HEDGEYE

Q4 2023
Macro Themes

STAGFLATION

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MACRO

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Please submit questions* to

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*Answered at the end of the call

The Investment Landscape Has Evolved Tremendously

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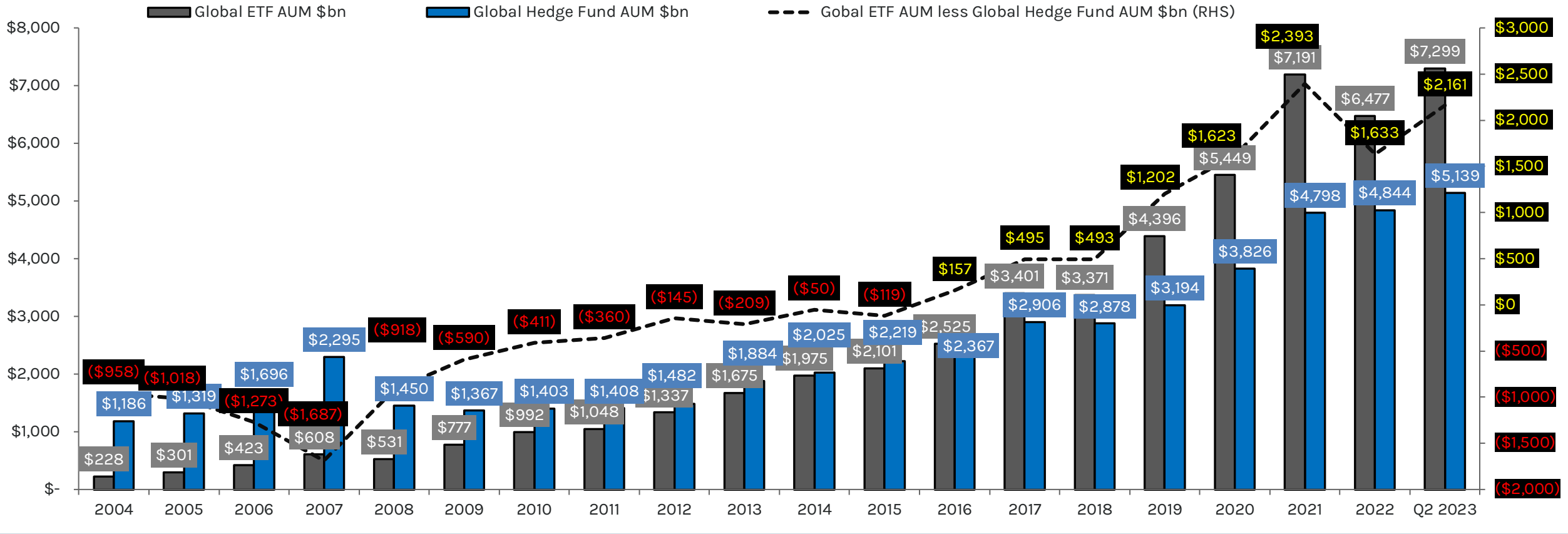
Stock-picking has given way to factor-picking and it's our job as investors to embrace this sea change, rather than fight it.



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?**

Data Sources: Bloomberg, BarclayHedge, JPMorgan

… So We Evolved Alongside It

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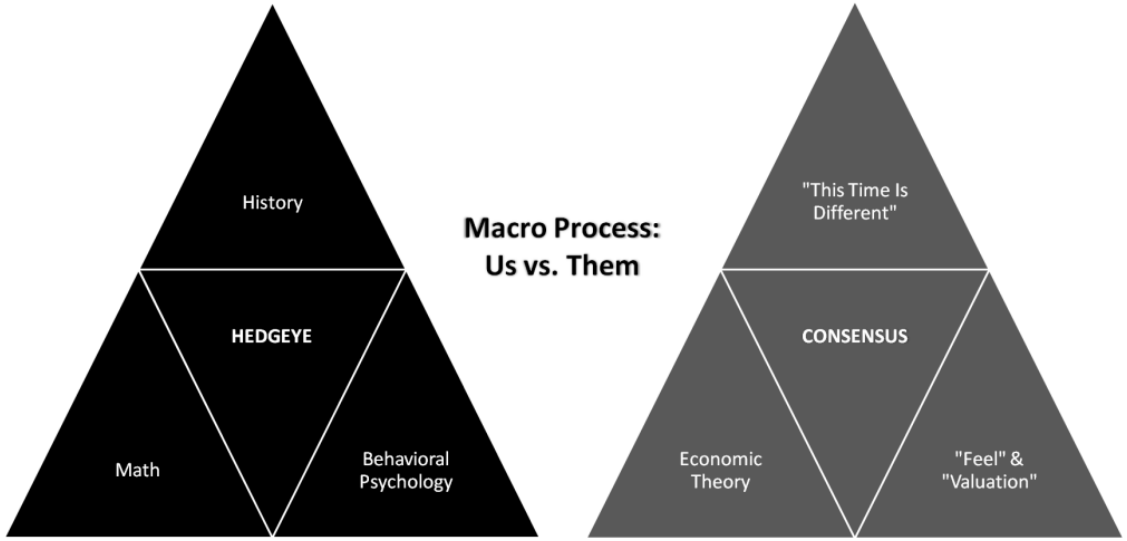

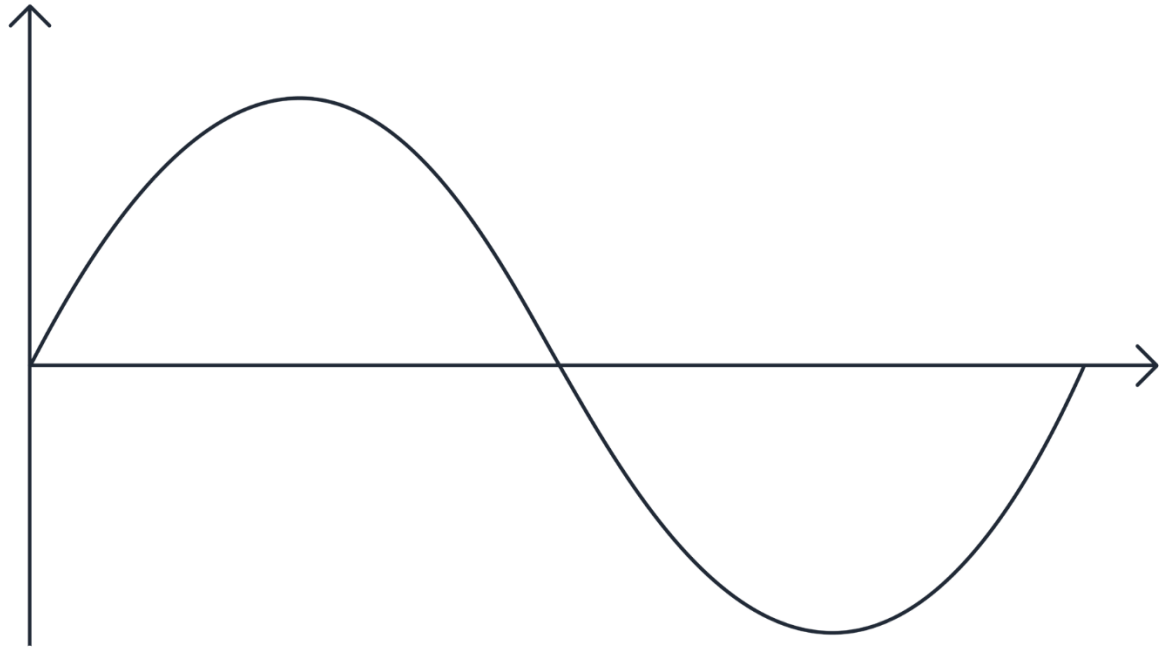

WE ARE DIFFERENTIATED FROM THE HERD

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?

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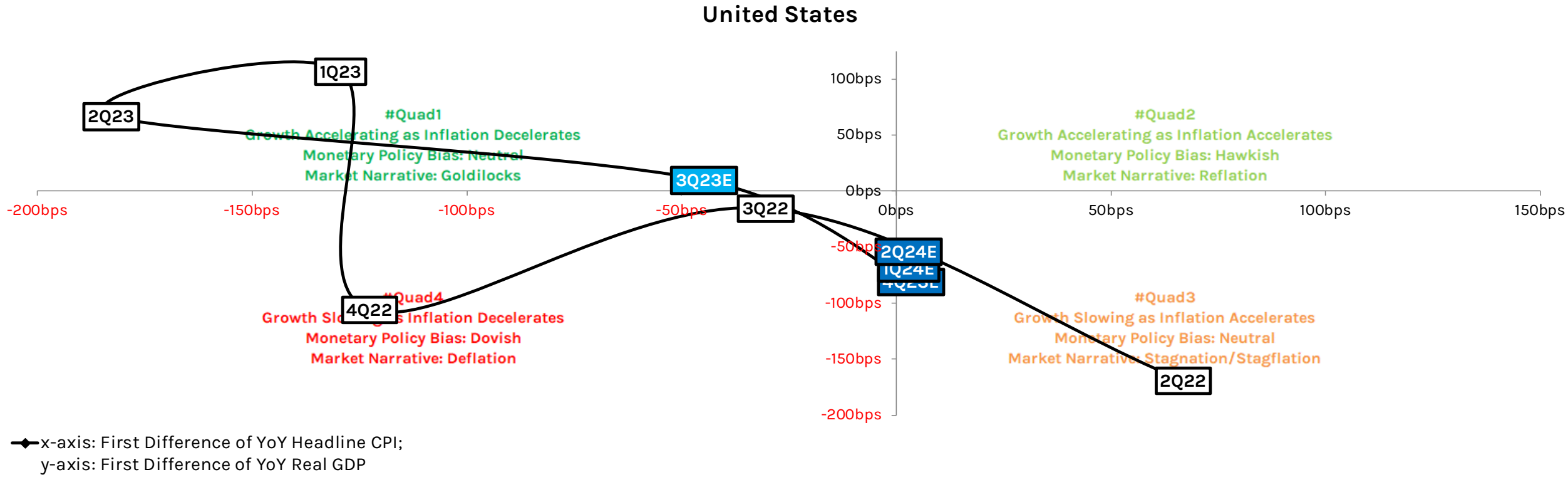
Our GIP Model is a quantitatively oriented, regime-based framework that helps investors proactively prepare for volatility phase transitions within and across asset classes by triangulating the three factors that matter most to Macro Risk Management – i.e. GROWTH, INFLATION, and POLICY.

United States	3Q20	4Q20	1Q21	2Q21	3Q21	4Q21	1Q22	2Q22	3Q22	4Q22	1Q23	2Q23	← Actuals | Estimates →	3Q23E	4Q23E	1Q24E	2Q24E
Real GDP QoQ SAAR	34.80%	4.20%	5.20%	6.20%	3.30%	7.00%	-2.00%	-0.60%	2.70%	2.60%	2.20%	2.10%	Real GDP QoQ SAAR	3.04%	-0.64%	-0.52%	-0.11%
Real GDP YoY	-1.47%	-1.08%	1.57%	11.95%	4.74%	5.42%	3.57%	1.87%	1.71%	0.65%	1.72%	2.38%	Real GDP YoY	2.48%	1.67%	0.98%	0.43%
2yr Comparative Base Effects	2.90%	2.65%	1.54%	-2.69%	0.60%	1.05%	1.40%	2.21%	1.63%	2.17%	2.57%	6.91%	2yr Comparative Base Effects	3.22%	3.04%	2.64%	2.13%
Headline CPI YoY	1.22%	1.24%	1.90%	4.85%	5.34%	6.69%	7.96%	8.63%	8.33%	7.10%	5.81%	3.98%	Headline CPI YoY	3.53%	3.57%	3.60%	3.63%
2yr Comparative Base Effects	2.20%	2.12%	1.88%	1.09%	1.49%	1.64%	2.01%	2.61%	3.28%	3.96%	4.93%	6.74%	2yr Comparative Base Effects	6.83%	6.90%	6.89%	6.31%



x-axis: First Difference of YoY Headline CPI;
y-axis: First Difference of YoY Real GDP

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

Quarterly Expected Values By GIP Model Quad Regime

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Hedgeye Macro US GIP Model Backtest	EV by Quadrant				Shallow GDP Δ				Deep GDP Δ				Fed Easing				Fed On Hold				Fed Tightening				Quad 1 Prior				Quad 2 Prior				Quad 3 Prior				Quad 4 Prior				China Quad			
Exposure	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	11	12	13	14	21	22	23	24	31	32	33	34	41	42	43	44	1	2	3	4
S&P 500 INDEX (SPY)	6.0%	4.4%	-0.1%	-1.8%	1.6%	4.1%	2.0%	5.2%	9.0%	3.4%	-4.8%	-11.4%	8.6%	7.7%	0.6%	-6.7%	3.4%	1.5%	-2.8%	-0.6%	5.0%	2.9%	3.8%	1.8%	10.0%	6.1%	0.4%	1.2%	2.9%	6.7%	2.0%	-5.9%	3.1%	-0.6%	-3.2%	-3.6%	8.6%	3.9%	5.7%	-0.6%	3.2%	4.3%	-1.7%	1.6%
Communication Services (XLC)	6.2%	0.7%	-1.1%	-0.3%	4.3%	1.6%	3.4%	8.2%	6.4%	-1.5%	-7.0%	-10.5%	9.3%	4.9%	1.2%	-5.0%	2.4%	-2.6%	-5.0%	3.2%	5.0%	-1.8%	3.2%	2.1%	11.4%	3.1%	-1.8%	4.5%	4.0%	4.2%	1.9%	-3.5%	3.0%	-6.0%	-3.2%	0.6%	7.5%	-5.6%	3.9%	-1.9%	2.5%	2.8%	-1.5%	0.9%
Consumer Cyclical (XLY)	7.3%	4.5%	-0.5%	-0.6%	0.4%	4.5%	1.1%	5.8%	13.5%	3.7%	-5.8%	-10.6%	10.1%	7.4%	-1.0%	-3.7%	5.4%	0.7%	-1.6%	-0.7%	5.0%	4.6%	2.5%	2.1%	13.7%	6.6%	1.0%	1.7%	1.7%	7.9%	-1.2%	-5.6%	1.7%	-2.4%	-3.1%	-3.8%	12.3%	2.9%	6.0%	2.1%	4.2%	4.6%	-1.8%	2.4%
Consumer Non-Cyclical (XLP)	4.7%	2.1%	0.4%	0.9%	0.7%	-2.3%	1.5%	6.7%	7.1%	4.9%	-0.3%	-2.3%	6.9%	4.9%	0.8%	-3.3%	3.7%	-0.9%	0.2%	8.6%	3.7%	1.3%	0.2%	0.8%	8.9%	3.3%	0.4%	3.5%	3.1%	2.0%	-1.5%	-3.5%	1.4%	1.9%	0.3%	2.3%	5.9%	-2.6%	4.9%	0.0%	1.7%	3.1%	0.9%	1.9%
Energy (XLE)	5.7%	5.2%	2.4%	-4.7%	2.5%	3.2%	5.5%	2.4%	6.8%	3.3%	-2.1%	-18.1%	6.3%	11.9%	8.2%	-13.1%	3.1%	2.6%	-4.3%	1.2%	8.9%	-1.6%	6.7%	-0.2%	4.5%	0.7%	3.3%	-4.9%	2.4%	10.2%	8.1%	-24.9%	3.8%	2.8%	-2.3%	-1.0%	10.4%	2.3%	6.7%	-2.3%	7.7%	4.6%	-3.7%	1.1%
Financials (XLF)	5.6%	4.3%	-0.7%	-2.3%	-0.4%	0.9%	-0.7%	3.1%	10.2%	2.8%	-1.5%	-14.4%	8.1%	8.4%	-1.9%	-9.9%	3.6%	4.1%	-1.6%	1.4%	4.0%	-1.5%	3.1%	2.5%	12.1%	4.0%	0.5%	1.6%	1.4%	10.3%	6.2%	-13.8%	0.6%	-4.4%	-6.7%	-2.7%	8.6%	4.6%	5.5%	-0.6%	1.7%	5.0%	-3.9%	1.8%
Health Care (XLV)	5.4%	4.0%	0.0%	0.7%	3.1%	1.9%	-0.5%	7.3%	6.2%	5.7%	-2.1%	-4.6%	7.6%	7.7%	1.3%	-4.1%	3.5%	-0.7%	-1.1%	7.3%	4.0%	3.8%	0.1%	1.7%	7.2%	5.9%	0.5%	4.5%	2.7%	2.7%	2.0%	0.9%	4.8%	4.4%	-2.1%	1.9%	6.9%	0.9%	2.7%	-1.6%	1.8%	3.7%	-0.7%	3.5%
Industrials (XLI)	6.2%	4.8%	-0.2%	-2.0%	1.1%	1.6%	2.1%	6.4%	8.6%	4.5%	-4.4%	-11.5%	9.0%	8.6%	0.4%	-6.5%	2.9%	2.6%	-3.2%	-0.7%	5.5%	1.8%	5.1%	1.2%	9.1%	6.8%	0.4%	0.0%	4.2%	6.9%	1.9%	-8.5%	3.1%	-0.2%	-3.1%	-3.0%	8.3%	4.1%	5.3%	-0.4%	2.8%	5.7%	-1.9%	0.6%
Information Technology (XLK)	7.6%	7.5%	0.5%	-2.7%	2.7%	12.4%	4.4%	4.9%	12.4%	3.8%	-6.9%	-15.2%	12.0%	9.1%	1.1%	-6.4%	2.9%	3.9%	-2.8%	-8.6%	5.0%	9.0%	6.3%	3.5%	13.8%	10.5%	-0.5%	0.1%	5.0%	9.3%	4.6%	-1.6%	3.3%	0.7%	-2.6%	-10.4%	10.0%	12.9%	8.5%	1.7%	4.1%	5.2%	-0.7%	3.1%
Materials (XLB)	6.3%	4.0%	-0.2%	-0.7%	1.0%	2.2%	5.0%	1.7%	10.2%	2.7%	-7.9%	-7.2%	6.9%	8.5%	3.3%	-7.6%	5.5%	1.7%	-5.1%	5.4%	7.2%	-0.2%	3.9%	2.2%	5.7%	8.3%	2.8%	-5.2%	4.7%	5.8%	-1.2%	-12.9%	2.0%	-3.0%	-4.0%	1.6%	11.8%	3.7%	5.6%	2.2%	6.8%	4.7%	-2.2%	-0.2%
REITS (XLRE)	5.1%	3.2%	-2.1%	-2.1%	2.6%	0.0%	2.3%	7.2%	12.7%	8.6%	-5.8%	-16.1%	9.6%	8.3%	-3.2%	-24.9%	1.4%	-1.0%	-2.3%	5.8%	-	0.2%	0.8%	2.8%	-	0.2%	-9.5%	-	-	3.5%	-1.5%	-12.7%	2.6%	14.9%	-1.5%	5.8%	12.7%	-1.8%	0.8%	4.4%	5.4%	2.6%	-4.9%	0.7%
Utilities (XLU)	3.9%	0.5%	3.0%	0.1%	4.6%	-1.0%	4.2%	8.0%	1.5%	1.6%	4.0%	-5.0%	5.5%	3.8%	3.1%	-6.5%	3.1%	-3.7%	1.1%	5.9%	2.2%	0.4%	6.6%	3.1%	3.1%	2.8%	-0.1%	9.7%	1.0%	0.1%	9.7%	-5.6%	8.1%	-0.2%	1.3%	1.2%	2.5%	-5.9%	7.6%	-2.8%	3.2%	3.3%	1.2%	0.7%
Growth (IWF)	6.4%	5.8%	-0.4%	-2.5%	1.5%	7.5%	1.9%	5.3%	10.4%	4.2%	-6.4%	-13.1%	9.5%	8.0%	0.7%	-7.0%	3.3%	2.2%	-3.4%	-5.2%	4.8%	6.5%	3.8%	2.7%	11.5%	8.3%	0.2%	1.1%	3.0%	7.8%	1.7%	-2.5%	2.6%	0.4%	-3.6%	-7.0%	9.2%	4.6%	5.9%	-0.5%	2.9%	4.8%	-1.5%	1.6%
Value (IWD)	5.9%	3.2%	0.2%	-1.4%	1.7%	0.8%	2.1%	5.0%	8.3%	2.5%	-3.1%	-10.4%	7.9%	7.5%	0.8%	-6.9%	3.8%	1.0%	-2.5%	3.1%	5.6%	-0.9%	4.5%	1.3%	8.8%	4.4%	0.5%	1.5%	2.5%	6.1%	3.2%	-10.5%	2.8%	-2.6%	-3.1%	-0.8%	8.5%	3.5%	6.0%	-0.6%	3.8%	4.2%	-2.4%	1.4%
Cyclicals (RSP)	7.0%	5.4%	-0.2%	-3.4%	1.6%	6.0%	2.4%	4.1%	12.1%	2.9%	-6.4%	-16.4%	10.0%	9.1%	1.5%	-9.1%	3.6%	2.3%	-4.3%	-4.6%	6.1%	3.4%	5.2%	2.4%	12.2%	7.3%	0.8%	0.5%	2.7%	9.1%	3.7%	-8.6%	2.9%	-2.6%	-4.9%	-7.1%	10.7%	7.6%	7.0%	-0.7%	4.1%	5.2%	-3.2%	1.4%
Defensives (DEF)	5.4%	3.7%	0.0%	-0.5%	2.3%	2.7%	1.5%	6.1%	7.1%	3.8%	-3.4%	-7.6%	7.6%	6.4%	0.1%	-4.7%	3.4%	0.8%	-1.7%	2.1%	4.5%	2.9%	3.1%	1.9%	8.4%	5.4%	0.0%	1.9%	2.7%	4.9%	1.1%	-4.2%	3.7%	0.7%	-1.9%	-1.1%	7.2%	0.6%	5.0%	0.0%	2.6%	3.8%	-0.5%	1.7%
High Beta (SPHB)	8.4%	7.9%	-0.9%	-4.6%	1.5%	7.8%	2.2%	3.3%	14.1%	4.2%	-7.7%	-20.3%	13.7%	13.6%	1.6%	-10.7%	2.7%	3.6%	-6.8%	-9.0%	4.5%	4.3%	6.9%	2.9%	13.0%	7.2%	-0.8%	-2.1%	2.9%	15.2%	7.0%	-15.6%	3.8%	-3.2%	-8.1%	-11.5%	13.3%	12.2%	11.3%	2.4%	4.2%	6.8%	-4.4%	1.8%
Low Beta (SPLV)	4.6%	2.2%	1.0%	1.5%	3.1%	-1.0%	2.1%	7.7%	5.3%	4.4%	0.4%	-4.0%	5.6%	5.3%	0.5%	-2.7%	4.4%	-0.3%	0.1%	7.2%	3.1%	0.6%	3.6%	2.3%	5.9%	4.2%	-0.5%	4.8%	2.2%	2.4%	2.2%	-7.0%	4.2%	0.8%	0.8%	2.2%	5.6%	-2.5%	4.9%	1.8%	3.6%	3.3%	0.4%	1.6%
Momentum (MTUM)	7.0%	5.0%	0.7%	-3.7%	2.8%	7.7%	3.2%	6.2%	10.5%	3.6%	-5.5%	-14.3%	9.0%	6.2%	0.9%	-8.1%	5.3%	1.3%	-2.0%	-5.2%	7.1%	7.6%	5.5%	1.0%	13.3%	6.3%	1.8%	1.2%	3.6%	8.1%	1.7%	-2.0%	3.7%	-0.7%	-2.7%	-7.3%	9.0%	3.5%	7.9%	-3.2%	3.7%	4.2%	-1.3%	2.3%
Quality (QUAL)	6.4%	4.6%	0.2%	-0.3%	3.1%	2.8%	2.3%	6.3%	9.1%	4.9%	-4.1%	-8.2%	9.0%	7.5%	1.2%	-4.7%	3.9%	1.7%	-2.3%	2.5%	5.7%	3.7%	3.6%	2.2%	9.6%	6.0%	0.8%	1.4%	3.8%	5.9%	1.8%	-3.9%	4.7%	1.8%	-2.5%	-1.6%	8.2%	1.8%	5.8%	0.9%	3.3%	4.8%	-0.3%	1.9%
Dividend Yield (SDY)	6.2%	3.1%	0.1%	1.2%	1.8%	0.1%	1.5%	6.8%	9.2%	3.7%	-1.8%	-5.1%	8.2%	7.4%	0.0%	-2.9%	4.6%	0.6%	-1.0%	6.6%	5.4%	-0.5%	2.4%	2.1%	9.0%	5.2%	-0.2%	2.8%	2.4%	4.8%	0.2%	-7.7%	3.8%	-1.2%	-0.8%	2.2%	9.2%	0.5%	4.3%	2.2%	3.8%	4.0%	-0.3%	2.1%
Size (OEF)	6.0%	4.6%	-0.2%	-2.0%	1.2%	5.2%	1.9%	5.1%	8.6%	3.4%	-5.0%	-10.6%	8.8%	7.4%	0.2%	-6.5%	3.0%	1.8%	-2.5%	-0.4%	5.1%	3.8%	3.8%	1.1%	10.0%	6.2%	0.4%	0.5%	3.2%	6.8%	1.9%	-4.2%	2.7%	0.0%	-3.0%	-3.6%	8.4%	3.9%	4.8%	-1.2%	2.8%	4.2%	-1.4%	1.8%
Secular Growth (QQQ)	6.3%	7.8%	0.3%	-2.9%	3.1%	14.7%	3.1%	4.9%	9.2%	3.2%	-6.4%	-13.8%	10.9%	9.2%	1.0%	-6.7%	0.7%	3.0%	-4.5%	-8.8%	5.1%	11.3%	7.5%	3.4%	9.5%	10.0%	-2.2%	0.3%	5.5%	11.5%	6.0%	-0.8%	2.8%	-0.4%	-2.8%	-9.7%	8.4%	10.7%	8.8%	0.6%	3.9%	5.3%	-0.4%	1.5%
Mid-Caps (MDY)	7.0%	5.2%	0.5%	-1.8%	2.1%	3.8%	2.5%	4.8%	12.7%	3.6%	-3.7%	-12.6%	8.9%	9.2%	2.0%	-6.4%	5.1%	2.4%	-3.6%	-1.5%	6.5%	2.3%	6.4%	2.1%	12.2%	5.8%	0.2%	1.9%	1.4%	9.4%	4.7%	-12.9%	3.3%	-1.7%	-2.8%	-4.2%	10.9%	4.1%	6.7%	1.4%	5.5%	6.0%	-2.3%	0.9%
Small-Caps (IWM)	6.2%	5.7%	-0.7%	-2.0%	1.7%	5.9%	1.6%	5.6%	10.8%	2.3%	-5.8%	-13.9%	7.6%	9.5%	0.5%	-5.6%	5.1%	2.7%	-4.8%	-1.5%	5.4%	3.5%	5.6%	0.8%	9.9%	7.3%	-0.5%	3.5%	0.6%	10.6%	0.8%	-13.5%	2.1%	-3.8%	-3.5%	-5.1%	11.4%	9.0%	7.0%	1.0%	6.0%	4.6%	-2.9%	0.8%
BARCLAYS AGG (AGG)	1.2%	0.4%	0.6%	2.3%	1.4%	0.0%	0.8%	1.8%	1.6%	0.9%	0.1%	2.8%	1.5%	0.4%	0.3%	2.5%	1.6%	0.4%	0.9%	3.1%	0.4%	0.2%	0.3%	1.7%	0.7%	0.4%	0.6%	2.3%	1.3%	-0.4%	0.3%	1.6%	1.3%	1.4%	0.6%	3.1%	1.5%	0.5%	1.1%	1.8%	0.9%	1.0%	1.2%	1.0%
Leveraged Loans (BKLN)	2.1%	1.8%	0.4%	0.5%	1.4%	1.1%	1.5%	1.8%	3.7%	2.0%	-1.0%	-7.5%	2.6%	2.3%	0.9%	-4.6%	1.3%	1.4%	-0.5%	1.5%	2.3%	1.6%	1.5%	4.4%	1.9%	2.3%	1.2%	0.3%	0.2%	2.1%	0.9%	-5.6%	1.5%	0.7%	-0.9%	-2.6%	4.1%	3.1%	1.7%	4.4%	2.3%	1.7%	-0.6%	1.0%
BDCs (BIZD)	5.7%	6.5%	-1.5%	-0.8%	4.3%	1.3%	-2.3%	5.1%	12.8%	10.5%	-3.1%	-32.4%	7.5%	10.6%	-1.8%	-29.4%	1.3%	1.7%	-2.5%	5.4%	6.6%	2.4%	2.3%	8.8%	8.7%	3.8%	-0.5%	4.1%	-3.6%	9.7%	4.3%	-20.2%	2.7%	2.0%	-5.2%	-5.9%	13.9%	8.5%	4.2%	10.3%	7.9%	5.4%	-6.9%	2.9%
Preferreds (PFF)	1.8%	3.0%	-0.5%	-0.9%	1.5%	1.6%	-0.3%	1.5%	3.5%	4.2%	-2.1%	-14.8%	2.8%	3.3%	0.6%	-11.1%	0.9%	2.0%	-1.8%	2.2%	1.3%	4.0%	-0.3%	1.7%	1.7%	3.4%	-0.4%	1.3%	0.6%	3.6%	2.4%	-10.6%	1.5%	0.0%	-2.0%	-0.5%	3.4%	4.7%	0.7%	1.7%	5.7%	0.9%	-1.9%	0.1%
IG Credit (LQD)	1.9%	0.6%	0.2%	2.5%	1.7%	0.0%	0.8%	2.7%	3.0%	1.2%	-0.9%	1.1%	2.4%	1.1%	0.3%	1.8%	1.8%	0.6%	0.3%	3.5%	1.1%	0.0%	0.1%	2.6%	1.4%	0.9%	0.4%	2.6%	1.3%	-0.1%	0.2%	-1.1%	1.7%	1.4%	-0.2%	3.3%	2.9%	1.2%	1.5%	2.7%	1.5%	1.3%	0.9%	1.1%
HY Credit (HYG)	3.1%	2.0%	0.1%	1.2%	1.2%	0.8%	1.3%	3.2%	5.2%	2.3%	-2.4%	-8.5%	3.6%	3.2%	1.3%	-3.7%	2.8%	1.4%	-1.3%	1.5%	2.7%	1.0%	0.8%	5.3%	3.0%	3.4%	0.6%	1.2%	1.6%	2.1%	0.6%	-5.1%	1.7%	0.0%	-1.4%	-1.3%	5.4%	5.6%	2.7%	4.7%	2.4%	2.7%	-1.1%	1.4%
Convertibles (CWB)	5.1%	5.6%	-0.9%	-0.2%	3.8%	4.4%	1.8%	3.0%	9.6%	4.9%	-5.3%	-14.1%	7.1%	6.6%	0.7%	-10.7%	3.1%	3.6%	-4.6%	1.0%	3.9%	6.6%	2.6%	3.2%	6.5%	7.1%	1.9%	-0.6%	1.6%	5.3%	-0.4%	-5.6%	2.8%	2.7%	-5.0%	-2.7%	10.1%	7.1%	4.6%	5.8%	8.1%	3.6%	-1.6%	0.8%
EM USD Debt (EMB)	2.6%	1.5%	1.0%	1.9%	-1.6%	2.0%	2.6%	2.3%	6.6%	1.4%	-1.7%	-2.7%	2.1%	2.1%	1.4%	-2.7%	3.5%	0.5%	-0.2%	3.4%	3.4%	1.7%	2.6%	5.1%	4.7%	2.1%	-0.2%	1.9%	1.7%	1.5%	3.0%	-3.9%	-1.5%	0.5%	0.2%	2.3%	5.8%	3.1%	4.3%	3.0%	1.1%	3.1%	0.5%	1.2%
EM Local Currency Debt (EMLC)	1.2%	1.5%	0.0%	-0.6%	1.2%	0.4%	6.3%	-0.2%	2.7%	2.1%	-3.5%	-3.5%	0.4%	2.9%	1.4%	-5.8%	-1.4%	0.1%	-1.8%	0.5%	5.6%	-1.2%	3.4%	2.0%	3.7%	2.8%	1.3%	-2.6%	-2.7%	0.0%	1.2%	-3.9%	0.5%	2.9%	-1.6%	-1.7%	3.8%	3.1%	3.4%	2.6%	2.0%	2.6%	-1.6%	-0.4%
1-3yr Treasurys (SHY)	0.6%	0.4%	0.6%	1.3%	0.7%	0.4%	0.6%	0.4%	0.4%	0.5%	0.3%	2.1%	0.8%	0.1%	0.3%	2.0%	0.7%	0.4%	0.8%	1.4%	0.1%	0.6%	0.4%	0.7%	0.4%	0.3%	0.7%	0.5%	0.8%	0.1%	0.4%	1.5%	0.5%	1.0%	0.5%	1.6%	0.6%	-0.1%	0.5%	1.3%	0.5%	0.7%	0.9%	0.6%
5-10yr Treasurys (IEF)	1.2%	0.0%	0.8%	2.8%	1.5%	-0.4%	0.5%	2.1%	1.1%	0.9%	1.0%	5.5%	1.4%	-0.2%	0.3%	4.2%	1.8%	0.3%	1.6%	4.0%	0.0%	0.0%	-0.1%	1.1%	0.5%	-0.4%	0.4%	3.5%	1.8%	-1.1%	0.2%	4.1%	1.7%	2.0%	1.5%	4.6%	0.8%	-0.4%	0.7%	0.9%	0.6%	0.8%	2.3%	1.0%
10-20yr Treasurys (TLT)	1.5%	-0.6%	0.9%	4.0%	1.6%	-1.1%	0.7%	3.7%	1.4%	0.7%	1.1%	8.0%	1.8%	-1.1%	-0.1%	5.7%	2.4%	0.0%	1.8%	6.1%	-0.6%	-0.5%	0.3%	1.5%	0.3%	-1.5%	0.1%	6.4%	2.4%	-2.1%	0.3%	6.9%	2.4%	2.6%	1.7%	6.4%	0.8%	-0.7%	1.3%	0.6%	0.2%	0.6%	3.2%	1.4%
25+ Year Treasurys (EDV)	1.7%	-1.1%	1.1%	5.4%	1.7%	-1.7%	0.5%	6.0%	1.6%	0.5%	2.5%	12.9%	2.2%	-1.8%	-0.3%	9.7%	3.4%	-0.2%	2.5%	8.6%	-2.0%	-1.0%	0.3%	0.1%	-0.6%	-3.0%	-0.7%	10.3%	3.8%	-2.9%	0.4%	9.8%	3.2%	3.4%	2.9%	10.5%	0.4%	-0.1%	1.5%	-1.3%	0.2%	0.1%	4.6%	2.1%
0-5yr TIPS (STIP)	0.6%	0.9%	0.9%	0.4%	0.5%	0.6%	1.2%	0.2%	1.2%	1.4%	0.0%	-2.0%	0.7%	1.2%	1.4%	-2.5%	0.6%	0.4%	0.4%	0.7%	0.3%	0.8%	0.8%	1.4%	0.8%	1.1%	1.0%	-0.1%	0.4%	0.7%	0.6%	-0.3%	0.2%	1.1%	0.9%	-0.2%	1.0%	0.3%	1.2%	1.9%	1.0%	1.1%	0.8%	0.1%
5-10yr TIPS (TIP)	0.9%	1.3%	1.2%	1.4%	0.5%	0.4%	1.8%	1.4%	2.6%	2.4%	-0.3%	-1.0%	0.6%	1.6%	1.8%	-1.2%	1.7%	1.0%	0.8%	2.7%	0.5%	1.0%	0.7%	1.9%	0.3%	1.5%	1.3%	1.9%	0.8%	0.3%	0.1%	0.3%	0.7%	3.2%	1.2%	0.8%	1.7%	0.8%	1.8%	2.5%	1.7%	1.5%	1.4%	0.3%
MBS (MBB)	0.9%	0.5%	0.7%	2.1%	1.0%	0.3%	0.9%	1.2%	1.3%	0.9%	0.3%	2.8%	0.8%	0.6%	0.5%	2.4%	1.5%	0.3%	1.1%	2.4%	0.3%	0.5%	0.4%	1.6%	0.4%	0.6%	1.0%	1.7%	1.2%	-0.2%	0.3%	1.4%	0.8%	1.2%	0.7%	2.7%	1.2%	0.6%	1.0%	1.9%	0.9%	1.0%	0.9%	1.1%
Munis (MUB)	1.5%	0.5%	0.5%	2.0%	1.4%	0.1%	0.7%	1.7%	2.2%	1.2%	0.0%	1.4%	1.7%	0.8%	-0.1%	0.9%	1.4%	0.3%	1.0%	3.1%	1.3%	0.2%	0.3%	2.3%	0.9%	0.3%	0.4%	2.1%	1.4%	0.0%	0.1%	-0.4%	1.4%	1.4%	0.5%	2.6%	2.1%	-0.3%	1.1%	2.0%	1.4%	0.8%	1.0%	1.0%
Taxable Munis (BAB)	1.9%	0.1%	1.0%	2.2%	1.8%	0.0%	1.8%	3.1%	4.4%	1.0%	0.9%	-0.7%	1.8%	0.5%	0.6%	-0.1%	2.6%	-0.5%	1.3%	4.7%	2.6%	0.2%	1.6%	2.1%	0.7%	-0.5%	0.3%	3.5%	2.2%	0.1%	-2.1%	0.4%	1.6%	1.2%	2.0%	1.9%	3.6%	0.5%	4.5%	2.7%	1.4%	0.8%	1.6%	1.3%
CRB Index (DBC)	1.3%	5.5%	2.6%	-5.3%	1.0%	5.2%	4.3%	-1.1%	1.9%	6.6%	-0.5%	-16.1%	-0.7%	6.4%	9.1%	-15.6%	1.7%	3.6%	-3.2%	-0.6%	6.1%	6.4%	3.8%	1.3%	0.8%	6.2%	4.1%	-9.9%	0.0%	5.7%	8.6%	-18.2%	0.5%	6.0%	-1.9%	-2.8%	3.7%	-3.2%	2.6%	-2.2%	4.4%	3.5%	0.0%	-2.2%
CRB Raw Index	1.1%	4.1%	-0.1%	-1.4%	1.1%	1.7%	0.7%	-2.4%	1.2%	5.4%	-2.5%	-6.4%	-1.1%	5.9%	2.5%	-7.4%	1.6%	2.9%	-1.6%	-1.1%	5.2%	2.7%	-1.4%	3.6%	1.8%	5.8%	1.6%	-4.2%	1.4%	4.8%	2.0%	-6.8%	-1.3%	1.6%	-2.3%	-1.8%	2.8%	2.3%	-2.4%	1.2%	1.8%	3.2%	-1.3%	-1.1%
CRB Foodstuffs Index (DBA)	-0.2%	3.8%	2.1%	-1.6%	1.4%	-1.1%	2.1%	-1.6%	-2.7%	8.3%	0.8%	-4.8%	-4.2%	7.1%	6.5%	-4.6%	3.0%	0.7%	-0.8%	1.9%	4.3%	2.3%	1.2%	-0.7%	5.5%	5.0%	3.6%	-4.6%	-2.3%	4.3%	3.0%	-6.5%	-1.9%	4.0%	0.9%	-3.3%	-0.7%	-9.0%	-0.3%	2.1%	3.1%	1.1%	2.5%	-0.8%
Bloomberg Energy Index (BNO)	5.4%	11.7%	6.1%	-9.5%	1.6%	8.2%	13.1%	-1.7%	13.2%	16.7%	-2.6%	-36.2%	4.5%	9.3%	12.5%	-30.7%	2.8%	7.8%	-1.2%	-3.7%	11.9%	20.0%	10.4%	6.1%	-0.2%	9.2%	11.4%	-18.9%	-2.5%	11.5%	4.7%	-32.4%	2.5%	16.8%	1.9%	-6.9%	16.7%	-0.8%	6.5%	-2.3%	15.4%	6.2%	-2.1%	-1.0%
Bloomberg Precious Metals Index (DBP)	2.7%	4.7%	0.4%	0.6%	4.6%	4.7%	2.9%	-0.5%	4.7%	6.3%	-6.1%	2.1%	-0.5%	6.0%	4.0%	-5.6%	4.5%	1.6%	-3.5%	1.4%	7.5%	6.2%	2.3%	5.5%	3.7%	8.5%	1.6%	-3.9%	0.7%	1.5%	3.4%	-0.3%	0.0%	6.0%	-3.2%	4.3%	6.4%	2.6%	4.0%	-0.3%	1.0%	5.1%	1.9%	-1.2%
Silver (SLV)	5.8%	2.6%	-1.0%	1.1%	9.9%	0.5%	1.8%	-2.5%	11.4%	5.0%	-8.9%	-5.3%	-0.5%	5.0%	6.1%	-4.8%	9.4%	-2.0%	-5.2%	1.0%	15.5%	4.3%	-3.7%	6.2%	5.8%	9.5%	-0.5%	-7.7%	0.8%	-0.8%	0.2%	-15.4%	-1.7%	0.9%	-2.8%	8.5%	17.1%	2.5%	2.0%	2.9%	6.1%	3.1%	0.4%	-0.7%
Bitcoin (GBTC)	29.7%	48.2%	31.3%	-7.7%	25.8%	-2.9%	95.6%	11.3%	41.1%	21.4%	-11.6%	-26.7%	6.7%	45.3%	12.2%	-9.5%	132.9%	151.7%	-23.1%	-	-	-16.0%	178.4%	-7.1%	-	23.5%	-	-	-	67.4%	12.4%	0.9%	25.8%	6.7%	-59.1%	-	41.1%	-	178.4%	-16.3%	55.2%	59.6%	2.7%	24.9%
WTI Crude Oil (USO)	6.0%	11.0%	4.2%	-7.3%	2.4%	13.1%	9.9%	-0.4%	11.9%	10.1%	-2.3%	-34.7%	8.3%	12.0%	11.1%	-27.4%	1.3%	8.2%	-1.8%	-4.9%	9.2%	12.7%	5.2%	9.2%	-1.2%	7.1%	10.4%	-19.0%	0.0%	14.1%	5.3%	-33.8%	5.8%	12.1%	-1.1%	-5.3%	14.7%	-0.2%	0.7%	2.3%	14.3%	4.9%	-0.2%	-0.7%
Natural Gas (UNG)	1.9%	5.1%	8.4%	-3.9%	-0.8%	-1.3%	8.7%	9.1%	6.3%	10.6%	8.0%	-0.3%	1.9%	-1.4%	20.1%	-25.6%	10.1%	4.2%	-4.4%	40.7%	-10.9%	15.9%	15.8%	-7.2%	-16.1%	6.9%	4.1%	-1.9%	12.0%	2.6%	26.0%	-11.1%	2.4%	7.9%	-0.6%	16.1%	7.2%	-0.6%	25.5%	-17.9%	6.4%	5.3%	2.7%	0.6%
Iron Ore	-11.8%	6.6%	1.1%	3.9%	-27.3%	-2.6%	26.2%	4.6%	9.5%	6.7%	-5.8%	2.5%	-4.4%	2.0%	-8.1%	-7.9%	-17.5%	15.6%	-2.7%	1.0%	-	3.7%	51.7%	12.8%	-	7.4%	-11.0%	-13.9%	-12.7%	11.1%	-1.7%	7.1%	-27.3%	-7.3%	-3.3%	1.0%	9.5%	-0.1%	51.7%	11.1%	1.3%	19.5%	-0.1%	-7.1%
Copper (CPER)	5.0%	6.8%	-0.2%	-1.4%	2.5%	3.4%	3.9%	-1.5%	9.0%	7.0%	-7.5%	-18.8%	2.7%	10.4%	2.0%	-14.4%	5.0%	5.9%	-5.7%	-4.2%	11.2%	2.6%	7.3%	11.4%	9.3%	11.1%	1.1%	-3.8%	2.5%	6.9%	3.2%	-12.6%	0.3%	3.5%	-3.8%	-4.2%	9.1%	0.7%	2.5%	4.4%	5.8%	6.8%	-3.6%	-0.4%
US Dollar Index (UUP)	-0.5%	-0.1%	-0.1%	1.5%	-1.2%	-0.6%	-1.9%	2.4%	0.1%	0.6%	3.2%	0.9%	-0.4%	-0.1%	-1.1%	2.4%	0.7%	0.0%	1.0%	0.7%	-2.2%	-0.1%	-0.8%	1.0%	-2.2%	-2.2%	-1.2%	4.8%	0.4%	1.6%	1.3%	1.7%	-0.6%	-0.4%	0.8%	0.3%	0.0%	-0.7%	-2.7%	1.0%	-0.6%	-0.7%	-0.4%	1.9%
Gold (GLD)	2.0%	1.9%	2.1%	1.7%	3.0%	2.1%	4.6%	-0.6%	6.6%	3.5%	-0.4%	3.4%	-1.5%	2.5%	4.7%	0.9%	5.1%	0.5%	0.4%	-0.1%	5.2%	2.7%	1.5%	3.3%	-2.2%	6.6%	2.1%	-1.5%	3.1%	-2.5%	2.2%	-0.5%	-1.2%	4.3%	0.8%	3.5%	8.1%	-0.5%	7.2%	2.1%	1.1%	2.7%	3.5%	0.6%
EM FX (CEW)	0.1%	-0.4%	-0.6%	-2.4%	0.4%	-1.0%	1.3%	-3.0%	0.4%	-1.0%	-3.4%	-5.4%	-0.9%	0.6%	0.8%	-6.4%	0.2%	-0.5%	-2.4%	-1.4%	2.0%	-2.5%	0.4%	0.6%	2.3%	0.9%	-0.9%	-3.7%	-1.2%	-0.6%	0.7%	-8.3%	-0.9%	-1.8%	-2.0%	-1.7%	1.0%	-0.1%	2.9%	-0.9%	-0.3%	0.2%	-1.7%	-1.5%

Source: Hedgeye GIP Model Market History Backtests. Quarterly expected values since 1Q98.. Total Return indices. ETF exposures in ().

Highest/Lowest Expected Values By Quad Regime

HEDGEYE

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 Treasurys, 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

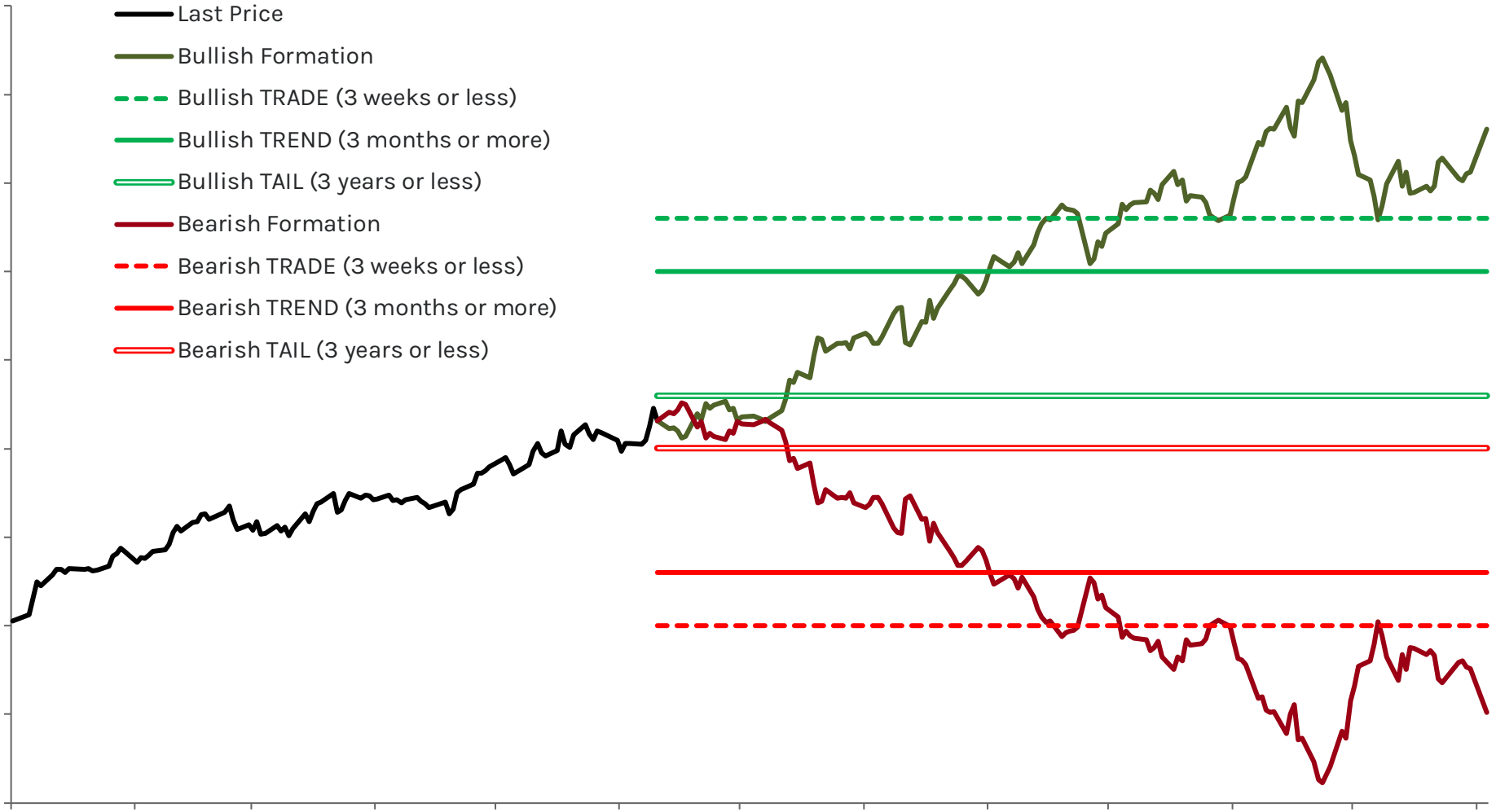
Worst Fixed Income Sectors:

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

Source: Hedgeye GIP Model Market History Backtests. Quarterly expected values since 1Q98. Total Return indices. ETF exposures in ().

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

HEDGEYE



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

HEDGEYE

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*

	FACTOR	1D % Chg	1W % Chg	1M % Chg	3M % Chg	6M % Chg	YTD % Chg
Debt	High Debt/EV	-0.3%	-5.5%	-11.1%	0.9%	-8.7%	-4.0%
	Low Debt/EV	0.4%	-3.3%	-8.1%	-0.1%	3.7%	10.3%
SI	High Short Interest	0.3%	-4.9%	-12.6%	0.3%	-7.7%	-0.6%
	Low Short Interest	-0.2%	-3.5%	-5.7%	2.6%	3.2%	5.5%
BETA	High Beta	0.5%	-5.2%	-13.4%	0.1%	-0.8%	12.8%
	Low Beta	-0.6%	-2.8%	-5.5%	-0.1%	-2.2%	-6.1%
YIELD	High Yield	-0.5%	-5.6%	-11.5%	-3.0%	-13.7%	-13.6%
	Low Yield	0.4%	-3.9%	-9.2%	0.7%	4.1%	14.9%
MKT CAP	MCAP Bottom 25%	0.0%	-5.1%	-12.9%	-1.2%	-11.3%	-6.5%
	MCAP Top 25%	-0.1%	-3.7%	-5.6%	3.7%	7.1%	11.2%
Sales	Top 25% Sales Growth	0.5%	-4.0%	-8.0%	2.7%	6.2%	15.9%
	Bottom 25% Sales Growth	-0.2%	-4.2%	-9.2%	2.0%	-9.5%	-8.2%
EPS	Top 25% EPS Growth	0.6%	-4.6%	-9.5%	2.3%	0.4%	8.7%
	Bottom 25% EPS Growth	-0.2%	-4.1%	-9.5%	1.2%	-8.3%	-5.1%

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 Max	3Y Min	Z-Score 1Y	Z-Score 3Y
EQUITIES	SPX (Index + E-mini)	(122,671)	(13,672)	(175,516)	(258,653)	(212,434)	248,601	(447,046)	*1.03X*	*-0.41X*
	VIX	(28,816)	10,526	(41,366)	(51,830)	(58,352)	(25,985)	(163,238)	*2.11X*	*1.68X*
	Russell 2000 (mini)	(64,008)	(522)	(66,827)	(61,896)	(64,265)	46,446	(120,386)	*0.02X*	*-0.49X*
	Dow Jones (mini)	(17,768)	(4,868)	(9,310)	(15,429)	(13,741)	9,207	(26,014)	*-0.57X*	*-0.82X*
	Nasdaq (mini)	6,176	(9,728)	9,993	9,948	3,101	43,383	(78,069)	*0.22X*	*0.02X*
	Nikkei Index	(414)	(928)	(1,940)	(3,092)	(2,636)	4,738	(9,401)	*0.97X*	*0.77X*
RATES	10Y UST	(716,151)	35,002	(747,841)	(734,692)	(567,404)	238,882	(870,838)	*-0.77X*	*-1.61X*
	2Y UST	(1,235,945)	1,079	(1,145,623)	(948,879)	(728,539)	86,786	(1,270,864)	*-1.71X*	*-2.64X*
	5Y UST	(1,099,350)	(3,514)	(1,145,036)	(1,044,735)	(819,461)	148,962	(1,295,331)	*-1.08X*	*-1.97X*
	UST Bonds	(195,309)	(4,250)	(174,381)	(136,577)	(138,463)	49,853	(241,003)	*-1.37X*	*-1.25X*
	30D Fed Funds	(210,532)	(25,578)	(178,613)	(153,875)	(102,653)	224,527	(320,917)	*-1.27X*	*-1.34X*
	Eurodollar	47,762	(6,488)	(195,197)	(504,715)	(698,808)	1,039,687	(1,411,302)	*1.85X*	*0.65X*
CURRENCIES	$USD	15,598	9,563	7,789	9,978	15,481	44,971	(15,000)	*0.01X*	*-0.11X*
	JPY	(107,879)	(4,114)	(101,189)	(90,461)	(74,031)	52,239	(122,968)	*-1.21X*	*-1.17X*
	EUR	100,578	(14,149)	155,040	163,854	150,283	198,934	(47,358)	*-1.24X*	*0.21X*
	GBP	28,980	(14,415)	50,213	27,585	(1,212)	66,045	(79,646)	*0.85X*	*1.13X*
	AUD	(98,824)	(17,790)	(59,309)	(52,788)	(44,602)	11,168	(98,824)	*-3.61X*	*-2.01X*
	CAD	(47,635)	(5,296)	(12,210)	(29,299)	(29,352)	50,344	(61,016)	*-1.09X*	*-1.73X*
	MXN	63,633	(3,215)	82,277	75,541	34,925	99,697	(64,080)	*0.53X*	*1.38X*
	NZD	(21,272)	(6,652)	(5,679)	(4,195)	(2,933)	17,126	(21,272)	*-2.42X*	*-2.45X*
	CHF	(7,963)	1,340	(6,071)	(4,841)	(6,649)	16,603	(20,171)	*-0.35X*	*-0.45X*
COMMODITIES	CRUDE OIL	371,081	11,350	270,201	253,317	260,086	594,465	170,119	*2.63X*	*-0.18X*
	GOLD	66,639	16,843	78,966	102,324	72,250	175,694	(41,300)	*-0.11X*	*-0.37X*
	COPPER	(16,930)	(3,809)	(9,734)	(12,902)	(7,792)	80,564	(35,712)	*-0.68X*	*-1.02X*
	Natural Gas	(94,229)	18,808	(103,448)	(116,273)	(140,082)	71,340	(182,100)	*1.63X*	*0.13X*
	RBOB Gasoline	49,389	(9,882)	55,179	51,372	52,304	87,991	27,945	*-0.41X*	*-0.17X*
	ULSD Heating Oil	43,514	6,040	31,862	21,445	20,234	43,514	(14,002)	*2.41X*	*2.33X*
	Silver	13,276	(3,483)	20,891	22,388	18,480	58,462	(12,811)	*-0.44X*	*-0.83X*
	Platinum	10,895	4,370	9,718	16,415	16,027	36,198	(8,246)	*-0.56X*	*-0.32X*
	Corn	(123,149)	(17,373)	(8,622)	(5,769)	107,428	557,581	(123,149)	*-1.66X*	*-2.41X*
	Soybeans	50,982	(25,599)	87,536	84,565	102,760	270,935	17,682	*-1.12X*	*-1.30X*
	Wheat	(72,019)	(7,493)	(48,513)	(68,260)	(52,614)	59,368	(107,489)	*-0.70X*	*-1.66X*
	Live Cattle	129,791	8,069	126,626	126,983	108,273	144,819	32,625	*0.83X*	*1.57X*
	Lean Hogs	40,561	1,638	30,754	5,441	13,668	101,947	(29,164)	*1.00X*	*-0.22X*
	Sugar	230,310	8,967	180,726	203,950	190,845	316,046	(9,197)	*0.70X*	*0.41X*
	Cotton	58,250	(813)	40,391	22,276	17,138	127,919	(13,367)	*2.10X*	*-0.06X*
	Coffee	(7,552)	12,847	(11,879)	7,369	3,146	72,005	(37,467)	*-0.50X*	*-1.51X*
	Cocoa	86,695	798	78,502	69,327	38,659	86,695	(32,129)	*1.37X*	*2.24X*
	Orange Juice	3,469	(5)	3,590	3,706	4,394	6,673	(2,109)	*-1.02X*	*0.25X*

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

HEDGEYE

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

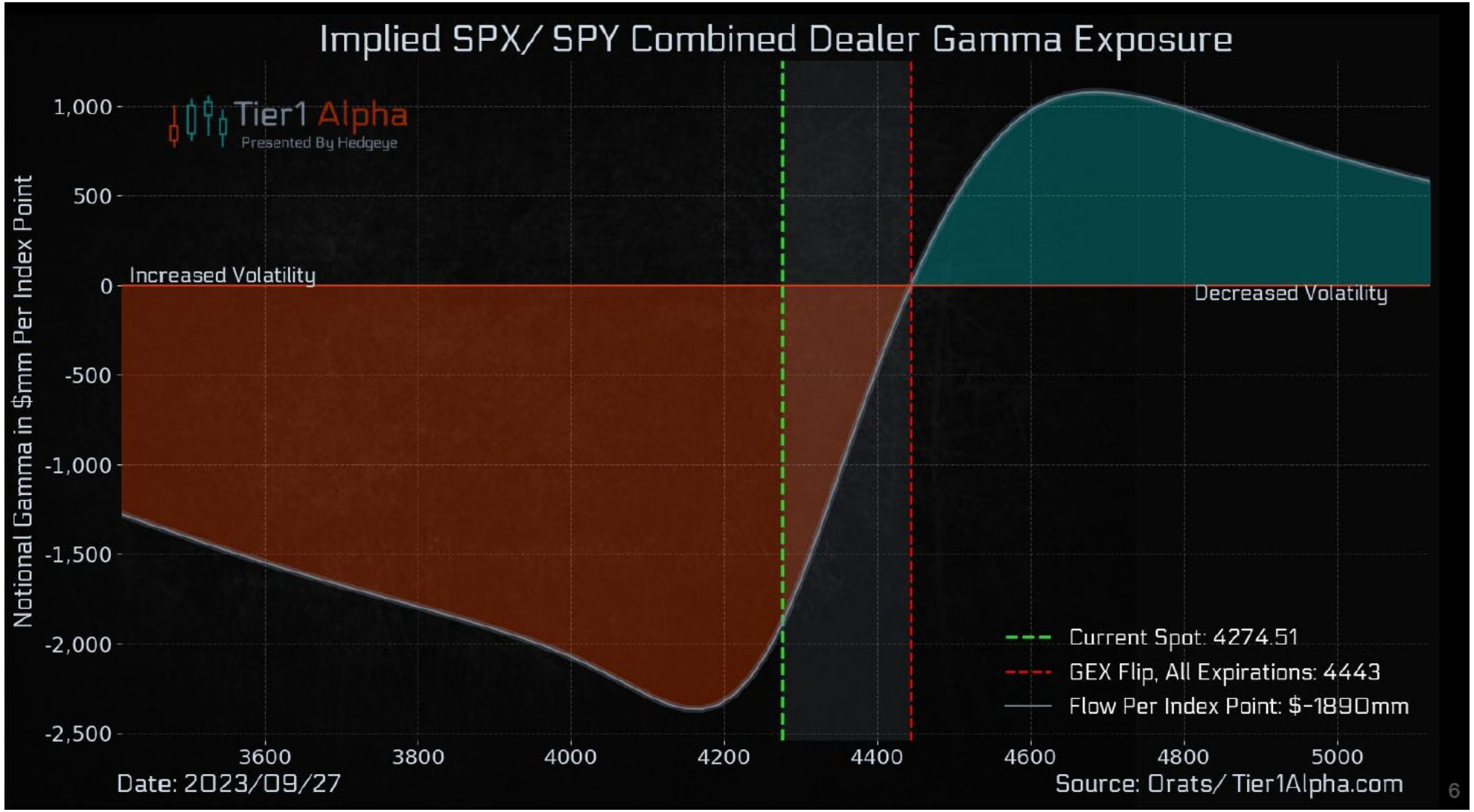
TIME WINDOW SETTING: VOLATILITY_30D / PUT_IMP_VOL_30D	TICKER	TOTAL RETURN PERFORMANCE YTD %	IVOL PREMIUM/DISCOUNT IVOL PREM % IVOL / RVOL CURRENT	Yesterday	1W Ago	1M Ago	TTM Z-Score	3Yr Z-Score	REALIZED VOLATILITY TRENDS MM %	REALIZED VOLATILITY TRENDS PERCENTILE 10YR	IMPLIED VOLATILITY TRENDS MM %	IMPLIED VOLATILITY TRENDS PERCENTILE 10YR
US EQUITIES												
SPDR S&P 500 ETF Trust	SPY	11.41%	45%	42%	39%	39%	0.7	0.1	9%	53%	13%	56%
Power Shares QQQ Trust ETF	QQQ	33.33%	30%	31%	24%	7%	0.8	0.1	-6%	55%	14%	63%
I-Shares Russell 2000 ETF	IWM	0.93%	40%	36%	40%	41%	1.3	0.9	15%	37%	14%	52%
Materials Sector SPDR ETF	XLB	0.21%	32%	32%	16%	120%	0.1	0.1	16%	31%	-31%	52%
Communication Services SPDR ETF	XLC	35.90%	31%	32%	7%	-2%	1.7	0.9	-8%	27%	22%	47%
Energy Sector SPDR ETF	XLE	5.35%	46%	45%	29%	55%	2.3	2.0	15%	31%	9%	54%
Financials Sector SPDR ETF	XLF	-2.81%	87%	71%	68%	39%	2.5	2.7	-8%	9%	24%	53%
Industrials Sector SPDR ETF	XLI	3.34%	59%	42%	24%	95%	1.5	1.3	13%	30%	-8%	67%
Technology Sector SPDR ETF	XLK	30.36%	12%	18%	-4%	-5%	0.7	0.2	-1%	61%	17%	66%
Consumer Staples Sector SPDR ETF	XLP	-7.71%	29%	33%	3%	-16%	0.1	-0.2	6%	36%	64%	56%
Real Estate Sector SPDR ETF	XLRE	-9.02%	28%	26%	19%	12%	1.2	1.0	22%	55%	39%	73%
Utilities Sector SPDR ETF	XLU	-14.71%	21%	26%	5%	155%	0.4	0.0	18%	60%	-44%	76%
Health Care Sector SPDR ETF	XLV	-4.97%	50%	46%	106%	19%	1.6	1.2	0%	12%	26%	41%
Consumer Discretionary Sector SPDR ETF	XLY	22.61%	17%	21%	1%	-6%	0.9	0.3	14%	70%	42%	78%
INTERNATIONAL EQUITIES												
I-Shares MSCI Emerging Markets ETF	EEM	-0.21%	28%	23%	12%	30%	0.9	0.4	-17%	20%	-18%	40%
Euro Stoxx 50 Index	SX5E Index	8.91%	49%	43%	18%	-10%	2.0	1.7	-27%	17%	21%	52%
I-Shares China Large-Cap ETF	FXI	-6.68%	20%	18%	15%	-5%	1.4	0.8	-21%	55%	0%	78%
I-Shares MSCI Japan ETF	EWJ	12.11%	15%	11%	2%	2%	0.8	0.4	2%	38%	15%	49%
CURRENCIES												
PowerShares US Dollar Index ETF	UUP	7.41%	63%	71%	89%	57%	0.3	0.4	-7%	21%	-4%	42%
Currency Shares Euro Trust ETF	FXE	-1.75%	57%	59%	41%	30%	2.1	2.3	-8%	25%	11%	80%
Currency Shares British Pound ETF	FXB	0.71%	40%	41%	37%	6%	2.3	1.9	-21%	9%	5%	39%
Currency Shares Japanese Yen ETF	FXY	-12.64%	22%	15%	13%	-11%	1.1	0.2	-23%	44%	6%	57%
COMMODITIES												
SPDR Gold Shares ETF	GLD	2.63%	67%	59%	70%	28%	3.2	2.8	-8%	5%	20%	33%
United States Oil Fund ETF	USO	18.24%	94%	86%	62%	51%	3.9	2.4	-7%	9%	19%	15%
United States Natural Gas Fund ETF	UNG	-52.34%	51%	30%	16%	41%	2.1	1.7	-20%	47%	-14%	54%
Teucrium Corn ETF	CORN	-17.04%	21%	15%	6%	-17%	-0.1	-0.1	-38%	34%	-9%	32%
TEUCRIUM SOYBEAN FUND	SOYB	-3.47%	10%	5%	6%	4%	-0.4	-0.4	-23%	49%	-18%	18%
VANECK STEEL ETF	SLX	12.31%	23%	82%	43%	0%	0.5	0.3	-14%	13%	6%	17%
FIXED INCOME												
I-Shares 20+ Year Treasury Bond ETF	TLT	-11.20%	15%	10%	2%	-8%	1.0	0.1	-3%	78%	21%	88%
I-Shares 7-10 Year Treasury Bond ETF	IEF	-4.66%	41%	44%	13%	3%	2.7	0.5	-18%	76%	13%	84%
I-Shares IBOXX IG Corporate Bond ETF	LQD	-3.20%	34%	22%	8%	-8%	1.1	-0.1	-15%	82%	25%	75%
I-Shares J.P. Morgan USD EM Bond ETF	EMB	-2.57%	23%	31%	14%	-3%	0.1	-0.3	-23%	77%	-2%	44%
I-Shares IBOXX HY Corporate Bond ETF	HYG	-0.20%	25%	29%	9%	-12%	1.4	0.3	-15%	52%	21%	57%
MEGA-CAP												
Apple	AAPL	23.32%	12%	12%	4%	2%	-0.3	-0.2	5%	53%	15%	53%
Amazon	AMZN	49.98%	21%	21%	21%	-16%	0.5	0.4	-14%	55%	25%	69%
Alphabet	GOOGL	47.95%	39%	47%	36%	-2%	1.5	1.0	-20%	44%	12%	69%
Facebook	META	147.42%	49%	48%	30%	0%	1.0	1.2	-21%	44%	18%	74%
Microsoft	MSFT	-8.15%	48%	52%	31%	10%	2.2	1.3	-16%	34%	14%	68%
Tesla	TSLA	95.24%	-2%	-3%	-8%	-11%	-0.3	-0.5	2%	63%	12%	49%

Data Source: CBOE, CME

Tier1 Integration | Tactical Market Structure Awareness & Risk Management

HEDGEYE

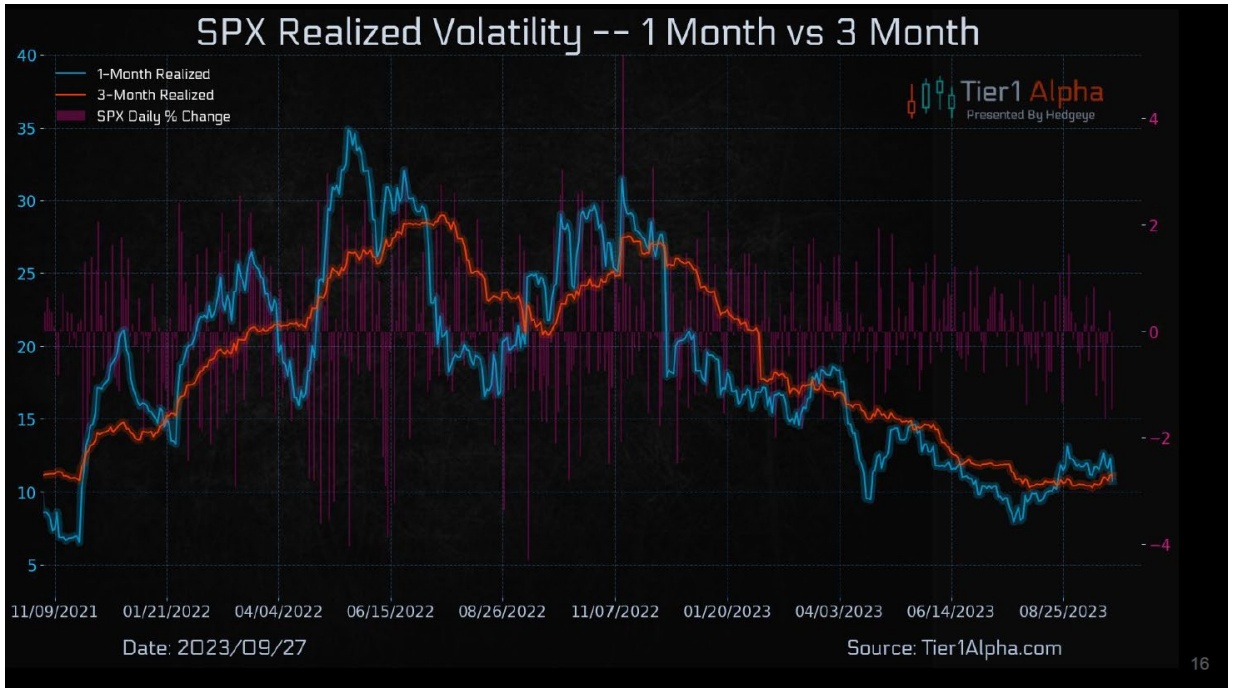
THE THROTTLE: Dealer gamma positioning can amplify (neg gamma) or dampen (pos gamma) price and volatility. Understanding the prevailing gamma regime and the Balance of Flows Risk associated with Dealer & Systematic Strat Positioning represents a baseline level of market structure awareness.

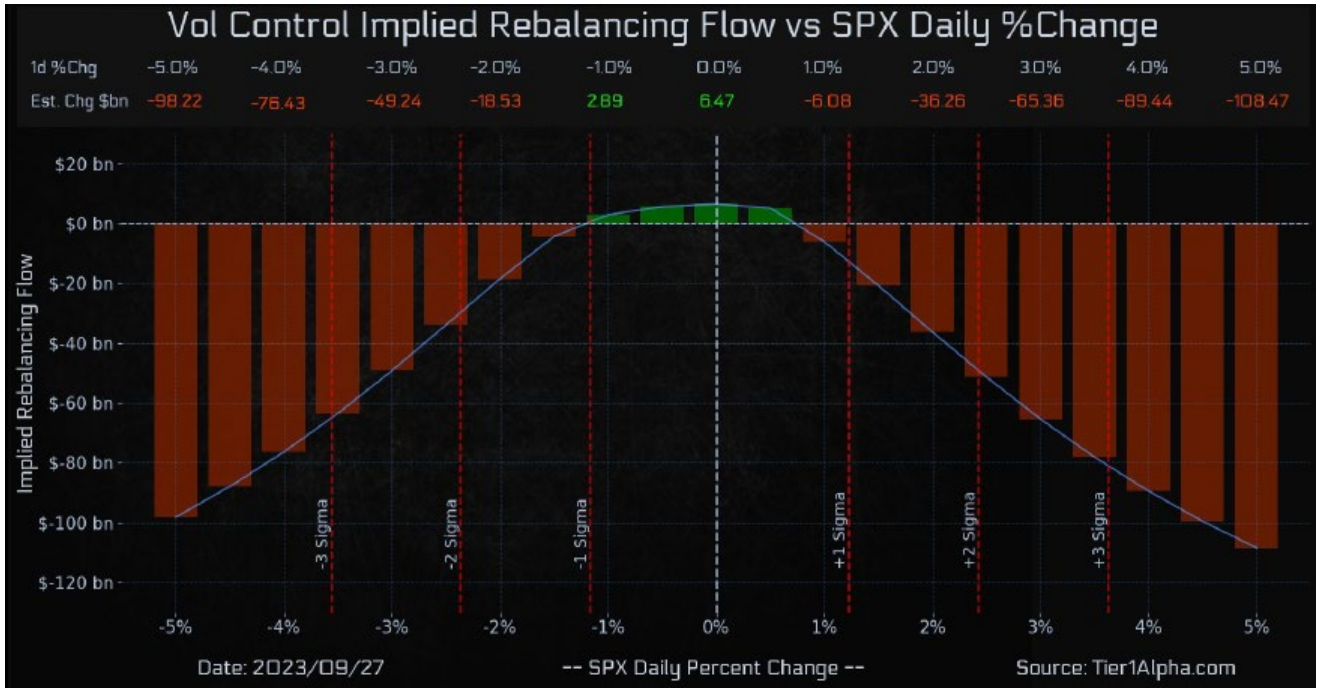


Tier1 Integration | RISK MANAGING THE FLOW

HEDGEYE

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.





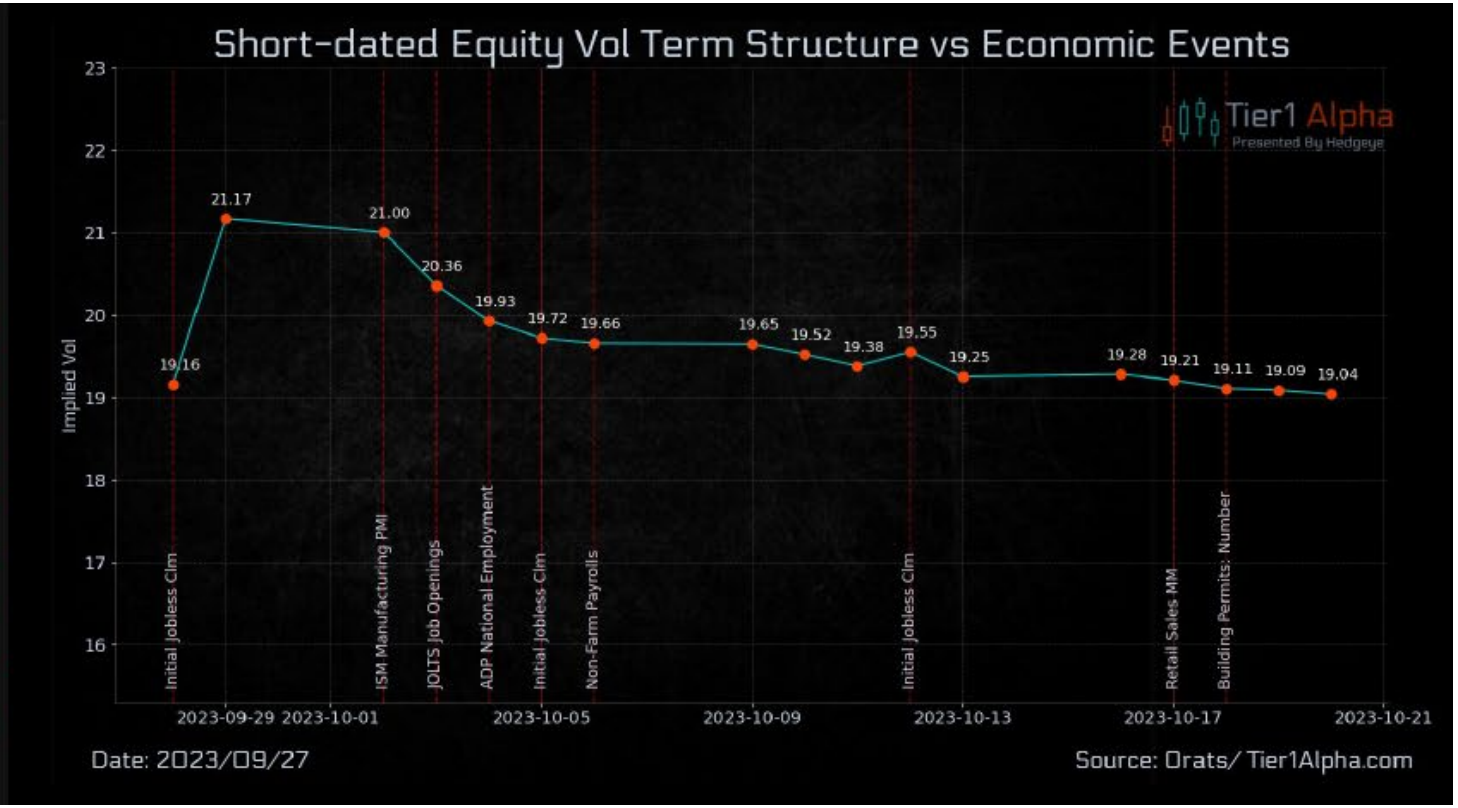
Tier1 Integration | Risk Managing The Short-Dated Vol Curve

HEDGEYE

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

Date	Event	Estimate	Previous	Impact	SPX IV
2023-09-28	Initial Jobless Clm	217.0	201.0	high	19.16
2023-09-28	Jobless Clm 4Wk Avg	nan	217.0	low	19.16
2023-09-28	Cont Jobless Clm	1.675	1.662	low	19.16
2023-09-28	Core PCE Prices Fnal	3.7	4.9	low	19.16
2023-09-28	GDP Cons Spending Final	nan	4.2	high	19.16
2023-09-28	GDP Deflator Final	2.0	4.1	low	19.16
2023-09-28	GDP Final	2.2	2.0	high	19.16
2023-09-28	GDP Sales Final	nan	4.2	low	19.16
2023-09-28	Pending Homes Index	nan	77.6	medium	19.16
2023-09-28	KC Fed Composite Index	nan	0.0	low	19.16
2023-09-28	KC Fed Manufacturing	nan	12.0	low	19.16
2023-10-02	ISM Manufacturing PMI	47.8	47.6	high	21.0



Tier1 Integration | Historical Negative Gamma Environments

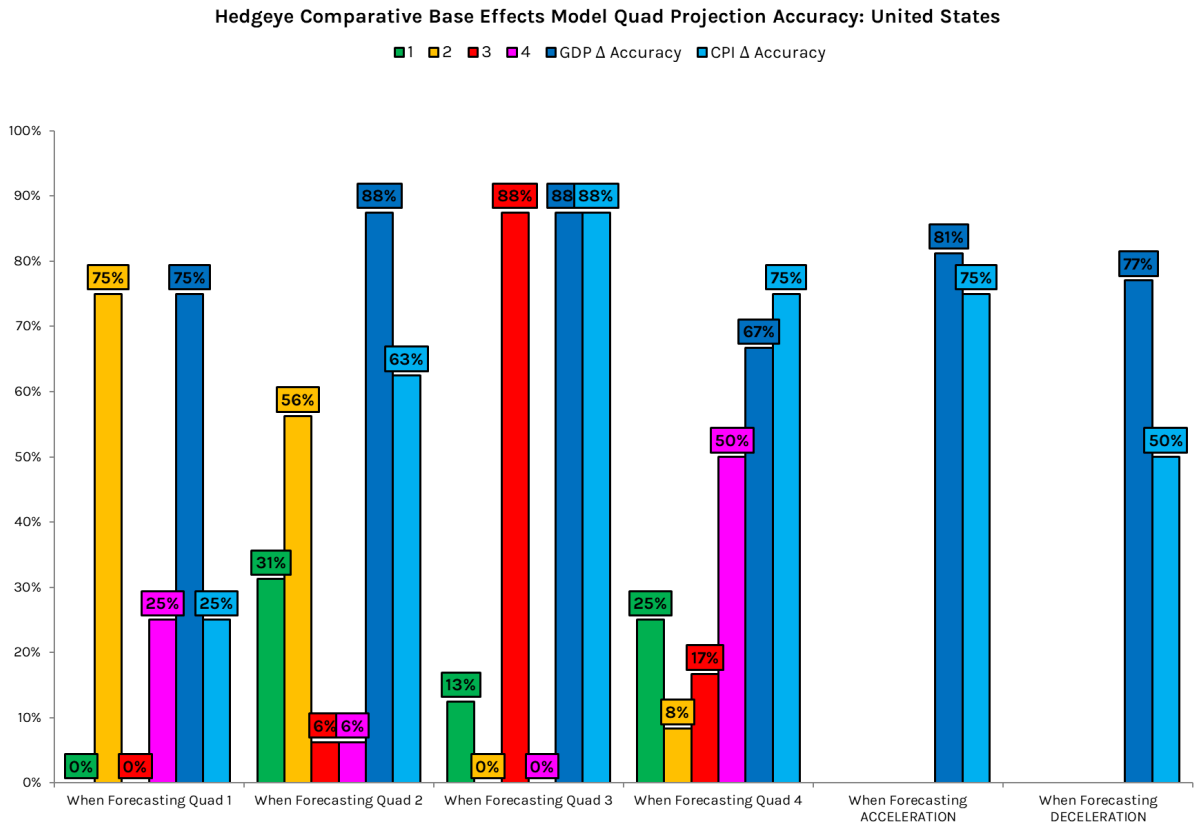
HEDGEYE

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

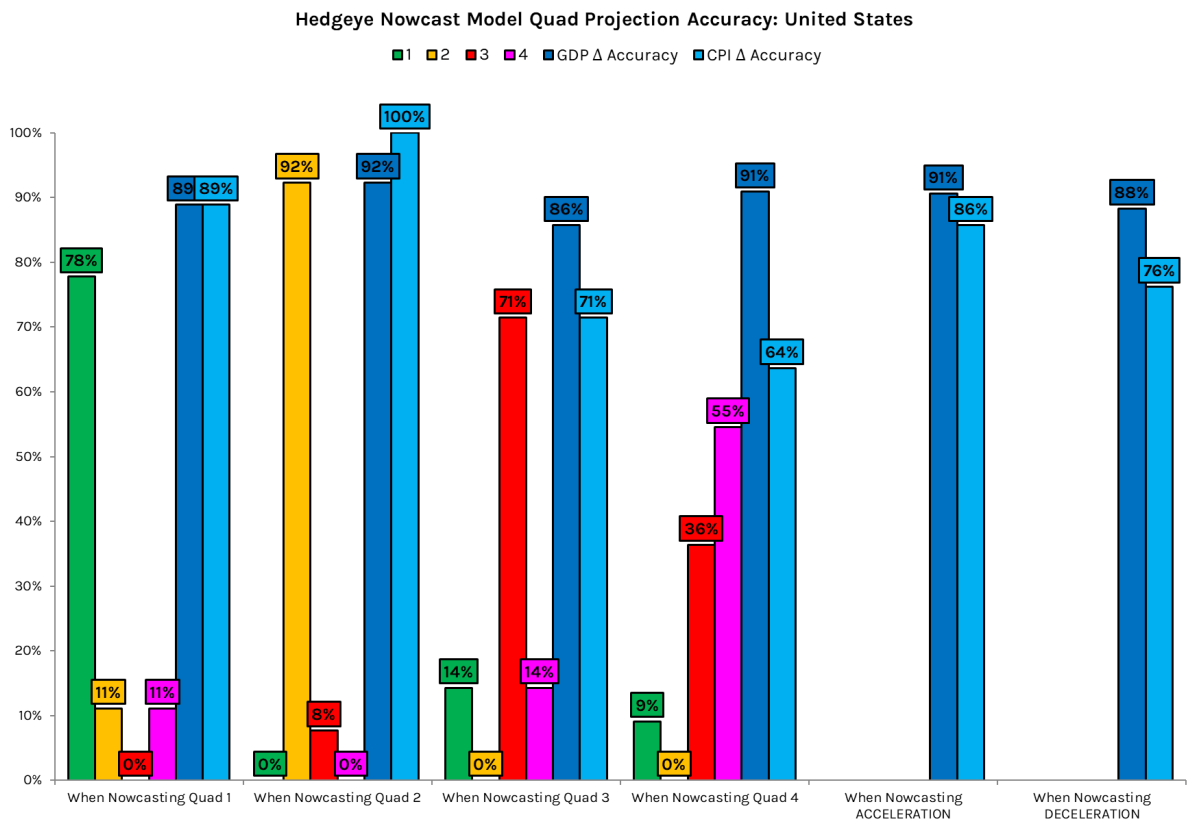
Measuring And Mapping The Quads With Precision Ex Ante Matters To Driving Ex Post Returns

HEDGEYE

US Comparative Base Effects Model Backtest



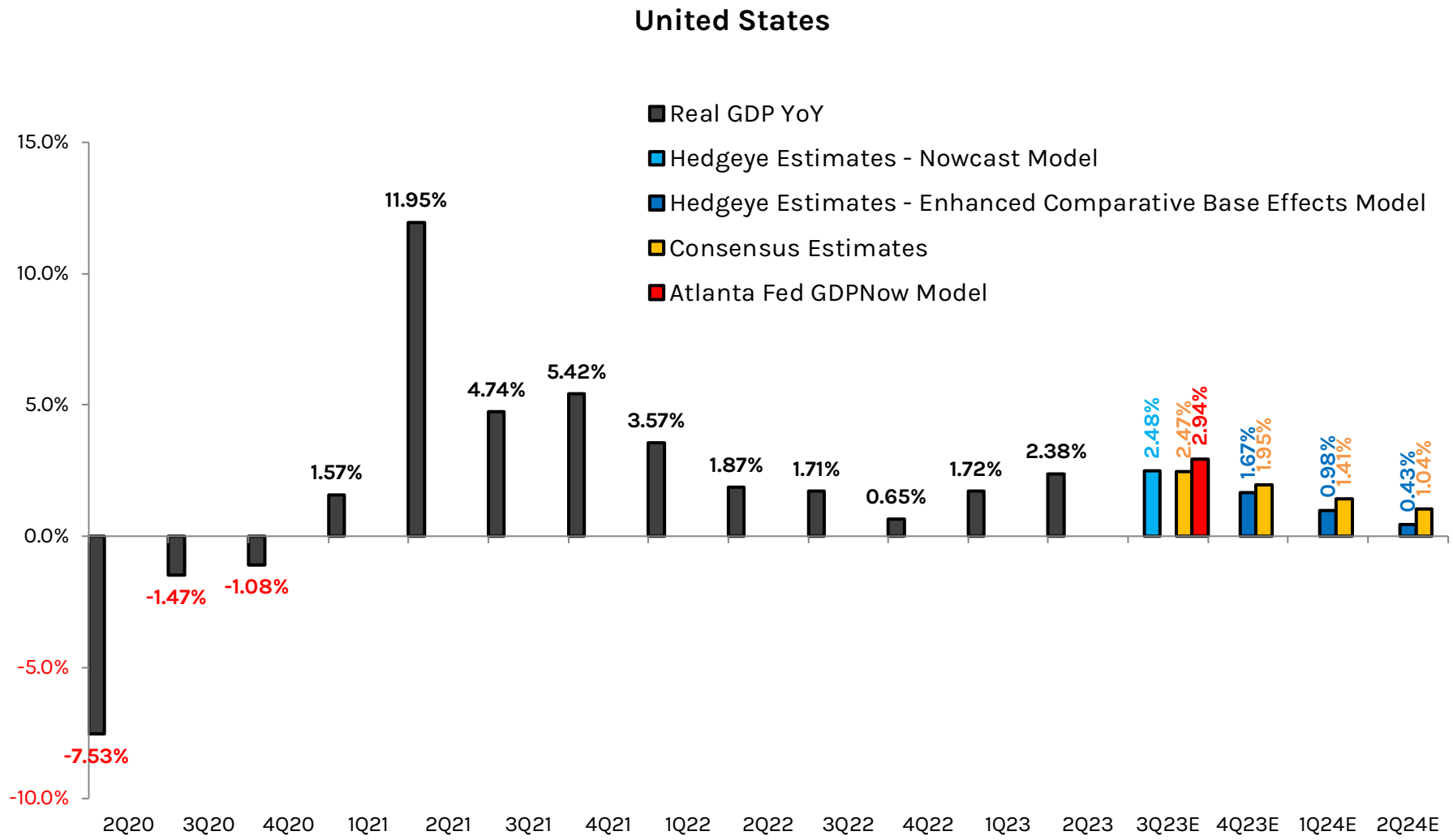
US Nowcast Model Backtest



Data Source: FactSet. Backtests performed on a trailing 10yr rolling out-of-sample basis.

US Real GDP YoY Projections

HEDGEYE



Data Source: BLS, BEA, Atlanta Fed, FactSet

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.

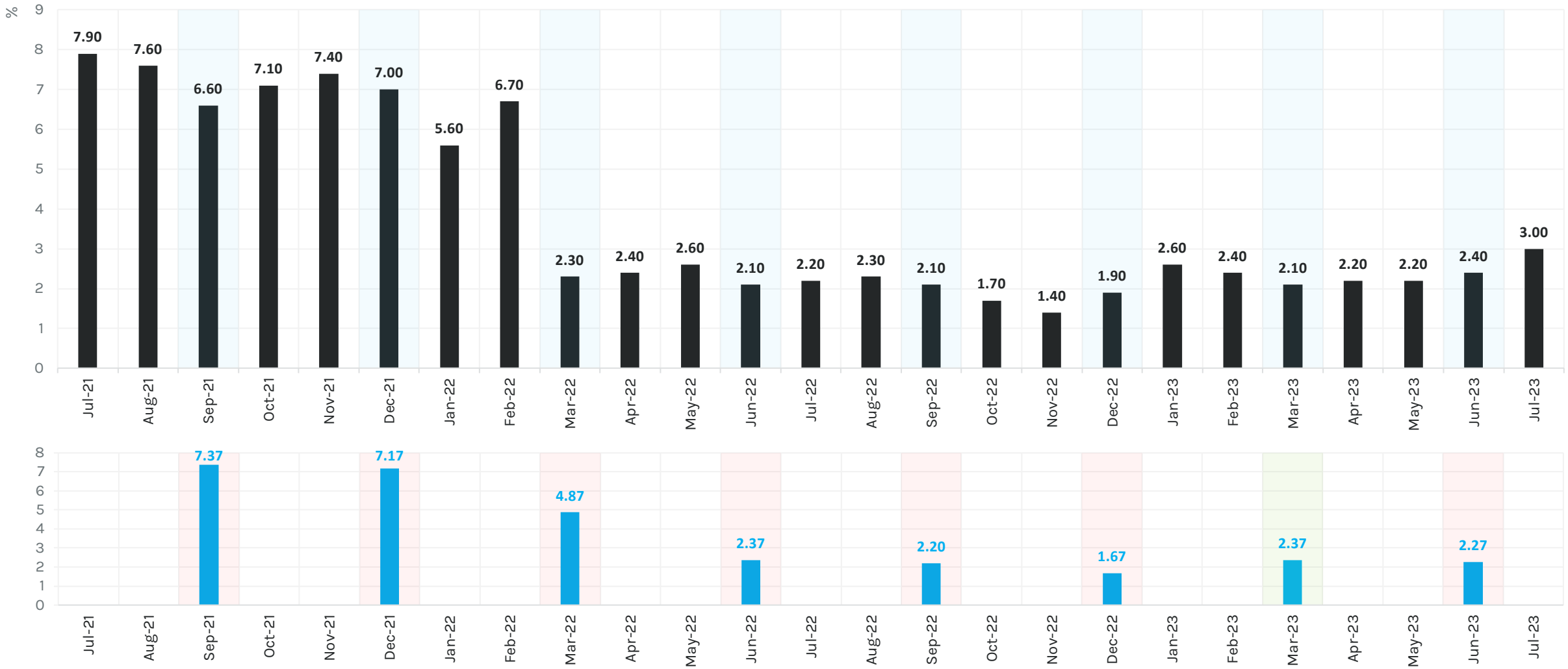
Intra-quarter, we employ a stochastic nowcasting framework that anchors on nonlinear interpolation to relay rate of change signals from the individual features of the dynamic factor model to the base rate. In out-quarters where high-frequency data has yet to be reported, we employ a Bayesian Inference 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.

