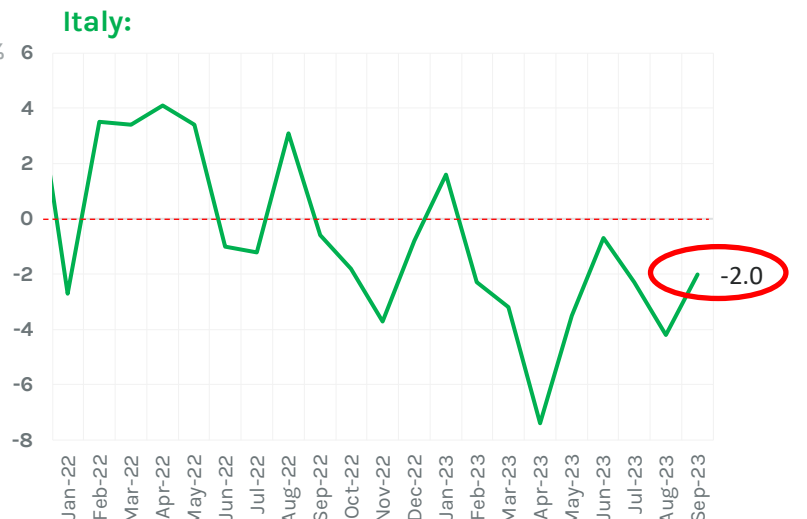
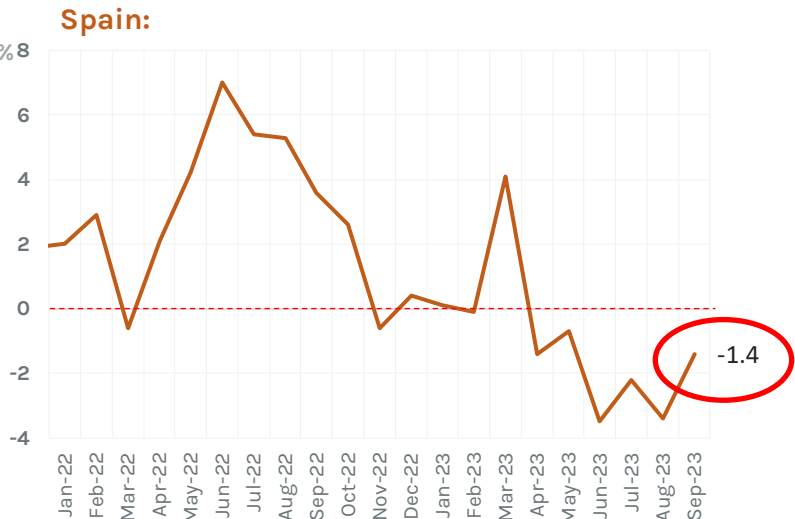
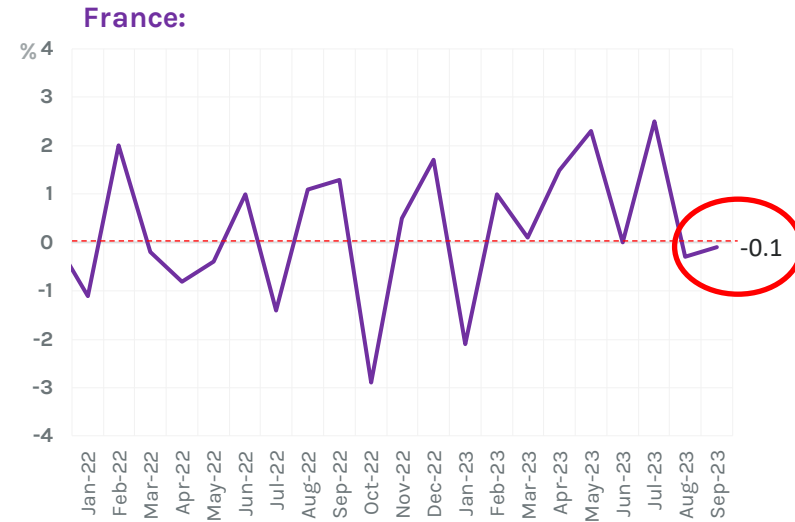
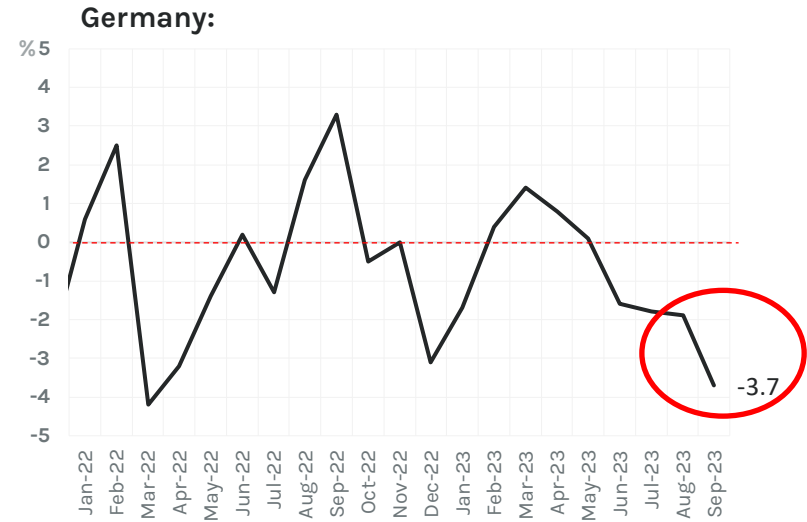
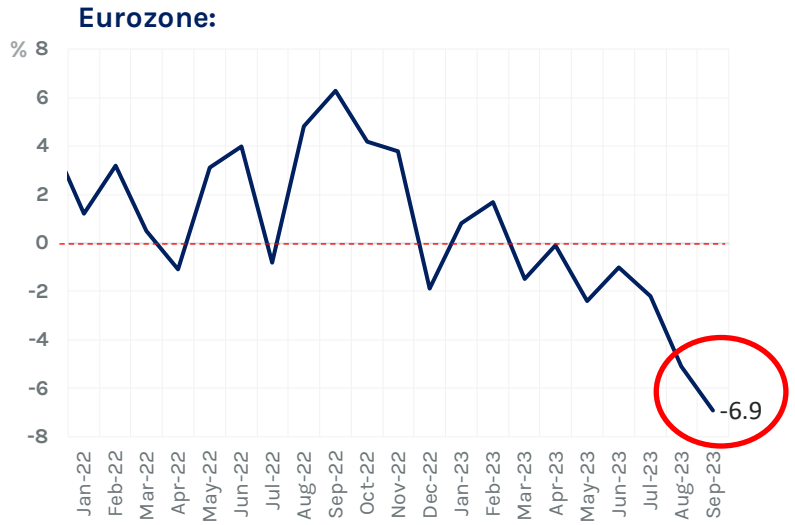
Eurozone Industrial Production is outright declining

### Eurozone Industrial Production Goes To Negative -5.1%



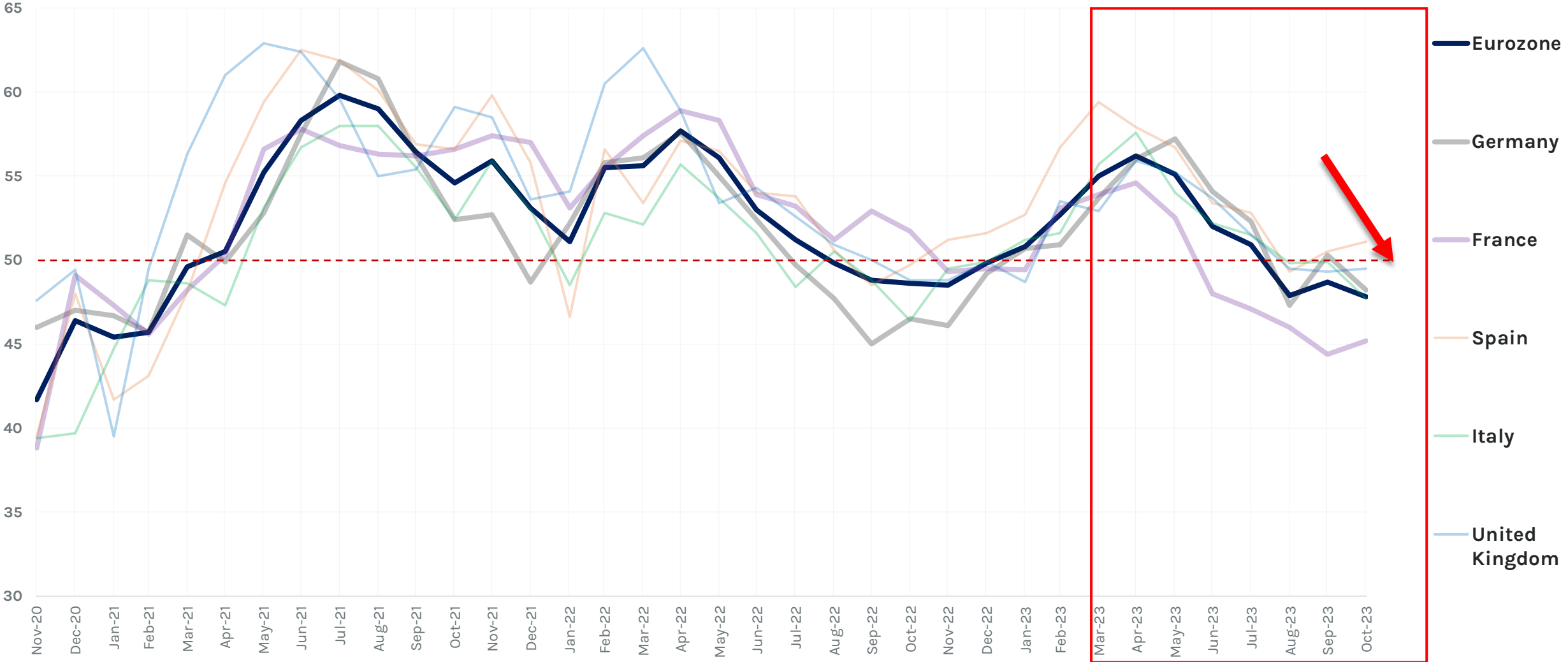
# Industrial Production (YoY): **Uninspired**

