

HEDGEYE



HEDGEYE'S CURRENT MARKET OUTLOOK

QUAD 4 | FINAL FLUSH?

February 5, 2024



MACRO THEMES

USA Hitting Back-to-Back Monthly #Quad4s

The Big (G): Deficits & Debt Updated

Long India and Gold vs. Short Japan

DISCLAIMER

This content has been prepared by Hedgeye Risk Management, LLC (“Hedgeye”) and is presented for informational purposes only. Hedgeye is not a broker dealer and does not provide investment advice to individuals. None of the information contained herein constitutes an offer to sell, or a solicitation of an offer to buy any security or investment vehicle, nor does it constitute an investment recommendation or legal, tax, accounting, or investment advice by Hedgeye or any of its employees, officers, agents, or guests. This information is presented without regard for individual investment preferences or risk parameters and is general, non-tailored, non-specific information. This content is based on information from sources believed to be reliable. Hedgeye is not responsible for errors, inaccuracies, or omissions of information. The opinions and conclusions contained in this report are those of the individual expressing those opinions or conclusions and are intended solely for the use of Hedgeye’s subscribers and the authorized recipients of the content. The opinions of HedgeyeTV guests are not the opinions of Hedgeye. Hedgeye is not responsible for the opinions of their guests or the content or information they may provide.

All investments entail a certain degree of risk and financial instrument prices can fluctuate based on several factors, including those not considered in the preparation of the content. Consult your financial professional before investing.

TERMS OF USE

The information contained herein is protected by United States and foreign copyright laws and is intended solely for the use of its authorized recipient; there is a fee associated with access to this report. Access must be provided directly by Hedgeye. **Redistribution or republication of the content is strictly prohibited.** By joining this call or possessing these materials, you agree to these terms and Hedgeye Terms of Service. For more detail, please refer to the Terms of Service at https://www.hedgeye.com/terms_of_service

1 USA Hitting Back-To-Back MONTHLY #Quad4s

After 25 months of Trend slowdown off the cycle peak in November 2021, the most slothian cycle in history will slouch into its final phase. The confluence of further, organic deterioration and the hardest comps of the cycle will conspire to drive another deceleratory crescendo in 1Q24. We'll detail the Quad 4 trajectory and RoC asymmetry that will characterize the first part of the year. We'll dissect the probability and risk associated with the consumer, capex & mfg-industrial economies hitting a cumulative tipping point. And we'll discuss the derivative implications associated with the policy pivot, the prospect for and cross-asset class implications of reemergent global divergences and the risk management strategy as the distribution of macro outcomes broadens and a potential cycle inflection comes into view as we push past 1Q24.

2 The Big (G): Deficits & Debt Updated

Government spending growth accelerated in each of the last four quarters, coming in at a brisk +4.9% Y/Y rate in Q3 based on the final revision (up from the already-hot earlier estimate of +4.5%). In the last two quarters, it has grown at more than twice the rate of personal consumption expenditures. Despite it being a) an election year and b) a year with uncapped commitments to green energy spending, total government spending's contribution to GDP growth in 2024 will face among the steepest comps in years. We'll review the setup here quarter-by-quarter looking out across 2024.