Real PCE YoY

HEDGEYE

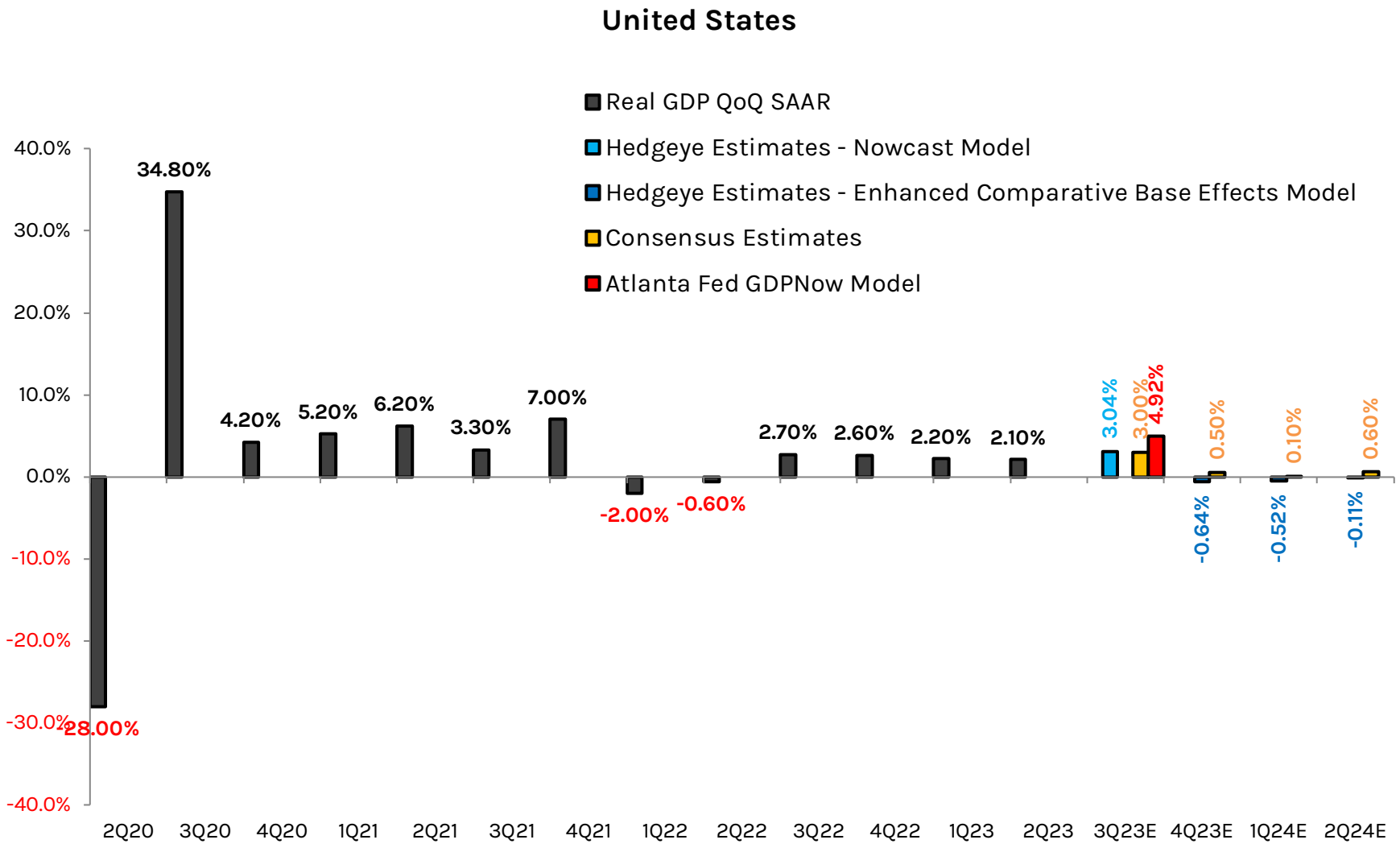
Monthly & Quarterly Figures | Green Shading = Sequential Acceleration ; Red Shading = Sequential Deceleration



Data Source: FactSet, Hedgeye Estimates

US Real GDP QoQ SAAR Projections

HEDGEYE



Data Source: BLS, BEA, Atlanta Fed, FactSet

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.

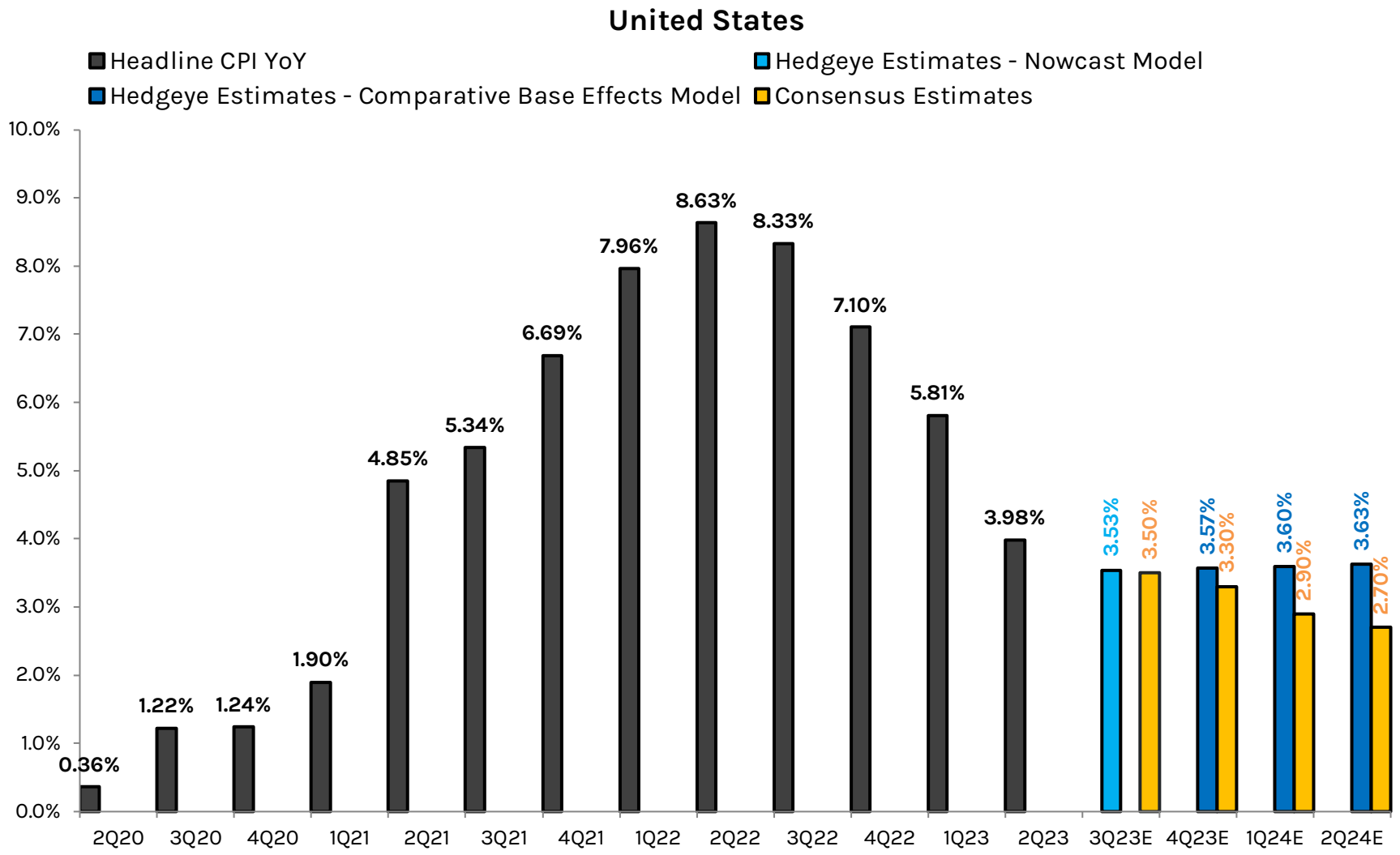
Our rigorous study of financial market history suggests the latter to be little more than noise in the context of making accurate intermediate-to-long-term investment decisions.

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.

Data Source: BLS, BEA, Atlanta Fed, FactSet

US Headline CPI YoY Projections

HEDGEYE



Data Source: BLS, BEA, Atlanta Fed, FactSet

© Hedgeye Risk Management

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.

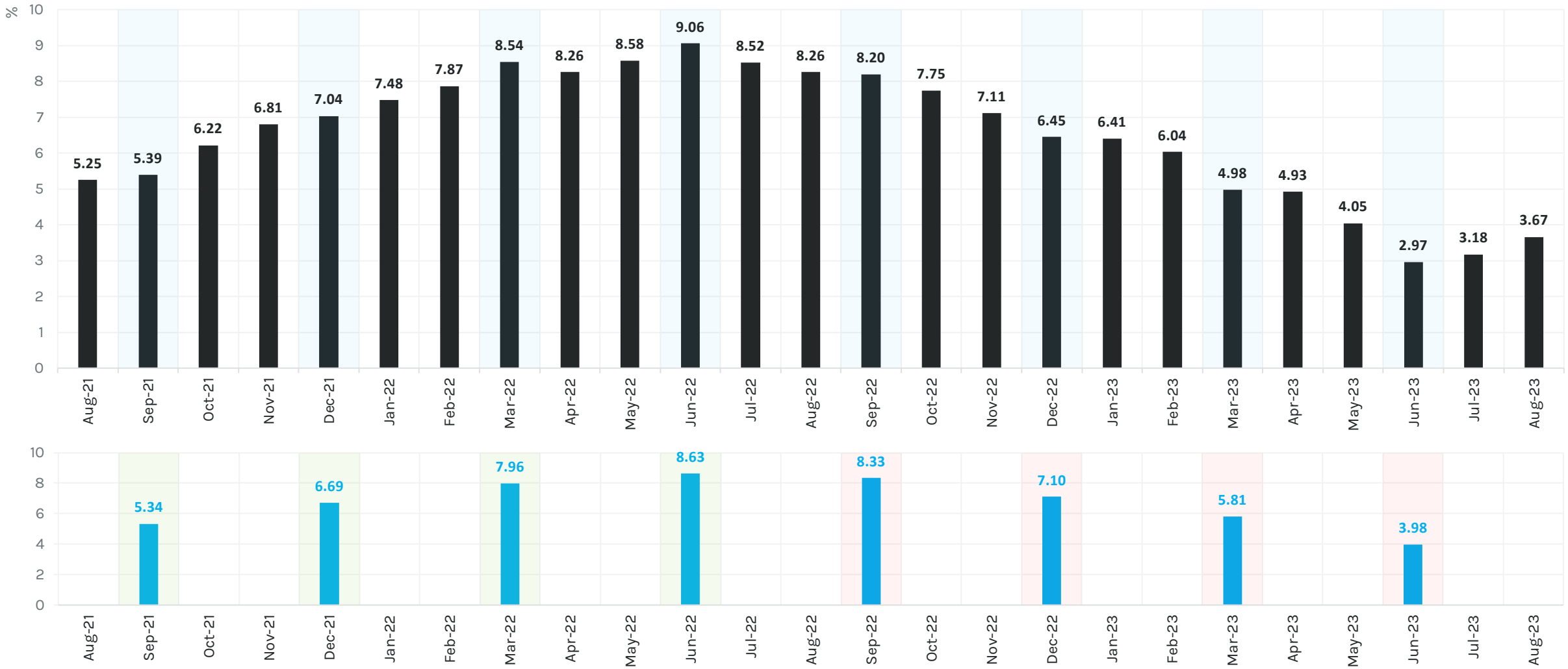
Intra-quarter, we employ a stochastic nowcasting framework that anchors on nonlinear interpolation to relay rate of change signals from the individual features of the dynamic factor model to the base rate. In out-quarters where high-frequency data has yet to be reported, we employ a Bayesian Inference 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

HEDGEYE

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

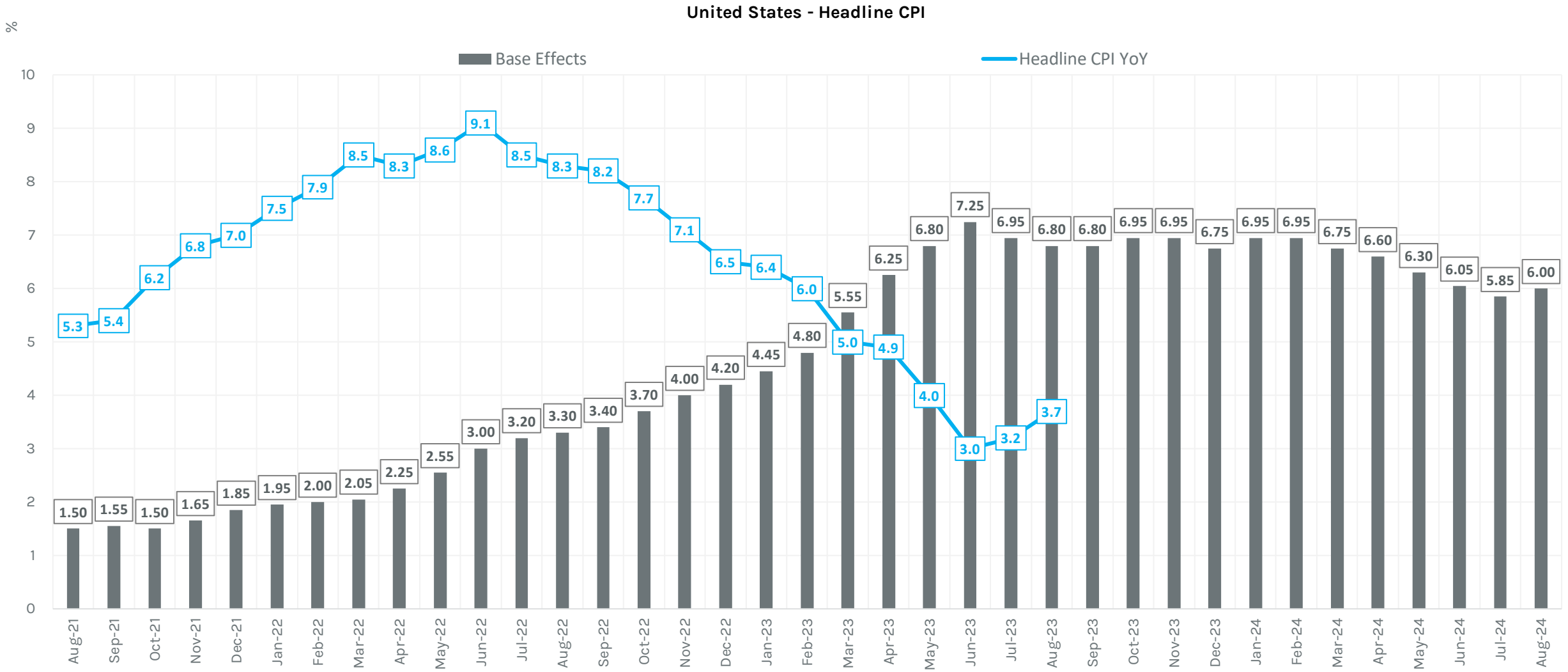


Data Source: FactSet, Hedgeye Estimates

2-Year Base Effects

HEDGEYE

Headline CPI

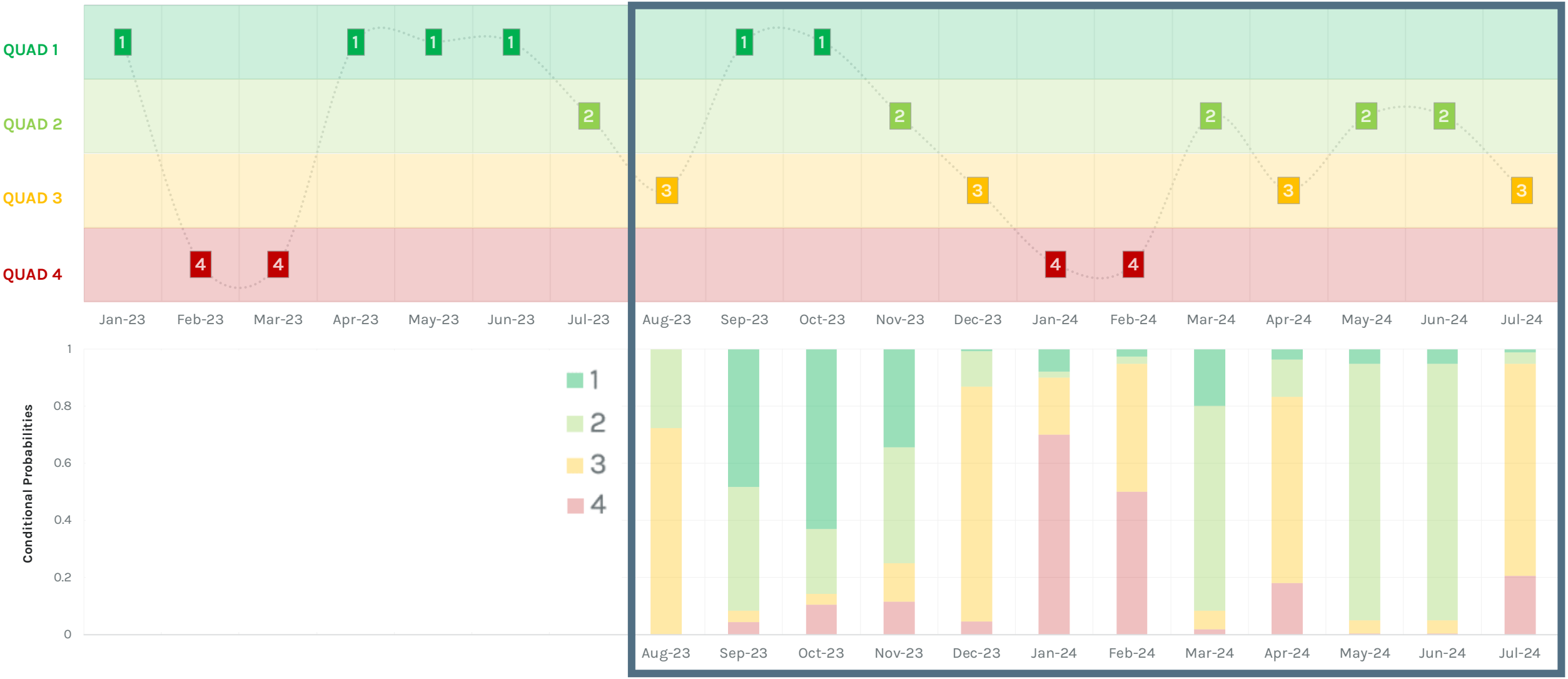


Data Source: BEA, Hedgeye Estimates

Monthly Quads: NTM

HEDGEYE

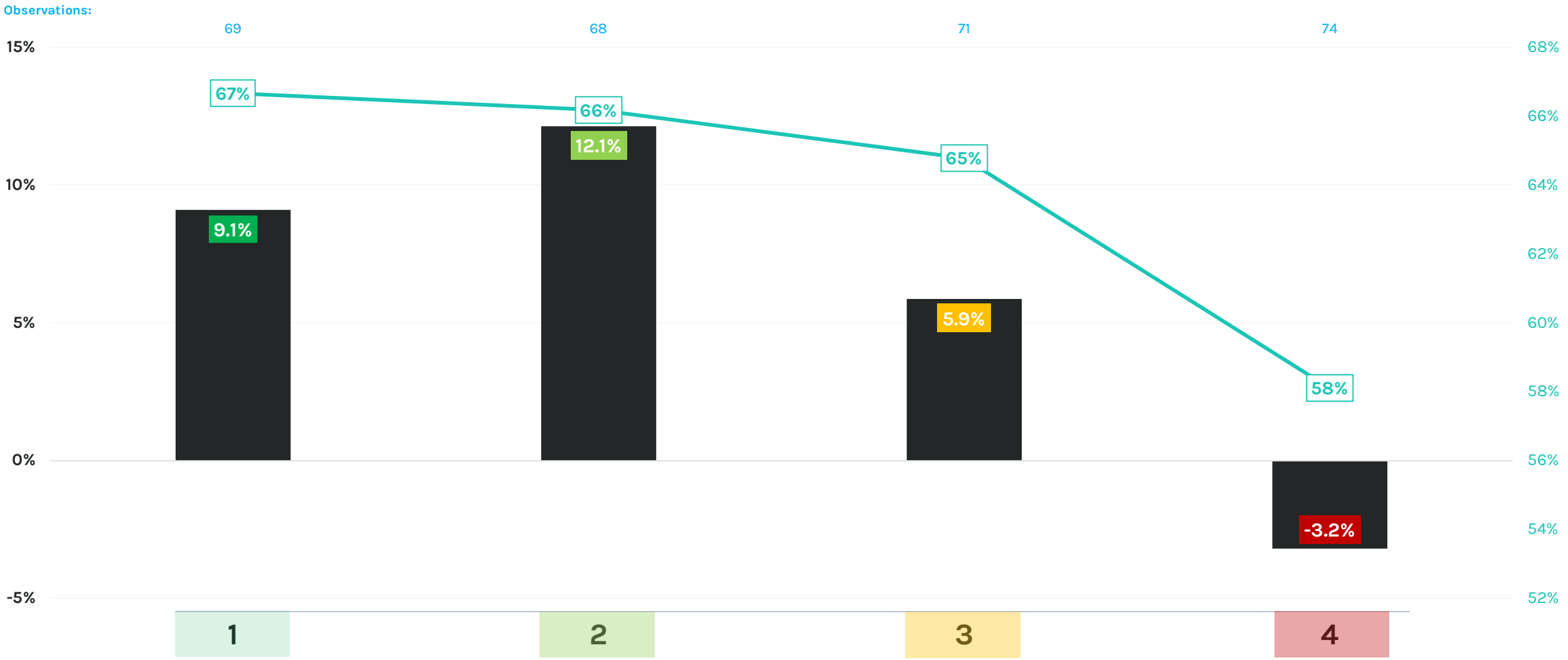
We Utilize Real PCE as a Monthly Proxy for Real GDP. We have developed a proprietary, dynamic monthly system with a long-term directional accuracy of 76% that has accurately predicted 10 of the last 12 months on an out-of-sample basis.



Monthly Quad Backtest

HEDGEYE

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



Data Source: Hedgeye Estimates, Factset | Observation Period: January 2000 – July 2023

US Real GDP Nowcast Model

HEDGEYE

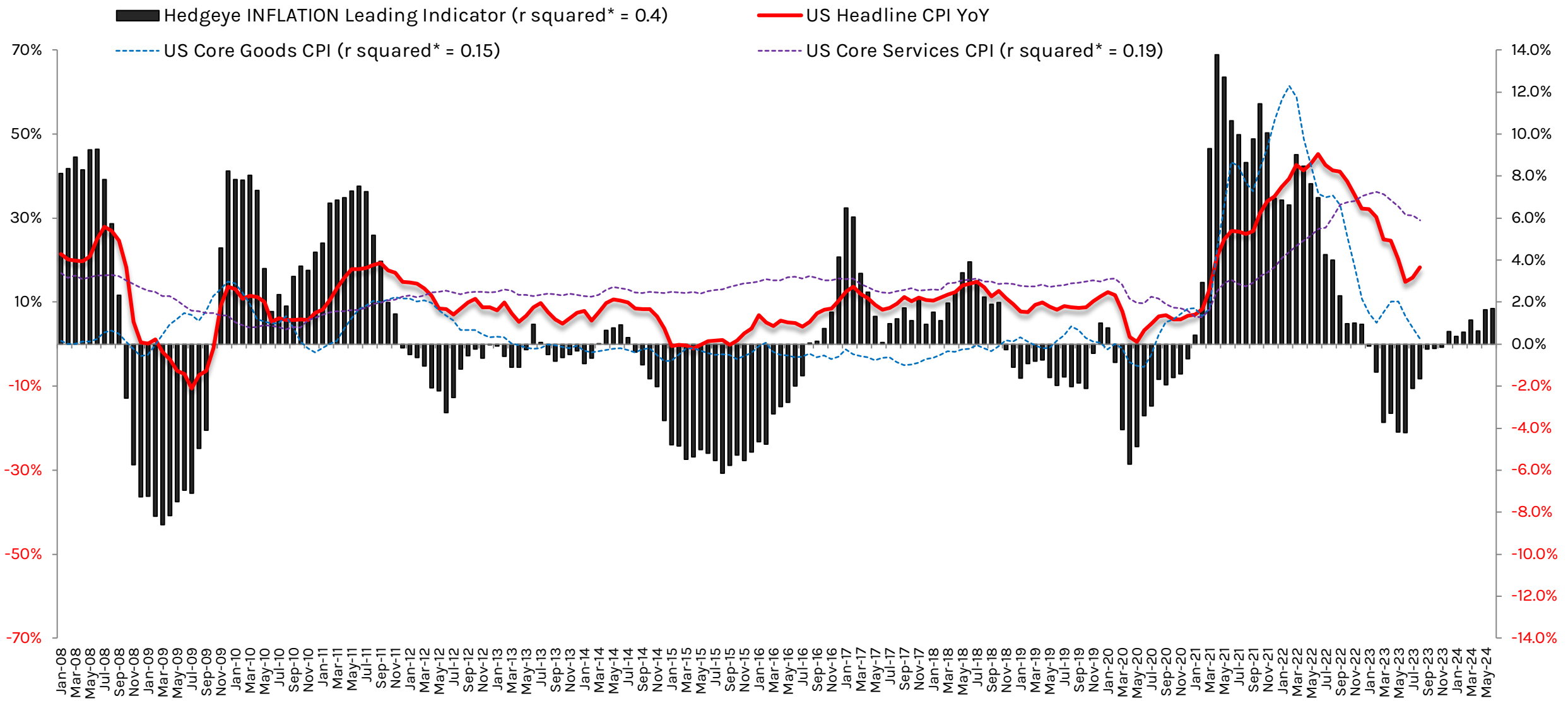
Each of the following 30 features backtests as statistically significant with respect to predicting the rate of change of Real GDP growth and each feature's contribution to the overall signal is dynamically re-trained each quarter according to the relative strength of its first difference regression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

HEDGEYE US NOWCAST MODEL SUMMARY	Jan-22	Feb-22	Mar-22	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	2Q23	3Q23	Δ
Real PCE YoY (1)	5.55	6.67	2.27	2.37	2.60	2.13	2.16	2.30	2.11	1.69	1.37	1.94	2.58	2.43	2.10	2.20	2.20	2.42	3.01	-	-	2.27	3.01	0.74
Real Disposable Personal Income YoY (21)	-11.47	-3.43	-21.60	-7.44	-4.78	-4.68	-4.56	-4.13	-2.62	-2.35	-1.96	-1.50	2.42	2.77	3.55	3.84	4.40	4.86	3.80	-	-	4.37	3.80	-0.57
Personal Savings Rate % of DPI (17)	4.7	4.5	3.8	3.6	3.4	2.7	3.5	3.2	3.0	3.0	3.5	3.7	4.0	4.3	4.6	4.5	4.7	4.3	3.5	-	-	4.5	3.5	-1.0
Headline Retail Sales YoY (4)	13.25	17.77	8.36	8.92	9.67	9.48	10.36	10.21	9.37	8.77	6.14	5.98	7.41	5.26	2.19	1.29	2.11	1.47	2.64	2.47	-	1.62	2.56	0.93
Retail Sales Control Group YoY (8)	9.95	13.29	6.73	7.48	8.93	7.63	9.36	8.33	8.73	7.32	5.82	6.50	6.44	6.30	4.07	3.73	4.03	3.52	4.42	3.58	-	3.76	4.00	0.24
Auto Sales YoY (11)	-9.56	-10.21	-24.90	-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	-	16.88	16.01	-0.87
MBA Mortgage Purchase Index YoY (24)	-10.06	-8.21	-9.55	-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	-25.55	-30.56	-26.32	4.24
Total Employees On Nonfarm Payrolls YoY (5)	4.99	5.20	4.92	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	2.13	2.01	-	2.54	2.07	-0.47
Aggregate Hours Worked YoY (3)	3.79	5.51	4.32	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	1.24	1.72	-	1.85	1.48	-0.37
Aggregate Labor Income YoY (6)	9.72	11.05	10.49	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	5.66	6.08	-	6.31	5.87	-0.44
Monthly Initial Jobless Claims YoY (16)	-65.18	-71.85	-71.23	-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	10.16	13.20	10.03	-3.17
Conference Board Consumer Confidence Index (14)	111.1	105.7	107.6	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	103.0	105.4	108.6	3.1
Industrial Production YoY (2)	2.27	6.61	4.43	4.59	3.66	3.19	3.01	3.11	4.51	3.10	1.85	0.59	1.51	0.88	0.18	0.32	0.01	-0.31	-0.04	0.25	-	0.01	0.10	0.10
Capacity Utilization (19)	79.4	79.9	80.5	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	79.4	79.0	79.5	79.7	-	79.4	79.6	0.2
Durable Goods New Orders YoY (12)	11.52	10.03	9.07	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	3.21	3.52	-	6.16	3.37	-2.80
Core Capital Goods New Orders YoY (15)	8.97	9.04	8.21	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	0.35	0.33	-	1.68	0.34	-1.34
Factory Orders YoY (10)	15.83	15.43	16.78	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	-	-	-0.34	-0.67	-0.33
Manufacturing & Trade Inventories YoY (29)	14.33	15.43	17.85	18.98	20.09	20.64	19.78	19.43	18.26	16.81	15.13	12.57	10.69	8.78	6.18	5.16	3.34	1.84	1.38	-	-	3.45	1.38	-2.07
Nonresidential Construction Spending YoY (30)	3.00	6.00	5.38	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	19.22	16.55	-	-	19.18	16.55	-2.63
Residential Construction Spending YoY (28)	21.69	25.08	24.89	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	-9.19	-5.37	-	-	-11.78	-5.37	6.41
ISM Manufacturing PMI (27)	57.6	58.4	57.0	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	-	46.7	47.0	0.3
ISM Non-Manufacturing PMI (18)	60.4	57.2	58.4	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	-	52.0	53.6	1.6
NFIB Small Business Optimism Index (22)	97.1	95.7	93.2	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	-	89.8	91.6	1.8
Exports YoY (7)	15.97	20.50	18.21	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	-3.46	-	-	-2.80	-3.46	-0.66
Imports YoY (9)	21.41	23.88	27.19	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	-4.72	-	-	-6.78	-4.72	2.06
Rail Traffic YoY (13)	-4.85	6.59	-2.27	-4.35	-3.90	-3.22	-1.43	-0.37	-0.74	-2.68	-4.31	-6.91	-5.99	-7.72	-9.84	-8.60	-7.55	-5.94	-5.89	-5.78	-2.96	-7.36	-4.87	2.49
Headline CPI YoY (25)	7.48	7.87	8.54	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	-	3.98	3.42	-0.56
PCE Deflator YoY (26)	6.12	6.39	6.77	6.41	6.52	6.98	6.39	6.26	6.29	6.13	5.66	5.30	5.36	5.04	4.17	4.29	3.77	2.96	3.28	-	-	3.67	3.28	-0.39
Core PCE Deflator YoY (20)	5.21	5.42	5.36	5.03	4.88	5.04	4.70	4.93	5.20	5.10	4.80	4.62	4.69	4.65	4.61	4.61	4.52	4.09	4.24	-	-	4.41	4.24	-0.17
M2 Money Supply YoY (23)	11.39	10.05	9.36	7.76	6.04	5.66	5.04	3.90	2.68	1.50	0.39	-0.89	-1.58	-2.18	-3.79	-4.45	-3.80	-3.58	-3.68	-3.67	-	-3.95	-3.67	0.27

Data Sources: BEA, Census Bureau, MBA, BLS, Department of Labor, Federal Reserve, Institute for Supply Management, NFIB, and AAR.

US Headline CPI Nowcast Model

HEDGEYE

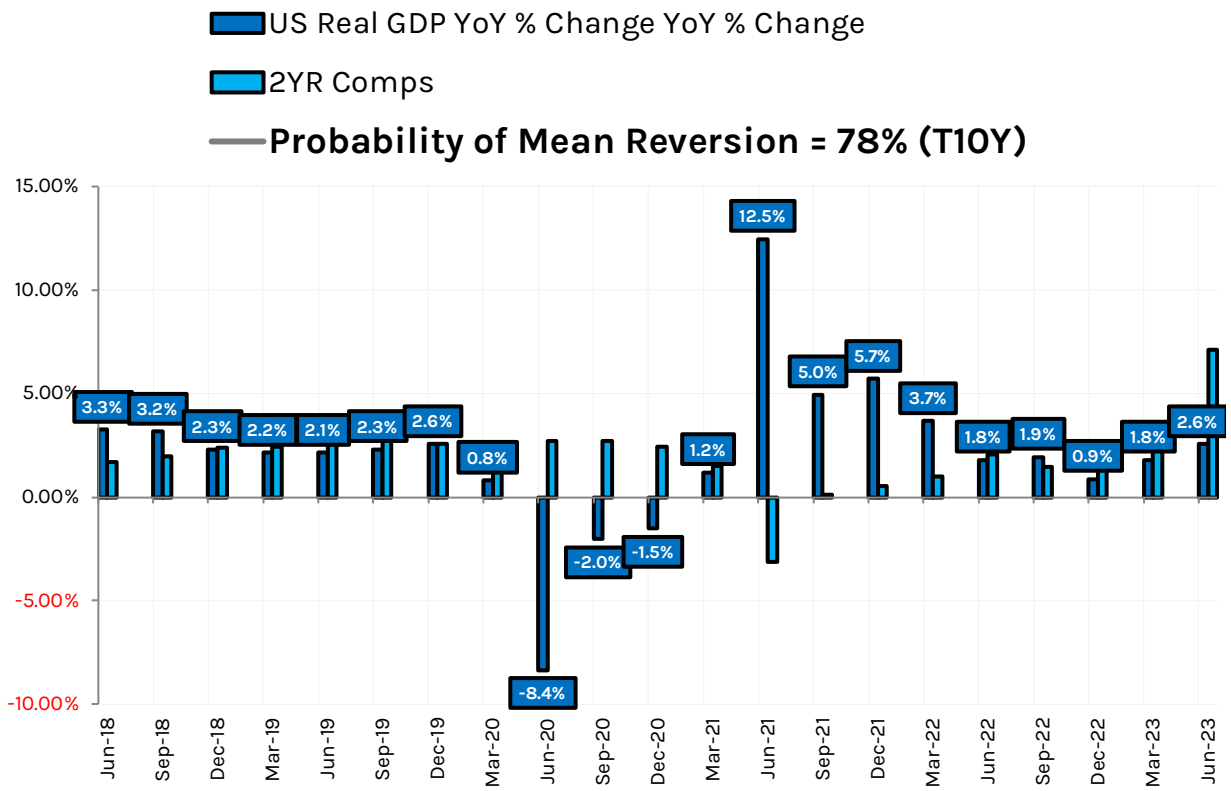


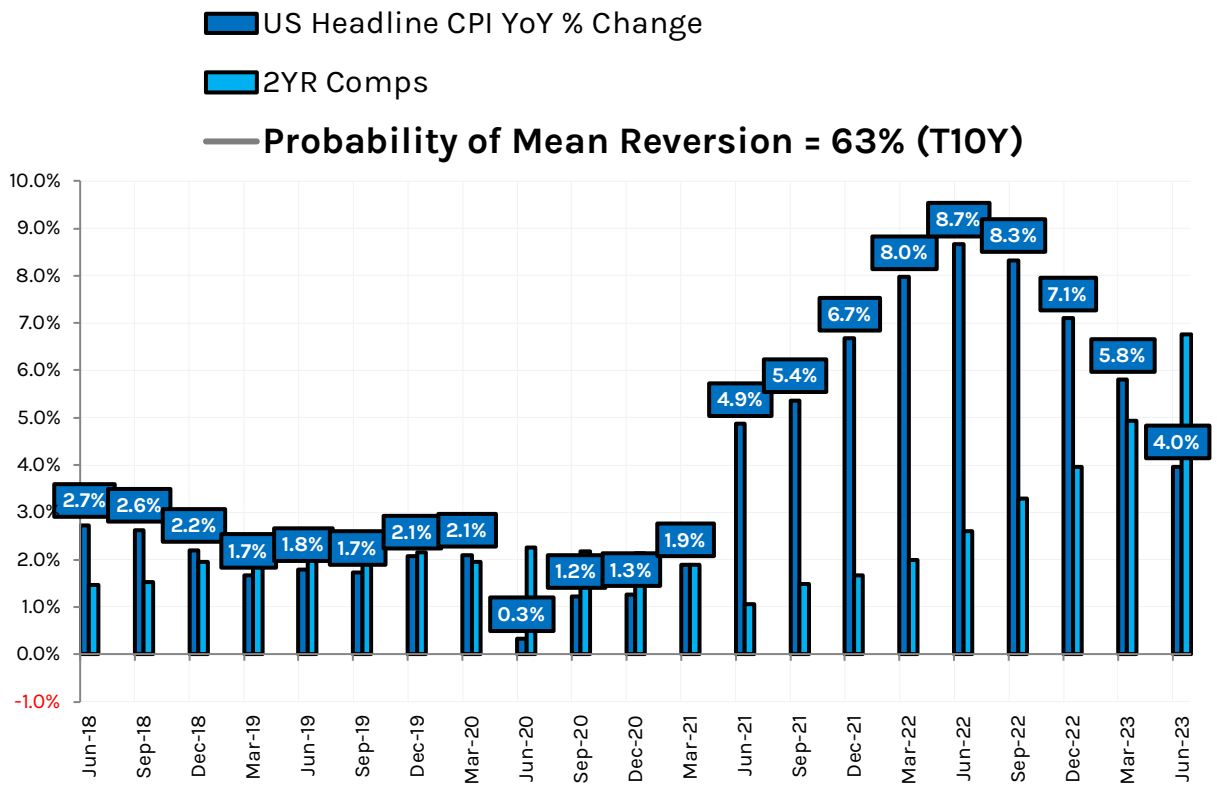
Asterisk denotes first difference regressions.

Data Source: BLS, United Nations. Asterisk denotes first difference regressions with the YoY % change of Headline CPI since the start of 2008.

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

HEDGEYE





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.

Data Source: BLS, BEA

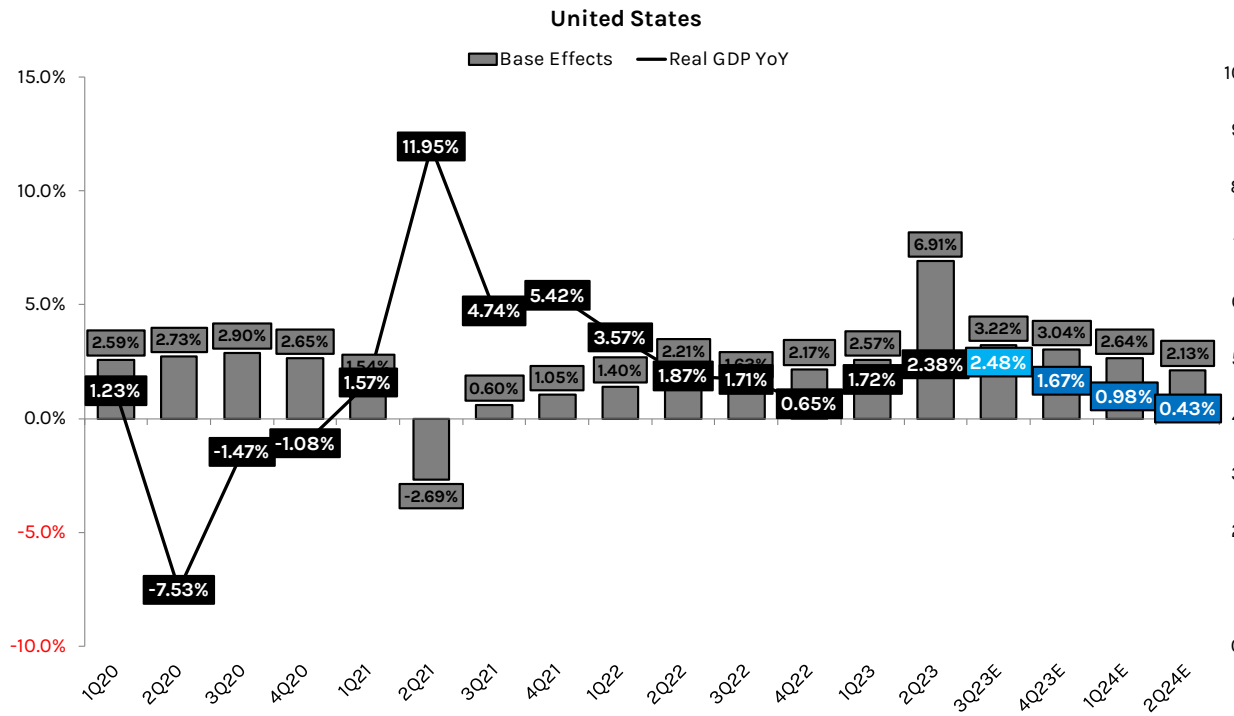
Ipso Facto, Our Bayesian Inference #Process Is Built Upon Stochastic Principles

HEDGEYE

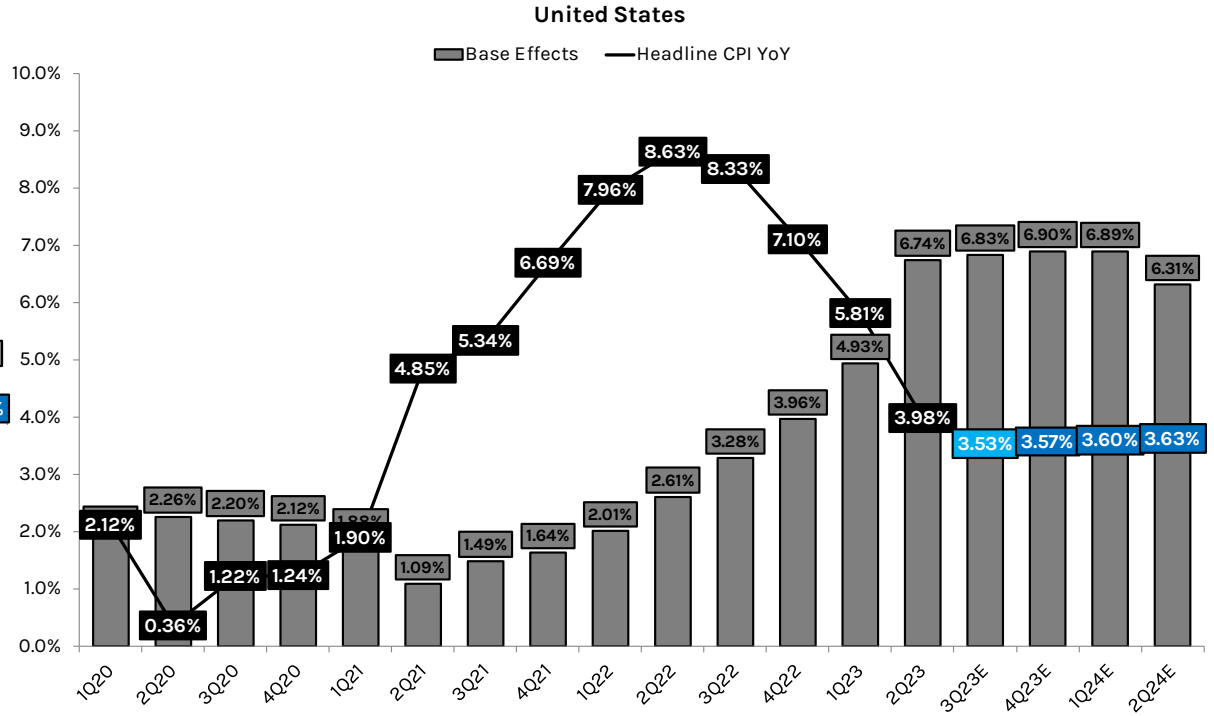
United States

GROWTH	1Q20	2Q20	3Q20	4Q20	1Q21	2Q21	3Q21	4Q21	1Q22	2Q22	3Q22	4Q22	1Q23	2Q23	3Q23E	4Q23E	1Q24E	2Q24E
Base Effects	2.59%	2.73%	2.90%	2.65%	1.54%	-2.69%	0.60%	1.05%	1.40%	2.21%	1.63%	2.17%	2.57%	6.91%	3.22%	3.04%	2.64%	2.13%
Real GDP YoY	1.23%	-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%	2.48%	1.67%	0.98%	0.43%
GIP Model Quad	3	4	2	2	2	2	3	2	3	3	4	4	1	1	1	3	3	3
Unconditional Probability Of Forecasted Delta															73%	80%	80%	80%
Conditional Probability Of Forecasted Delta															54%	81%	76%	70%
Conditional Probability Of Quad 1															41.5%	9.3%	11.5%	14.3%
Conditional Probability Of Quad 2															12.1%	10.2%	12.4%	15.4%
Conditional Probability Of Quad 3															10.5%	41.9%	39.4%	36.5%
Conditional Probability Of Quad 4															35.9%	38.6%	36.7%	33.8%

INFLATION	1Q20	2Q20	3Q20	4Q20	1Q21	2Q21	3Q21	4Q21	1Q22	2Q22	3Q22	4Q22	1Q23	2Q23	3Q23E	4Q23E	1Q24E	2Q24E
Base Effects	1.93%	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%
Headline CPI YoY	2.12%	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%	3.53%	3.57%	3.60%	3.63%
GIP Model Quad	3	4	2	2	2	2	3	2	3	3	4	4	1	1	1	3	3	3
Unconditional Probability Of Forecasted Delta															73%	68%	68%	68%
Conditional Probability Of Forecasted Delta															77%	52%	52%	52%
Conditional Probability Of Quad 1															41.5%	9.3%	11.5%	14.3%
Conditional Probability Of Quad 2															12.1%	10.2%	12.4%	15.4%
Conditional Probability Of Quad 3															10.5%	41.9%	39.4%	36.5%
Conditional Probability Of Quad 4															35.9%	38.6%	36.7%	33.8%



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



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

The Quads Are Global

HEDGEYE

G20 GIP Model Summary

9/28/2023	Hedgeye Macro GIP Model Signals												
	Actuals									Estimates			
	2Q21	3Q21	4Q21	1Q22	2Q22	3Q22	4Q22	1Q23	2Q23	3Q23E	4Q23E	1Q24E	2Q24E
Argentina	2	3	4	3	2	3	3	3	3	3	1	1	1
Australia	2	4	2	3	2	2	3	3	4	4	1	4	1
Brazil	2	3	3	2	2	4	4	1	4	3	2	3	3
Canada	2	3	3	3	2	4	4	1	4	3	2	2	4
China	3	4	3	1	3	2	4	4	1	4	2	3	2
Eurozone	2	3	2	2	3	3	3	4	4	4	4	2	1
France	2	3	2	3	3	3	3	2	1	4	4	1	1
Germany	2	3	3	2	3	3	3	4	4	4	1	3	1
India	2	4	4	3	2	4	4	2	1	3	2	4	3
Indonesia	2	3	2	3	2	2	3	1	1	1	4	4	4
Italy	2	3	2	3	3	3	3	1	4	1	4	3	2
Japan	1	3	3	3	2	3	3	1	4	1	1	4	4
Mexico	2	4	3	2	2	2	4	4	4	4	1	3	3
Russia	2	3	2	3	3	1	1	1	1	3	3	2	2
South Africa	2	3	3	2	3	2	4	4	1	4	1	3	2
South Korea	2	3	2	3	3	2	4	4	4	1	2	2	1
Spain	2	3	2	3	2	3	4	1	4	4	3	1	2
Turkey	2	3	2	3	3	3	4	1	4	2	3	1	1
United Kingdom	2	3	2	2	3	3	3	4	1	4	1	4	1
United States	2	3	2	3	3	4	4	1	1	1	3	3	3
MODE/MEDIAN	2	3	2	3	3	3	4	1	4	4	1	3	1

GROWTH							Strength Of Signal			
Real GDP YoY						NTM Δ	Conditional Probability Of Est. Δ			
COUNTRY	2Q23	3Q23E	4Q23E	1Q24E	2Q24E	2Q24E Less 3Q23E	3Q23E	4Q23E	1Q24E	2Q24E
Argentina	-4.90	-5.03	-3.64	-3.55	-0.90	412bps	52	69	51	87
Australia	2.07	0.94	1.07	0.69	0.98	4bps	98	56	66	62
Brazil	3.40	2.14	2.37	1.43	1.10	-104bps	85	56	76	59
Canada	1.12	0.15	0.20	0.31	0.29	14bps	79	52	53	51
China	5.20	4.00	4.75	3.65	4.25	25bps	74	65	72	62
Eurozone	0.50	0.34	0.28	0.42	0.81	46bps	54	52	54	61
France	0.97	0.52	0.40	0.61	0.81	29bps	63	53	56	56
Germany	-0.62	-0.65	0.21	0.05	0.66	131bps	51	74	55	67
India	7.82	5.95	6.02	5.84	5.70	-25bps	80	51	53	52
Indonesia	5.17	5.19	4.85	4.68	4.47	-71bps	51	72	61	63
Italy	0.40	0.63	0.31	-0.01	0.48	-14bps	56	58	58	63
Japan	1.60	1.65	1.75	1.35	0.90	-75bps	52	53	62	64
Mexico	3.59	2.63	2.89	2.37	1.94	-70bps	68	55	60	58
Russia	4.85	2.71	1.61	1.82	1.95	-76bps	98	76	55	53
South Africa	1.60	-0.38	0.92	0.67	1.12	150bps	97	81	56	61
South Korea	0.90	1.17	2.22	2.47	2.57	140bps	66	98	65	56
Spain	2.20	1.24	0.74	1.07	1.34	10bps	70	60	57	56
Turkey	3.84	5.23	3.52	3.80	3.86	-137bps	76	82	55	51
United Kingdom	0.40	0.29	0.35	0.24	0.40	11bps	52	51	52	53
United States	2.38	2.48	1.67	0.98	0.43	-204bps	54	81	76	70
MODE/MEDIAN	1.84	1.20	1.34	1.02	1.04	-16bps	67	59	56	60

INFLATION							Strength Of Signal			
Headline CPI YoY						NTM Δ	Conditional Probability Of Est. Δ			
COUNTRY	2Q23	3Q23E	4Q23E	1Q24E	2Q24E	2Q24E Less 3Q23E	3Q23E	4Q23E	1Q24E	2Q24E
Argentina	112.87	124.49	124.44	124.42	121.41	-308bps	98	50	50	68
Australia	5.91	5.82	5.47	4.98	4.70	-112bps	59	87	98	80
Brazil	3.76	4.57	5.54	5.78	5.98	141bps	86	93	60	59
Canada	3.53	3.73	3.85	4.07	4.02	28bps	65	58	65	54
China	0.10	-0.07	-0.05	0.57	0.58	65bps	58	51	81	51
Eurozone	6.20	5.03	3.93	4.18	4.13	-90bps	98	98	66	53
France	6.08	5.52	5.05	4.60	4.22	-130bps	97	89	88	82
Germany	6.90	5.73	3.67	4.38	4.23	-150bps	98	98	95	59
India	4.63	7.12	7.41	6.71	7.03	-10bps	98	67	91	69
Indonesia	3.95	3.00	2.76	2.64	2.54	-46bps	98	63	56	56
Italy	7.77	5.65	3.17	3.52	3.73	-192bps	98	98	70	62
Japan	3.33	3.13	2.33	2.27	1.60	-153bps	65	98	55	98
Mexico	5.71	4.62	4.29	4.42	5.04	42bps	98	74	60	93
Russia	2.69	4.85	5.40	5.50	5.82	97bps	98	63	53	58
South Africa	6.17	4.77	4.62	4.67	4.67	-10bps	98	59	53	50
South Korea	3.23	3.08	3.15	3.28	3.23	15bps	62	56	61	54
Spain	2.77	2.57	3.53	3.27	3.85	128bps	61	98	64	81
Turkey	40.49	54.64	56.76	54.06	51.41	-323bps	98	74	81	81
United Kingdom	8.43	6.72	5.42	5.03	4.45	-227bps	98	98	75	87
United States	3.98	3.53	3.57	3.60	3.63	9bps	77	52	52	52
MODE/MEDIAN	5.17	4.81	4.11	4.40	4.23	-58bps	98	74	65	61

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

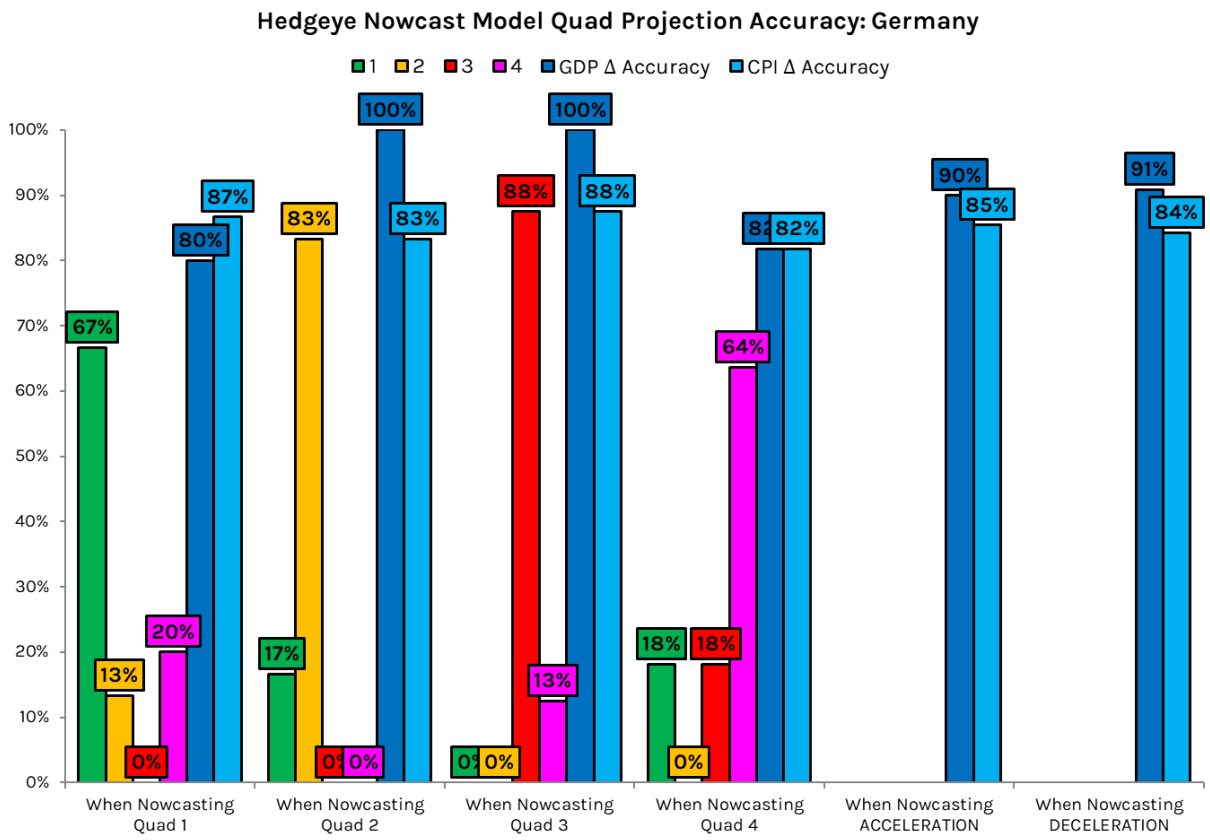
LIGHT BLUE header = Hedgeye Nowcast Model estimates. BLUE header = Hedgeye Comparative Base Effects Model estimates. GREEN/RED shading in GDP and CPI projections denotes sequential acceleration/deceleration.

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.

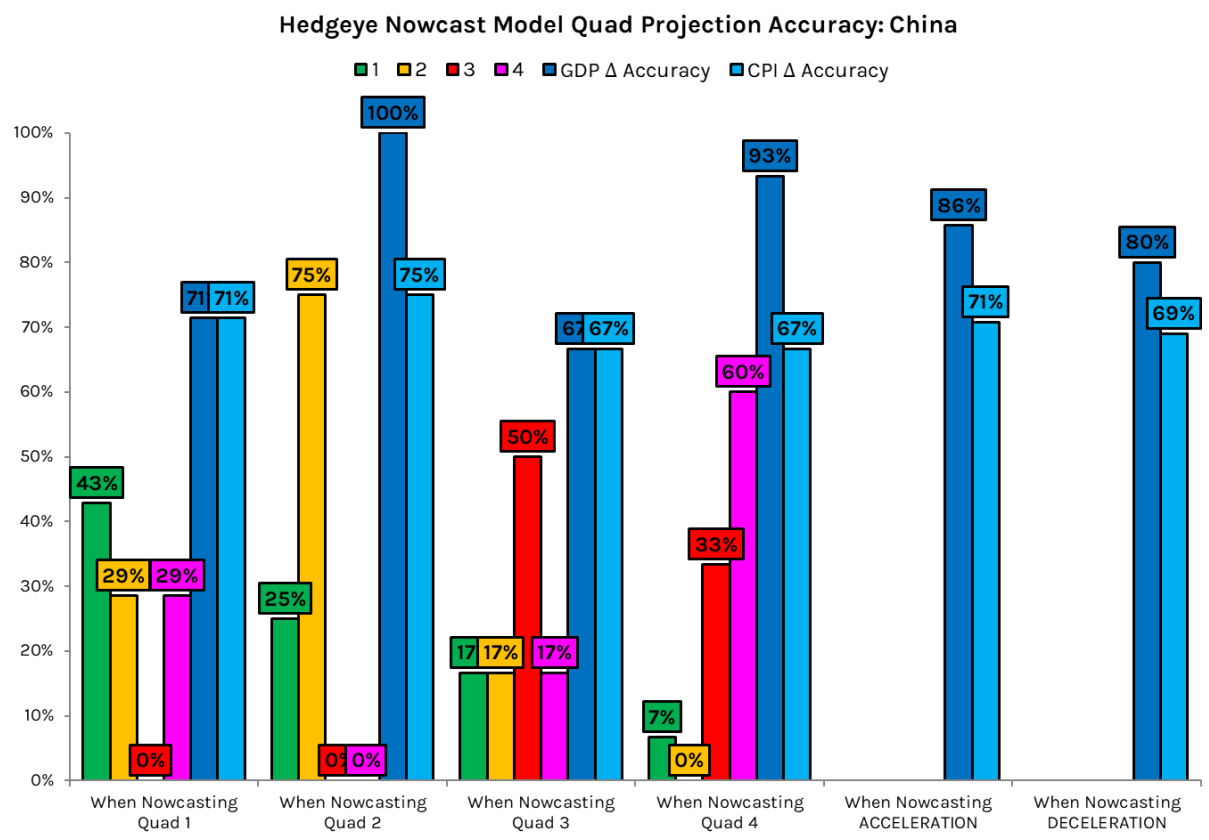
… As Are The Models

HEDGEYE

Germany Nowcast Model Backtest



China Nowcast Model Backtest



Data Source: FactSet. Backtests performed on a trailing 10yr rolling out-of-sample basis.

… As Are The Market Implications

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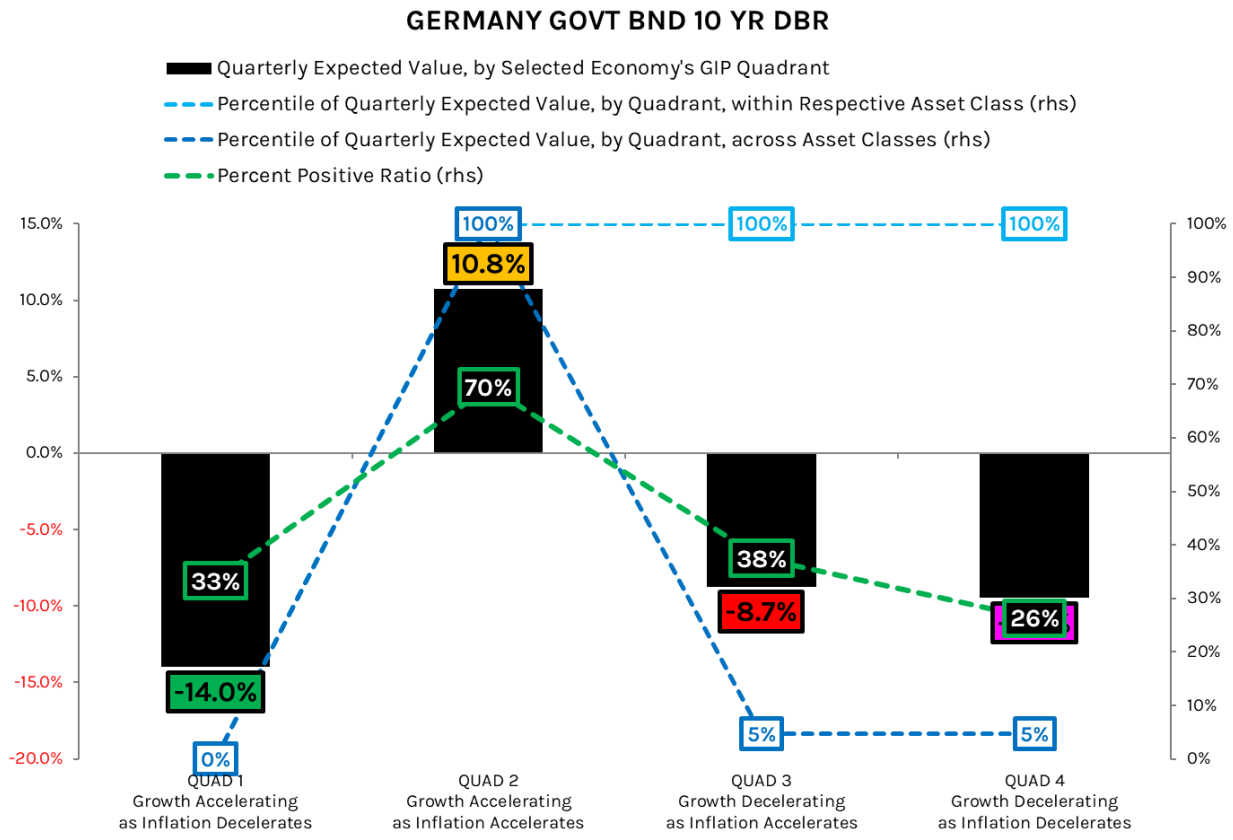
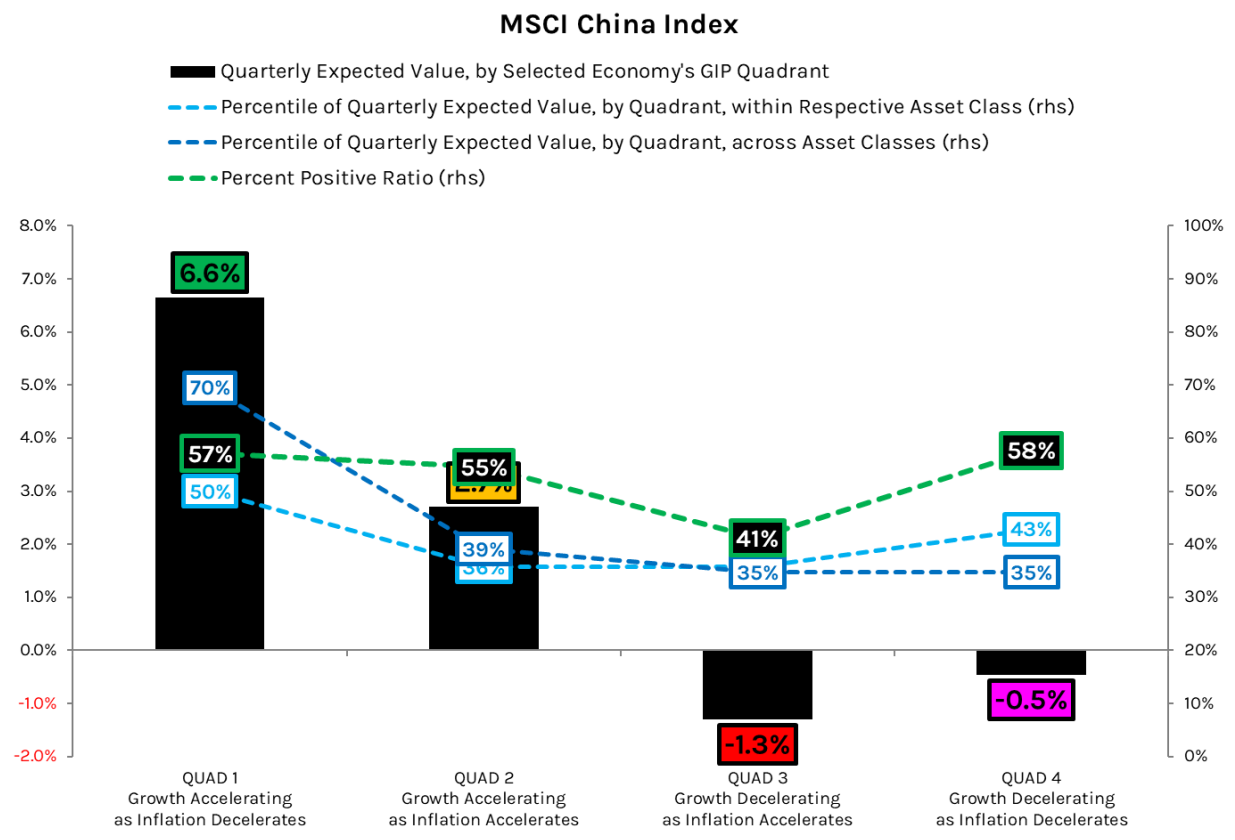
Germany GIP Model Market History Backtest: 10yr Bund Yield



China GIP Model Market History Backtest: Chinese Consumer Stocks



Source: Hedgeye GIP Model Market History Backtests., FactSet - Quarterly observations beginning in 1Q98.

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Emerging Market GIP Model Summary

9/28/2023	Hedgeye Macro GIP Model Signals												
	Actuals									Estimates			
	2Q21	3Q21	4Q21	1Q22	2Q22	3Q22	4Q22	1Q23	2Q23	3Q23E	4Q23E	1Q24E	2Q24E
Argentina	2	3	4	3	2	3	3	3	3	3	1	1	1
Brazil	2	3	3	2	2	4	4	1	4	3	2	3	3
Chile	2	3	3	3	3	3	4	1	4	1	1	1	1
China	3	4	3	1	3	2	4	4	1	4	2	3	2
Colombia	2	3	3	3	2	3	3	2	4	4	1	1	4
Czech Republic	2	3	2	2	3	3	4	3	4	1	1	4	2
Greece	2	3	3	2	3	3	1	4	1	1	2	4	4
Hong Kong	4	3	4	4	1	3	1	2	3	1	2	3	3
India	2	4	4	3	2	4	4	2	1	3	2	4	3
Indonesia	2	3	2	3	2	2	3	1	1	1	4	4	4
Israel	2	3	2	3	3	3	3	1	4	1	1	4	1
Malaysia	2	4	2	1	2	2	4	4	4	4	4	2	3
Mexico	2	4	3	2	2	2	4	4	4	4	1	3	3
Peru	2	3	3	2	3	3	4	3	4	1	1	1	1
Philippines	1	3	1	1	3	2	3	3	4	1	4	1	2
Poland	2	3	2	2	3	3	3	4	4	1	4	1	1
Russia	2	3	2	3	3	1	1	1	1	3	3	2	2
Saudi Arabia	2	1	2	2	2	3	3	4	4	4	1	1	1
South Africa	2	3	3	2	3	2	4	4	1	4	1	3	2
South Korea	2	3	2	3	3	2	4	4	4	1	2	2	1
Taiwan	3	3	2	3	3	1	4	3	1	2	2	1	4
Thailand	2	4	2	2	2	2	4	1	4	1	2	4	2
Turkey	2	3	2	3	3	3	4	1	4	2	3	1	1
MODE/MEDIAN	2	3	2	3	3	3	4	4	4	1	1	1	1

	GROWTH							Strength Of Signal			
	Real GDP YoY						NTM Δ	Conditional Probability Of Est. Δ			
COUNTRY	2Q23	3Q23E	4Q23E	1Q24E	2Q24E		2Q24E Less 3Q23E	3Q23E	4Q23E	1Q24E	2Q24E
Argentina	-4.90	-5.03	-3.64	-3.55	-0.90		412bps	52	69	51	87
Brazil	3.40	2.14	2.37	1.43	1.10		-104bps	85	56	76	59
Chile	-1.10	0.01	0.21	1.03	2.00		200bps	72	54	66	69
China	5.20	4.00	4.75	3.65	4.25		25bps	74	65	72	62
Colombia	0.30	0.24	0.87	1.39	1.17		92bps	51	62	60	54
Czech Republic	-1.00	0.46	1.46	1.21	2.46		200bps	93	79	57	87
Greece	2.90	2.98	3.08	2.11	1.86		-112bps	51	52	67	54
Hong Kong	1.50	5.26	5.91	3.06	2.72		-254bps	98	72	98	61
India	7.82	5.95	6.02	5.84	5.70		-25bps	80	51	53	52
Indonesia	5.17	5.19	4.85	4.68	4.47		-71bps	51	72	61	63
Israel	3.11	3.30	3.42	2.73	3.15		-16bps	55	53	69	62
Malaysia	2.90	2.78	2.53	4.17	3.94		117bps	52	54	79	54
Mexico	3.59	2.63	2.89	2.37	1.94		-70bps	68	55	60	58
Peru	-0.48	1.55	2.35	3.44	3.51		195bps	72	59	62	51
Philippines	4.30	5.16	4.90	5.45	5.93		77bps	68	55	61	60
Poland	-0.60	1.10	0.90	1.60	2.05		95bps	98	56	72	64
Russia	4.85	2.71	1.61	1.82	1.95		-76bps	98	76	55	53
Saudi Arabia	1.22	1.14	1.68	3.22	3.39		224bps	52	63	88	54
South Africa	1.60	-0.38	0.92	0.67	1.12		150bps	97	81	56	61
South Korea	0.90	1.17	2.22	2.47	2.57		140bps	66	98	65	56
Taiwan	1.36	2.21	3.64	4.15	3.59		139bps	83	98	70	71
Thailand	1.80	3.00	4.09	3.34	3.37		37bps	72	70	64	51
Turkey	3.84	5.23	3.52	3.80	3.86		-137bps	76	82	55	51
MODE/MEDIAN	1.80	2.63	2.53	2.73	2.72		9bps	72	63	64	59

	INFLATION							Strength Of Signal			
	Headline CPI YoY						NTM Δ	Conditional Probability Of Est. Δ			
COUNTRY	2Q23	3Q23E	4Q23E	1Q24E	2Q24E		2Q24E Less 3Q23E	3Q23E	4Q23E	1Q24E	2Q24E
Argentina	112.87	124.49	124.44	124.42	121.41		-308bps	98	50	50	68
Brazil	3.76	4.57	5.54	5.78	5.98		141bps	86	93	60	59
Chile	8.73	5.67	4.95	4.71	4.63		-105bps	98	88	63	54
China	0.10	-0.07	-0.05	0.57	0.58		65bps	58	51	81	51
Colombia	12.44	11.44	10.18	8.51	8.19		-325bps	98	98	98	66
Czech Republic	11.17	8.33	8.23	5.33	5.67		-267bps	98	54	98	63
Greece	3.80	3.23	3.52	3.20	2.60		-63bps	74	62	63	75
Hong Kong	2.00	1.42	1.63	1.83	1.83		42bps	77	60	59	50
India	4.63	7.12	7.41	6.71	7.03		-10bps	98	67	91	69
Indonesia	3.95	3.00	2.76	2.64	2.54		-46bps	98	63	56	56
Israel	4.60	3.78	3.63	3.22	3.10		-68bps	98	61	81	59
Malaysia	2.82	2.00	1.82	2.43	2.52		52bps	85	58	77	54
Mexico	5.71	4.62	4.29	4.42	5.04		42bps	98	74	60	93
Peru	7.44	5.61	5.07	4.86	4.39		-122bps	98	85	63	80
Philippines	6.03	5.03	4.88	4.83	4.90		-13bps	95	57	52	53
Poland	13.07	10.08	8.37	7.57	7.40		-268bps	98	98	80	56
Russia	2.69	4.85	5.40	5.50	5.82		97bps	98	63	53	58
Saudi Arabia	2.74	2.00	1.51	1.27	1.08		-92bps	82	71	61	59
South Africa	6.17	4.77	4.62	4.67	4.67		-10bps	98	59	53	50
South Korea	3.23	3.08	3.15	3.28	3.23		15bps	62	56	61	54
Taiwan	2.04	2.25	2.39	2.32	2.29		3bps	65	60	55	53
Thailand	1.15	0.67	0.69	0.49	0.99		32bps	70	51	58	71
Turkey	40.49	54.64	56.76	54.06	51.41		-323bps	98	74	81	81
MODE/MEDIAN	4.60	4.62	4.62	4.67	4.63		1bps	98	62	61	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.

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9/28/2023	GIP Model Signals												High-Frequency Economic Data Signals																				9/28/2023	Structural Economic Risk Factors							Financial Market Valuation Signals		
	Actuals								Hedgeye Forecasts				Consumption		Manufacturing		Exports		Manufacturing PMI		Consumer Conf.		Business Conf.		Headline CPI		Core CPI			Economic Cycle Risk				Global Capital Cycle Risk			Stock Market	Bond Market	Currency
Hedgeye Global Macro Risk Monitor	3Q21	4Q21	1Q22	2Q22	3Q22	4Q22	1Q23	2Q23	3Q23E	4Q23E	1Q24E	2Q24E	6-12M Trend	Percentile of Latest Reading (T3Y)	6-12M Trend	Percentile of Latest Reading (T3Y)	6-12M Trend	Percentile of Latest Reading (T3Y)	6-12M Trend	Percentile of Latest Reading (T3Y)	6-12M Trend	Percentile of Latest Reading (T3Y)	6-12M Trend	Percentile of Latest Reading (T3Y)	6-12M Trend	Percentile of Latest Reading (T3Y)	6-12M Trend	Percentile of Latest Reading (T3Y)	Hedgeye Global Macro Risk Monitor	Private Nonfinancial Sector Leverage (Z-Score; T5Y)	Private Nonfinancial Sector Debt Service Ratio (Z-Score; T5Y)	Headline Unemployment Rate	35-54 Year-Old Population Cohort (5Y-Forward CAGR)	Sovereign Budget Balance as a % of Nominal GDP	Current Account Balance as a % of Nominal GDP	Twin Surplus (+)/Deficit (-) Balance as a % of Nominal GDP	MSCI Index Price-to-NTM-Earnings Ratio Spread vs. MSCI ACWI (Z-Score; T3Y)	10Y Sovereign Yield Spread vs. 10Y German Bund Yield (Z-Score; T3Y)	Broad Real Effective Exchange Rate (Z-Score; T3Y)
Argentina	3	4	3	2	3	3	3	3	3	1	1	1	↑	50%	↓	0%	↓	14%	-	-	↑	94%	↓	37%	↑	100%	-	-	Argentina	0.1x	0.0x	11.0%	1.5%	-9.0%	0.5%	-	0.3x	0.0x	0.8x
Australia	4	2	3	2	2	3	3	4	4	1	4	1	↓	6%	↓	27%	↓	18%	↓	3%	↑	14%	↓	16%	→	91%	↓	73%	Australia	-0.4x	-3.2x	6.6%	1.3%	-7.8%	2.3%	-	0.9x	-0.6x	0.9x
Austria	3	2	2	3	3	2	4	4	1	4	4	1	↓	59%	↓	24%	-	-	↓	6%	↑	20%	↓	0%	↓	60%	↑	77%	Austria	3.6x	0.0x	6.2%	-1.1%	-10.0%	1.9%	-	-0.9x	0.9x	2.3x
Belgium	3	2	3	3	3	3	4	4	4	4	2	2	↓	29%	↓	15%	↓	0%	-	-	↑	46%	↑	23%	↓	31%	↑	94%	Belgium	1.0x	-0.9x	5.9%	-0.4%	-10.3%	1.1%	-	-0.9x	1.0x	1.0x
Brazil	3	3	2	2	4	4	1	4	3	2	3	3	↓	62%	↓	26%	↓	23%	↓	37%	↑	100%	↓	26%	↓	26%	↓	34%	Brazil	1.4x	-1.2x	14.2%	1.2%	-15.3%	-1.7%	-17.1%	-0.2x	-1.1x	1.8x
Canada	3	3	3	2	4	4	1	4	3	2	2	4	↓	9%	↓	29%	↓	3%	↓	0%	↓	43%	↑	0%	↓	40%	↓	54%	Canada	3.1x	0.5x	8.9%	0.4%	-15.0%	-2.2%	-17.2%	0.9x	-0.7x	-0.3x
Chile	3	3	3	3	3	4	1	4	1	1	1	1	↑	37%	↓	38%	↓	20%	-	-	↑	49%	↑	37%	↓	34%	↓	40%	Chile	2.9x	0.0x	10.9%	0.8%	-8.7%	-1.9%	-10.6%	-0.6x	0.0x	1.5x
China	4	3	1	3	2	4	4	1	4	2	3	2	↑	53%	↓	17%	↑	14%	→	40%	↓	9%	↑	37%	↓	14%	→	49%	China	2.9x	3.0x	5.2%	0.1%	-6.7%	1.6%	-	-1.4x	-1.5x	-2.6x
Colombia	3	3	3	2	3	3	2	4	4	1	1	4	↓	3%	↓	0%	↓	3%	→	3%	↑	37%	-	-	↓	69%	↑	86%	Colombia	2.3x	0.0x	16.4%	1.0%	-8.9%	-3.4%	-12.3%	-1.1x	-0.1x	1.6x
Czech Republic	3	2	2	3	3	4	3	4	1	1	4	2	↓	43%	↓	12%	-	-	↓	20%	↑	46%	↓	17%	↓	46%	↓	49%	Czech Republic	0.9x	1.3x	3.1%	0.2%	-7.4%	52.6%	-	-0.1x	-1.0x	1.7x
Denmark	3	2	3	3	3	3	1	4	4	1	2	2	↑	35%	↓	21%	↓	32%	↓	16%	↑	40%	↑	29%	↓	34%	↓	63%	Denmark	0.8x	-1.0x	5.9%	-1.0%	-4.1%	8.1%	-	1.6x	0.1x	0.6x
Emerging Markets	3	3	3	3	2	4	1	1	4	1	3	2	↑	54%	↓	14%	-	-	↑	63%	↑	-	↑	-	↓	63%	↓	-	Emerging Markets	-	-	6.0%	-	-	1.2%	1.2%	0.7x	0.4x	-0.8x
Eurozone	3	2	2	3	3	3	4	4	4	4	2	1	↓	38%	↓	9%	↓	12%	↓	3%	↑	37%	↑	37%	↓	49%	↑	80%	Eurozone	1.9x	1.7x	8.2%	-1.2%	-9.5%	1.6%	-	-1.7x	0.4x	1.4x
Finland	4	2	3	3	3	3	1	4	1	1	4	2	↑	50%	↓	26%	↓	0%	-	-	↑	31%	↓	0%	↓	40%	→	57%	Finland	1.8x	0.9x	7.4%	-0.3%	-8.0%	0.5%	-	-0.2x	0.9x	1.5x
France	3	2	3	3	3	3	2	1	4	4	1	1	↑	71%	↑	82%	↓	24%	↓	0%	↑	17%	↓	29%	↓	63%	↑	66%	France	3.0x	3.5x	7.9%	-0.3%	-11.1%	-1.6%	-12.7%	-0.9x	0.9x	0.0x
Germany	3	3	2	3	3	3	4	4	4	1	3	1	↑	32%	→	24%	↓	12%	↓	6%	↑	37%	↓	6%	↓	34%	↑	100%	Germany	2.9x	2.7x	6.1%	-1.5%	-6.5%	6.9%	-	-1.6x	0.4x	1.0x
Greece	3	3	2	3	3	1	4	1	1	2	4	4	↓	6%	↑	15%	↓	6%	↑	57%	↑	31%	↑	63%	↓	43%	↓	63%	Greece	-0.7x	0.0x	17.3%	-1.2%	-8.0%	-6.6%	-14.6%	-1.6x	-0.5x	0.5x
Hong Kong	3	4	4	1	3	1	2	3	1	2	3	3	↑	82%	→	45%	↑	40%	↑	31%	-	-	-	-	↓	54%	-	-	Hong Kong	2.1x	1.9x	6.4%	-0.6%	-8.5%	7.0%	-	-1.7x	0.0x	0.4x
India	4	4	3	2	4	4	2	1	3	2	4	3	-	-	↑	65%	↓	33%	↑	94%	-	-	-	-	↓	71%	-	-	India	1.7x	-0.1x	-	2.1%	-4.1%	1.3%	-	0.2x	-1.8x	0.9x
Indonesia	3	2	3	2	2	3	1	1	1	4	4	4	-	-	↑	73%	↓	3%	↑	89%	-	-	-	-	↓	57%	-	-	Indonesia	-0.2x	-0.6x	7.1%	0.8%	-6.3%	-0.4%	-6.7%	-0.3x	-1.6x	1.3x
Ireland	3	2	3	2	2	1	4	4	1	4	2	1	↑	32%	↓	21%	↓	53%	↓	29%	↓	32%	-	-	↓	43%	↑	63%	Ireland	-1.4x	0.0x	6.8%	0.2%	-6.3%	-6.5%	-12.8%	-1.5x	-0.5x	1.4x
Israel	3	2	3	3	3	3	1	4	1	1	4	1	→	50%	↓	15%	↓	20%	-	-	↓	20%	→	59%	↓	60%	↓	51%	Israel	0.5x	0.0x	4.7%	1.5%	-12.0%	5.3%	-	-0.9x	-0.6x	-1.9x
Italy	3	2	3	3	3	3	1	4	1	4	3	2	→	24%	↓	24%	↓	3%	↓	6%	↑	60%	↓	3%	↓	49%	→	66%	Italy	0.8x	-0.4x	9.8%	-1.9%	-11.5%	3.9%	-	-1.4x	0.6x	1.1x
Japan	3	3	3	2	3	3	1	4	1	1	4	4	↑	91%	↓	29%	↓	9%	↑	3%	↑	71%	↑	66%	↓	71%	↓	71%	Japan	3.3x	3.5x	3.0%	-0.9%	-12.7%	3.0%	-	0.1x	-1.3x	-1.2x
Malaysia	4	2	1	2	2	4	4	4	4	4	2	3	-	-	↓	18%	↓	0%	→	17%	-	-	-	-	↓	20%	-	-	Malaysia	3.4x	2.7x	4.8%	0.0%	-6.3%	4.4%	-	0.4x	-1.7x	-2.4x
Mexico	4	3	2	2	2	4	4	4	4	1	3	3	↓	26%	↓	65%	↓	37%	↑	91%	↑	100%	↑	97%	↓	17%	↓	46%	Mexico	2.9x	1.8x	4.3%	1.6%	-4.9%	1.9%	-	-1.3x	-0.2x	2.5x
Netherlands	3	2	3	3	3	4	4	4	1	4	2	1	↓	29%	↓	9%	↑	72%	↓	11%	-	-	↓	6%	↓	37%	↑	77%	Netherlands	-1.1x	-1.3x	5.1%	-1.3%	-6.9%	5.2%	-	-2.2x	1.1x	2.3x
New Zealand	3	2	3	3	1	4	4	4	4	1	1	2	↓	54%	↓	45%	↓	11%	↓	3%	↑	40%	↑	91%	↓	55%	↓	36%	New Zealand	2.4x	0.0x	4.9%	-0.3%	-8.5%	-1.0%	-9.5%	-0.9x	0.5x	0.9x
Norway	3	3	1	3	3	4	2	4	1	1	3	1	↑	66%	↓	18%	↓	0%	↑	26%	↓	25%	-	-	↓	49%	↑	89%	Norway	1.6x	1.9x	5.0%	0.2%	-2.2%	1.1%	-	-0.6x	-0.7x	-1.2x
Peru	3	3	2	3	3	4	3	4	1	1	1	1	-	-	↓	24%	↑	60%	-	-	-	-	-	-	↓	37%	-	-	Peru	0.0x	0.0x	15.1%	1.9%	-8.9%	1.1%	-	-0.4x	-1.5x	2.0x
Philippines	3	1	1	3	2	3	3	4	1	4	1	2	-	-	↓	53%	↓	26%	↑	11%	-	-	↑	83%	↓	60%	-	-	Philippines	0.0x	0.0x	8.7%	1.7%	-8.6%	3.5%	-	-2.1x	0.0x	1.3x
Poland	3	2	2	3	3	3	4	4	1	4	1	1	↓	26%	↓	11%	↓	0%	↑	11%	↑	80%	↑	51%	↓	51%	→	69%	Poland	-1.0x	-1.5x	3.3%	1.2%	-9.5%	4.1%	-	-0.6x	-0.3x	2.9x
Portugal	3	2	2	3	3	3	4	4	4	1	4	1	↑	56%	↓	15%	↓	0%	-	-	↑	46%	↑	14%	↓	57%	↑	86%	Portugal	-0.7x	-0.8x	7.3%	-1.2%	-8.0%	-1.0%	-9.0%	-1.8x	-0.2x	-0.4x
Russia	3	2	3	3	1	1	1	1	3	3	2	2	↑	91%	↑	63%	↓	9%	↑	86%	↑	82%	↑	97%	↓	26%	↓	23%	Russia	2.1x	-0.8x	6.1%	1.5%	-4.4%	2.5%	-	-0.2x	0.8x	-0.8x
Singapore	3	3	3	2	3	4	4	1	1	1	1	4	↓	18%	↓	0%	↓	9%	→	23%	-	-	↓	55%	↓	43%	-	-	Singapore	3.2x	0.0x	3.2%	-0.5%	-14.0%	16.7%	-	-1.4x	-1.5x	1.8x
Saudi Arabia	1	2	2	2	3	3	4	4	4	1	1	1	-	-	-	-	-	-	↑	46%	-	-	-	-	↓	23%	-	-	Saudi Arabia	1.3x	0.0x	-	1.6%	-12.7%	-3.1%	-15.8%	-0.4x	0.0x	0.4x
South Africa	3	3	2	3	2	4	4	1	4	1	3	2	↓	26%	↑	71%	↓	6%	↓	23%	↓	42%	↑	27%	↓	29%	→	74%	South Africa	2.3x	1.0x	32.5%	2.7%	-15.1%	1.8%	-	0.6x	0.0x	-1.1x
South Korea	3	2	3	3	2	4	4	4	1	2	2	1	↑	32%	↓	12%	↓	20%	→	29%	↑	49%	↑	11%	↓	49%	↓	57%	South Korea	2.6x	2.3x	4.2%	-1.1%	-4.8%	4.4%	-	1.8x	-1.3x	0.1x
Spain	3	2	3	2	3	4	1	4	4	3	1	2	↑	86%	↓	15%	↓	9%	↑	9%	↑	54%	↑	29%	↓	43%	↓	77%	Spain	0.0x	0.0x	16.1%	-1.5%	-12.2%	0.6%	-	-1.1x	0.9x	0.7x
Sweden	3	2	3	3	3	3	1	4	4	1	2	1	↓	29%	↓	0%	↓	23%	↑	9%	↑	26%	→	0%	↑	49%	↑	77%	Sweden	1.9x	2.7x	8.2%	-0.1%	-4.8%	5.9%	-	-0.7x	-0.6x	-1.3x
Switzerland	3	3	3	3	3	4	2	4	4	1	4	2	↓	18%	-	-	↓	20%	↓	3%	↓	18%	-	-	↓	46%	→	54%	Switzerland	2.3x	2.6x	3.3%	-0.5%	-4.2%	0.5%	-	-0.2x	-2.0x	2.2x
Taiwan	3	2	3	3	1	4	3	1	2	2	1	4	↑	46%	↓	20%	↓	26%	↑	14%	-	-	-	-	↓	57%	-	-	Taiwan	0.0x	0.0x	3.8%	0.0%	-2.2%	14.2%	-	1.9x	-1.7x	-1.5x
Thailand	4	2	2	2	2	4	1	4	1	2	4	2	↓	15%	↓	6%	↓	15%	↑	14%	↑	100%	-	-	↓	34%	↓	49%	Thailand	2.6x	1.2x	1.9%	-0.8%	-5.2%	4.2%	-	-0.5x	-1.4x	0.0x
Turkey	3	2	3	3	3	4	1	4	2	3	1	1	↑	94%	↓	35%	↑	32%	↑	20%	→	100%	↑	26%	↓	71%	↓	89%	Turkey	1.8x	-1.0x	12.9%	1.3%	-6.4%	-4.5%	-10.9%	1.4x	-1.4x	-1.9x
United Kingdom	3	2	2	3	3	3	4	1	4	1	4	1	↑	54%	↑	59%	↓	18%	↓	3%	↑	69%	↑	91%	↓	51%	↑	63%	United Kingdom	2.0x	1.6x	5.2%	-0.2%	-16.7%	-3.2%	-19.9%	-0.8x	1.6x	2.4x
United States	3	2	3	3	4	4	1	1	1	3	3	3	↓	3%	↓	29%	↓	21%	↓	17%	↑	29%	↓	26%	↓	26%	↓	41%	United States	3.7x	1.4x	6.7%	0.4%	-15.8%	-2.8%	-18.5%	0.5x	0.2x	0.7x
MODE/MEAN	3	2	3	3	3	4	4	4	1	1	1	1	↑	42%	↓	28%	↓	18%	→	11%	↑	48%	↑	36%	↓	47%	↓	64%	MODE/MEAN	1.5x	0.6x	7.9%	0.2%	-13.6%	0.0%	-	-0.5x	-0.3x	0.5x

Data Source: Government Statistics Agencies, BIS, World Bank, and IMF. Intellectual Property of Hedgeye Risk Management. LIGHT BLUE header = Hedgeye Nowcast Model estimate. BLUE header = Hedgeye Comparative Base Effects Model estimates. Asterisk denotes Manufacturing PMI if the economy is devoid of a Composite PMI data series.

Q3 2023 Macro Themes

HEDGEYE

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.

Data Sources: Hedgeye Estimates

Q4 2023 Macro Themes

HEDGEYE

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.

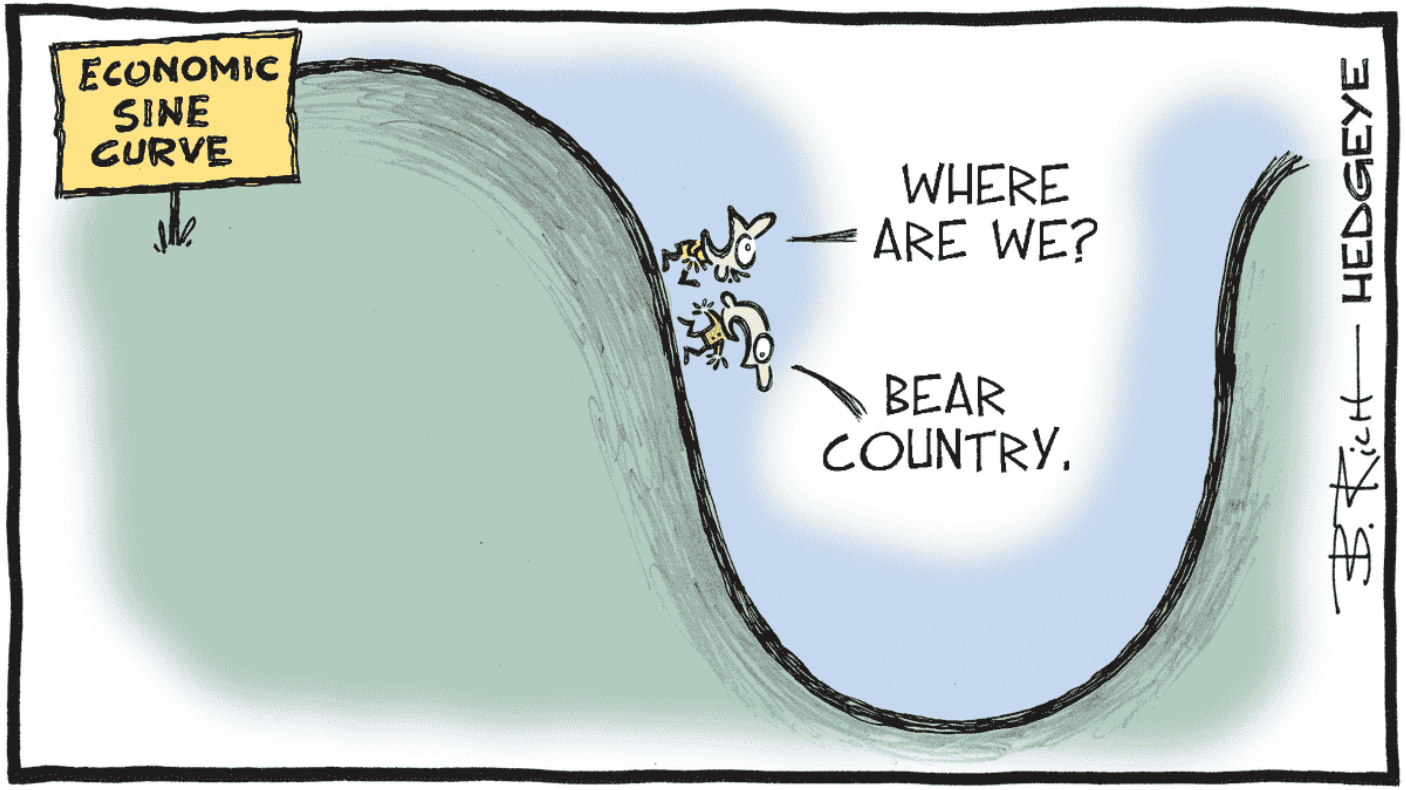
2 The Big (G): Deficits & Debt

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 Japan/India vs. Short European Recession

With growth expected to land in the top-half of the Quad Matrix (accelerating) in 4Q23 for both Japan and India, and with the signal incrementally confirming this trajectory, we continue to favor these international equity exposures on the long side. Accommodative monetary policy is powering real growth acceleration through heightened external demand with both exports and the wave of post-pandemic tourism benefitting from a weaker yen. Despite the double impact of a strengthening dollar and energy reinflation adding new risks to the energy / food importer's loose monetary policy stance, Japan is, for now, leaning into above-target inflation after decades of deflationary struggles. 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 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 reinflation) 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

HEDGEYE

Our 2023 Conceptual Frameworks Remain On Time & On Script!