## Declining, Deflated, or Rolling Over – Take Your Pick



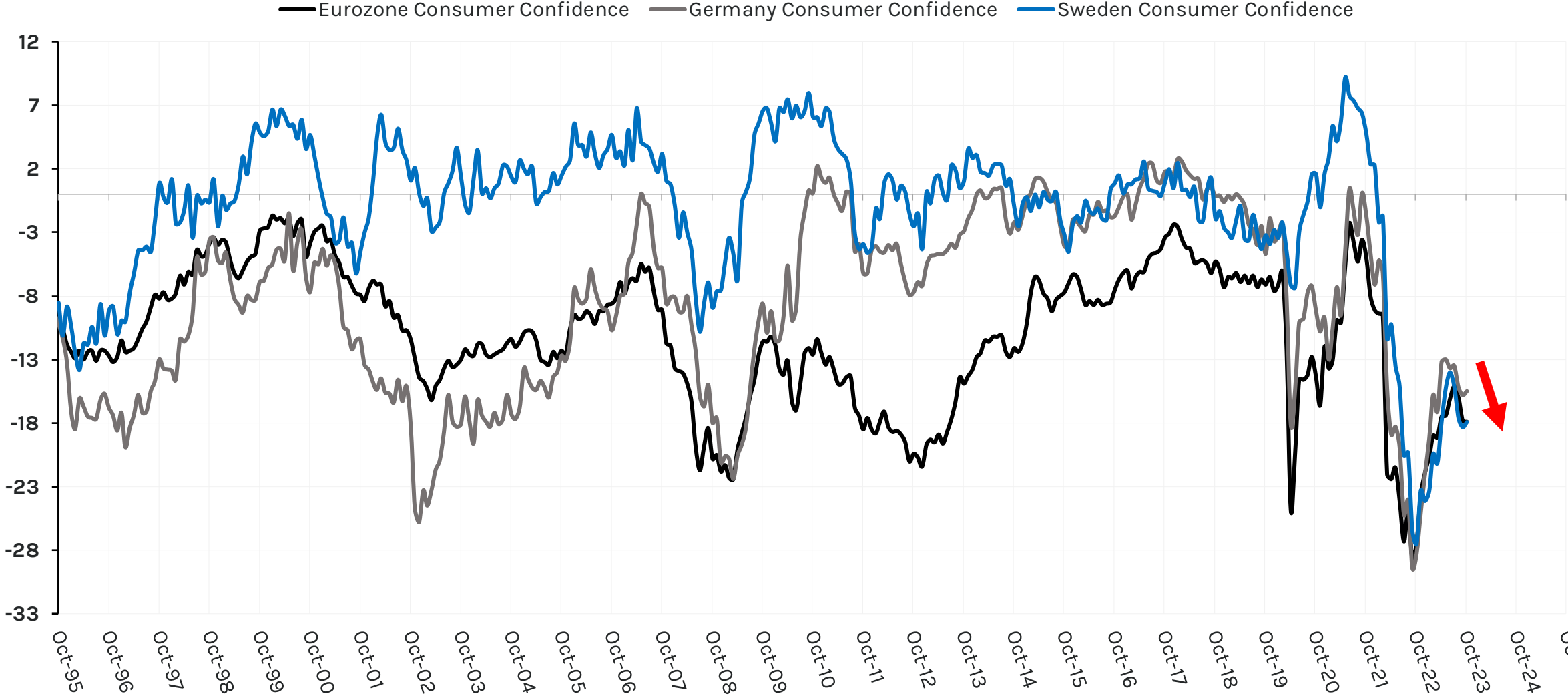
# Eurozone Services PMI Rolling Over ↓

The Services Economy is Also Uniformly Contractionary



# Consumer Confidence ↓

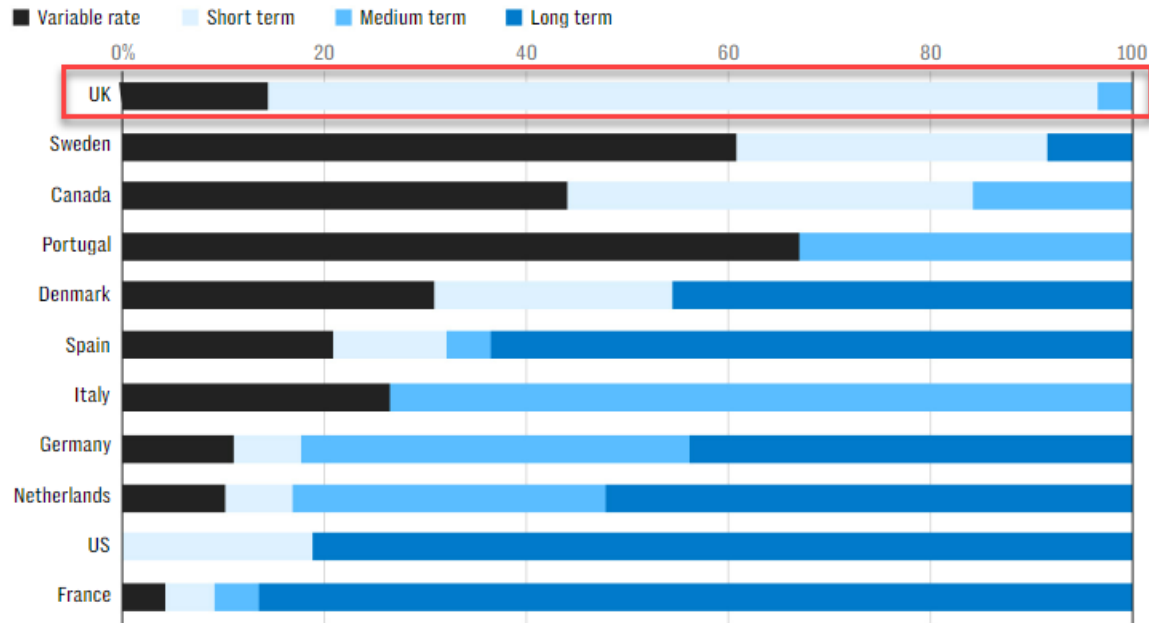
Consumer confidence is going lower



# Special Mention: The U.K.'s Short-Term Fixed Mortgage Model Bomb

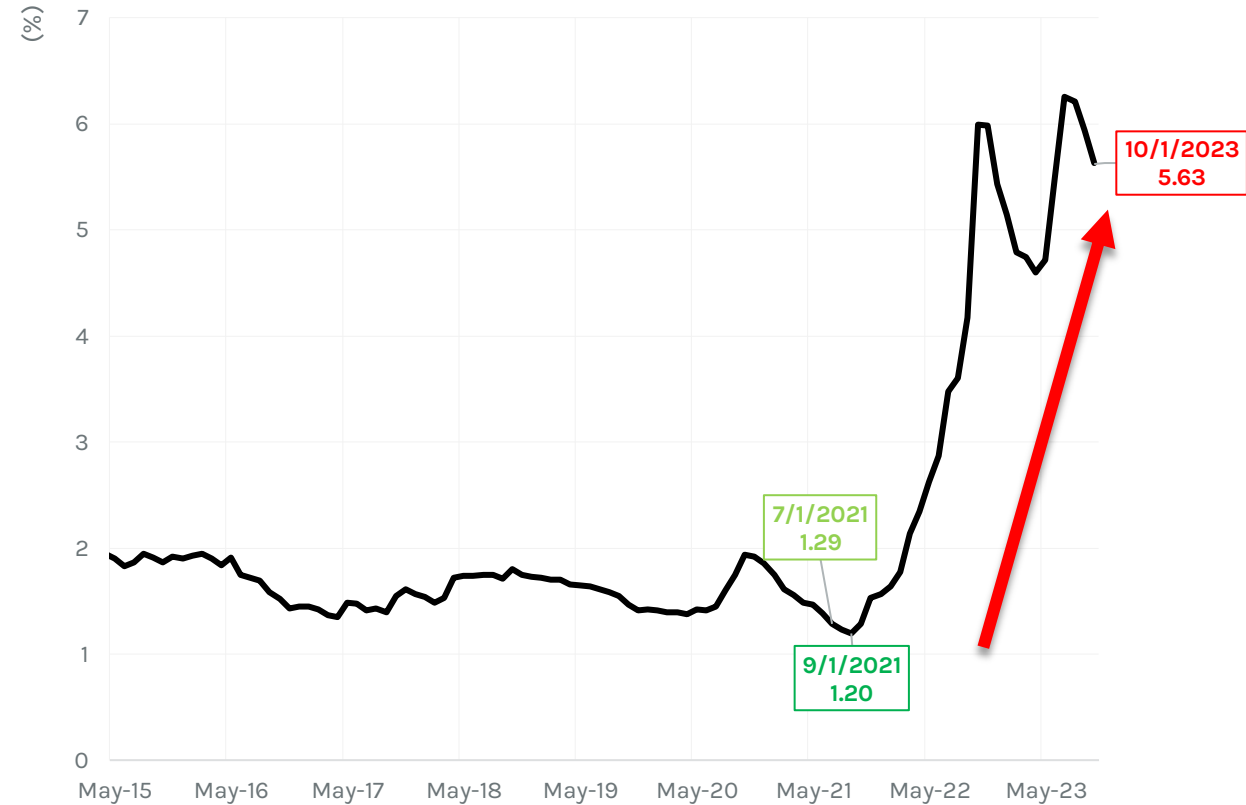
## 80% of Existing Mortgages Are Indexed to Short-Term Fixed Rates

Market breakdown by interest rate type



SOURCE: NATIONAL AUTHORITIES AND MOODY'S INVESTOR SERVICE

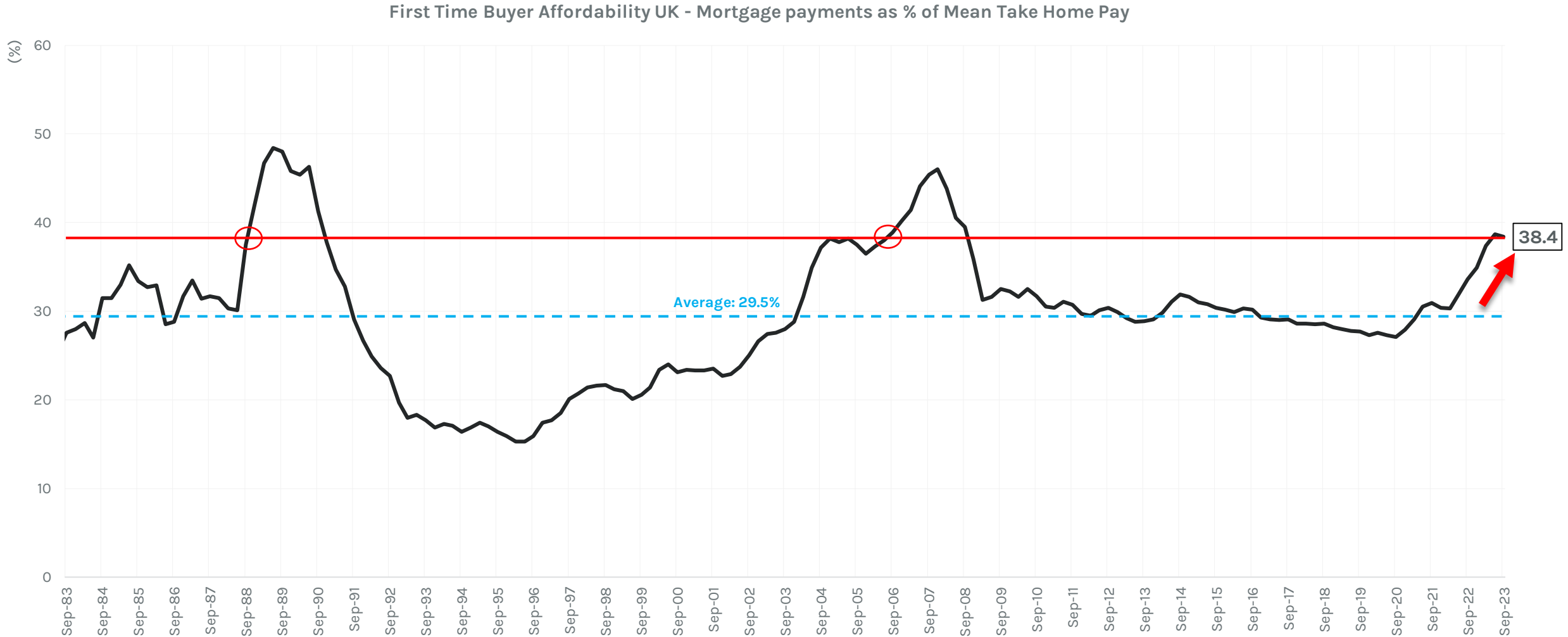
Two-Year Fixed Mortgage Rate (75% LTV)





# The UK Balance Sheet Recession Momentum is Already Building

Mortgage Debt Servicing has reached this level only twice since 1983.