3 Long India and Gold vs. Short Japan

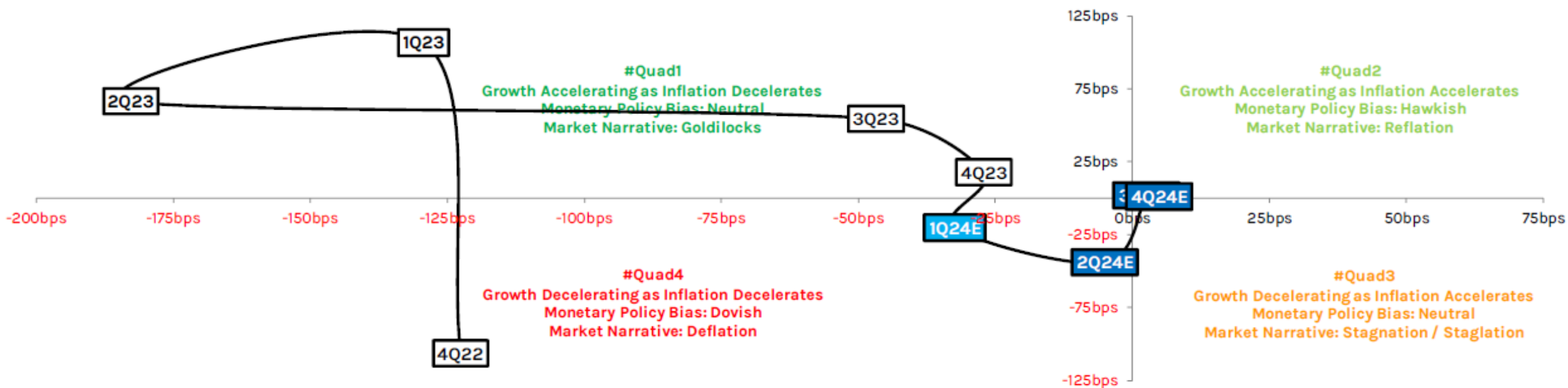
The signal remains bullish on India as shallow decelerations are overlooked for the shine and "relative" acceleration of its world-leading economic growth powered by buoyant domestic demand and government spending, moderated commodity prices, and strong credit growth. Meanwhile, real yields down, gold up, with the added long-term secular tailwind of fiat debasement and real asset supremacy in the age of fiscally drunk sovereigns. We expect real yields to experience downside pressure from the two most probable outcomes: nominal yield declines on slowing growth or a reacceleration in inflation due to a premature Fed pivot into easy comps. Lastly, Japan is past its peak with returns from accommodative monetary policy, a weaker yen, and heightened external demand due to exports and the wave of post-pandemic tourism diminishing. Accordingly, Japan is poised for back-to-back Quad 4s through 1H24.

What Are The Quads?

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

United States	1Q21	2Q21	3Q21	4Q21	1Q22	2Q22	3Q22	4Q22	1Q23	2Q23	3Q23	4Q23	← Actuals Estimates →	1Q24E	2Q24E	3Q24E	4Q24E
Real GDP QoQ SAAR	5.20%	6.20%	3.30%	7.00%	-2.00%	-0.60%	2.70%	2.60%	2.20%	2.10%	4.90%	3.30%	Real GDP QoQ SAAR	1.45%	0.33%	4.95%	3.33%
Real GDP YoY	1.57%	11.95%	4.74%	5.42%	3.57%	1.87%	1.71%	0.65%	1.72%	2.38%	2.93%	3.11%	Real GDP YoY	2.90%	2.46%	2.49%	2.50%
2yr Comparative Base Effects	1.54%	-2.69%	0.60%	1.05%	1.40%	2.21%	1.63%	2.17%	2.57%	6.91%	3.22%	3.04%	2yr Comparative Base Effects	2.64%	2.13%	2.32%	1.88%
Headline CPI YoY	1.90%	4.85%	5.34%	6.69%	7.96%	8.63%	8.33%	7.10%	5.81%	3.98%	3.51%	3.24%	Headline CPI YoY	2.92%	2.87%	2.89%	2.94%
2yr Comparative Base Effects	1.88%	1.09%	1.49%	1.64%	2.01%	2.61%	3.28%	3.96%	4.93%	6.74%	6.83%	6.90%	2yr Comparative Base Effects	6.89%	6.31%	5.92%	5.17%