2023: Twin Transitions

Introduced March 2023

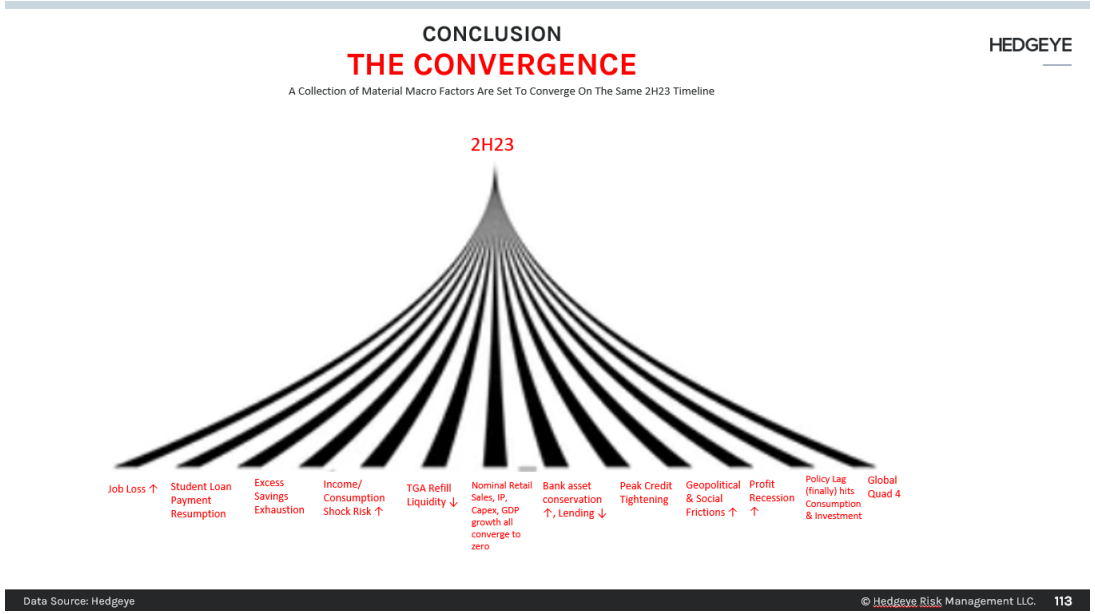
🔑 Rate Tightening → Credit Tightening: The transition from Rate Tightening to Credit Tightening has now fully commenced. Credit tightening impacts real economic activity reflexively and the impact will progressively intensify from here.

🔑 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

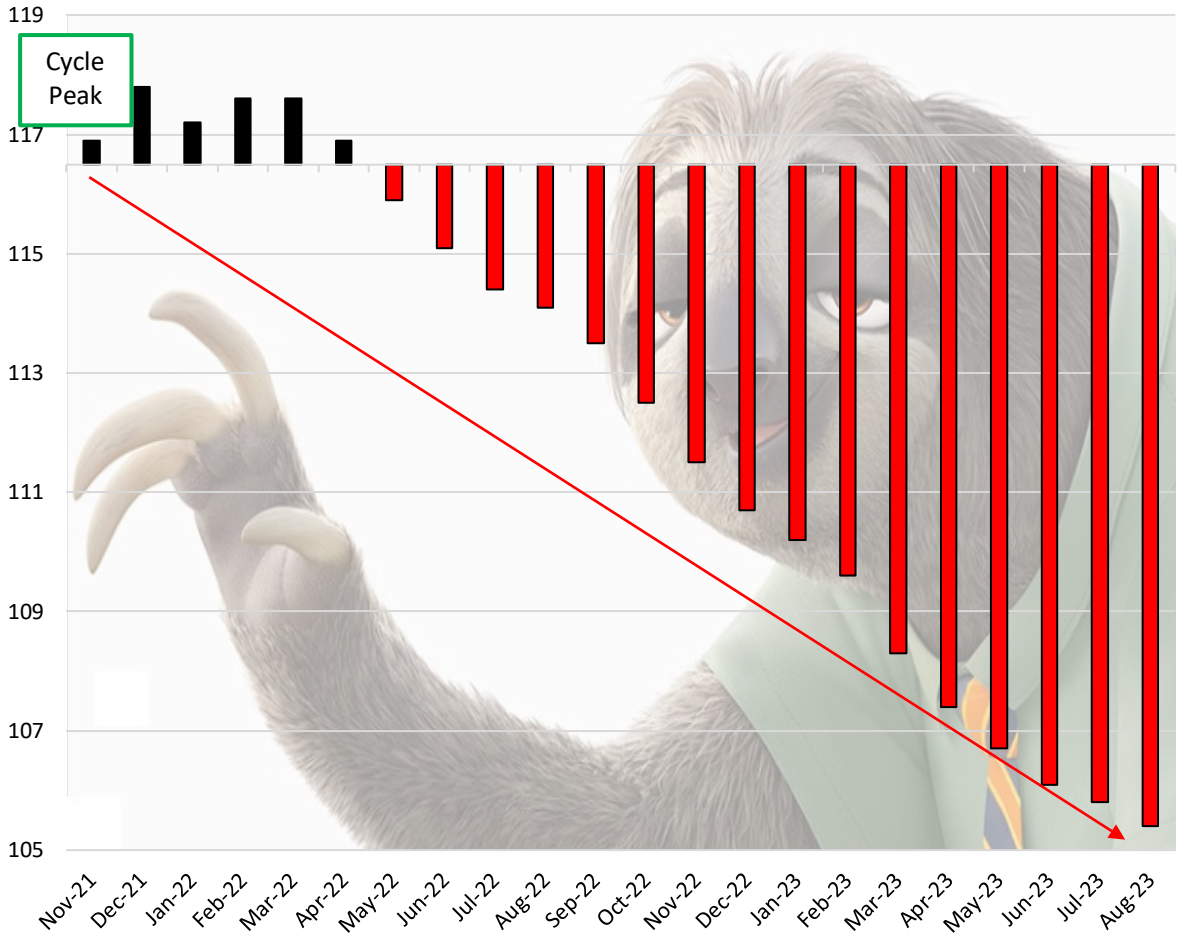


3Q Redux: Cycle-Time ≠ Calendar-Time

HEDGEYE

21-Months of Deceleration & Counting for the most Sloth-ian cycle in modernity. *#TheCycle* Does Not Move At the Speed of Breathless Social Media Myopia

CONFERENCE BOARD LEI

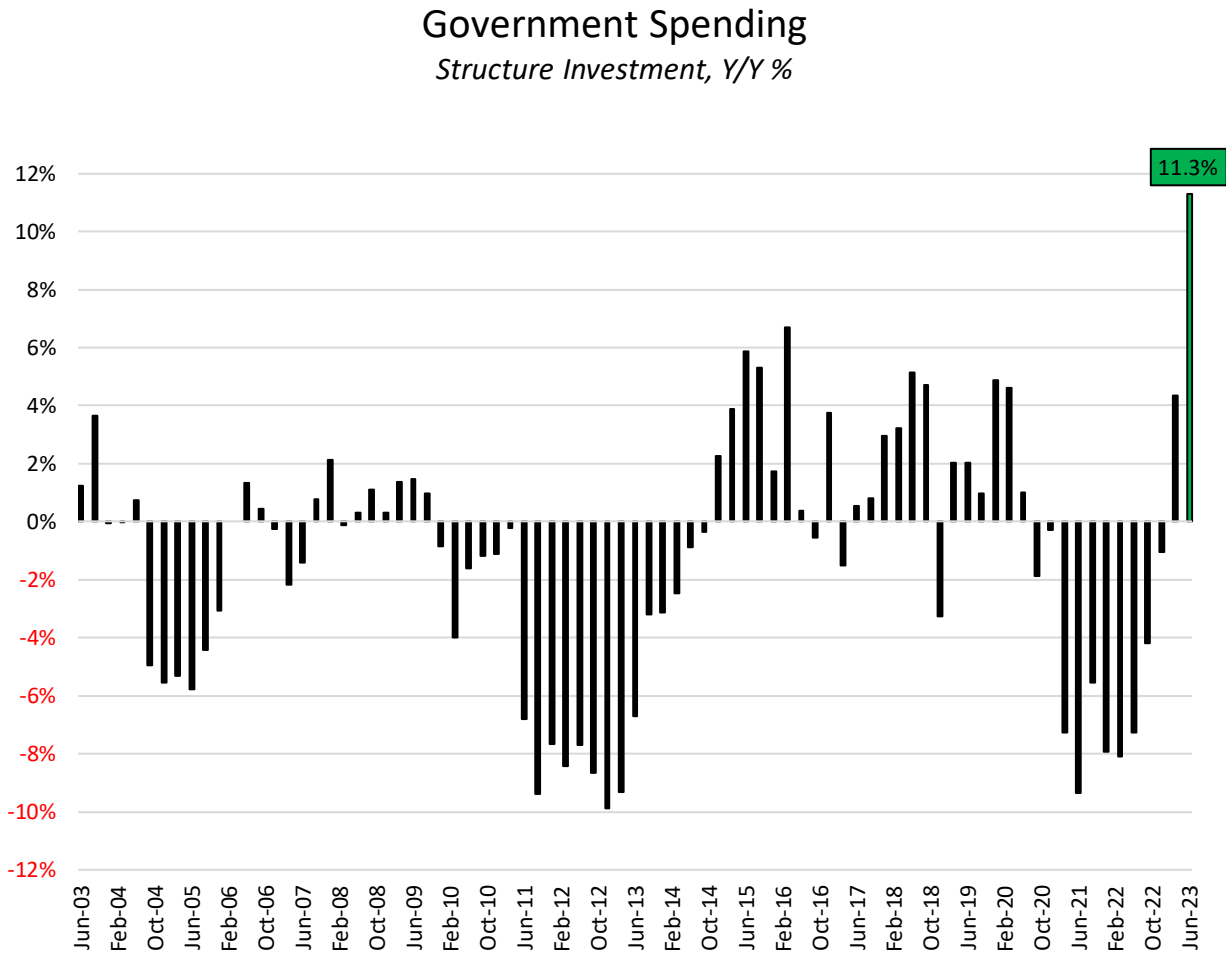


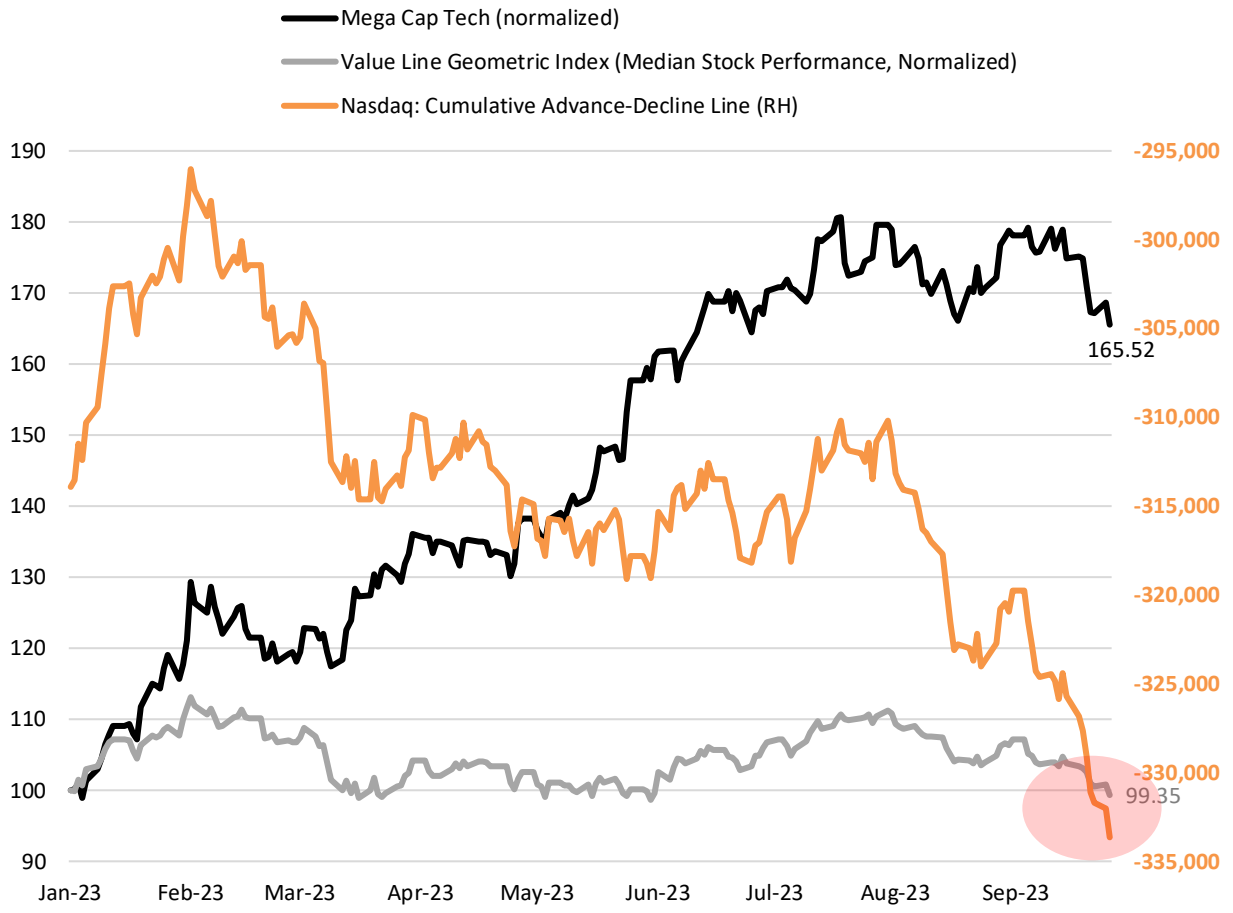
Data Source: Factset

Redux: Mega-Cap Tech & Mega "G" = The Economy

HEDGEYE

Government spending growth accelerated to one of its highest levels in decades in 2Q while the Performance Titanic – which has just recently begun to take on #VASP Water – remained on tilt. Meanwhile, the Nasdaq A/D line continues to sink and the median stock is now down for the year.



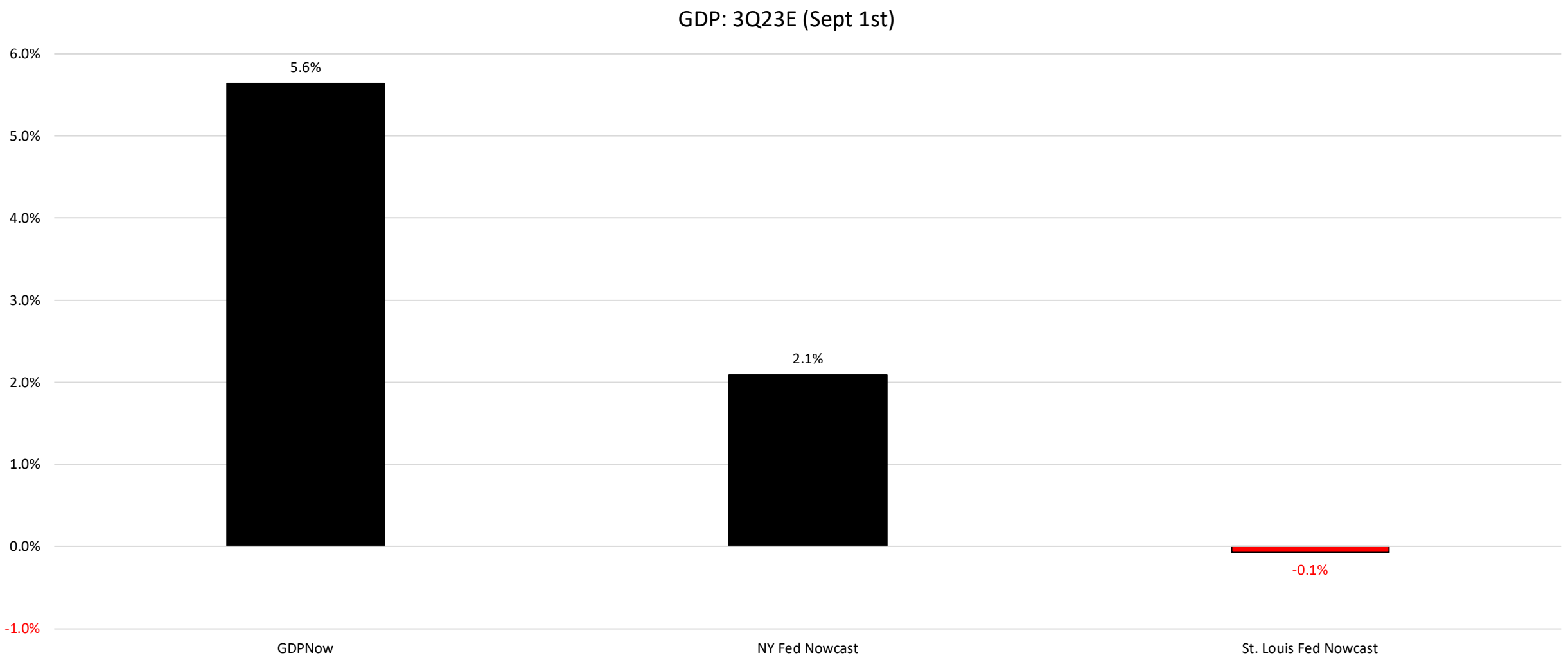


Data Source: Factset, BEA

3Q23 | Ridiculously Good But Maybe Pretty Bad But Also Potentially Kinda Mediocre!

HEDGEYE

No Worries, as the GDP estimates below clearly show, The People In Charge (of estimates & steering policy based on those estimates) Totally Got This! .....

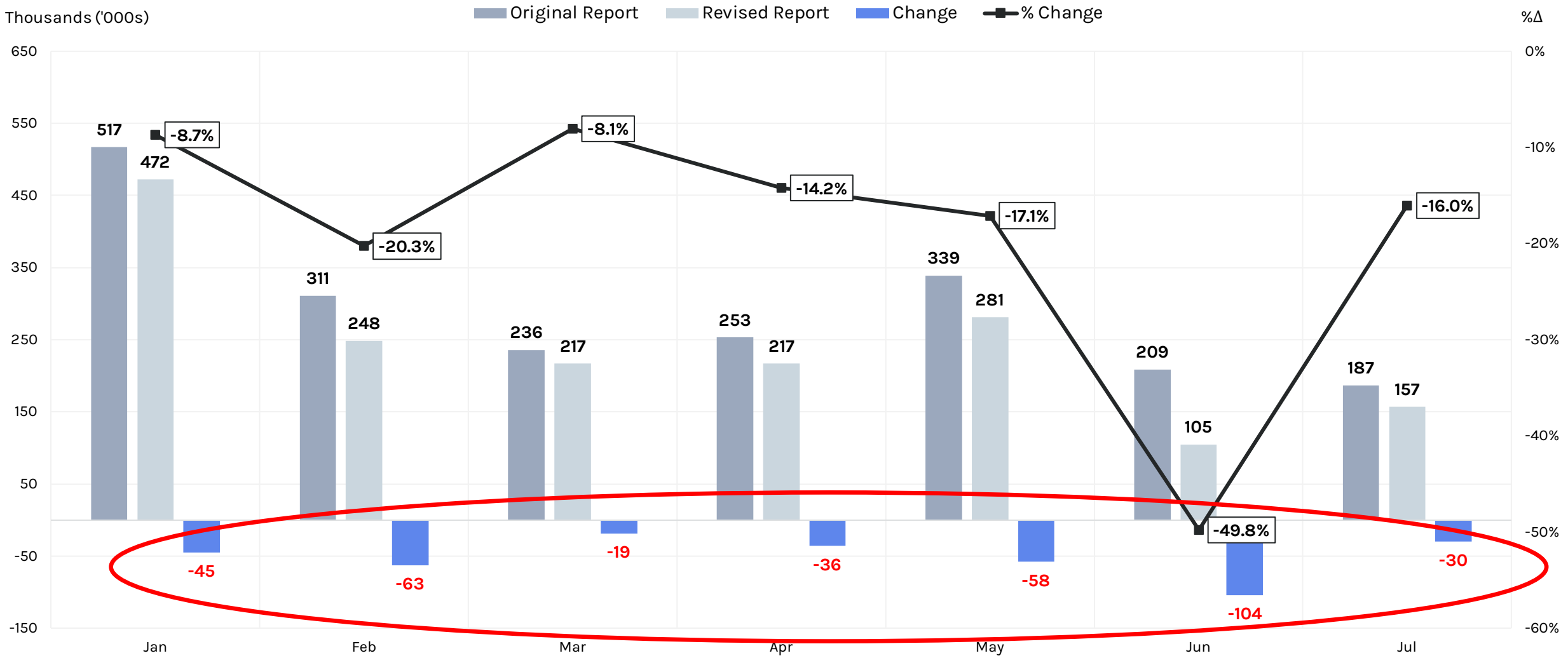


Data Source: Atlanta Fed, NY Fed, Cleveland Fed

To Be Fair … Even the Data Doesn't Know What the Data Is!

HEDGEYE

NFP = revised lower every month this year. For perspective, the last time we had 7 consecutive negative revisions was during the GFC.



Data Source: BLS

April ‘22-March’23 Also Revised Lower By -306K

HEDGEYE

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

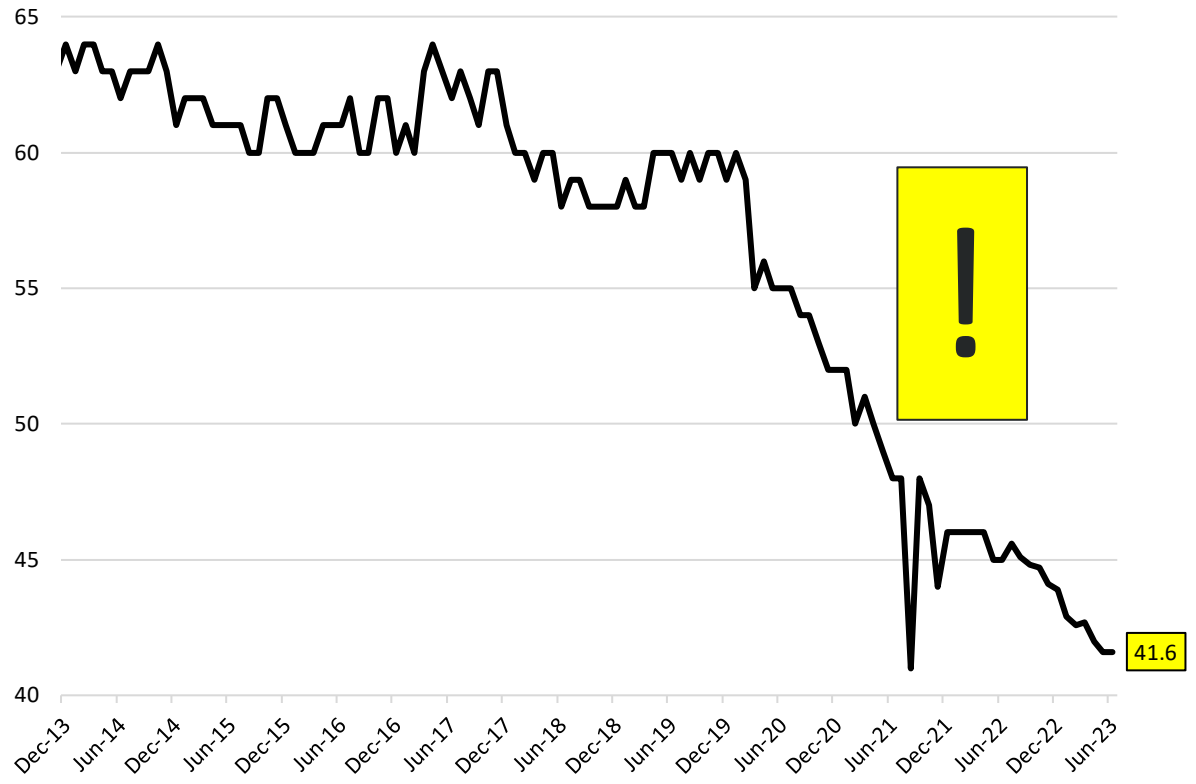
Signal ↓, Noise ↑

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.

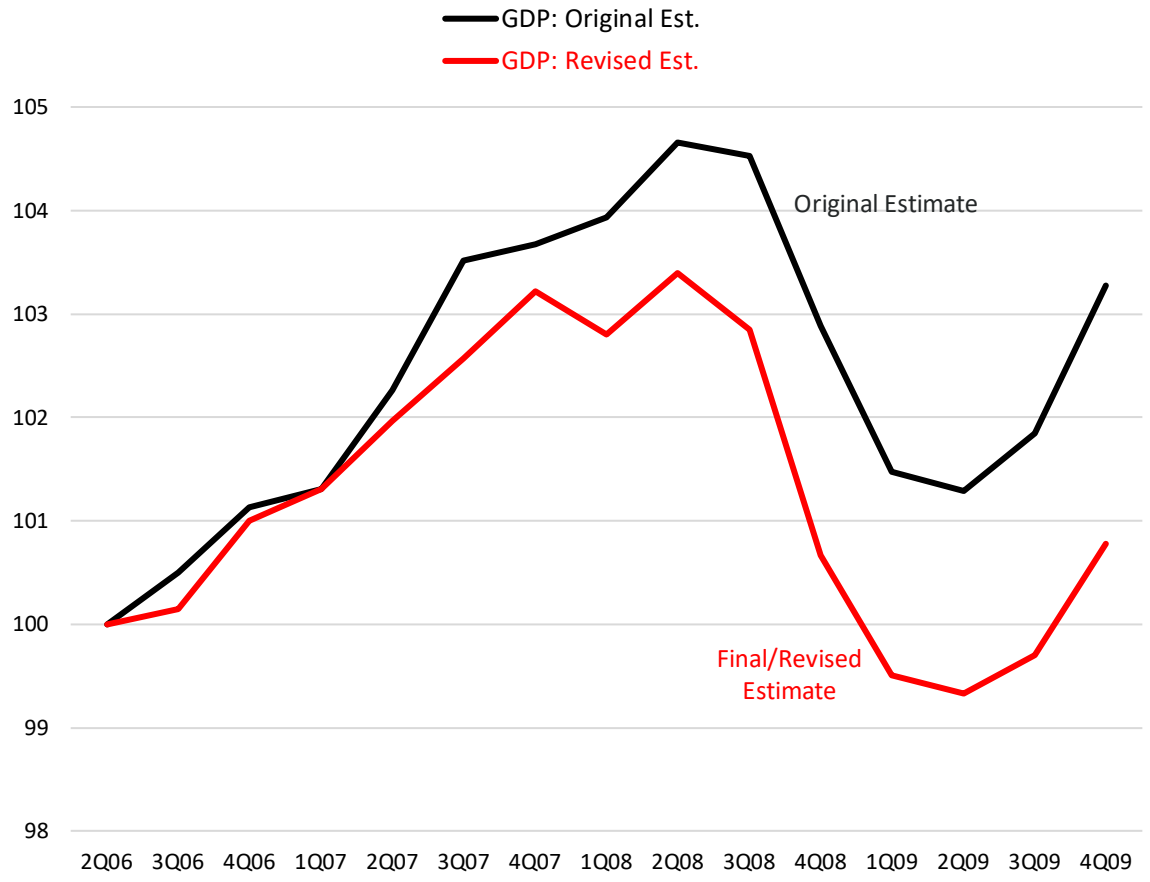
Response Rate: Current Employment Statistics

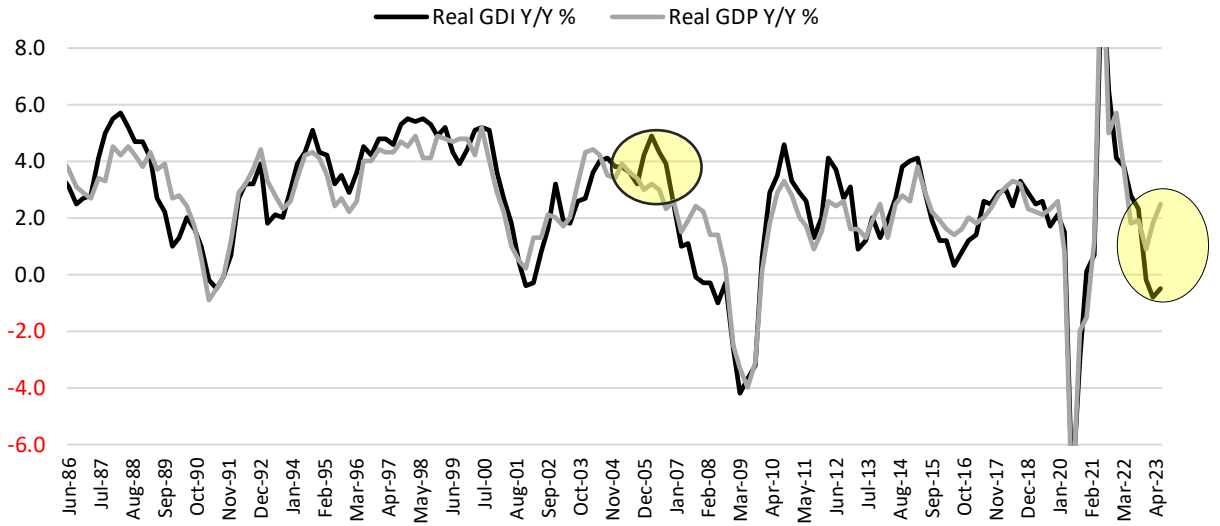


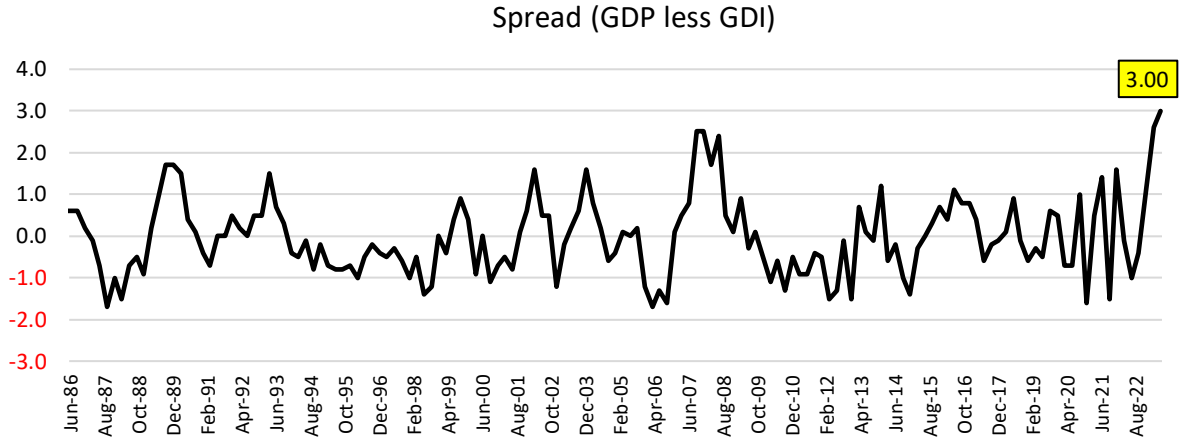
The Funhouse Mirror of Peri-Recessionary Data

HEDGEYE

GDP in the GFC period received serial large-scale negative revisions for years. The Current Spread between GDP (gross domestic product) and GDI (gross domestic income) – which, in theory, should measure the same thing – has never been wider and hasn't been this wide since the GFC. In other words, more (large) revisions are in queue and liberal use of salt grains advised in interpreting the reported data. **This morning's benchmark revision helped close the GDI-GDP gap….while Consumption was revised ↓↓





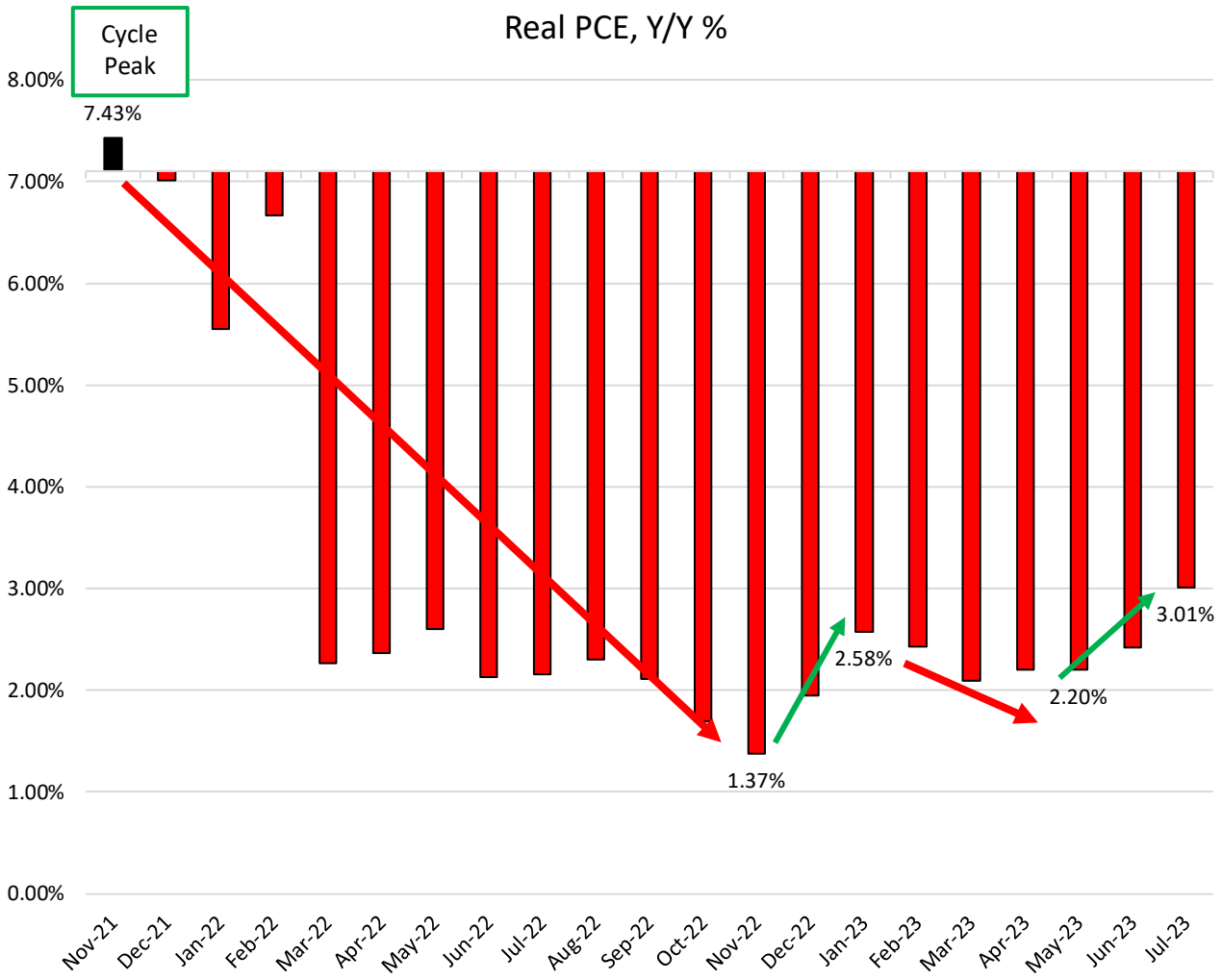


Data Source: Factset, BEA

REARVIEW REPORT: JULY = The Peak in the Countertrend Bounce

HEDGEYE

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



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

Data Source: Factset

Oh … that Positive Distortion Palooza from January is now on the immediate Comp horizon!

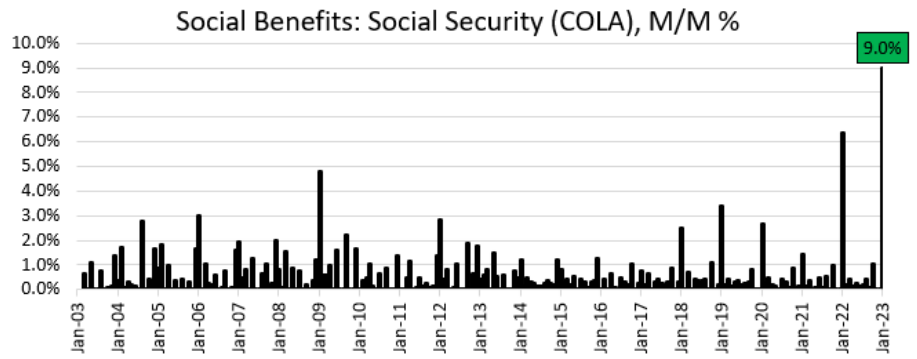
HEDGEYE

JANUARY → NOISE-Palooza

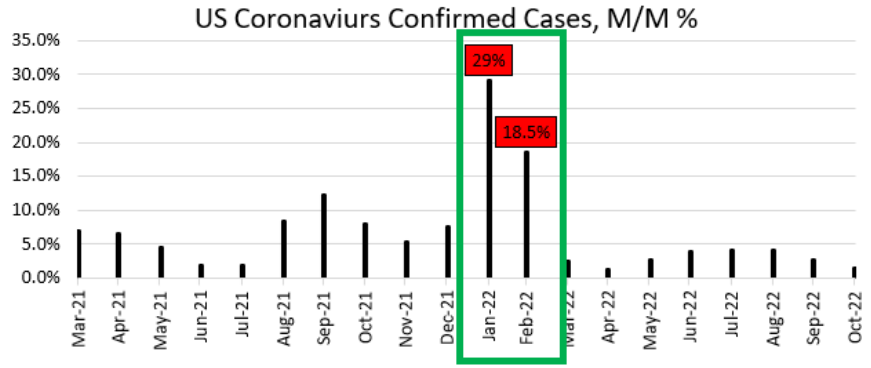
HEDGEYE

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



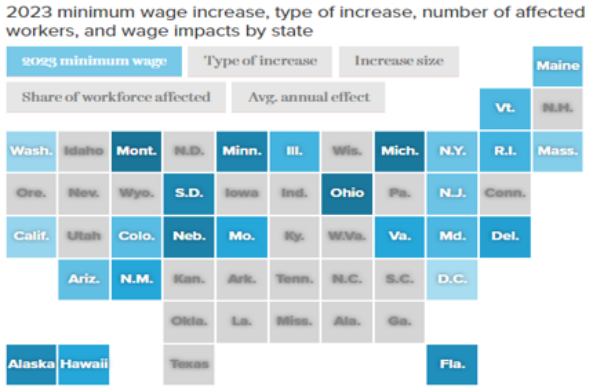
JAN NFP: Weather = Added +100K

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 ↑



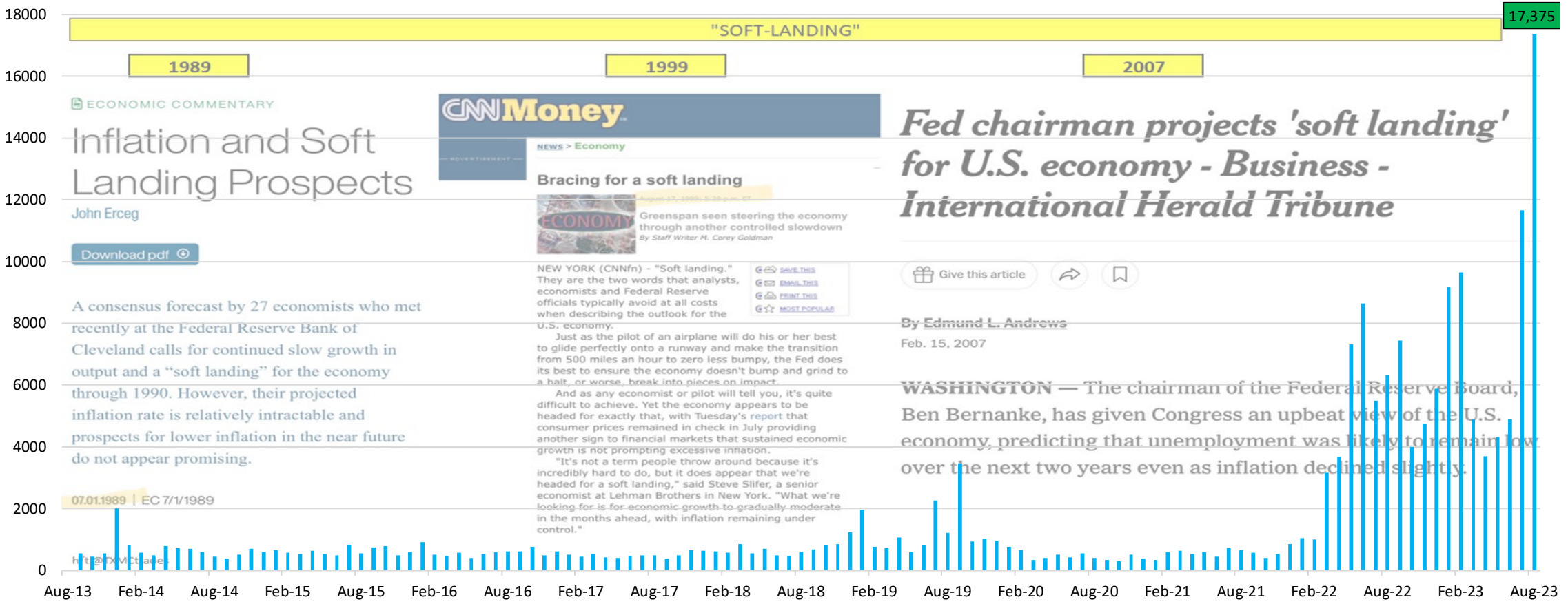
Data Source: Bloomberg, Factset, BLS, Reuters

"Soft-Landing" → The Contra-Signal Timing Was Sublime!

HEDGEYE

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

"Soft Landing" - Story Count Mentions

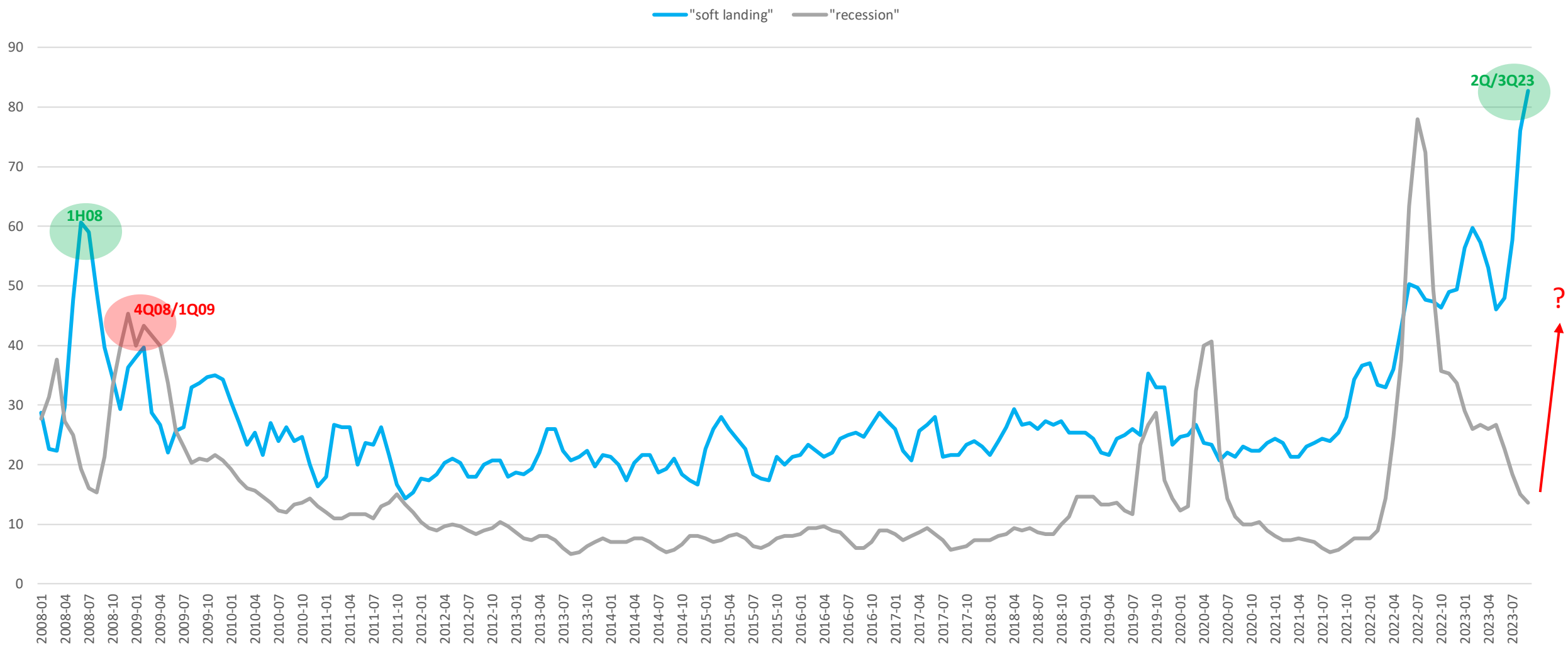


Data Source: CNN, Cleveland Fed, Bloomberg

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

HEDGEYE

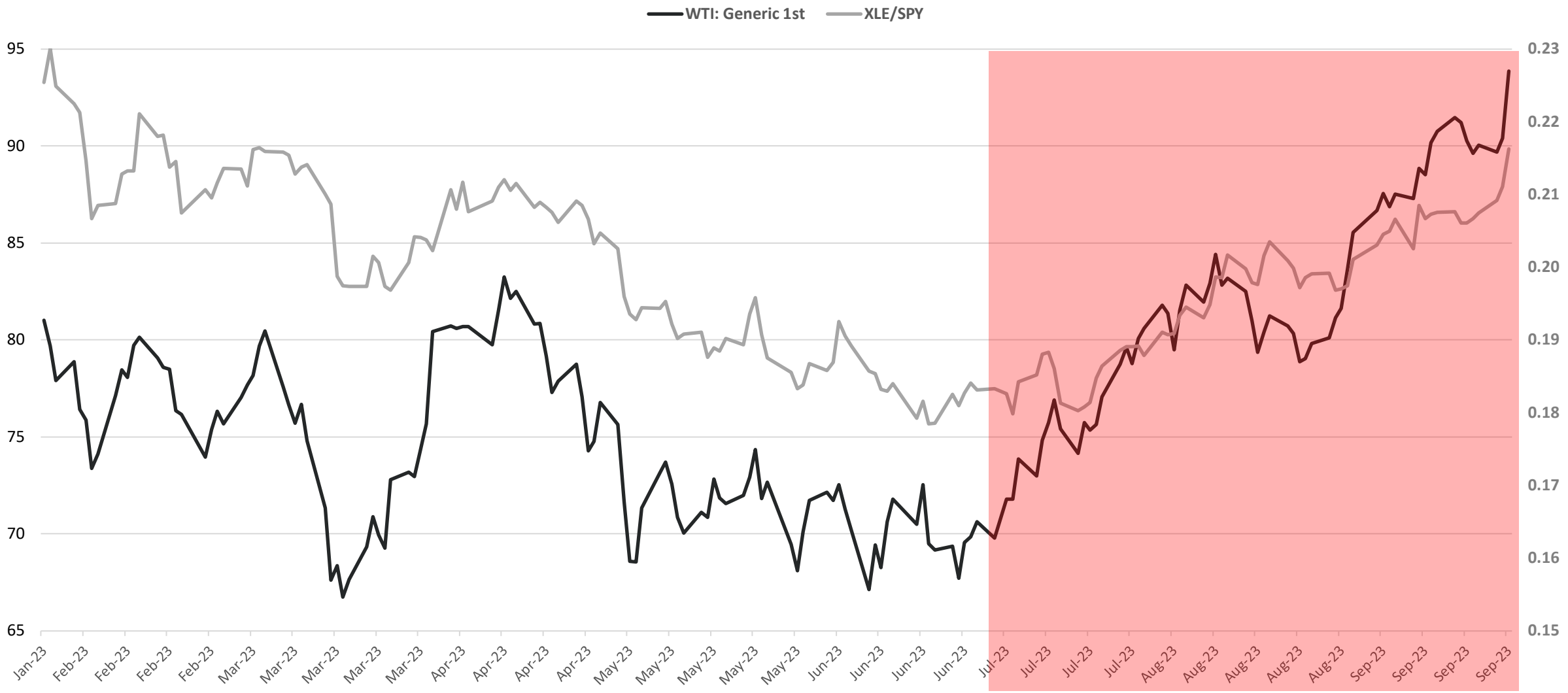
There's obviously not a meaningful sample size but the historical pattern whereby "soft landing' optimism gives way to recessions reality (ie 2008-2009) is not particularly inspiring



Data Source: Google Trends

July/Aug = Peak "Soft-Landing". Also, Jul/August … Inflation Accelerating!

HEDGEYE

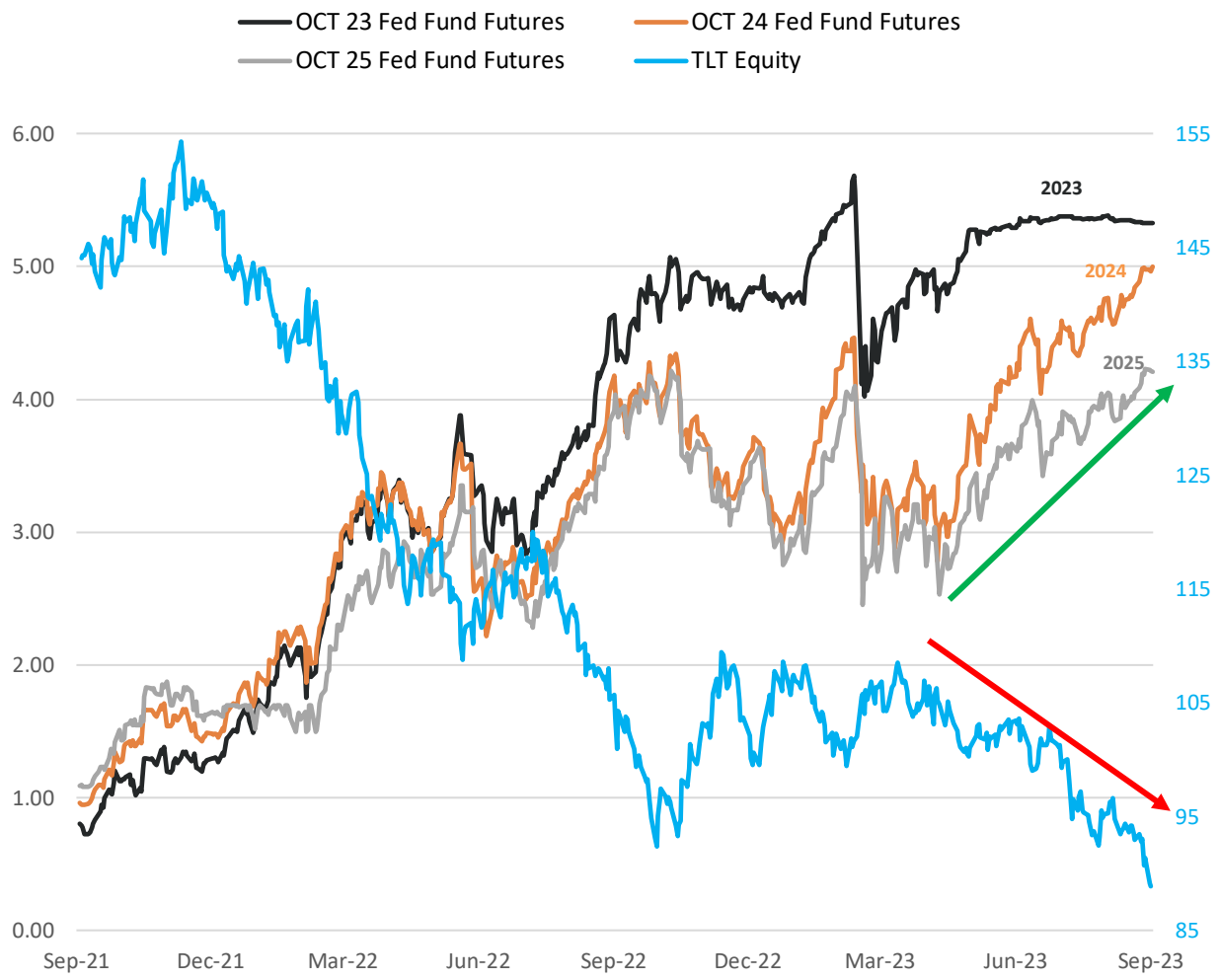


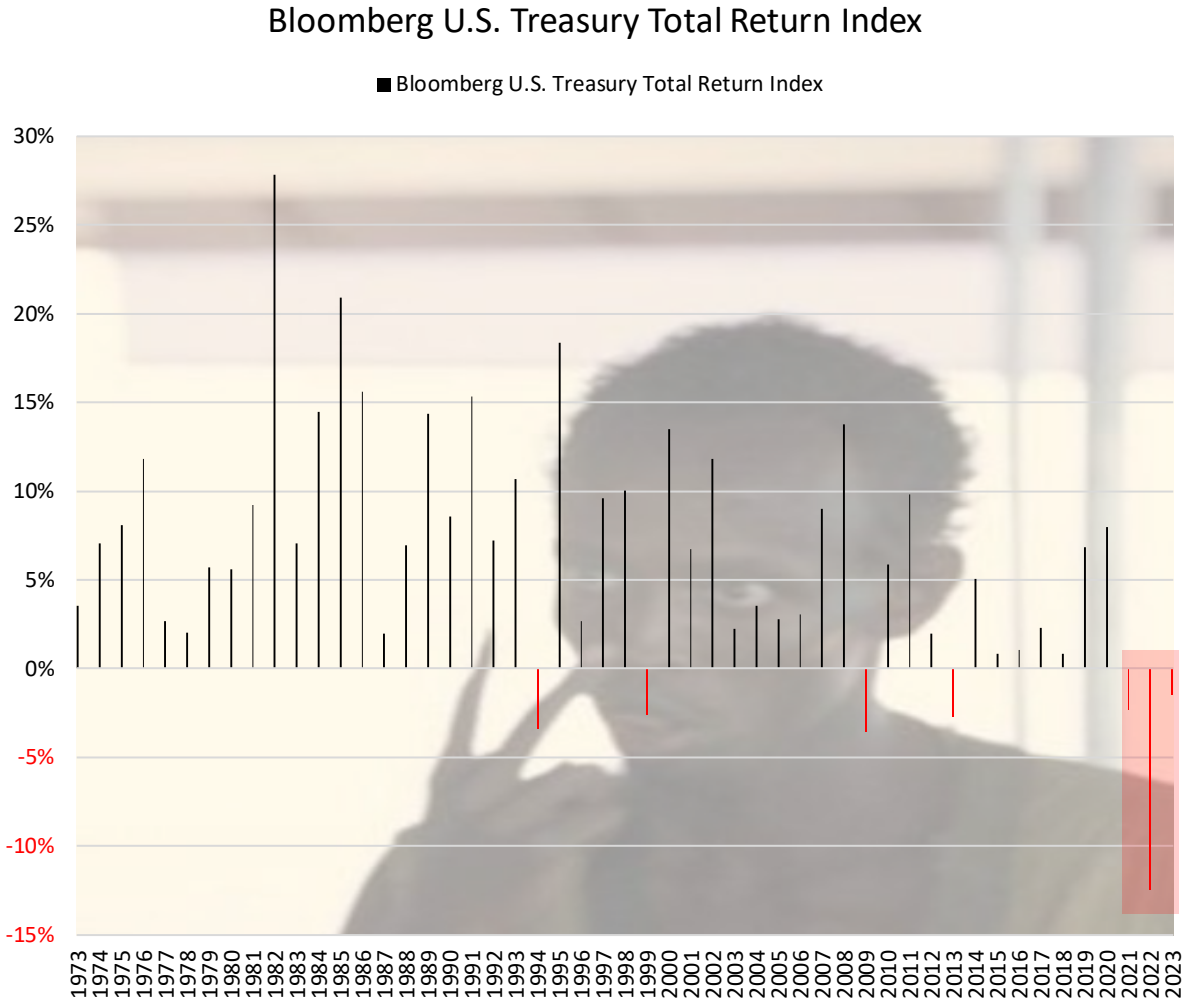
Data Source: Factset, ISM

"I'm The Captain Now" - Inflation Accelerating/Higher-For-Longer

HEDGEYE

Don't Come (TLT) Knockin' When The Higher-For-Longer #VASP Van is Rockin'



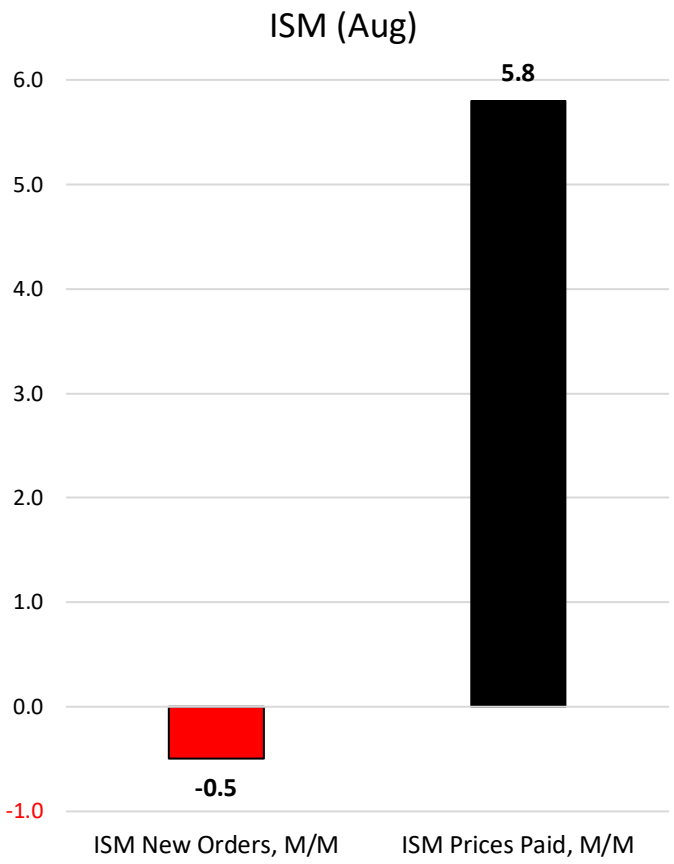


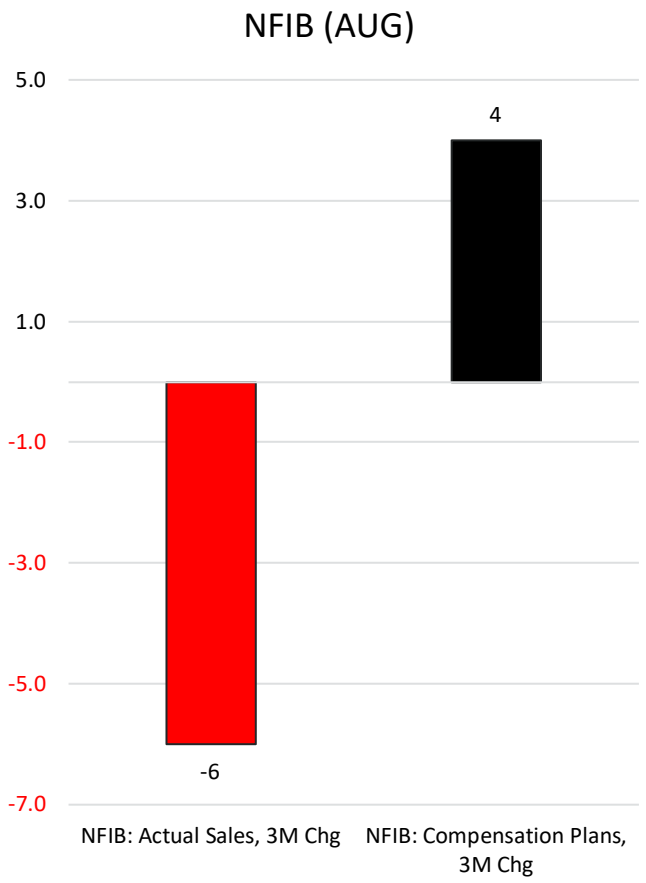
Data Source: Factset, Bloomberg

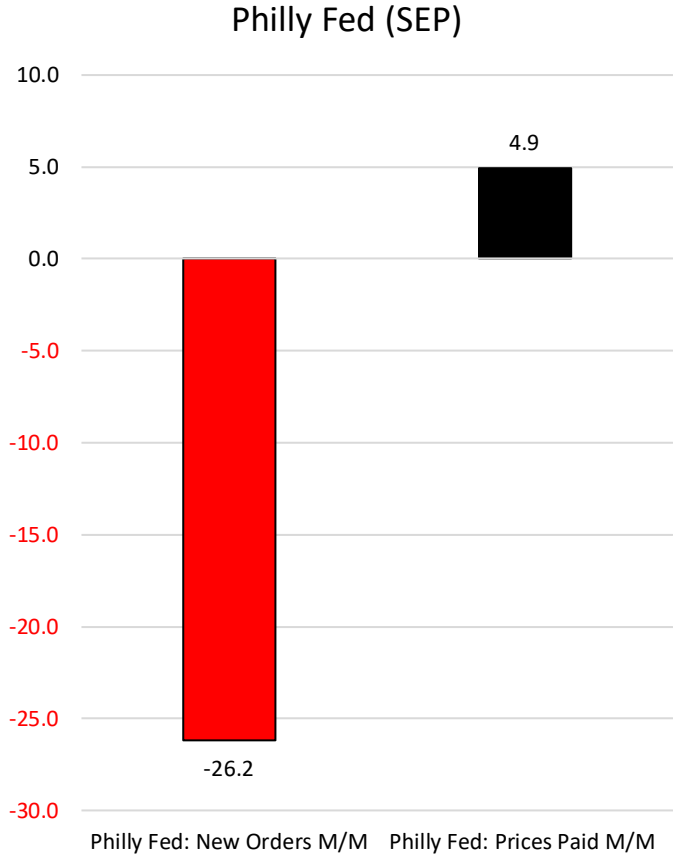
FROM SOFT LANDING → TO STAG-TEMBER

HEDGEYE

DEMAND ↓, PRICES ↑ has been the prevailing reality since late July







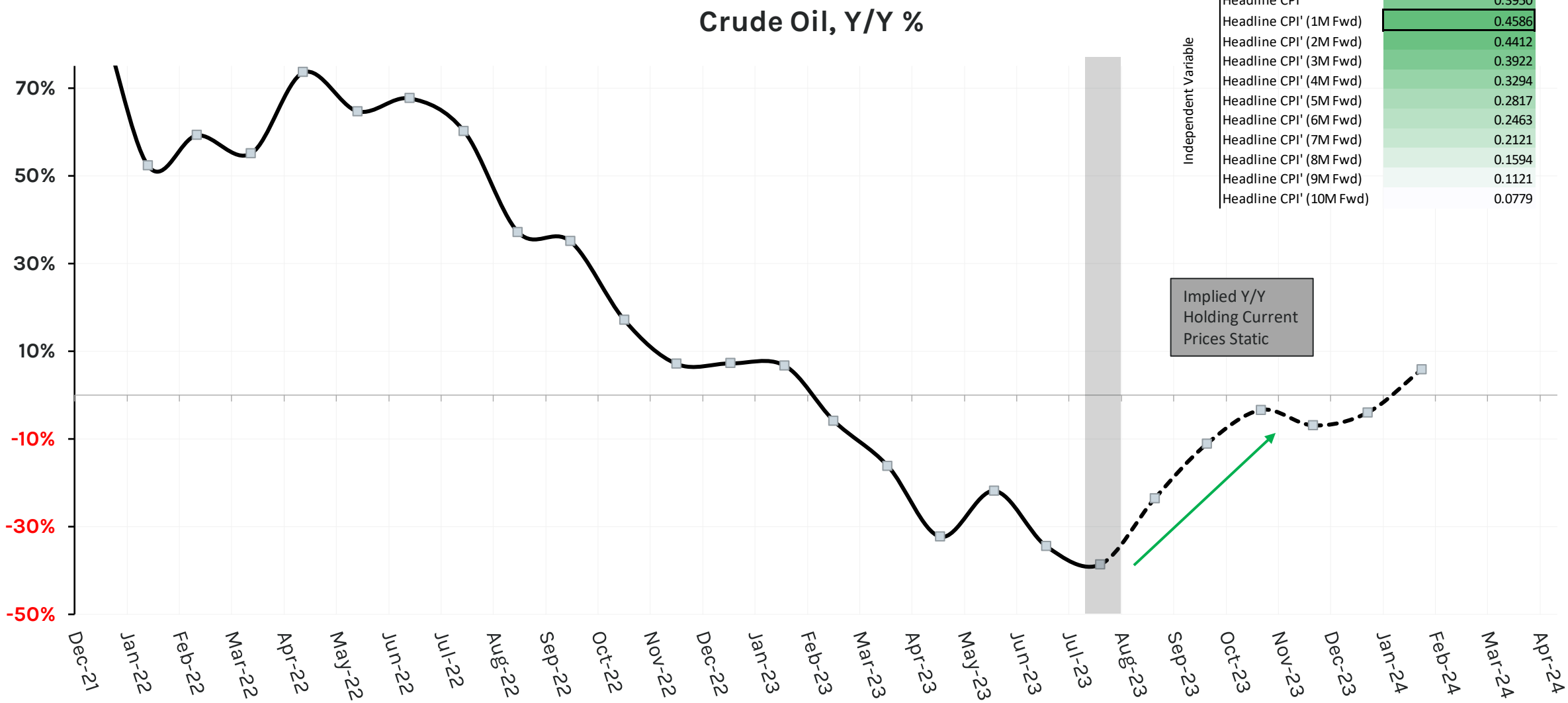
Data Source: Factset, ISM

Energy Price YoY Base Effects

HEDGEYE

Base effects are set to push headline CPI higher through January

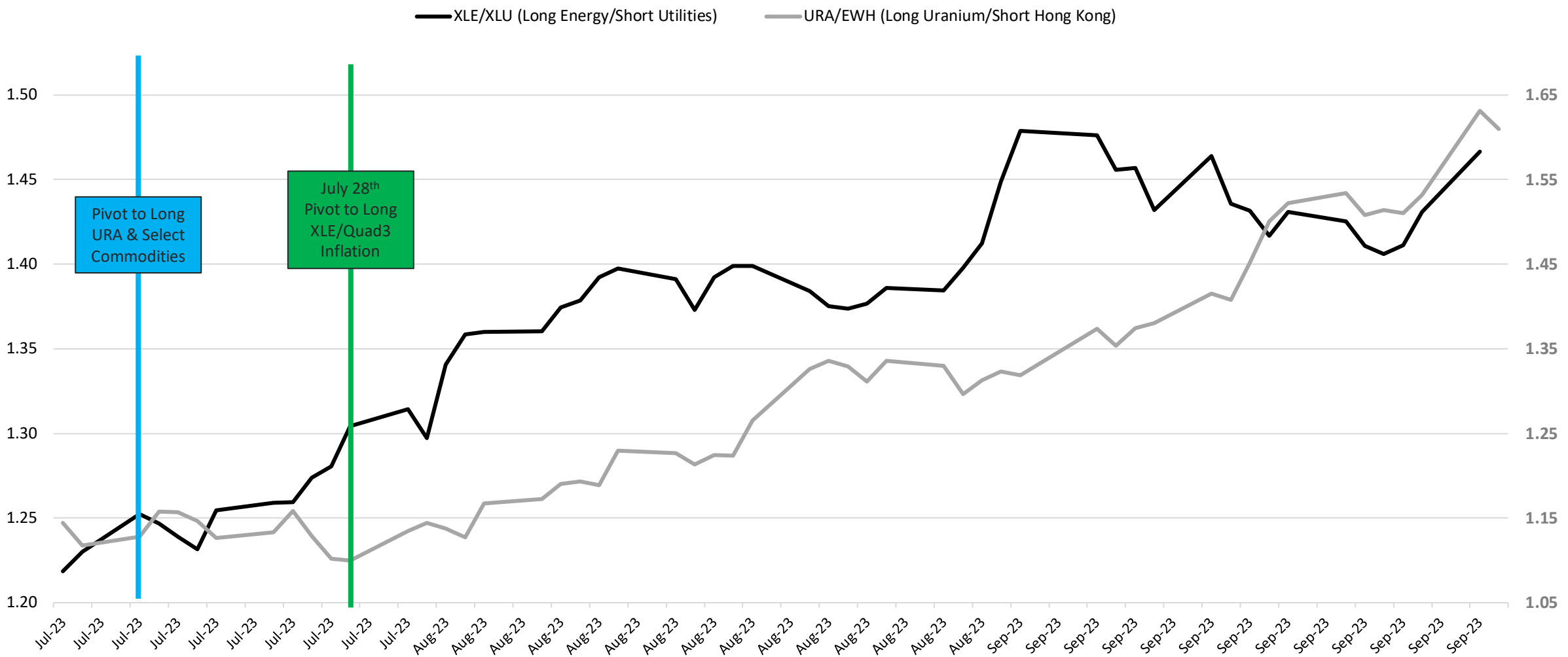
R Squared	Explanatory Variables
	Crude Oil YoY
Headline CPI	0.3950
Headline CPI' (1M Fwd)	0.4586
Headline CPI' (2M Fwd)	0.4412
Headline CPI' (3M Fwd)	0.3922
Headline CPI' (4M Fwd)	0.3294
Headline CPI' (5M Fwd)	0.2817
Headline CPI' (6M Fwd)	0.2463
Headline CPI' (7M Fwd)	0.2121
Headline CPI' (8M Fwd)	0.1594
Headline CPI' (9M Fwd)	0.1121
Headline CPI' (10M Fwd)	0.0779



Data Source: Factset

The #Quad3 Pivot Was Exquisite!

HEDGEYE



Data Source: Factset

PROCESS (& Patience) > PANIC

HEDGEYE

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

2008- Present: 7364 ***#Timestamped*** Positions

HISTORY (2008-Present)

METRIC	No.	%
TOTAL CLOSED POSITIONS	7364	100%
Total Longs	*3148*	*43%*
Total Shorts	*4216*	*57%*
TOTAL GAINS	5760	78%
TOTAL LOSSES	1582	21%
Total Breakeven (realized 0%)	*22*	*0%*
MAX GAIN	876.6%	
Ave Gain	2.7%	
MAX LOSS	-91.5%	
Ave Loss	-3.3%	

LONGS	No.	%
Total Gains	2468	78%
Total Losses	666	21%
Total Breakeven *(realized 0.0%)*	*22*	1%
Total	3156	100%
Long Batting Ave	**78.2%**	

SHORTS	No.	%
Total Gains	3292	78.2%
Total Losses	916	21.8%
Total	4208	100%
Short Batting Ave	**78.2%**	

Process > Panic

Late June – Late July

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

METRIC	No.	%
TOTAL CLOSED POSITIONS	61	100%
Total Longs	*27*	*44%*
Total Shorts	*34*	*56%*
TOTAL GAINS	42	69%
TOTAL LOSSES	19	31%
Total Breakeven (realized 0%)	*0*	*0%*
MAX GAIN	5.2%	
Ave Gain	1.6%	
MAX LOSS	-6.8%	
Ave Loss	-1.8%	

LONGS	No.	%
Total Gains	17	63%
Total Losses	10	37%
Total Breakeven *(realized 0.0%)*	*0*	0%
Total	27	100%
Long Batting Ave	**63.0%**	

SHORTS	No.	%
Total Gains	25	73.5%
Total Losses	9	26.5%
Total	34	100%
Short Batting Ave	**73.5%**	

Last 4 Weeks

LAST 4 WEEKS

METRIC	No.	%
TOTAL CLOSED POSITIONS	53	100%
Total Longs	*11*	*21%*
Total Shorts	*42*	*79%*
TOTAL GAINS	47	89%
TOTAL LOSSES	6	11%
Total Breakeven (realized 0%)	*0*	*0%*
MAX GAIN	9.3%	
Ave Gain	1.5%	
MAX LOSS	-2.9%	
Ave Loss	-1.6%	

LONGS	No.	%
Total Gains	6	55%
Total Losses	5	45%
Total Breakeven *(realized 0.0%)*	*0*	0%
Total	11	100%
Long Batting Ave	**54.5%**	

SHORTS	No.	%
Total Gains	41	97.6%
Total Losses	1	2.4%
Total	42	100%
Short Batting Ave	**97.6%**	

Data Source: Factset, Hedgeye Risk Management

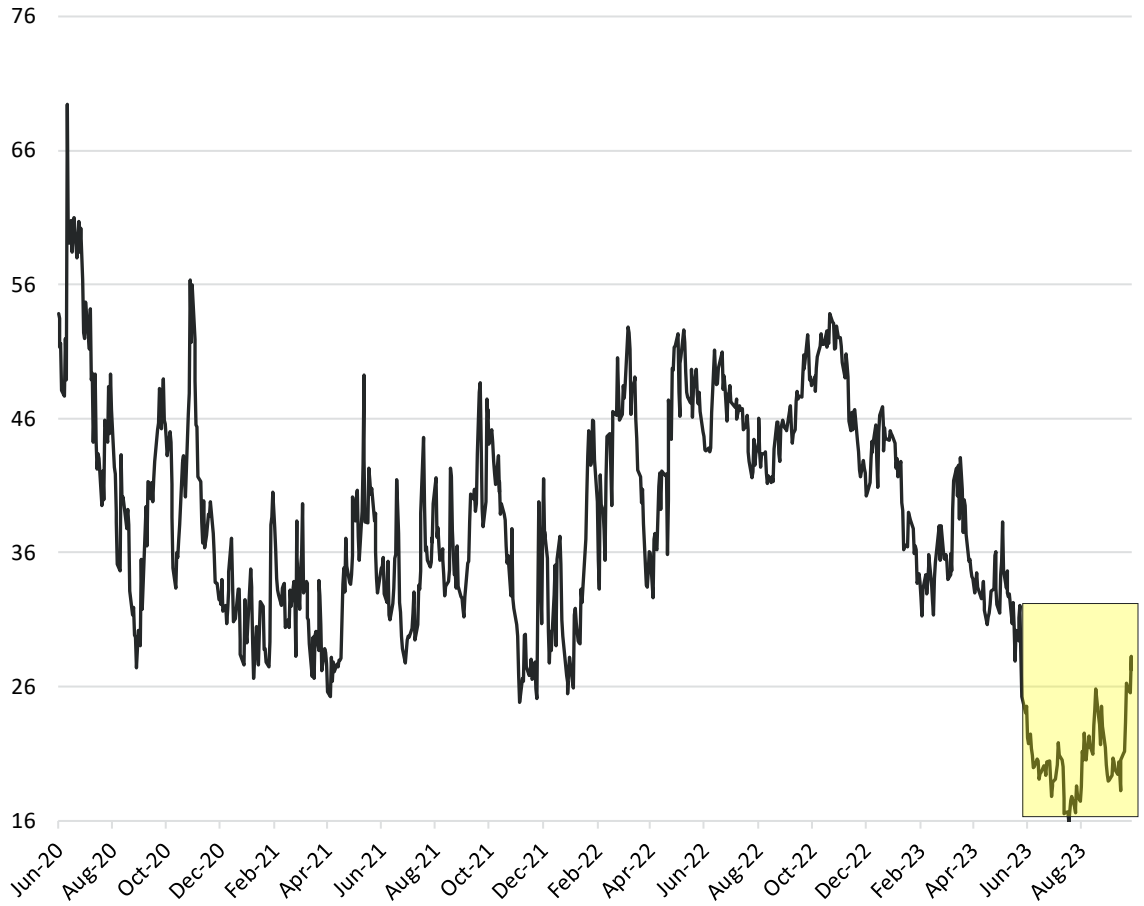
#GoAnywhere Remains Everywhere Tourists Aren't

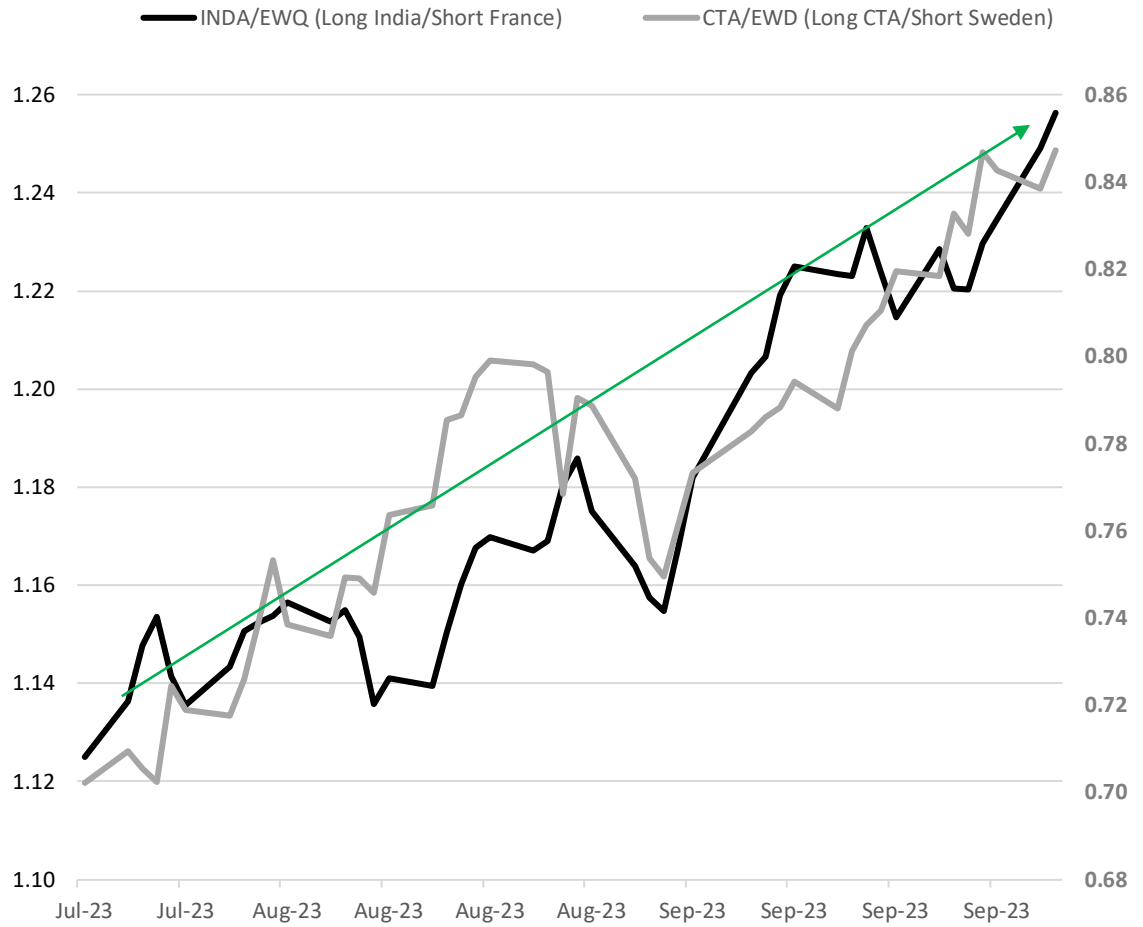
HEDGEYE

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

SPX: 3 Month Implied Correlation

(measures implied correlation of equities over next 3 months



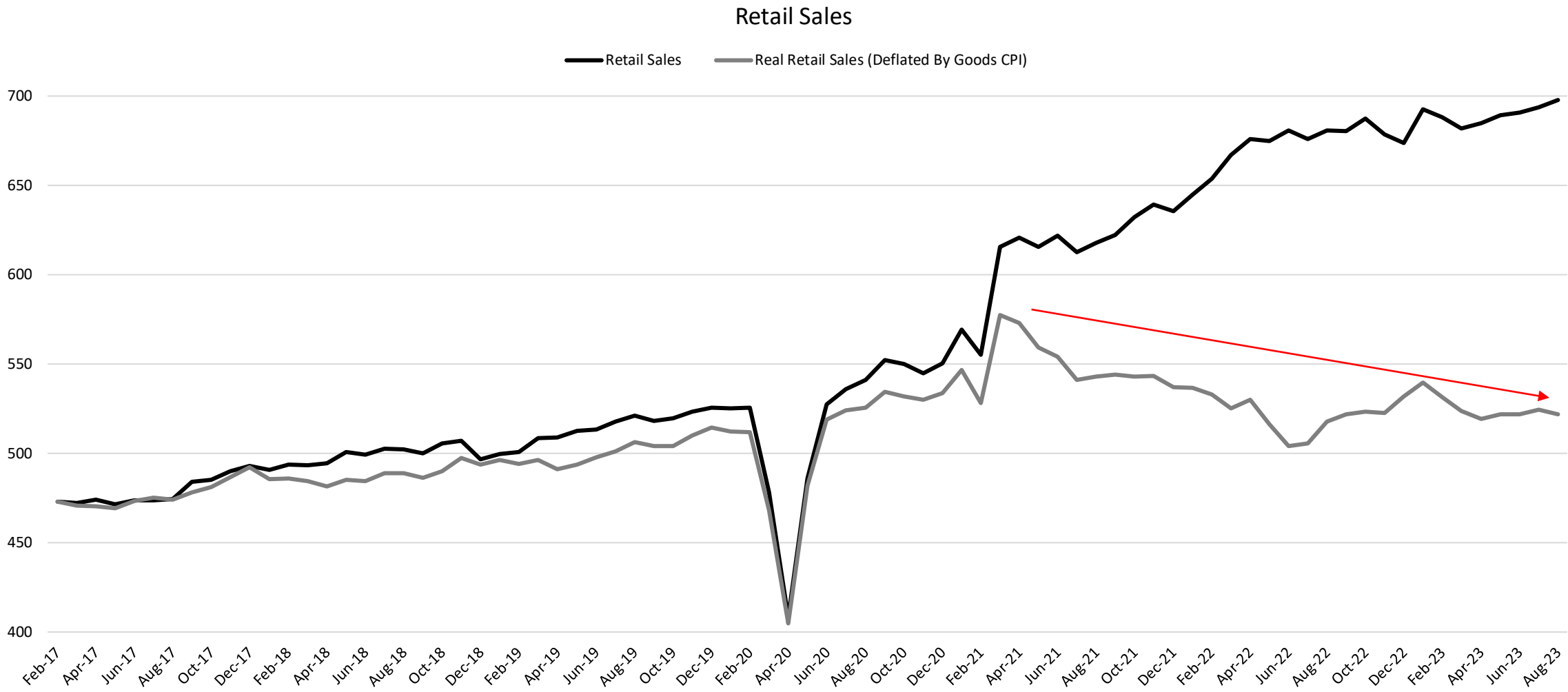


Data Source: Factset, Bloomberg

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

HEDGEYE

GOODS CONSUMPTION → No Change in TREND

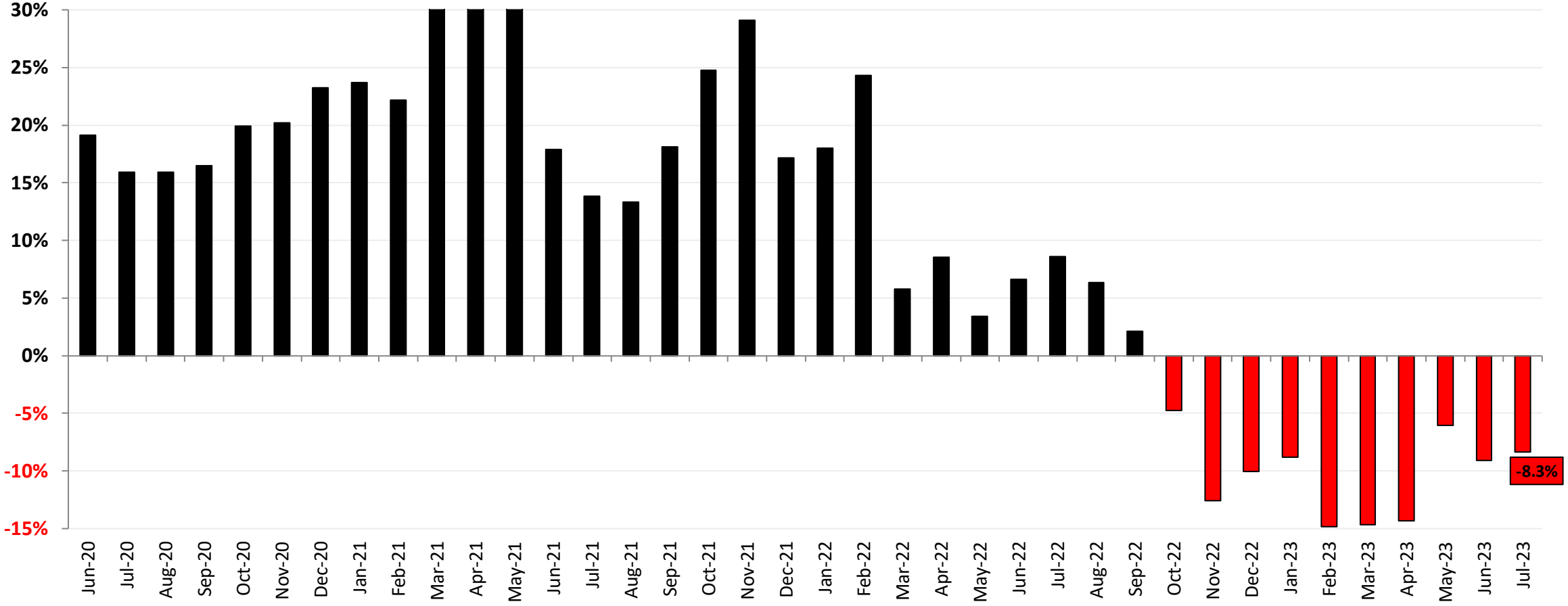


Data Source: Factset, BLS

Luxury Goods Consumption→ Negative, Month 10

HEDGEYE

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

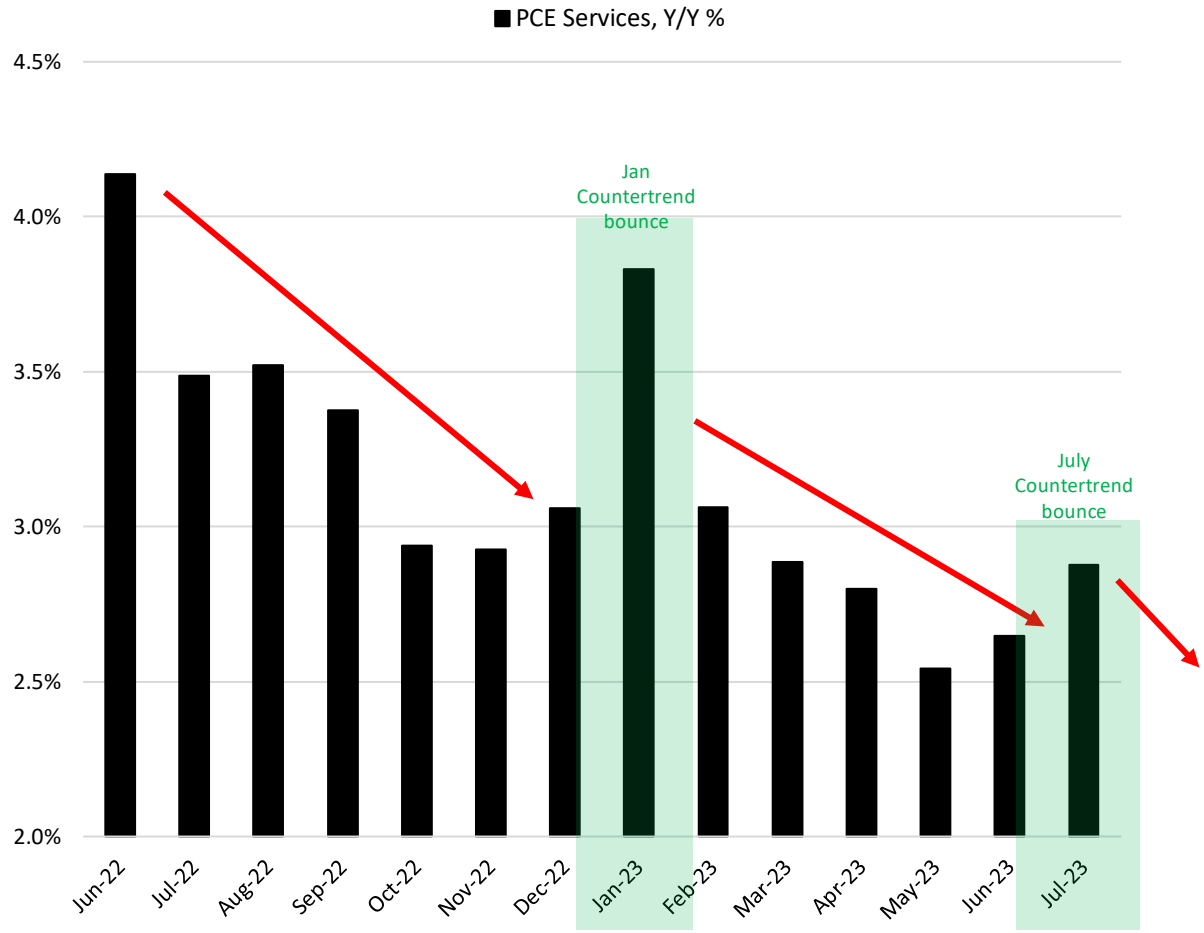


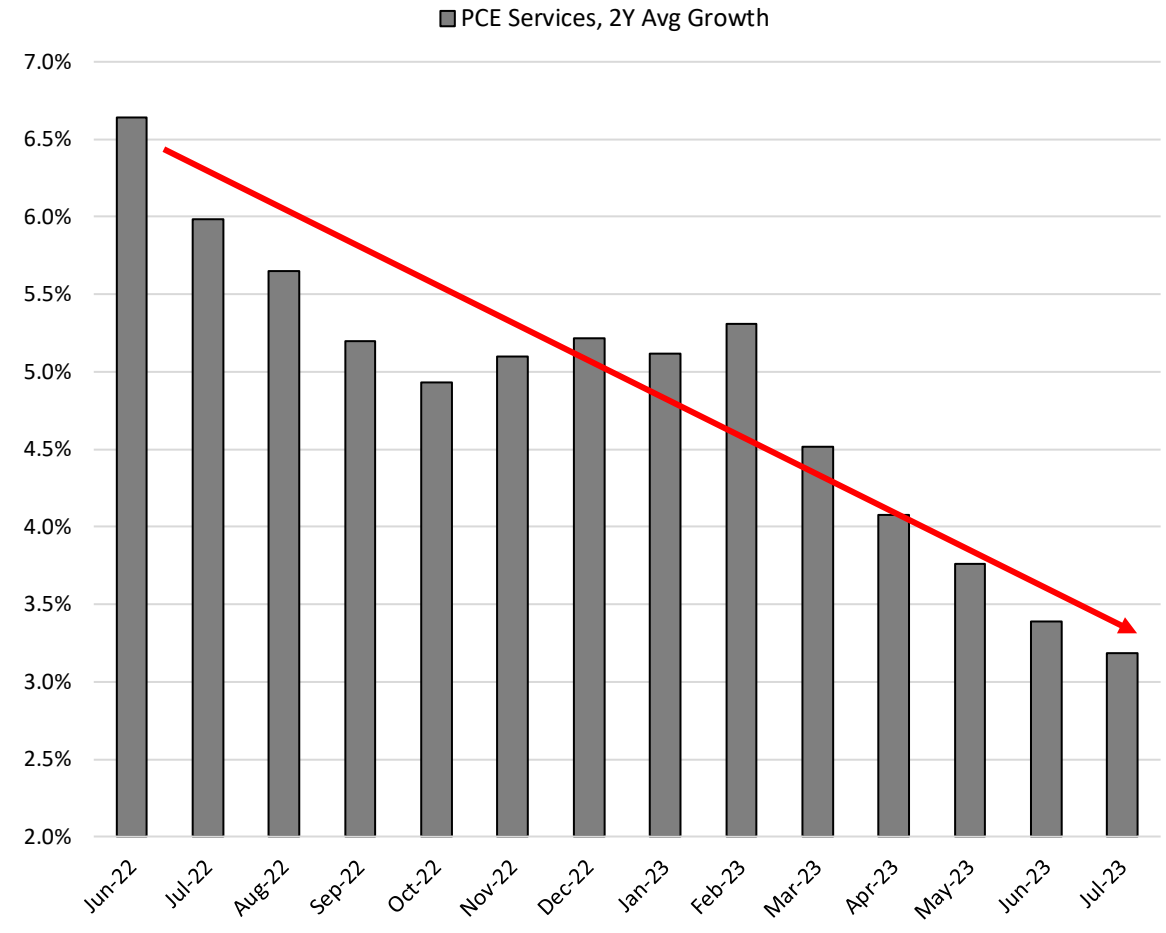
Data Source: Placer.AI

Services Consumption → No Change in TREND

HEDGEYE

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.