**Short** Japan  
**Long** India



# Japan Downshifting Into Quad 4 While India Set to Maintain Robust Real Growth

## G20 GIP Model Summary

11/15/2023	Hedgeye Macro GIP Model Signals													GROWTH					Strength Of Signal				INFLATION					Strength Of Signal							
	Actuals						Estimates							Real GDP YoY					NTM Δ	Conditional Probability Of Est. Δ				Headline CPI YoY					NTM Δ	Conditional Probability Of Est. Δ					
	3Q21	4Q21	1Q22	2Q22	3Q22	4Q22	1Q23	2Q23	3Q23	4Q23E	1Q24E	2Q24E	3Q24E	COUNTRY	3Q23	4Q23E	1Q24E	2Q24E	3Q24E	3Q24E Less 4Q23E	4Q23E	1Q24E	2Q24E	3Q24E	COUNTRY	3Q23	4Q23E	1Q24E	2Q24E	3Q24E	3Q24E Less 4Q23E	4Q23E	1Q24E	2Q24E	3Q24E
Argentina	3	4	3	2	3	3	3	3	2	2	2	1	Argentina	-4.92	-4.47	-4.32	-1.30	0.14	462bps	56	52	92	70	Argentina	125.37	164.02	224.57	251.97	224.42	6040bps	98	98	98	98	
Australia	4	2	3	2	2	3	3	4	4	1	1	4	Australia	1.76	0.70	0.85	1.07	0.76	5bps	94	56	59	63	Australia	5.70	4.92	4.43	4.15	3.83	-108bps	98	98	81	84	
Brazil	3	3	2	2	4	4	1	4	3	2	3	2	Brazil	2.21	2.48	1.59	1.26	2.11	-37bps	57	73	59	72	Brazil	4.60	5.12	5.35	5.55	6.76	165bps	73	60	59	98	
Canada	3	3	3	2	4	4	1	4	3	3	2	4	2	Canada	0.28	0.10	0.58	0.49	1.35	125bps	55	64	53	75	Canada	3.69	3.75	3.97	3.92	4.02	27bps	55	65	54	57
China	4	3	1	3	2	4	4	1	4	4	3	2	4	China	4.60	4.42	3.10	4.27	4.04	-38bps	54	76	74	55	China	-0.07	-0.20	0.42	0.43	0.30	50bps	57	80	51	57
Eurozone	3	2	2	3	3	3	4	4	4	1	2	1	1	Eurozone	0.10	0.13	0.28	0.48	0.83	70bps	51	54	55	59	Eurozone	4.93	2.93	3.18	3.13	3.13	20bps	98	65	53	50
France	3	2	3	3	3	3	2	1	4	1	4	1	1	France	0.70	1.01	0.75	0.77	0.97	-4bps	59	57	50	56	France	5.48	4.50	4.05	3.67	3.63	-87bps	98	87	82	53
Germany	3	3	2	3	3	3	4	4	4	1	3	1	1	Germany	-0.80	-0.22	-0.35	0.29	0.73	95bps	66	54	68	62	Germany	5.73	2.97	3.68	3.53	3.53	57bps	98	93	59	50
India	4	4	3	2	4	4	2	1	3	4	4	3	1	India	6.30	6.08	5.75	5.61	6.17	9bps	53	55	52	59	India	6.43	4.93	4.22	4.54	3.76	-117bps	98	89	68	93
Indonesia	3	2	3	2	2	3	1	1	4	4	4	4	4	Indonesia	4.94	4.89	4.73	4.59	4.41	-47bps	54	61	59	62	Indonesia	2.88	2.59	2.48	2.38	2.21	-38bps	64	56	55	58
Italy	3	2	3	3	3	3	1	4	4	1	2	2	2	Italy	0.00	0.02	0.07	0.42	0.52	50bps	51	51	59	53	Italy	5.80	1.67	2.02	2.23	2.42	75bps	98	69	62	60
Japan	3	3	3	2	3	3	1	4	4	1	4	4	1	Japan	1.20	1.67	1.47	0.67	0.87	-80bps	64	56	74	56	Japan	3.17	2.43	2.37	1.70	1.58	-85bps	98	55	98	59
Mexico	4	3	2	2	2	4	4	4	4	1	3	3	2	Mexico	3.30	3.58	2.06	1.62	2.00	-158bps	56	80	59	58	Mexico	4.63	4.09	4.22	4.84	5.01	93bps	88	60	93	62
Russia	3	2	3	3	1	1	1	1	3	3	2	2	2	Russia	3.45	2.26	2.31	2.37	2.45	19bps	82	51	52	52	Russia	5.15	6.83	6.93	7.25	7.32	49bps	88	52	57	52
South Africa	3	3	2	3	2	4	4	1	4	2	3	2	3	South Africa	-0.09	1.17	0.92	1.37	0.67	-50bps	80	56	61	67	South Africa	4.97	5.22	5.27	5.27	5.35	13bps	65	53	50	55
South Korea	3	2	3	3	2	4	4	1	1	2	2	1	4	South Korea	1.40	2.05	2.25	2.45	1.51	-54bps	84	60	60	98	South Korea	3.13	3.85	3.98	3.93	3.75	-10bps	98	61	54	65
Spain	3	2	3	2	3	4	1	4	4	3	4	2	1	Spain	1.80	1.50	1.10	1.24	1.49	-1bps	57	59	53	56	Spain	2.60	3.68	3.42	4.00	3.52	-17bps	98	64	81	76
Turkey	3	2	3	3	3	4	1	4	2	3	1	1	1	Turkey	5.23	2.60	2.88	3.00	3.17	56bps	91	54	52	53	Turkey	56.10	62.15	59.45	56.80	45.47	-1669bps	98	77	77	98
United Kingdom	3	2	2	3	3	3	4	1	1	4	4	1	2	United Kingdom	0.60	0.42	0.07	0.52	0.63	21bps	53	55	57	52	United Kingdom	6.73	4.42	4.03	3.45	3.87	-55bps	98	73	85	75
United States	3	2	3	3	4	4	1	1	1	4	4	3	1	United States	2.93	2.43	1.54	0.62	1.07	-136bps	70	85	87	68	United States	3.51	3.27	3.22	3.29	3.14	-13bps	65	53	54	59
MODE/MEDIAN	3	2	3	3	3	4	1	4	4	4	4	1	1	MODE/MEDIAN	1.58	1.58	1.28	1.15	1.21	-37bps	57	56	59	59	MODE/MEDIAN	4.95	3.97	4.01	3.93	3.76	-21bps	98	65	60	59

Data Source: Government Statistic Agencies, BIS, World Bank, and IMF. Intellectual Property of Hedgeye Risk Management.

LIGHT BLUE header - Hedgeye Nowcast Model estimates. BLUE header - Hedgeye Comparative Base Effects Model estimates. GREEN/RED shading in GDP and CPI projections denotes sequential acceleration/deceleration.

Conditional probability inversely proportional to the prior base rate's percentile score within a 95% confidence interval band around the projected GROWTH or INFLATION rate in a given quarter.

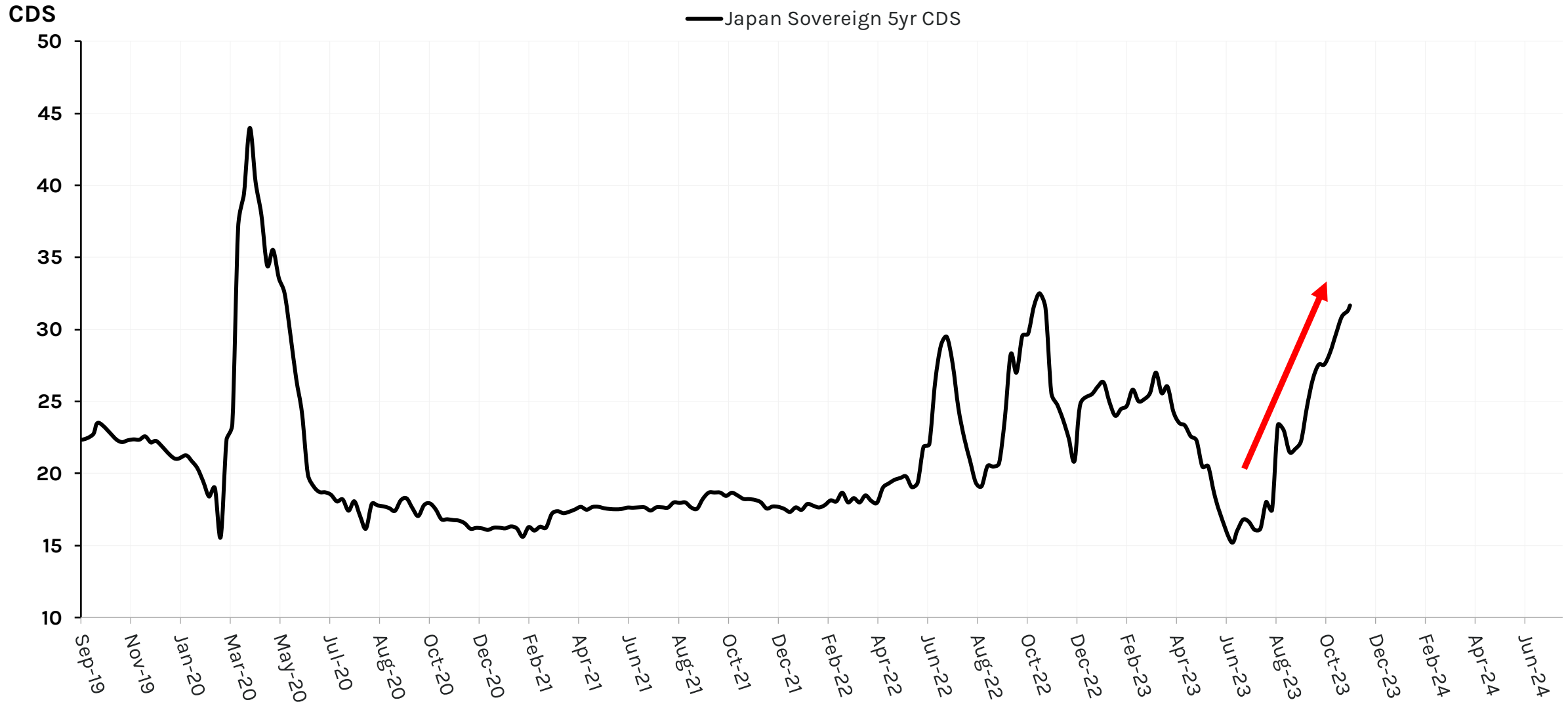
# Japan Nowcast

HEDGEYE JAPAN  
NOWCAST MODEL SUMMARY

	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	3Q23	4Q23	Δ
Retail Sales YoY (3)	3.10	3.70	1.50	2.40	4.10	4.80	4.40	2.50	3.80	5.00	7.30	6.90	5.10	5.80	5.60	7.00	7.00	5.80	-	-	-	6.60	-	-
Industrial Production YoY (1)	-4.70	-2.73	-2.96	-1.82	5.66	8.73	3.13	-1.36	-2.18	-2.79	-0.59	-0.85	-0.68	4.20	0.00	-2.32	-4.37	-4.64	-	-	-	-3.77	-	-
Exports YoY (2)	12.47	15.83	19.24	19.01	22.04	28.90	25.31	19.95	11.49	3.48	6.47	4.32	2.64	0.56	1.51	-0.33	-0.82	4.33	-	-	-	1.06	-	-
Manufacturing PMI (5)	53.5	53.3	52.7	52.1	51.5	50.8	50.7	49.0	48.9	48.9	47.7	49.2	49.5	50.6	49.8	49.6	49.6	48.5	48.7	-	-	49.2	48.7	-0.53
Consumer Confidence (4)	32.4	33.1	31.7	30.1	32.2	30.8	30.5	29.7	31.0	31.3	31.3	33.9	35.4	36.0	36.2	37.1	36.2	35.2	35.7	-	-	36.2	35.7	-0.47
Business Confidence (7)	48.0	51.3	49.2	42.6	47.6	49.3	48.2	46.4	46.3	49.1	52.0	54.1	55.2	54.8	53.6	53.0	50.0	49.7	49.6	-	-	50.9	49.6	-1.30
Headline CPI YoY (6)	2.50	2.50	2.40	2.60	3.00	3.00	3.70	3.80	4.00	4.30	3.30	3.20	3.50	3.20	3.30	3.30	3.20	3.00	-	-	-	3.17	-	-
Core CPI YoY (9)	2.10	2.10	2.20	2.40	2.80	3.00	3.60	3.70	4.00	4.20	3.10	3.10	3.40	3.20	3.30	3.10	3.10	2.80	-	-	-	3.00	-	-
Headline PPI YoY (8)	10.20	9.60	9.80	9.50	9.80	10.40	9.70	10.00	10.60	9.50	8.30	7.40	5.80	5.10	4.10	3.60	3.40	2.20	0.80	-	-	3.07	0.80	-2.27
Benchmark Equity Market - Mean Closing Price	1,173	1,156	1,165	1,171	1,206	1,176	1,156	1,205	1,182	1,176	1,212	1,210	1,228	1,299	1,388	1,396	1,398	1,454	1,390	1,427	-	1,416	1,408	-8
Benchmark Policy Rate - Mean Closing Price	-0.10	-0.10	-0.10	-0.10	-0.10	-0.10	-0.10	-0.10	-0.10	-0.10	-0.10	-0.10	-0.10	-0.10	-0.10	-0.10	-0.10	-0.10	-0.10	-0.10	-	-0.10	-0.10	0.00
1Y OIS Spread - Mean Closing Price	0.87	0.92	0.96	0.88	0.83	0.91	0.89	0.88	0.83	0.71	0.69	0.66	0.67	0.87	1.00	1.14	1.14	1.17	1.25	1.36	-	1.15	1.30	0.16
2Y Sovereign Note Yield - Mean Closing Price	-0.05	-0.05	-0.06	-0.07	-0.09	-0.07	-0.04	-0.04	0.00	0.02	-0.03	-0.05	-0.04	-0.05	-0.06	-0.04	0.02	0.03	0.07	0.13	-	0.00	0.10	0.10
10Y Sovereign Note Yield - Mean Closing Price	0.24	0.24	0.24	0.23	0.20	0.25	0.25	0.25	0.33	0.47	0.50	0.38	0.46	0.41	0.41	0.46	0.64	0.71	0.82	0.89	-	0.60	0.85	0.25
10Y Breakeven Rate - Mean Closing Price	0.87	0.92	0.96	0.88	0.83	0.91	0.89	0.88	0.83	0.71	0.69	0.66	0.67	0.87	1.00	1.14	1.14	1.17	1.25	1.36	-	1.15	1.30	0.16
JPY - Mean Closing Price	126.41	128.79	134.15	136.65	135.36	143.21	147.13	142.06	134.90	130.38	133.12	133.68	133.49	137.24	141.44	141.03	144.89	147.89	149.60	150.76	-	144.60	150.18	5.58
Real Effective Exchange Rate	79.3	79.4	76.0	75.7	77.0	74.5	73.7	75.2	77.7	78.9	77.1	77.5	77.5	76.0	74.3	74.3	73.0	72.4	-	-	-	73.3	-	-