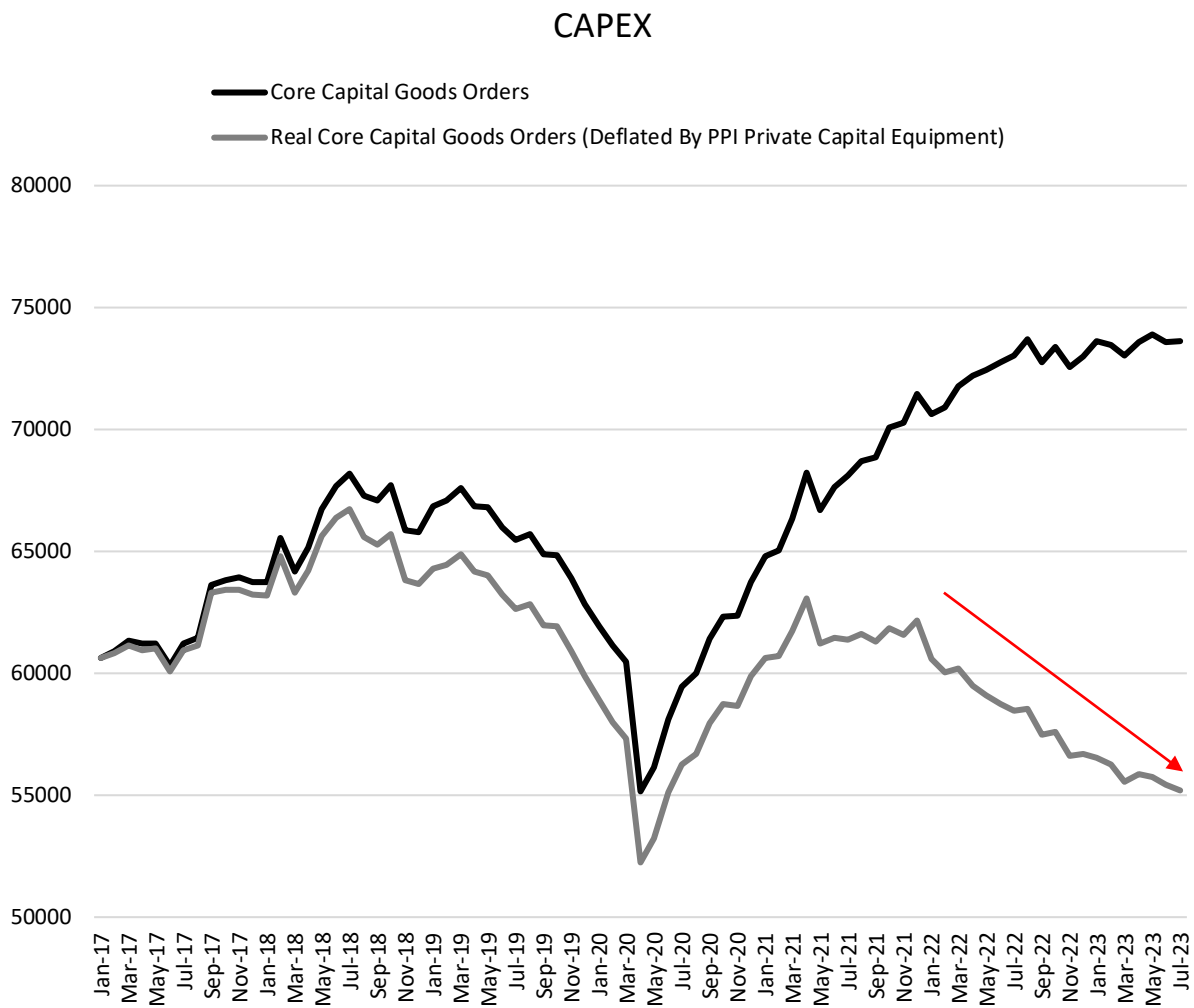


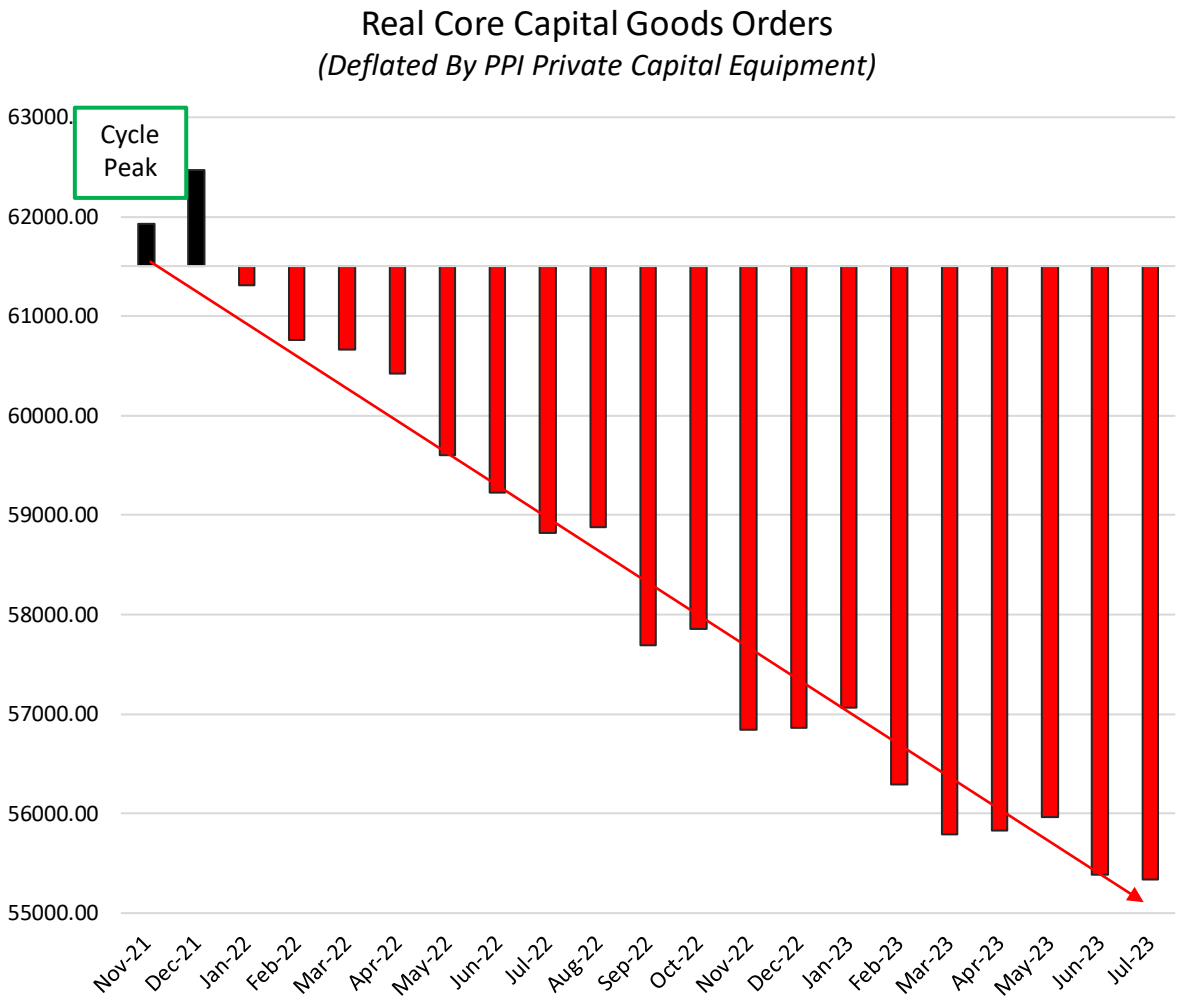


Data Source: Factset, BLS

CAPEX → No Change In TREND

HEDGEYE

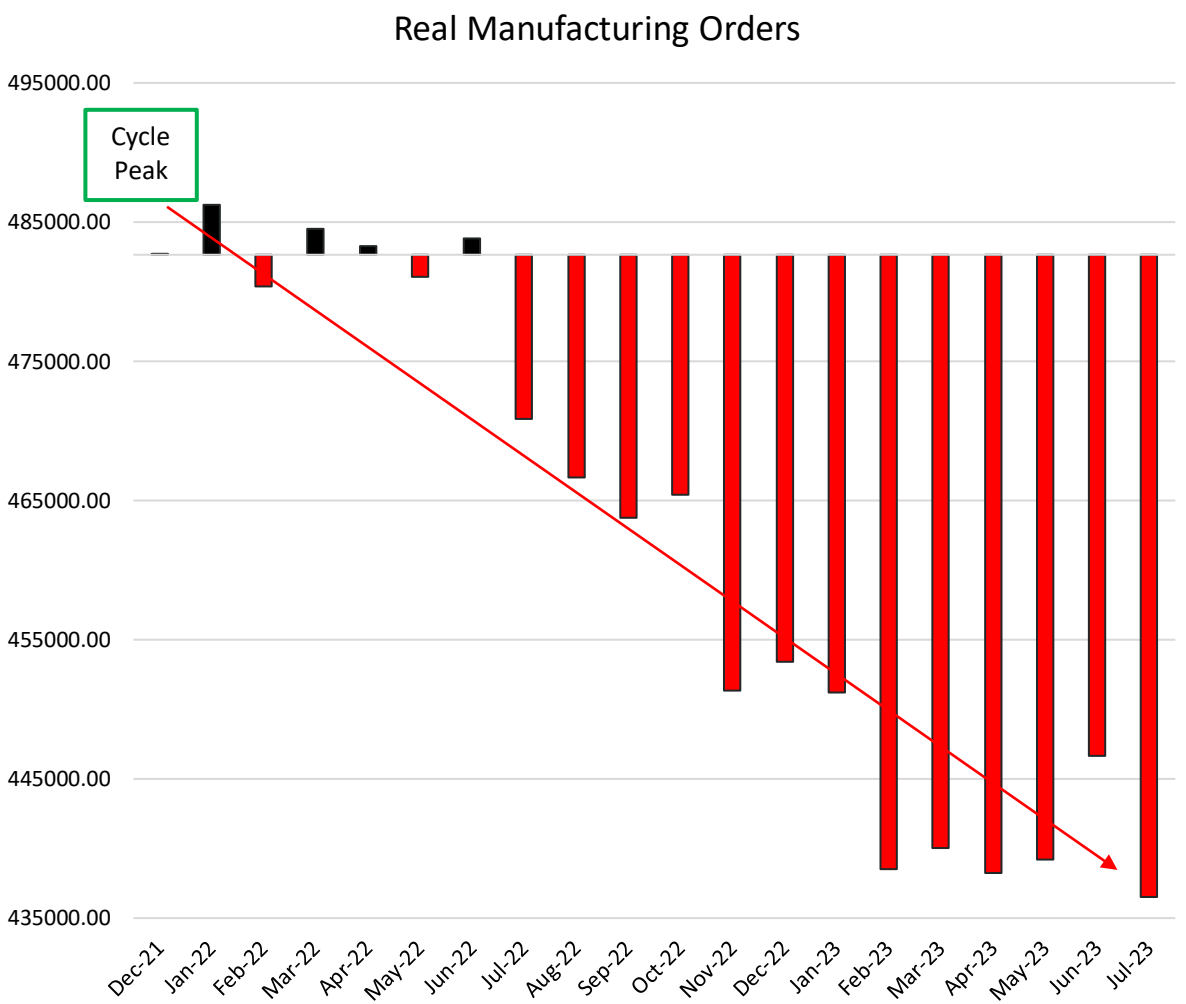




Data Source: Factset, BLS

Manufacturing → No Change In TREND

HEDGEYE

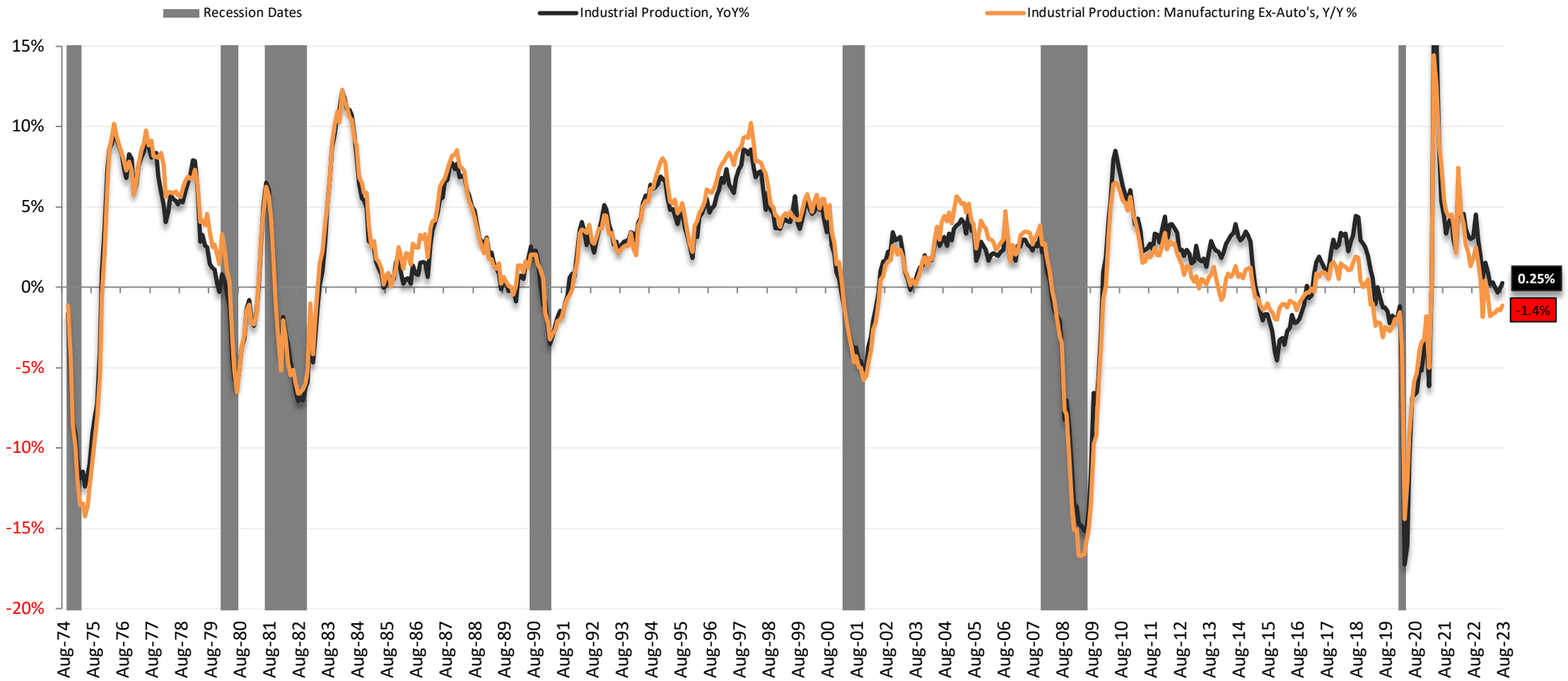


Data Source: Factset, BLS

Industrial Production → Dr. Zero

HEDGEYE

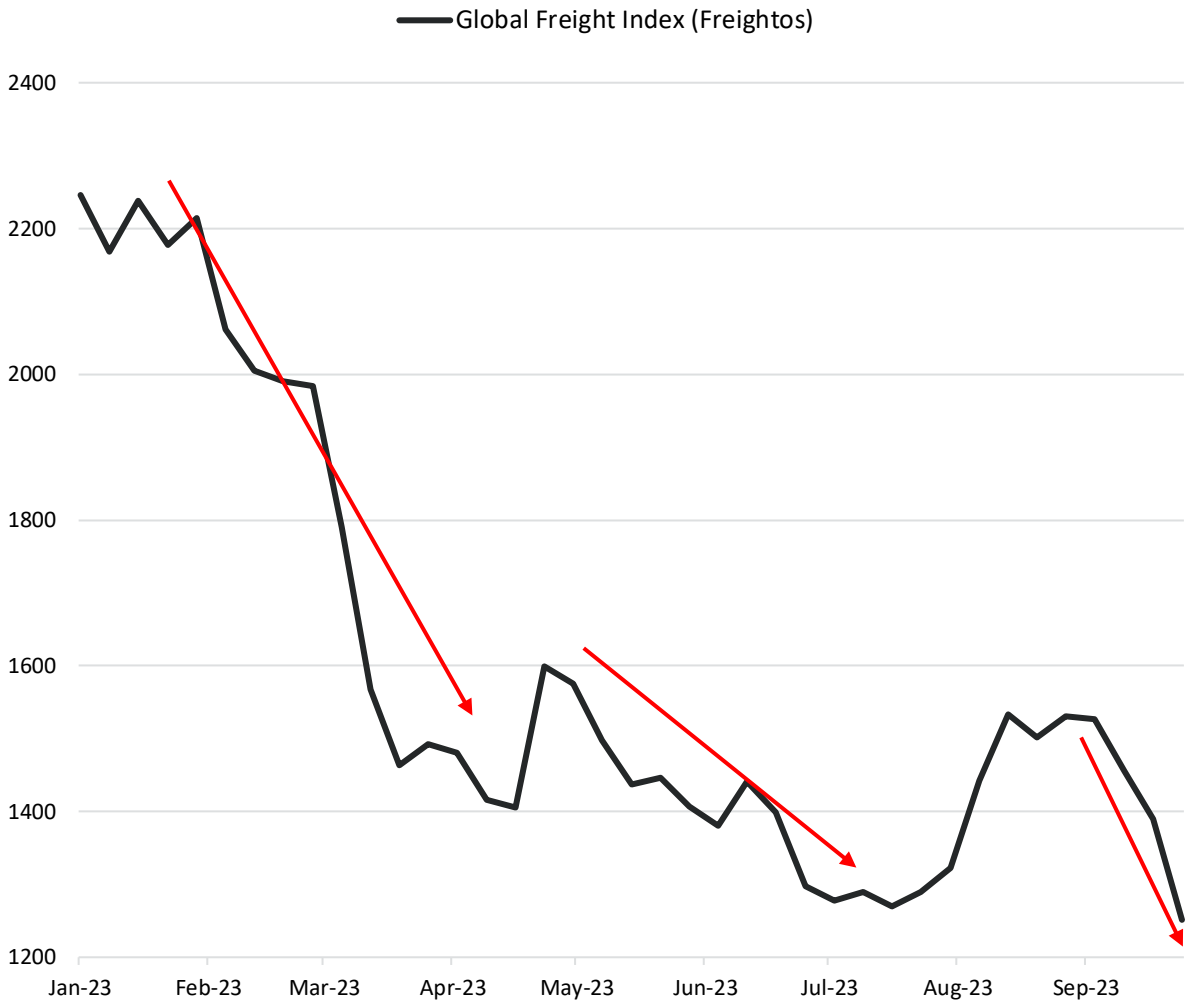
The Auto Strike will pummel the IP/MFG production data for Sept/Oct

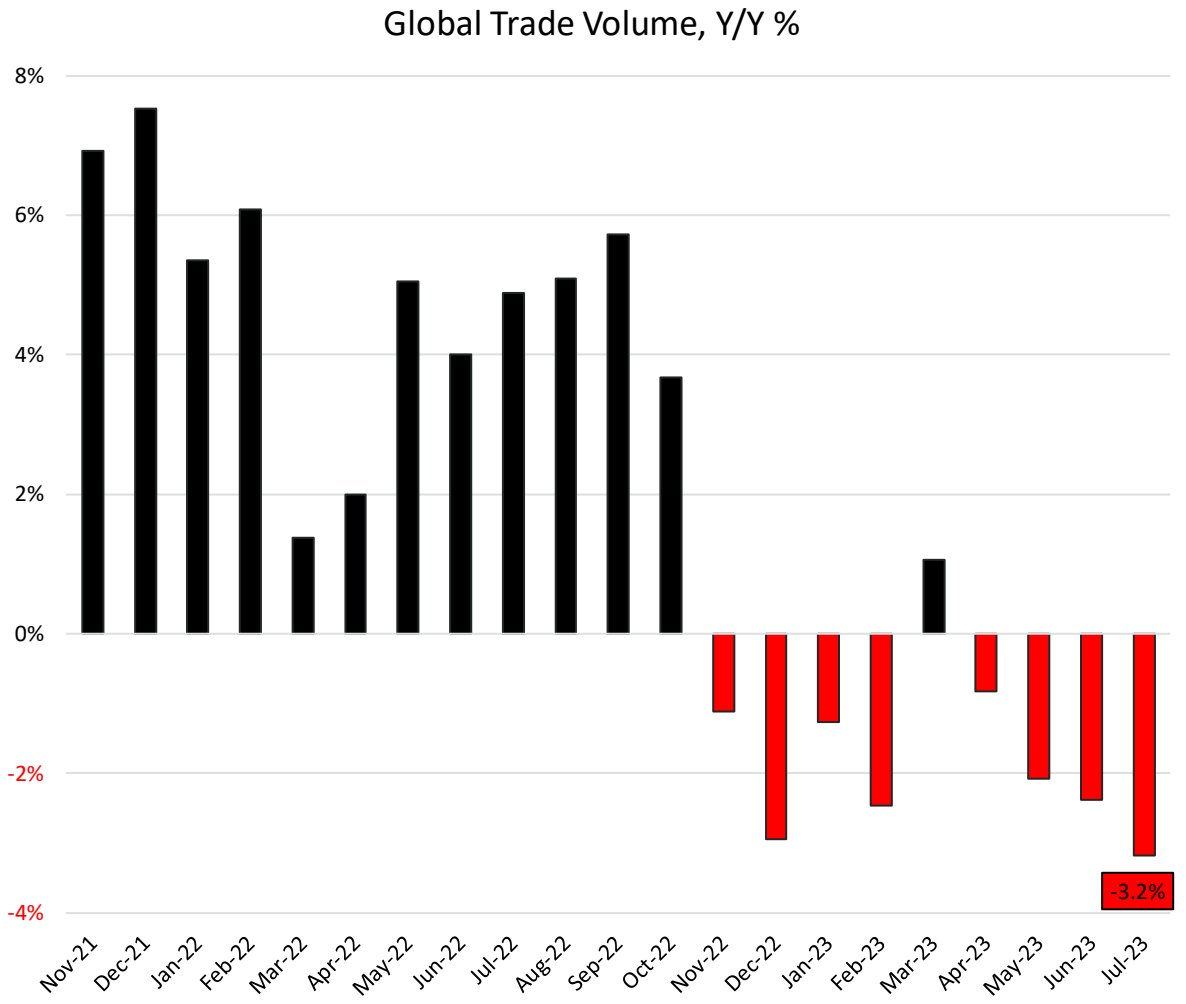


Data Source: Factset, Federal Reserve

Global/External Activity → No Change In TREND

HEDGEYE





Data Source: Factset, BLS

STAG-TEMBER → SHOCK-TOBER!

HEDGEYE

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

The Morale Capitulation Calendar

1Q: SNAP Benefits End

2Q/3Q: Excess Savings Exhausted

2Q/3Q: SNAP Reduction pt. 2 ($391/child → $120/child)

Sept 1st: Student Loan Interest Begins (re)Accruing

Sept 14th: IRS Halts ERC Payments ($250B)

Sept 15th: UAW Strike Begins (Economic cost = $200-600M/Day)

Oct 1st: Student Loan Repayment Begins ($10-15B/Mo)

Oct 1st: Government Shutdown, Again! (-0.2% GDP/Wk)

Oct 1st: Childcare-Cliff ($24B Funding Expiring, ~3M Impacted)

Oct 4th: Kaiser Permanente Worker Strike (75K HC Workers)

Oct 15th: California Tax Extension Deadline – The Bill is (Finally) Due

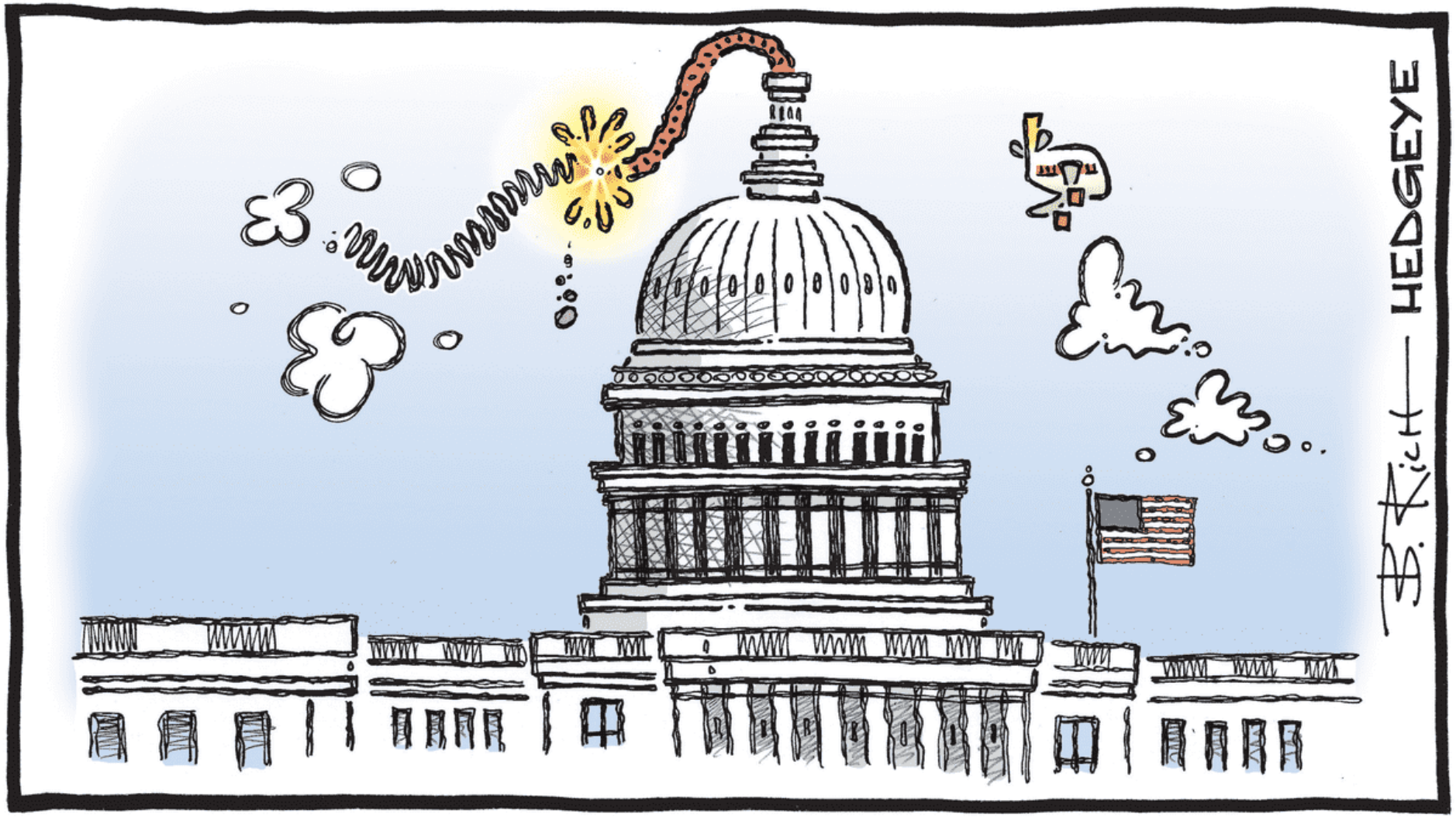
4Q23: Health Insurance Premium Spike

4Q23-1H24: Continued Unwind of Pandemic Medicaid Coverage. (Coverage Loss for 8-24M people)

4Q23-3Q24: EIDL Pandemic Loan Repayment ($380B in Loans)

Data Source: Factset, Bloomberg

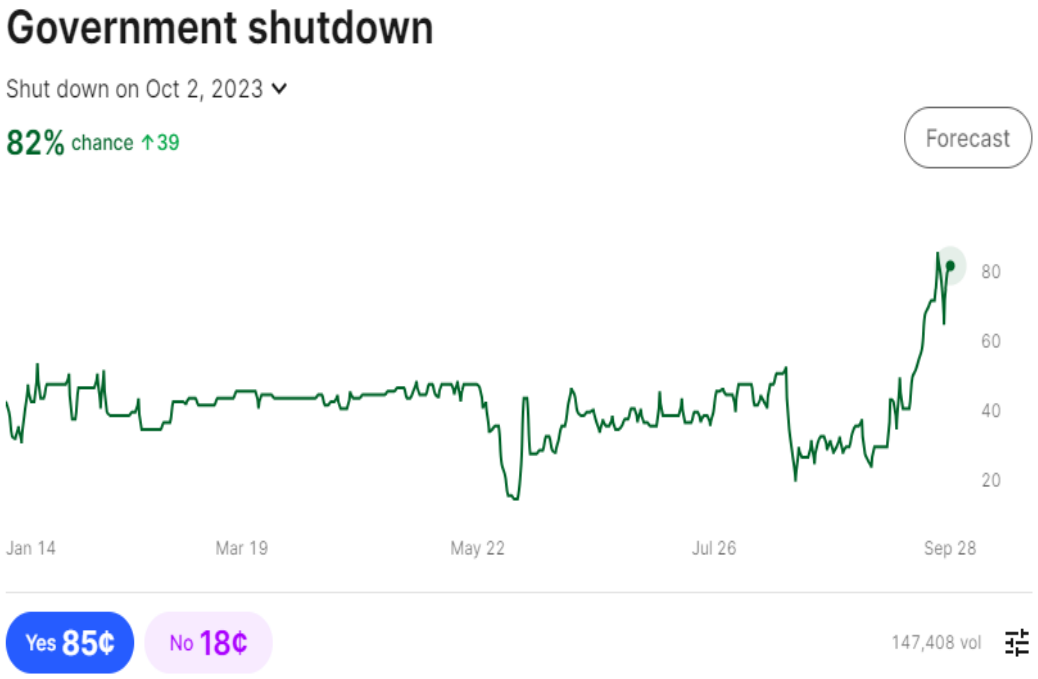
THE CONVERGENCE CABARET

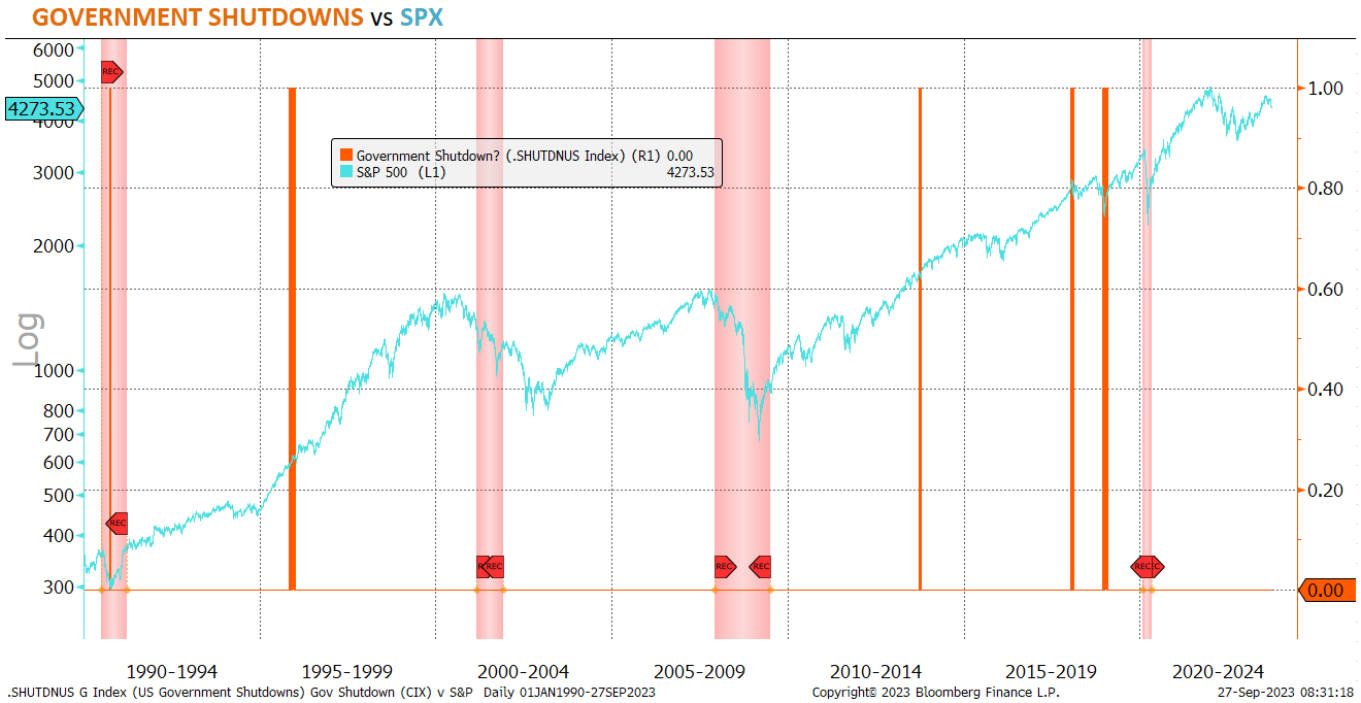


Convergence Cabaret → Government Shutdown

HEDGEYE

Kalshi Markets Currently Has The Odds of A Government Shutdown at 82%. **The odds of a shutdown lasting more than 7 days is 76%. Historically, Government Shutdown periods (orange bars in RH chart) have had mixed effects on markets, but protracted shutdowns produce all manner of distortions in the production and interpretation of macro data.**





Data Source: Kalshi, Bloomberg

Convergence Cabaret → Government Shutdown

HEDGEYE

With serial negative revisions and depressed response rates already reducing the signal in the data, the shutdown will only further amplify the noise and convolute any policy 'data dependence'.

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)

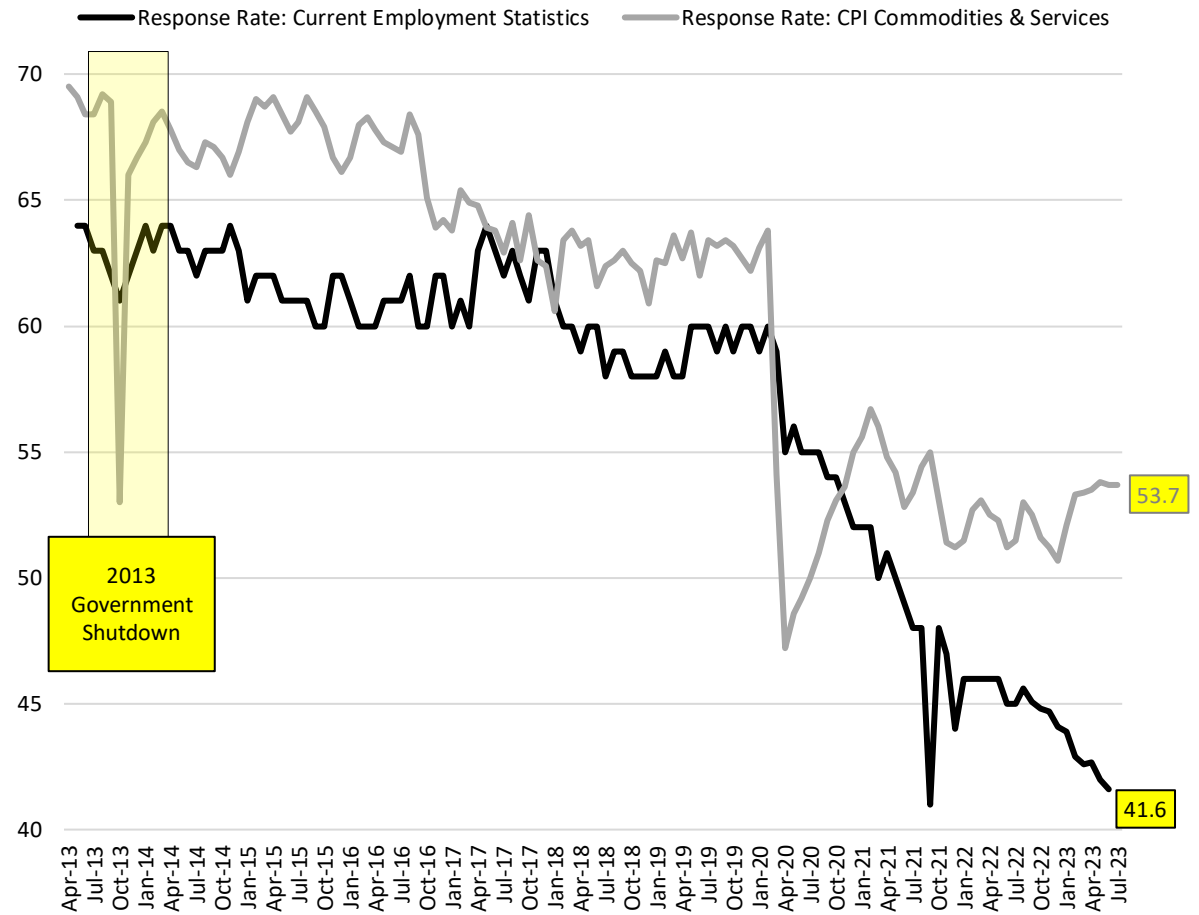
Unemployment: Household Survey Period = Oct 8-14. Federal Workers on furlough counted as unemployed (or on Temporary Layoff)

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)



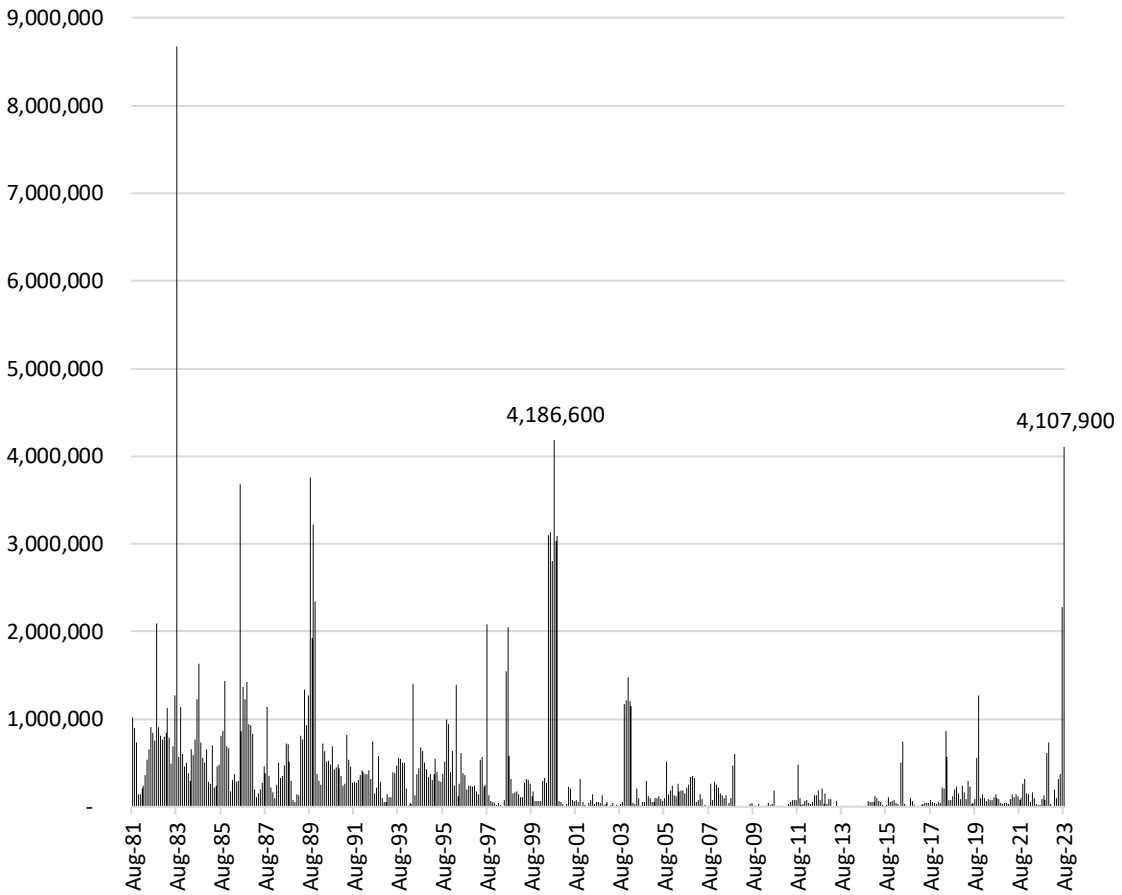
Data Source: Factset, BLS, Bloomberg

Convergence Cabaret ⟶ UAW Strike

HEDGEYE

18K+ UAW workers on strike thus far with -$1.6B in economic loss in week 1 (Sept 15-Sept 22). That loss total will nearly 2X in the most recent week. August already saw the largest work stoppage in over 2 decades with the writers strike and more strikes are in queue for October.

Days Idle Due to Work Stoppages



UAW Week 1
$107M Lost Wages, $1.6B Total Economic Loss

Table 1: *Estimated economic losses from week one of the 2023 UAW strike ($ millions)*

Lost Direct Wages	$107
Company Losses	$511
Direct Economic Loss	**$618**
Industry Economic Loss	$1,174
Other Consumer and Dealer Losses	$470
Total Industry Economic Loss	**$1,644**

Source: Anderson Economic Group, LLC.
Notes: Strike-caused economic losses include only direct losses to affected workers, businesses, and customers.
Estimated losses do not include settlement bonuses, transfer payments, strike pay, unemployment insurance taxes or benefits,
Presumes no permanent change in production or employment caused by strike.
Company losses are direct economic losses and will differ from accounting charges.
"Week 1" is defined as Friday, September 15 through Thursday, September 22, 2023.

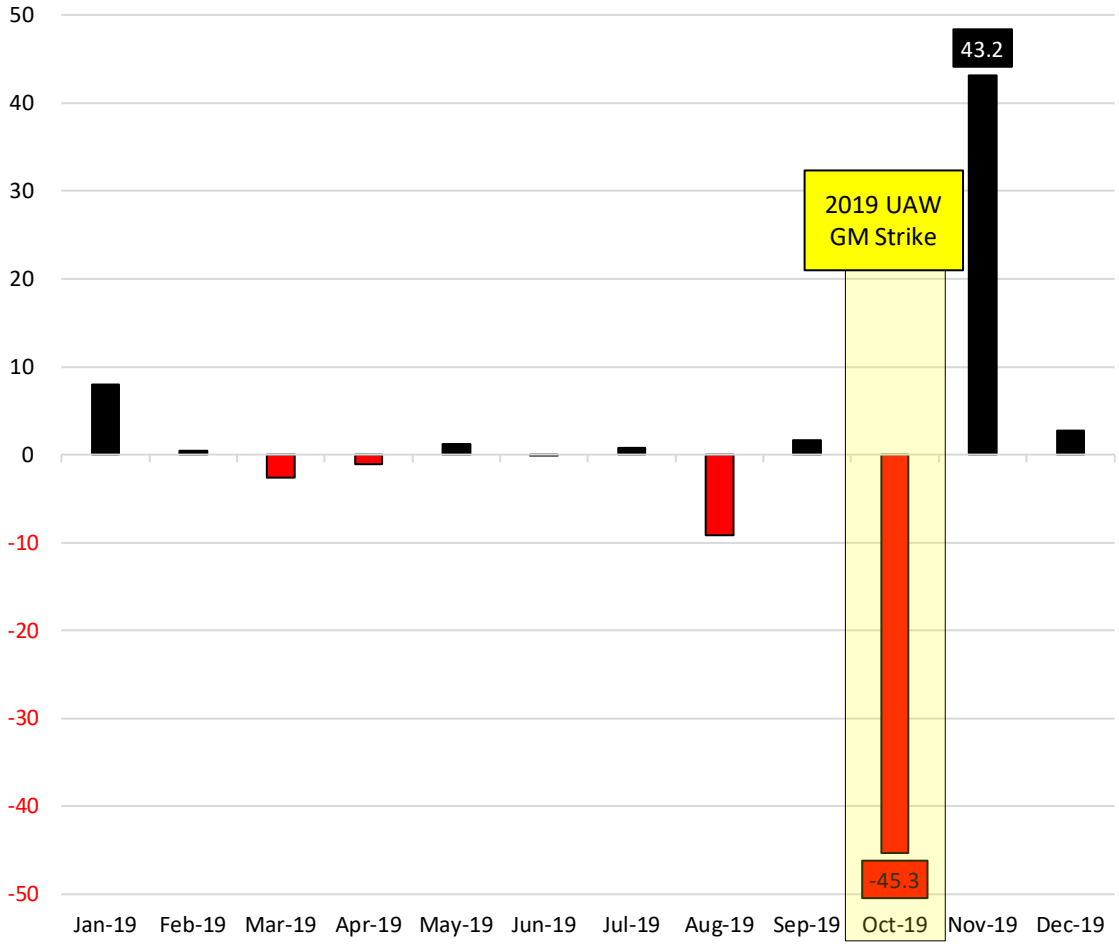
Data Source: BLS, Anderson Economic Group

Convergence Cabaret → UAW Strike

HEDGEYE

A full strike of 144K workers would see the economic loss increase to $500-600M/day. The impact of the 2019 strike on the NFP data is shown on the left. **UAW is not alone,. For example, 75K Kaiser Permanente Healthcare Workers are set to strike on Oct 4th if labor agreements aren't reached

NFP: Transportation equipment manufacturing, M/M Chg



FULL STRIKE IMPACT: ~$560M Economic Loss Per Day

Economic Losses From Possible UAW Strike

Assumes 10 days of lost production

	Detroit Three automakers total
Number of workers striking	**143,774**
Lost direct wages (millions)	$859
Company losses (millions)	$989
Direct economic loss (millions)	**$1,848**
Industry multiplier	1.9
Industry economic loss (millions)	**$3,511**
Other consumer, dealer losses (millions)	$2,106
Total economic loss (millions)	**$5,617**

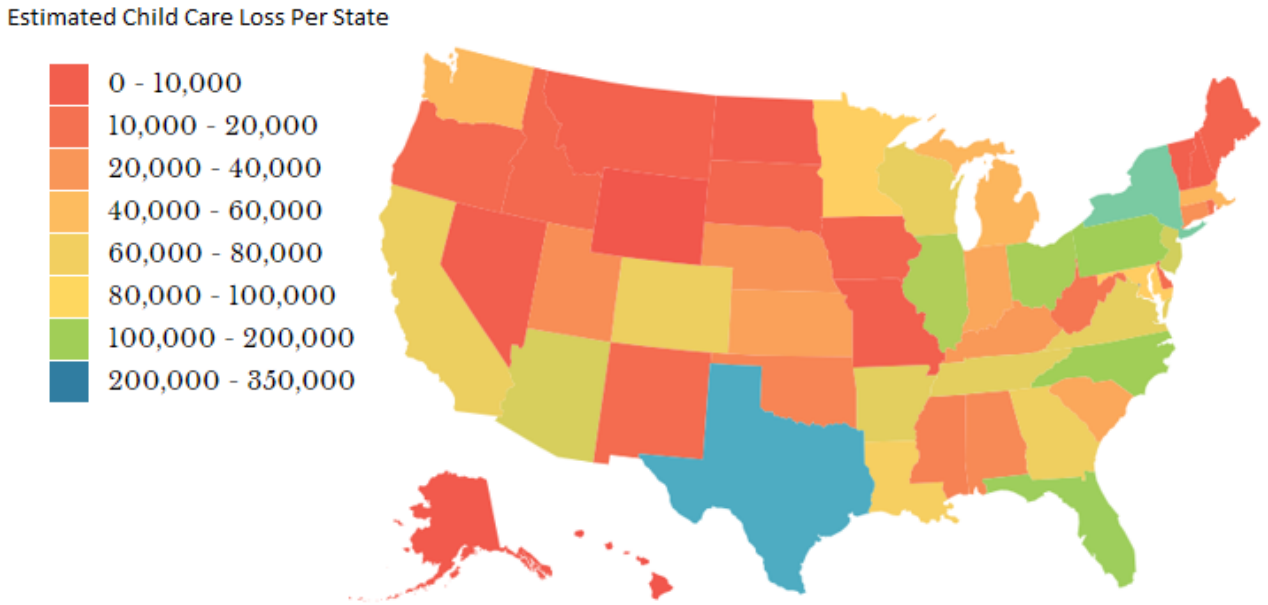
Source: Anderson Economic Group
Note: Detroit Three automakers are Ford, GM and Stellantis

Data Source: Factset, Bloomberg

Convergence Cabaret → Child-Care Funding Cliff

HEDGEYE

The pandemic linked American Rescue Plan awarded states $24 billion in "child-care stabilization grants" that could be used for raising staff pay, reducing tuition, and defraying rent and maintenance costs. That funding ends on September 30th.



CHILDREN PER STATE SET TO LOSE CHILD CARE DUE TO CHILD CARE CLIFF

Beginning September 30, 2023, states will face a **steep dropoff in federal child care investment**. Without Congressional action, this cliff will have dire consequences. More than three million children are projected to lose access to child care nationwide. Seventy-thousand child care programs are likely to close. This will have ripple effects for parents forced out of work or to cut their work hours, for businesses who will lose valuable employees or experience the impact of their employees' child care disruptions, and state economies that will lose tax revenue and jobs in the child care sector as a result.

Data Source: Washington Post, Century Foundation

Convergence Cabaret → Medicaid Unwind

HEDGEYE

The FFCRA was a pandemic program that enhanced Medicaid funding and required Medicaid programs to keep people continuously enrolled through the pandemic. That program (required coverage & enhanced funding) ended in March. An estimated 8-24 million people are expected to lose coverage over the next 8 months. As of September 26th, 7.5M have been disenrolled.

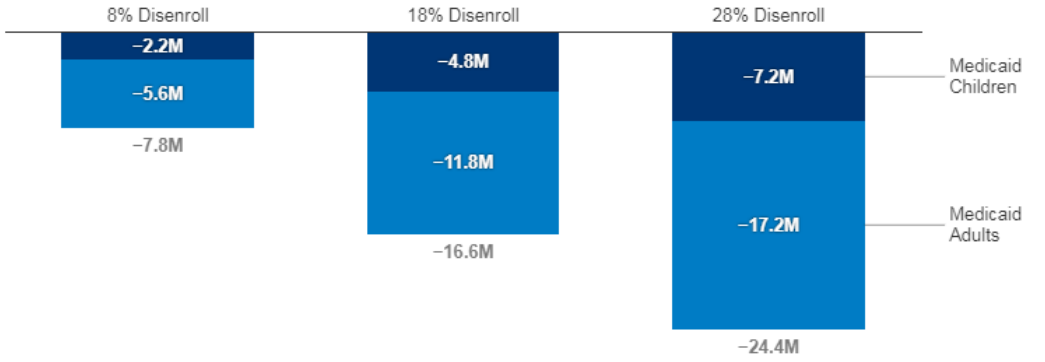
Program Info & Unwind Estimates

At the start of the pandemic, Congress enacted the Families First Coronavirus Response Act (FFCRA), which included a requirement that Medicaid programs keep people continuously enrolled through the end of the COVID-19 public health emergency (PHE), in exchange for enhanced federal funding. As part of the Consolidated Appropriations Act, 2023, signed into law on December 29, 2022, Congress delinked the continuous enrollment provision from the PHE, ending continuous enrollment on March 31, 2023. The CAA also phases down the enhanced federal Medicaid matching funds through December 2023.

Figure 2

Between 8 and 24 Million Enrollees Could Lose Medicaid When the Continuous Enrollment Provision Unwinds.

Number of People Losing Medicaid Between March 2023 and May 2024 Under Three Scenarios



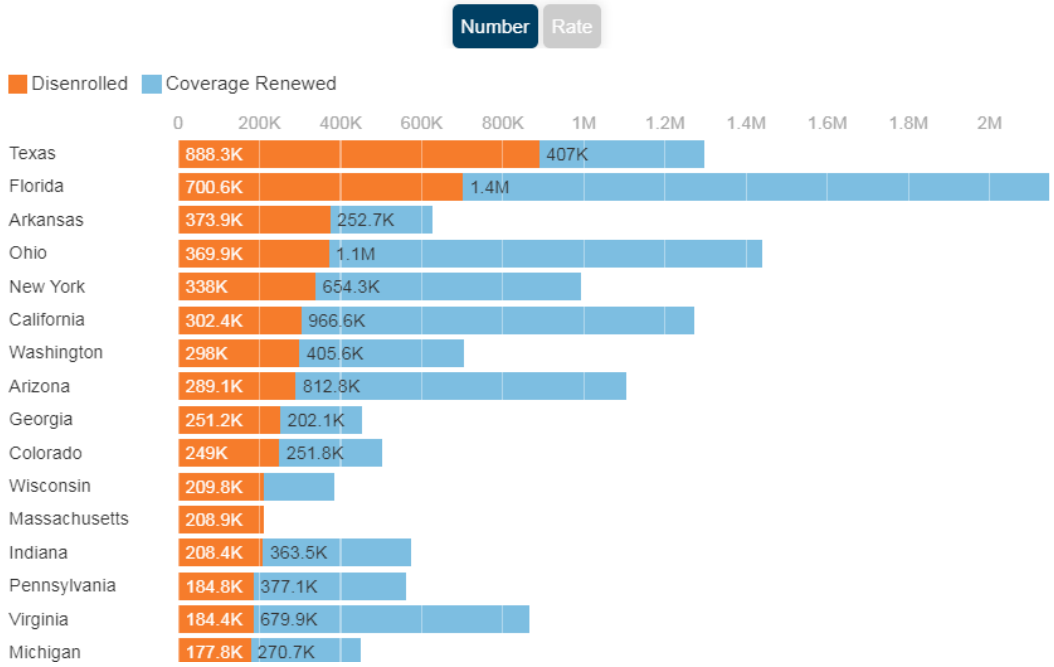
NOTE: Excludes all Children's Health Insurance Program enrollees and Medicaid enrollees who were only eligible for partial benefits. Children includes all enrollees under age 19. Analysis assumes that 87.5 million people were enrolled in Medicaid in March 2023.
SOURCE: KFF estimates based on analysis of enrollment data from the Centers for Medicare and Medicaid Services (CMS) Performance Indicator Project (PI data), and the T-MSIS Research Identifiable Files, 2019. See methods of KFF's How Many People Might Lose Medicaid When States Unwind Continuous Enrollment? for more information. • PNG

KFF

As of September 26th ....

At least 7,526,000 Medicaid enrollees have been disenrolled and 12,372,000 have had their coverage renewed in 48 states and DC, as of September 26, 2023

Of completed redeterminations, the number of people disenrolled and the number of people whose coverage was renewed



Data Source: KFF

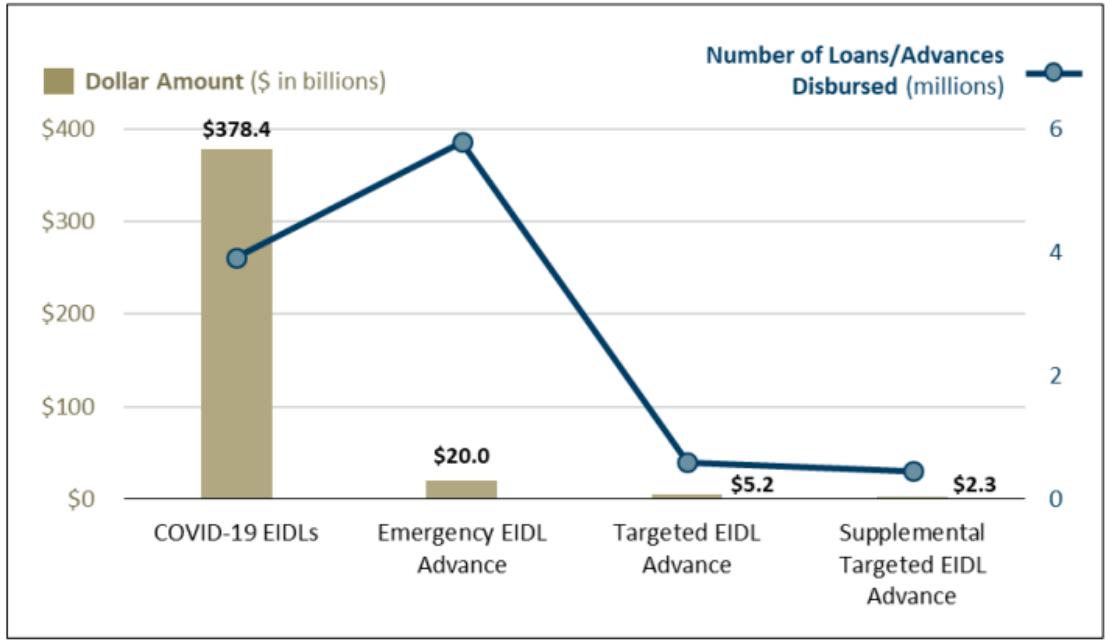
Convergence Cabaret → (EIDL) $380B Pandemic Loan Repayment

HEDGEYE

The pandemic CARES act expanded eligibility of Economic Injury Disaster Loans (EIDL) from the SBA. $380B in Loans were dispersed over 2020-2021 with payments deferred (with interest accrual) for 30-months. The earliest of those loans began repayment in late 2022 with repayment deadlines ramping though 2023 and into mid 2024. Unless Congress acts to approve forgiveness, those loans now need to be paid.

Figure 1 presents the total number of loans or advances provided by SBA, as well as the total amount of money provided by SBA for each type of loan or advance.

Figure 1. COVID-19 EIDLs and Related Grants, Dollar Amount and Number Disbursed



Source: SBA, "Disaster Assistance Update Nationwide COVID EIDL, Targeted EIDL Advances, Supplemental Targeted Advances, April 28, 2022 (figures as of April 27, 2022)," https://www.sba.gov/document/report-covid-19-eidl-reports-2022; SBA, "Disaster Assistance Updated (figures as of July 15, 2020)," https://www.sba.gov/sites/default/files/2021-02/EIDL%20COVID-19%20Advance%207.15.20-508.pdf.

Almost 4 million small businesses in the US benefited from Economic Injury Disaster Loans during the pandemic, and it's time to start paying them off. The first payments are coming due on balances totaling $378 billion—plus all the interest accrued over the last 30 months. More than 673,000 loans were issued in New York and Texas alone. Some of the payments will be hefty.

The Loan: A fixed-rate, long-term, nonforgivable loan issued directly by the US Small Business Administration (SBA)

Interest Rate: 3.75% for small businesses; 2.75% for nonprofits

Term: 30 years

Average Loan Amount: $100,000 (that's a monthly payment of more than $450)

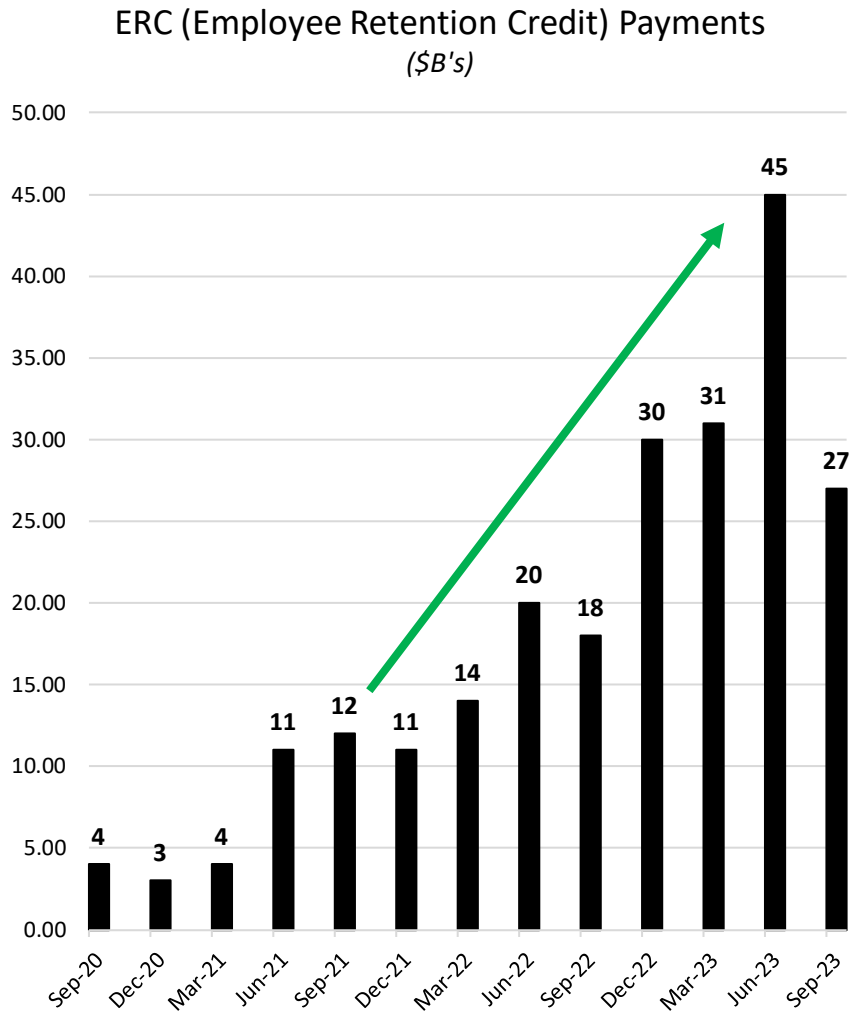
Maximum Loan Amount: $2 million (that's a monthly payment of more than $9,000)

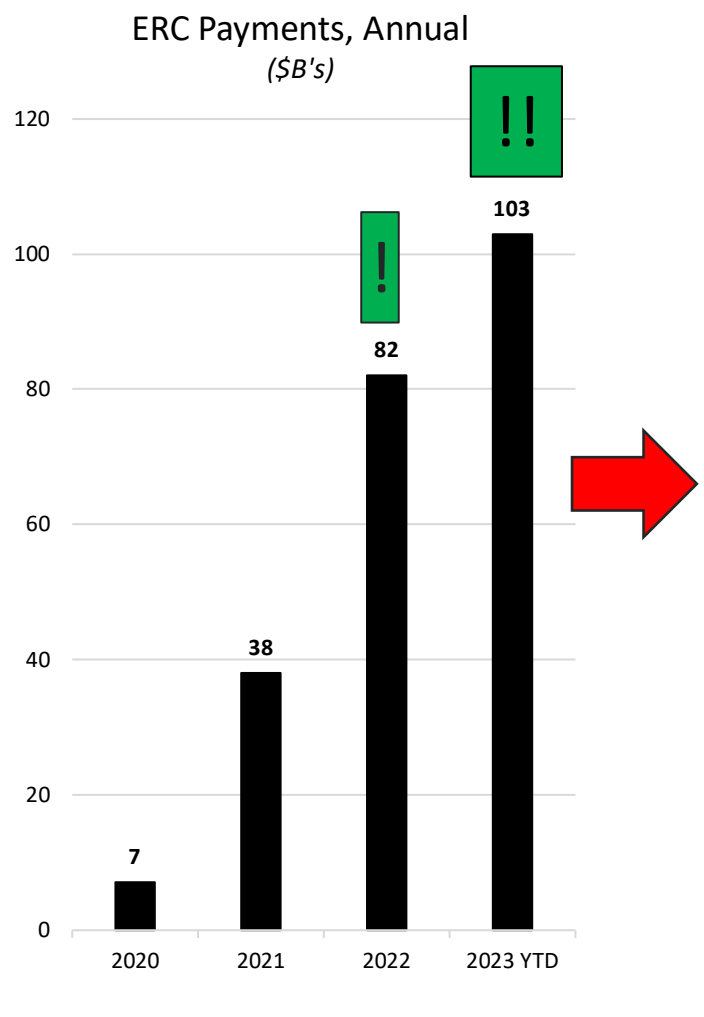
Data Source: Bloomberg, Congressional Research Service, U.S. Chamber of Commerce

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

HEDGEYE

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





IRS Help | News | English | Charities & Nonprofits | Tax Pros

To protect taxpayers from scams, IRS orders immediate stop to new Employee Retention Credit processing amid surge of questionable claims; concerns from tax pros

"The IRS is increasingly alarmed about honest small business owners being scammed by unscrupulous actors, and we could no longer tolerate growing evidence of questionable claims pouring in," Werfel said. "The further we get from the pandemic, the further we see the good intentions of this important program abused. The continued aggressive marketing of these schemes is harming well-meaning businesses and delaying the payment of legitimate claims, which makes it harder to run the rest of the tax system. This harms all taxpayers, not just ERC applicants."

"For those people being pressured by promoters to apply for the Employee Retention Credit, I urge them to immediately pause and review their situation while we look to add new protections and safeguards to stop bad claims from ever coming in," Werfel said. "In the meantime, businesses should seek out a trusted tax professional who actually understands the complex ERC rules, not a promoter or marketer hustling to get a hefty contingency fee. Businesses that receive ERC payments improperly face the daunting prospect of paying those back, so we urge the utmost caution. The moratorium will help protect taxpayers by adding a new safety net onto this program to focus on fraudulent claims and scammers taking advantage of honest taxpayers."

The IRS is developing new initiatives to help businesses who found themselves victims of aggressive promoters. This includes a settlement program for repayments for those who received an improper ERC payment; more details will be available this fall.

In addition, the IRS is finalizing details that will be available soon for a special withdrawal option for those who have filed an ERC claim but the claim has not been processed. This option – which can be used by taxpayers whose claim hasn't yet been paid– will allow the taxpayers, many of them small businesses who were misled by promoters, to avoid possible repayment issues and paying promoters contingency fees. Filers of these more than 600,000 claims awaiting processing will have this option available. Those who have willfully filed fraudulent claims or conspired to do so should be aware, however, that withdrawing a fraudulent claim will not exempt them from potential criminal investigation and prosecution.

As part of the wider compliance effort, the IRS is working with the Justice Department to address fraud in the ERC program as well as promoters who have been ignoring the rules and pushing businesses to apply.

Data Source: CNN, Cleveland Fed, Bloomberg

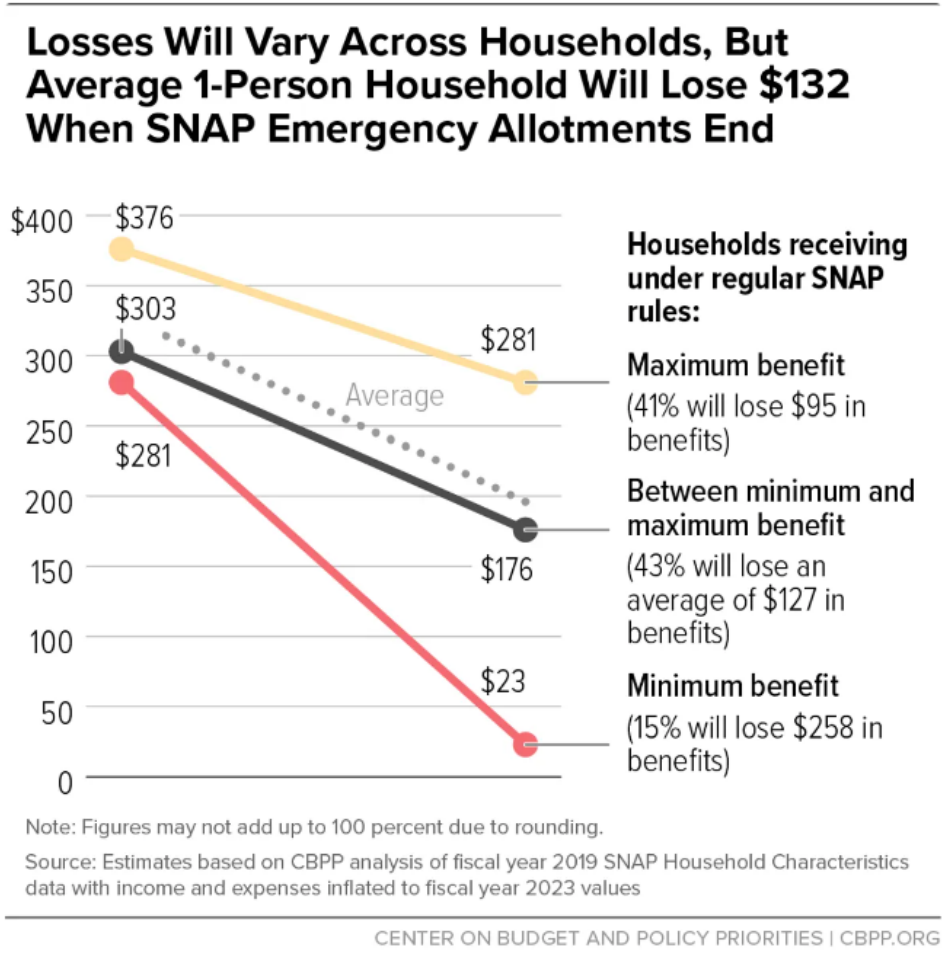
SNAP: Bad → WORSE For 30M HHs

HEDGEYE

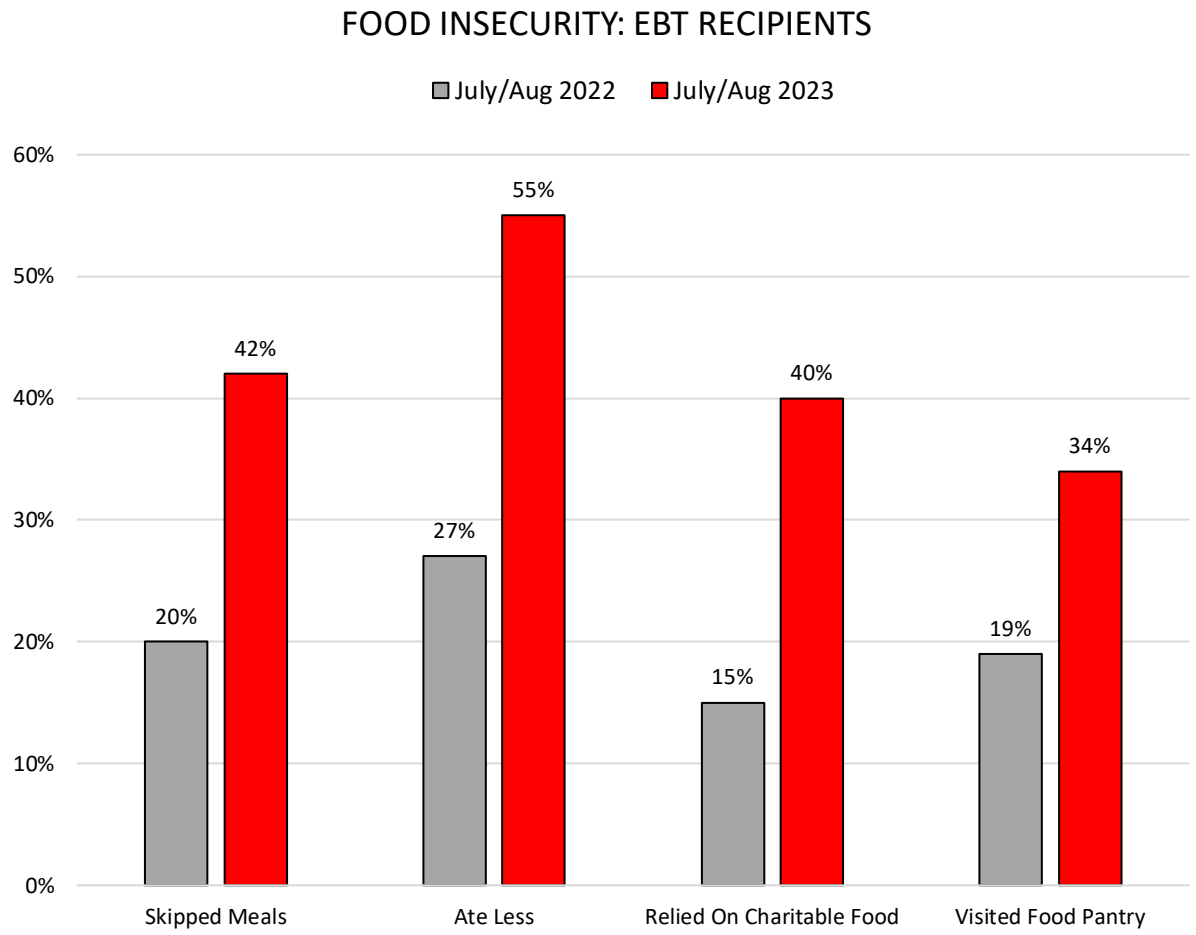
SNAP recipient households lost between $95/mo - $441/mo beginning in March.

SNAP 2.0: P-EBT (Pandemic Electronic Benefit) which provided $391 per child for the summer was reduced to $120 at the end of 2Q

1Q23: SNAP 1.0



3Q23: SNAP 2.0



Data Source: CBPP.org, Propel

STUDENT LOAN PAYMENT RESUMPTION

DRILLING DOWN: Student Loan Pause Was Boon for the High-End

HEDGEYE

The payment pause notably favored higher-income households, who typically carry larger student loan balances and thus have greater payments.

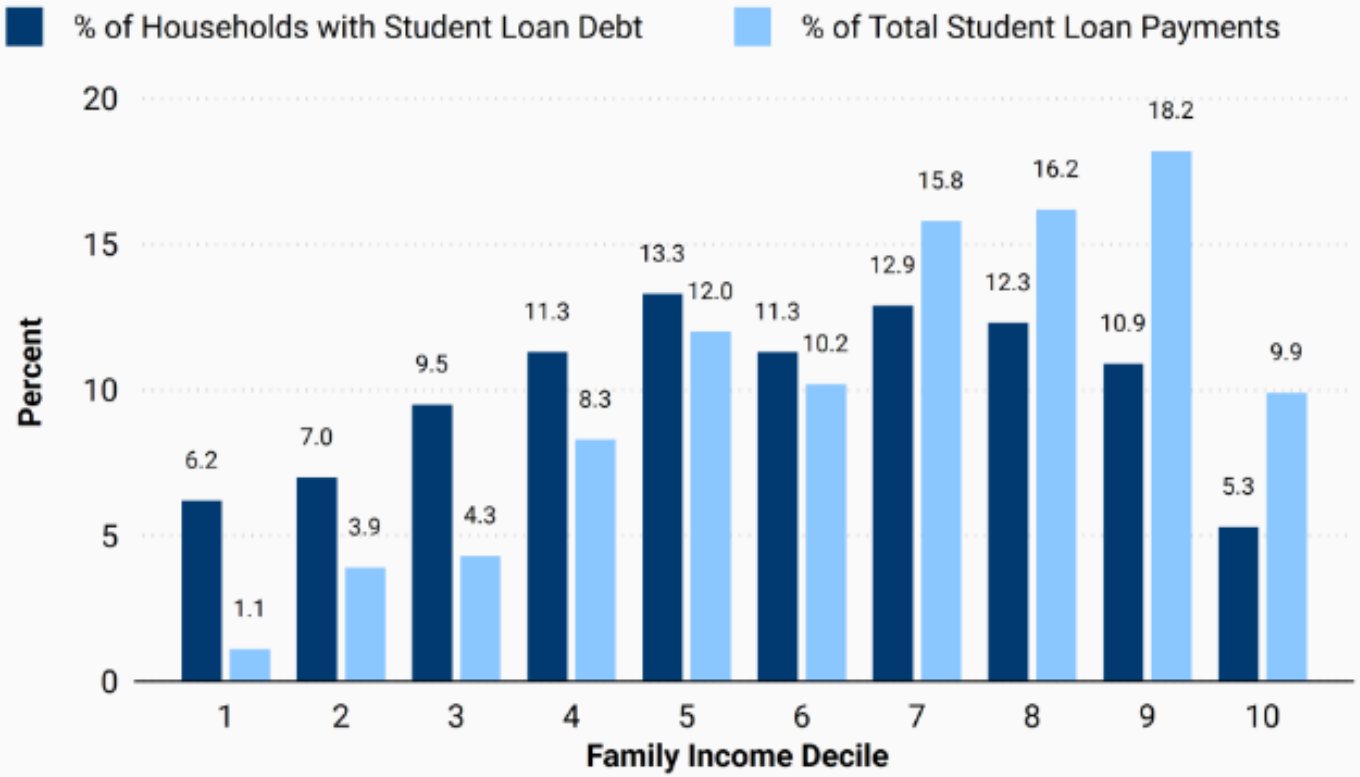
This effect of the pause was amplified by the ensuing period of high interest rates which allowed borrowers at the high-end to accumulate interest on excess liquidity, in part derived from paused loan repayments, while future payments remained fixed in nominal terms.

Graduate degree holders usually have higher loan balances (as they borrow more) and income (due to the lucrative nature of many graduate degrees) compared to those with a bachelor's degree or less.

Thus, while the payment pause benefits various income groups, its greatest impact is on the top decile households.

FIGURE 1

Distribution of households with student loan debt and total student loan payments



Source: Author's calculations using Survey of Consumer Finances (2019).

Notes: Figure shows the distribution of student borrower households and total payments across family income deciles.

BROOKINGS

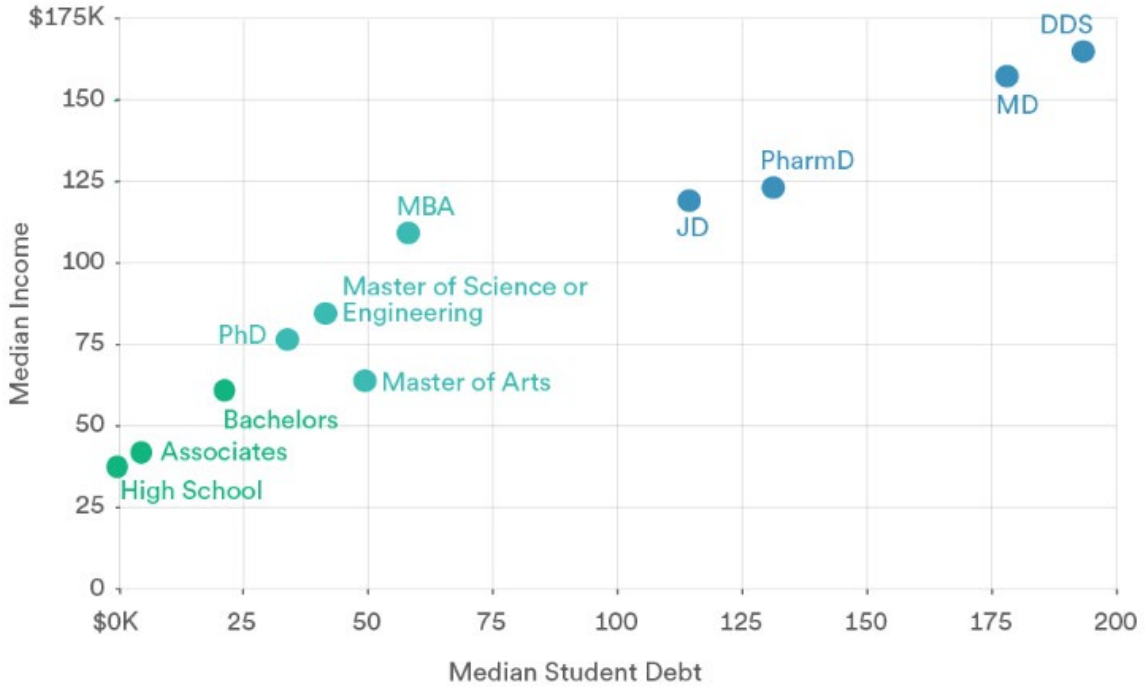
Data Source: Brookings Institute

Highly Educated & High Earning?

HEDGEYE

More Like "Highly Indebted & Less Creditworthy"

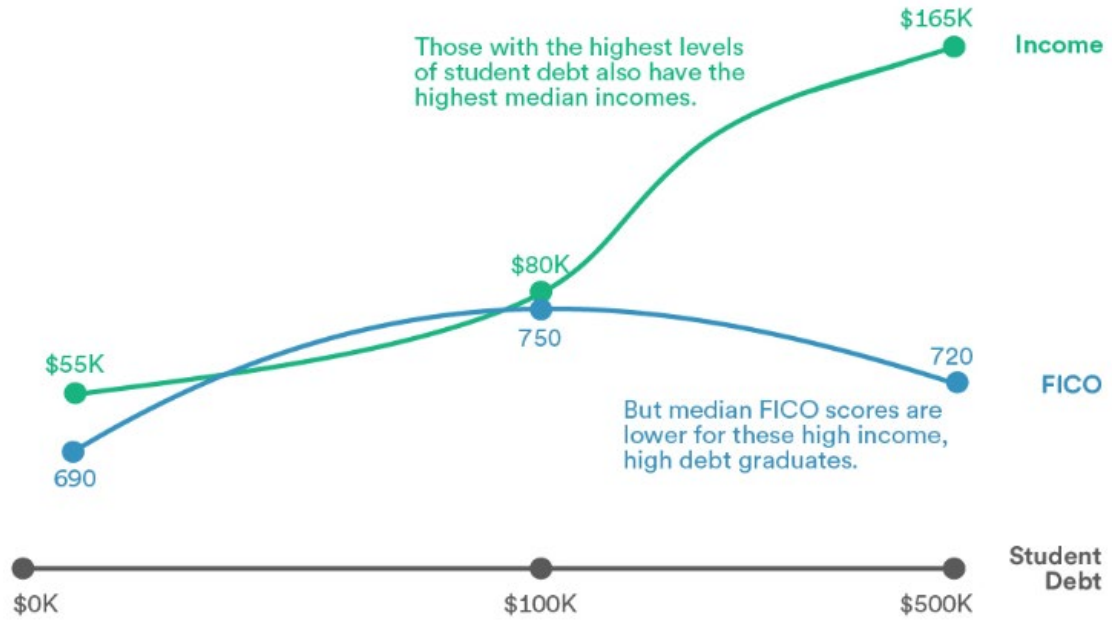
Degrees Associated With Higher Student Debts Also Yield Higher Incomes



earnest Loans the new-fashioned way EARNEST.COM

Data reflects Earnest student loan refinance and personal loan applicants.

Graduates with the Highest Student Debt Have the Highest Incomes, But Lower FICOs



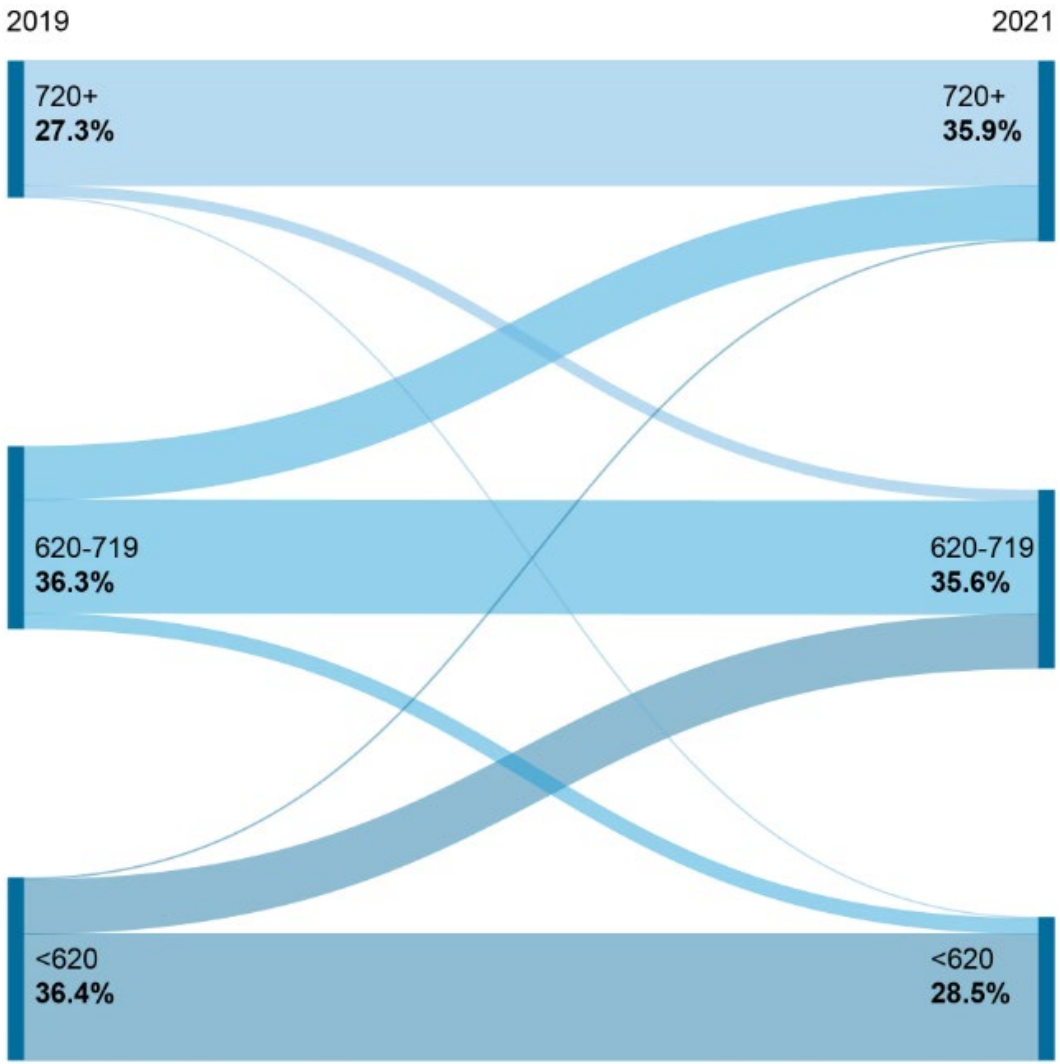
earnest Loans the new-fashioned way EARNEST.COM

Data reflects Earnest student loan refinance and personal loan applicants.

~80 Percent of Student Loan Borrowers Had Higher Credit Scores by the End of 2021

HEDGEYE

We observe a substantial upward drift of credit scores from 2019 to 2021 due to the pandemic dynamics, inclusive of student loan payment moratoria.



Data Source: New York Fed Consumer Credit Panel / Equifax (Note: Credit scores here are Equifax Risk Scores, which are comparable to FICO credit scores.)

The "47/12" Rule: 12% of Borrowers Account for 47% of Total Student Loan Debt

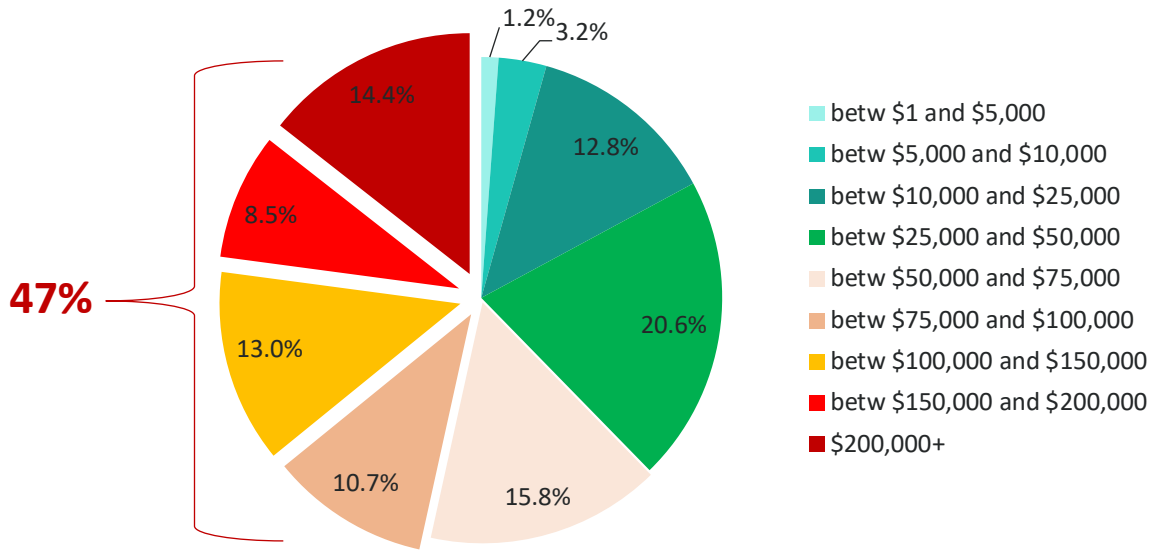
HEDGEYE

5.2M Or 12% Of Student Loan Borrowers Have Outstanding Balances Greater Than $75,000 As Of 4Q21 – These Are Doctors, Lawyers, Mbas, And Dentists Who Will Moderate Their Spending Once Payments Start Back Up In September.

Low end	High End	Avg	Number	% of Borrowers	$ Amount	% of Total
0	5,000	2,500	7,284,200	17%	18,210,500,000	1.2%
5,000	10,000	7,500	6,757,100	16%	50,678,250,000	3.2%
10,000	25,000	17,500	11,524,900	27%	201,685,750,000	12.8%
25,000	50,000	37,500	8,669,100	20%	325,091,250,000	20.6%
50,000	75,000	62,500	3,985,600	9%	249,100,000,000	15.8%
75,000	100,000	87,500	1,928,900	4%	168,778,750,000	10.7%
100,000	150,000	125,000	1,641,200	4%	205,150,000,000	13.0%
150,000	200,000	175,000	764,500	2%	133,787,500,000	8.5%
200,000	300,000	250,000	911,700	2%	227,925,000,000	14.4%
			43,467,200	**100.0%**	**1,580,407,000,000**	**100.0%**

>$50k	21.2%	**>$50k**	62.3%
>$75k	12.1%	**>$75k**	46.5%
>$100k	7.6%	**>$100k**	35.9%
>$150k	3.9%	**>$150k**	22.9%
>$200k	2.1%	**>$200k**	14.4%

Dollar Distribution of Student Loan Balances by 4Q21 Balances



Data Source: FRBNY Consumer Credit Panel/Equifax

No Rest for the HENRYs (High Earning Not Rich Yet)

HEDGEYE

Income-based Repayment Plans Are Unlikely To Bail Out Borrowers With Very High Loan Balances Because Those Are Likely The Same Borrowers With High Incomes

The typical student loan monthly payment on a $200,000 loan depends on a few factors, including the interest rate, the loan term, and the repayment plan.

- **Interest rate:** The higher the interest rate, the higher the monthly payment will be. The average student loan interest rate is around 6%, but it can be higher or lower depending on the type of loan and the borrower's credit score.
- **Loan term:** The longer the loan term, the lower the monthly payment will be, but the more interest you will pay over the life of the loan. A standard student loan term is 10 years, but you may be able to choose a shorter or longer term if it better fits your budget.
- **Repayment plan:** There are several different repayment plans available for student loans, each with its own monthly payment amount. Some plans, such as income-driven repayment plans, can lower your monthly payment by capping it at a percentage of your income.

Here are some examples of typical student loan monthly payments on a $200,000 loan:

- **Interest rate of 6% and a loan term of 10 years:** $2,121 per month
- **Interest rate of 8% and a loan term of 10 years:** $2,408 per month
- **Interest rate of 6% and a loan term of 5 years:** $3,867 per month
- **Interest rate of 8% and a loan term of 5 years:** $4,362 per month
- **Income-driven repayment plan with a monthly payment of 10% of discretionary income:** $1,000 - $3,000 per month

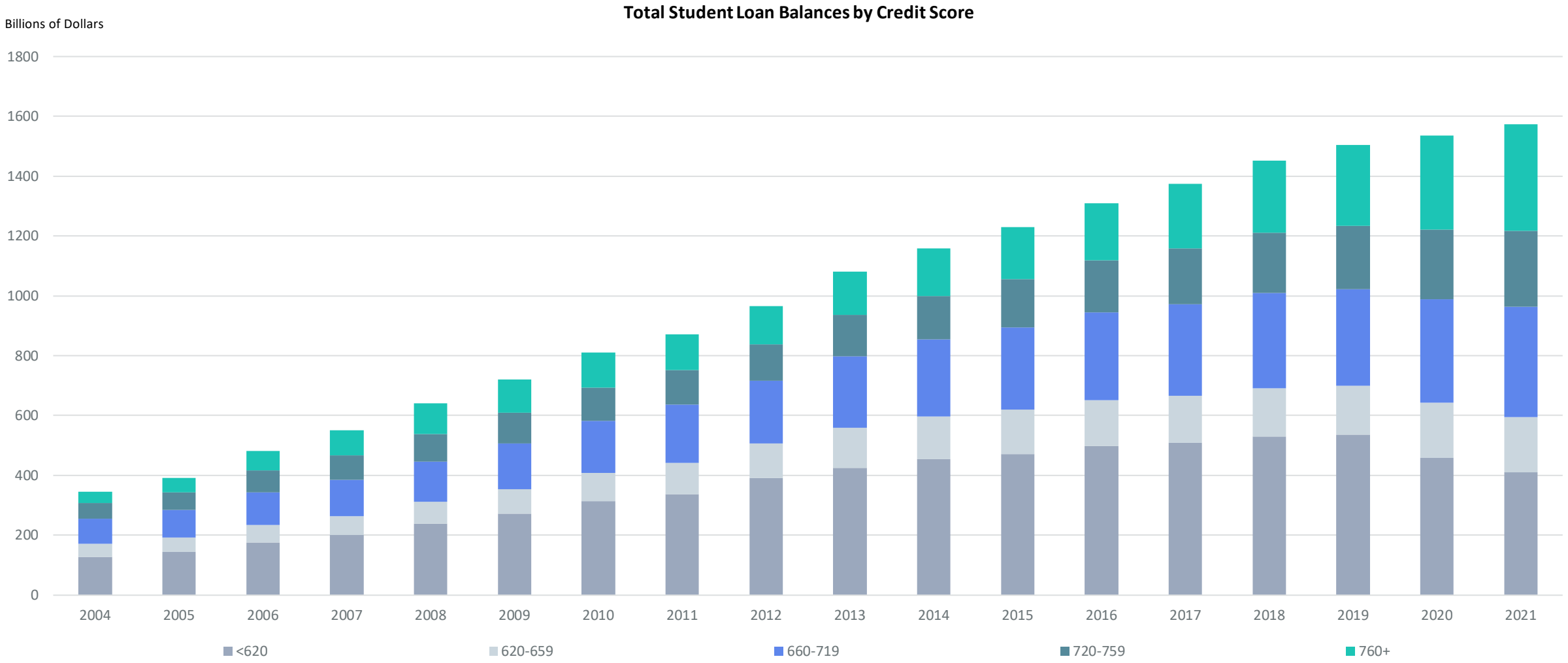
It's important to note that these are just estimates and your actual monthly payment may be higher or lower depending on your individual circumstances. If you're struggling to make your student loan payments, there are several resources available to help you, such as student loan counseling and loan forgiveness programs.

Data Source: Equifax

The Largest Share Of Student Loan Balances Is Held By Credit Scores > 660 (~$ 1 Trillion)

HEDGEYE

Borrowers With Credit Scores > 660 Account For ~$ 1 Trillion. While Those With Credit Scores < 660 Account For ~$600B

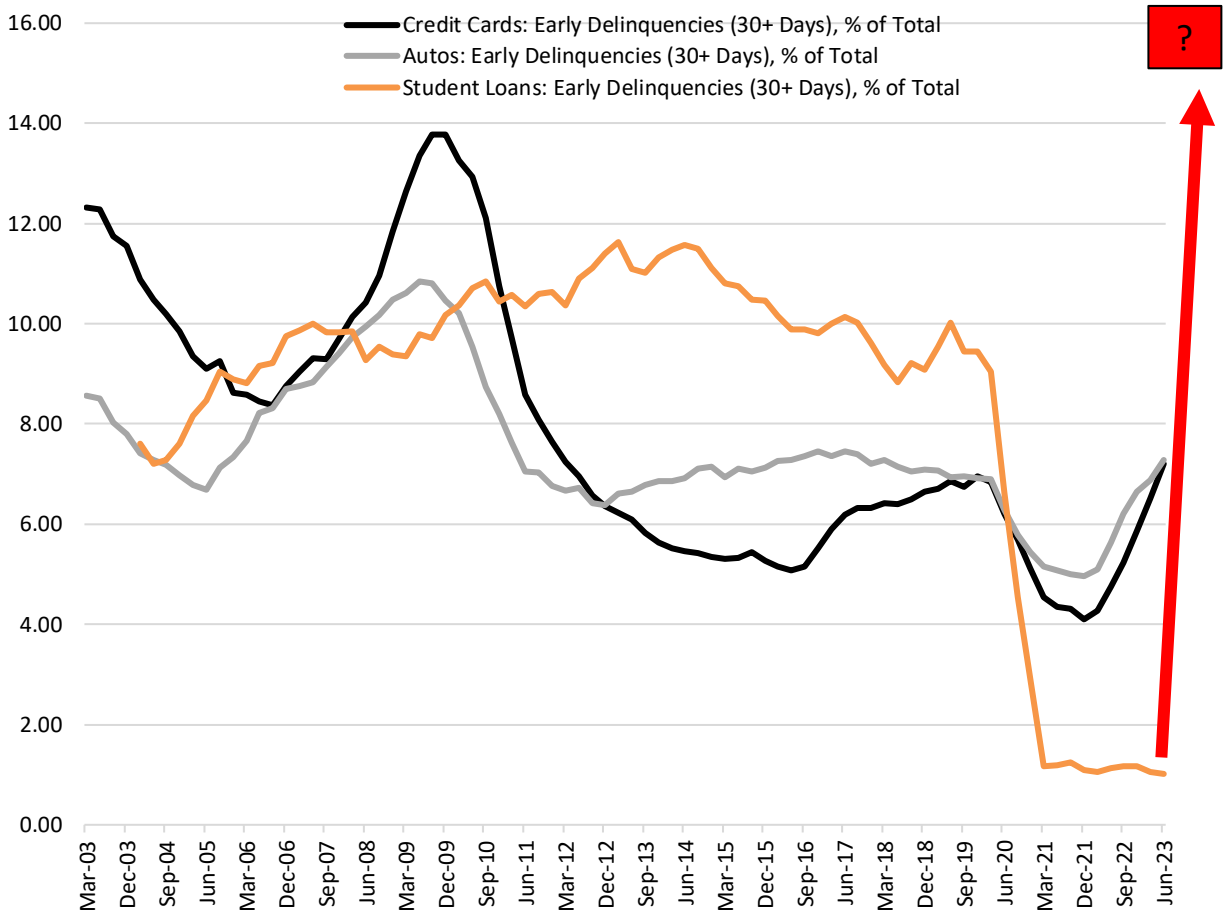


Data Source: FRBNY Consumer Credit Panel/Equifax

How Hard Will It Hit The Fan?

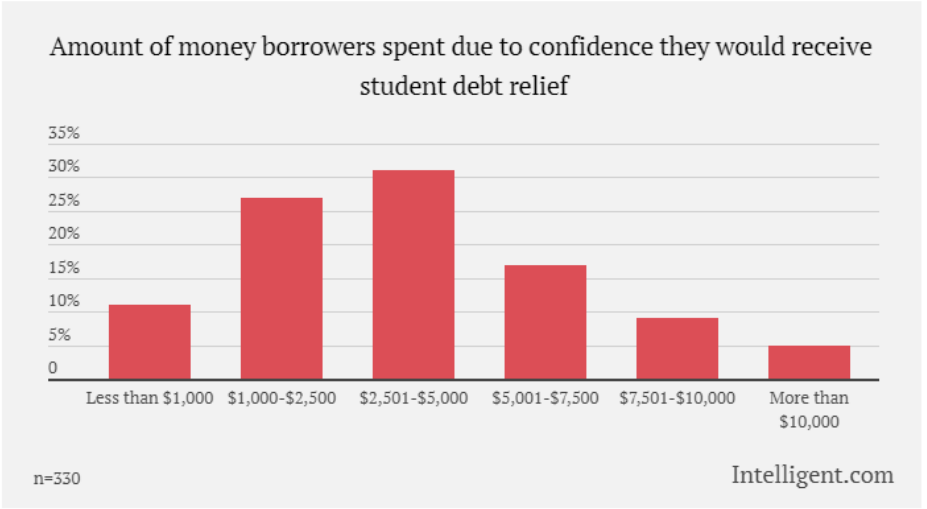
HEDGEYE

Households with Student loans spent more and took on other incremental debt during the Student Loan moratoria. A significant percentage of borrowers have signaled they expect to boycott or go delinquent once repayment begins. The impact may/may not be as sensational as the survey headlines (45% DQ rate), but it will assuredly be a net drag



creditkarma | Press Room

- More than 2 in 5 (45%) of federal student loan borrowers expect to go delinquent on their student loan payments once forbearance ends.



During the Pandemic, Consumers With Student Loans Added New Debt

Product	Percentage of Student Loan Borrowers Taking On New Product
Bank Card	53%
Auto Loan	36%
Retail Card	31%
Mortgage	15%
Unsecured Personal Loan	15%

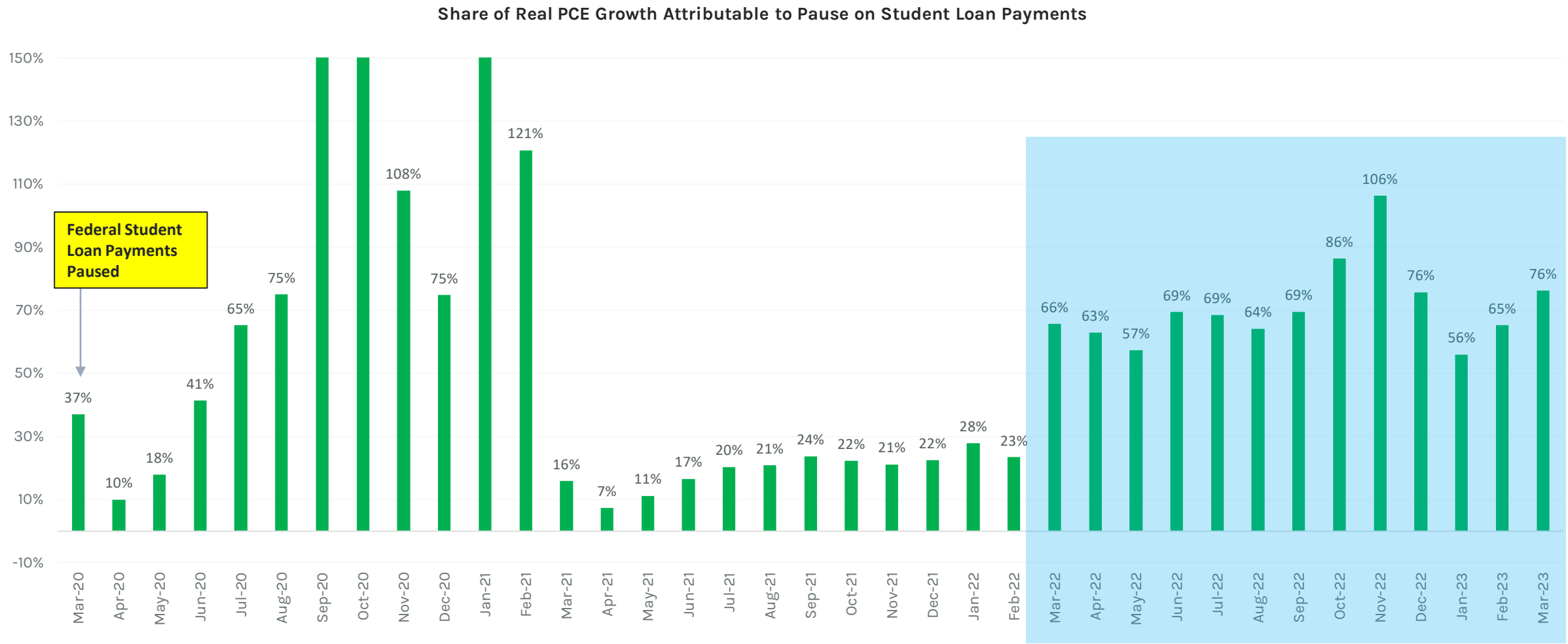
Source: TransUnion US consumer credit database; data is as of May 31, 2023; trade defined as opened during the pandemic if opened on or after March 31, 2020.

Data Source: creditkarma, Intelligent, Transunion, Federal Reserve

T – 2 Days … $10-$15B/Mo Consumption Shock

HEDGEYE

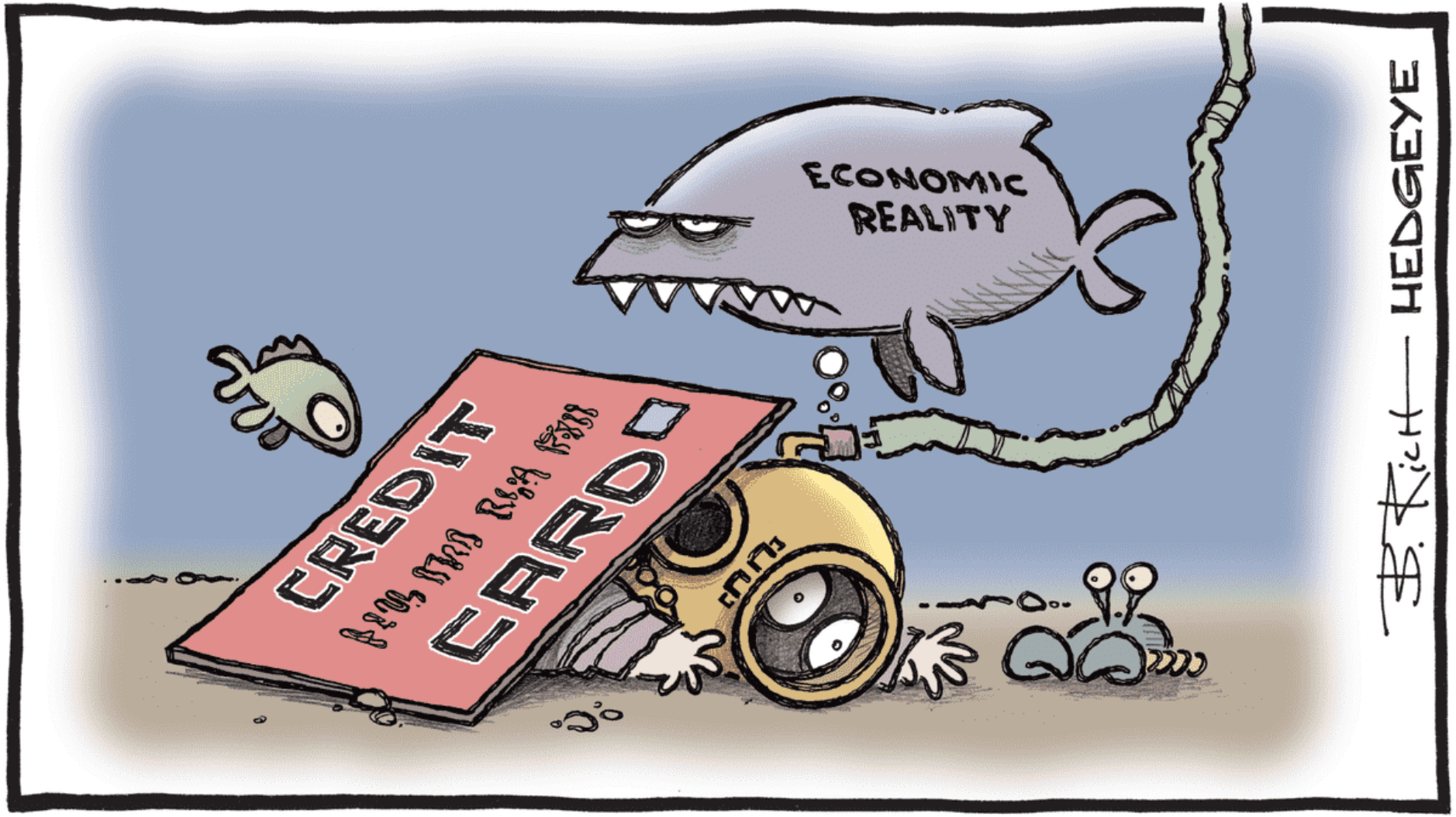
While Inflation Has Lowered the Impact of Fixed Rate Student Loan Repayments, We Are Looking at ~1.5 Percentage Point Growth Headwind to Real PCE Come September 2023



Data Source: Hedgeye Estimates, BEA

HEDGEYE

CRITICAL THESHOLDS & CAPITULATIONS



Household Interest Payments Up ∞ Dollars!

HEDGEYE

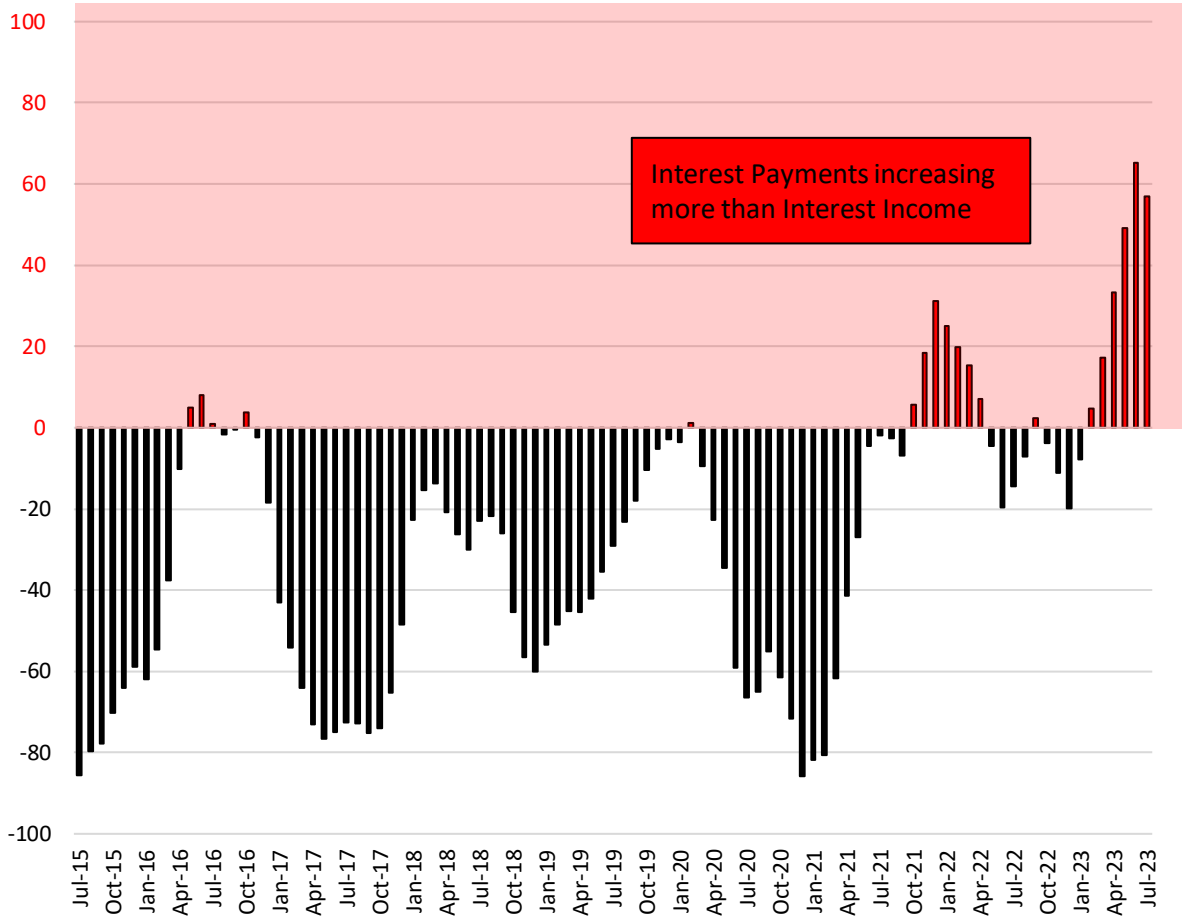
Interest Income is obviously up as well but interest payments are growing more than interest income (RH chart). And Its really only the top Income quintile that disproportionately benefits from interest income anyway.

Personal Interest Payments

12M Chg (Billions of $'s)

12M Chg: Personal Interest Payments - Personal Interest Income

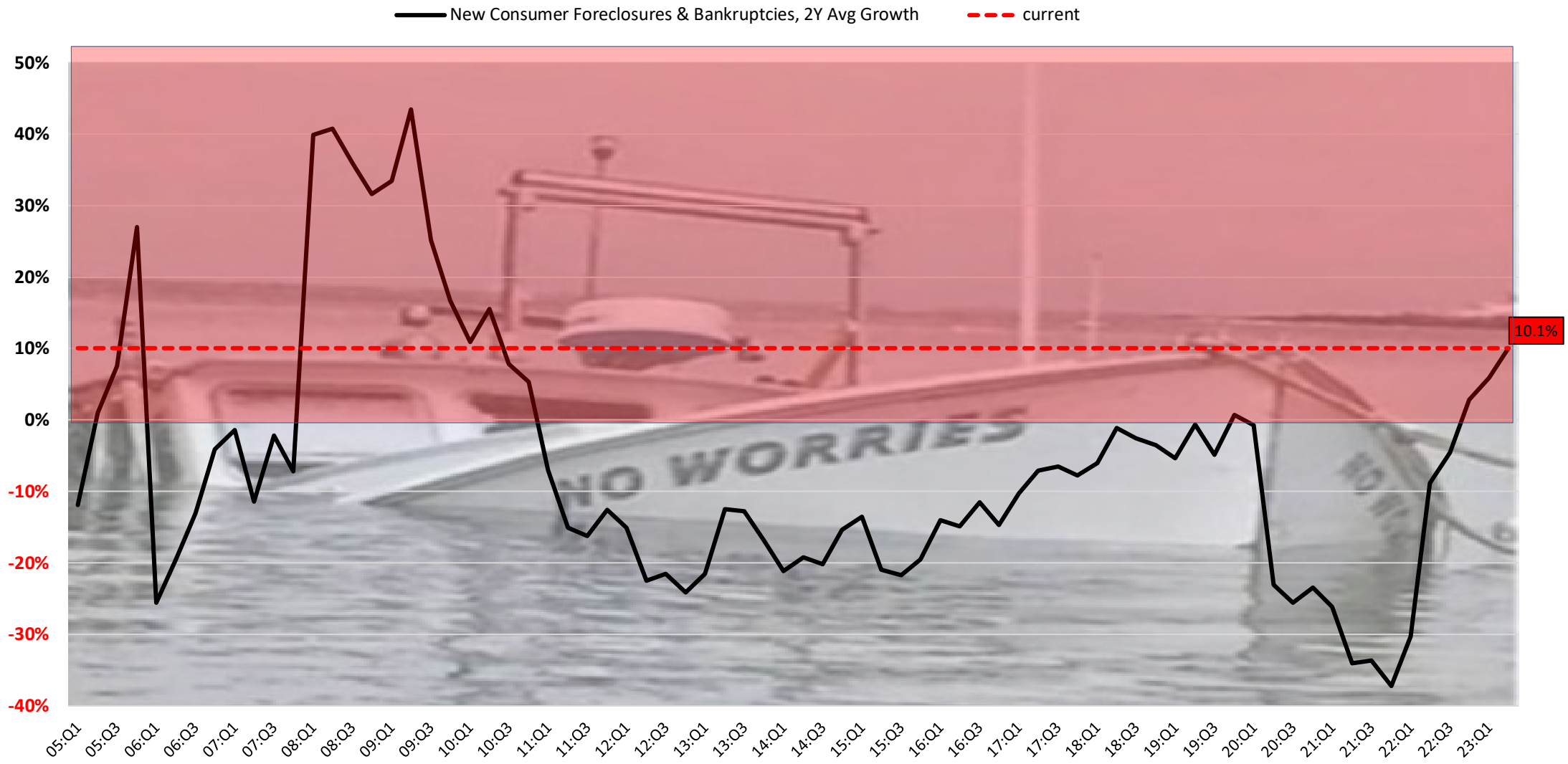
Billions of $'s



Consumer Foreclosures & Bankruptcies … #UpOnly

HEDGEYE

The Consumer Foreclosure/Bankruptcy/Delinquency cycle continues to accelerate. There is effectively no data suggesting that the prevailing trend somehow arrests & reverses.



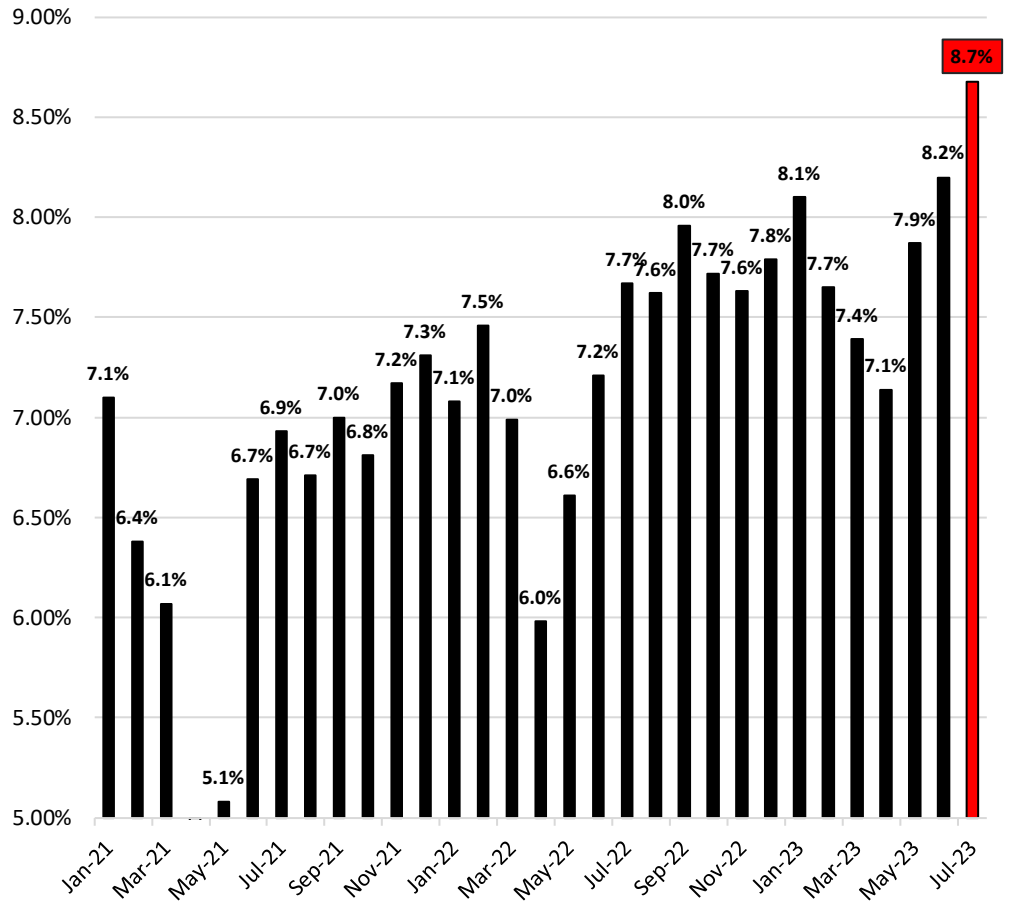
Data Source: NYFED

Millennials/Gen-Z Leading the Capitulation

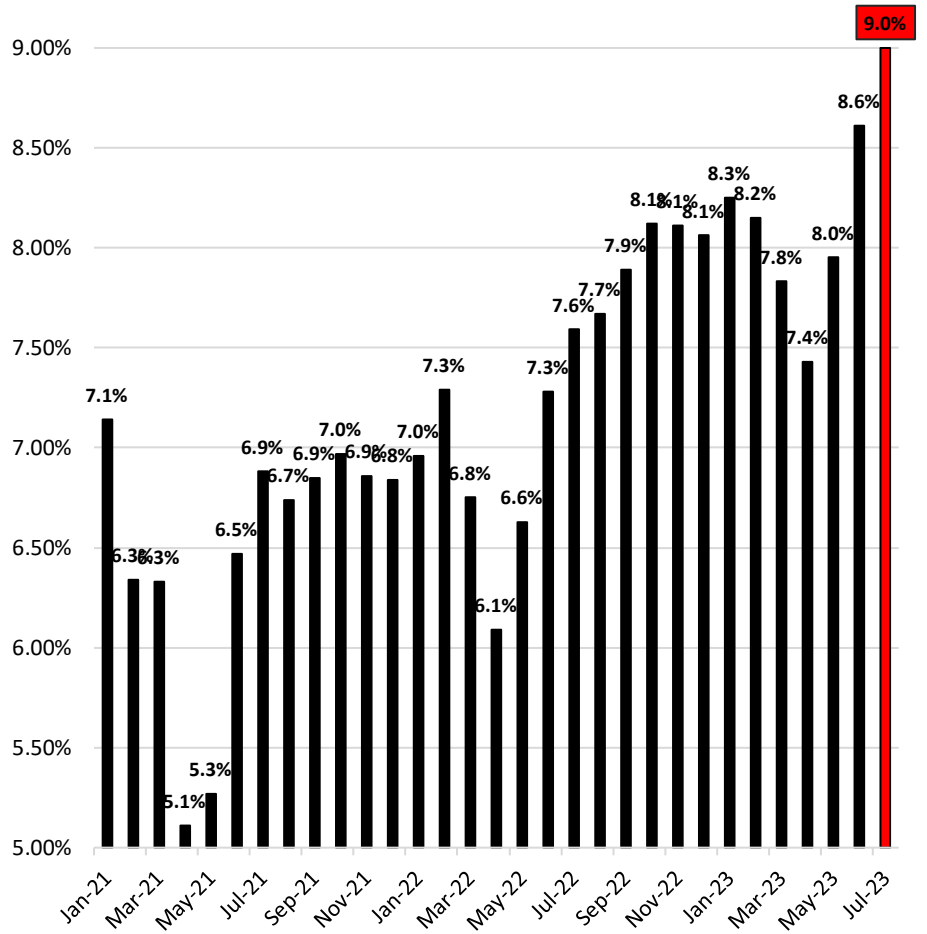
HEDGEYE

Credit Card delinquency rates continue to make higher highs and have now begun to step function higher

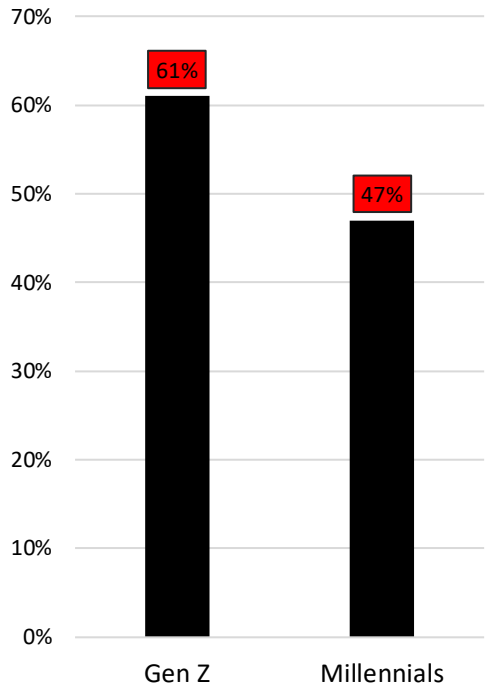
Gen-Z (sub-prime): CC Delinquency Rate



Millennials (sub-prime): CC Delinquency Rate



I am somewhat or very financially dependent on my parents

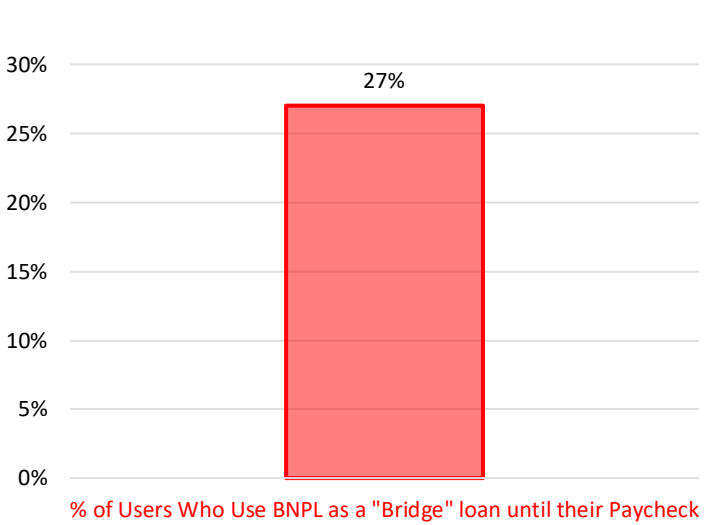


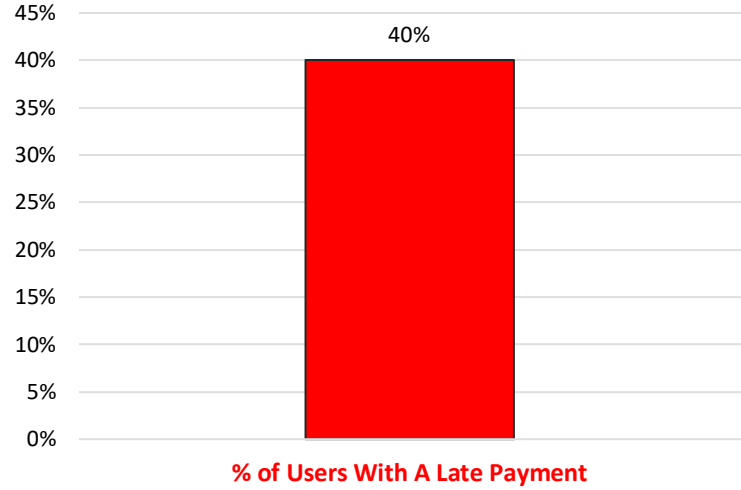
Data Source: Factset, Bloomberg

Sigh … Gen-Z/Millennials Building the BNPL (Buy Now Pay Later) "Bridge" To Nowhere

HEDGEYE

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



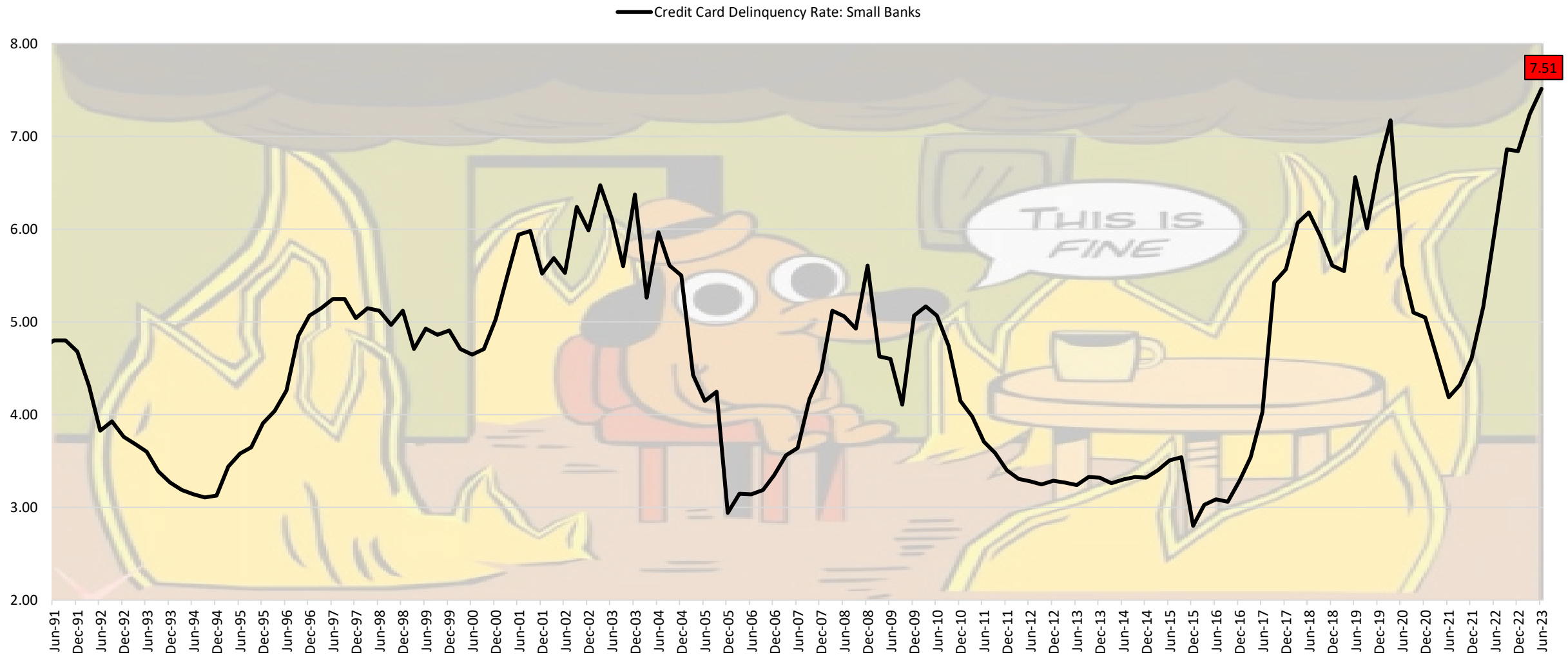


Data Source: LendingTree Survey (n=1000+)

Small Bank CC Delinquency Rate = ATH

HEDGEYE

This is fine ...

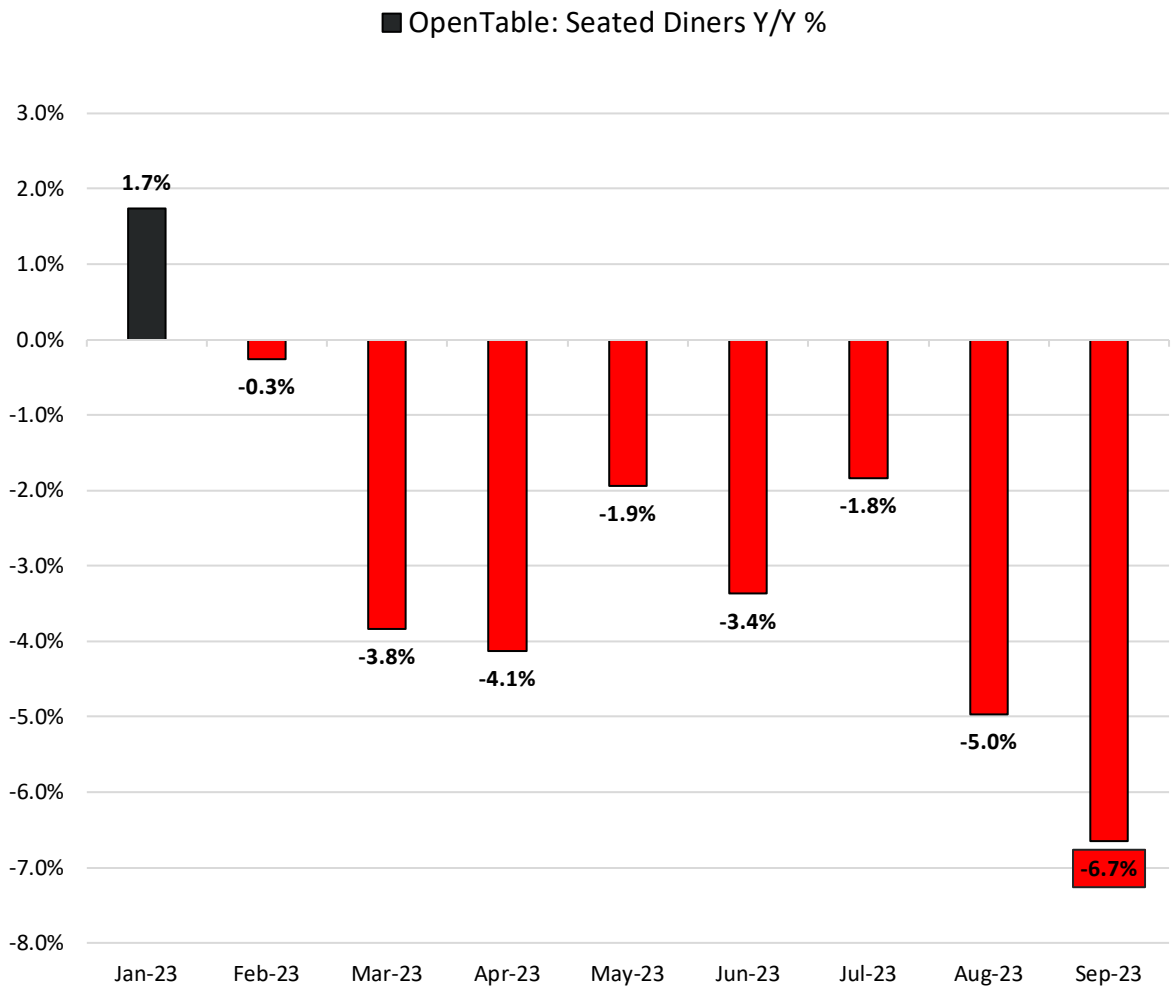


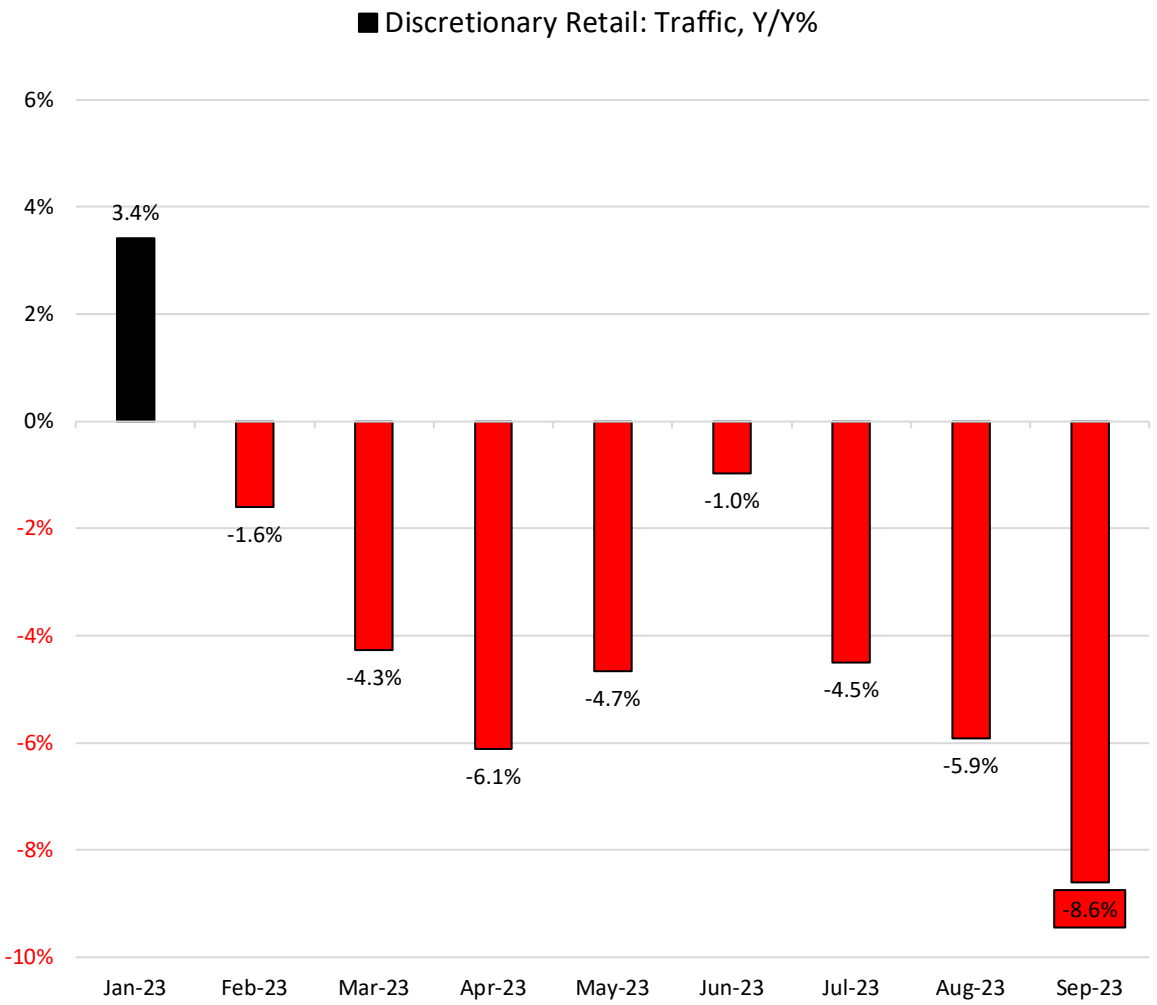
Data Source: Federal Reserve

Is The Consumer Capitulation In Motion?

HEDGEYE

Take a mosaic or preponderance of evidence approach to interpreting this section of slides. That balance of consumption growth risk should be self-evident.



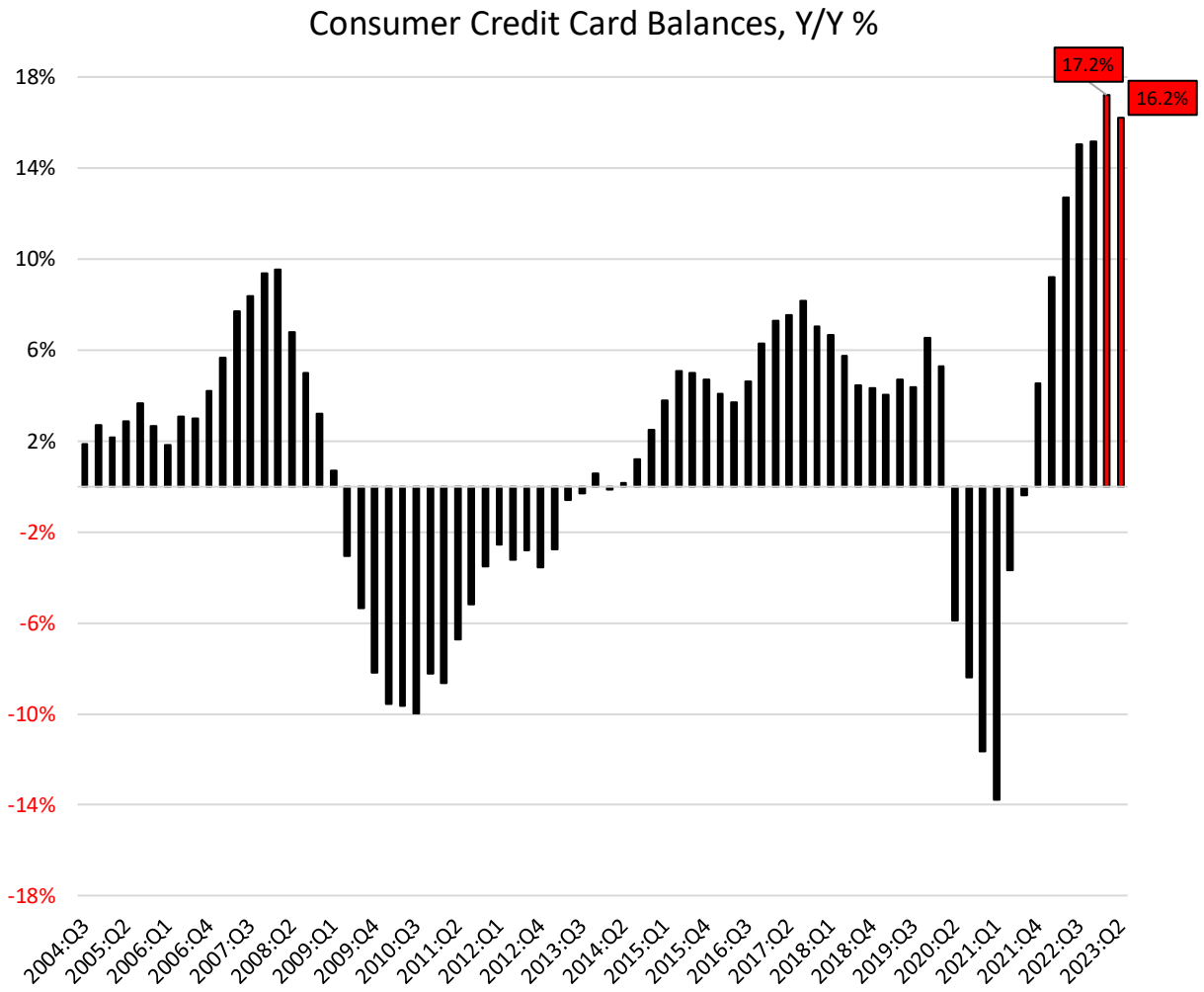


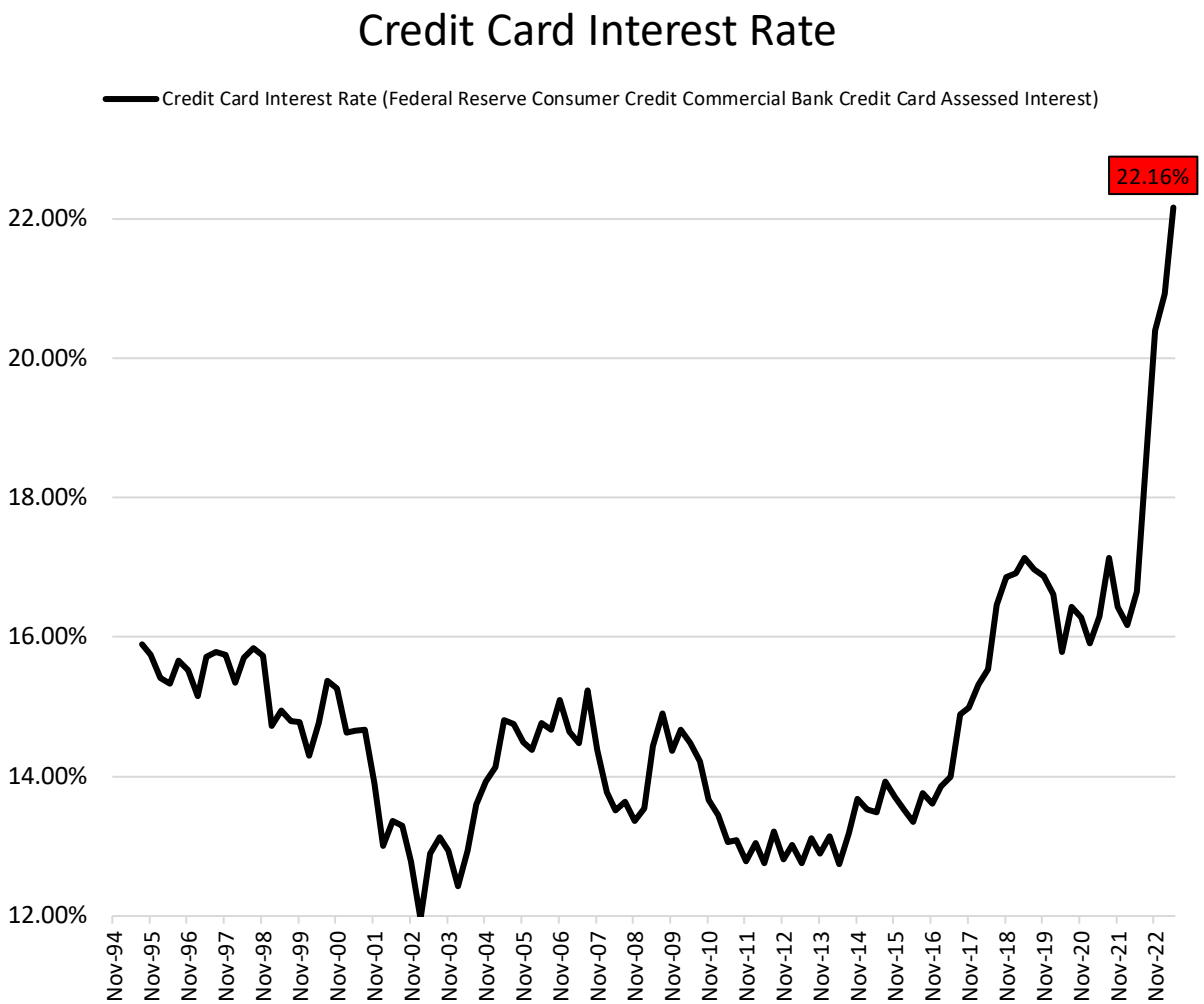
Data Source: Factset, Bloomberg

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

HEDGEYE

Balance ↑, Interest Rate ↑. 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.



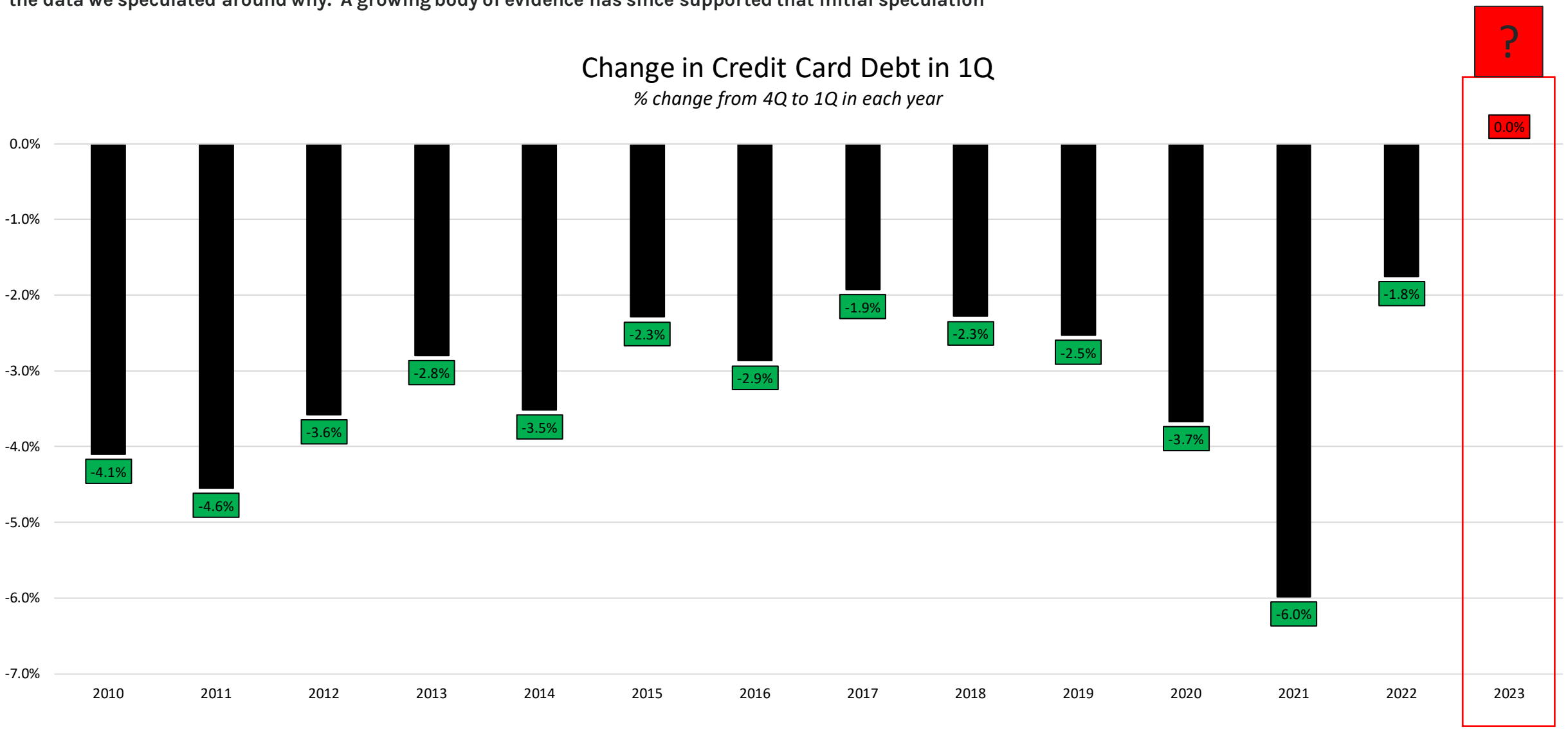


Data Source: NY FED, Federal Reserve

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

HEDGEYE

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

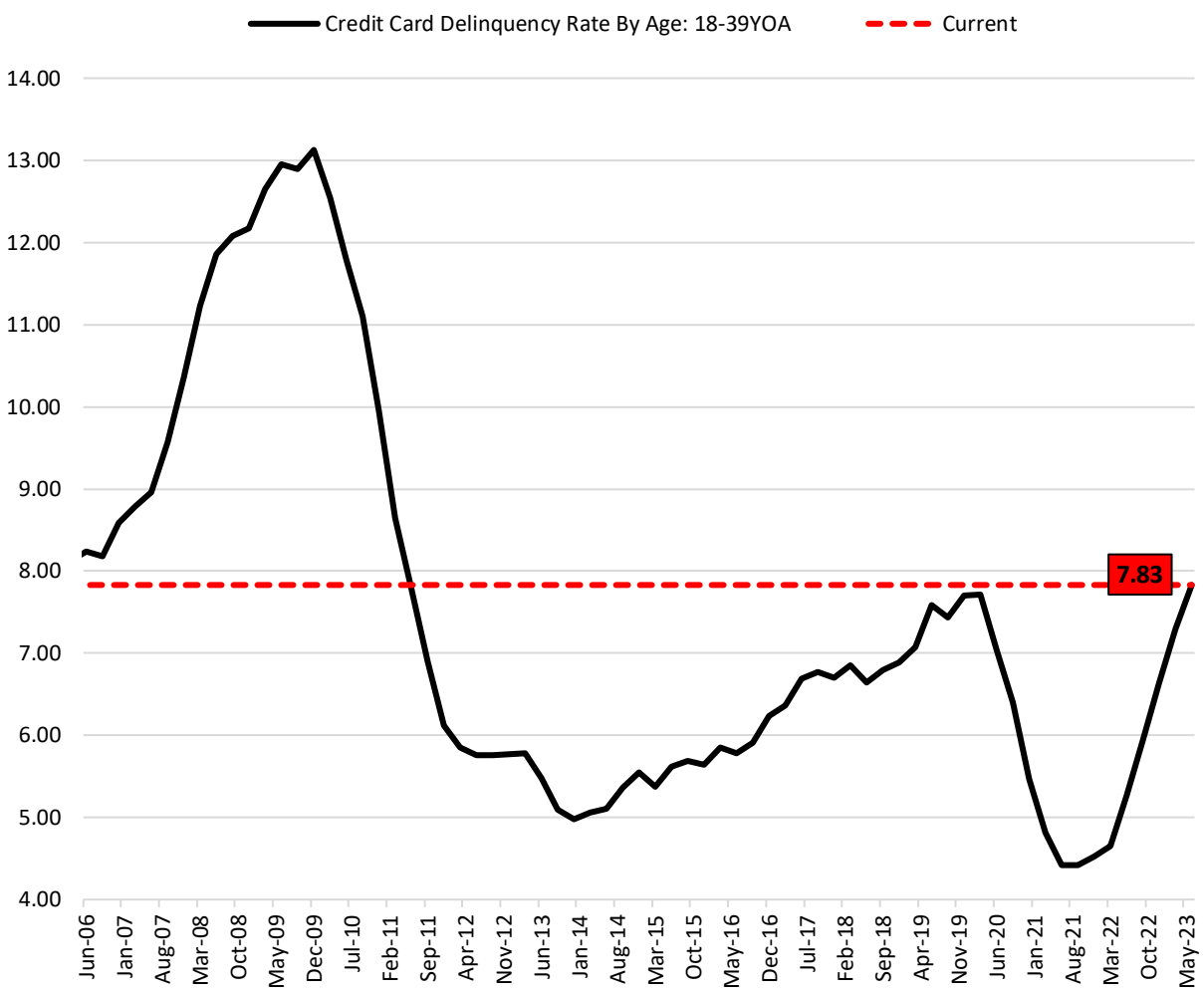


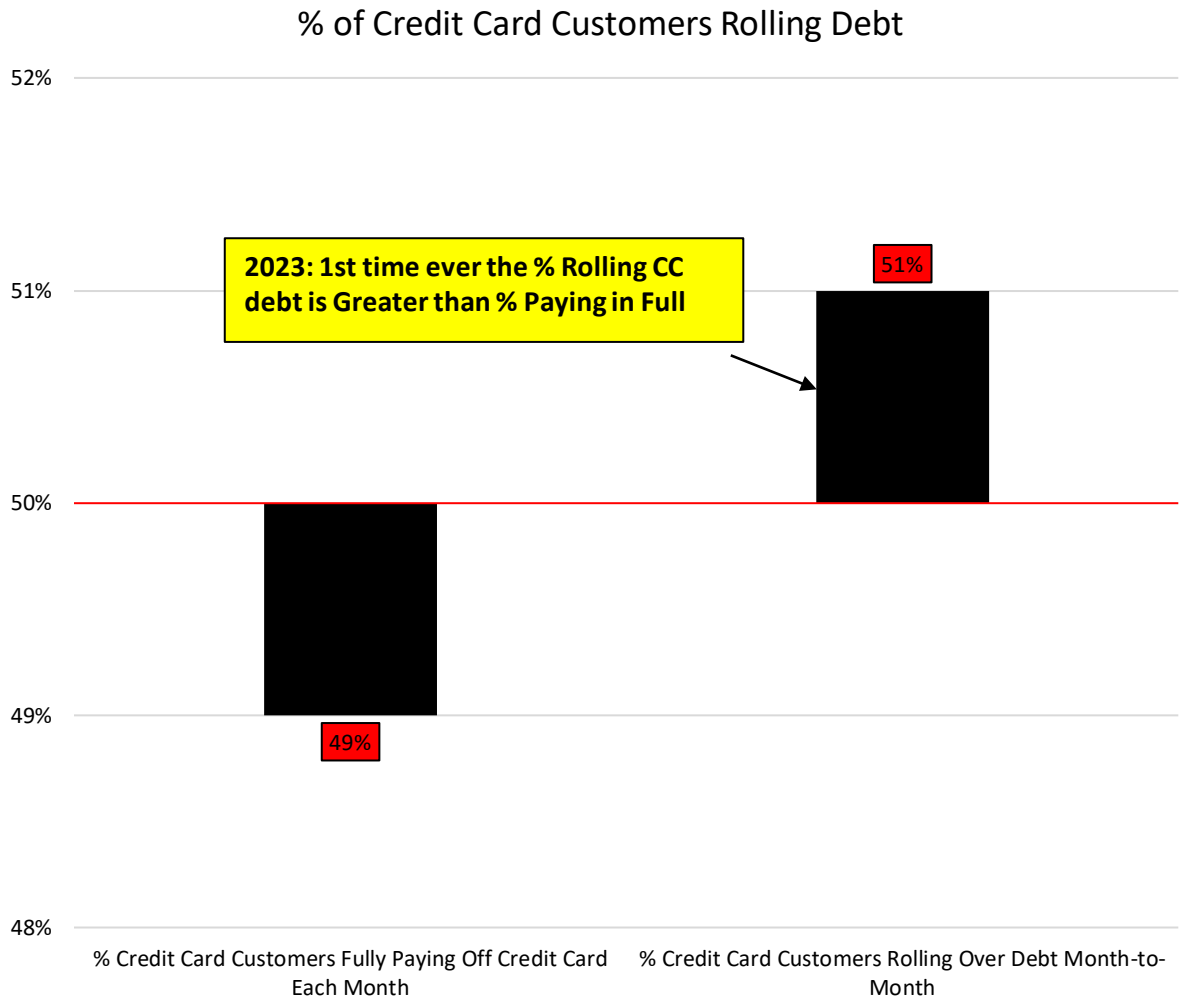
Data Source: NYFED

Psst … They Can't (Pay)!

HEDGEYE

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





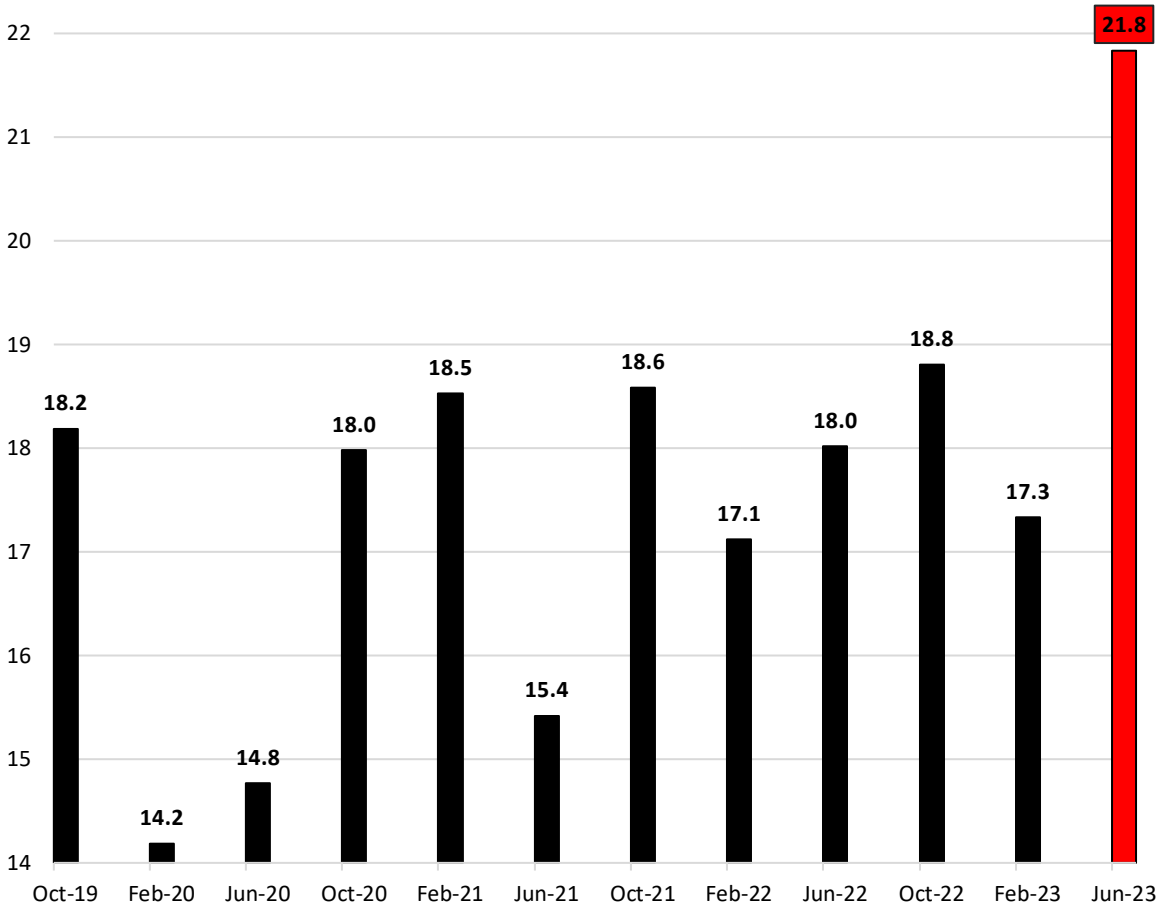
Data Source: NY FED, J.D. Power

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

HEDGEYE

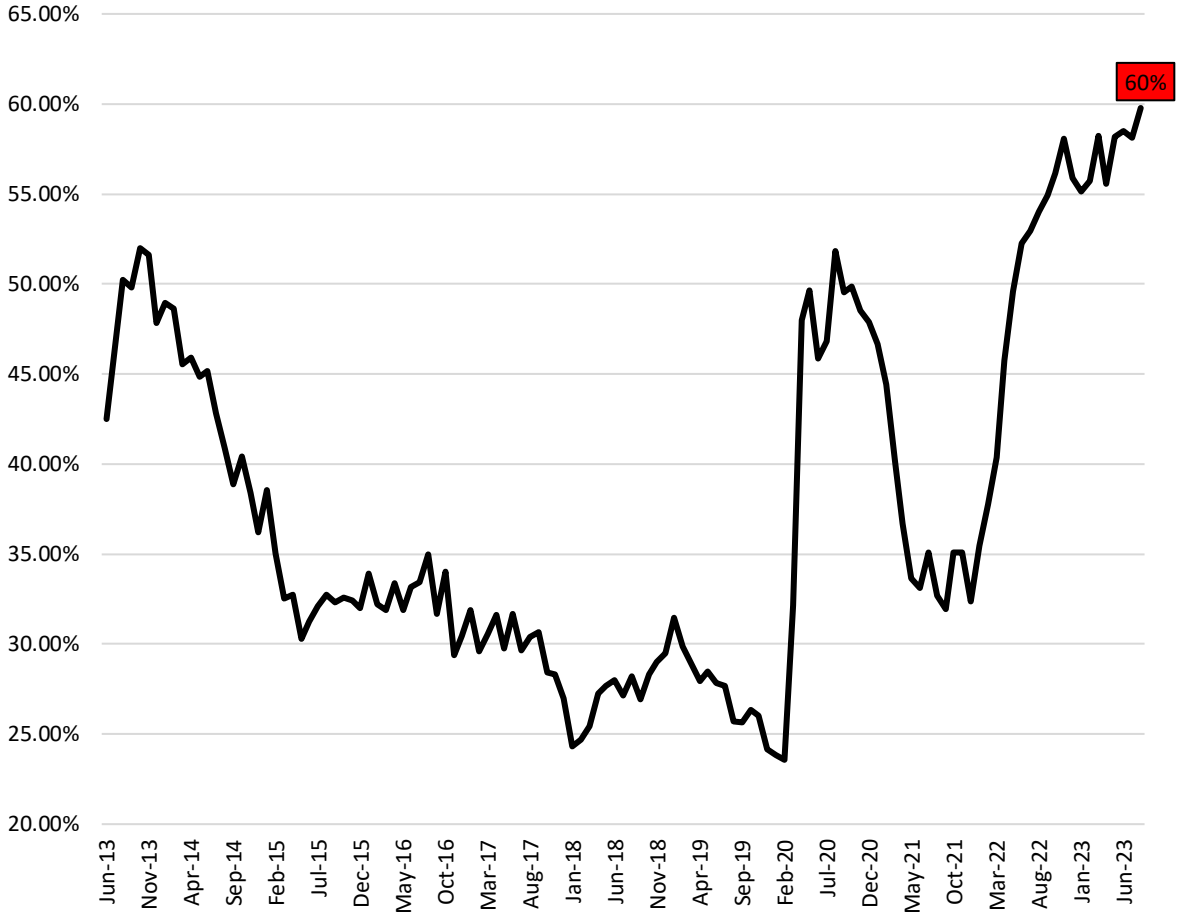
Consumer May Very Likely Not Be Able To Borrow Even If They Wanted To. Lending Conditions are deteriorating, and the consumer credit box is tightening, quickly.

Consumer Credit Rejection Rate (NY FED)



Households Credit Availability: % Reporting Harder to Obtain Credit

NY FED SCE Survey

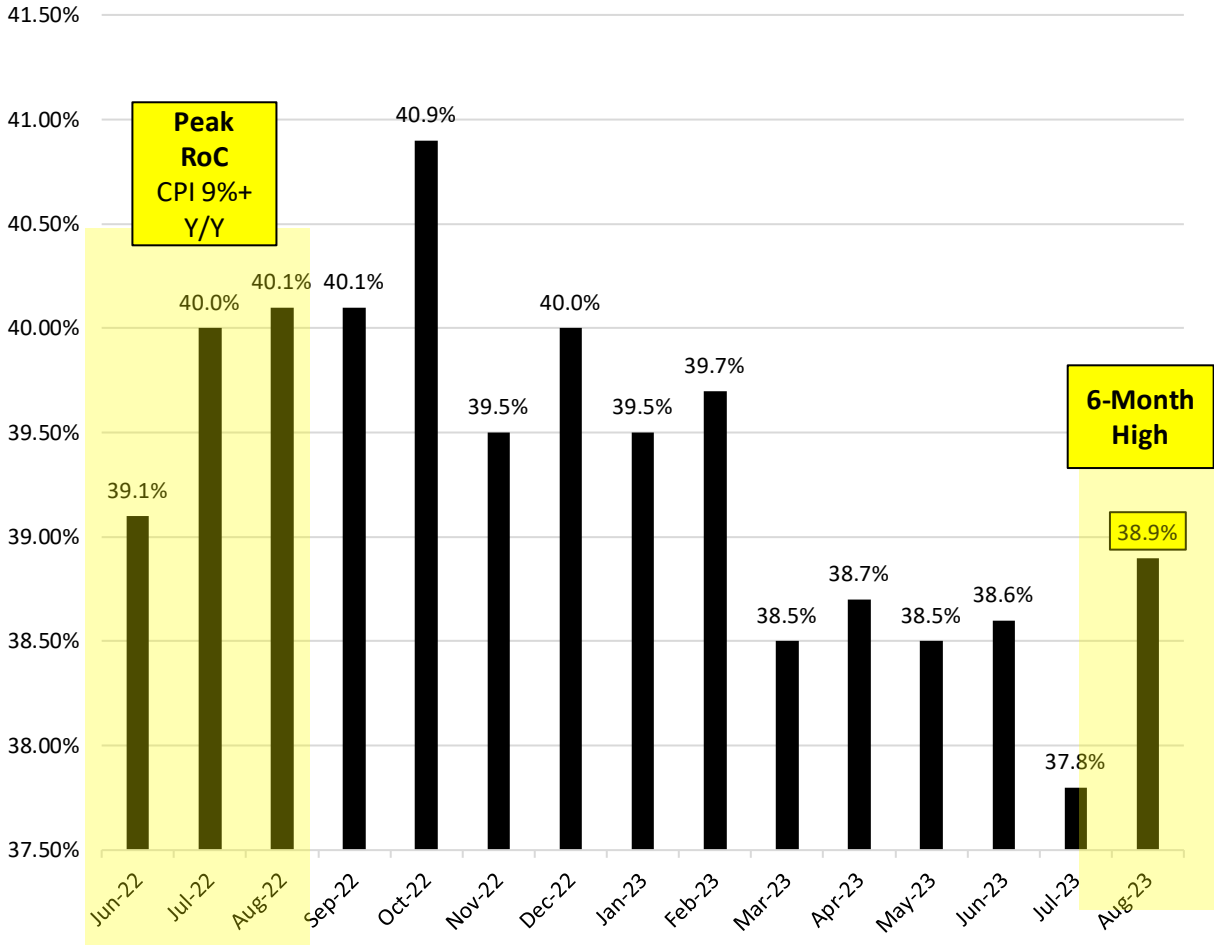


Data Source: NY Fed

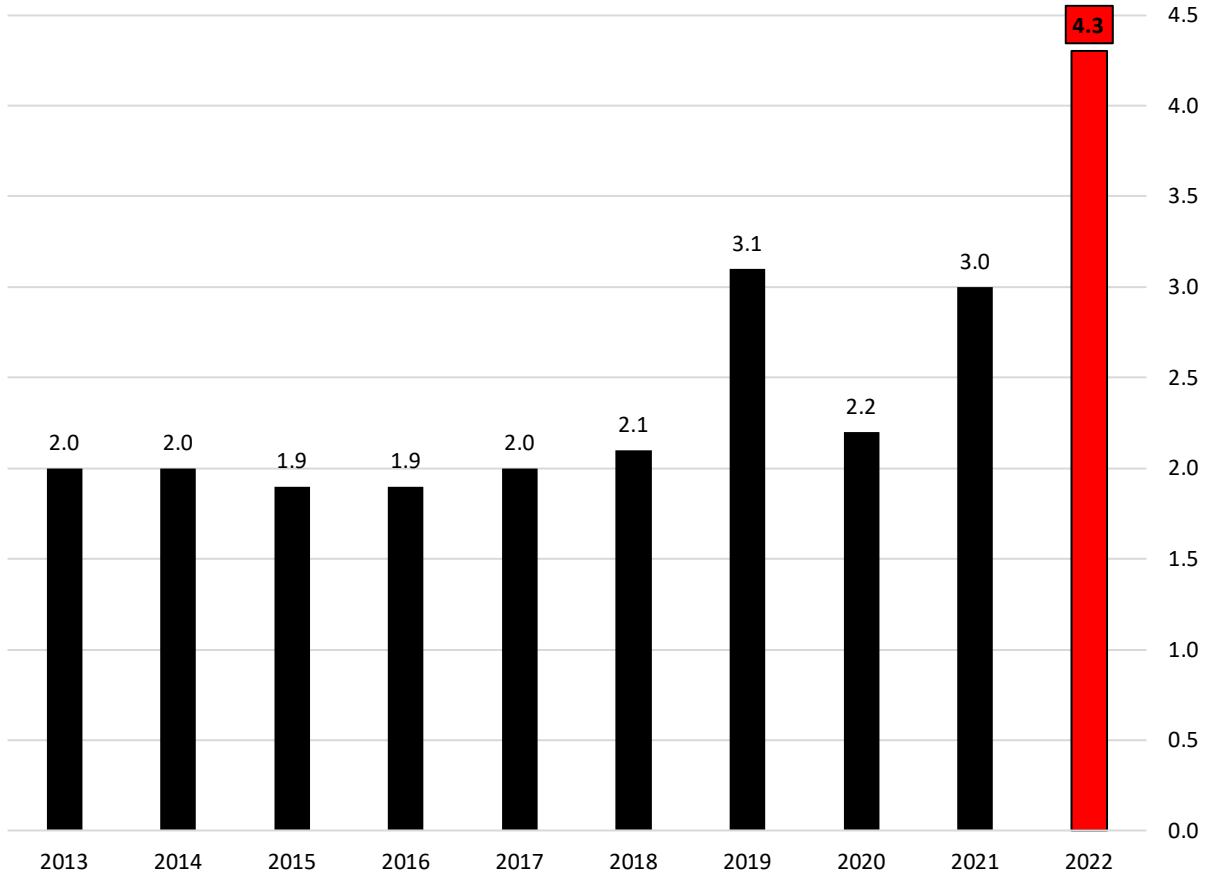
Not A Coincidence → Inflation Re-accelerating, Difficulty Paying for Typical Expenses ↑

HEDGEYE

Difficulty Paying for Usual Household Expenses



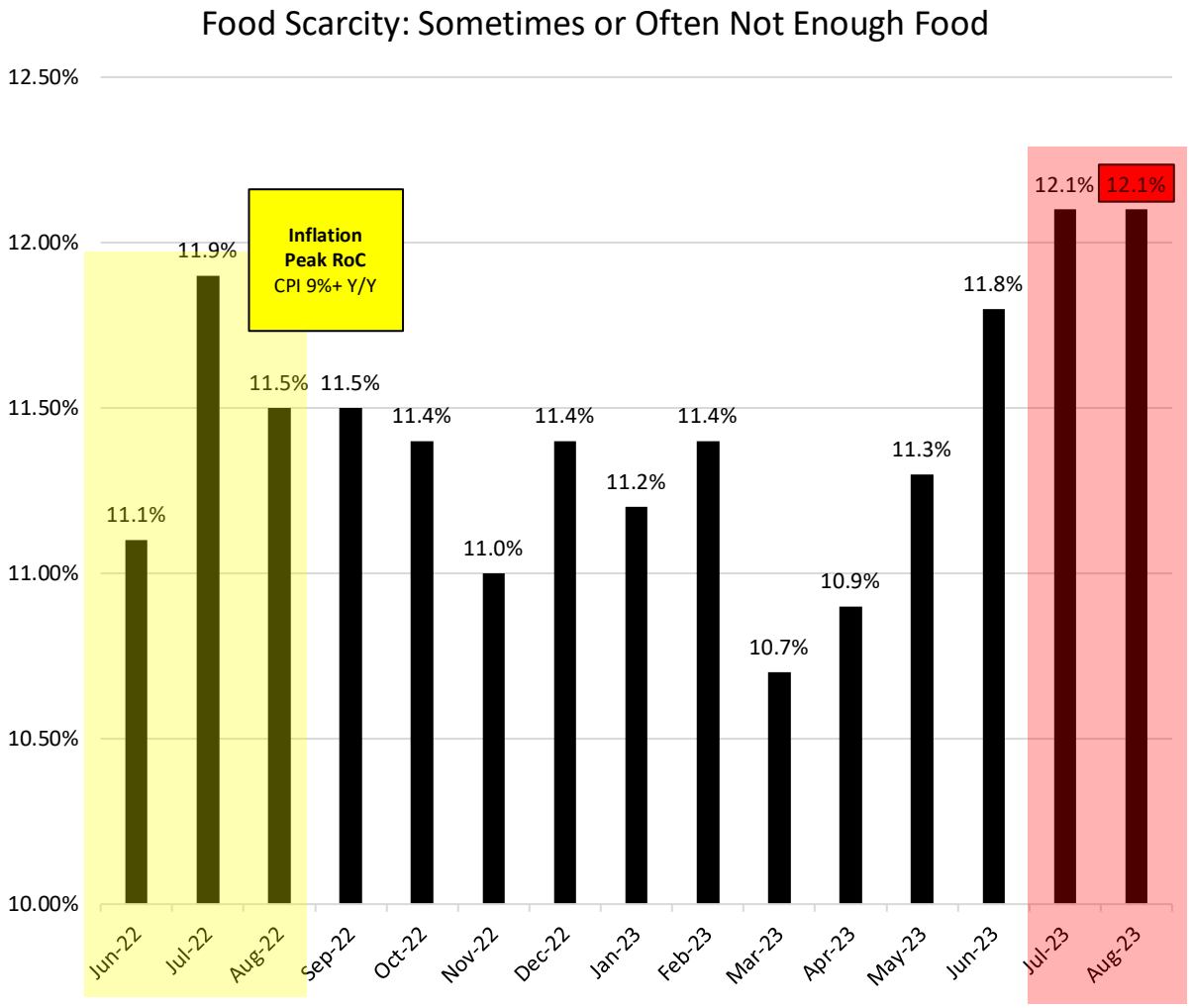
Fidelity: 401K Hardship Withdrawl Rate

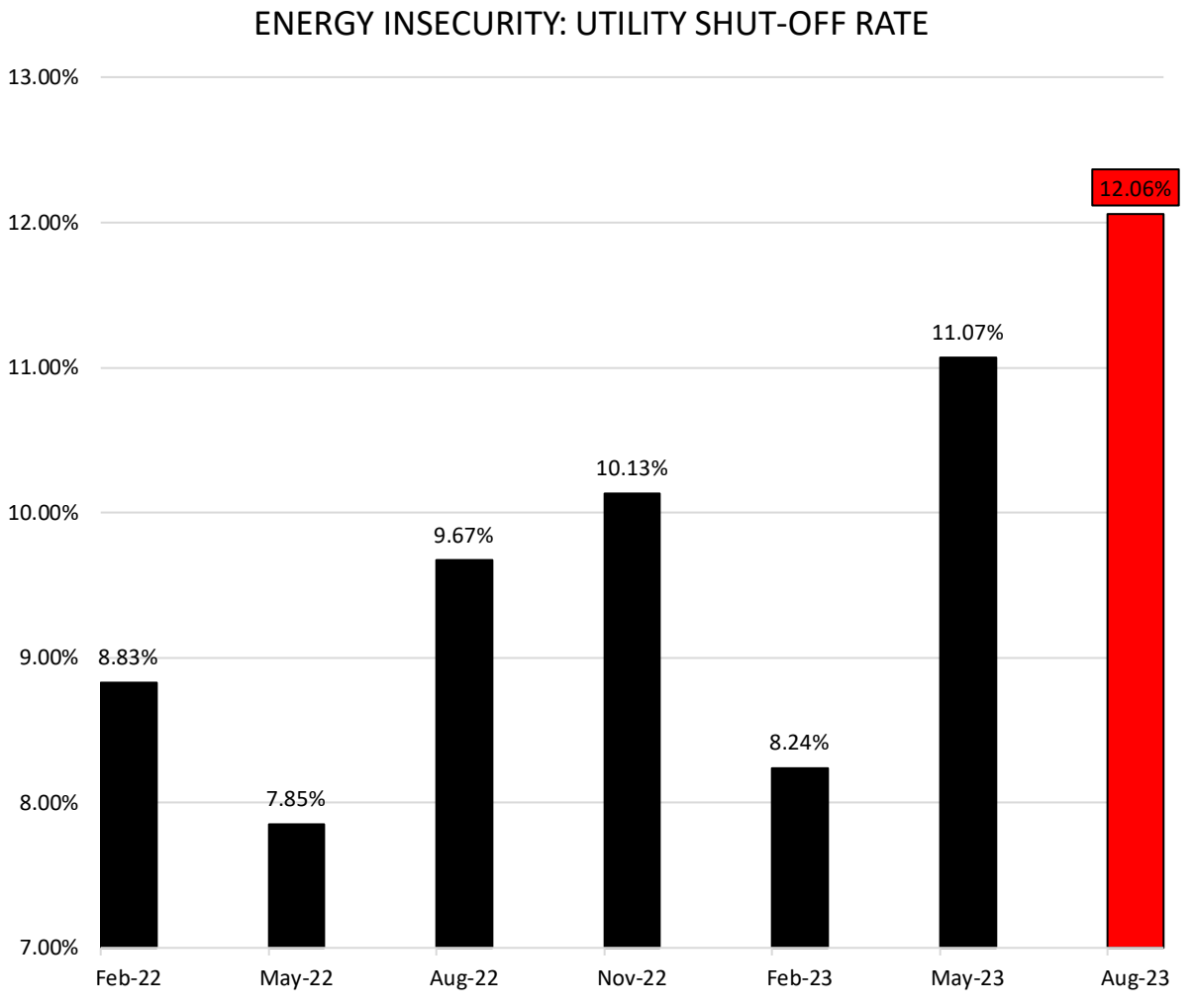


Data Source: Census Bureau Pulse Survey, Fidelity

Food Scarcity & Utility Shutoff Rates = Higher Highs

HEDGEYE



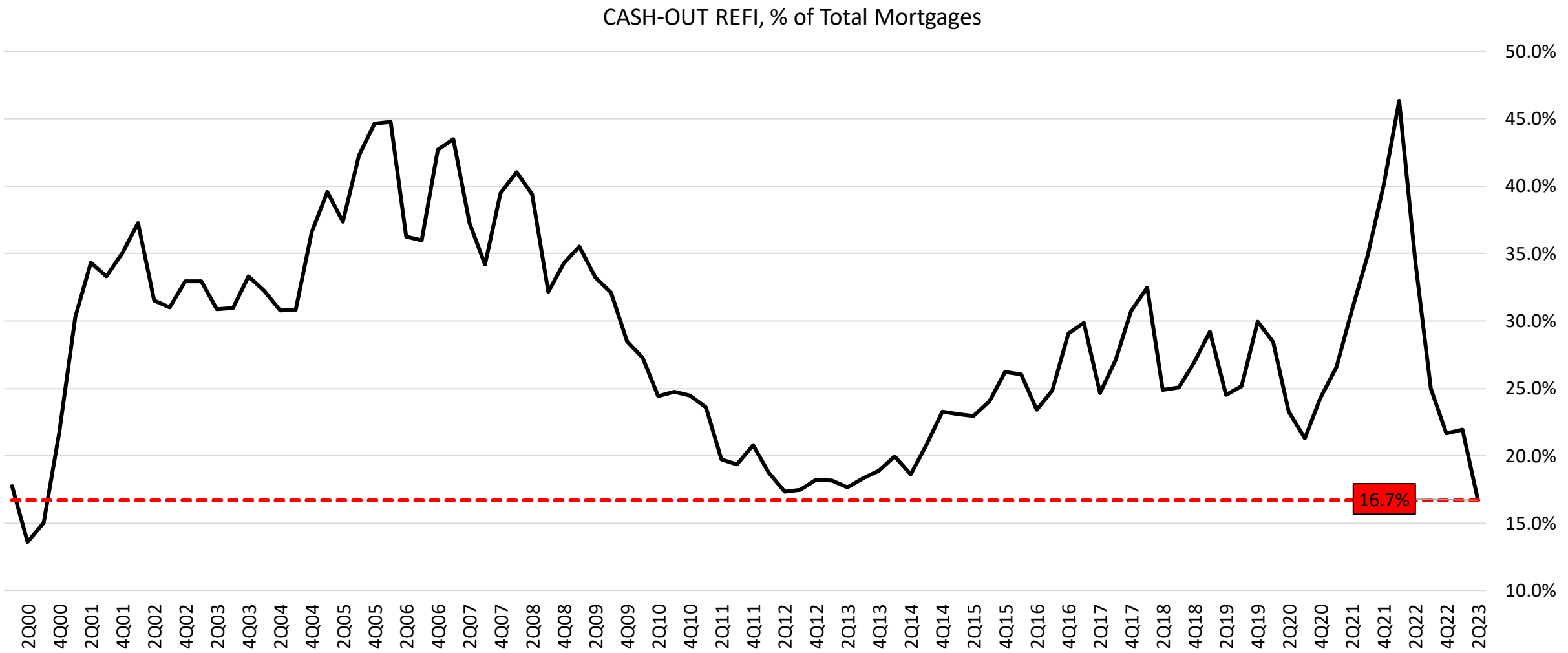


Data Source: Census Bureau Pulse Survey, Propel

House-As-An-ATM Consumption Support Had A Good Run. It's Over

HEDGEYE

At the same time as consumers tap out on revolving credit usage, Housing as a source of funds is at multi-decade lows

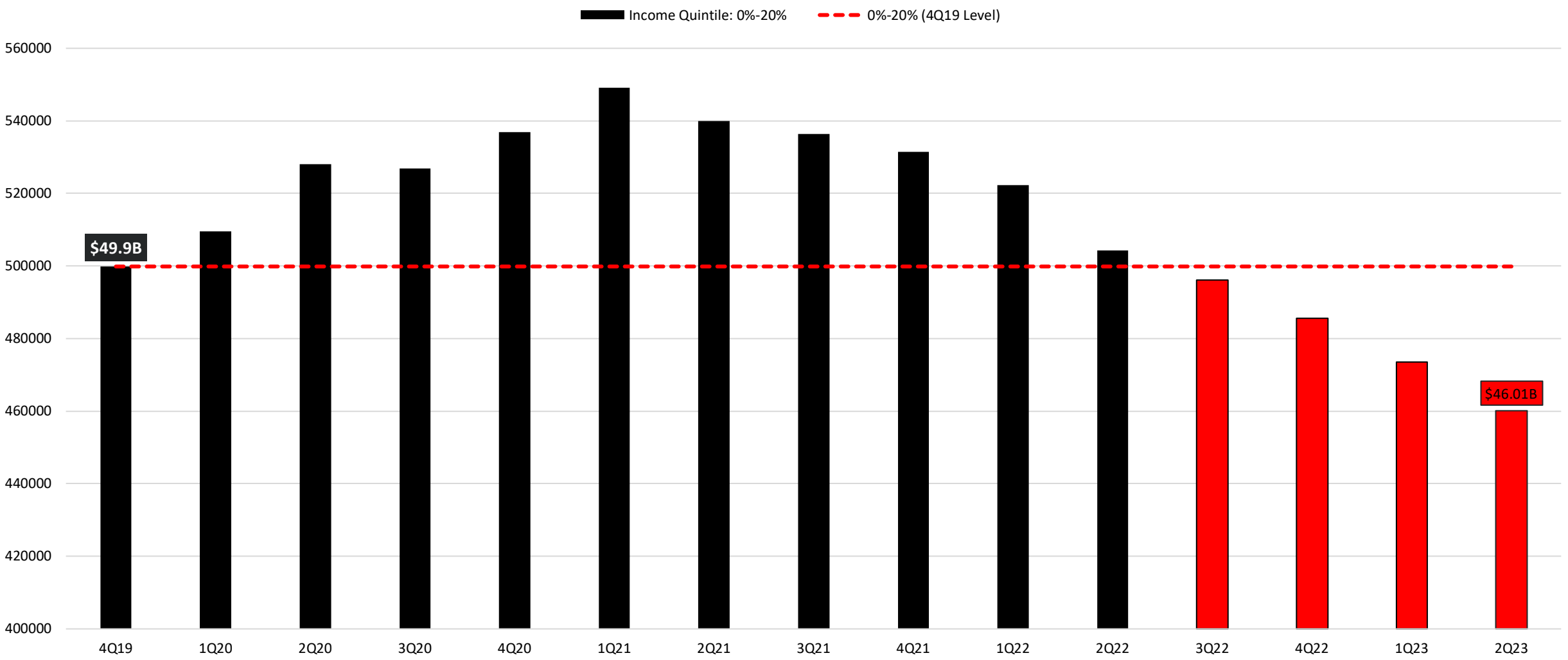


Data Source: Bloomberg

“Excess Savings”: From BAD → WORSE

HEDGEYE

We just got the 2Q Data … and its 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.