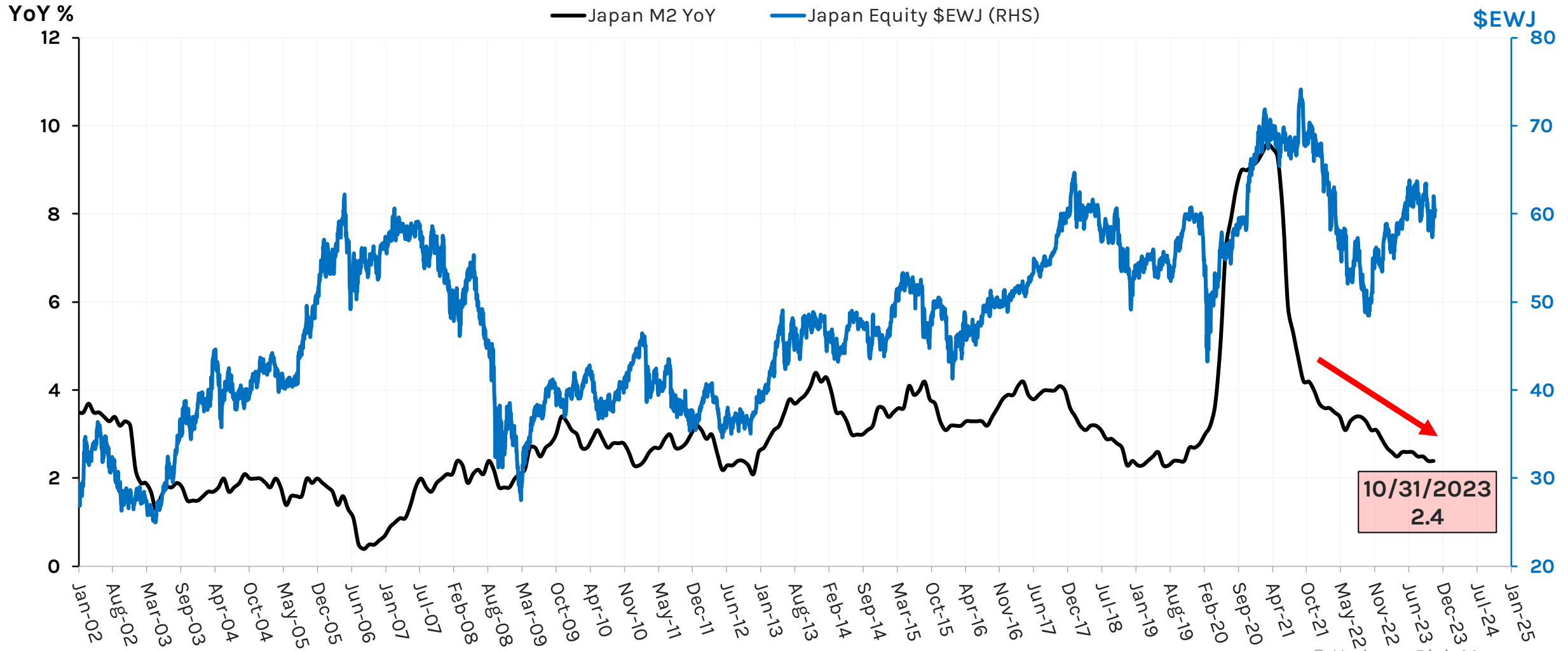
Intellectual Property of Hedgeye Risk Management. Nowcast feature rank shown in parenthesis.

# Japan Sovereign Credit Risk Climbing Rapidly

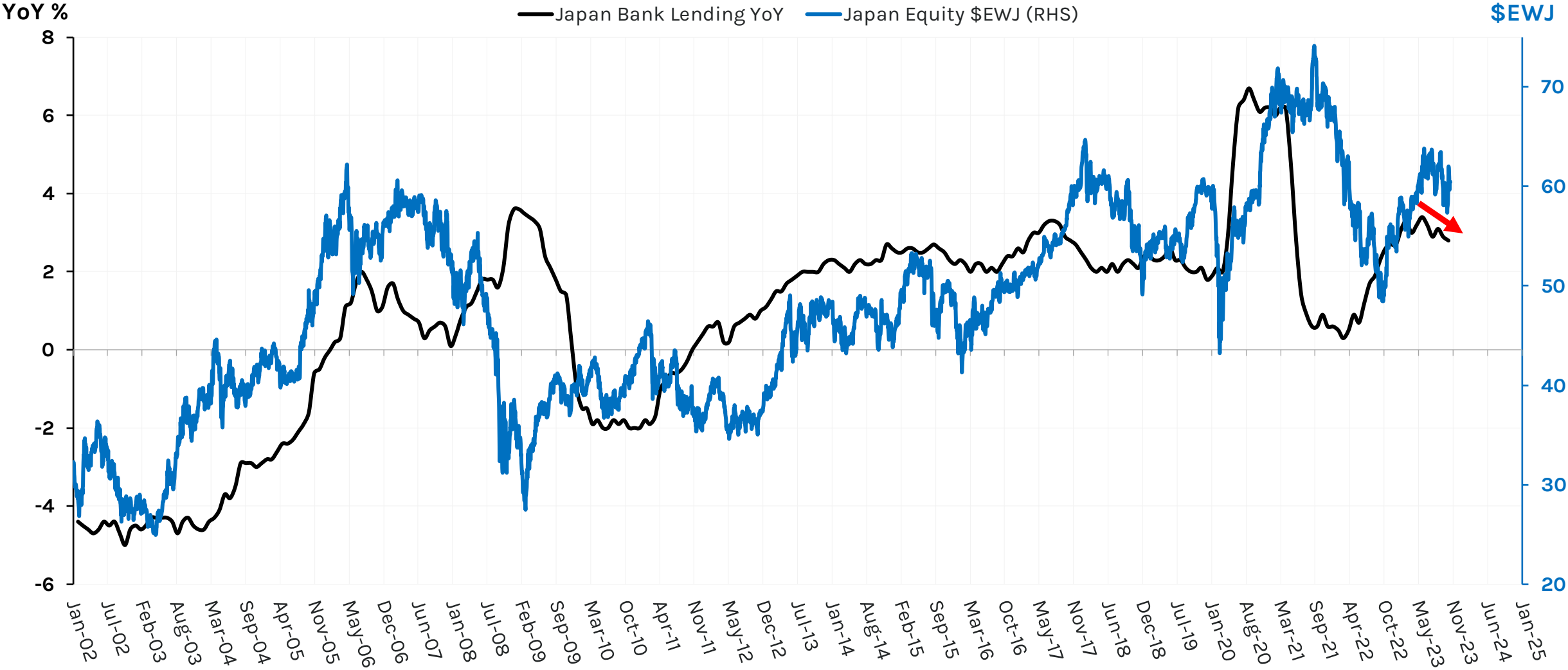


# M2 Growth Remains Muted

M2 RoC at lowest levels since 2008

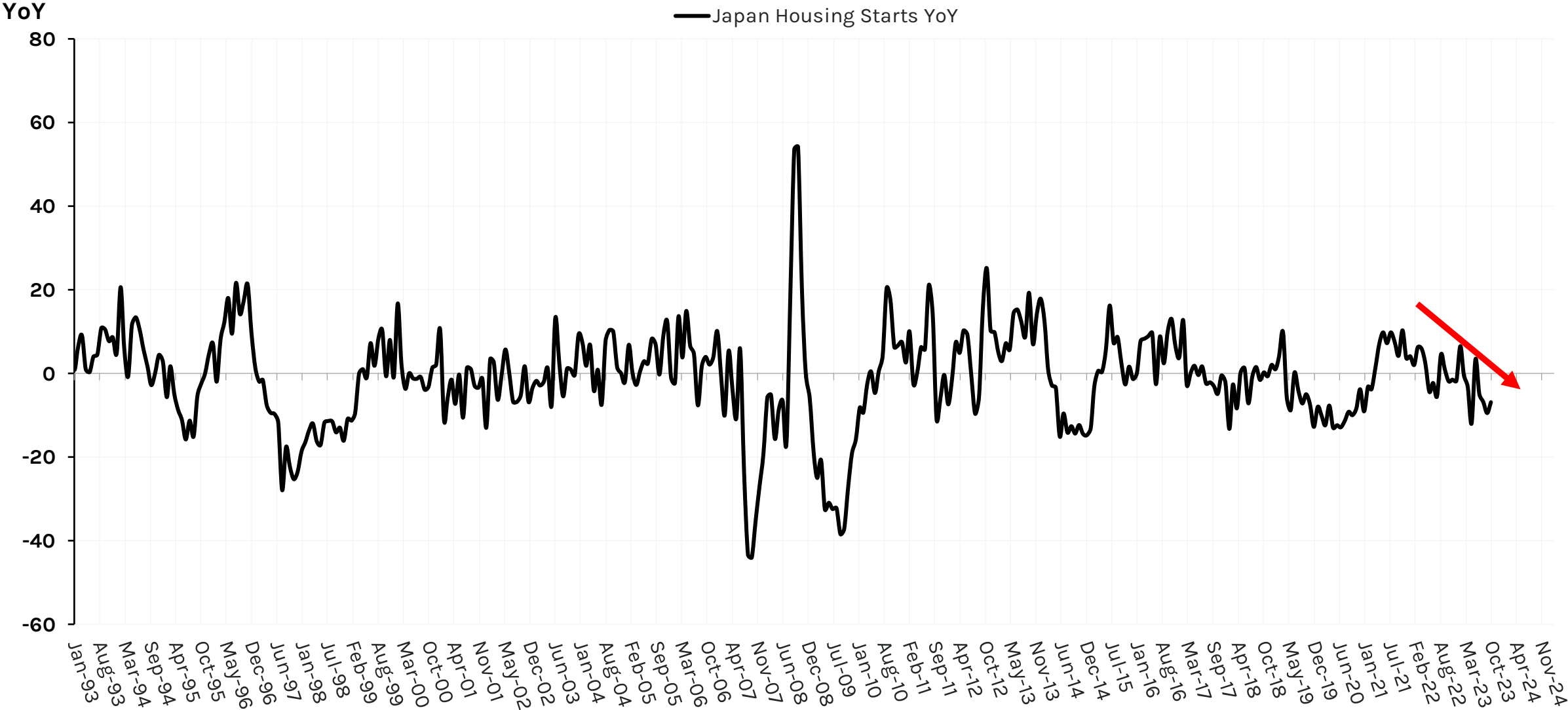


# Bank Lending RoC Inflection

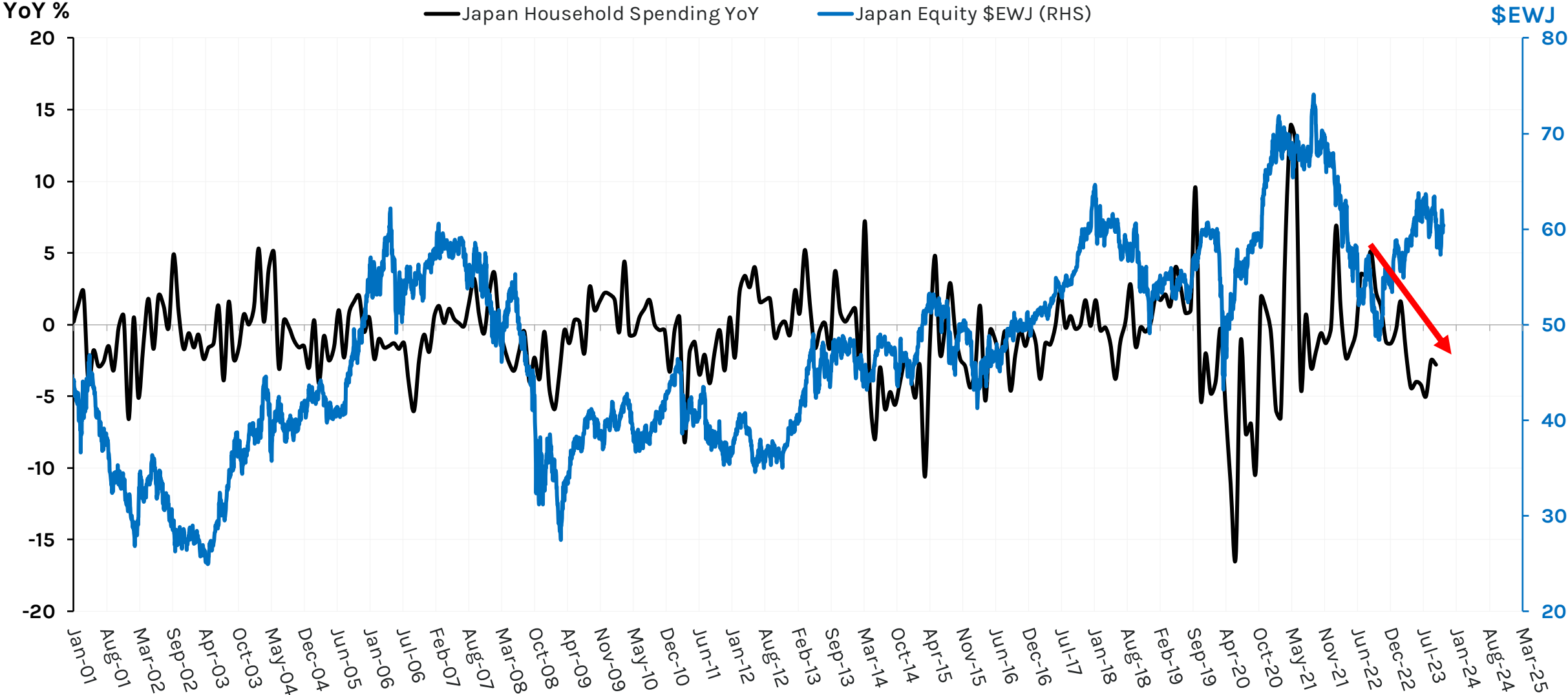




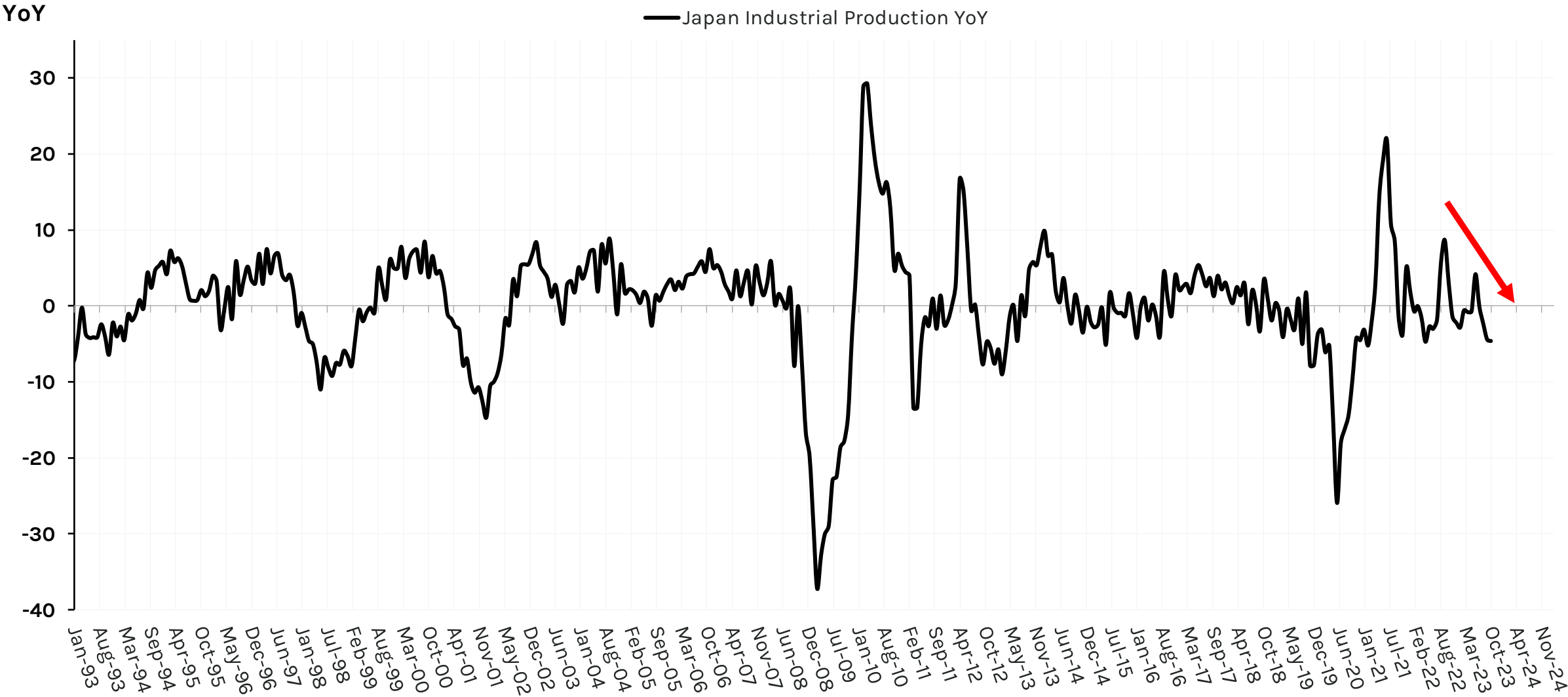
# Japan Housing Starts: -12% YoY & Trending Lower



# Household Spending: Negative Y/Y

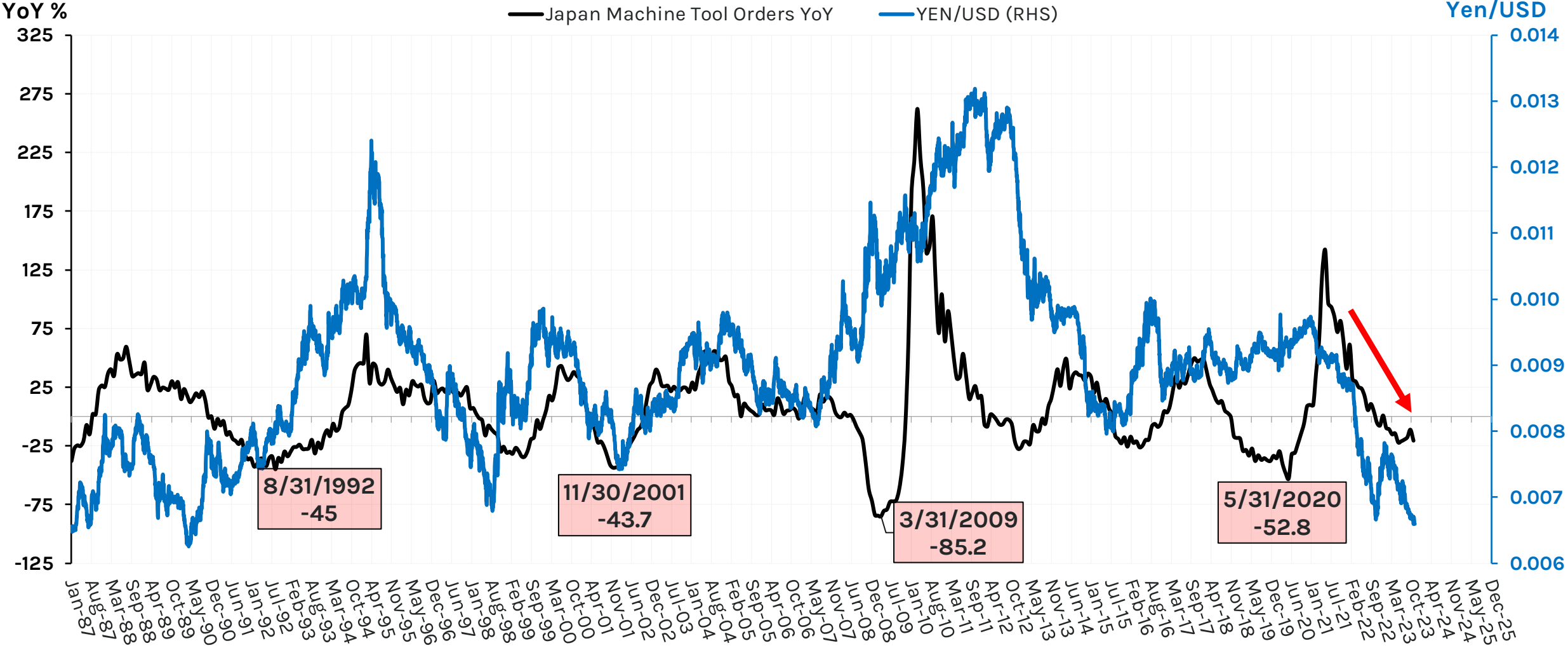


# Industrial Production: Trending Lower



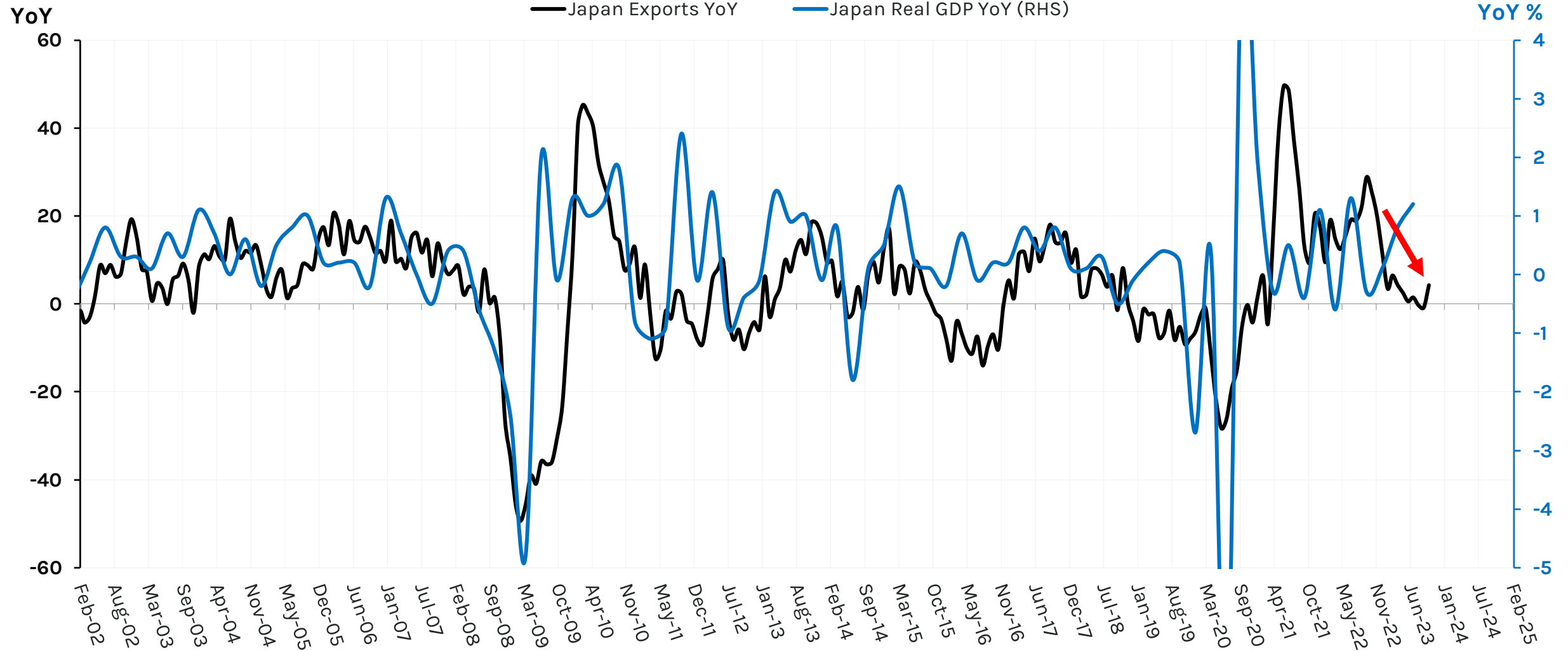
# Machine Tool Orders Continue To Decelerate