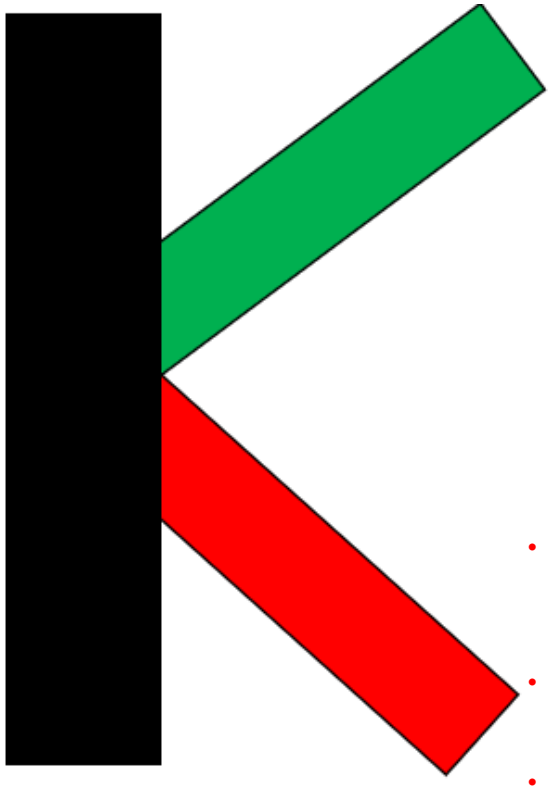


Data Source: Federal Reserve DFA

Quick Intermission: A Model and A Mantra

HEDGEYE

Fourth Turning Tinderbox

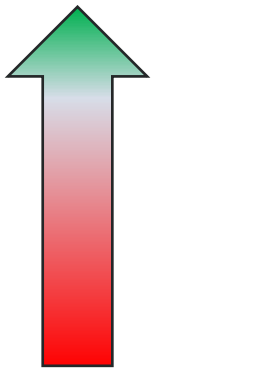


- The Rich disproportionately Benefit from Higher Rates as they get paid on their excess liquidity.
- The Rich disproportionately Benefit from reflation in asset prices as they own a disproportionate share of financial assets.
- Big Banks consolidate share amidst Banking Stress & Liquidity flight
- Large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

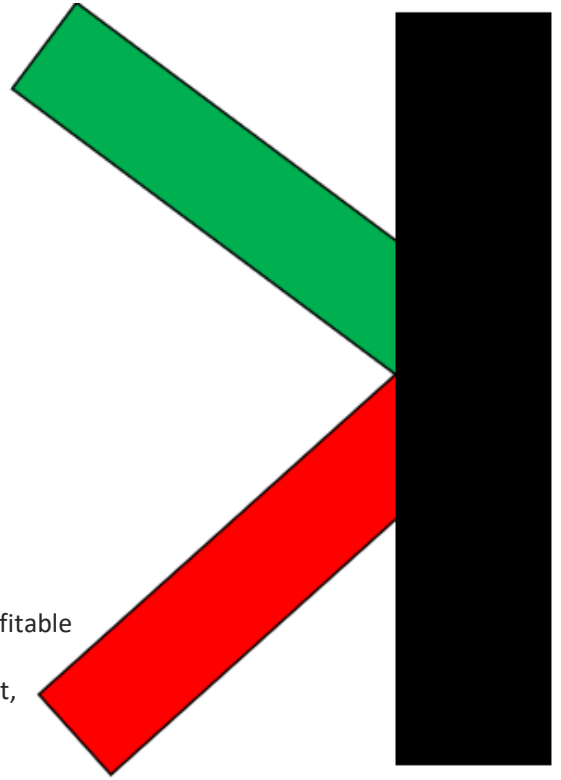
- Bottom Slant of the K gets plugged with higher (cost of living) inflation while broadly missing out on the income upside associated with higher rates
- Bottom Slant of the K loses discretionary consumption capacity as share of wallet goes to service higher debt costs
- Bottom Slant of the K becomes 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



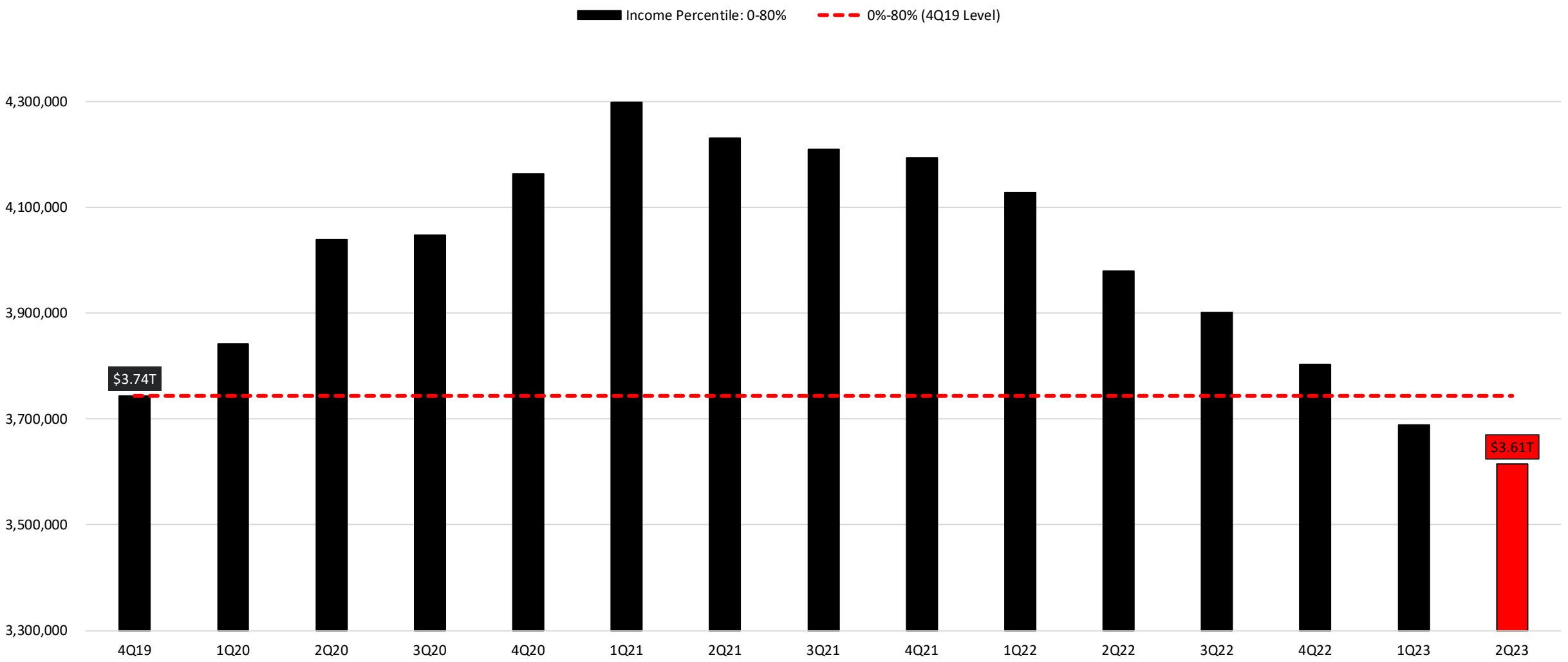
- Markets: high beta, smaller cap, non-profitable spec growth
- Credit: smaller cap, weaker balance sheet, lower earnings
- Macro: lower income, low savings, less assets/collateral, more rate sensitive, more vulnerable to income

Data Source: NYFED

The Impact Is Metastasizing

HEDGEYE

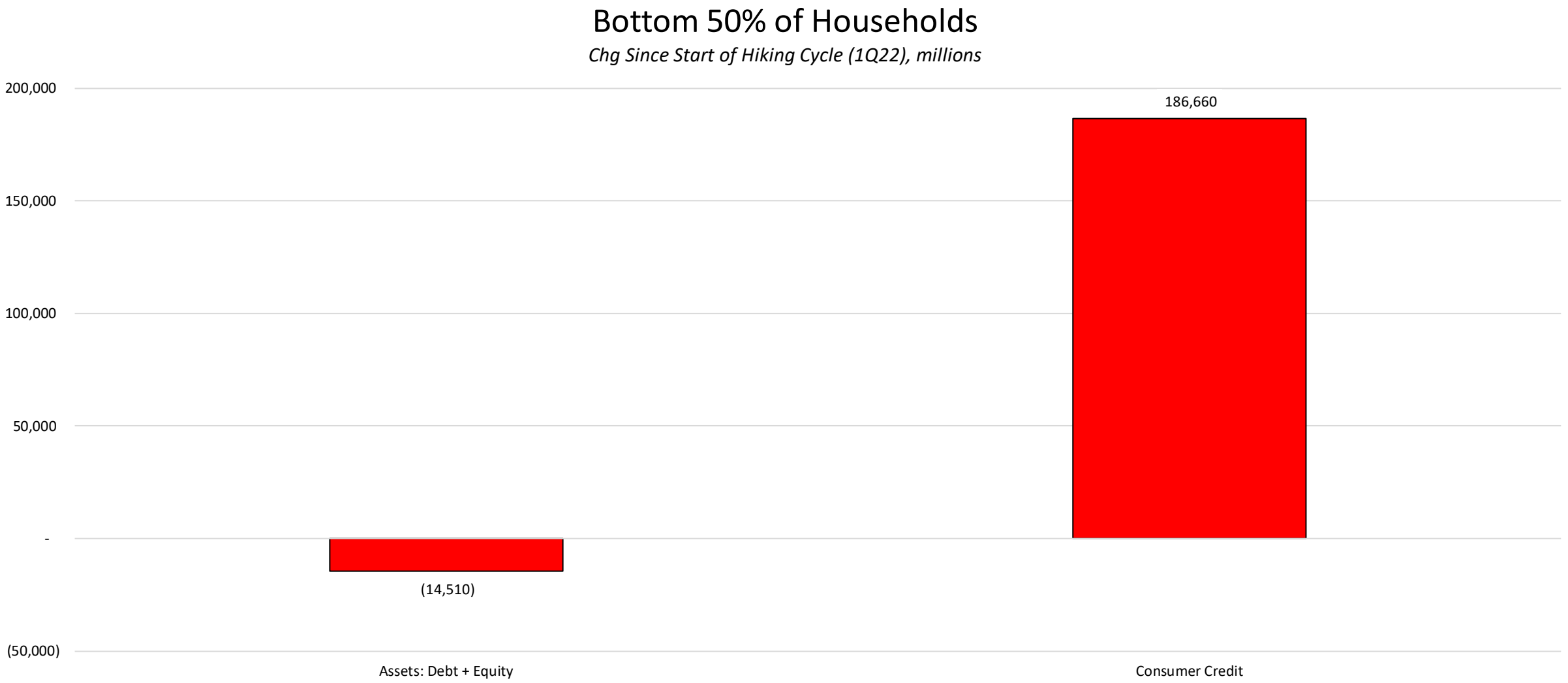
Collectively, The Bottom 80% of the Income Distribution Has Now More Than Exhausted Their Savings/Consumption Cushion. The Purchasing Power associated with that savings is now -3.4% below 4Q19 levels.



Data Source: Federal Reserve DFA

ALL THAT'S LEFT IS THE DEBT …..

HEDGEYE

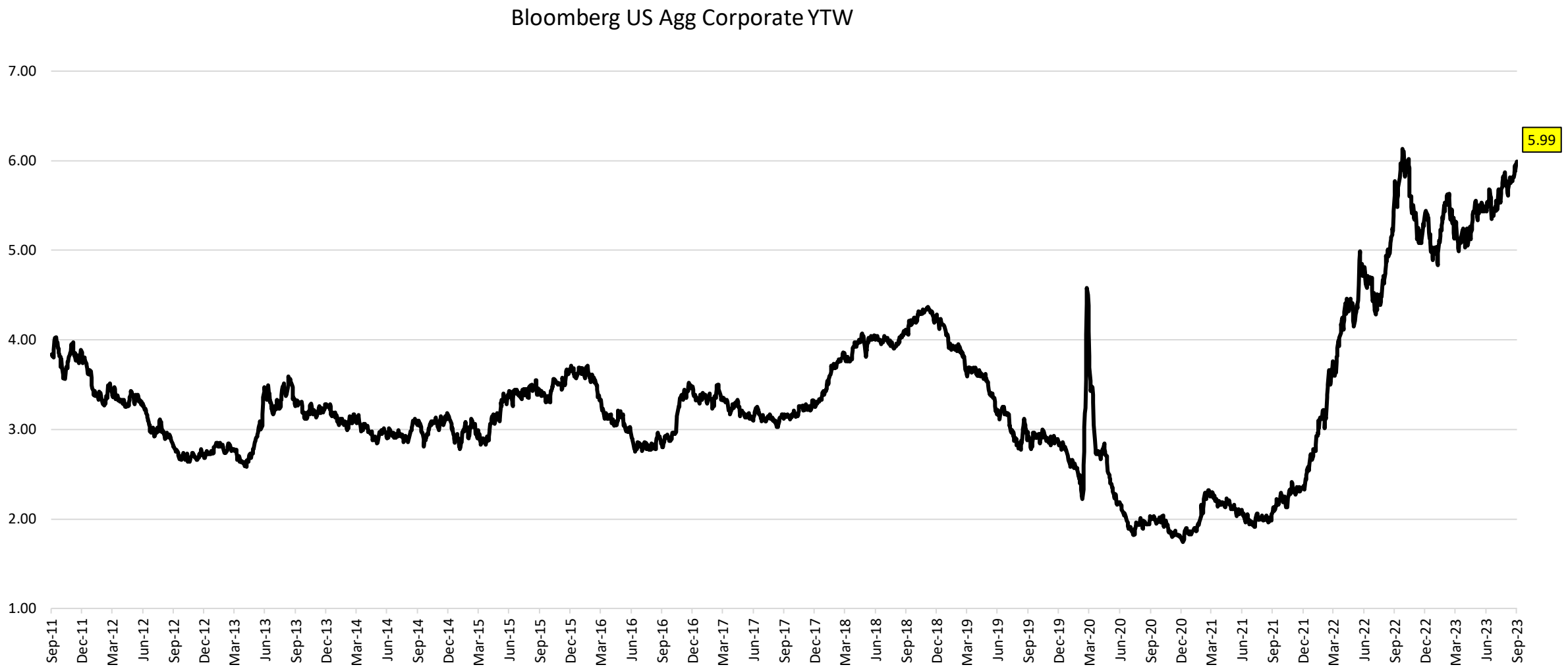


Data Source: Federal Reserve

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

HEDGEYE

If the Cost of Capital Is Rising ....

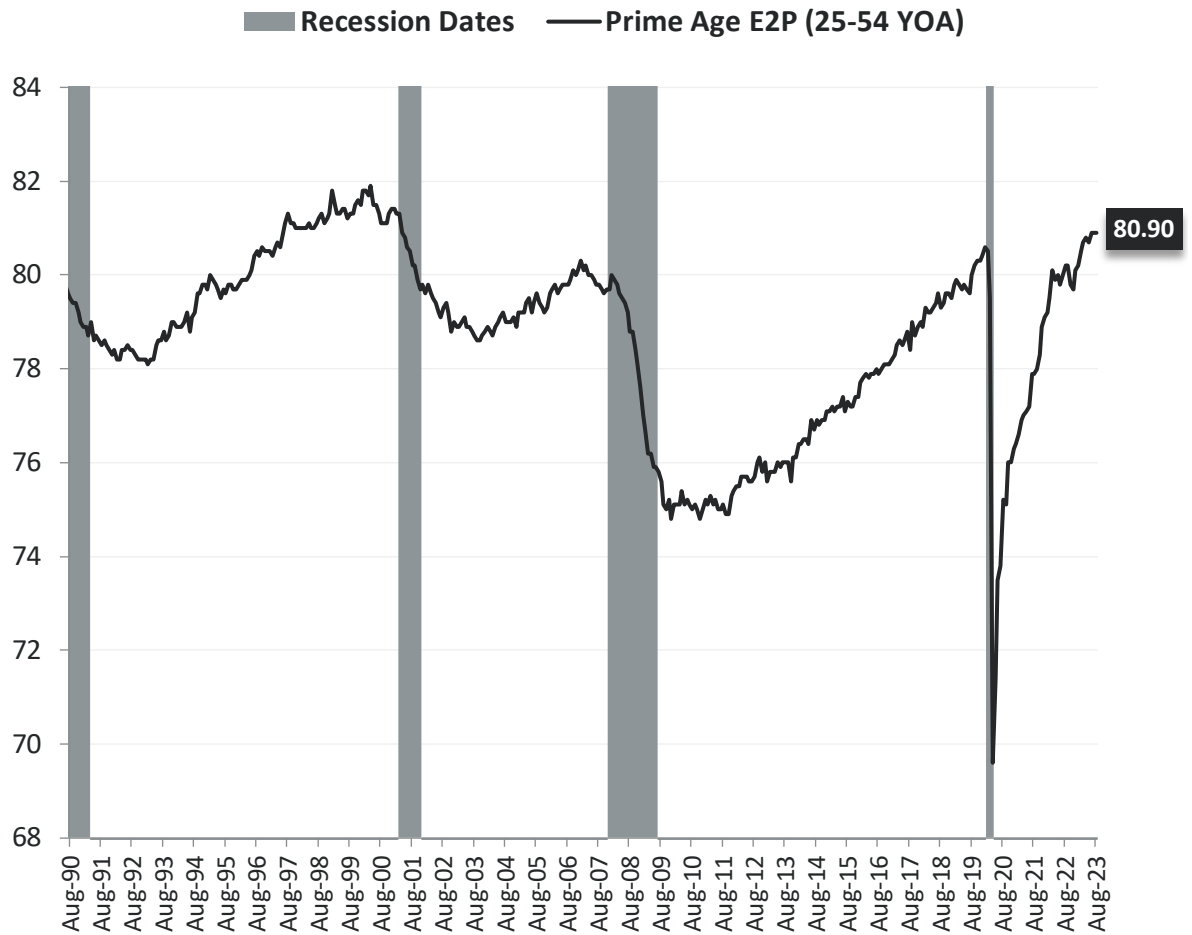


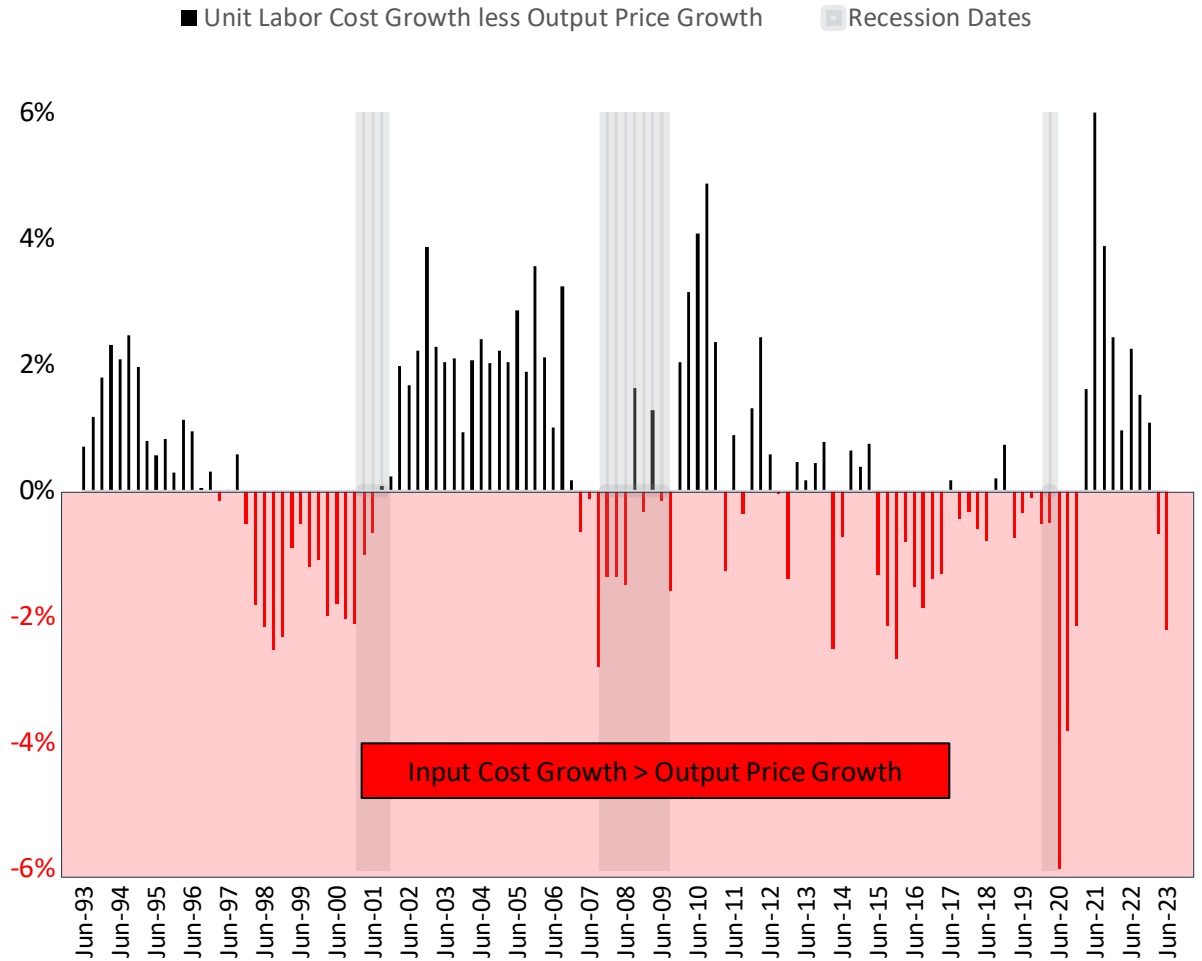
Data Source: CNN, Cleveland Fed, Bloomberg

Cost of Labor Is Rising

HEDGEYE

Energy Prices are rising, Headline & Supercore Inflation are re-accelerating, the prime age employment-to-population ratio back at 4-decade highs (i.e. Tight) and unit cost growth is now rising faster than output price growth (i.e. Margins ↓)





Data Source: Factset, Bloomberg

Pricing Power is Past Peak & Falling

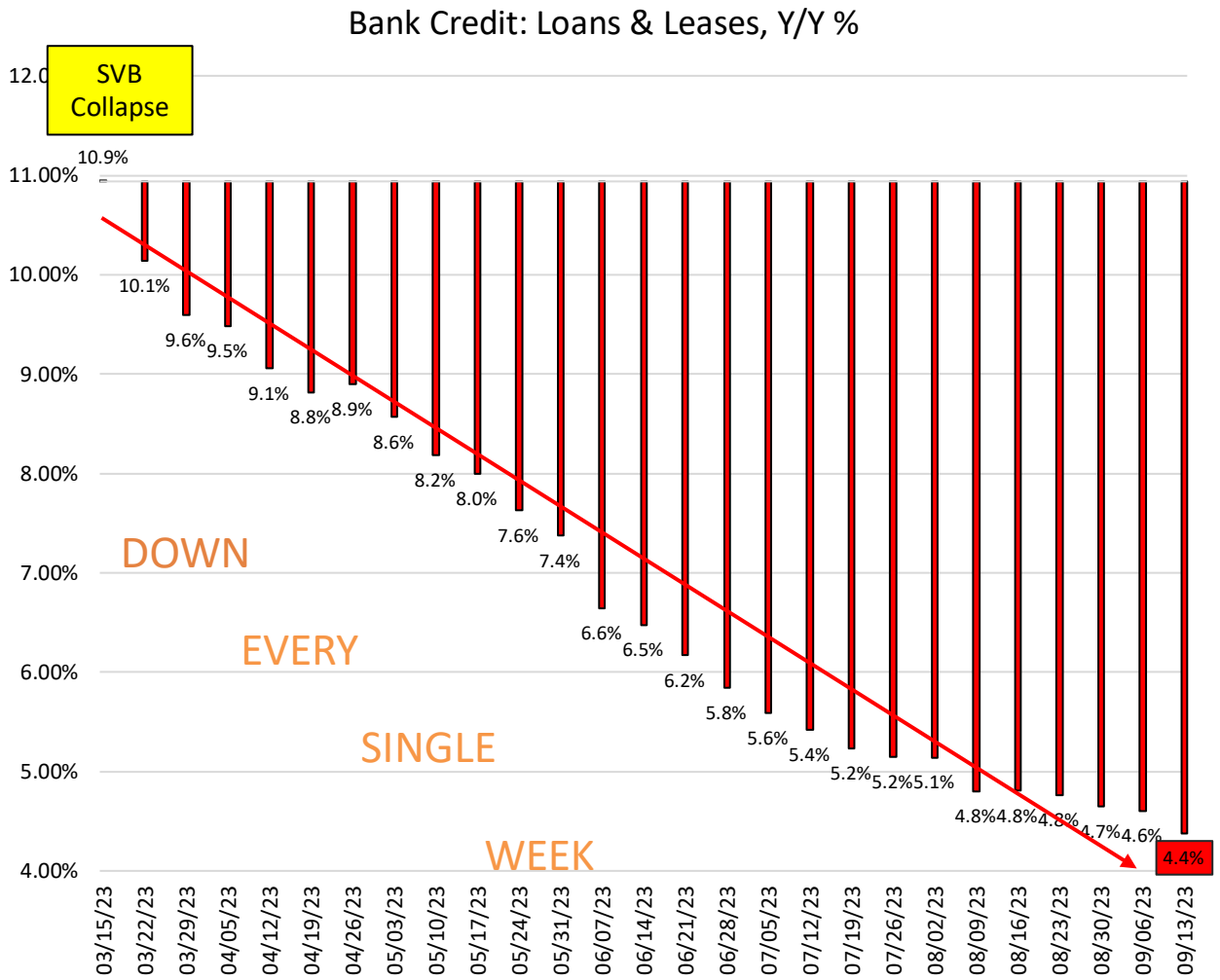
HEDGEYE

Data Source: Factset, ISM

Cost & Availability of Corporate Credit Is Tightening

HEDGEYE

COMMERCIAL LENDING					
Commercial & Industrial Loans	2Q22	3Q22	4Q22	1Q23	2Q23
Tightening Standards					
Large and Medium Firms	24.2	39.1	44.8	46.0	50.8
Small Firms	22.2	31.8	43.8	46.7	49.2
Increasing Spreads					
Large and Medium Firms	12.1	30.2	44.8	62.3	68.3
Small Firms	12.7	25.4	32.8	58.3	66.1
Stronger Demand					
Large and Medium Firms	24.2	-8.8	-31.3	-55.6	-51.6
Small Firms	17.5	-21.9	-42.2	-53.3	-47.5
Commercial Real Estate Loans	2Q22	3Q22	4Q22	1Q23	2Q23
Tightening Standards					
Construction and Land Development	48.4	57.6	69.2	73.8	71.7
Nonfarm and Nonresidential	41.5	52.9	57.6	66.7	68.3
Multifamily	30.3	39.7	56.7	64.5	63.3
Stronger Demand					
Construction and Land Development	-17.2	-47.0	-62.1	-67.2	-51.7
Nonfarm and Nonresidential	-15.4	-45.6	-68.2	-73.8	-58.3
Multifamily	6.1	-26.5	-49.3	-72.6	-50.0

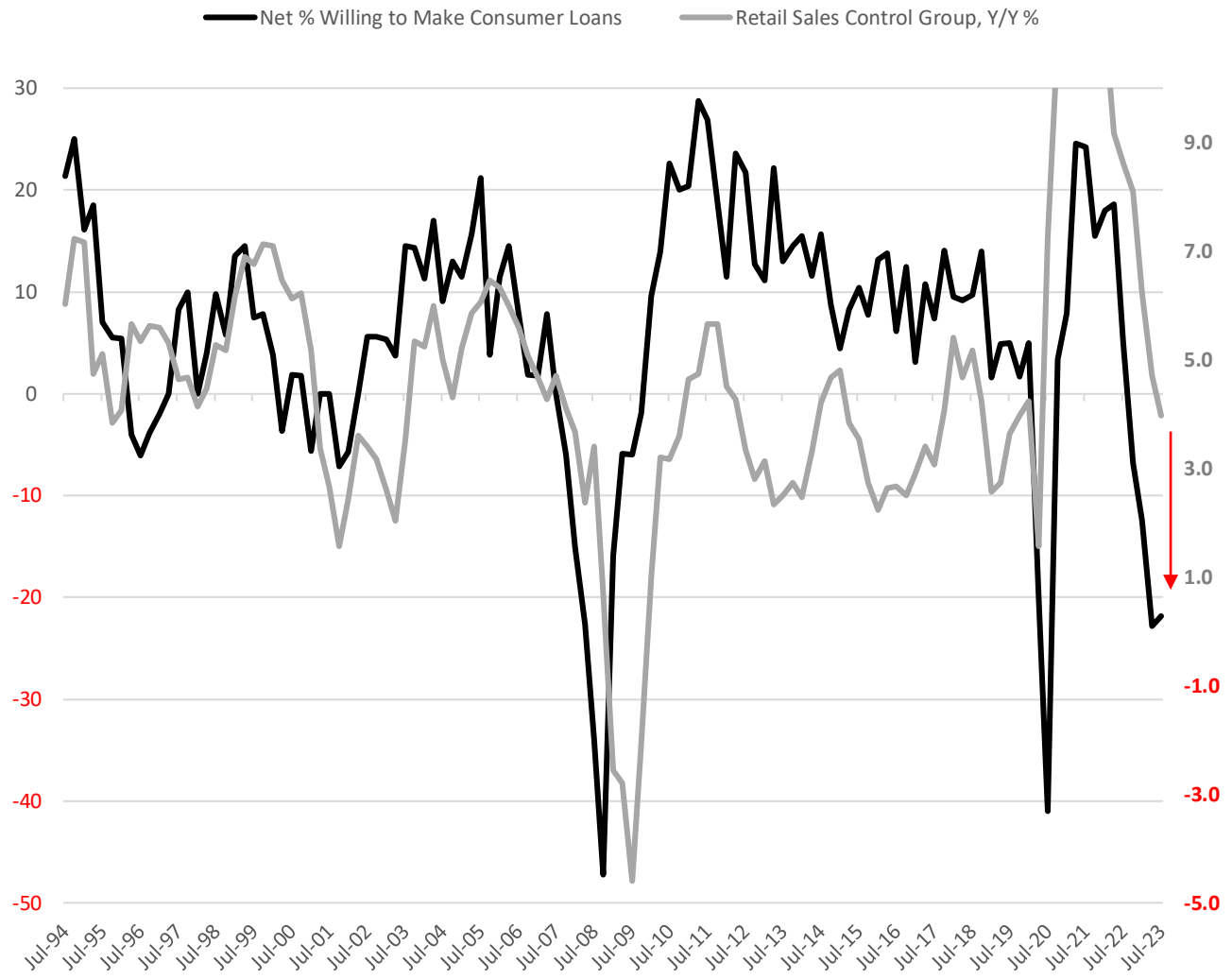


Data Source: Factset, Bloomberg

The Cost & Availability of Consumer Credit Is Turbo Tightening

HEDGEYE

CONSUMER LENDING					
Residential Mortgage Loans [4]	2Q22	3Q22	4Q22	1Q23	2Q23
Tightening Standards					
GSE-eligible	1.7	1.7	1.8	1.9	5.4
Government	-1.9	1.9	3.8	3.9	5.7
QM non-jumbo, non-GSE-eligible	0.0	-3.4	6.9	11.5	12.5
QM-jumbo	5.3	5.2	15.3	18.5	19.6
Non-QM jumbo	3.6	7.4	14.5	21.6	21.6
Non-QM non-jumbo	5.6	3.8	5.8	16.7	18.4
Subprime	12.5	11.1	14.3	33.3	16.7
Stronger Demand					
GSE-eligible	-60.3	-86.2	-93.0	-52.7	-27.3
Government	-53.7	-79.6	-86.8	-47.1	-28.3
QM non-jumbo, non-GSE-eligible	-50.9	-76.3	-87.9	-41.5	-33.9
QM-jumbo	-54.4	-81.0	-88.1	-57.4	-33.9
Non-QM jumbo	-57.1	-79.6	-85.5	-56.9	-38.8
Non-QM non-jumbo	-59.3	-72.2	-84.6	-50.0	-44.9
Subprime	-50.0	-50.0	-85.7	-50.0	-9.1
Household Loans	2Q22	3Q22	4Q22	1Q23	2Q23
Tightening Standards					
Credit Cards	0.0	18.8	28.3	30.4	36.4
New and Used Autos	1.9	2.0	17.3	27.5	14.6
Consumer Loans Excl. Credit Cards and Autos	1.7	13.6	10.2	23.6	20.8
Stronger Demand					
Credit Cards	18.2	10.6	-11.1	-2.2	0.0
Auto	-15.7	-28.0	-39.2	-26.5	-21.3
Consumer Excl. Cards and Auto	6.9	-3.4	-25.9	-14.5	-23.1
Increased Willingess to make Installment Loans	5.2	-6.8	-12.5	-22.8	-21.8



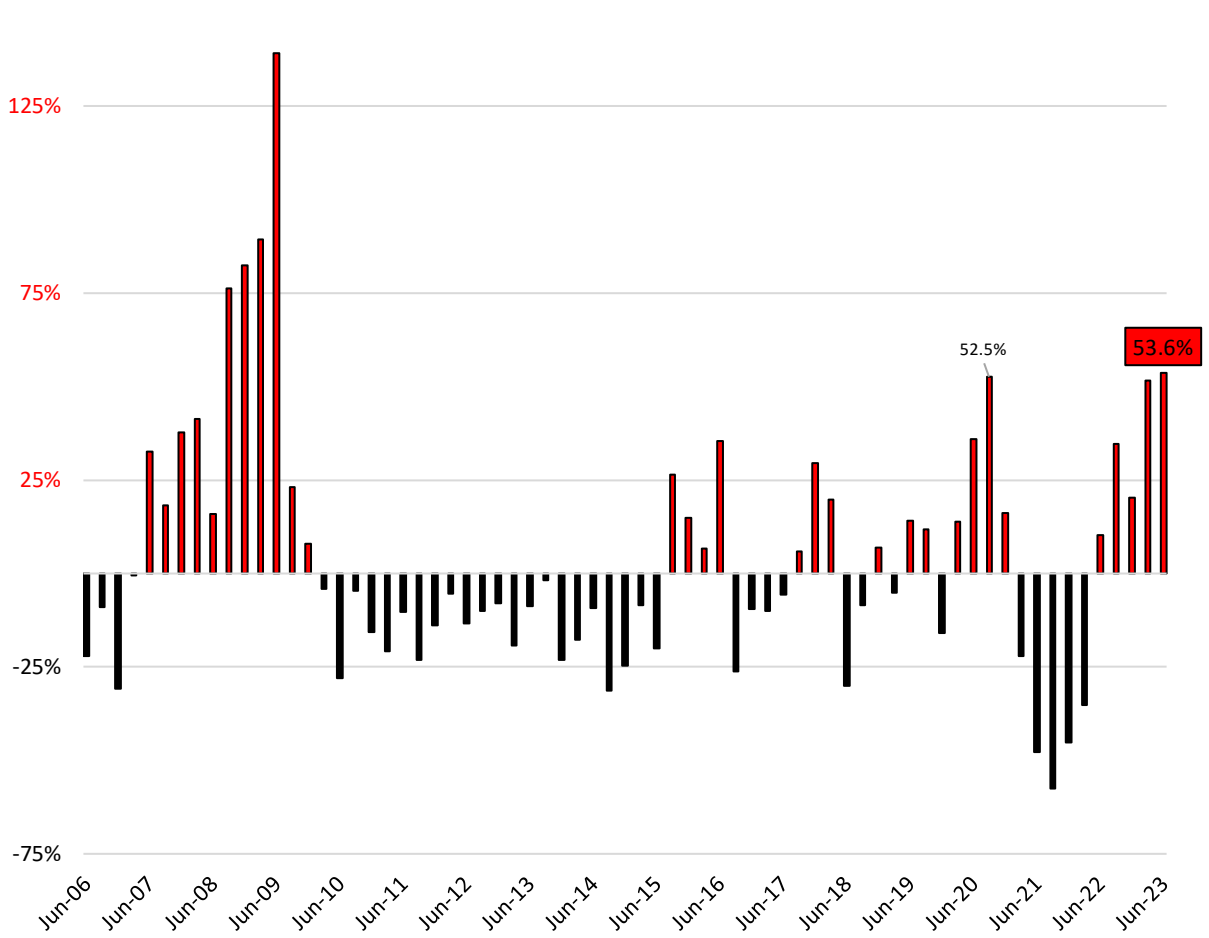
Data Source: Factset, Bloomberg

The Credit/Bankruptcy Cycle Has Inflected

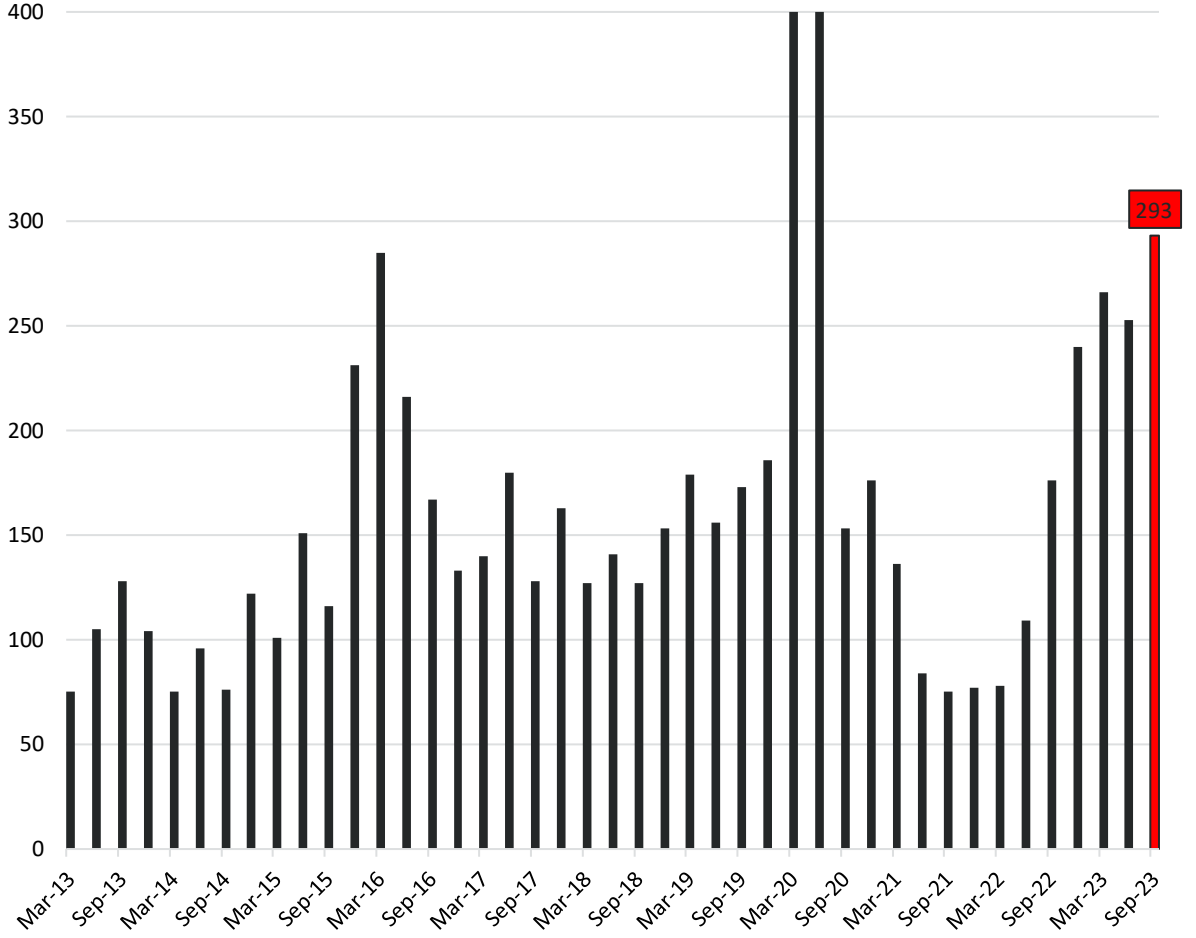
HEDGEYE

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

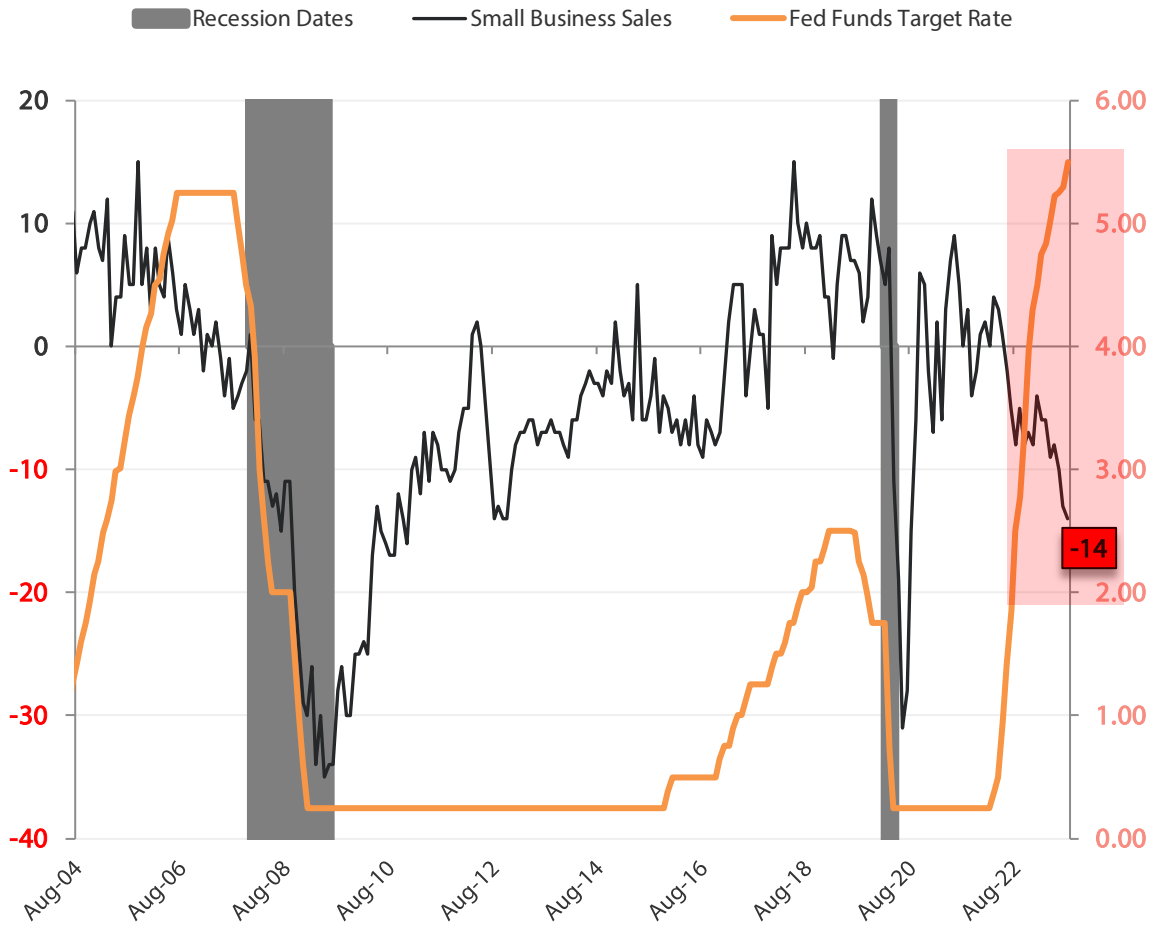


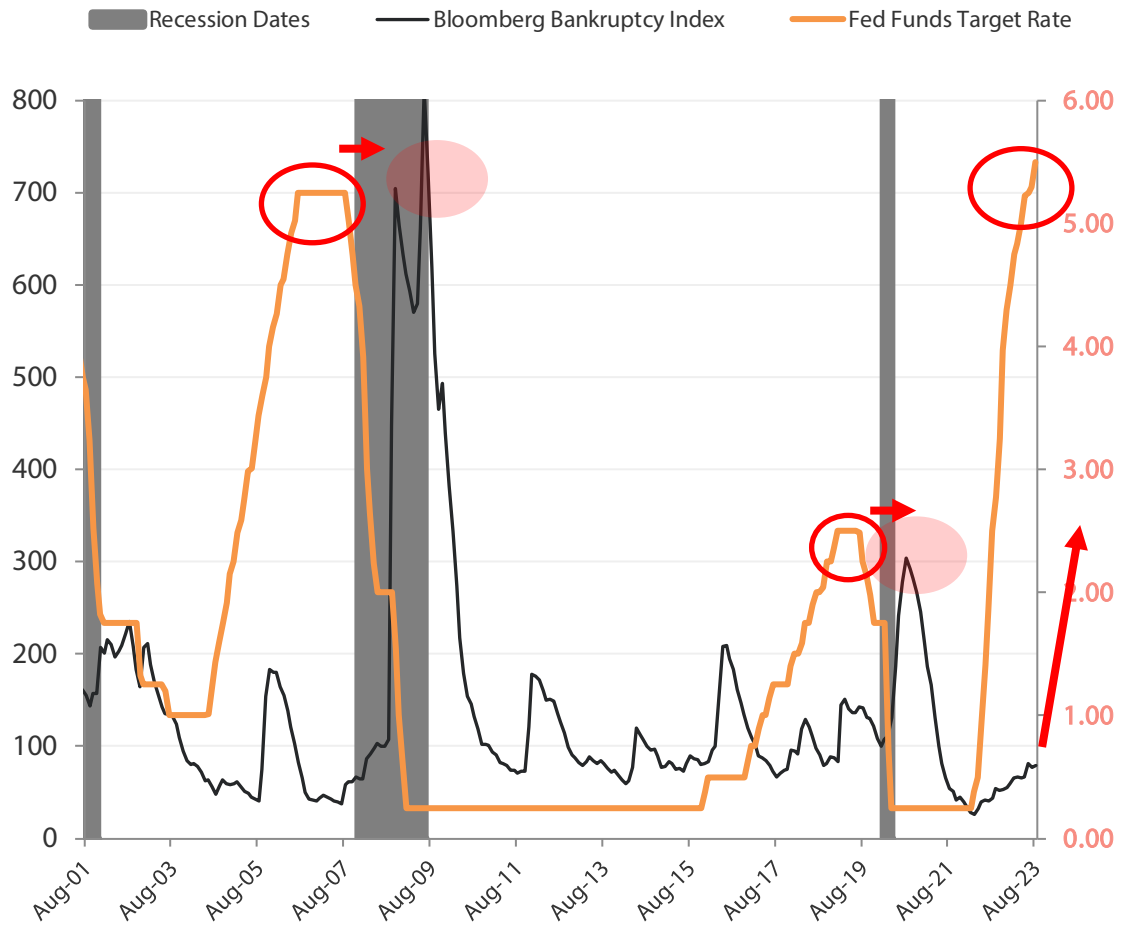
Data Source: Factset, Bloomberg

Demand Is Slowing And The Fed Is Tightening Into the Macro Capitulation

HEDGEYE

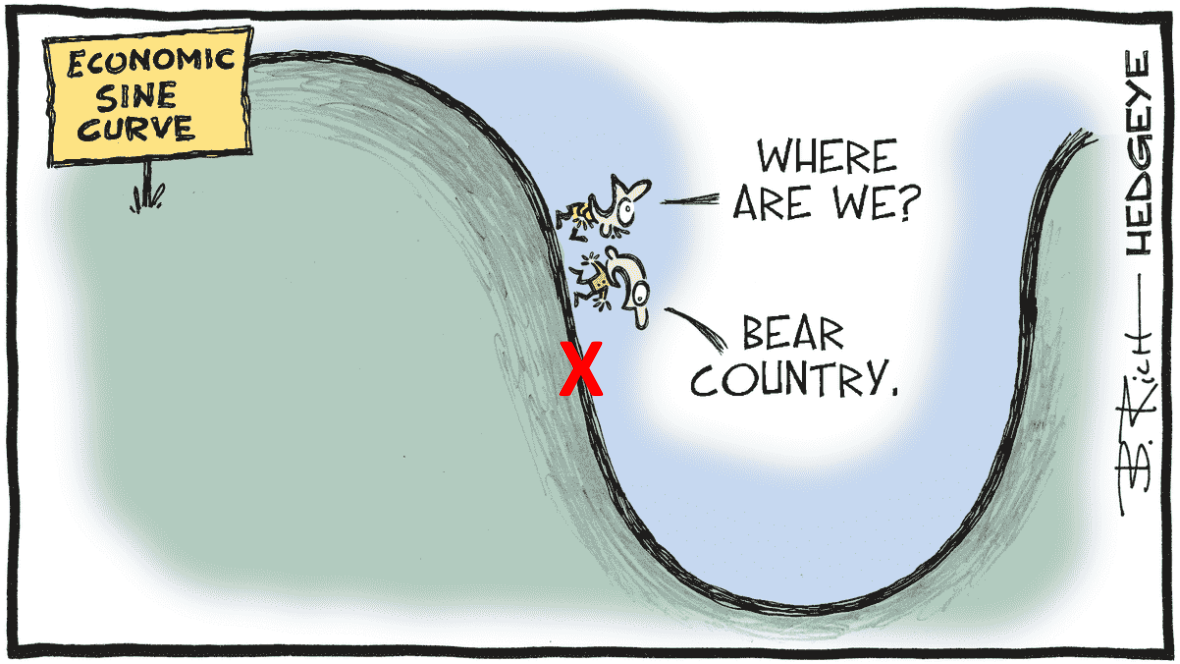
We are "recession" agnostic and RoC-centric. Consider the preponderance of confluent data we've presented and think about whether the balance of risk is towards an imminent immaculate (positive) inflection or further deceleration.



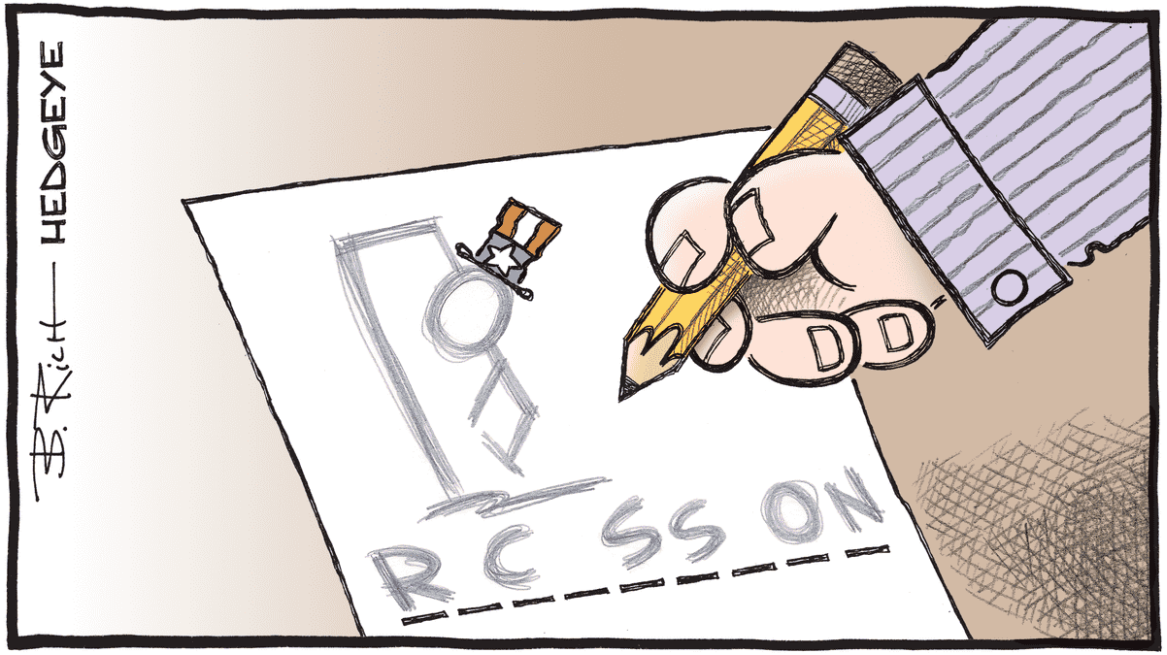


Data Source: Factset, Bloomberg

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.

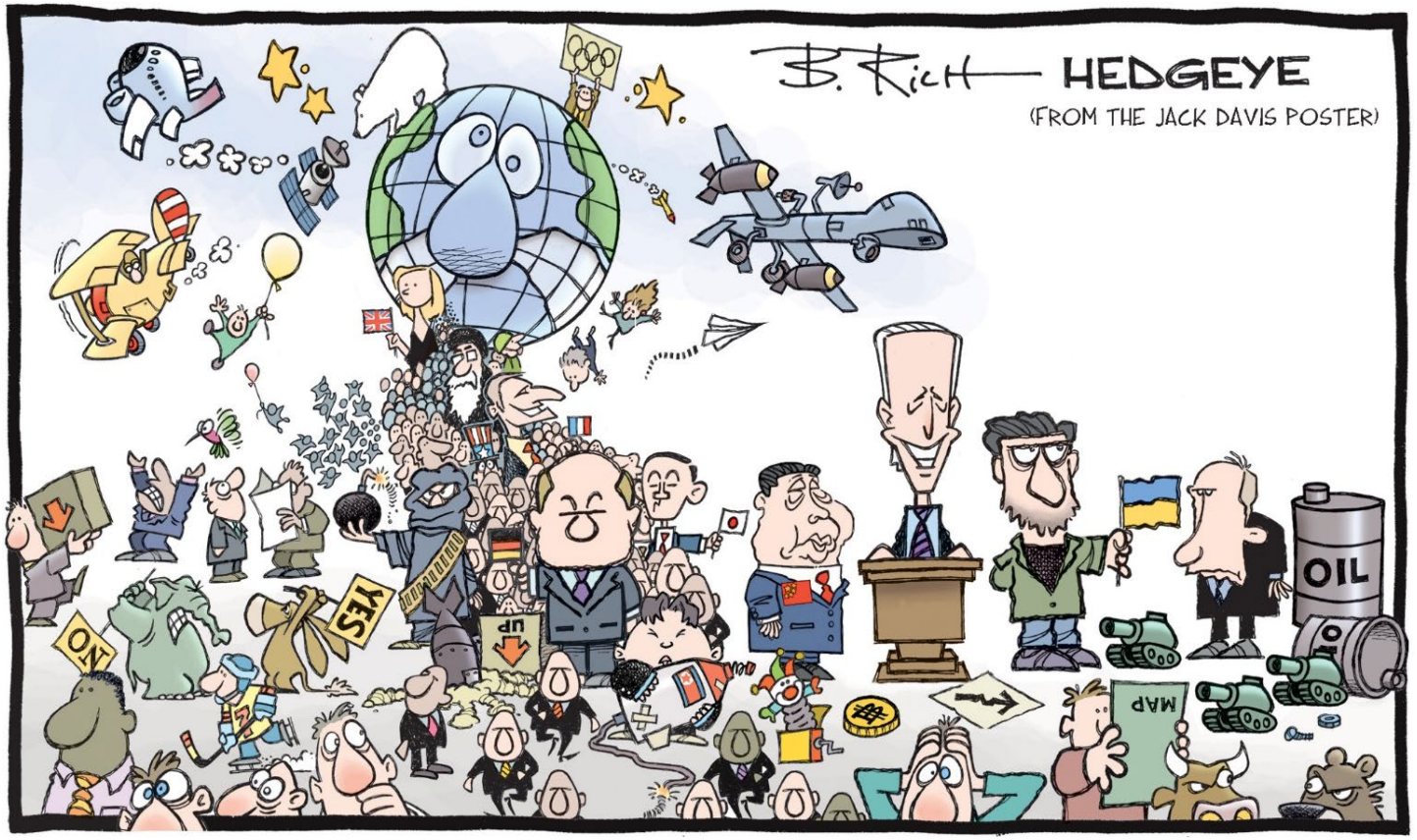


1.



2.

Q4 2023
Macro Themes

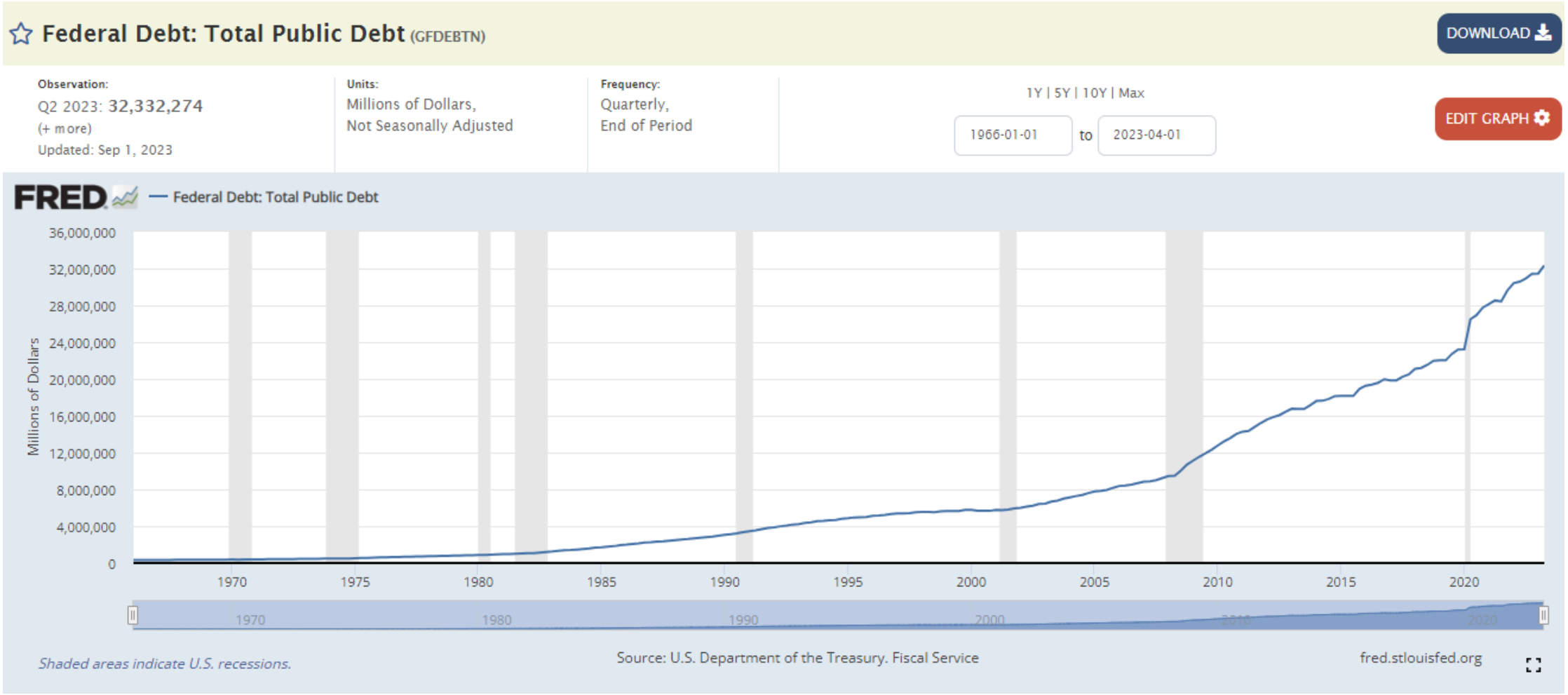


The Big (G): Deficits & Debt

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

HEDGEYE

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



Data Source: Federal Reserve

US Federal Debt: $33 Trillion ($26T Held By Public)

HEDGEYE

Obviously, the Big G is a major player in economic activity and growth.

Extremely large numbers, like Trillions, have a way of desensitizing us over time. Try visiting the website usdebtclock.org and staring at the number climb for just 30 seconds.

Staggering/mindblowing is the only way to describe how quickly our national debts are accumulating.

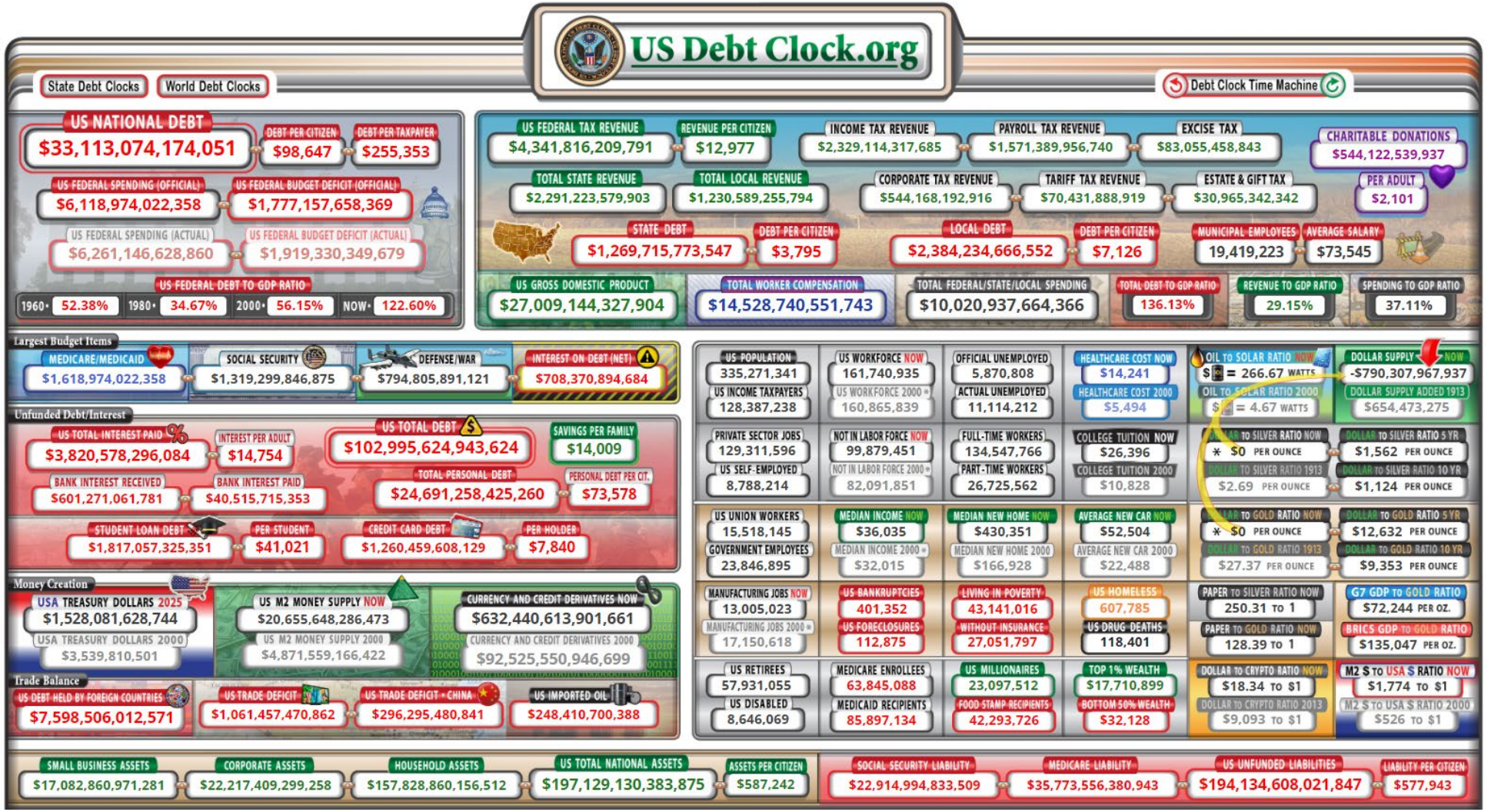
For reference, in $100 bills:

$1 Million would fill a briefcase.

$1 Billion would fit on ten standard pallets.

$1 Trillion would cover a football field to a depth of 7 feet.

Alternatively, $1 Trillion = 100 Football Stadiums full of $1 bills, to a height of just over Josh Allen's head. Now, multiply that by 33x.

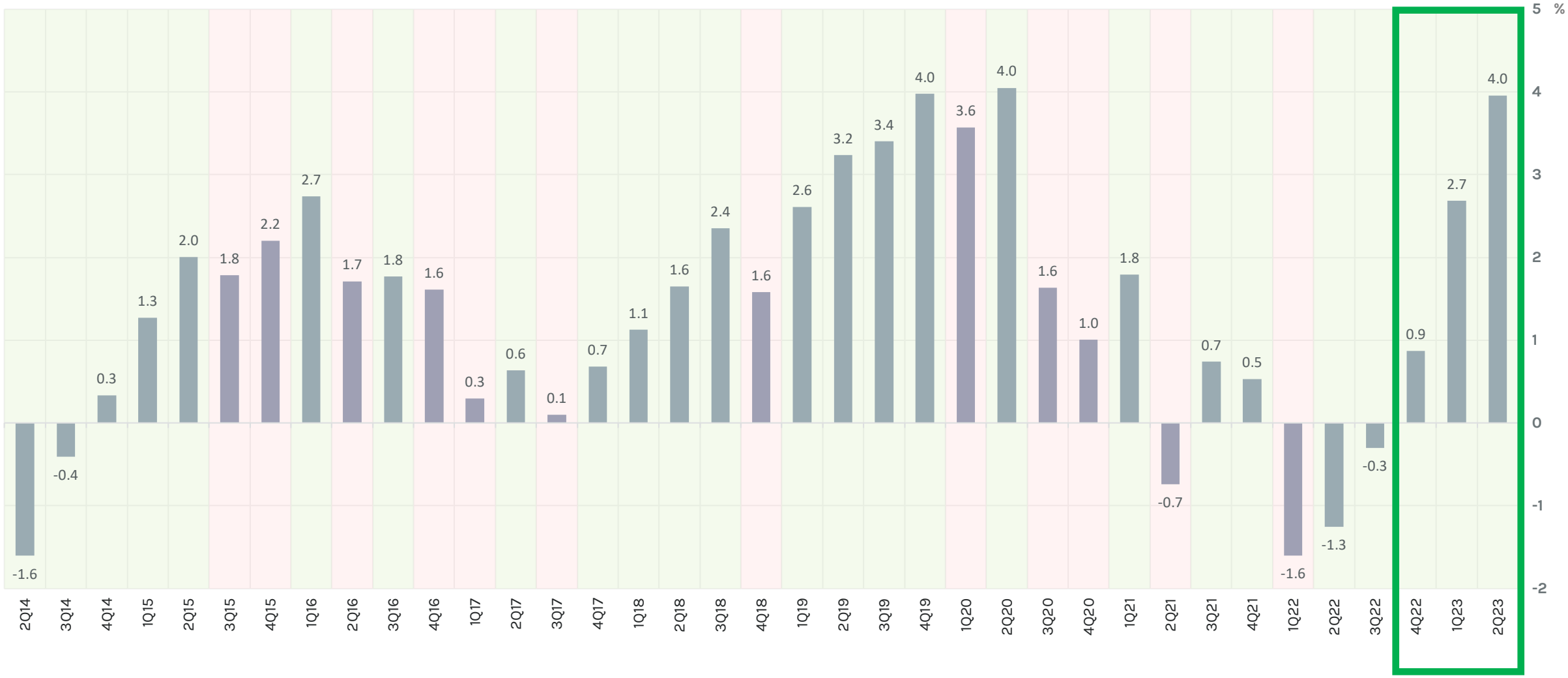


Data Source: USDebtClock.org, Eli Williams - Medium

Real Government Expenditure YoY

HEDGEYE

The Acceleration in Government Spending Was The Hero of 1H23

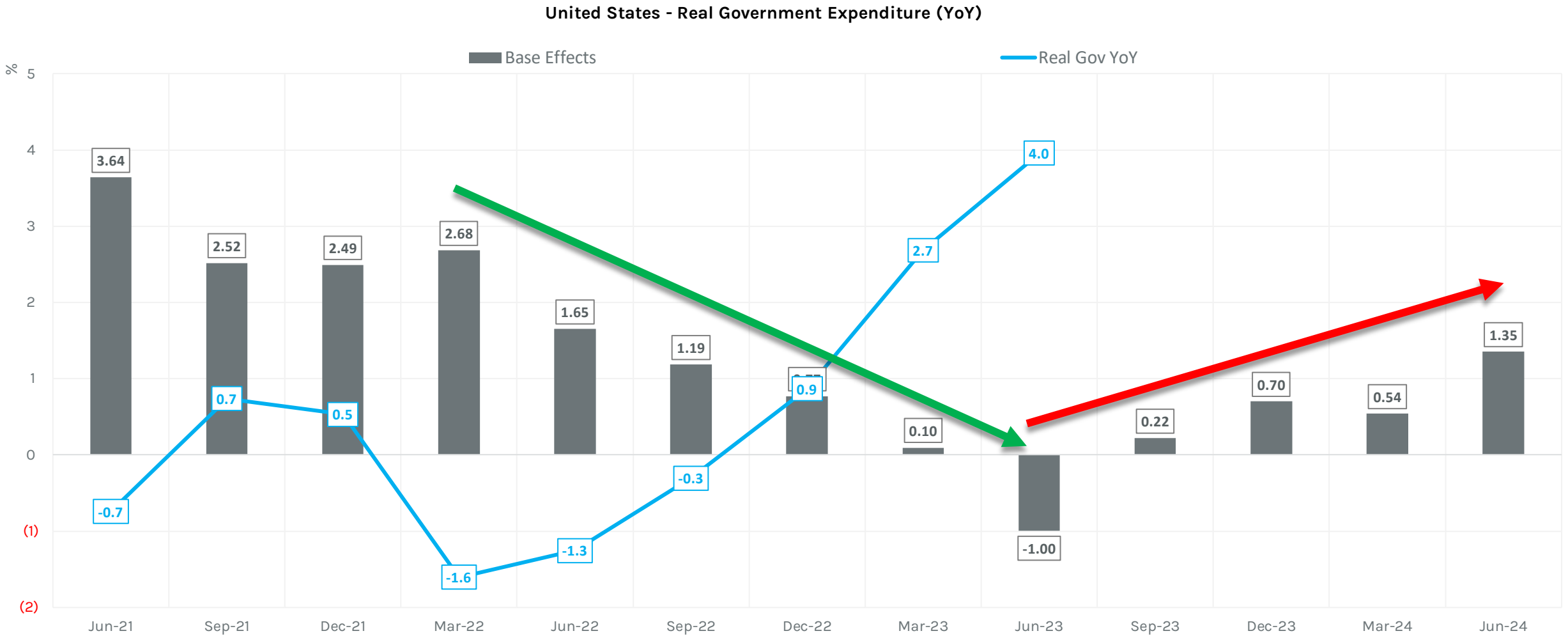


Data Source: BEA, FactSet

Tailwinds Turning to Headwinds Beginning This Quarter

HEDGEYE

Base Effects Broadly Steepen Through 2Q24

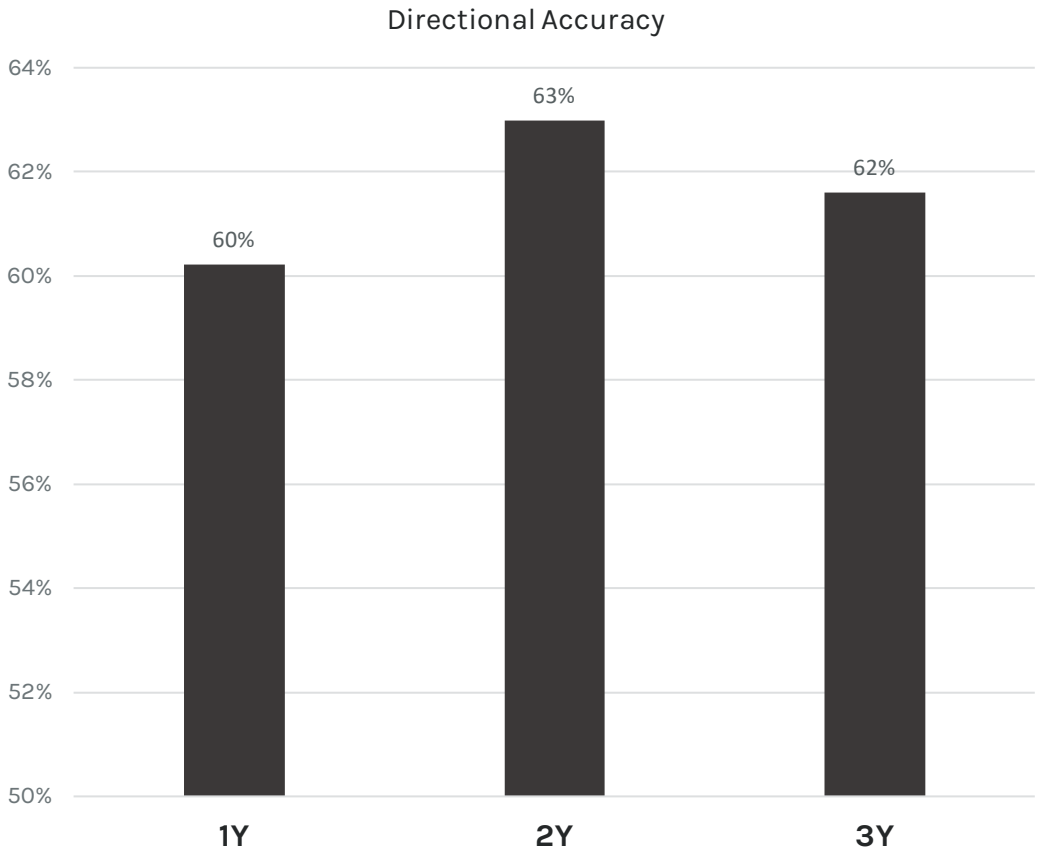


Data Source: BEA, FactSet

Looking Forward

HEDGEYE

The Totality of Base Effects Through 2Q24 Indicate a Slowing Rate of Growth in Government Spending



Observation Period: 1Q1947 - 2Q2023

	Real Gov Growth			X-Year Compare			Base Effects		
	Growth (YoY)	Δ QoQ	Δ QoQ	1Y	2Y	3Y	1Y	2Y	3Y
9/30/2020	1.64	-2.41	Decel	3.40	2.88	1.95	0.17	0.43	0.11
12/31/2020	1.01	-0.63	Decel	3.98	2.78	2.08	0.58	-0.10	0.13
3/31/2021	1.79	0.79	Accel	3.57	3.09	2.44	-0.40	0.31	0.36
6/30/2021	-0.74	-2.54	Decel	4.05	3.64	2.98	0.48	0.55	0.54
9/30/2021	0.74	1.48	Accel	1.64	2.52	2.46	-2.41	-1.12	-0.51
12/31/2021	0.53	-0.21	Decel	1.01	2.49	2.19	-0.63	-0.03	-0.27
3/31/2022	-1.60	-2.14	Decel	1.79	2.68	2.66	0.79	0.19	0.47
6/30/2022	-1.25	0.35	Accel	-0.74	1.65	2.18	-2.54	-1.03	-0.48
9/30/2022	-0.30	0.95	Accel	0.74	1.19	1.93	1.48	-0.47	-0.25
12/31/2022	0.87	1.17	Accel	0.53	0.77	1.84	-0.21	-0.42	-0.09
3/31/2023	2.68	1.82	Accel	-1.60	0.10	1.25	-2.14	-0.68	-0.59
6/30/2023	3.96	1.27	Accel	-1.25	-1.00	0.68	0.35	-1.09	-0.57
9/30/2023				-0.30	0.22	0.69	0.95	1.22	0.01
12/31/2023				0.87	0.70	0.80	1.17	0.48	0.11
3/31/2024				2.68	0.54	0.96	1.82	-0.16	0.16
6/30/2024				3.96	1.35	0.65	1.27	0.81	-0.30

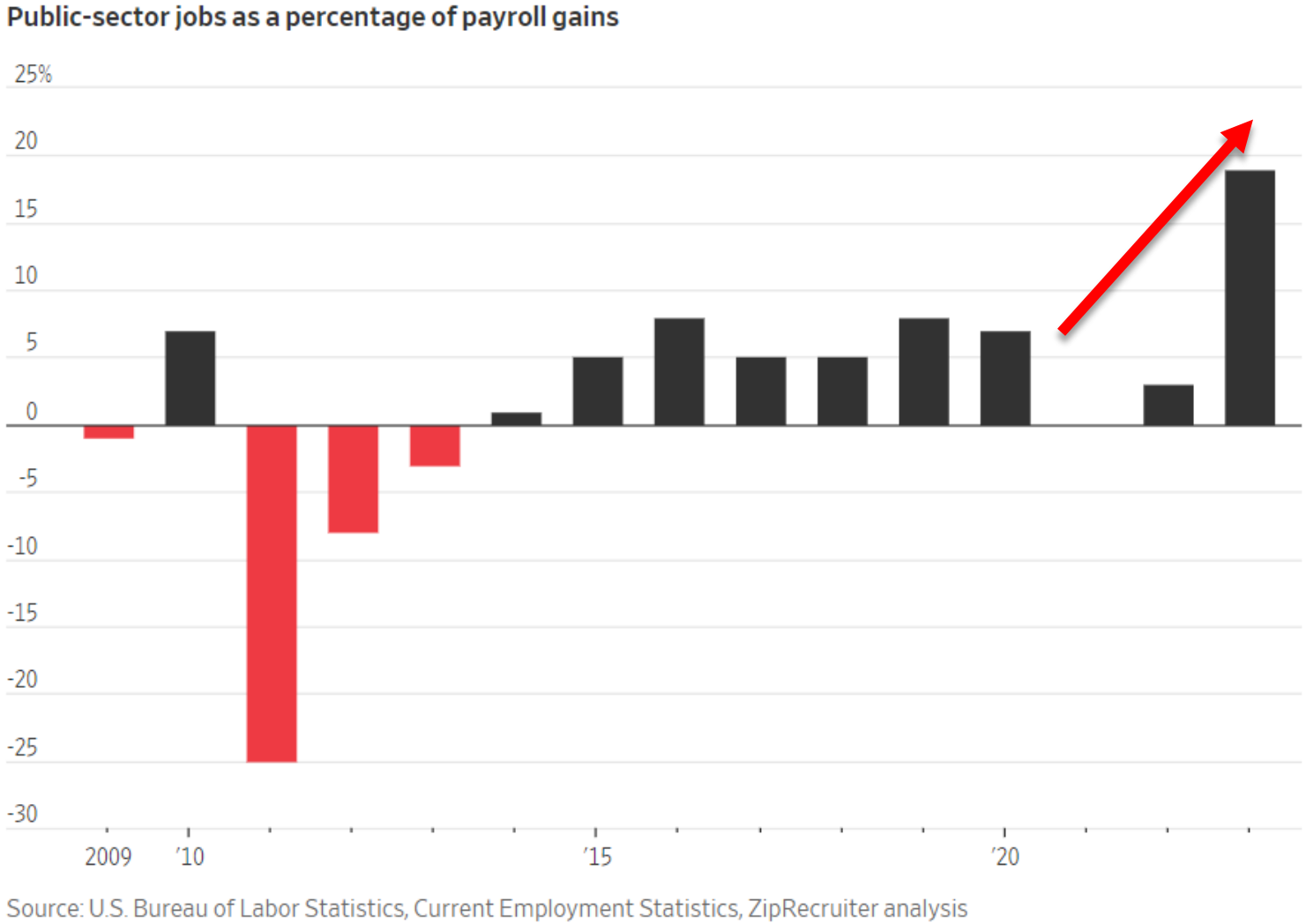
Government Hiring Has Been A Rocket In 2023

HEDGEYE

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.



Data Source: BLS, ZipRecruiter, WSJ

CBO Outlook Next Ten Years

HEDGEYE

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	Total 2024–2033
							In Billions of Dollars							
Revenues														
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
Total	**4,897**	**4,815**	**4,848**	**4,974**	**5,317**	**5,658**	**5,919**	**6,142**	**6,368**	**6,607**	**6,841**	**7,102**	**26,716**	**59,777**
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Total	**6,273**	**6,354**	**6,418**	**6,735**	**7,035**	**7,367**	**7,854**	**7,997**	**8,494**	**8,898**	**9,338**	**9,955**	**35,409**	**80,091**
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Memorandum:														
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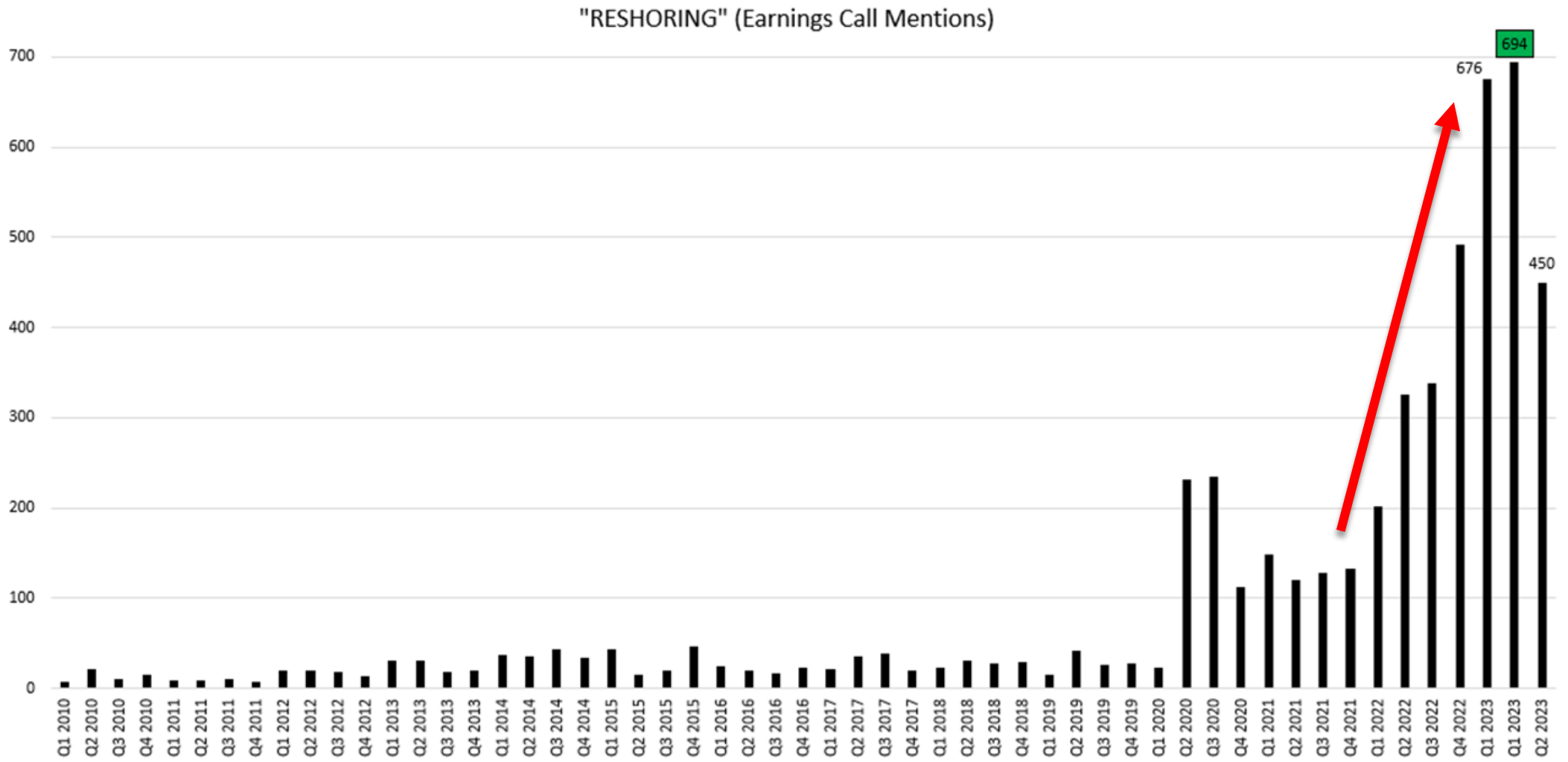
Deglobalization & Protectionism Increasingly Look Like The Next Hinge in (macro) History …

HEDGEYE

…. and that is not disinflationary OR good for China

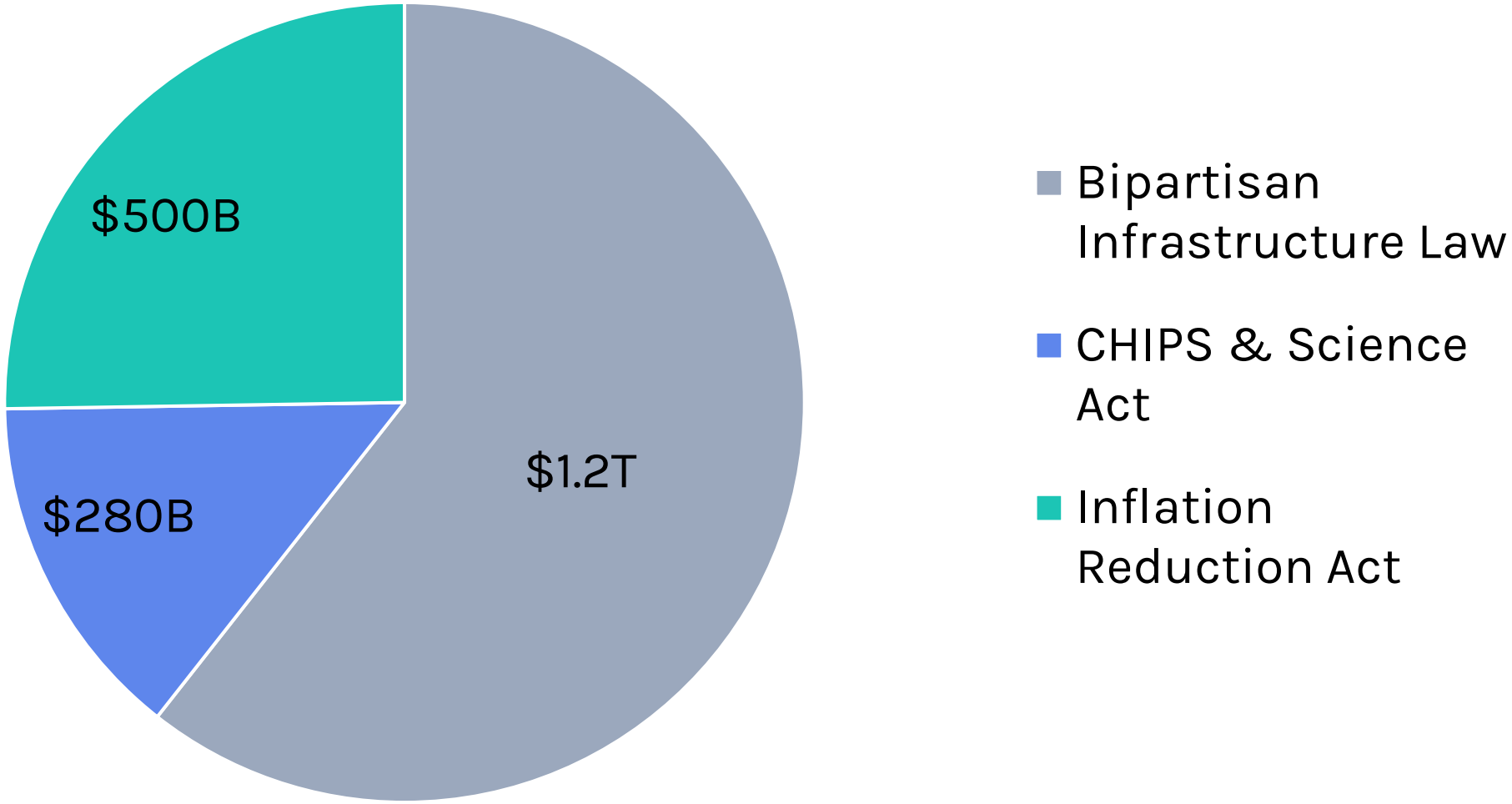


Data Source: Bloomberg

Here Comes The Big G!

HEDGEYE

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



Data Source: IRA, CHIPS ACT, BIL Documents, Hedgeye Estimates

The Inflation Reduction Act – Part 1

HEDGEYE

Wait, what's the cost of this program?

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

The 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.[1]

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

Data Source: McKinsey, Bloomberg

The Inflation Reduction Act – Part 2

HEDGEYE

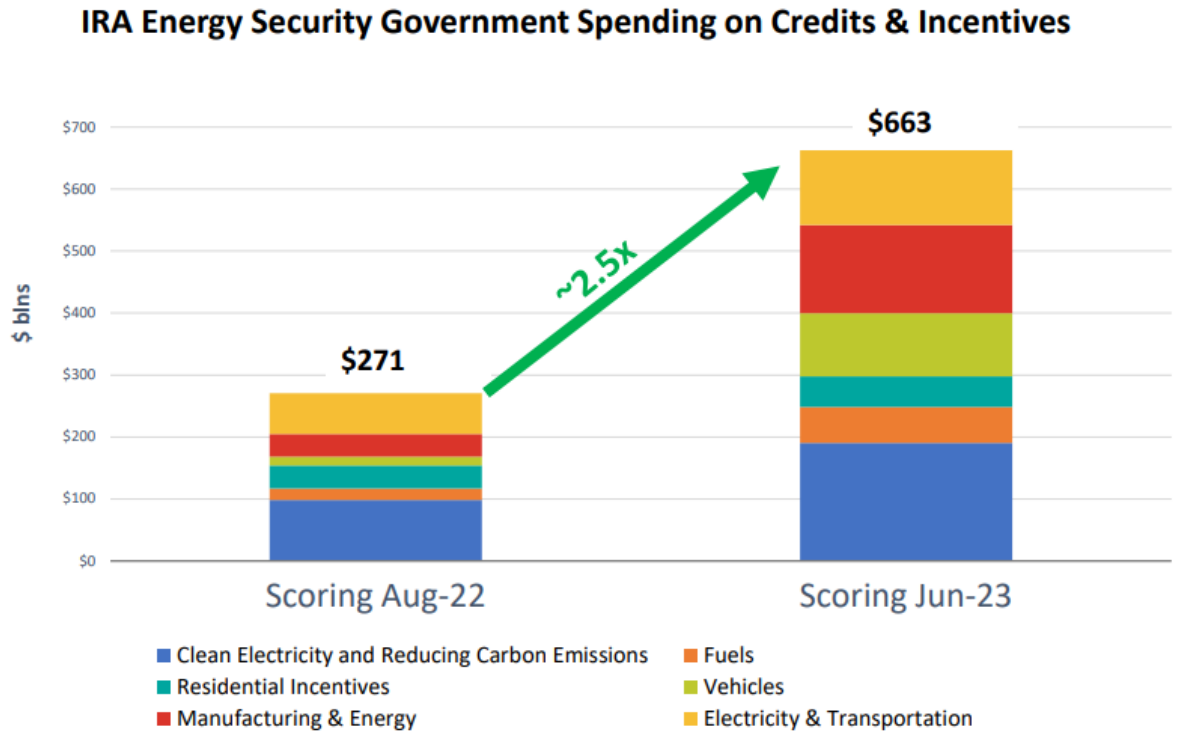
How big could this thing get?

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



Substantial increase in government credits & incentives

EATON
Powering Business Worldwide

Data Source: Eaton

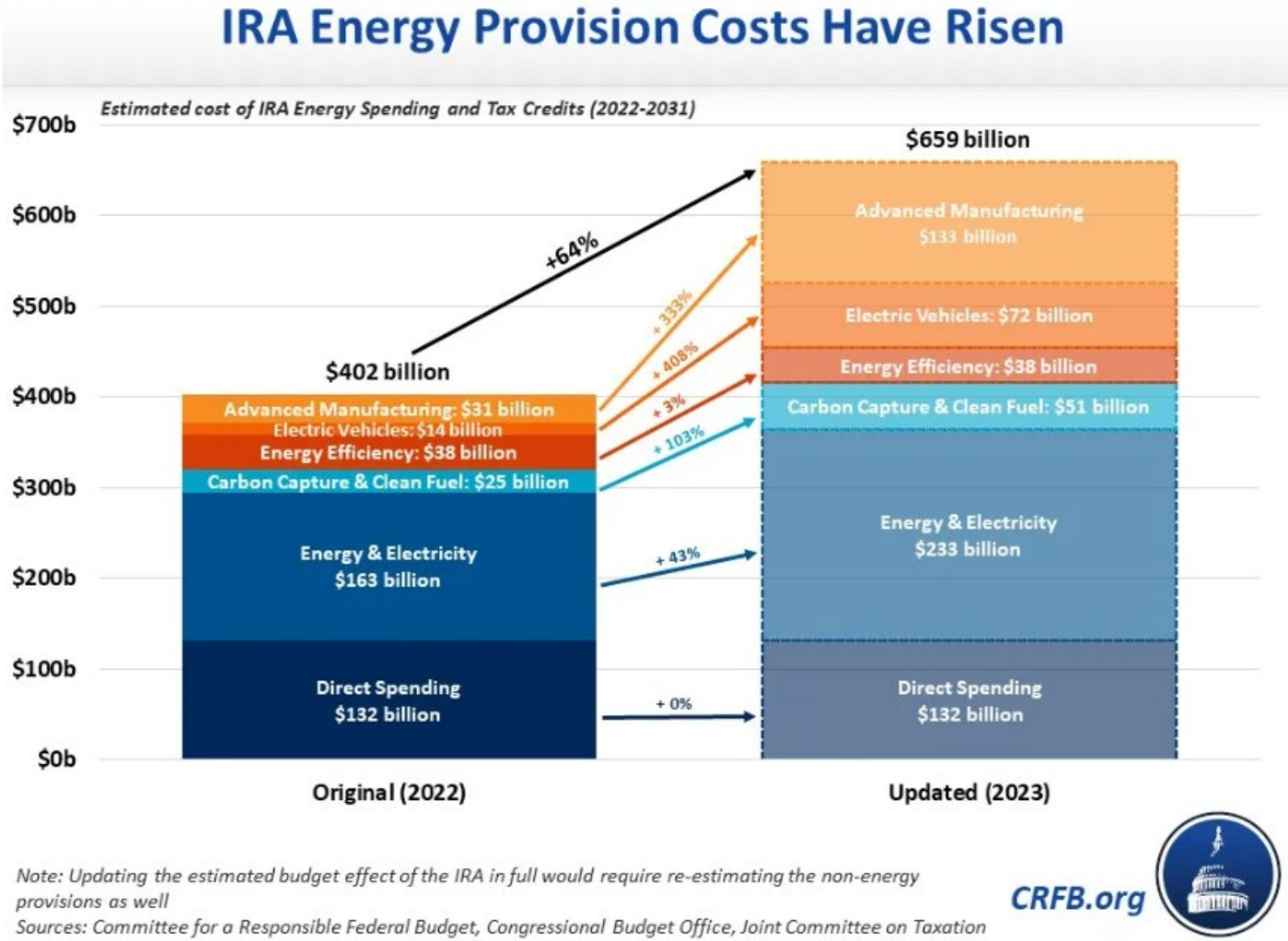
The Inflation Reduction Act – Part 3

HEDGEYE

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.



Data Source: CRFB.org

The Inflation Reduction Act – Part 4

HEDGEYE

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

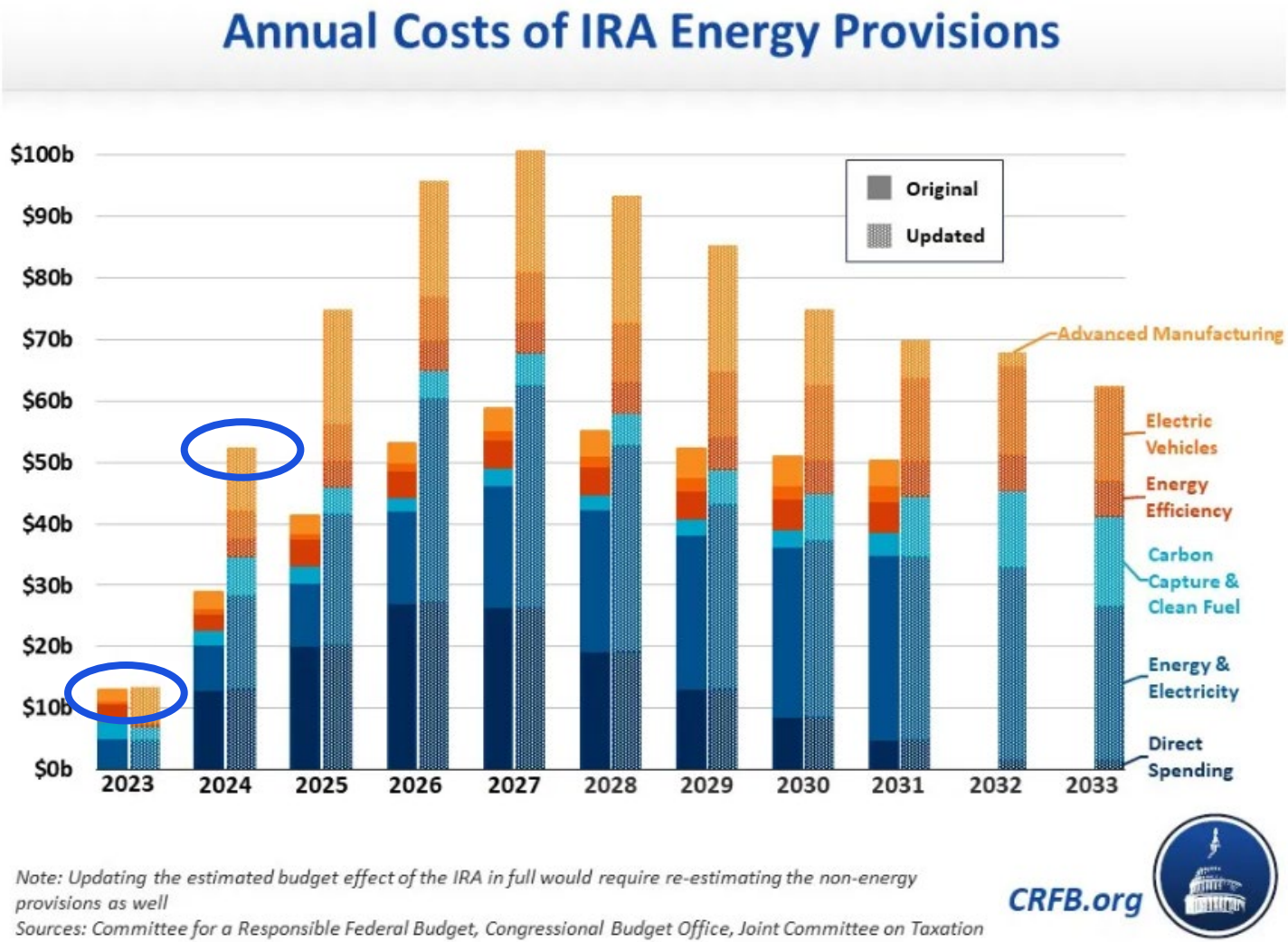
Interestingly, even when one factors in the much higher more recent estimates for spending, the climb from 2023 to 2024 is still unremarkable in the context of broader GDP.