Machine tool orders decelerate to -21% YoY



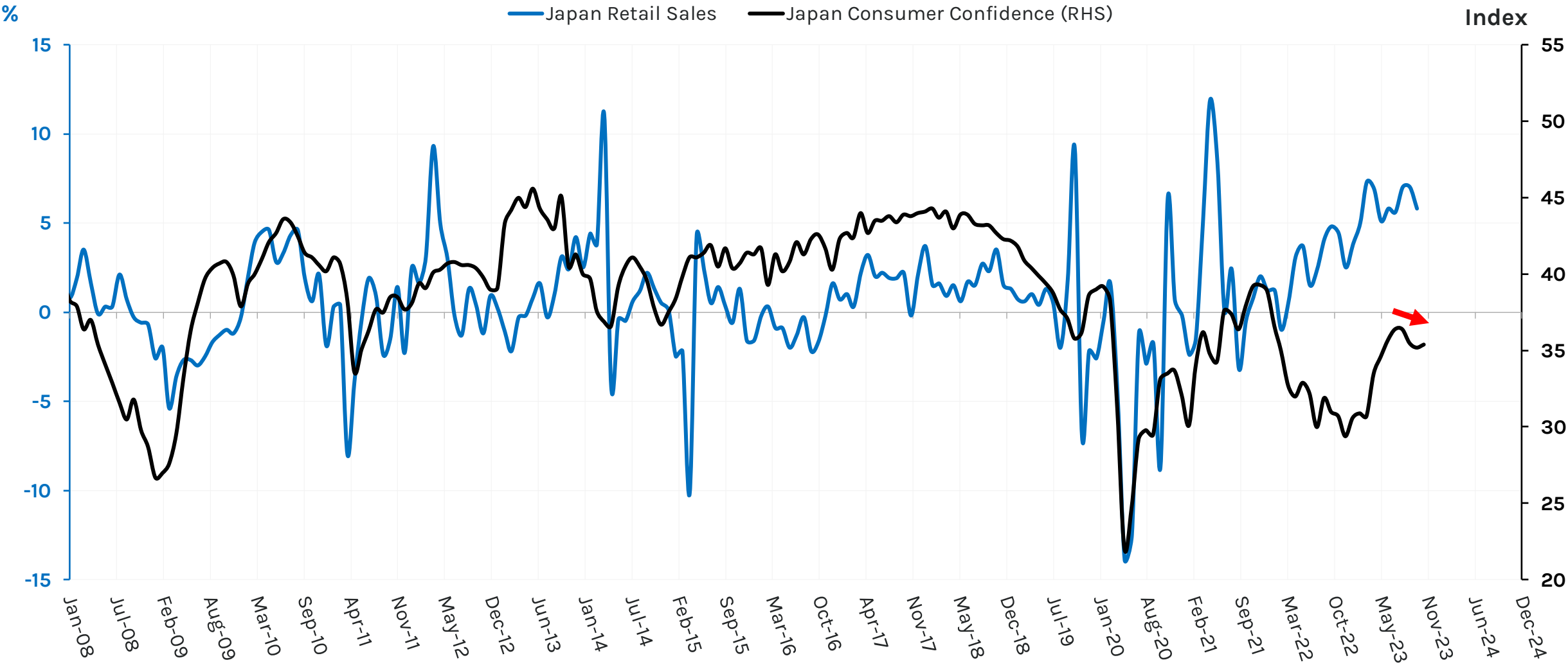
# Japan Exports Paging Dr. Zero

Real GDP has diverged from exports



# Retail Sales To Start Matching Consumer Sentiment?

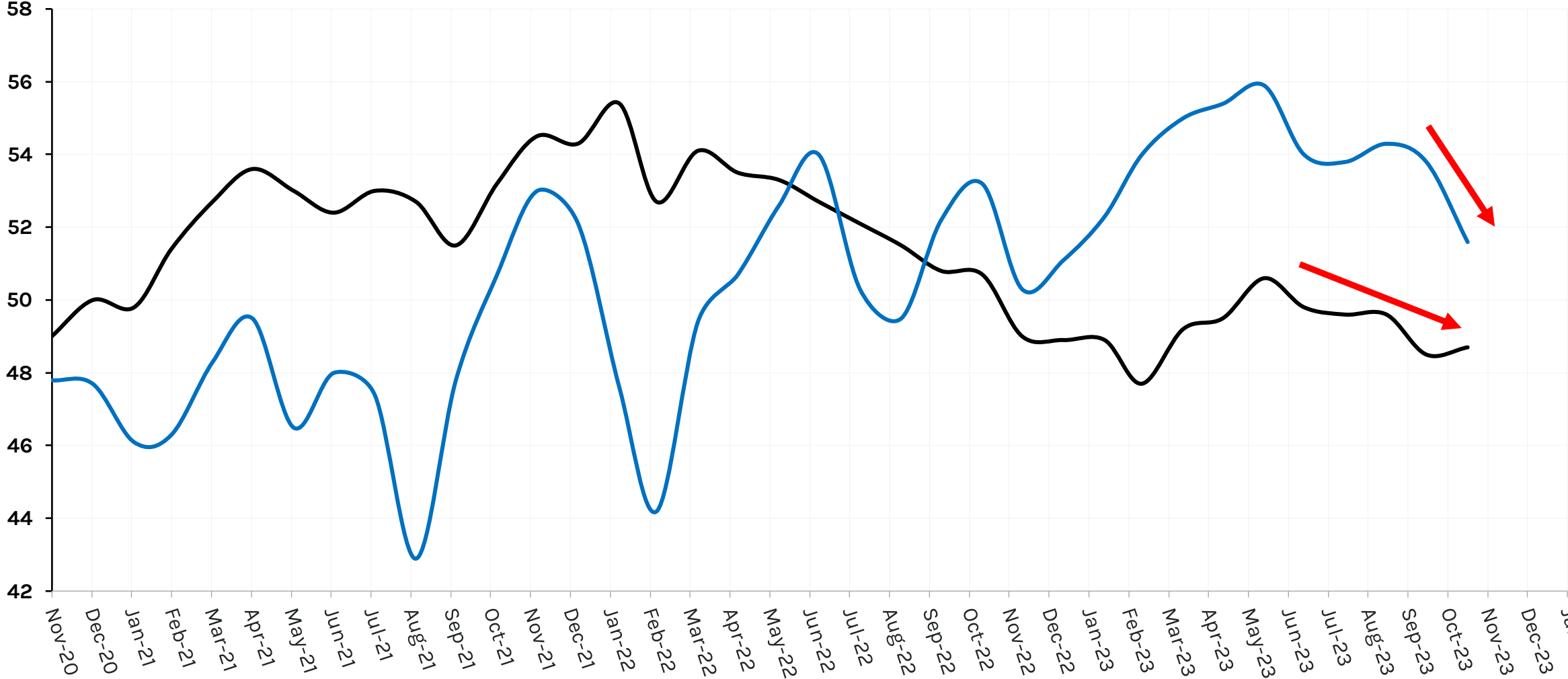
Consumer confidence not rebounding as retail sales has



# PMIs Rollover

Diffusion Index

— Japan Manufacturing PMI — Japan Services PMI





# India Nowcast

**HEDGEYE INDIA  
NOWCAST MODEL SUMMARY**

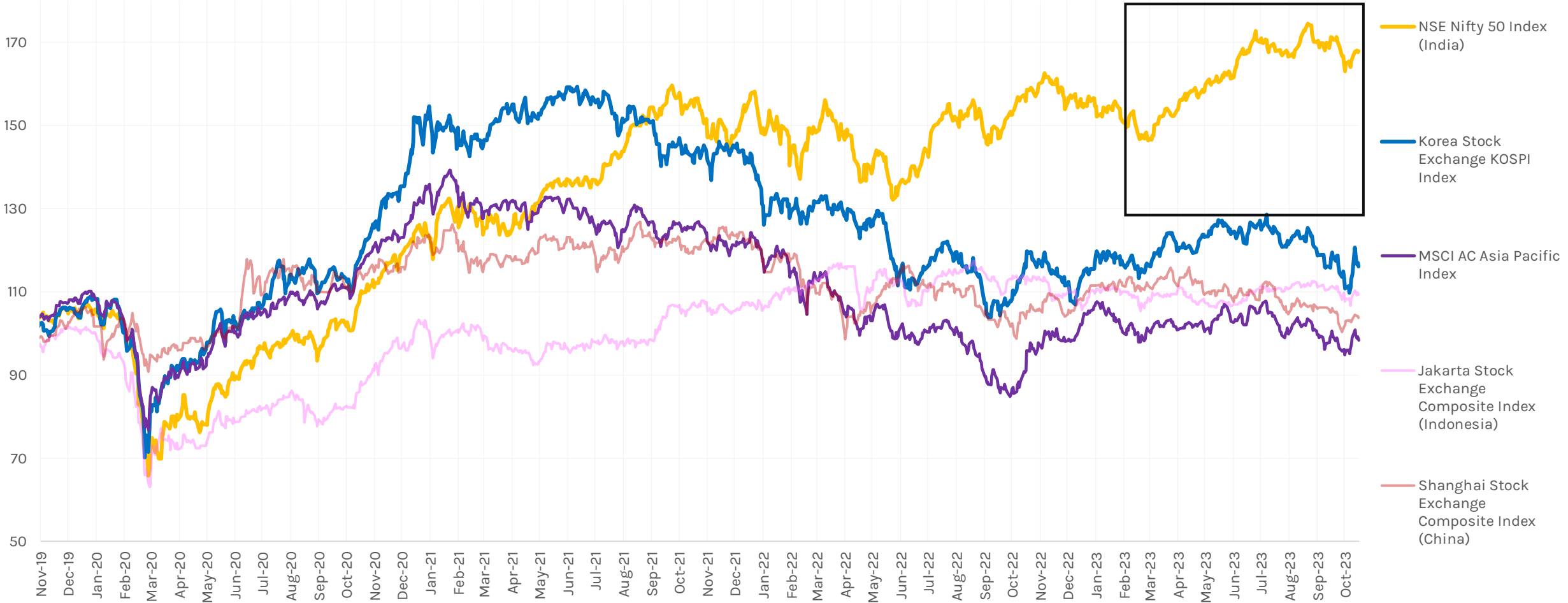
	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	3Q23	4Q23	Δ
Industrial Production YoY (1)	6.66	19.72	12.62	2.21	-0.68	3.32	-4.07	7.58	5.12	5.81	6.01	1.95	4.61	5.66	4.05	6.03	10.34	5.83	-	-	-	7.40	-	-
Exports YoY (3)	33.68	27.22	31.11	9.10	8.98	14.32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Manufacturing PMI (2)	54.7	54.6	53.9	56.4	56.2	55.1	55.3	55.7	57.8	55.4	55.3	56.4	57.2	58.7	57.8	57.7	58.6	57.5	55.5	-	-	57.9	55.5	-2.43
Headline CPI YoY (n/a)	7.79	7.04	7.01	6.71	7.00	7.41	6.77	5.88	5.72	6.52	6.44	5.66	4.70	4.31	4.87	7.44	6.83	5.02	4.87	-	-	6.43	4.87	-1.56
Headline PPI YoY (n/a)	11.39	10.27	9.35	8.24	7.51	6.12	4.42	3.44	3.37	3.06	1.94	-0.70	-2.28	-3.03	-2.78	-2.58	-2.37	-1.34	-	-	-	-2.10	-	-
Benchmark Equity Market - Mean Closing Price	2,048	1,898	1,844	1,897	2,056	2,053	2,021	2,106	2,105	2,047	1,966	1,908	1,953	2,033	2,098	2,187	2,184	2,237	2,204	2,196	-	2,203	2,200	-3
Benchmark Policy Rate - Mean Closing Price	4.00	4.36	4.78	4.90	5.34	5.42	5.90	5.90	6.18	6.25	6.44	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50	-	6.50	6.50	0.00
1Y OIS Spread - Mean Closing Price	89	168	156	139	84	116	113	89	49	44	43	36	12	7	15	30	44	55	50	38	-	43	44	1
2Y Sovereign Note Yield - Mean Closing Price	5.32	6.22	6.55	6.44	6.37	6.79	7.10	6.96	6.90	6.91	7.11	7.24	6.92	6.86	6.93	7.03	7.11	7.14	7.29	7.27	-	7.09	7.28	0.19
10Y Sovereign Note Yield - Mean Closing Price	7.08	7.34	7.49	7.39	7.25	7.23	7.44	7.33	7.28	7.33	7.35	7.36	7.19	7.01	7.03	7.11	7.19	7.19	7.33	7.30	-	7.16	7.32	0.15
INR - Mean Closing Price	76.17	77.32	78.09	79.60	79.56	80.25	82.38	81.78	82.52	81.86	82.61	82.34	82.00	82.36	82.23	82.15	82.78	83.06	83.23	83.28	-	82.66	83.26	0.60
Real Effective Exchange Rate	101.0	101.9	101.0	100.9	101.4	103.0	102.2	100.9	97.2	96.4	95.9	96.8	96.7	97.5	99.3	101.6	101.5	100.8	-	-	-	101.3	-	-

Intellectual Property of Hedgeye Risk Management. Nowcast feature rank shown in parenthesis. Asterisk denotes Total Credit Card Billings.

# India Has Led The APAC Region

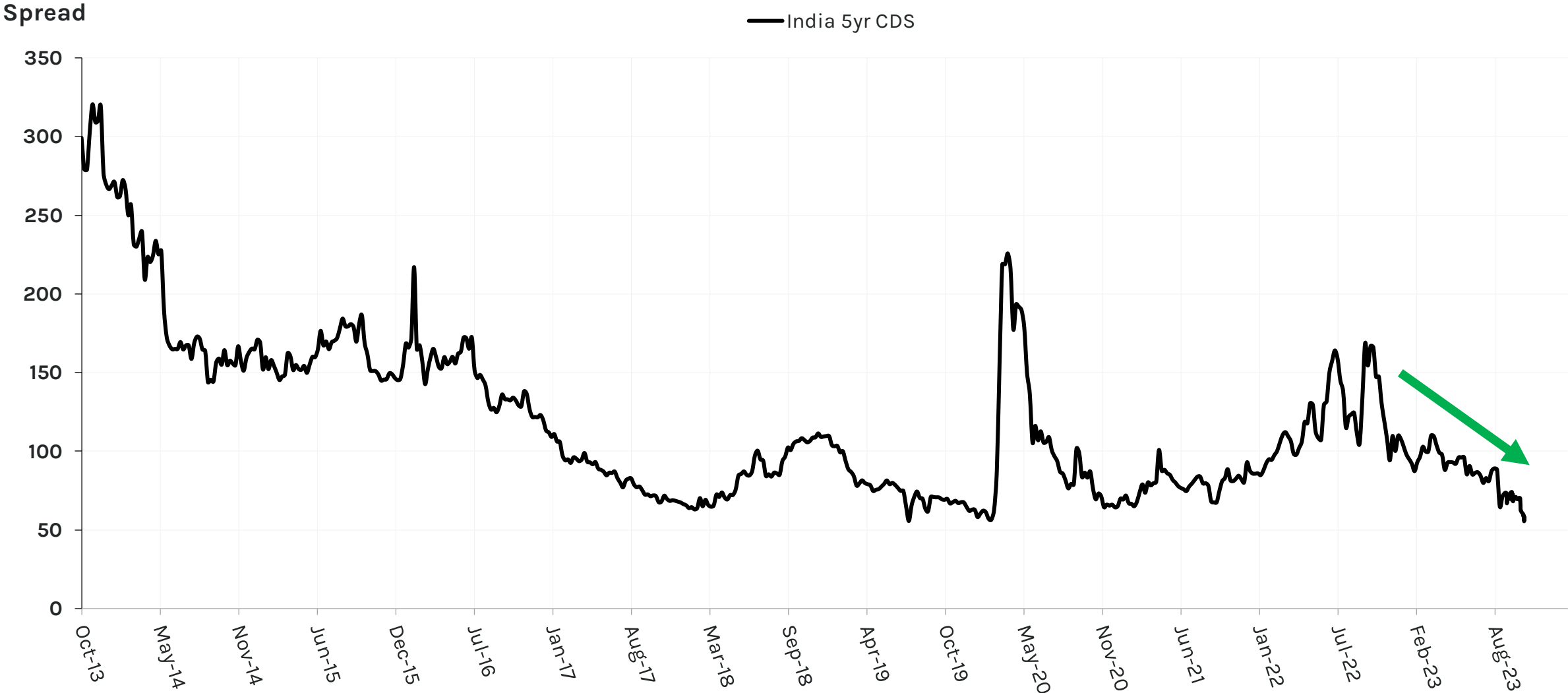
## Equity Performance

Indexed to June 2019



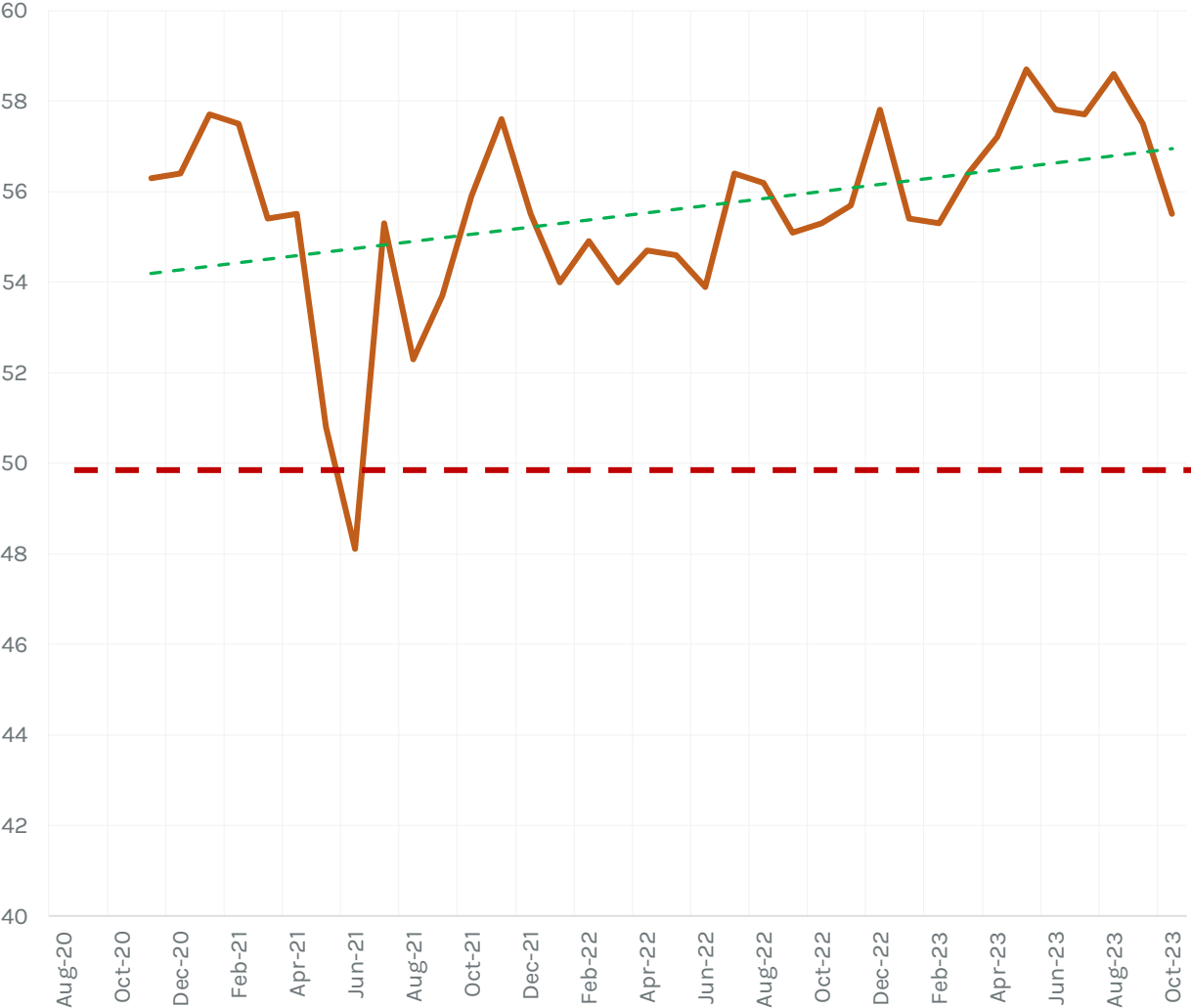
# India CDS Spreads Trending Lower

Risk spreads in India remain muted

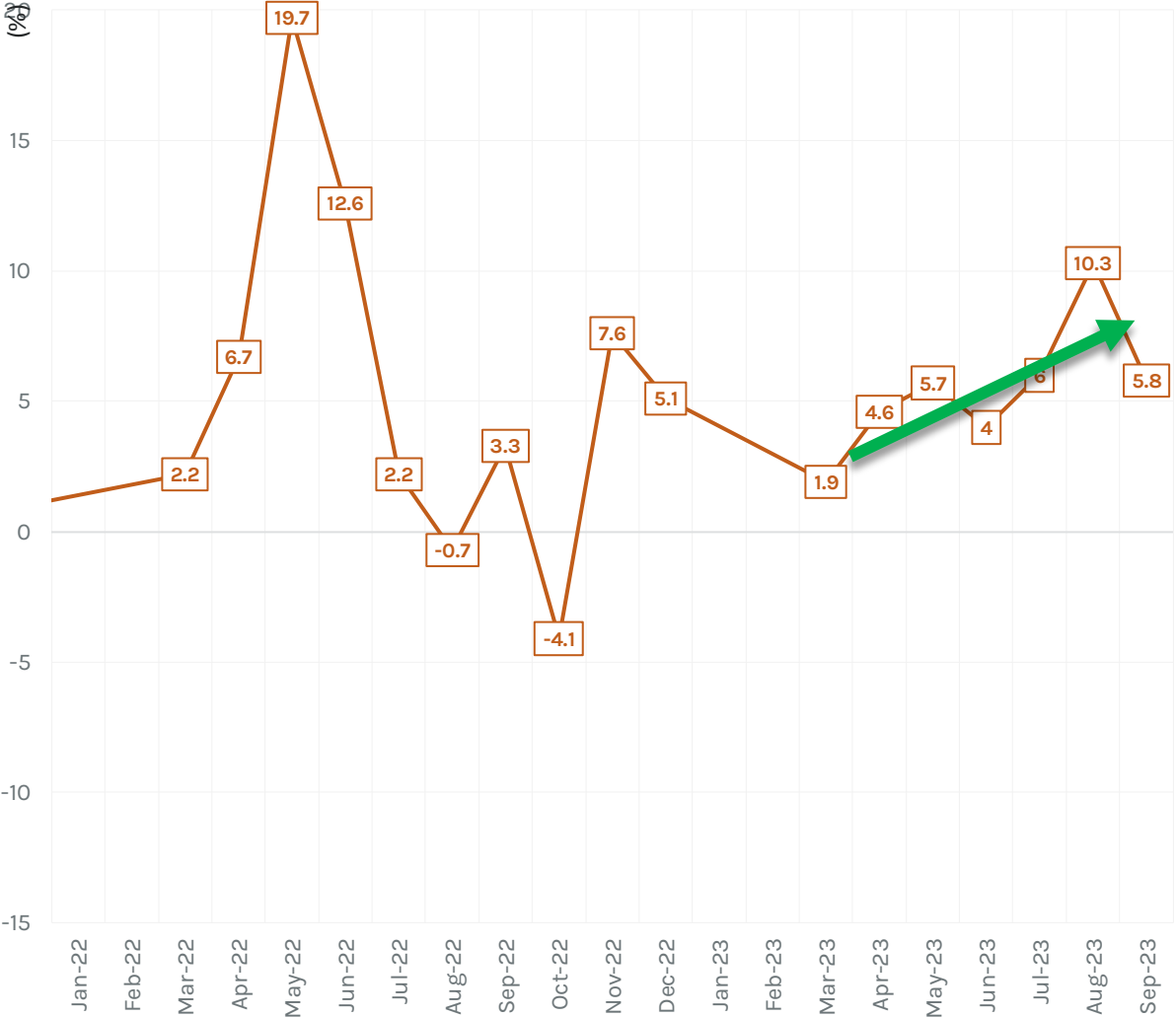


# Domestic Demand Powering Reacceleration in India's Manufacturing Sector

## India Manufacturing PMI

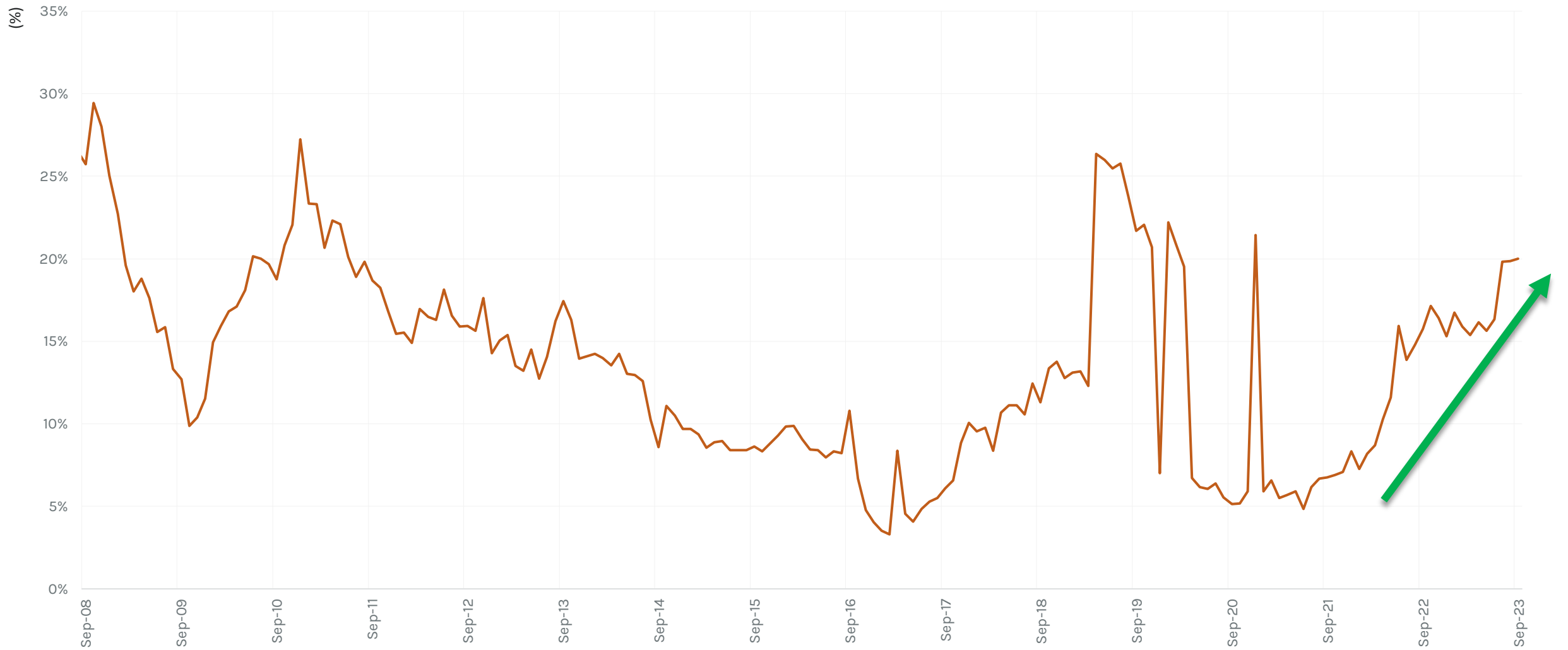


## India Industrial Production Y/Y



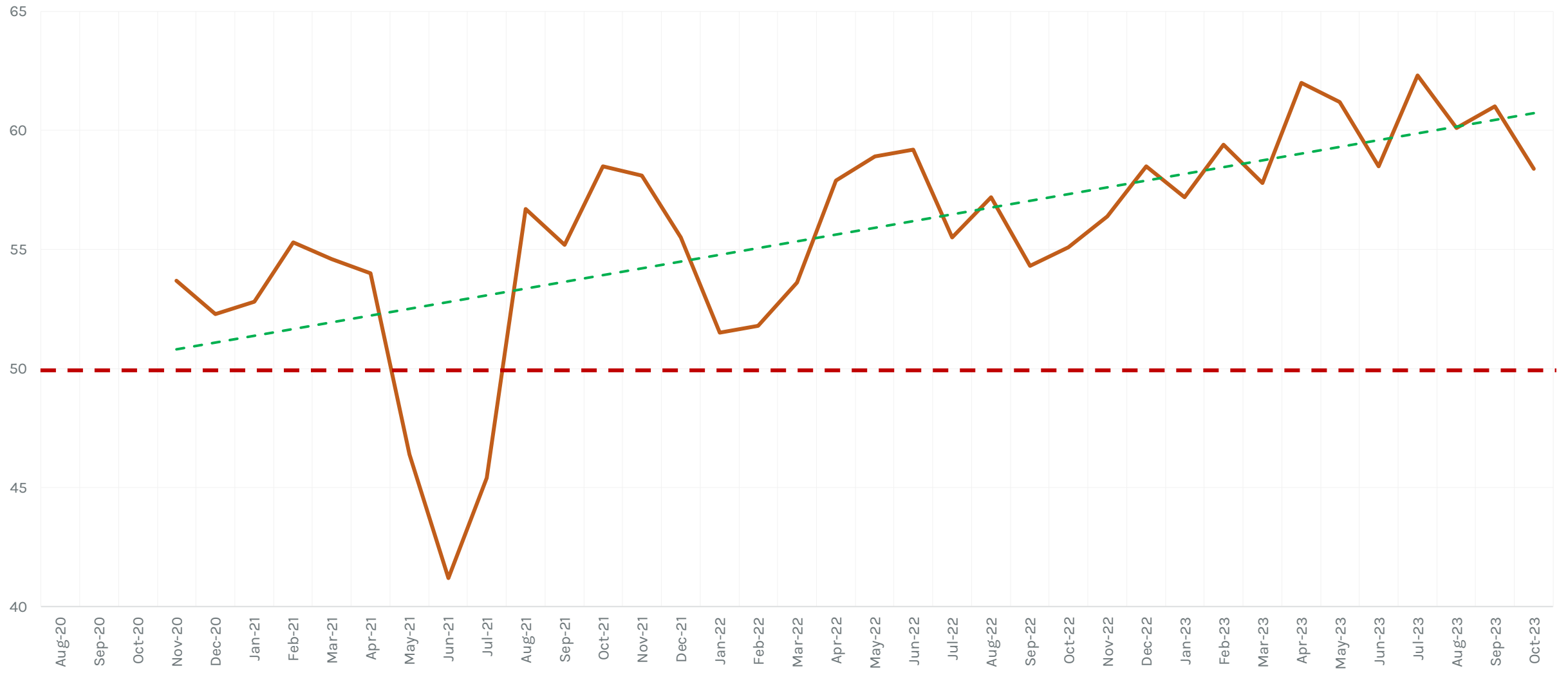
# The Rate of Credit Creation is Accelerating in India