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.



Data Source: CRFB.org

The Bipartisan Infrastructure Law (BIL) + CHIPS Act

HEDGEYE

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

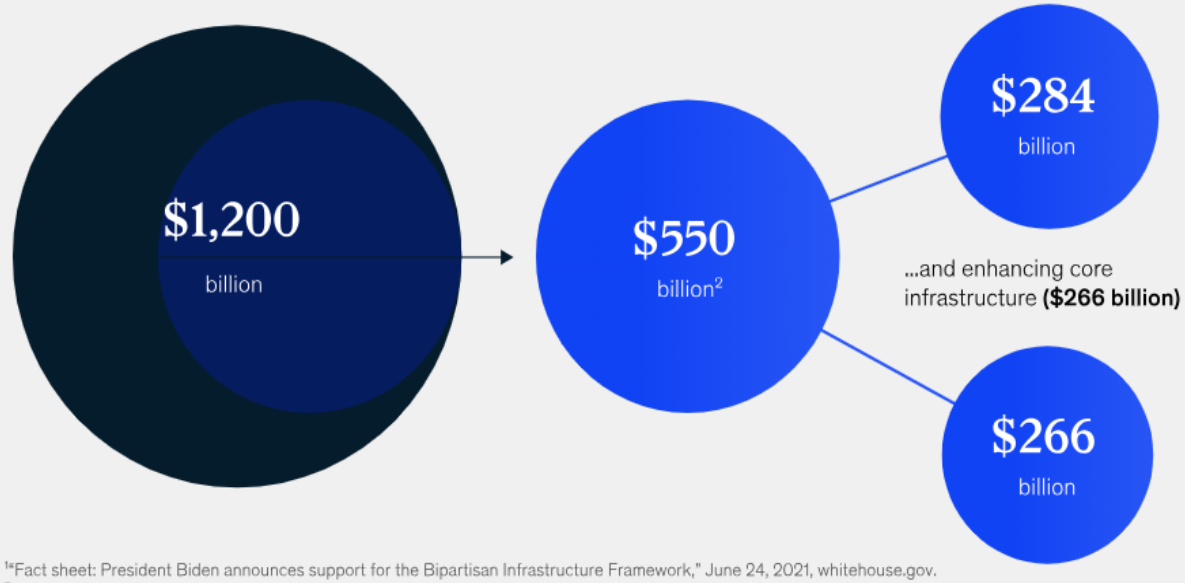
The US Bipartisan Infrastructure Law will authorize $550 billion in new spending.

Bipartisan Infrastructure Law (BIL) investments

The act allocates about **$1.2 trillion**[1] over 10 years ...

...including **$550 billion** in new spending...

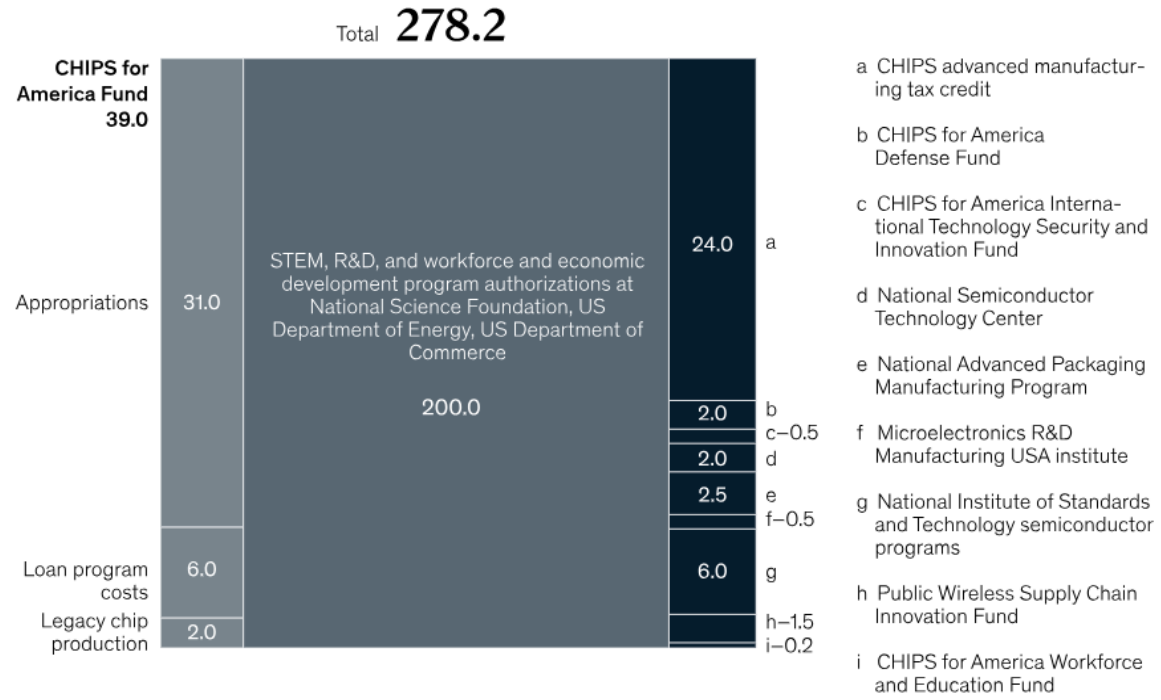
...divided between improving the surface-transportation network (**$284 billion**)...



[1]"Fact sheet: President Biden announces support for the Bipartisan Infrastructure Framework," June 24, 2021, whitehouse.gov.
[2]Numbers presented for 5-year spending horizon; "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)

HEDGEYE

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		
Increases or Decreases (-) in Direct Spending													
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
Increases in Revenues													
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
Increases in Discretionary Spending													
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
Net Increases or Decreases (-) in the Deficit													
Total Changes	**0**	**-4,362**	**8,970**	**29,203**	**37,739**	**59,701**	**53,775**	**39,101**	**23,451**	**16,062**	**-7,493**	**131,254**	**256,148**
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.

Data Source: Congressional Budget Office

The CHIPS & Science Act

HEDGEYE

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.

Congressional Budget Office
Cost Estimate

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

	By Fiscal Year, Millions of Dollars											
	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2022-2026	2022-2031
Increases in Budget Authority and Outlays												
Division A. CHIPS Act of 2022												
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
Division B. Research and Innovation[a]												
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
Division C. Supplemental Appropriations to Address Threats to the Supreme Court of the United States[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
Total												
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
Increases or Decreases (-) in Revenues												
Division A. CHIPS Act of 2022	0	-2,993	-5,616	-6,606	-6,908	-2,337	118	65	19	7	-22,123	-24,251
Net Increase in the Deficit												
Effect on the Deficit	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;
How CBO Prepares Cost Estimates, www.cbo.gov/publication/53519; and Glossary, www.cbo.gov/publication/42904.

Data Source: Congressional Budget Office

CBO 10-Year Projections Revisited

HEDGEYE

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	Total 2024–2033
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Deficit	**-1,376**	**-1,539**	**-1,571**	**-1,761**	**-1,718**	**-1,709**	**-1,934**	**-1,855**	**-2,126**	**-2,291**	**-2,496**	**-2,852**	**-8,693**	**-20,314**
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HEDGEYE

Q3 2023
Macro Themes

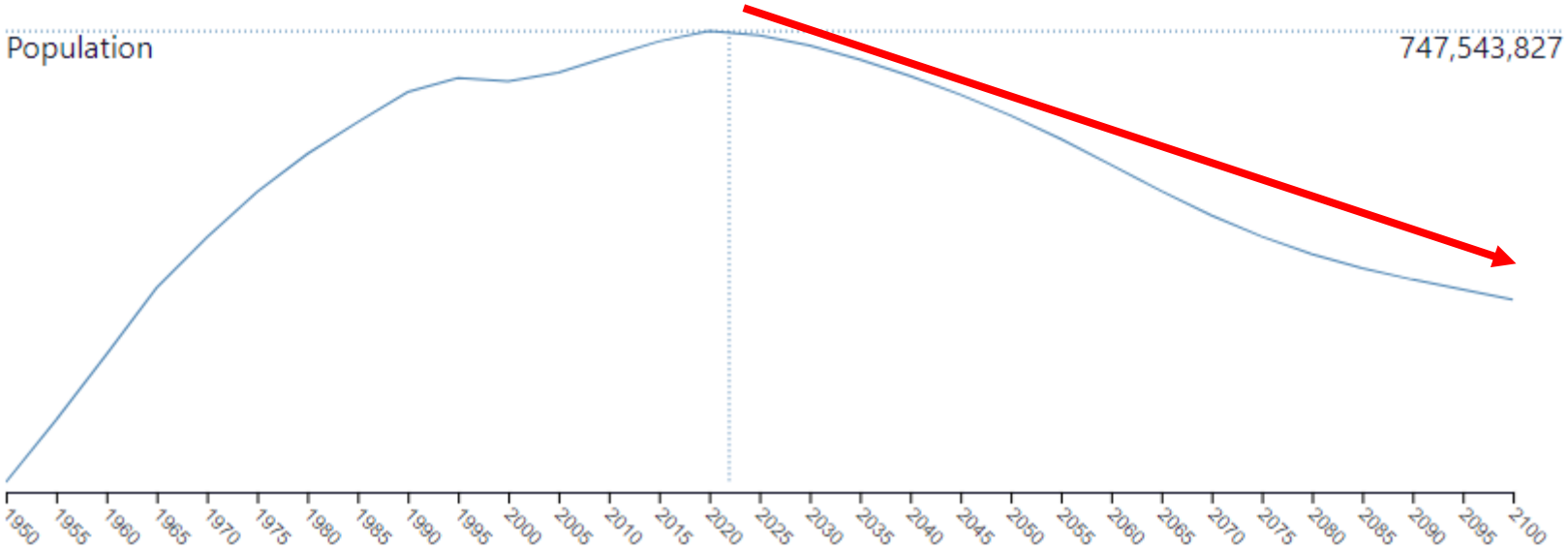
Long Japan/India vs.
Short European Recession

Short Europe

Long-Term Demographics: Europe

HEDGEYE

Europe's Population Is Already Past-peak.

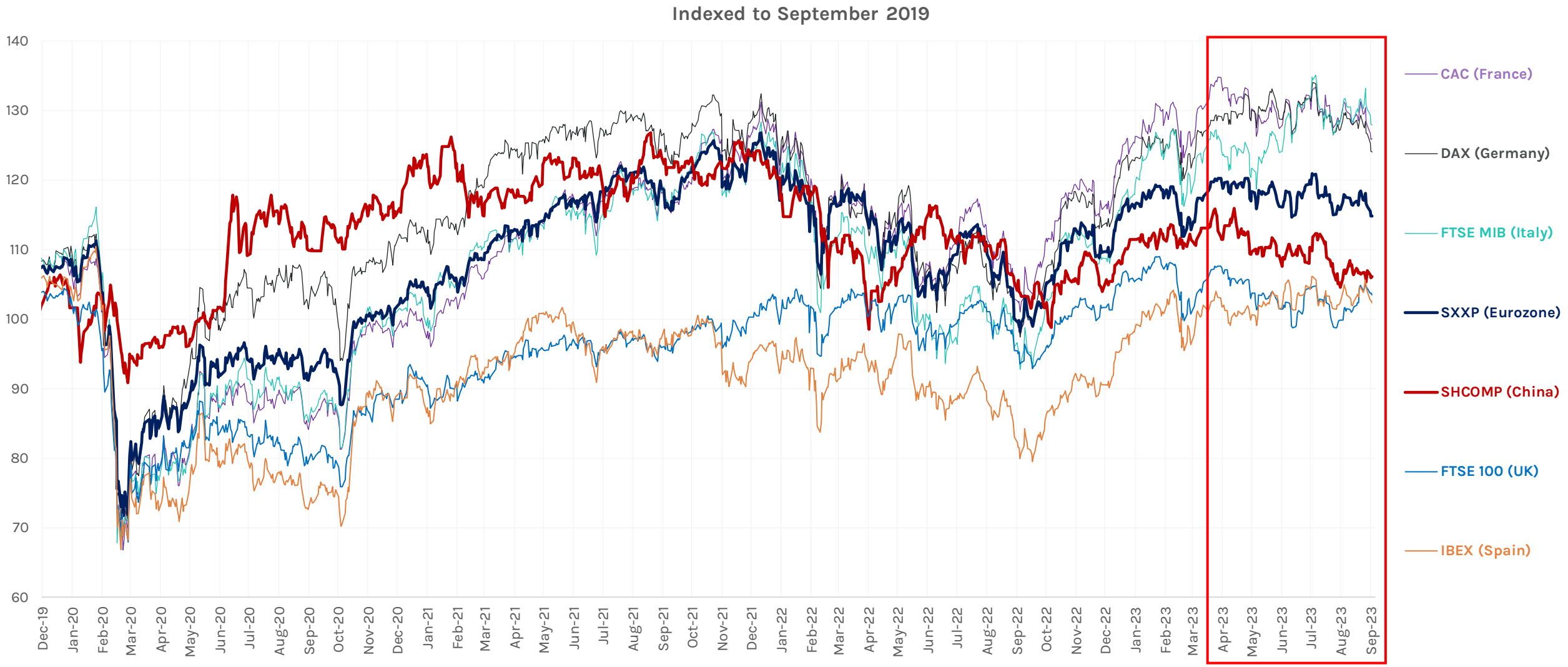


Data Source: PopulationPyramid.net

European Indices Continue to Rollover

HEDGEYE

Equity Performance



Data Source: Factset

Europe Rolling Over

HEDGEYE

Equity Performance

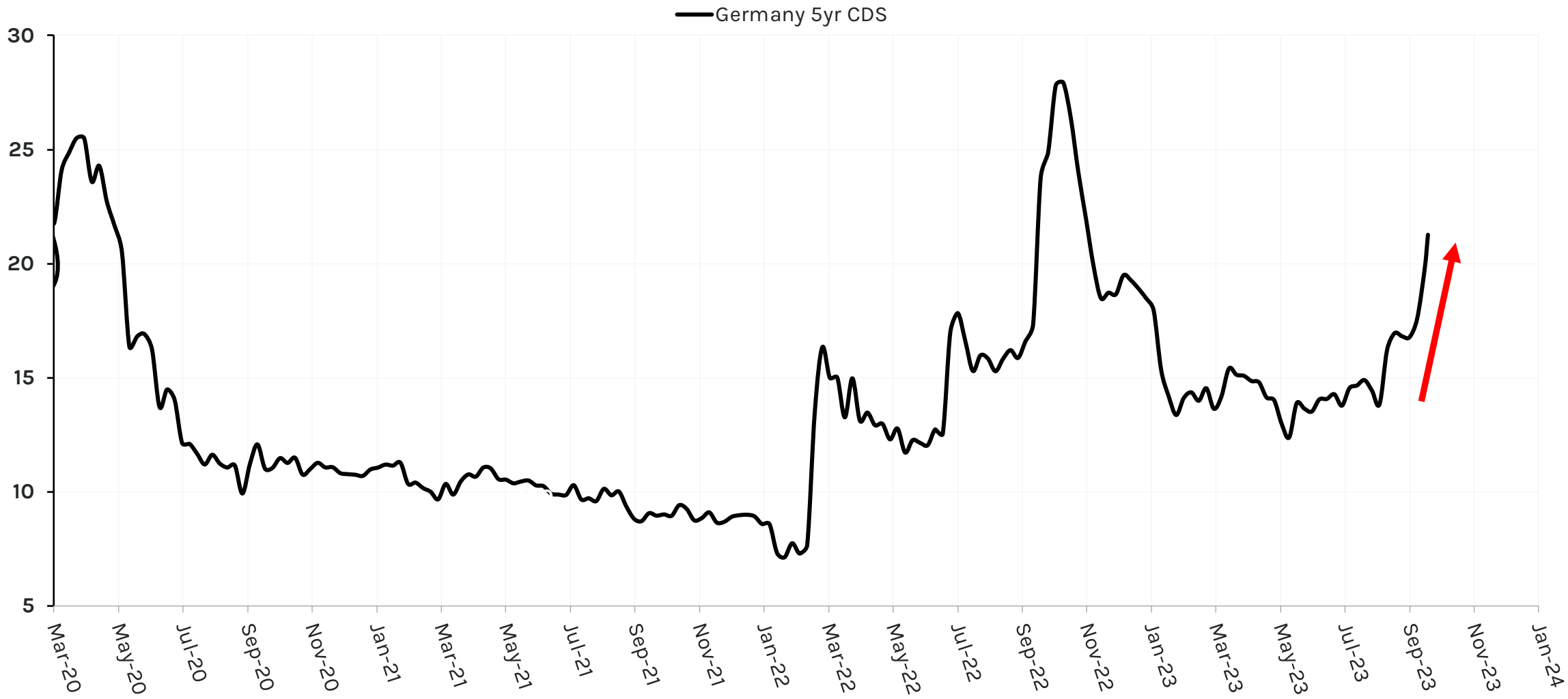
	1W	1M	2M	3M	6M	9M	12M	24M	36M
STOXX Europe 600 Price Index (Eurozone)	-2.8%	-0.8%	-5.1%	-1.2%	0.7%	4.6%	15.3%	-3.2%	25.9%
DAX Index (Germany)	-3.4%	-2.5%	-7.1%	-3.8%	0.8%	9.0%	25.6%	-2.1%	22.3%
CAC 40 Index (France)	-3.5%	-2.1%	-5.2%	-1.9%	0.0%	8.0%	23.0%	6.4%	49.6%
IBEX 35 Index (Spain)	-3.1%	0.1%	-3.6%	-0.5%	4.9%	13.0%	25.5%	3.8%	41.0%
FTSE MIB Index (Italy)	-3.9%	-0.5%	-5.1%	2.5%	7.1%	17.7%	33.9%	7.4%	50.2%
FTSE 100 (UK)	-1.6%	3.7%	-1.1%	1.9%	1.8%	1.8%	8.9%	7.7%	30.2%
SHCOMP (China)	0.0%	1.4%	-3.4%	-2.6%	-4.4%	0.4%	0.4%	-13.3%	-3.5%

Data Source: Factset

Germany CDS Spreads Reaccelerate

HEDGEYE

Risk spreads in Germany accelerate towards previous cycle highs

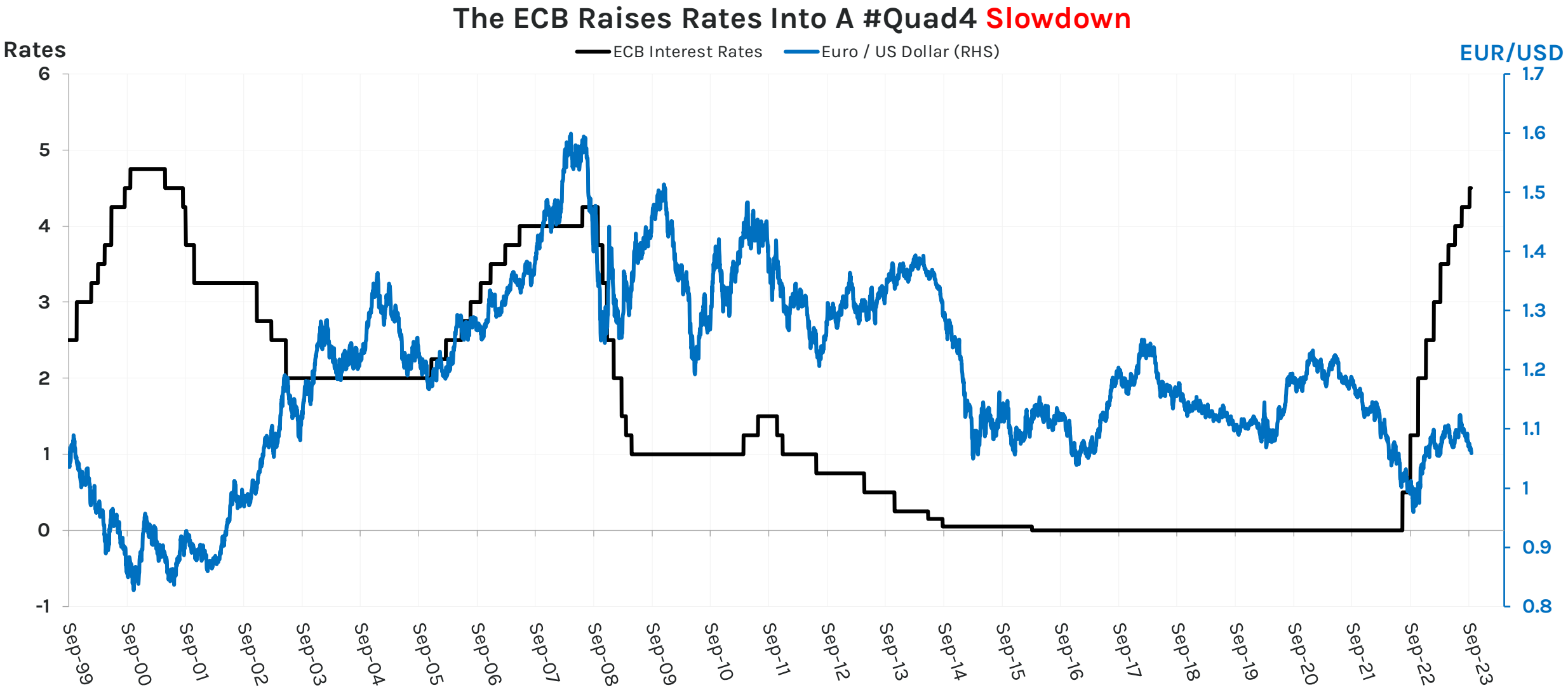


Data Source: CBIN

ECB Rates - Tightening

HEDGEYE

ECB Rates have risen +400 bps in the last 12 months

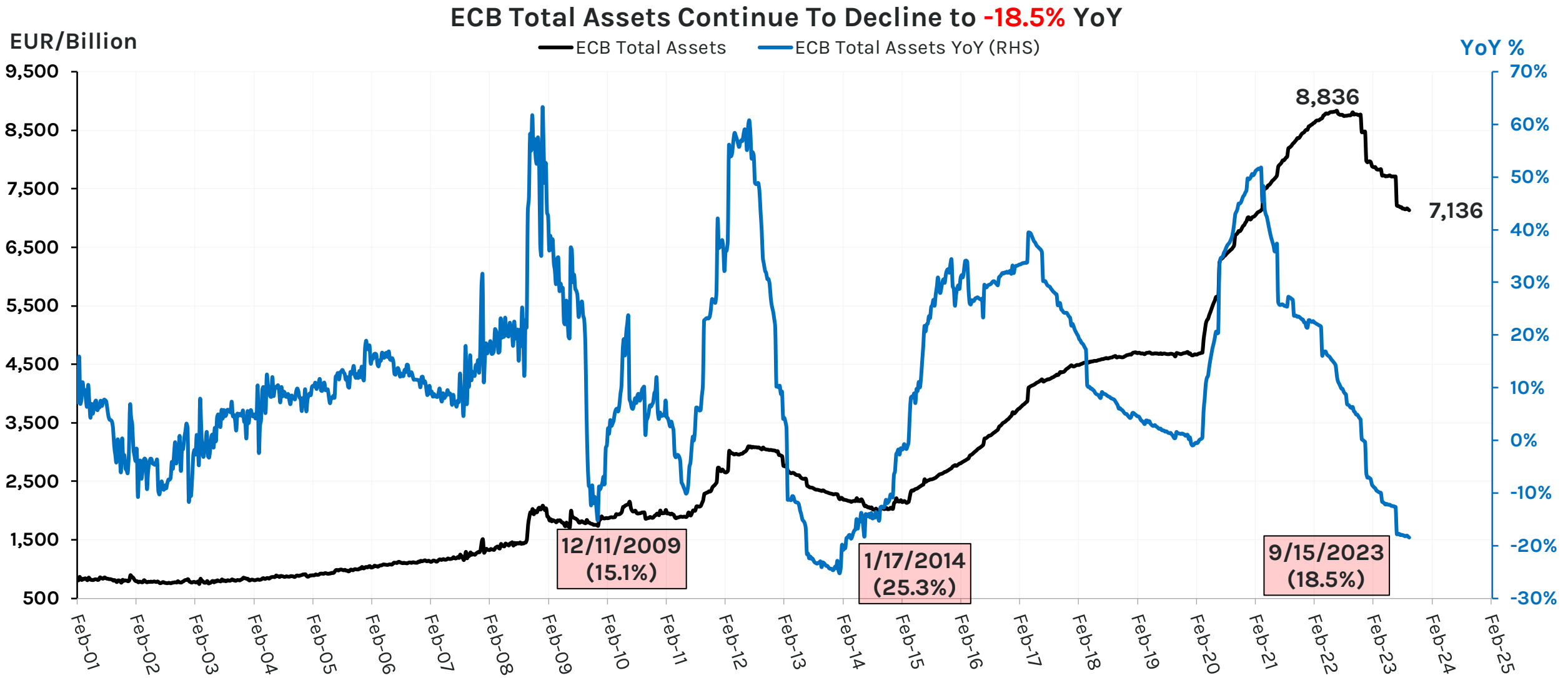


Data Source: ECB

European Central Bank Total Assets

HEDGEYE

Liquidity moving steadfastly in reverse

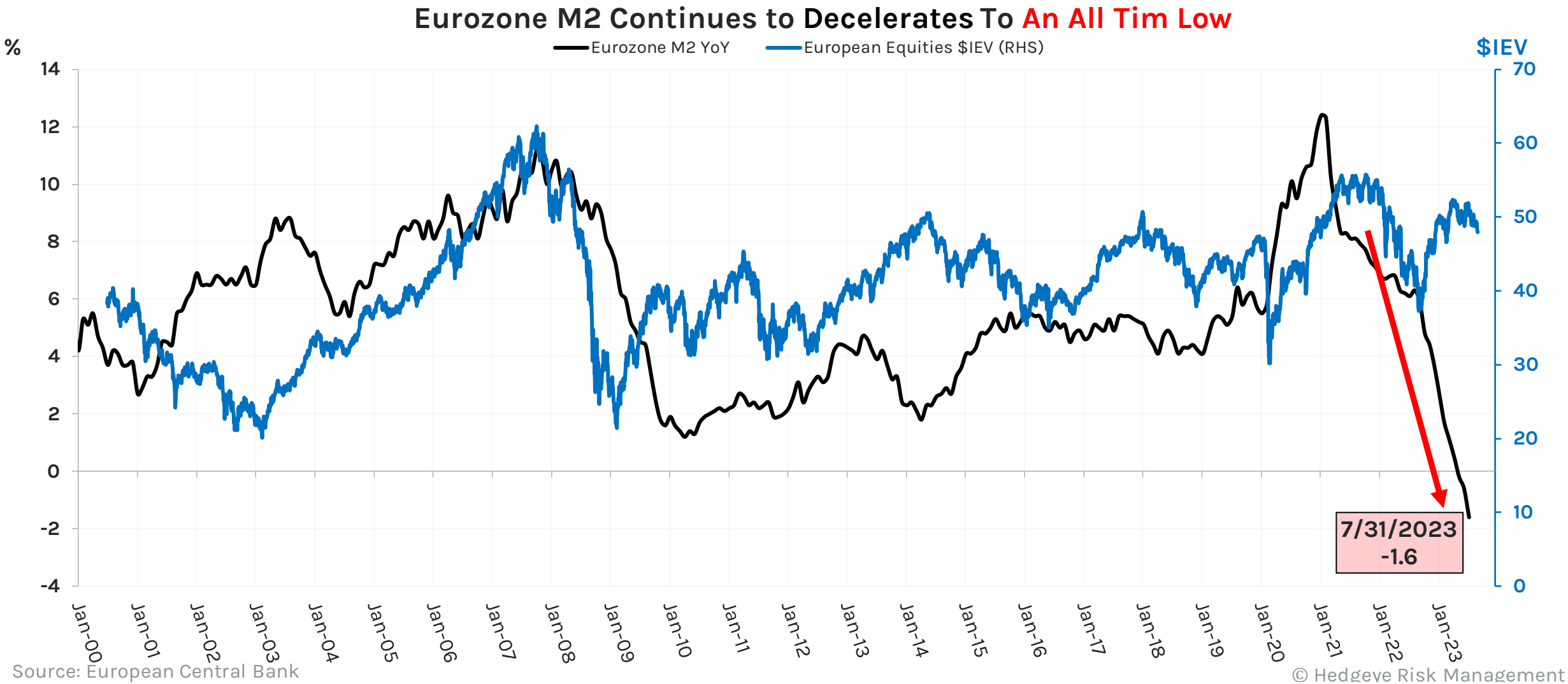


Data Source: ECB

Eurozone M2 – Converging on Zero Growth

HEDGEYE

Outright negative, and clearly lower.

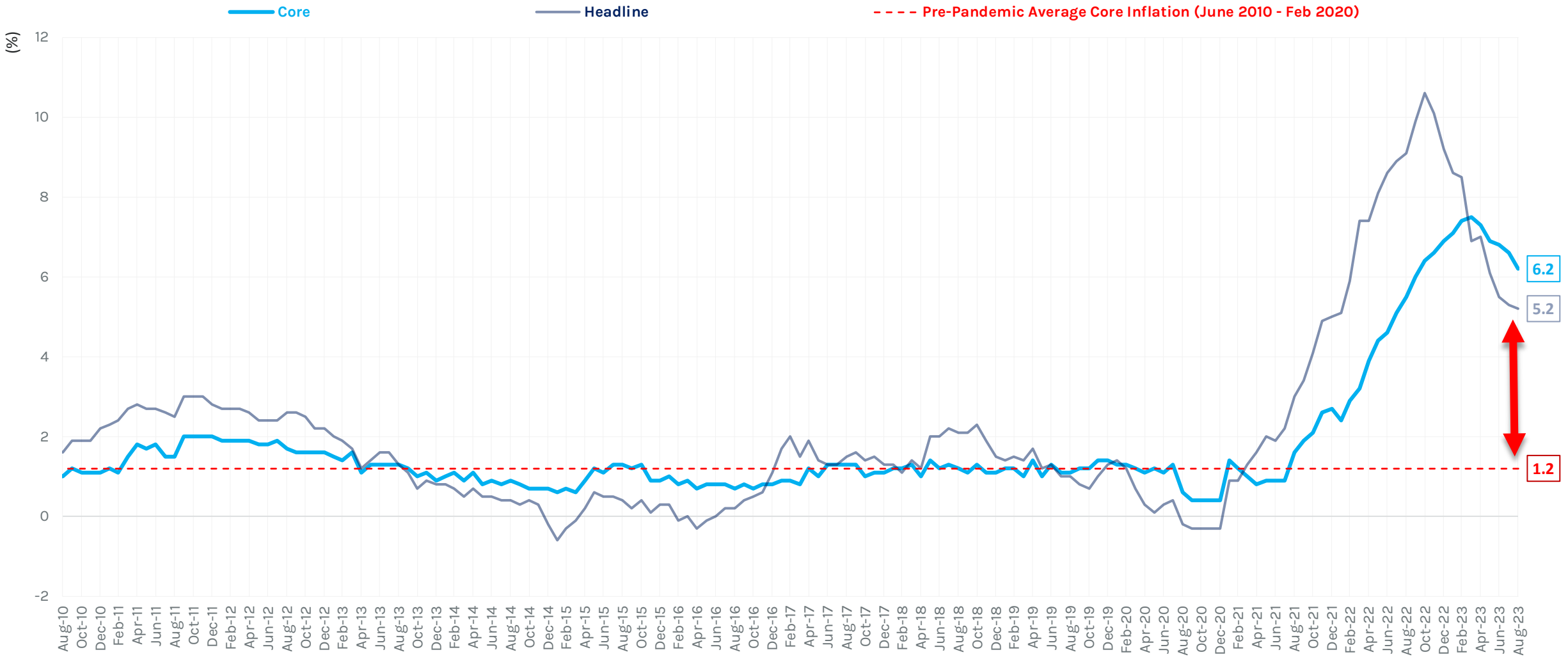


Source: European Central Bank

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

HEDGEYE

While finally slowing, Core Eurozone Inflation remains ~5x the pre-Pandemic average.

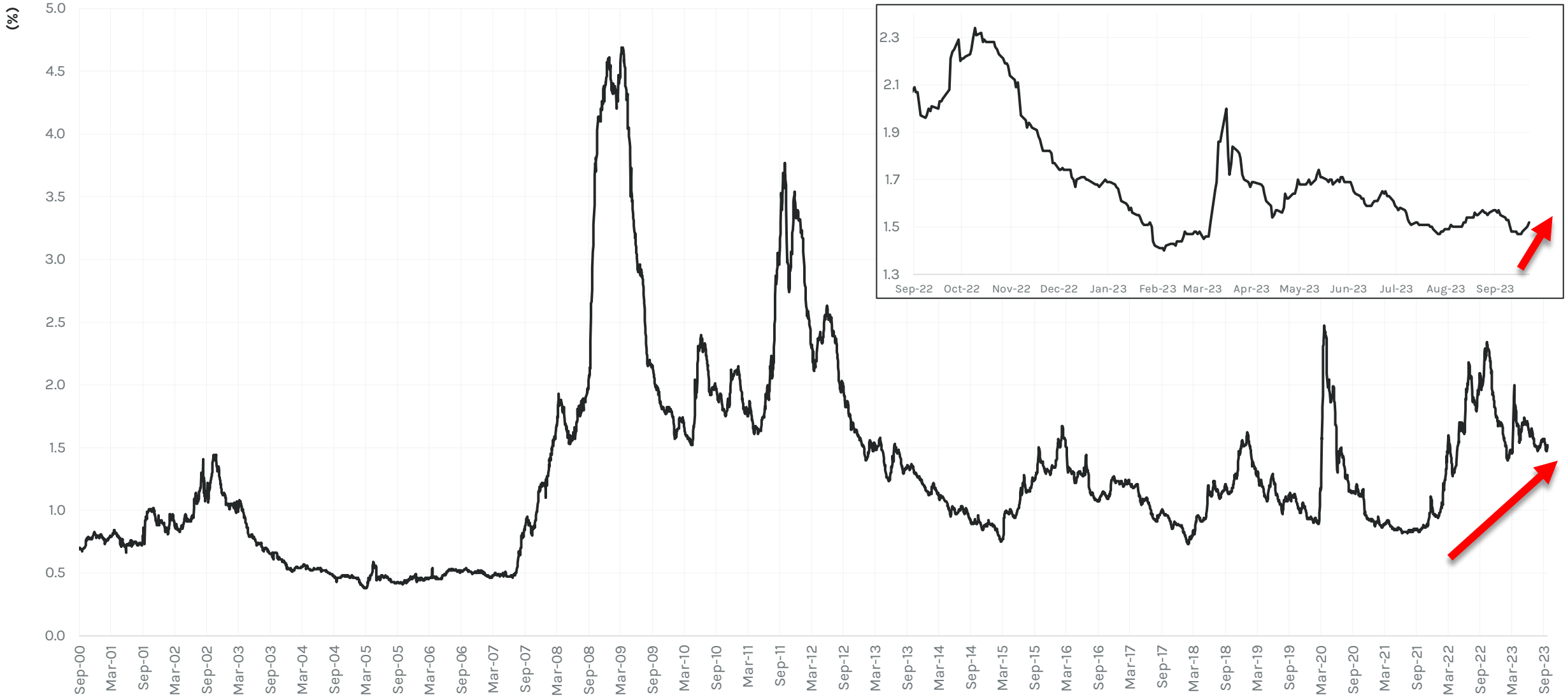


Data Source: Eurostat

Corporate Credit Spreads are Elevated & Trending Higher

HEDGEYE

EuroAgg Corporate Average OAS



Data Source: Bloomberg

Credit Availability ↓ As Credit Conditions Tightening

HEDGEYE

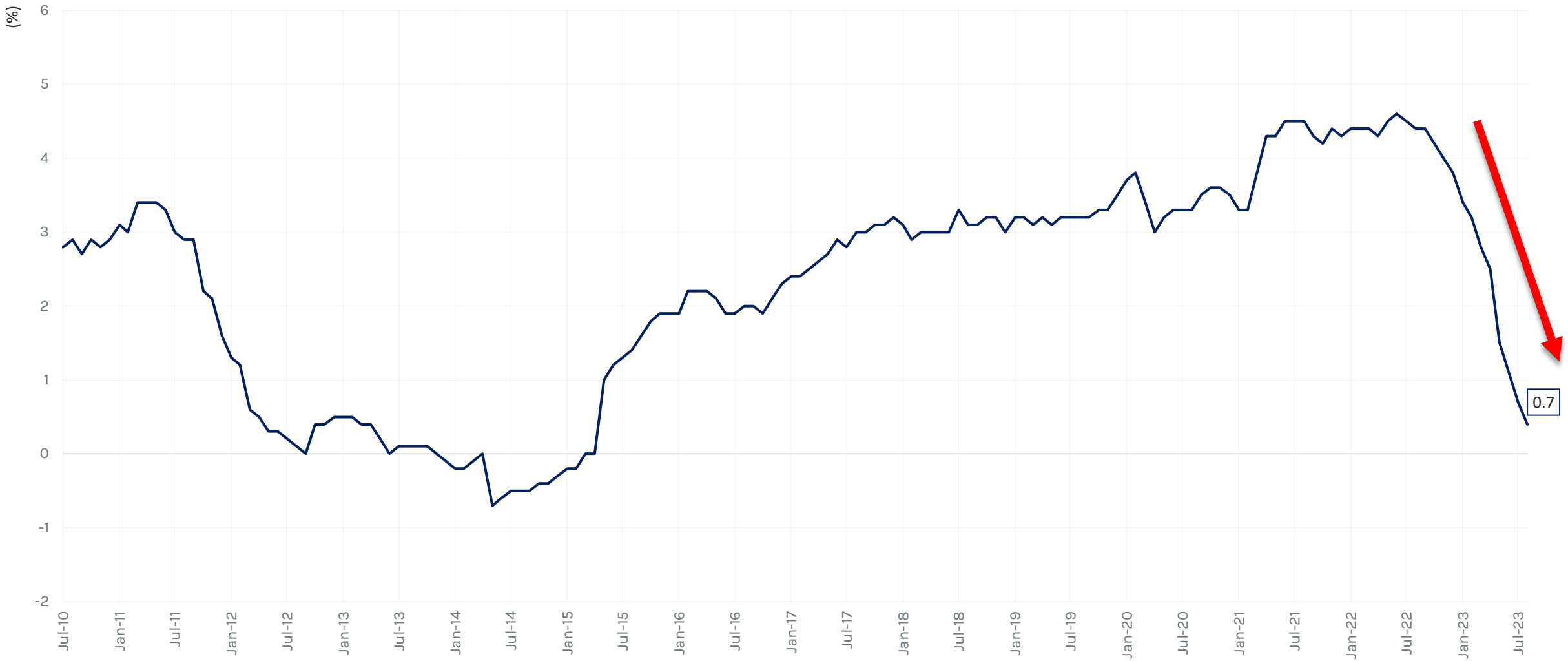
Euro-Area Credit Impulse is trending lower. Credit Impulse is the relationship between the change in net credit flows relative to prior period GDP. Credit Impulses are highly correlated annual Real GDP growth.

Data Source: Bloomberg

Eurozone Bank Lending To Households In RoC Freefall

HEDGEYE

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

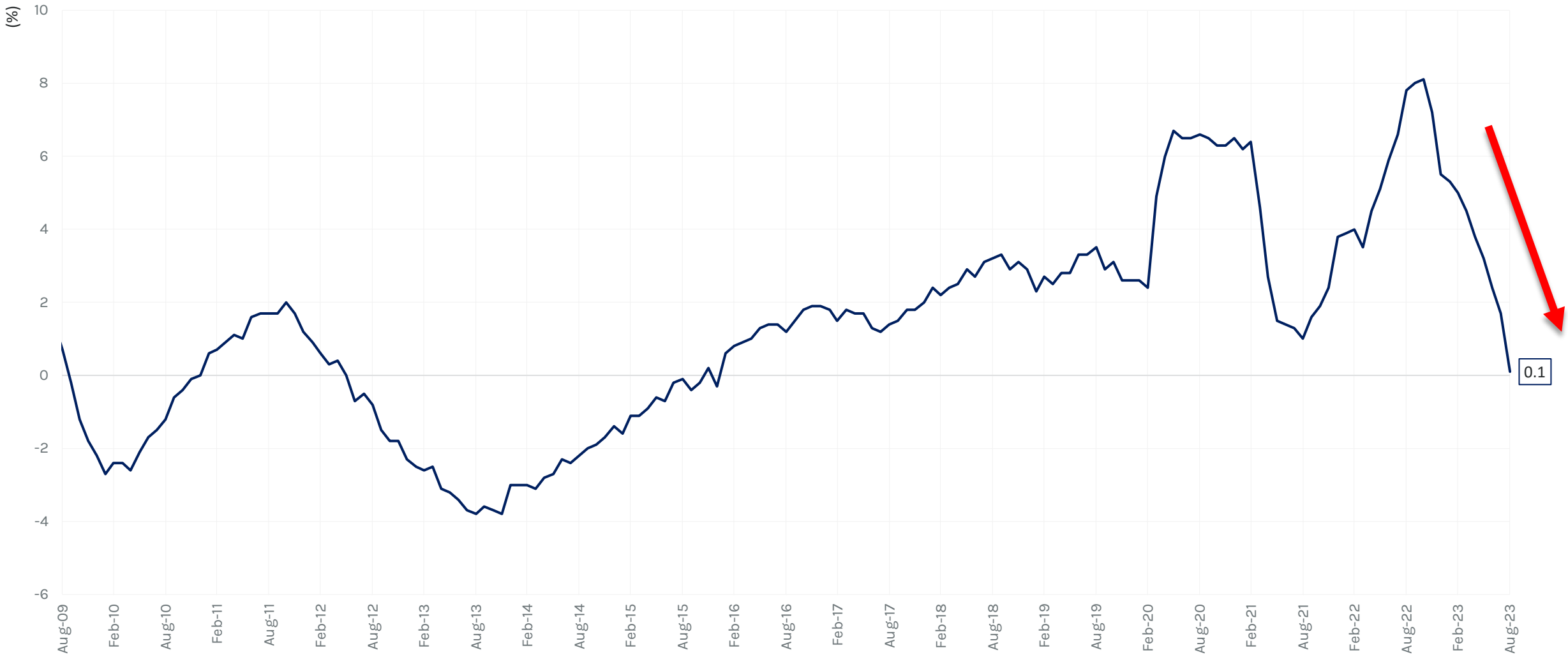


Data Source: European Central Bank

Lending to Corporate Sector? Same Story.

HEDGEYE

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

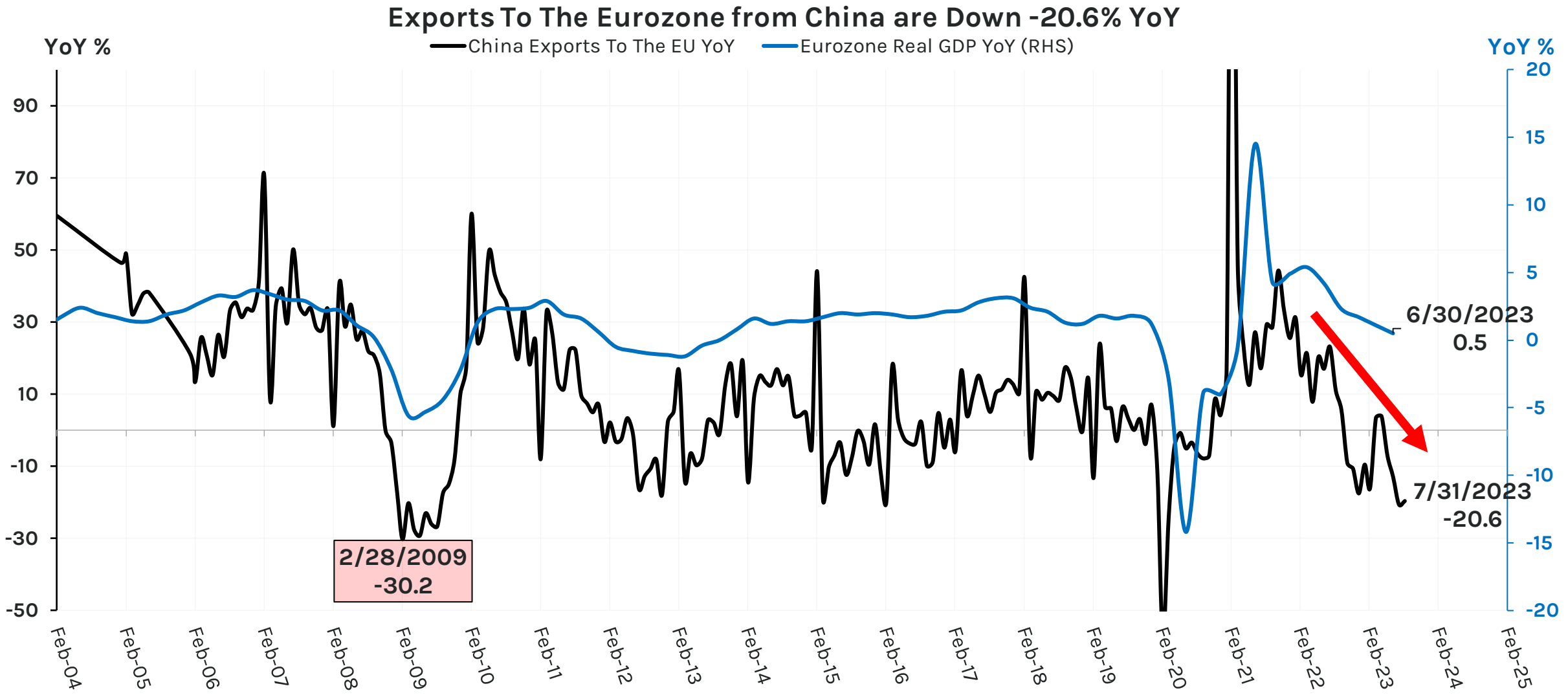


Data Source: European Central Bank

Chinese Exports to the EU ↓

HEDGEYE

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.



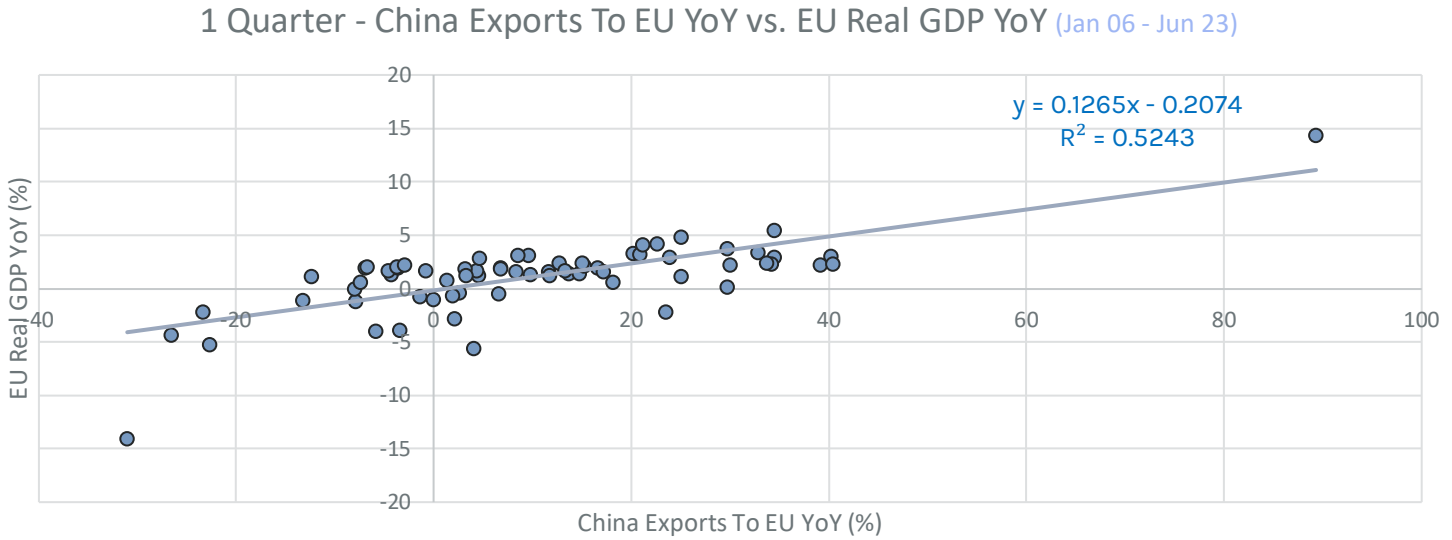
Data Source: Customs General Administration PRC

China Exports To EU (YoY) Lead EU Real GDP (YoY) by 1 Quarter

HEDGEYE

Correlation of 0.724

R Squared	Explanatory Variables
Independent Variable	China Exports To EU YoY
EU Real GDP YoY (Lead = -4Q)	0.0649
EU Real GDP YoY (Lead = -3Q)	0.0678
EU Real GDP YoY (Lead = -2Q)	0.0274
EU Real GDP YoY (Lead = -1Q)	0.0957
EU Real GDP YoY (Lead = 0Q)	0.0400
EU Real GDP YoY (Lead = 1Q)	0.5243
EU Real GDP YoY (Lead = 2Q)	0.0977
EU Real GDP YoY (Lead = 3Q)	0.0231
EU Real GDP YoY (Lead = 4Q)	0.0001



Data Source: Eurostat, Customs General Administration PRC

Eurozone Nowcast

HEDGEYE

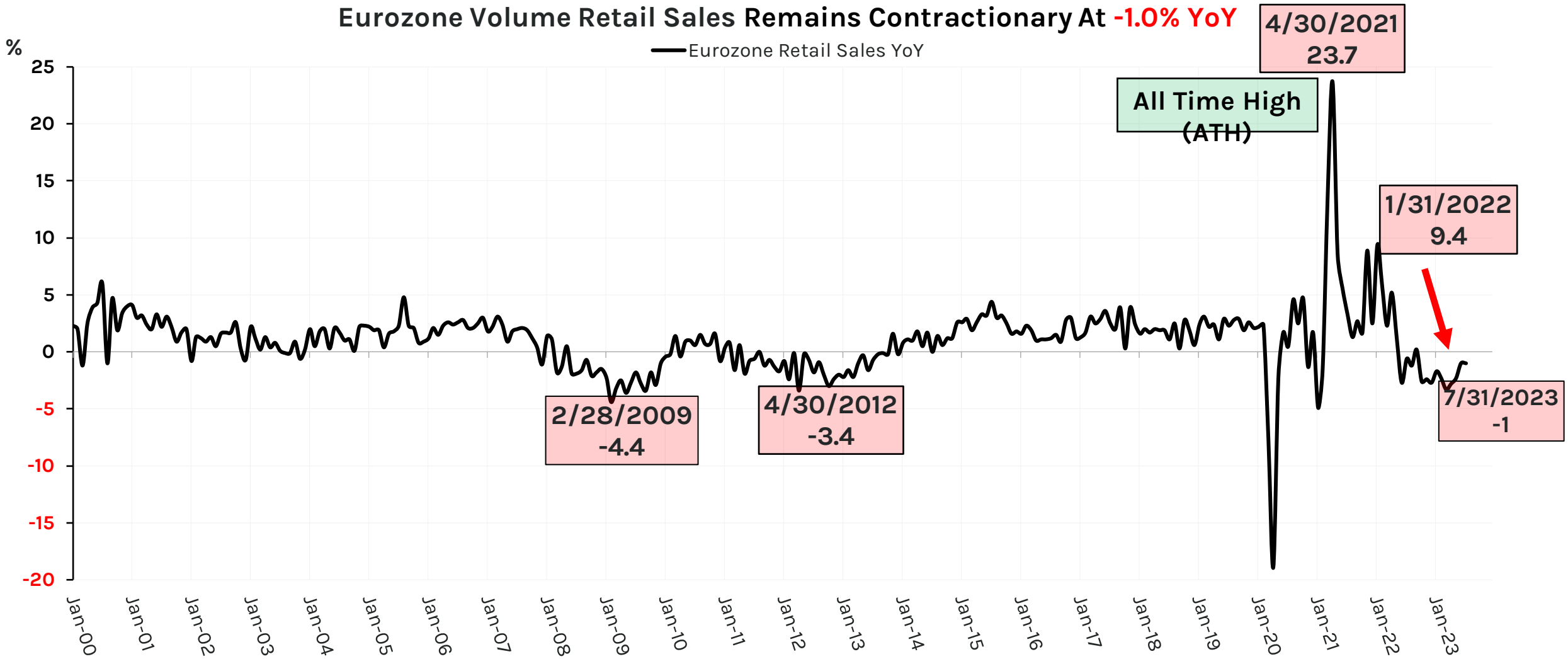
HEDGEYE EUROZONE NOWCAST MODEL SUMMARY	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	
Retail Sales YoY (3)	9.40	6.00	2.30	5.20	1.10	-2.70	-0.60	-1.20	0.20	-2.60	-2.40	-2.70	-1.70	-2.30	-3.30	-2.80	-2.30	-1.00	-1.00	-	-	-2.03	-1.00	1.03
Industrial Production YoY (1)	1.10	3.20	0.50	-1.10	3.10	4.10	-0.80	4.80	6.30	4.20	3.70	-2.00	0.80	1.70	-1.50	-0.10	-2.40	-1.10	-2.20	-	-	-1.20	-2.20	-1.00
Exports YoY (2)	19.98	17.45	14.49	12.92	28.24	19.90	12.97	24.14	23.86	18.22	17.28	9.21	11.05	7.67	7.59	-3.57	-2.40	0.22	-2.67	-	-	-1.92	-2.67	-0.76
Manufacturing PMI (4)	58.7	58.2	56.5	55.5	54.6	52.1	49.8	49.6	48.4	46.4	47.1	47.8	48.8	48.5	47.3	45.8	44.8	43.4	42.7	43.5	43.4	44.7	43.2	-1.47
Consumer Confidence (5)	-9.5	-9.5	-22.0	-22.4	-21.5	-24.1	-27.3	-25.0	-28.7	-27.4	-23.7	-22.0	-20.6	-19.0	-19.1	-17.5	-17.4	-16.1	-15.1	-16.0	-17.8	-17.0	-16.3	0.70
Business Confidence (6)	49.4	48.6	-38.7	-43.0	-29.5	-28.0	-51.1	-54.9	-60.7	-59.7	-38.7	-23.6	16.7	29.7	10.0	6.4	-9.4	-10.0	-12.2	-5.5	-8.9	-4.3	-8.9	-4.53
Headline CPI YoY (7)	5.10	5.90	7.40	7.40	8.10	8.60	8.90	9.10	9.90	10.60	10.10	9.20	8.60	8.50	6.90	7.00	6.10	5.50	5.30	5.20	-	6.20	5.25	-0.95
Core CPI YoY (9)	2.30	2.70	3.00	3.50	3.80	3.70	4.00	4.30	4.80	5.00	5.00	5.20	5.30	5.60	5.70	5.60	5.30	5.50	5.50	5.30	-	5.47	5.40	-0.07
Headline PPI YoY (8)	30.70	31.50	36.90	37.20	36.10	36.10	38.00	43.40	41.80	30.40	26.90	24.50	14.80	12.70	5.50	0.90	-1.60	-3.40	-7.60	-	-	-1.37	-7.60	-6.23
Benchmark Equity Market - Mean Closing Price	152	146	136	138	132	128	126	131	123	122	133	134	142	147	144	148	147	147	148	146	145	148	146	-1
Benchmark Policy Rate - Mean Closing Price	-0.50	-0.50	-0.50	-0.50	-0.50	-0.50	-0.33	0.00	0.58	0.86	1.50	1.77	2.00	2.48	2.76	3.00	3.22	3.39	3.54	3.75	3.88	3.20	3.72	0.52
1Y OIS Spread - Mean Closing Price	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2Y Sovereign Note Yield - Mean Closing Price	-0.60	-0.38	-0.36	0.08	0.30	0.90	0.47	0.69	1.53	1.89	2.13	2.37	2.59	2.82	2.82	2.77	2.70	3.03	3.16	3.03	3.16	2.83	3.12	0.29
10Y Sovereign Note Yield - Mean Closing Price	-0.06	0.21	0.33	0.79	1.00	1.50	1.14	1.11	1.83	2.20	2.07	2.13	2.22	2.41	2.40	2.36	2.35	2.40	2.50	2.58	2.68	2.37	2.59	0.21
10Y Breakeven Rate - Mean Closing Price	1.88	1.79	2.17	2.37	2.24	2.17	2.05	2.11	2.19	2.27	2.33	2.36	2.32	2.39	2.40	2.44	2.46	2.51	2.55	2.61	2.60	2.47	2.59	0.12
EUR - Mean Closing Price	1.13	1.13	1.10	1.08	1.06	1.06	1.02	1.01	0.99	0.98	1.02	1.06	1.08	1.07	1.07	1.10	1.09	1.08	1.11	1.09	1.07	1.09	1.09	0.00
Real Effective Exchange Rate	97.6	97.8	98.6	96.5	96.6	96.8	94.8	94.6	95.5	97.1	98.2	99.1	98.2	98.5	99.4	101.1	100.7	101.4	102.5	102.6	-	101.1	102.5	1.49

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

Retail Sales ↓

HEDGEYE

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

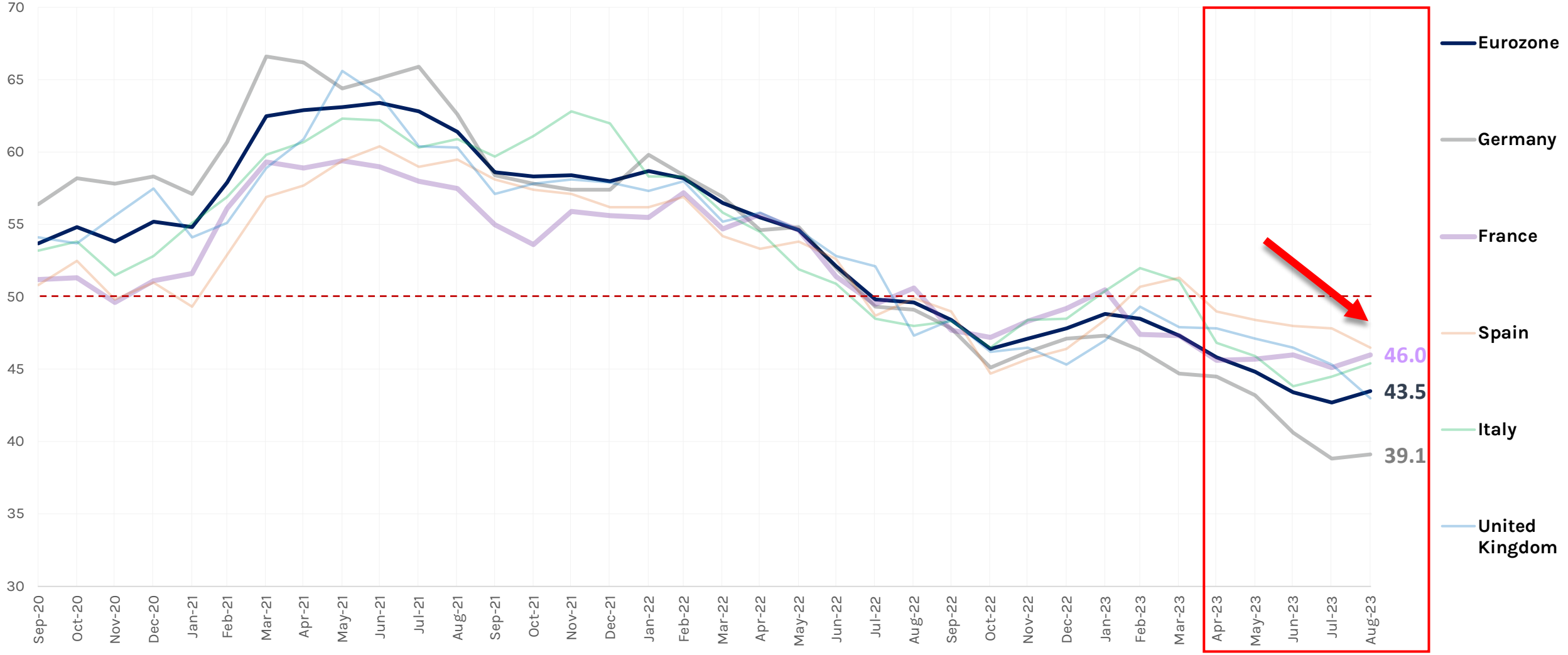


Data Source: Eurostat

Eurozone Manufacturing PMI ↓

HEDGEYE

Eurozone Manufacturing Uniformly Rolling Over

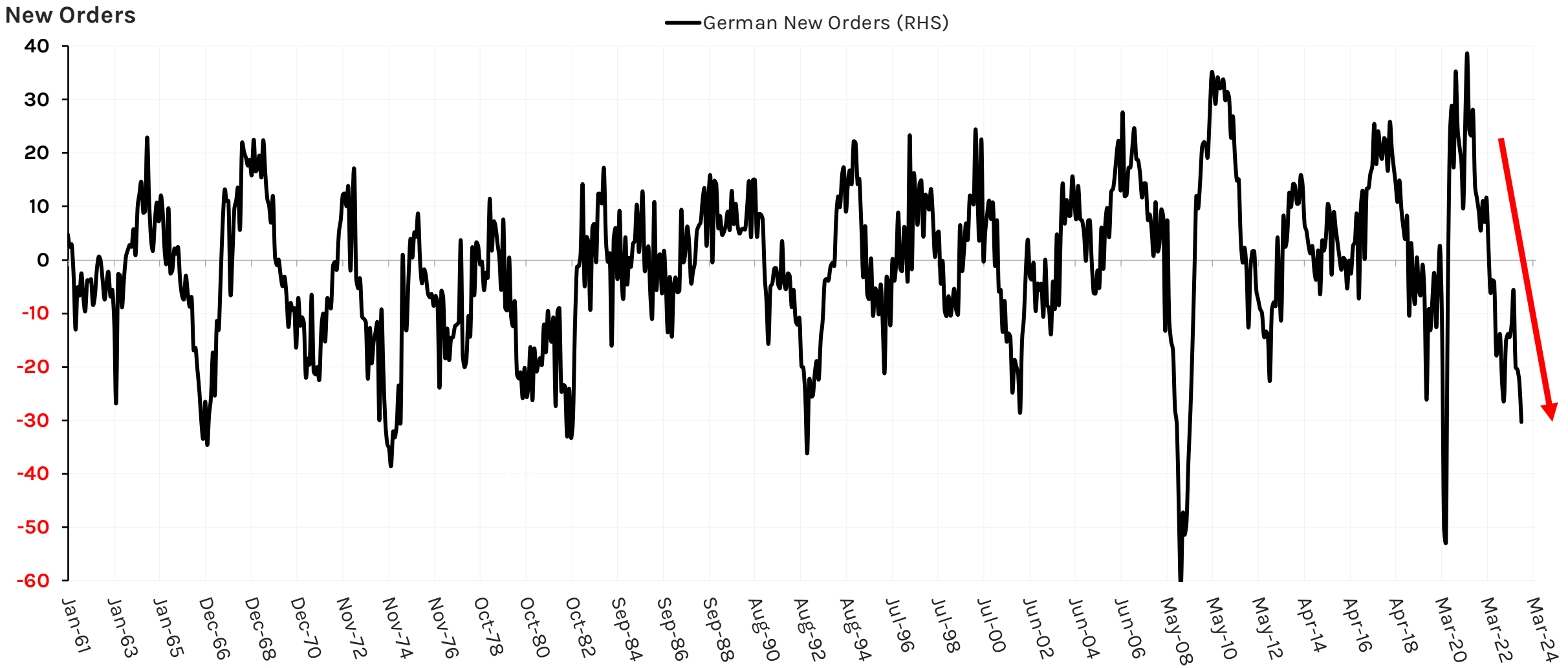


Data Source: S&P Global

German New Orders Continue To Plummet

HEDGEYE

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

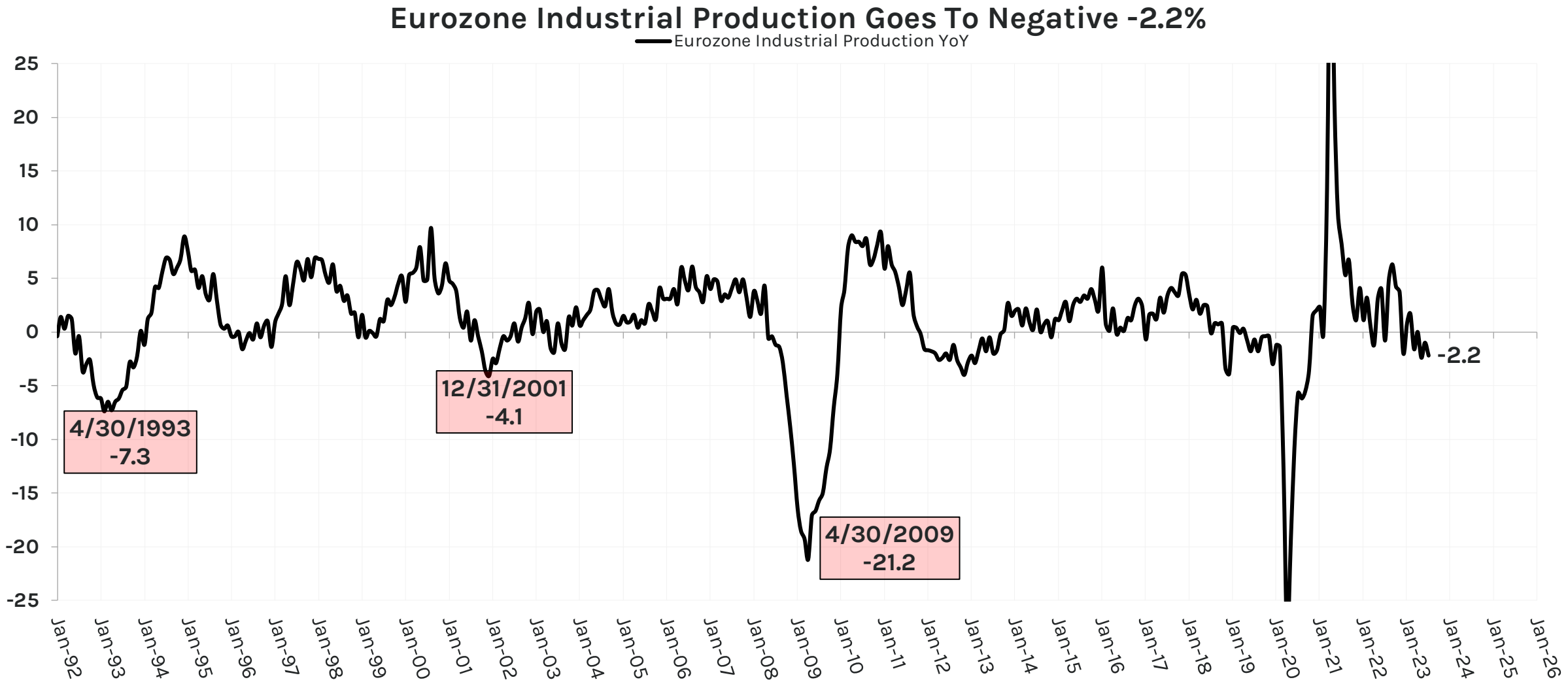


Data Source: OECD

Industrial Production - Negative

HEDGEYE

Eurozone Industrial Production is outright declining



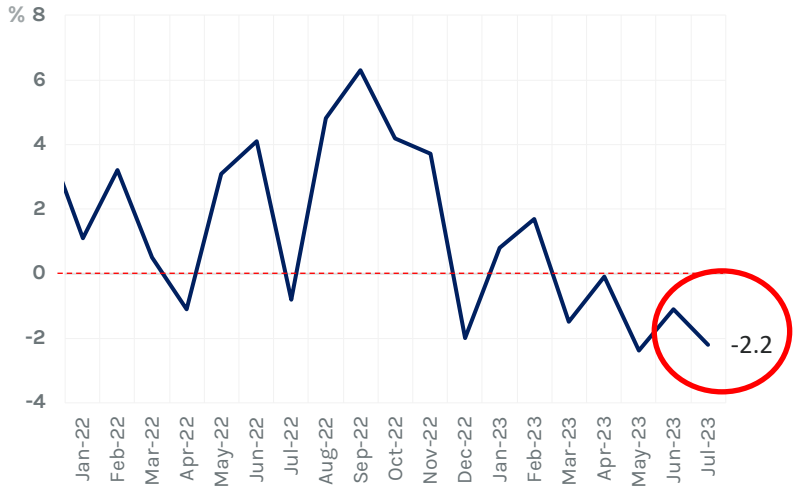
Data Source: Eurostat

Industrial Production (YoY): Uninspired

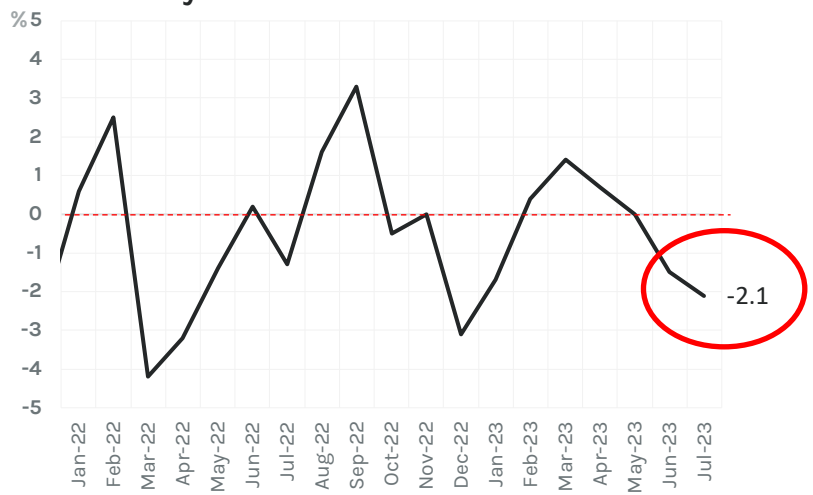
HEDGEYE

Declining, Deflated, or Rolling Over – Take Your Pick

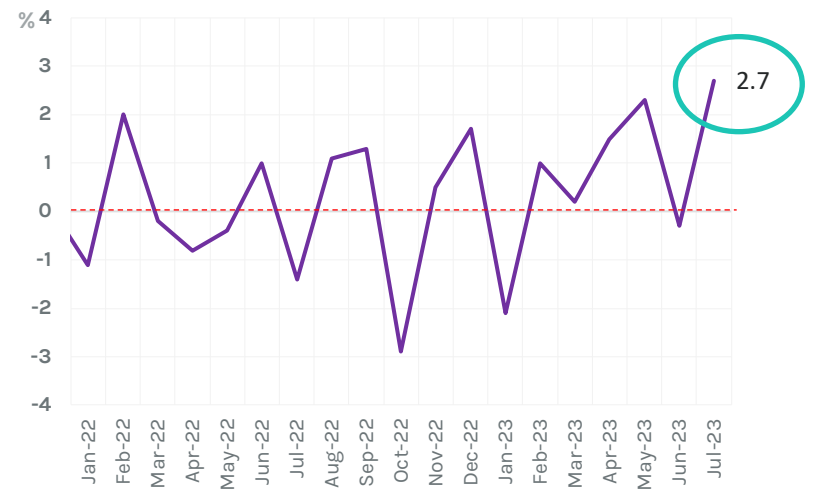
Eurozone:



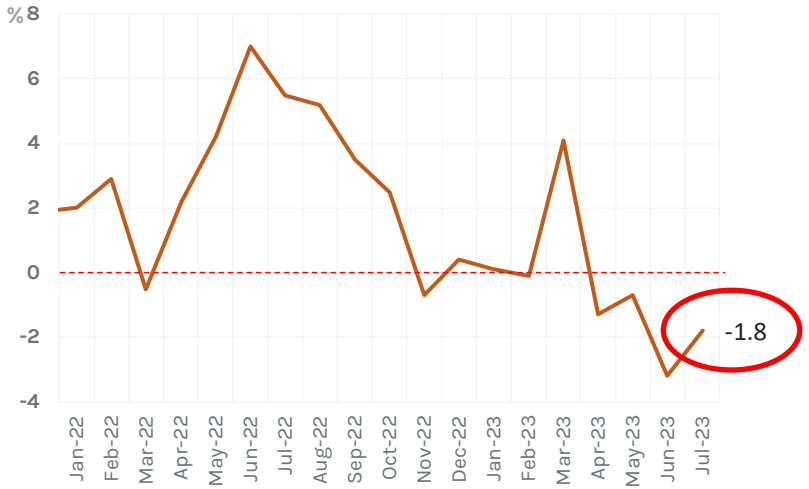
Germany:



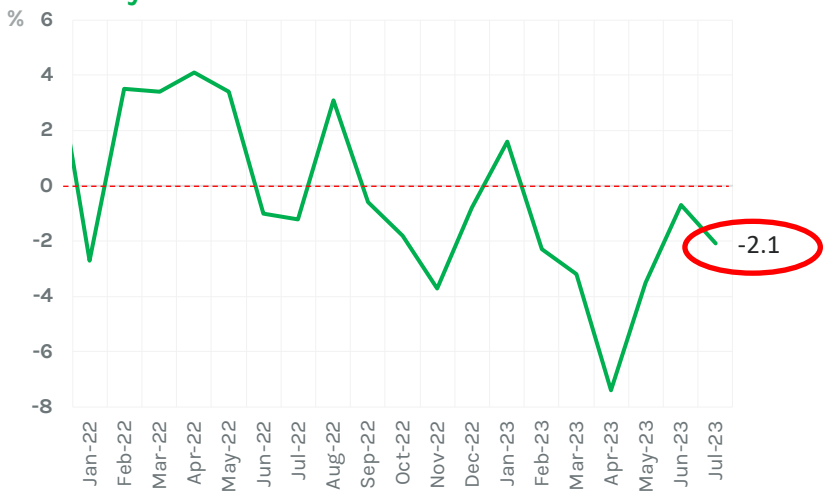
France:



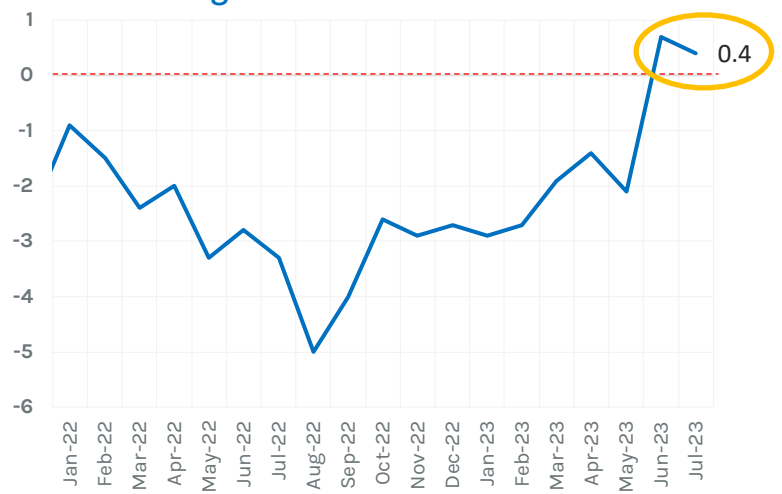
Spain:



Italy:



United Kingdom:

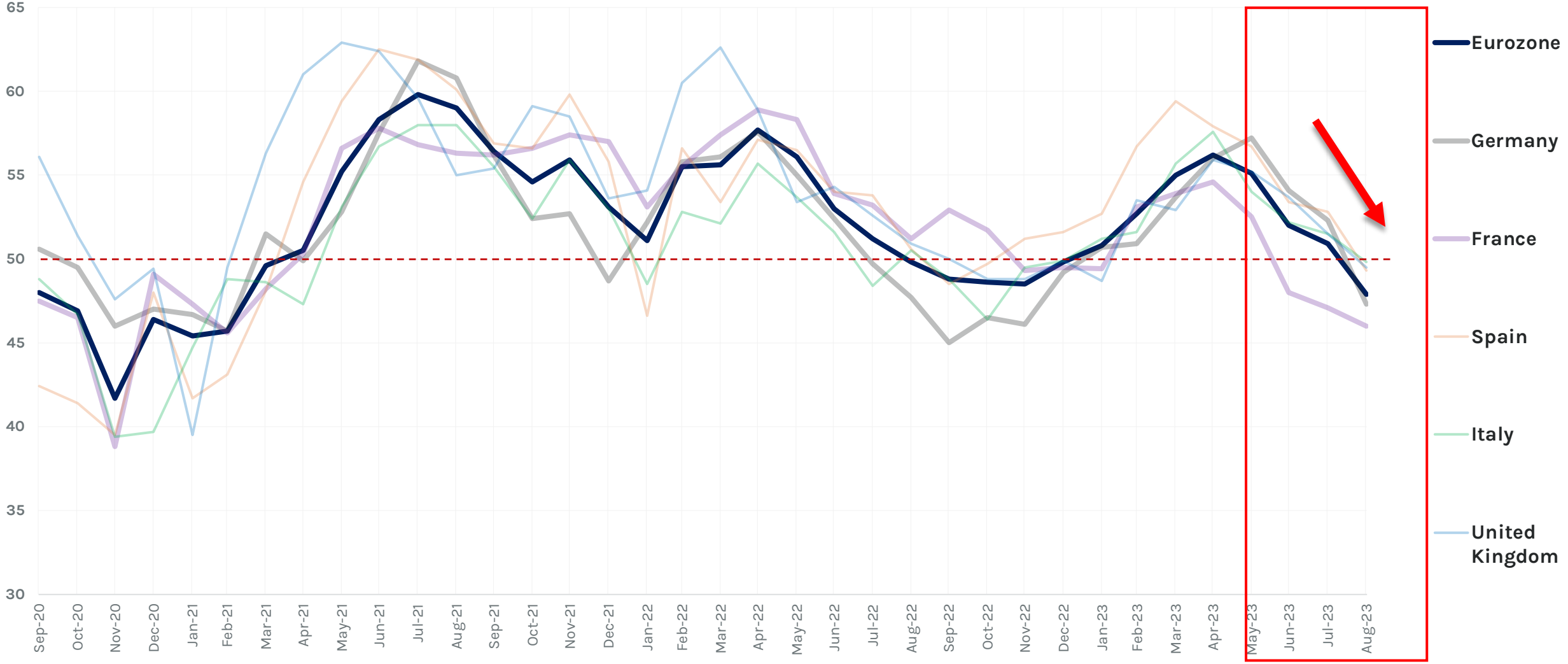


Data Source: Eurostat, Bundesministerium fur Wirtschaft und Arbeit, INSEE National Statistics Office of France, INE, ISTAT, UK Office for National Statistics

Eurozone Services PMI Rolling Over ↓

HEDGEYE

The Services Economy is Uniformly Contractionary

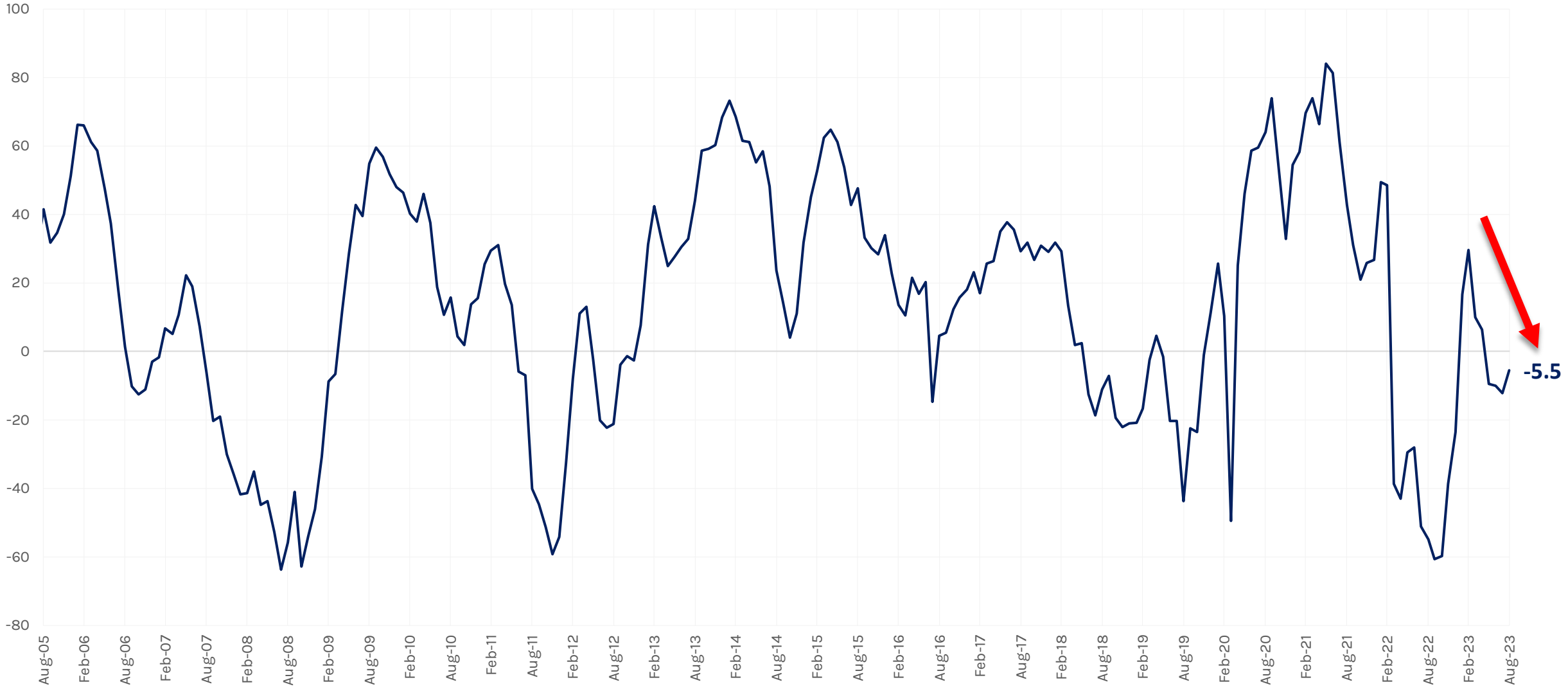


Data Source: S&P Global

Business Confidence Has Sharply Declined

HEDGEYE

Eurozone Business Confidence has cliff-dropped lower from February 2023 local peak

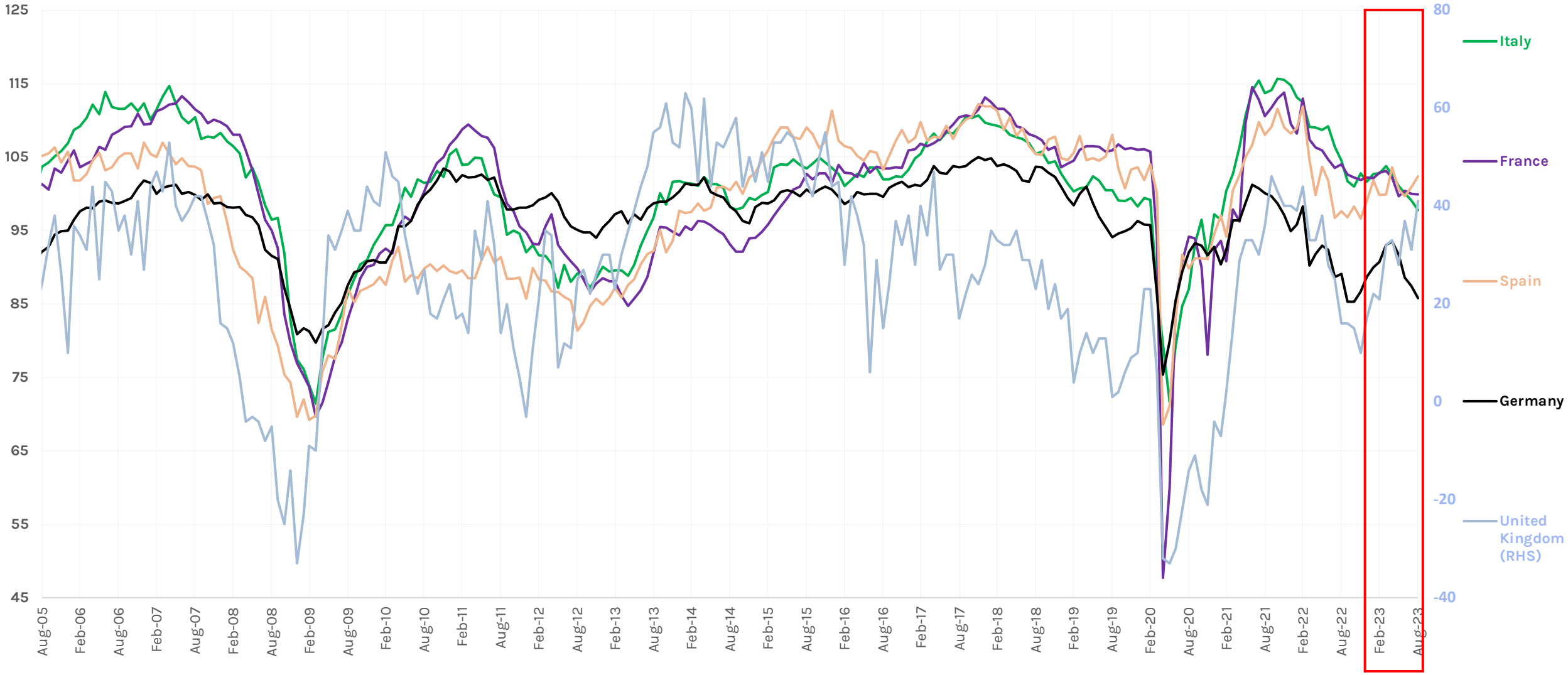


Data Source: European Commission

The Local Peak & Sharp Rollover in Business Confidence is Nearly Ubiquitous

HEDGEYE

Germany, France, and Italy showing continued deterioration in business conditions

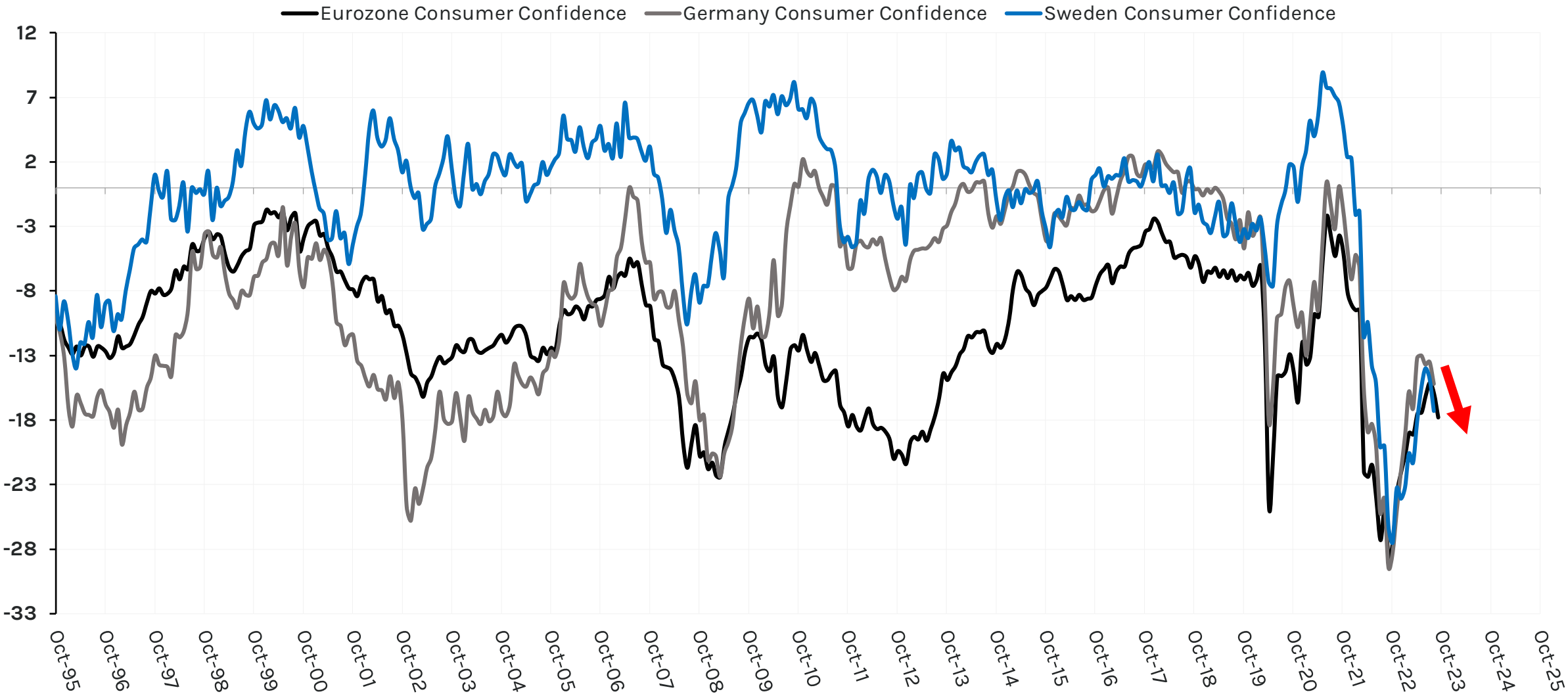


Data Source: European Commission, Kantar Added Value, INSEE National Statistics Office of France, OECD, ISTAT, GfK NOP (UK)

Consumer Confidence ↓

HEDGEYE

Consumer confidence is going lower

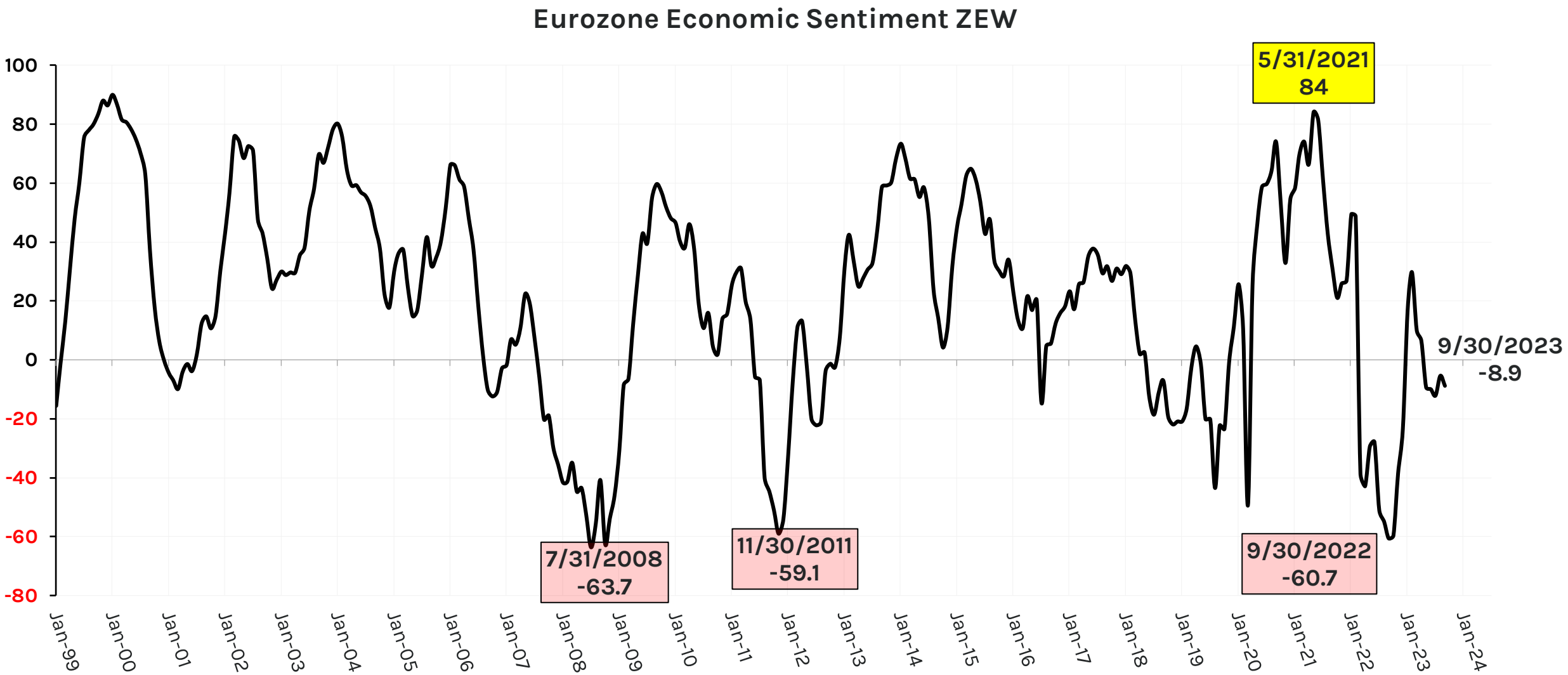


Data Source: European Commission

Eurozone Economic Sentiment

HEDGEYE

Crashing Lower



Data Source: Zew

Strong Dollar & Reflationary Energy Adding Salt to the Wound

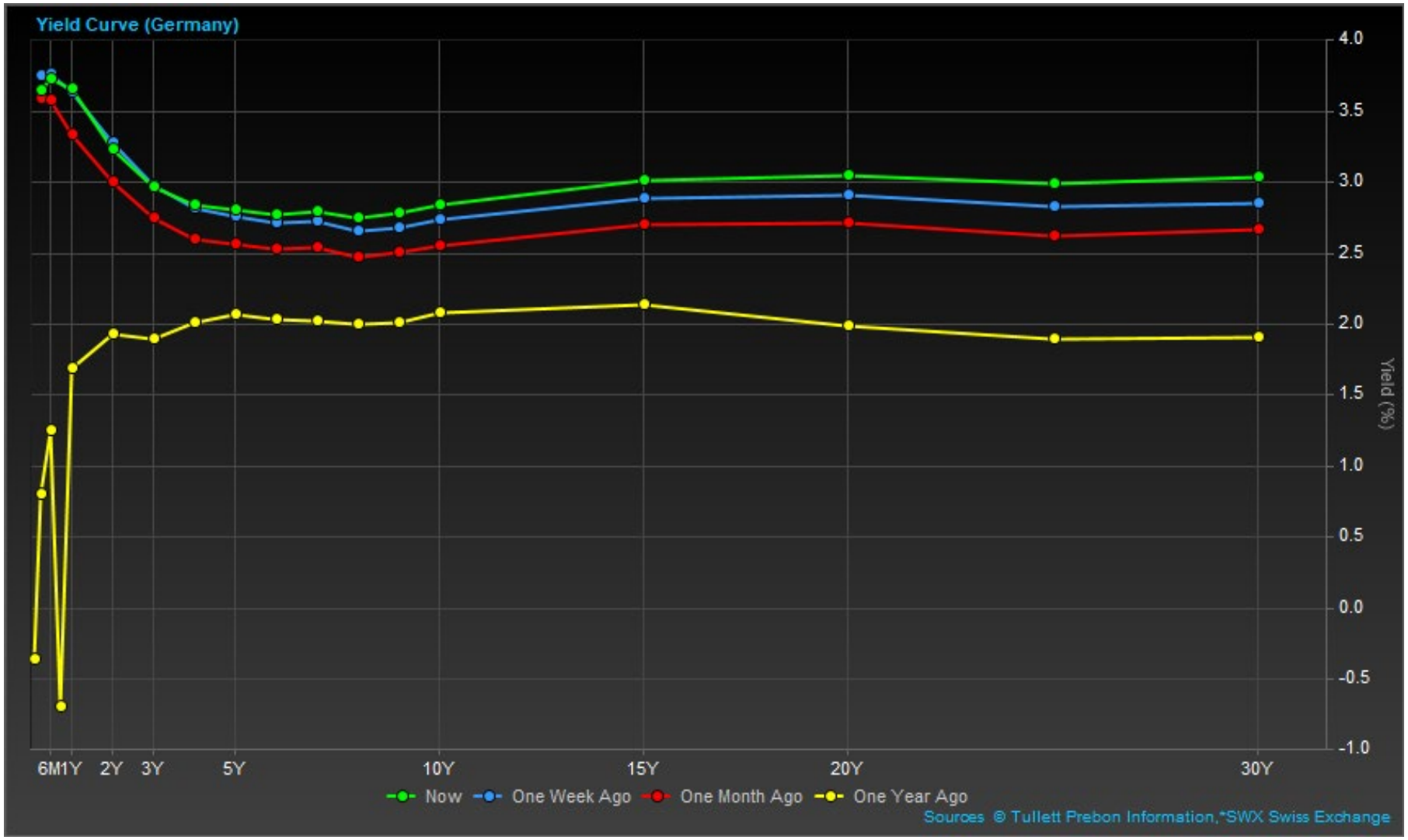
HEDGEYE

Bear Steepening Exacerbates Structural Concerns of Eurozone

Although the ECB had initially tried to tighten as little as possible in consideration of the vulnerabilities of the heavily indebted Euro system, this "wait & see" approach has led to higher and stickier core inflation.

Having since set aside its worries over these aforementioned vulnerabilities in favor of a more expedited inflation resolution, the ECB has played quite a bit of catch-up.

However, the recent bear steepening phenomenon indicates that the Eurozone will need to contend with a higher rate regime for longer thereby greatly dimming the prospects of a balancing act between inflation and structural vulnerabilities.

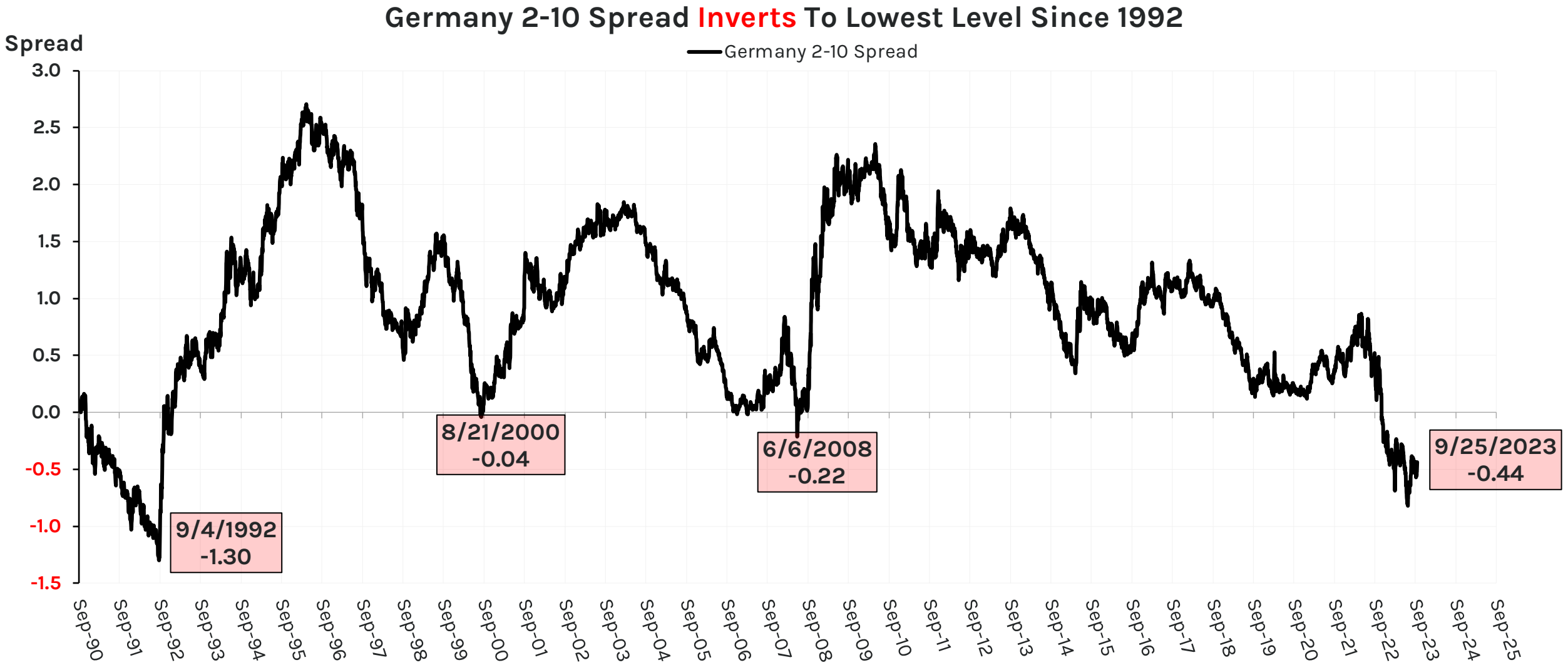


Data Source: Factset

German 2-10 Spread

HEDGEYE

Most deeply inverted in a long time.

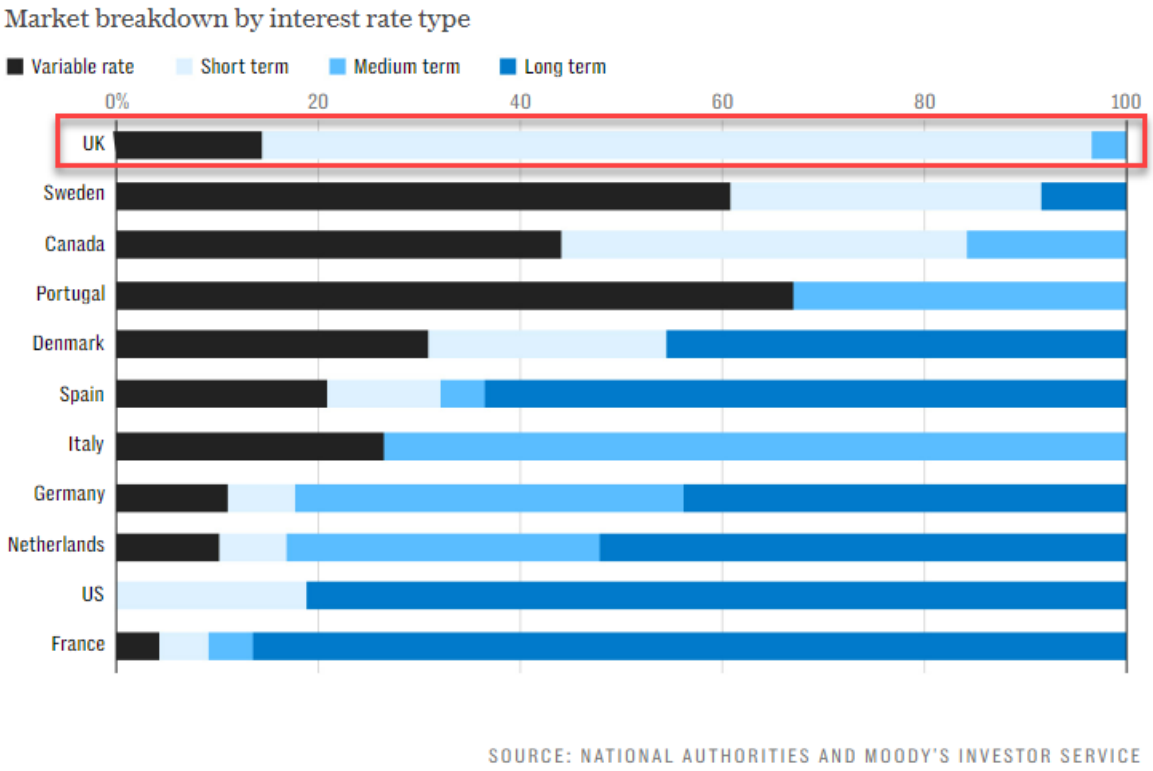


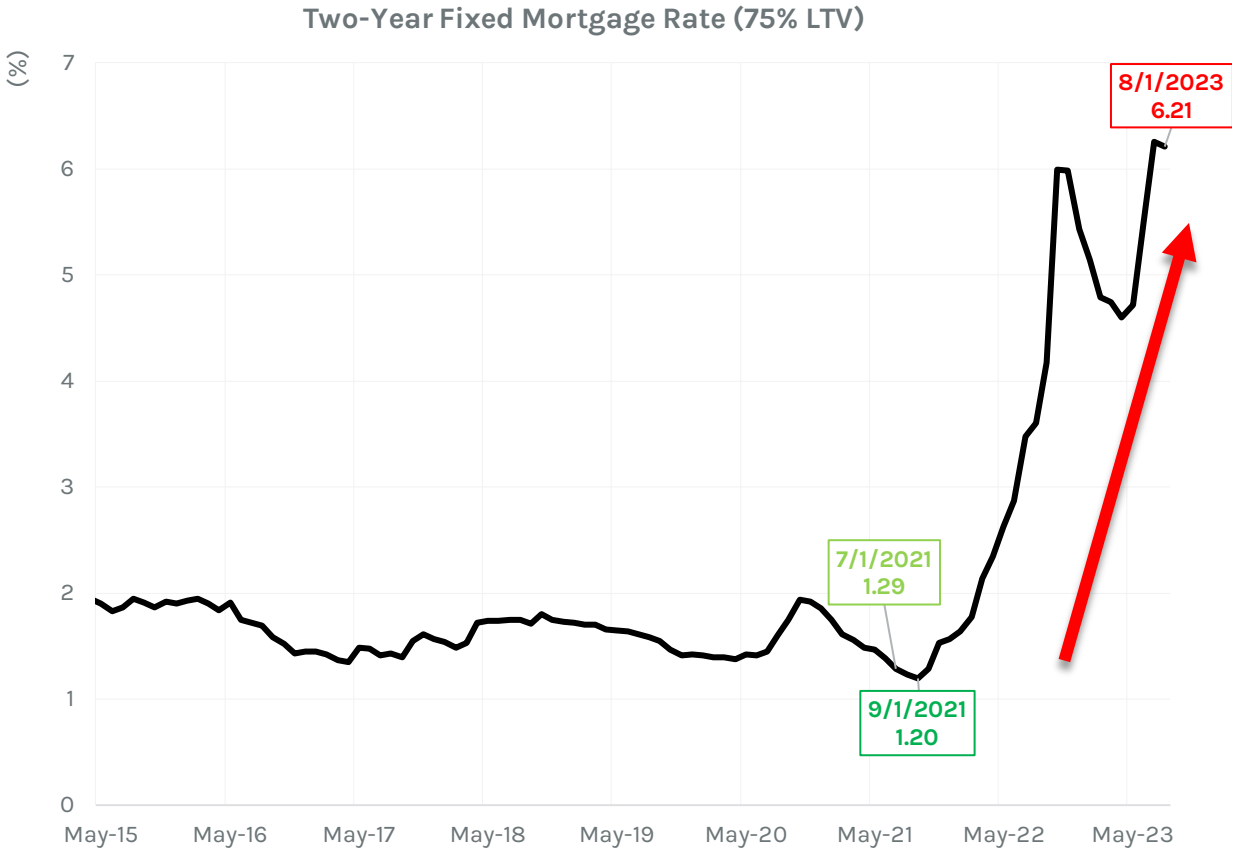
Data Source: Deutsche Bundesbank

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

HEDGEYE

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



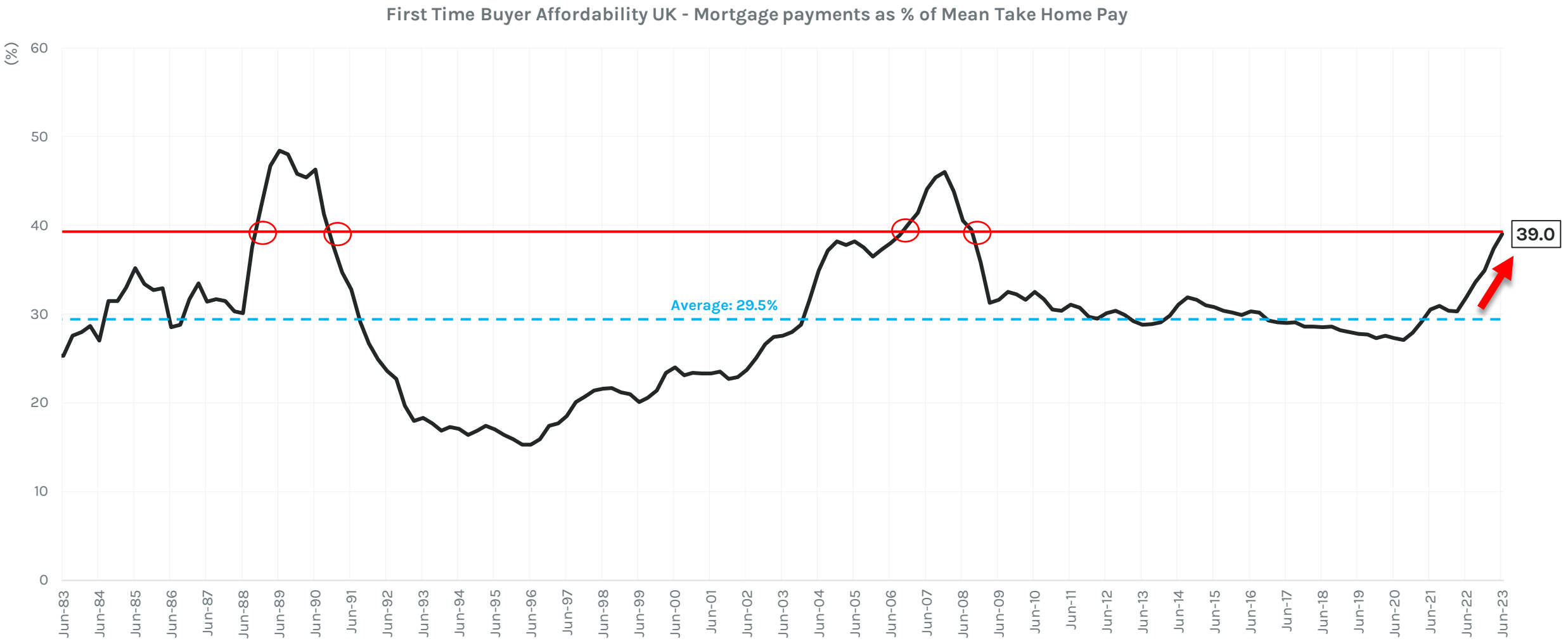


Data Source: National Authorities, Moody's Investor Service, The Telegraph, The Bank of England

The UK Balance Sheet Recession Momentum is Already Building

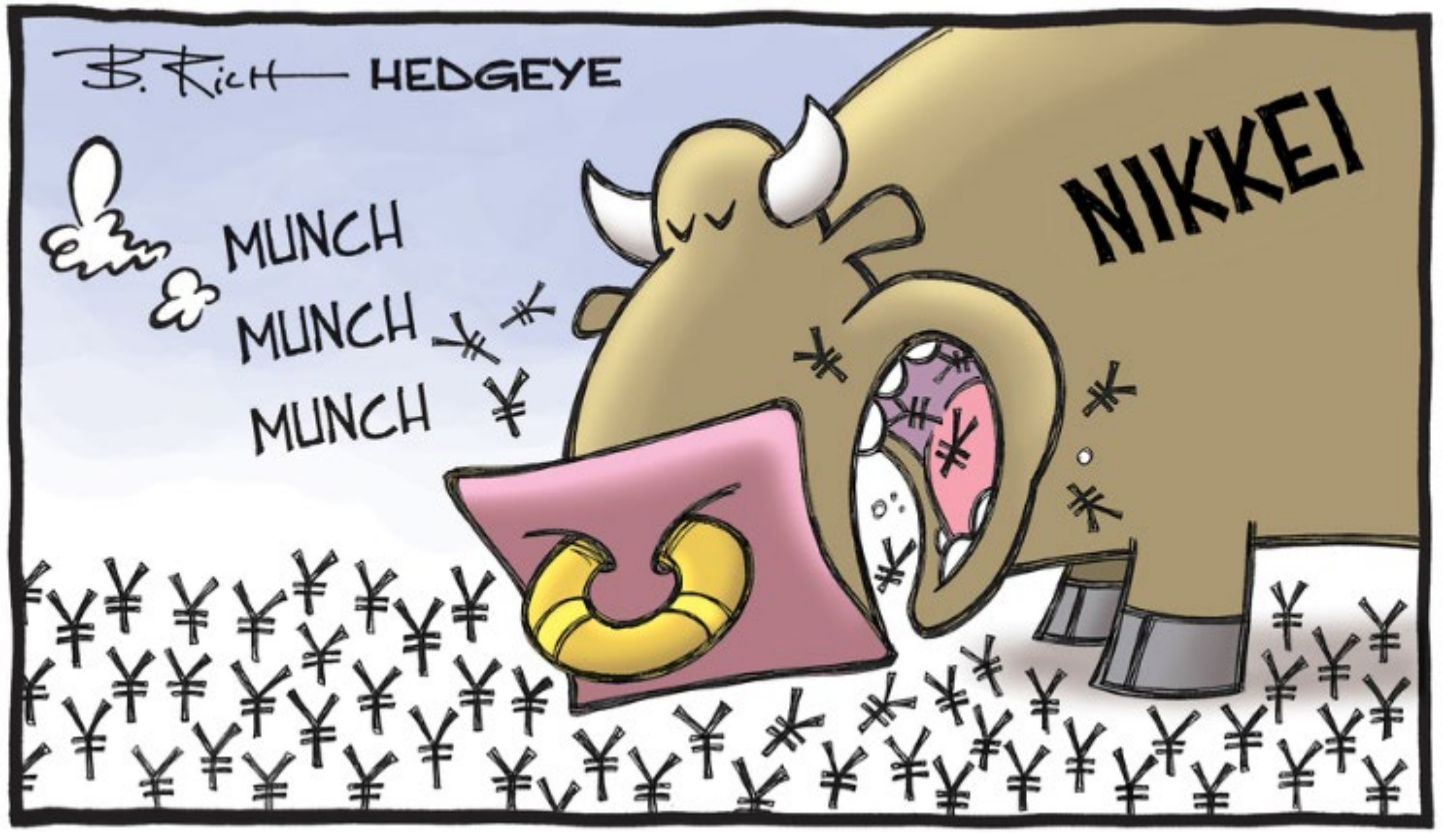
HEDGEYE

Mortgage Debt Servicing has reached this level only five other times since 1983.



Data Source: Nationwide Building Society

Long Japan/India



Favorable Q4 Quad Trajectory: Japan & India

HEDGEYE

G20 GIP Model Summary

9/27/2023	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			
	2Q21	3Q21	4Q21	1Q22	2Q22	3Q22	4Q22	1Q23	2Q23	3Q23E	4Q23E	1Q24E	2Q24E	COUNTRY	2Q23	3Q23E	4Q23E	1Q24E	2Q24E	2Q24E Less 3Q23E	3Q23E	4Q23E	1Q24E	2Q24E	COUNTRY	2Q23	3Q23E	4Q23E	1Q24E	2Q24E	2Q24E Less 3Q23E	3Q23E	4Q23E	1Q24E	2Q24E
Argentina	2	3	4	3	2	3	3	3	3	3	1	1	1	Argentina	-4.90	-5.03	-3.64	-3.55	-0.90	412bps	52	69	51	87	Argentina	112.87	124.49	124.44	124.42	121.41	-308bps	98	50	50	68
Australia	2	4	2	3	2	2	3	3	4	4	1	4	1	Australia	2.07	0.96	1.09	0.71	1.00	4bps	97	56	66	62	Australia	5.91	5.82	5.47	4.98	4.70	-112bps	59	87	98	80
Brazil	2	3	3	2	2	4	4	1	4	3	2	3	3	Brazil	3.40	2.14	2.37	1.43	1.10	-104bps	85	56	76	59	Brazil	3.76	4.57	5.54	5.78	5.98	141bps	86	93	60	59
Canada	2	3	3	3	2	4	4	1	4	3	2	2	4	Canada	1.12	0.15	0.20	0.31	0.29	14bps	80	52	53	51	Canada	3.53	3.73	3.85	4.07	4.02	28bps	65	58	65	54
China	3	4	3	1	3	2	4	4	1	4	2	3	2	**China**	5.20	3.56	4.31	3.21	3.81	25bps	83	65	72	62	**China**	0.10	-0.07	-0.05	0.57	0.58	65bps	58	51	81	51
Eurozone	2	3	2	2	3	3	3	4	4	4	4	2	1	**Eurozone**	0.50	0.34	0.28	0.42	0.81	46bps	54	52	54	61	**Eurozone**	6.20	5.03	3.93	4.18	4.13	-90bps	98	98	66	53
France	2	3	2	3	3	3	3	2	1	4	4	1	1	France	0.97	0.52	0.40	0.61	0.81	29bps	63	53	56	56	France	6.08	5.52	5.05	4.60	4.22	-130bps	97	89	88	82
Germany	2	3	3	2	3	3	3	4	4	4	1	3	1	Germany	-0.62	-0.65	0.21	0.05	0.66	131bps	51	74	55	67	Germany	6.90	5.97	4.37	5.08	4.93	-103bps	98	98	95	59
India	2	4	4	3	2	4	4	2	1	3	2	4	3	India	7.82	5.95	6.02	5.84	5.70	-25bps	80	51	53	52	India	4.63	7.12	7.41	6.71	7.03	-10bps	98	67	91	69
Indonesia	2	3	2	3	2	2	3	1	1	1	4	4	4	Indonesia	5.17	5.19	4.85	4.68	4.47	-71bps	51	72	61	63	Indonesia	3.95	3.00	2.76	2.64	2.54	-46bps	98	63	56	56
Italy	2	3	2	3	3	3	3	1	4	1	4	3	2	Italy	0.40	0.63	0.31	-0.01	0.48	-14bps	56	58	58	63	Italy	7.77	5.65	3.17	3.52	3.73	-192bps	98	98	70	62
Japan	1	3	3	3	2	3	3	1	4	1	1	4	4	Japan	1.60	1.65	1.75	1.35	0.90	-75bps	52	53	62	64	Japan	3.33	3.13	2.33	2.27	1.60	-153bps	65	98	55	98
Mexico	2	4	3	2	2	2	4	4	4	4	1	3	3	Mexico	3.59	2.63	2.89	2.37	1.94	-70bps	68	55	60	58	Mexico	5.71	4.62	4.29	4.42	5.04	42bps	98	74	60	93
Russia	2	3	2	3	3	1	1	1	1	3	3	2	2	Russia	4.85	2.71	1.61	1.82	1.95	-76bps	98	76	55	53	Russia	2.69	4.85	5.40	5.50	5.82	97bps	98	63	53	58
South Africa	2	3	3	2	3	2	4	4	1	4	1	3	2	South Africa	1.60	-0.38	0.92	0.67	1.12	150bps	97	81	56	61	South Africa	6.17	4.77	4.62	4.67	4.67	-10bps	98	59	53	50
South Korea	2	3	2	3	3	2	4	4	4	1	2	2	1	South Korea	0.90	1.17	2.22	2.47	2.57	140bps	66	98	65	56	South Korea	3.23	3.08	3.15	3.28	3.23	15bps	62	56	61	54
Spain	2	3	2	3	2	3	4	1	4	4	3	1	2	Spain	2.20	1.29	0.79	1.12	1.39	10bps	69	60	57	56	Spain	2.77	2.43	3.13	2.87	3.45	102bps	68	88	64	81
Turkey	2	3	2	3	3	3	4	1	4	2	3	1	1	Turkey	3.84	5.23	3.52	3.80	3.86	-137bps	76	82	55	51	Turkey	40.49	54.64	56.76	54.06	51.41	-323bps	98	74	81	81
United Kingdom	2	3	2	2	3	3	3	4	1	4	1	4	1	United Kingdom	0.40	0.29	0.35	0.24	0.40	11bps	52	51	52	53	United Kingdom	8.43	6.72	5.42	5.03	4.45	-227bps	98	98	75	87
United States	2	3	2	3	3	1	4	1	1	1	3	3	3	**United States**	2.47	2.55	1.67	0.98	0.43	-211bps	53	82	75	69	**United States**	3.98	3.53	3.57	3.60	3.63	9bps	77	52	52	52
MODE/MEDIAN	2	3	2	3	3	3	4	1	4	4	1	3	1	MODE/MEDIAN	1.84	1.23	1.35	1.05	1.05	-18bps	67	59	56	60	MODE/MEDIAN	5.17	4.81	4.33	4.51	4.33	-48bps	98	74	65	61

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

HEDGEYE JAPAN NOWCAST MODEL SUMMARY	Jan-22	Feb-22	Mar-22	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	2Q23	3Q23	Δ
Retail Sales YoY (3)	1.20	-1.00	0.60	3.10	3.70	1.50	2.40	4.10	4.80	4.40	2.40	3.90	4.90	7.40	6.90	5.10	5.80	5.60	7.00	-	-	5.50	7.00	1.50
Industrial Production YoY (1)	-0.72	0.00	-1.58	-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	-	-	1.18	-2.32	-3.49
Exports YoY (2)	9.53	19.05	14.65	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	-	1.57	-0.57	-2.15
Manufacturing PMI (5)	55.4	52.7	54.1	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	48.6	50.0	49.3	-0.70
Consumer Confidence (4)	36.8	35.5	32.5	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	-	35.9	36.7	0.78
Business Confidence (6)	43.6	46.5	48.4	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	-	54.5	51.5	-3.03
Headline CPI YoY (7)	0.50	0.90	1.20	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	-	3.33	3.25	-0.08
Core CPI YoY (9)	0.20	0.60	0.80	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	-	3.30	3.10	-0.20
Headline PPI YoY (8)	9.20	9.50	9.50	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	3.40	3.20	-	5.00	3.30	-1.70
Benchmark Equity Market - Mean Closing Price	1,209	1,179	1,158	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	1,458	1,305	1,417	112
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	-0.10	0.00
1Y OIS Spread - Mean Closing Price	0.55	0.56	0.79	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	1.16	0.84	1.15	0.30
2Y Sovereign Note Yield - Mean Closing Price	-0.07	-0.03	-0.03	-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	-0.05	0.00	0.05
10Y Sovereign Note Yield - Mean Closing Price	0.14	0.21	0.20	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	0.70	0.43	0.60	0.17
10Y Breakeven Rate - Mean Closing Price	0.55	0.56	0.79	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	1.16	0.84	1.15	0.30
JPY - Mean Closing Price	114.86	115.23	118.70	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	147.73	137.39	144.55	7.16
Real Effective Exchange Rate	86.7	85.9	84.0	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	73.2	-	75.9	73.8	-2.18

Data Source: Eurostat

India Nowcast

HEDGEYE

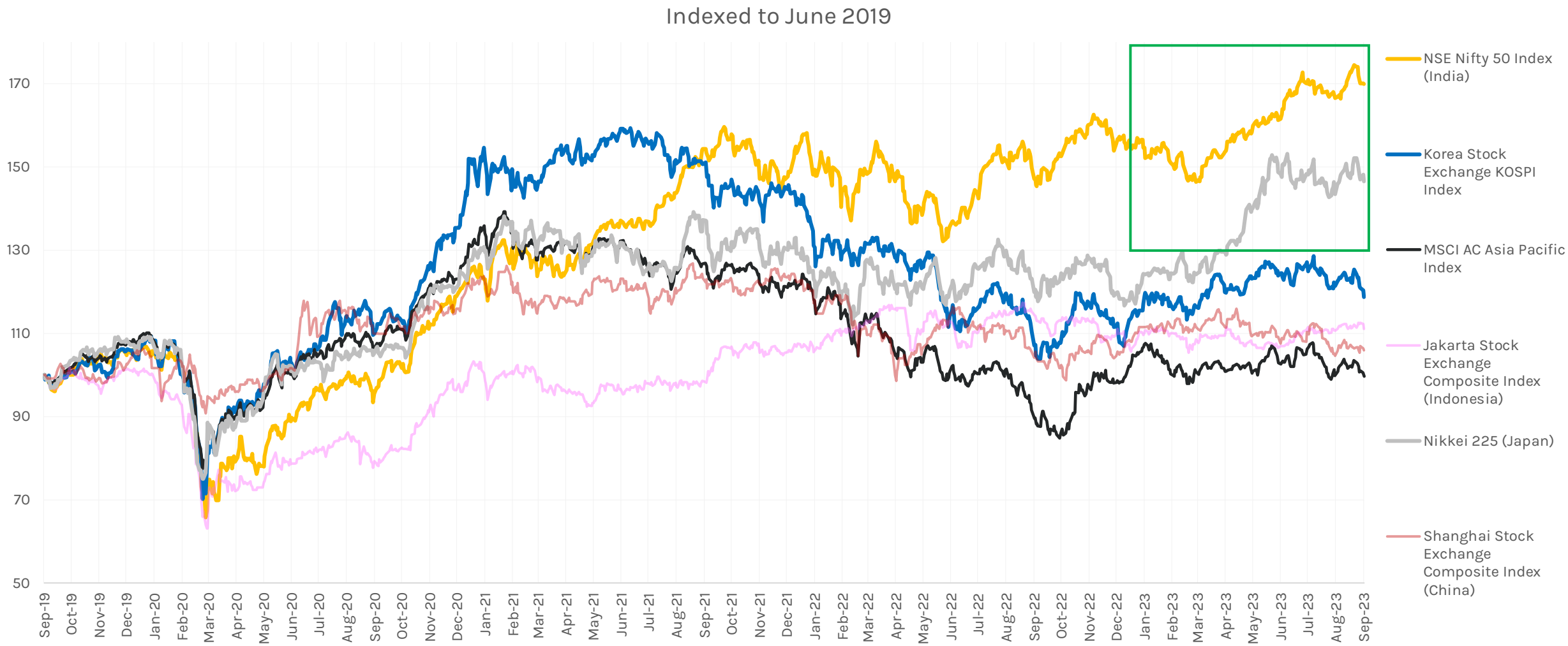
HEDGEYE INDIA NOWCAST MODEL SUMMARY	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	2Q23	3Q23	Δ
Industrial Production YoY (1)	1.98	1.15	2.20	6.66	19.72	12.62	2.21	-0.68	3.32	-4.07	7.58	5.12	5.81	6.01	1.95	4.61	5.30	3.76	5.65	-	-	4.56	5.65	1.10
Exports YoY (3)	27.57	28.96	25.44	33.68	27.22	31.11	9.10	8.98	14.32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Manufacturing PMI (2)	54.0	54.9	54.0	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	-	57.9	58.2	0.25
Headline CPI YoY (n/a)	6.01	6.07	6.95	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	-	4.63	7.13	2.51
Headline PPI YoY (n/a)	9.50	10.24	11.26	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	-2.51	-2.37	-	-2.70	-2.44	0.25
Benchmark Equity Market - Mean Closing Price	2,072	1,997	1,963	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	2,240	2,028	2,203	175
Benchmark Policy Rate - Mean Closing Price	4.00	4.00	4.00	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	0.00
1Y OIS Spread - Mean Closing Price	41	38	48	89	168	156	139	84	116	113	89	49	44	43	36	12	7	15	30	44	55	11	43	32
2Y Sovereign Note Yield - Mean Closing Price	4.71	4.89	4.99	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	6.90	7.09	0.19
10Y Sovereign Note Yield - Mean Closing Price	6.60	6.75	6.83	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	7.08	7.16	0.08
INR - Mean Closing Price	74.41	75.01	76.26	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	83.05	82.20	82.66	0.46
Real Effective Exchange Rate	101.2	99.7	99.5	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	99.2	101.6	101.4	-	97.8	101.5	3.67

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

India & Japan Outperforming YTD in the APAC Region

HEDGEYE

Equity Performance



Data Source: Factset

India & Japan Outperforming YTD in the APAC Region

HEDGEYE

Equity Performance

	1W	1M	2M	3M	6M	9M	12M	24M	36M
MSCI AC Asia Pacific Index	-3.1%	-0.2%	-6.5%	-2.9%	-1.2%	1.4%	11.2%	-21.4%	-6.3%
Korea Stock Exchange KOSPI Index	-3.8%	-2.2%	-5.0%	-4.6%	2.0%	6.3%	10.9%	-21.2%	8.1%
NSE Nifty 50 Index (India)	-2.3%	2.1%	-0.6%	5.2%	16.0%	9.2%	15.6%	10.1%	78.0%
Jakarta Stock Exchange Composite Index (Indonesia)	-0.8%	0.4%	-0.4%	3.9%	2.4%	1.3%	-2.9%	12.7%	40.0%
Nikkei 225 (Japan)	-2.8%	2.2%	-1.1%	-1.2%	18.0%	22.4%	22.3%	6.8%	39.3%
Shanghai Stock Exchange Composite Index (China)	-0.7%	1.2%	-3.7%	-1.5%	-5.0%	1.2%	1.7%	-14.1%	-3.6%

Data Source: Factset

2-10 Spreads

Japan and India are +/benign.

Japan's 2-10 Yield Spread is currently +71 bps, making it among the most auspicious across all countries. In fact, among all Developed Economies, Japan's current yield spread is the most positively sloped.

India's 2-10 Yield Spread is currently at 0 bps. While not remarkably positive like Japan's nor is it particularly inverted like those of the US, Canada or Mexico.

					DoD		WoW		MoM	
2-10 Spread	Last Px	1 Day Ago	1 Wk Ago	4 Wks Ago	Δ	%Δ	Δ	%Δ	Δ	%Δ
United States	-0.59	-0.68	-0.70	-0.79	8 bps	-12.2%	11 bps	-15.2%	19 bps	-24.4%
Japan	0.71	0.71	0.69	0.64	-1 bps	-0.7%	2 bps	3.2%	7 bps	10.6%
Germany	-0.44	-0.52	-0.54	-0.45	8 bps	-15.4%	10 bps	-18.7%	1 bps	-1.3%
United Kingdom	-0.49	-0.55	-0.66	-0.51	6 bps	-11.0%	17 bps	-25.6%	1 bps	-2.4%
France	-0.17	-0.24	-0.28	-0.21	7 bps	-30.7%	11 bps	-39.3%	4 bps	-18.5%
Italy	0.71	0.63	0.58	0.53	8 bps	13.6%	13 bps	23.1%	18 bps	34.2%
Canada	-0.92	-1.00	-0.99	-1.07	8 bps	-8.1%	7 bps	-7.4%	15 bps	-14.3%
South Korea	0.15	0.14	0.06	0.12	1 bps	8.9%	9 bps	137.1%	2 bps	20.5%
Australia	0.29	0.29	0.25	0.28	0 bps	0.0%	4 bps	15.3%	0 bps	1.8%
Spain	0.23	0.19	0.16	0.19	4 bps	19.3%	6 bps	39.6%	4 bps	23.1%
Mexico	-0.79	-0.87	-0.84	-1.09	7 bps	-8.5%	5 bps	-6.2%	30 bps	-27.5%
Indonesia	0.43	0.42	0.35	0.25	0 bps	0.9%	8 bps	22.8%	17 bps	67.7%
Netherlands	-0.17	-0.26	-0.28	-0.20	9 bps	-33.2%	10 bps	-37.8%	3 bps	-14.5%
Switzerland	-0.14	-0.17	-0.22	-0.11	4 bps	-21.8%	9 bps	-39.0%	-2 bps	20.4%
Sweden	-0.62	-0.67	-0.65	-0.69	5 bps	-7.5%	3 bps	-5.1%	7 bps	-10.7%
Poland	0.76	0.71	0.76	0.30	5 bps	7.4%	0 bps	-0.1%	46 bps	151.5%
Belgium	-0.01	-0.09	-0.09	0.01	8 bps	-89.9%	8 bps	-90.2%	-2 bps	-164.3%
Thailand	0.60	0.62	0.53	0.47	-2 bps	-3.6%	6 bps	11.8%	12 bps	25.9%
Austria	-0.13	-0.22	-0.21	-0.11	9 bps	-41.7%	9 bps	-40.3%	-2 bps	14.5%
Norway	-0.34	-0.38	-0.38	-0.44	4 bps	-10.3%	4 bps	-10.0%	10 bps	-22.7%
Ireland	-0.09	-0.16	-0.17	-0.15	7 bps	-44.3%	9 bps	-49.4%	6 bps	-39.3%
Denmark	-0.21	-0.27	-0.31	-0.29	5 bps	-20.0%	10 bps	-31.4%	8 bps	-26.6%
Singapore	-0.23	-0.23	-0.26	-0.37	0 bps	0.1%	3 bps	-13.4%	14 bps	-38.8%
Malaysia	0.55	0.56	0.50	0.48	-1 bps	-2.1%	5 bps	9.8%	7 bps	14.9%
Colombia	1.32	1.28	0.91	0.94	4 bps	3.1%	41 bps	44.5%	37 bps	39.6%
Philippines	-0.10	-0.08	-0.07	-0.14	-2 bps	25.6%	-3 bps	43.1%	4 bps	-25.4%
Finland	-0.10	-0.19	-0.19	-0.18	9 bps	-49.2%	10 bps	-51.0%	8 bps	-46.6%
Portugal	0.32	0.26	0.24	0.26	6 bps	24.7%	9 bps	35.7%	6 bps	22.3%
Czech Republic	-1.02	-1.03	-1.20	-1.19	1 bps	-0.9%	18 bps	-14.7%	17 bps	-14.3%
New Zealand	-0.49	-0.53	-0.53	-0.53	4 bps	-6.9%	4 bps	-8.3%	4 bps	-7.9%
Greece	0.76	0.70	0.63	0.60	5 bps	7.8%	13 bps	21.0%	15 bps	25.4%
India	0.00	0.04	0.09	0.11	-4 bps	-102.6%	-9 bps	-101.2%	-11 bps	-100.9%
Brazil	1.13	1.10	1.09	0.99	3 bps	3.0%	5 bps	4.2%	14 bps	14.5%

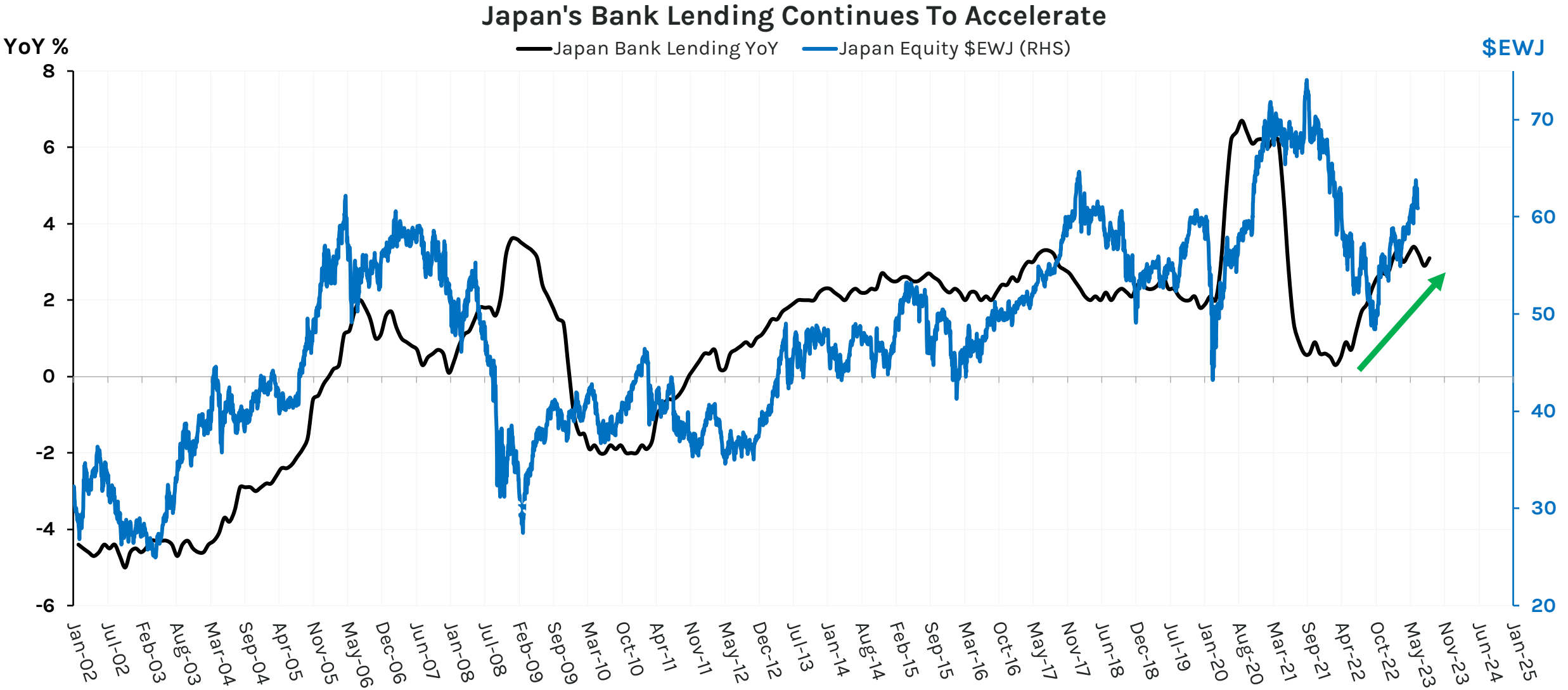
HEDGEYE

Data Source: Factset, Hedgeye Estimates

Japanese Bank Lending ↑

HEDGEYE

The last decade or so have seen RoC in Japanese Bank Lending lead Japanese Equities

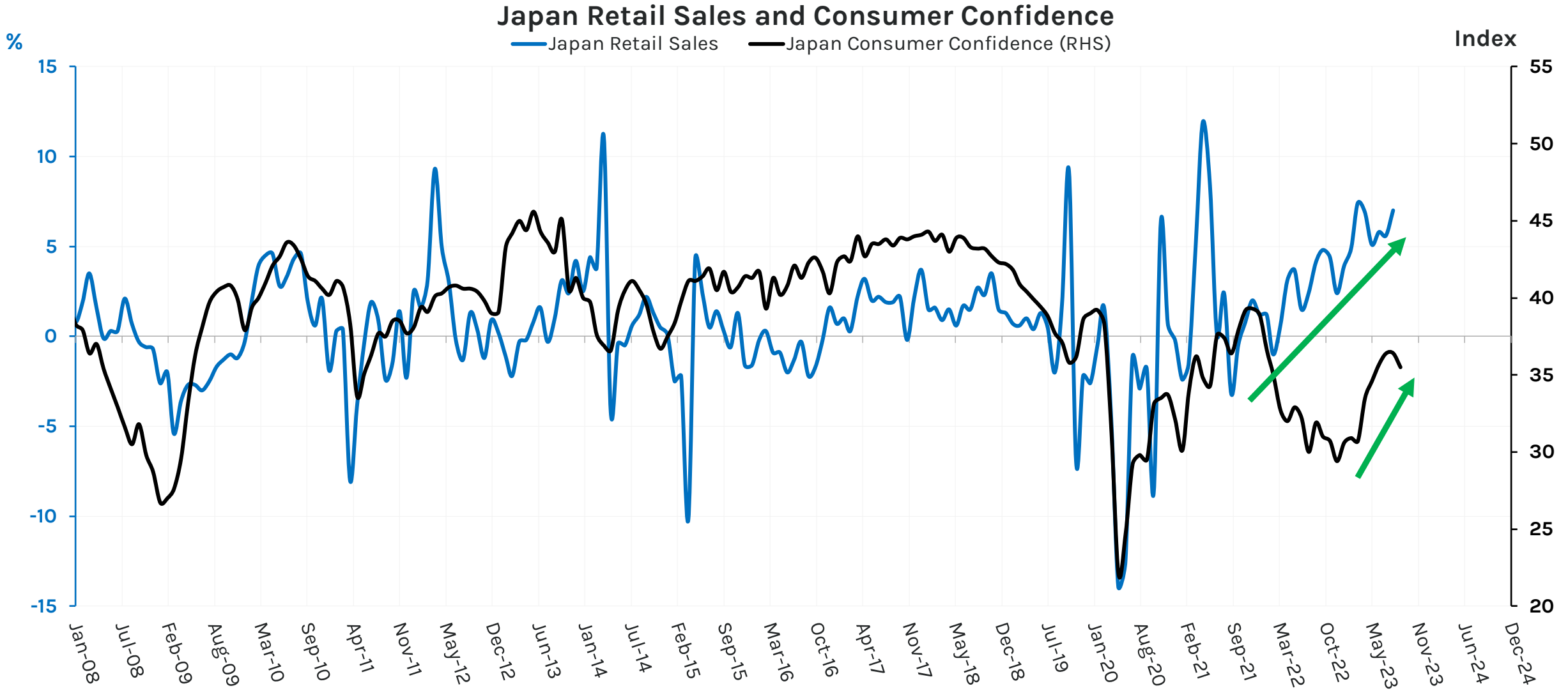


Data Source: Bank of Japan

Japanese Consumer Confidence and Retail Sales ↑

HEDGEYE

Confidence & Sales are rebounding across Japan.

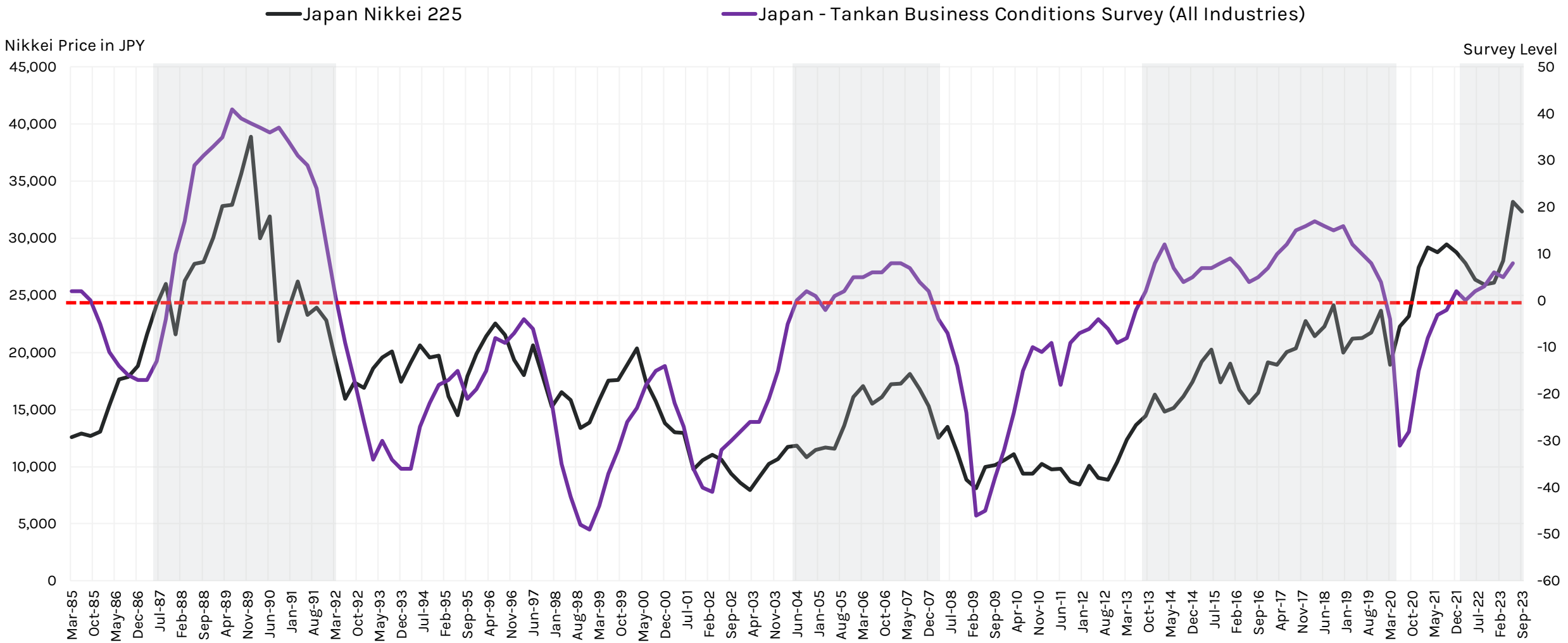


Data Source: Ministry of Economy Trade and Industry Japan

Japanese Tankan Conditions Positive/Improving

HEDGEYE

Positive/Improving Tankan Business Conditions have been positively correlated with/led Nikkei performance historically.



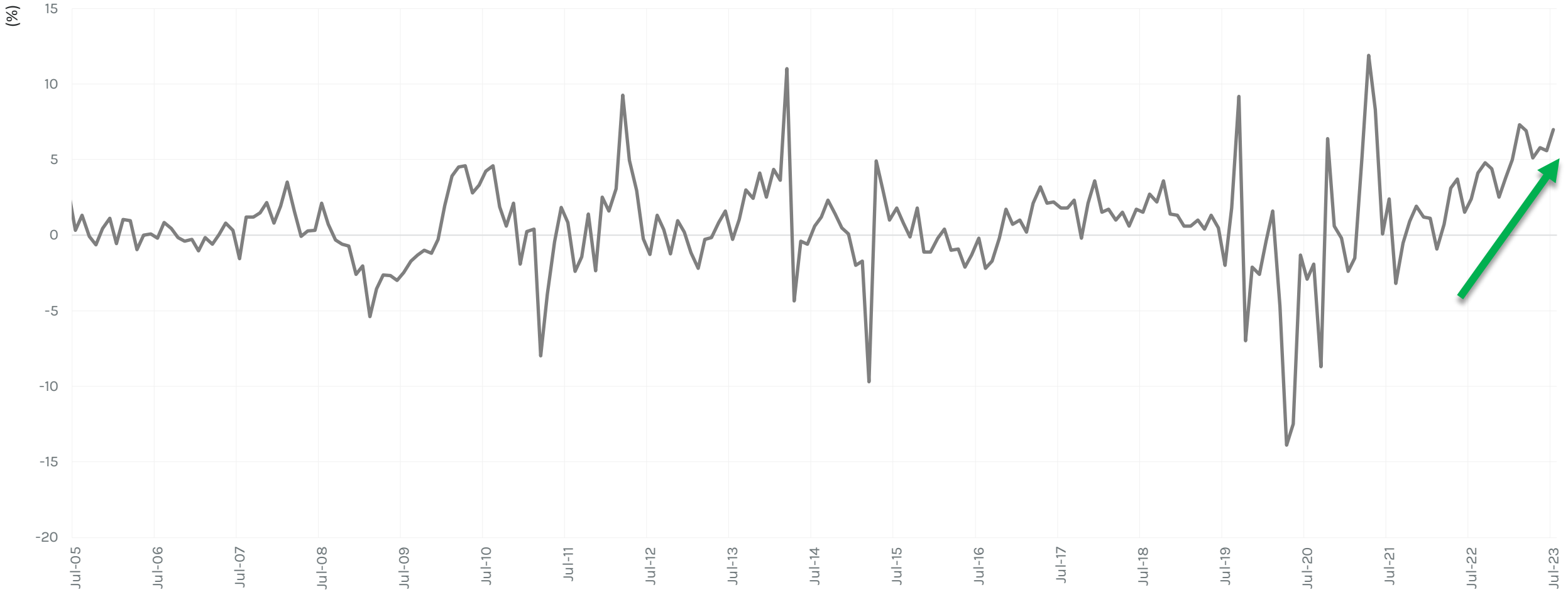
Data Source: Bank of Japan, FactSet

Retail Sales

HEDGEYE

Japanese Retail Sales in Strong Uptrend

Japan:



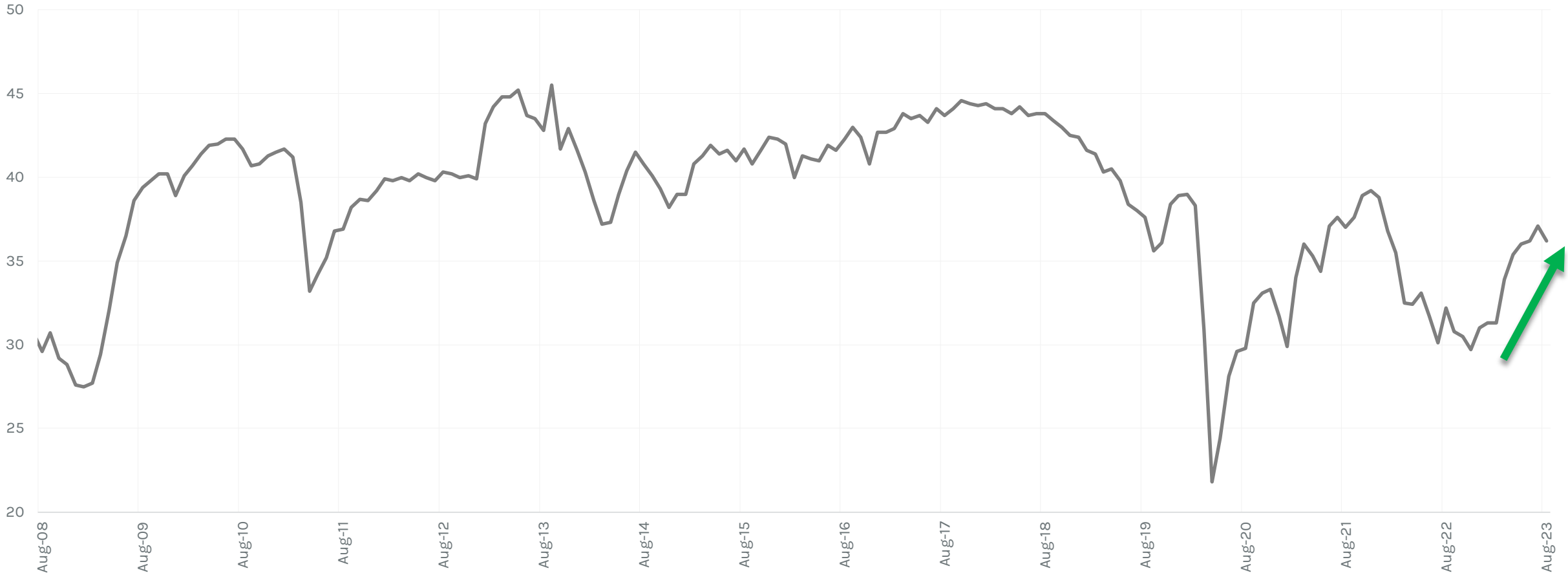
Data Source: Japanese Ministry of Economy Trade & Industry, Central Statistics Office of India, Statistics Korea

Japanese Consumer Confidence is Still at Local Highs

HEDGEYE

Consumer Confidence

Japan:

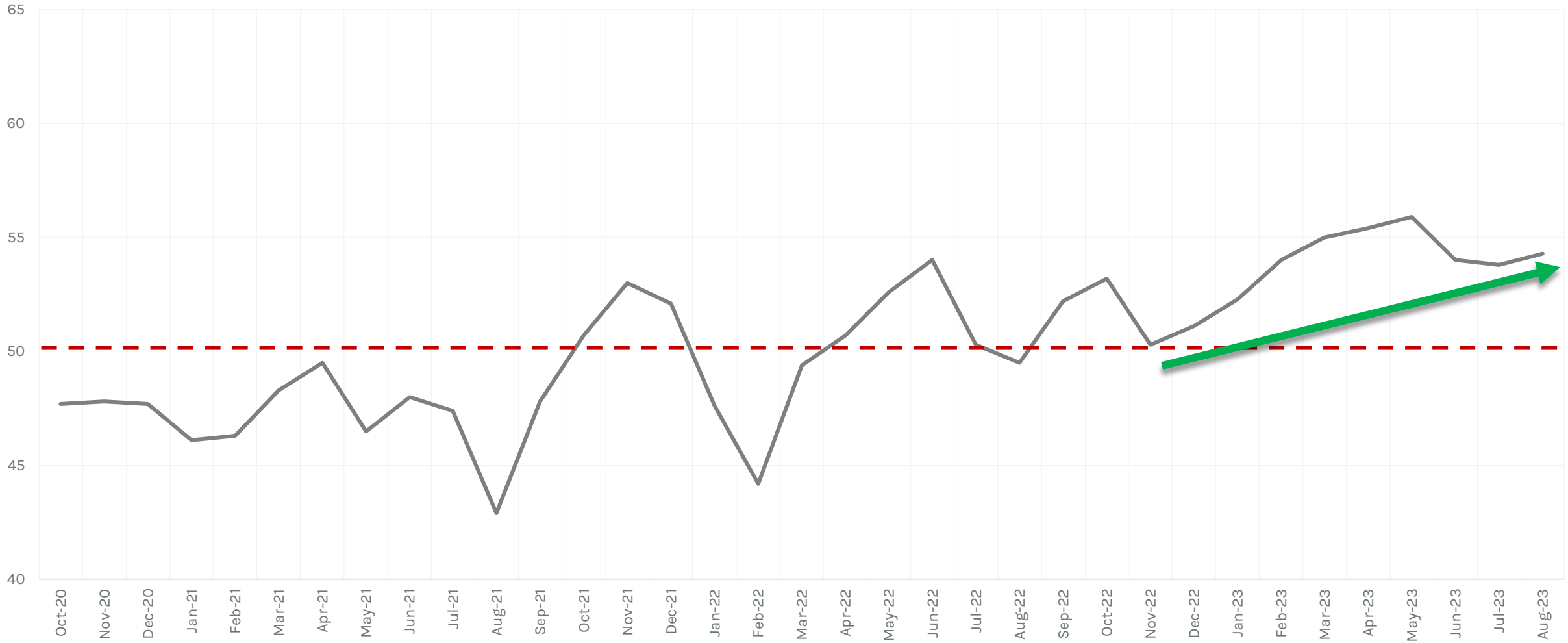


Data Source: Economic and Social Research Institute Japan, Bank of Korea

Services Economy Rebound

HEDGEYE

Japan Services PMI

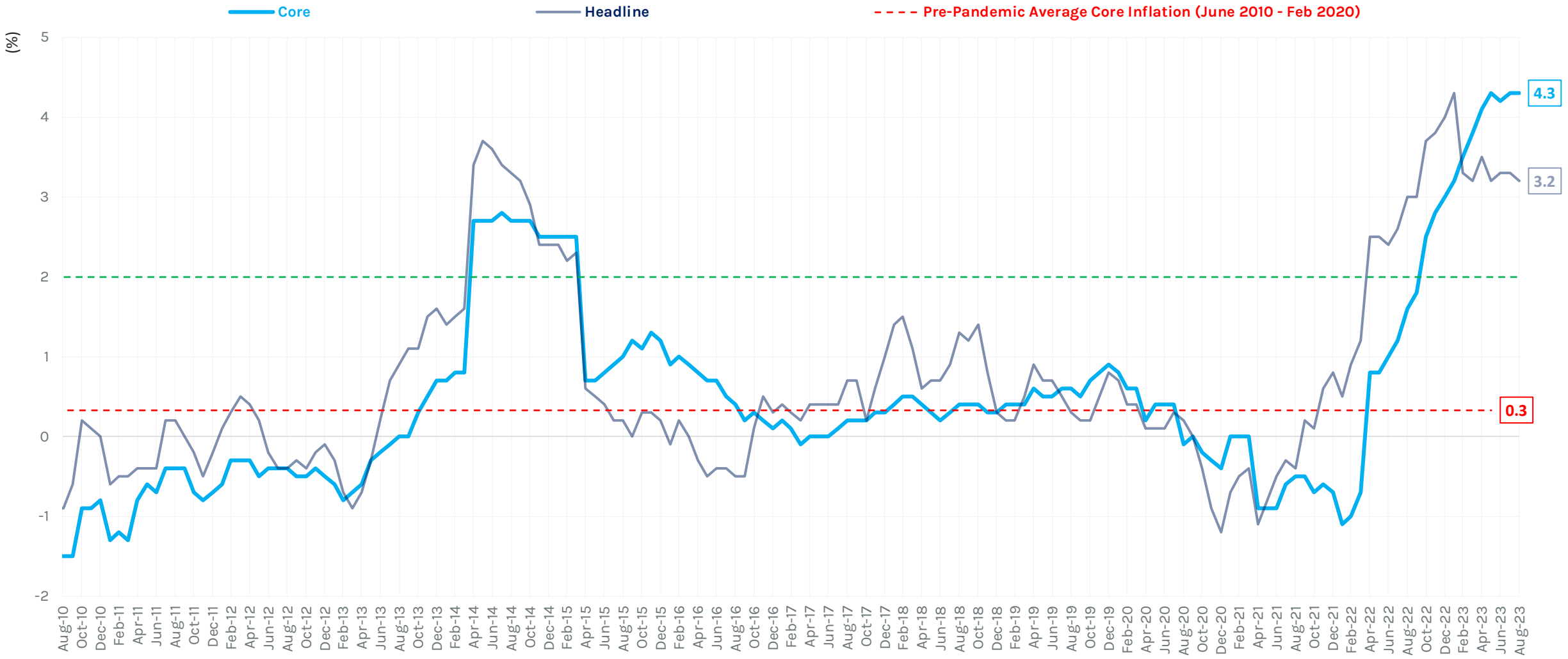


Data Source: Jibun Bank, S&P Global

A Bit Of Overshooting To Offset Years Of Undershooting

HEDGEYE

After decades of trying to escape deflation's gravity, Japanese Core Inflation of 4.3% is well above the 2% target.



Data Source: Japanese Ministry of Internal Affairs and Communications

Bank of Japan Reiterates Positive View

HEDGEYE

"For the time being, Japan's economy is likely to continue recovering moderately, supported by the materialization of pent-up demand, as well as by factors such as accommodative financial conditions and the government's economic measures" – BOJ

I. Current Situation of Economic Activity and Prices in Japan

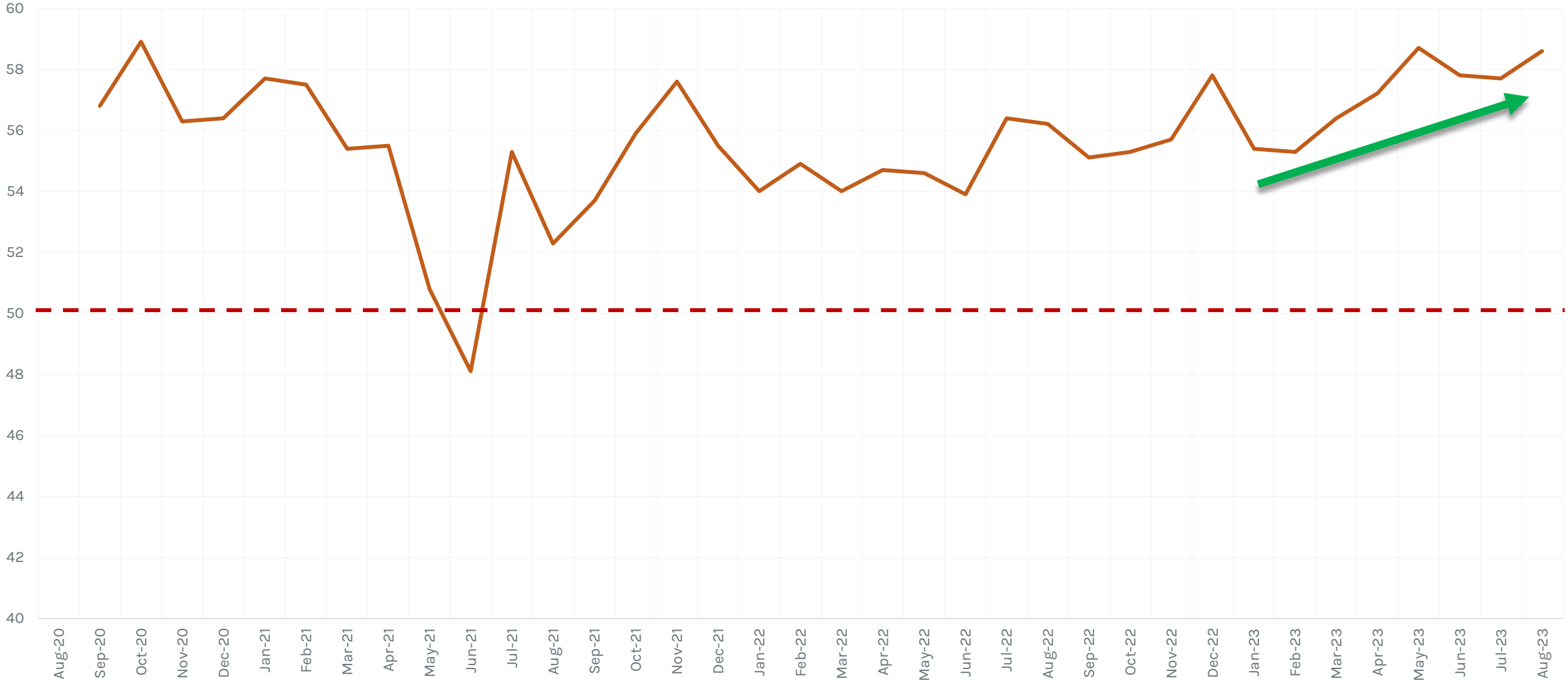
Japan's economy has recovered moderately. The pace of recovery in overseas economies has slowed. Although exports and industrial production have been affected by the developments in overseas economies, they have been more or less flat, supported by a waning of the effects of supply-side constraints. Corporate profits have been at high levels on the whole, and business sentiment has improved moderately. In this situation, business fixed investment has increased moderately. The employment and income situation has improved moderately. Private consumption has increased steadily at a moderate pace, despite being affected by price rises. Housing investment has been relatively weak. Public investment has increased moderately. Financial conditions have been accommodative. On the price front, the year-on-year rate of increase in the CPI (all items less fresh food) is slower than a while ago, mainly due to the effects of pushing down energy prices from the government's economic measures, but it has been in the range of 3.0-3.5 percent recently owing to the effects of a pass-through to consumer prices of cost increases led by the past rise in import prices. Inflation expectations have shown some upward movements again.

Data Source: Bank of Japan

Domestic Demand Powering Reacceleration in India's Manufacturing Sector

HEDGEYE

India Manufacturing PMI

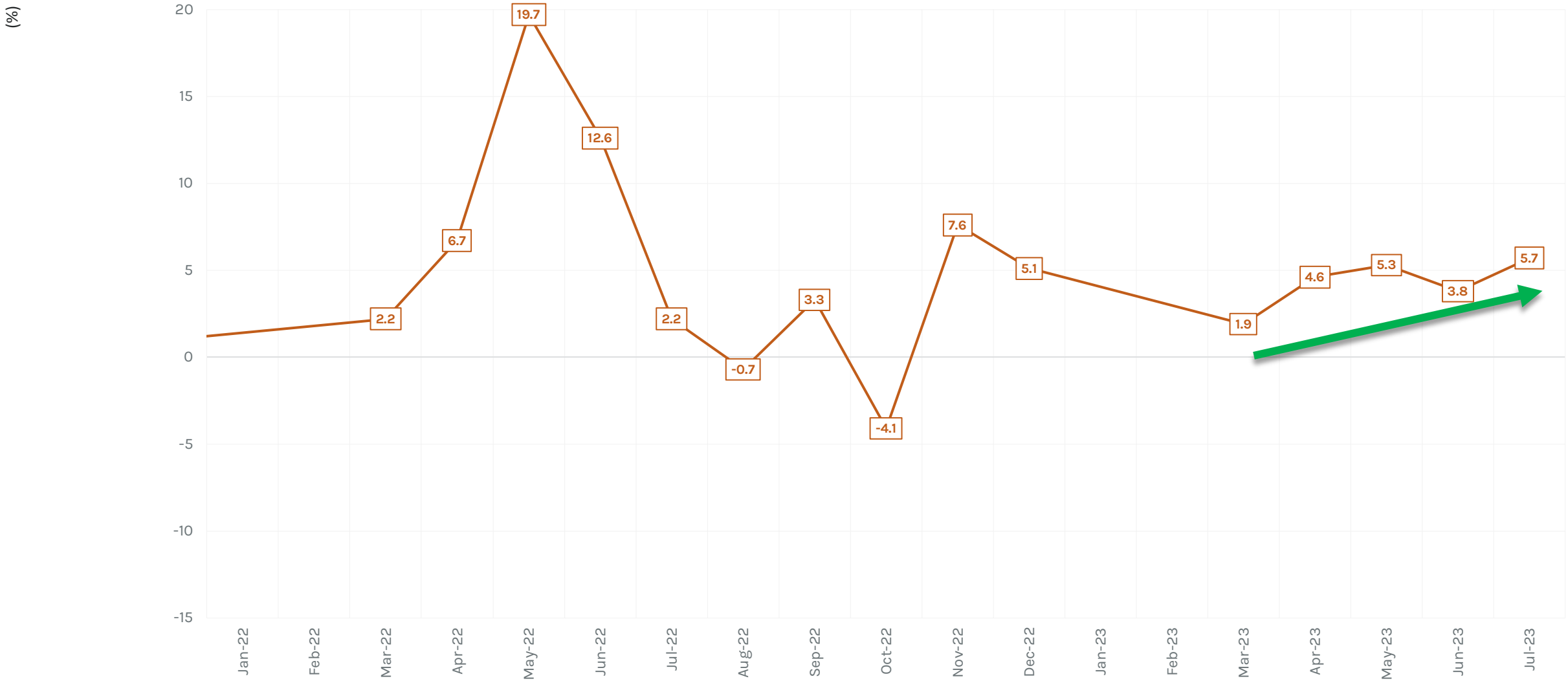


Data Source: Jibun Bank, S&P Global

Domestic Demand Powering Reacceleration in India's Manufacturing Sector

HEDGEYE

India Industrial Production YoY

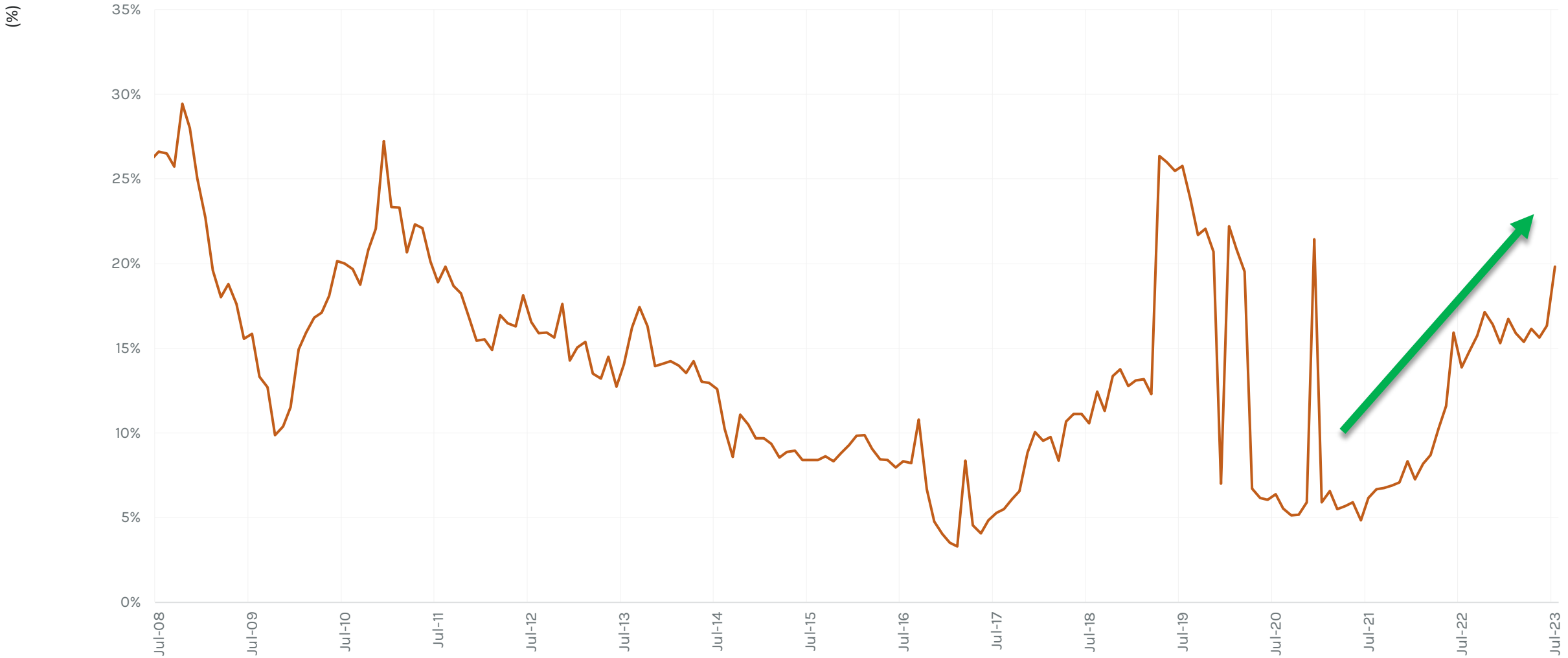


Data Source: Central Statistics Office of India

India: Accelerating Credit Growth

HEDGEYE

India Bank Loan Growth

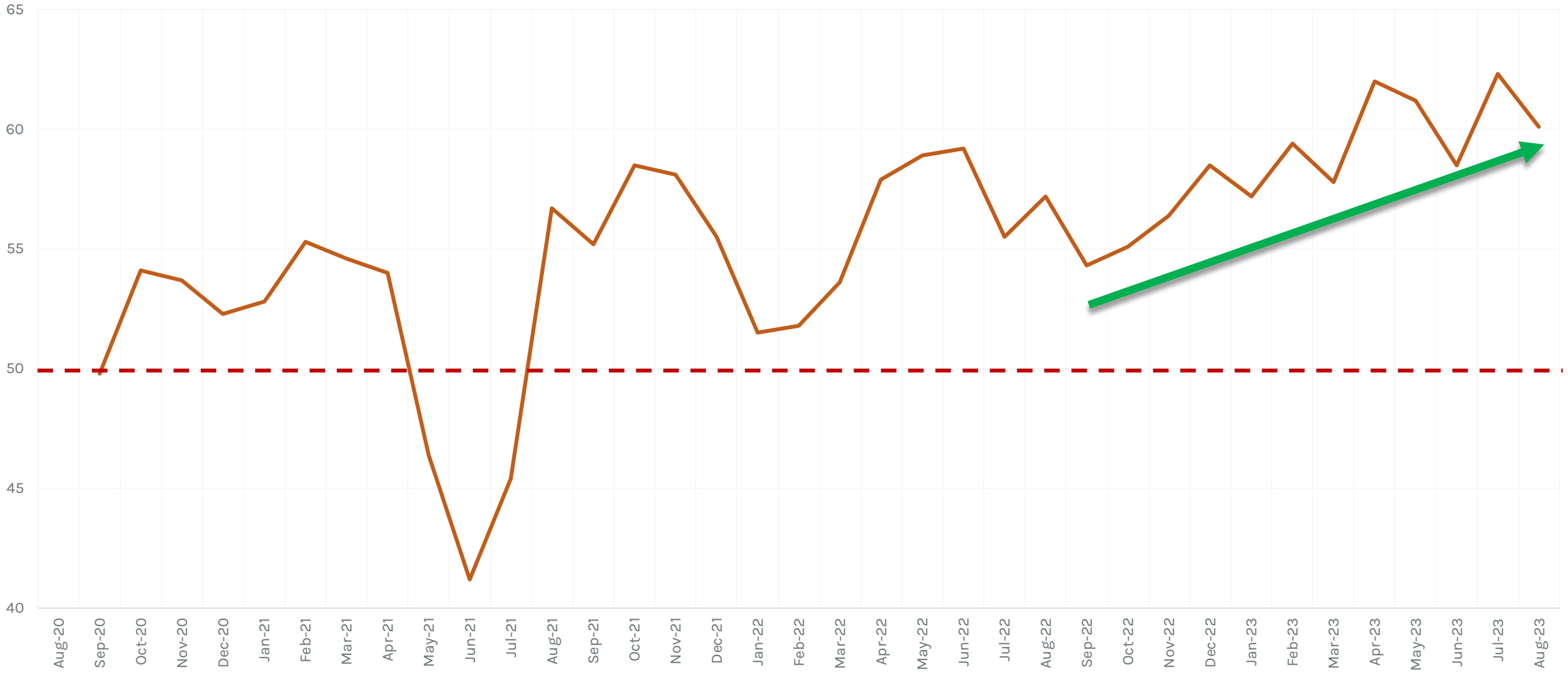


Data Source: Reserve Bank of India

Services Economy Rebound

HEDGEYE

India Services PMI

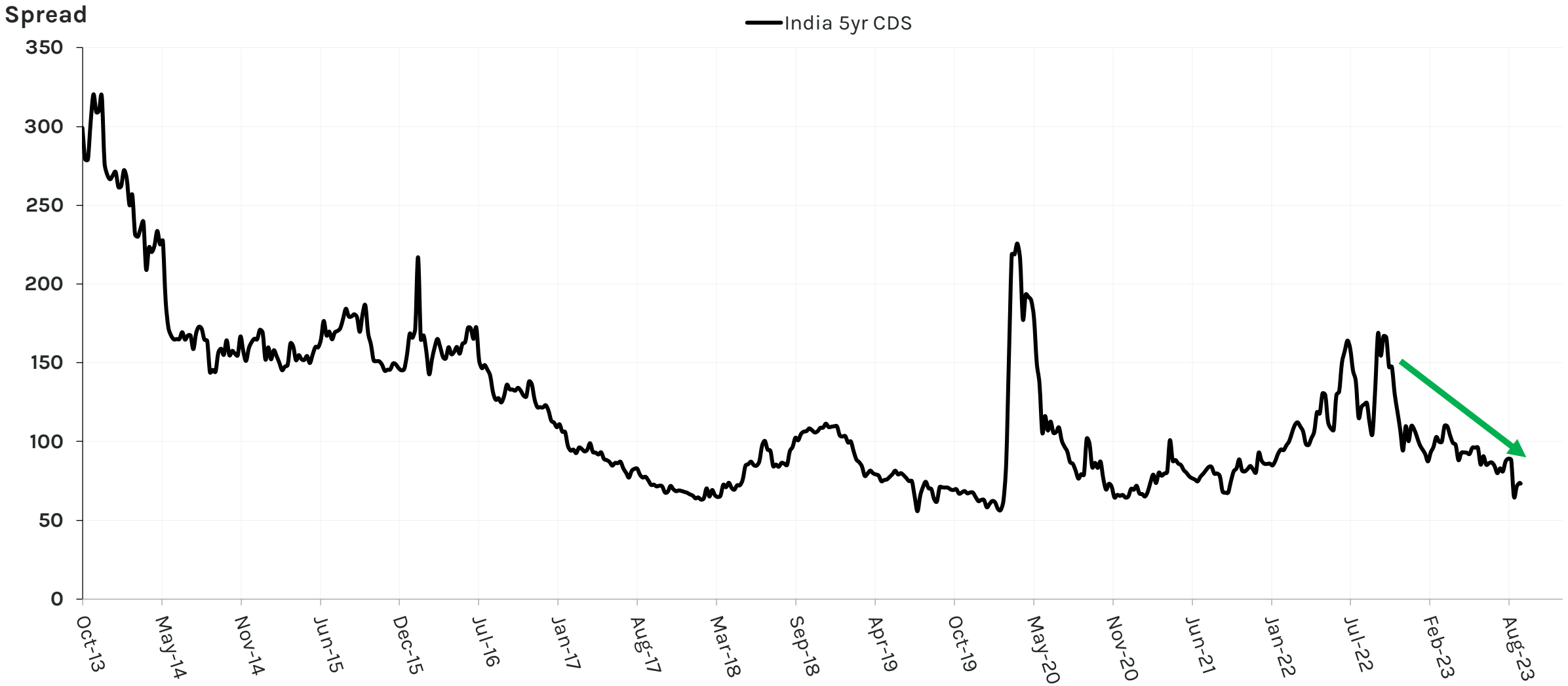


Data Source: Jibun Bank, S&P Global

India CDS Spreads Remain Near Lows

HEDGEYE

Risk spreads in India remain muted

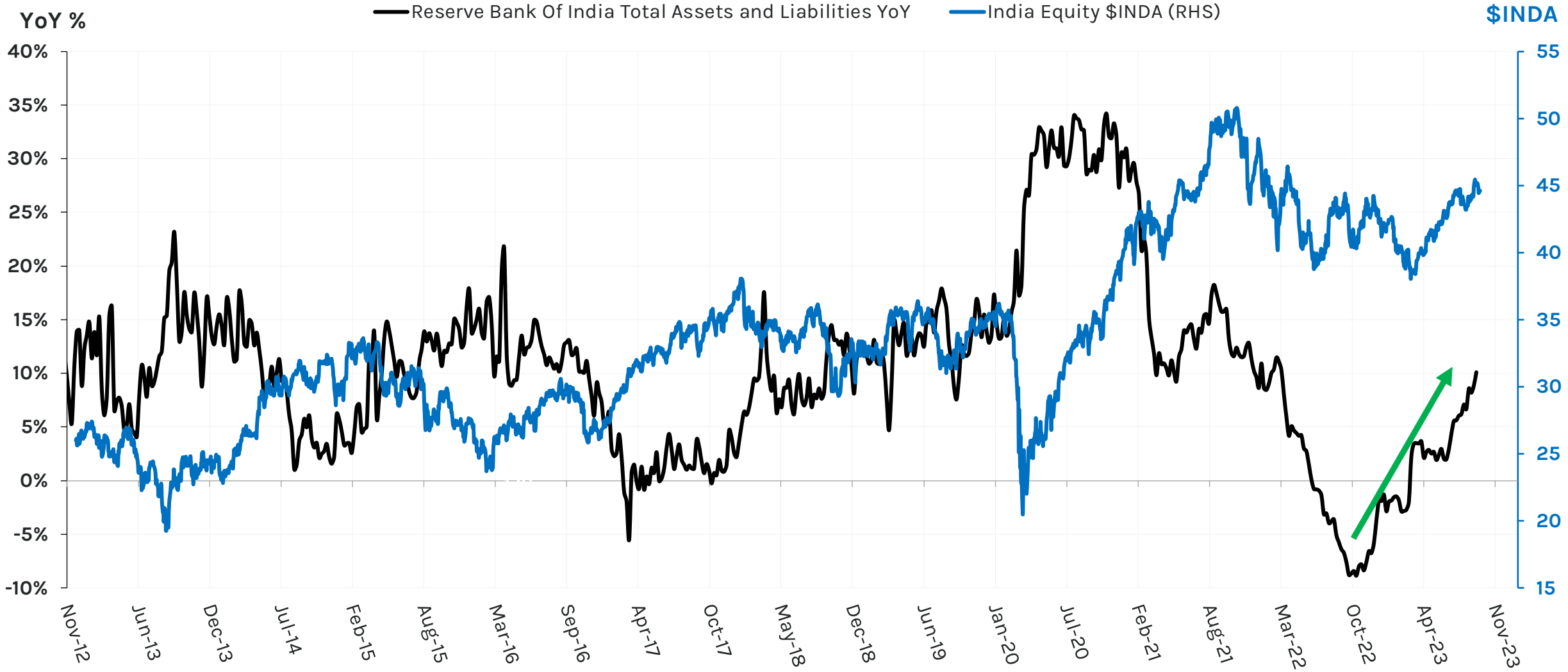


Data Source: Reserve Bank of India

India Central Bank Total Assets and Liabilities ↑

HEDGEYE

India continues to have an accommodative monetary policy

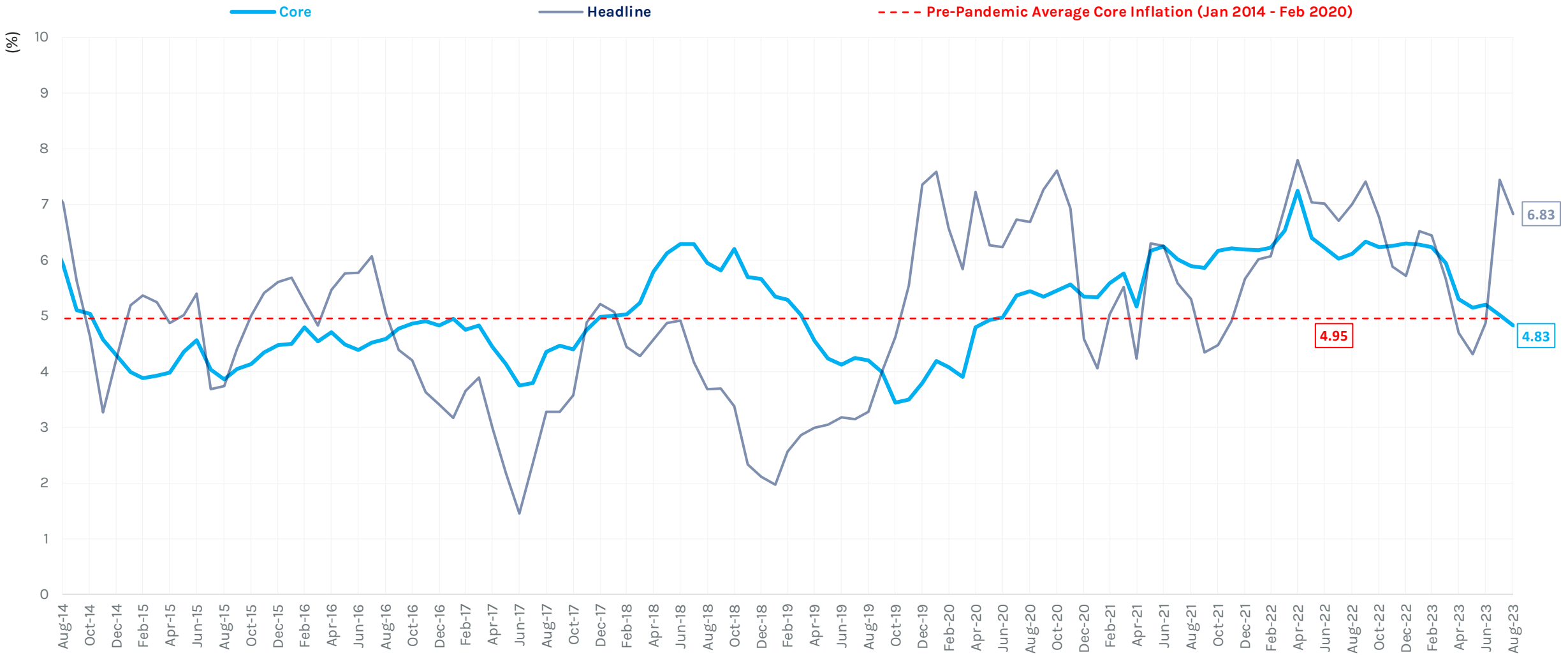


Data Source: Reserve Bank of India

India Has Returned to It's Pre-Pandemic Core Inflation Regime

HEDGEYE

India CPI



Data Source: Central Statistics Office India

India Has Shown Strength vs. Developing Asia

HEDGEYE

India has seen both manufacturing & services PMI remain above 50 while other Asian economies have struggled

Table 1.1.1 Purchasing Managers' Index in Developing Asia

PMI indices show continued weakness in manufacturing in some economies, but services remained strong.

	2023							
	Q1			Q2			Q3	
Economy	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Manufacturing PMI, seasonally adjusted								
India	55.4	55.3	56.4	57.2	58.7	57.8	57.7	58.6
Indonesia	51.3	51.2	51.9	52.7	50.3	52.5	53.3	53.9
PRC	49.2	51.6	50.0	49.5	50.9	50.5	49.2	51.0
Viet Nam	47.4	51.2	47.7	46.7	45.3	46.2	48.7	50.5
Singapore	49.8	50.0	49.9	49.7	49.5	49.7	49.8	49.9
Philippines	53.5	52.7	52.5	51.4	52.2	50.9	51.9	49.7
Thailand	54.5	54.8	53.1	60.4	58.2	53.2	50.7	48.9
Republic of Korea	48.5	48.5	47.6	48.1	48.4	47.8	49.4	48.9
Malaysia	46.5	48.4	48.8	48.8	47.8	47.7	47.8	47.8
Taipei,China	44.3	49.0	48.6	47.1	44.3	44.8	44.1	44.3
Services PMI, seasonally adjusted								
India	57.2	59.4	57.8	62.0	61.2	58.5	62.3	60.1
PRC	52.9	55.0	57.8	56.4	57.1	53.9	54.1	51.8
Services PMI, not seasonally adjusted								
Sri Lanka	50.2	48.7	55.1	49.6	53.5	56.7	59.5	...
Philippines	53.7	54.9	53.4	56.9	54.0	53.0	48.2	...

... = not available, PMI = purchasing managers' index, PRC = People's Republic of China.

Notes: Pink to red indicates worsening (<50) and white to green indicates improvement (>50). Series for Singapore is not seasonally adjusted.

Source: CEIC Data Company.

Data Source: Asian Development Bank

Current Investment Positions

HEDGEYE

1 Immediate-term TRADE (introduced this quarter)

LONGS: **Treasury Floating Rate** (TFLO), **Alerian MLP** (AMLP), **India Small Cap** (SMIN), **United Arab Emirates** (UAE), **Cannabis** (MSOS), **Canadian Dollar** (FXC), **Dry Bulk Shipping** (BDRY)

SHORTS: **Greece** (GREK), **Soybeans** (SOYB), **S&P 500 Equal Weight** (RSP), **Consumer Staples** (XLP), **Tech** (XLK), **Invesco QQQs** (QQQ)

2 Intermediate-term TREND (introduced in prior quarters)

LONGS: **SPDR Gold** (GLD), **GS Gold** (AAAU), **Japan** (EWJ), **Japan Value** (EWJV), **Nikkei 400** (JPXN), **Japan Small Cap** (SCJ), **Managed Futures** (CTA), **India** (INDA), **India 50** (INDY), **Uranium** (URA), **Uranium Nuclear** (NLR), **Uranium Miners** (URNM), **Gasoline** (UGA), **Small Cap Energy** (PSCE), **Oil & Gas E&P** (XOP), **3M T-Bills** (TBIL), **Interest Rate Hedges** (PFIX), **Insurance** (IAK),

SHORTS: **Regional Banks** (KRE), **Pakistan** (PAK), **Private Equity** (PSP), **Finland** (EFNL), **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), **Austria** (EWO), **Sweden** (EWD), **Utilities** (XLU), **China Real Estate** (CHIR), **China Financials** (CHIX),

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), **Italy** (EWI)

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Sector Head for Basic Materials at HIG Capital's hedge fund, Brightpoint Capital.

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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.

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

MACRO, FINANCIALS, HOUSING, PAYMENTS, CRYPTO | JOSH STEINER @HEDGEYEFIG
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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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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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