## India Bank Loan Growth

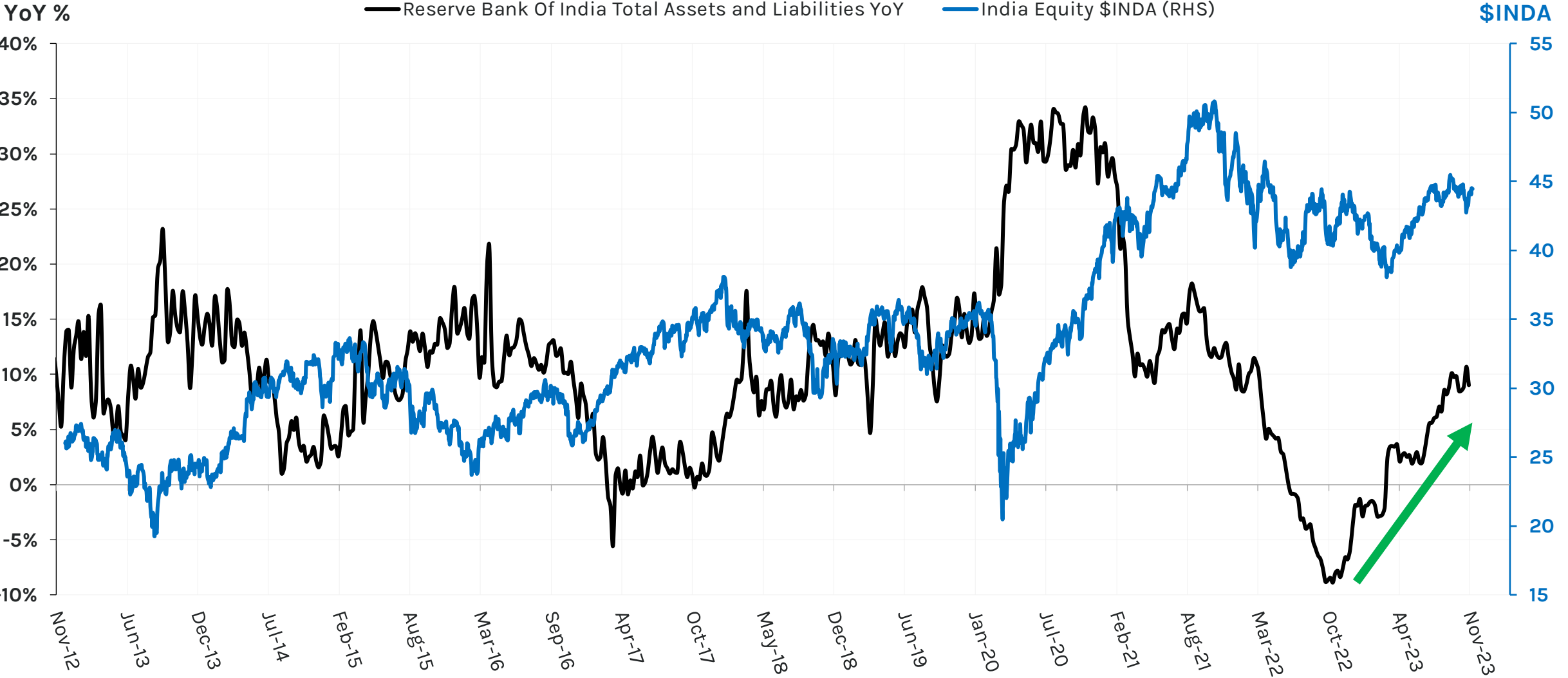


# Services Economy Still Expanding

## India Services PMI



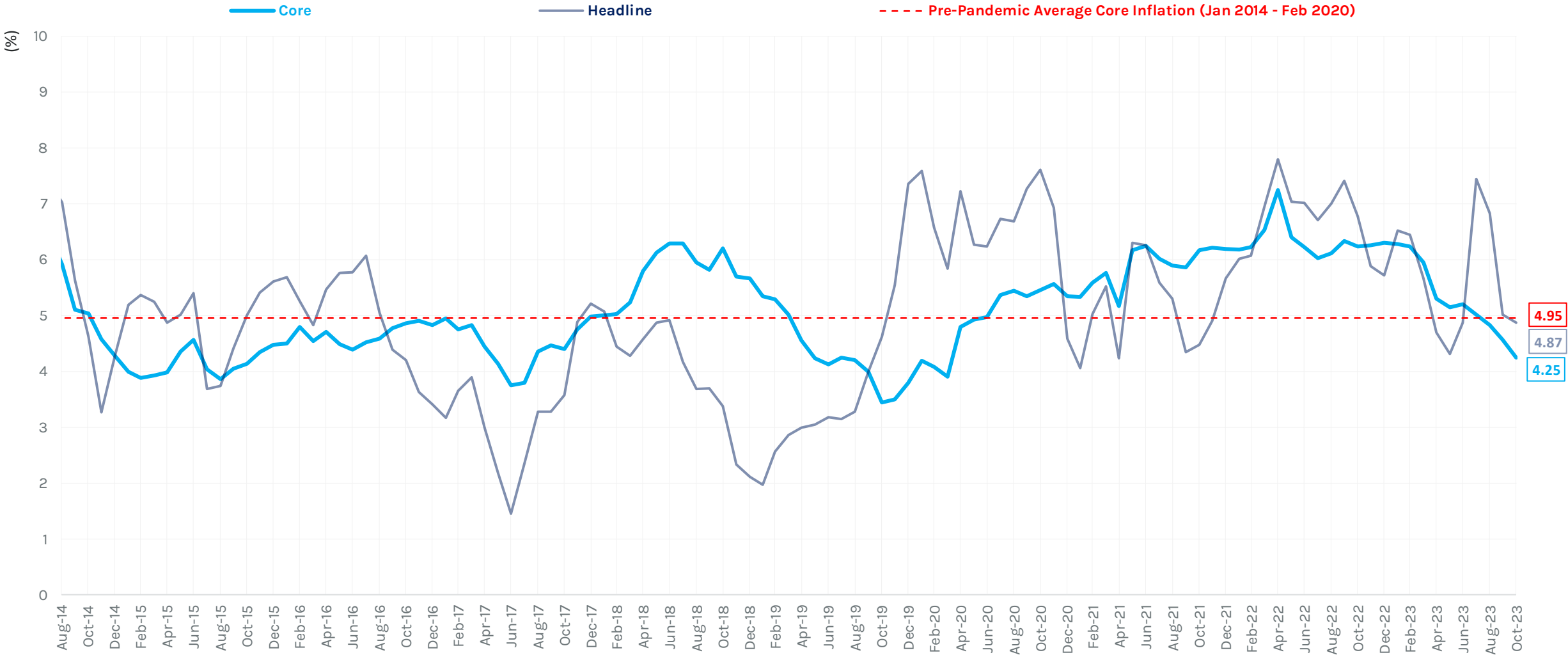
# India Central Bank Total Assets and Liabilities ↑





# India Moved Below Its Pre-Pandemic Level of Core Inflation

## India CPI



# Current Investment Positions

## 1 Immediate-term TRADE (introduced this quarter)

**LONGS:** Enhanced Income Short Maturity (BUXX), Market Neutral Anti-Beta (BTAL), Dorsey Wright Short Large Cap (DWSH), Inflation Expectations/TIPS (RINF), 1-3Y Treasuries (SHY), Bitcoin (BITO)

**SHORTS:** Quality Momentum (JOET), Pricing Power (PP), Norway (NORW), Self-Driving EV/Tech (IDRV)

## 2 Intermediate-term TREND (introduced in prior quarters)

**LONGS:** SPDR Gold (GLD), GS Gold (AAAU), India (INDA), Uranium (URA), Uranium Nuclear (NLR), Uranium Miners (URNM), 3M T-Bills (TBIL), Interest Rate Hedges (PFI), Insurance (IAK), Floating Rate Bonds (TFLO), MLPs (AML), India Small Cap (SMIN),

**SHORTS:** Regional Banks (KRE), Private Equity (PSP), Industrials (XLI), Real Estate (XLRE), Oxford Lane Capital (OXLC), Solar (TAN), Australia (EWA), France (EWQ), Global Jets (JETS), Hong Kong (EWH), China Large Cap (FXI), S&P 500 (SPY), Germany (EWG), China Real Estate (CHIR), China Financials (CHIX), Equal Weighted S&P (RSP), Staples (XLP)

## 3 Long-term TAIL (introduced < 3yrs ago)

**LONGS:** US Dollar Index Bullish Fund (UUP)

**SHORTS:** Gerber Kawasaki (GK), Retail (XRT), High Yield Bonds (HYG), Junk Bonds (JNK), Russell 2000 (IWM)

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**MACRO | DARYL JONES** DIRECTOR OF RESEARCH [@HEDGEYEDJ](https://twitter.com/HEDGEYEDJ)  
Sector Head for Basic Materials at HIG Capital's hedge fund, Brightpoint Capital.



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Award-winning analyst with 25+ years of sellside & buy-side experience. Most recently a long/short portfolio manager at Jefferies Asset Management. Worked for Raymond James, Dresdner Kleinwort Wasserstein, Buckingham Research, Cobalt Capital, and Ardsley Partners.



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Co-founder of Hedgeye with 30 years of experience covering retail. He was Executive Director at Morgan Stanley, ran the consumer franchise at Copper Arch Capital, and was Director of Investor Relations at Nike.



**RESTAURANTS, CANNABIS | HOWARD PENNEY** [@HOWARDWPENNEY](https://twitter.com/HOWARDWPENNEY)  
20+ years experience. While at Morgan Stanley he was ranked #1 by Institutional Investor (Restaurants). Howard has covered Tobacco, Alcohol, Food, and Beverage companies for nearly two decades.



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Daniel has two decades of experience on the buy side and sell side primarily covering Consumer at Glenhill Capital, Stelliam, North Sound, Weiss, Peck & Greer, and Lehman Brothers.



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Head of Healthcare Investments at Dawson-Herman Capital Management, joined after working as an analyst at W.P. Stewart.



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Two decades on the sell side and buy-side. #1 Ranked Institutional Investors Mortgage & Specialty Finance Team at Lehman Brothers. Financials Long/Short Equity Analyst at Millennium Partners and Amaranth Advisors.



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Jay has over two decades of experience covering cyclicals, and was the Industrials & Materials analyst at Brown Brothers Harriman, a cyclicals analyst/desk head at Labranche, and partner at L/S fund Bishop & Carroll Capital Partners.



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10+ years experience covering TMT. Head of Communication Services at Hedgeye. Former Senior Analyst covering Healthcare IT.



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Renowned authority on generations and social change in America. Neil is an acclaimed bestselling author and speaker.



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Founded research boutique Joseph Capital Partners. Tech equity analyst at Putnam Investments & Fidelity Management & Research.



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Former Managing Partner of Kemp Partners in Washington, DC and led the policy research team at Pelorus Research in London.



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Ranked II REIT team at Evercore ISI, most recently Dir. of Bus. Development at Paramount Group (NYSE: PGRE) a New York-based office REIT



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Leading telecommunications policy specialist with a combined legal and industry background. Former attorney for the FCC. Member of the American Bar Association Section on Antitrust Law.



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Worked at JC Bradford helping to bring securities to market for healthcare related projects.



**CAPITAL ALLOCATION | DAVID SALEM** [@DSALEMINVESTOR](https://twitter.com/DSALEMINVESTOR)  
Founding CEO & CIO of The Investment Fund for Foundations (TIFF) and Partner at GMO. Harvard JD/MBA.