United States



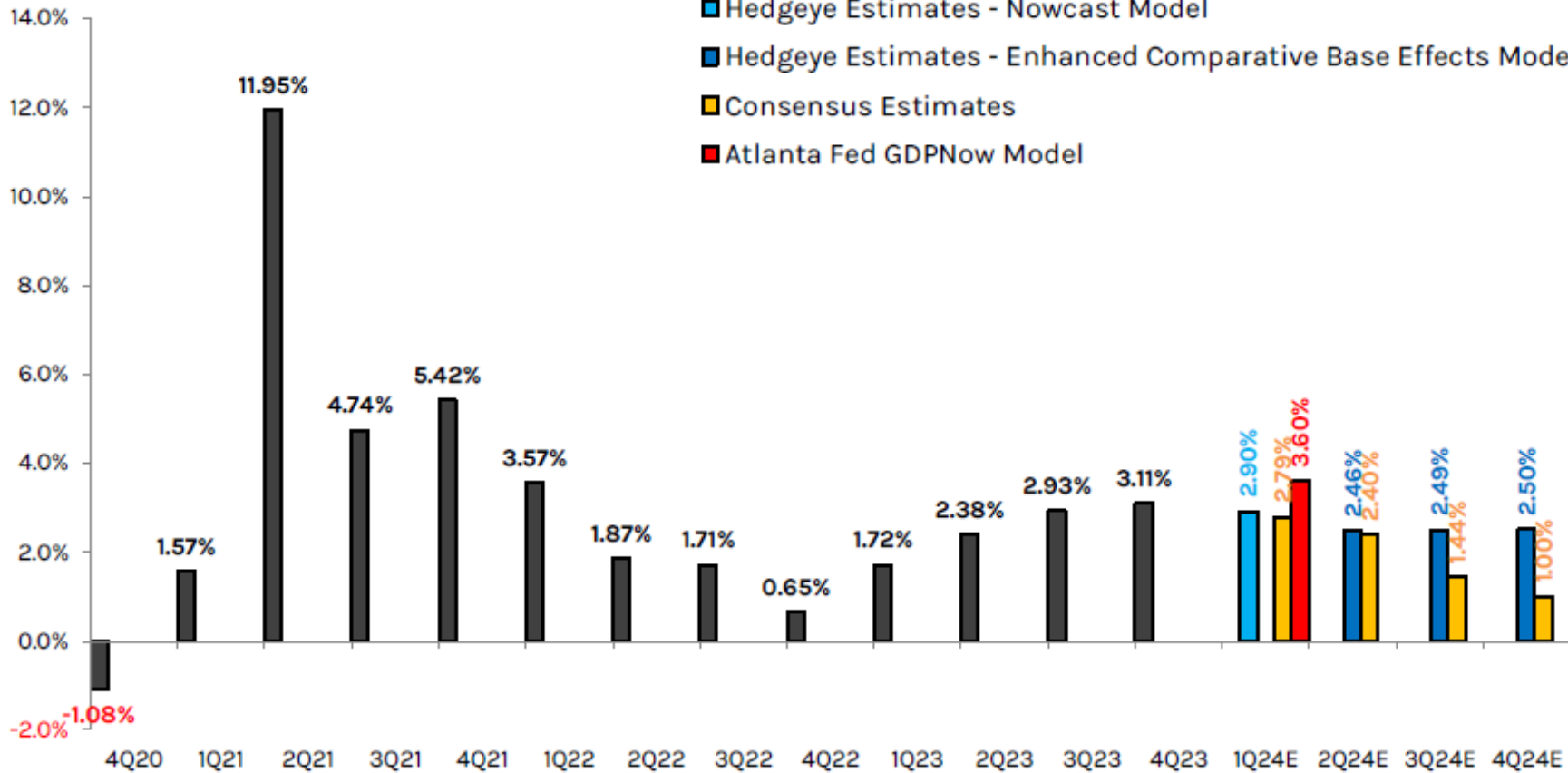
◆ x-axis: First Difference of YoY Headline CPI;
 ◆ y-axis: First Difference of YoY Real GDP

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

US Real GDP YoY Projections

United States

- Real GDP YoY
- Hedgeye Estimates - Nowcast Model
- Hedgeye Estimates - Enhanced Comparative Base Effects Model
- Consensus Estimates
- Atlanta Fed GDPNow Model



Data Source: BLS, BEA, Atlanta Fed, FactSet

© Hedgeye Risk Management

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.

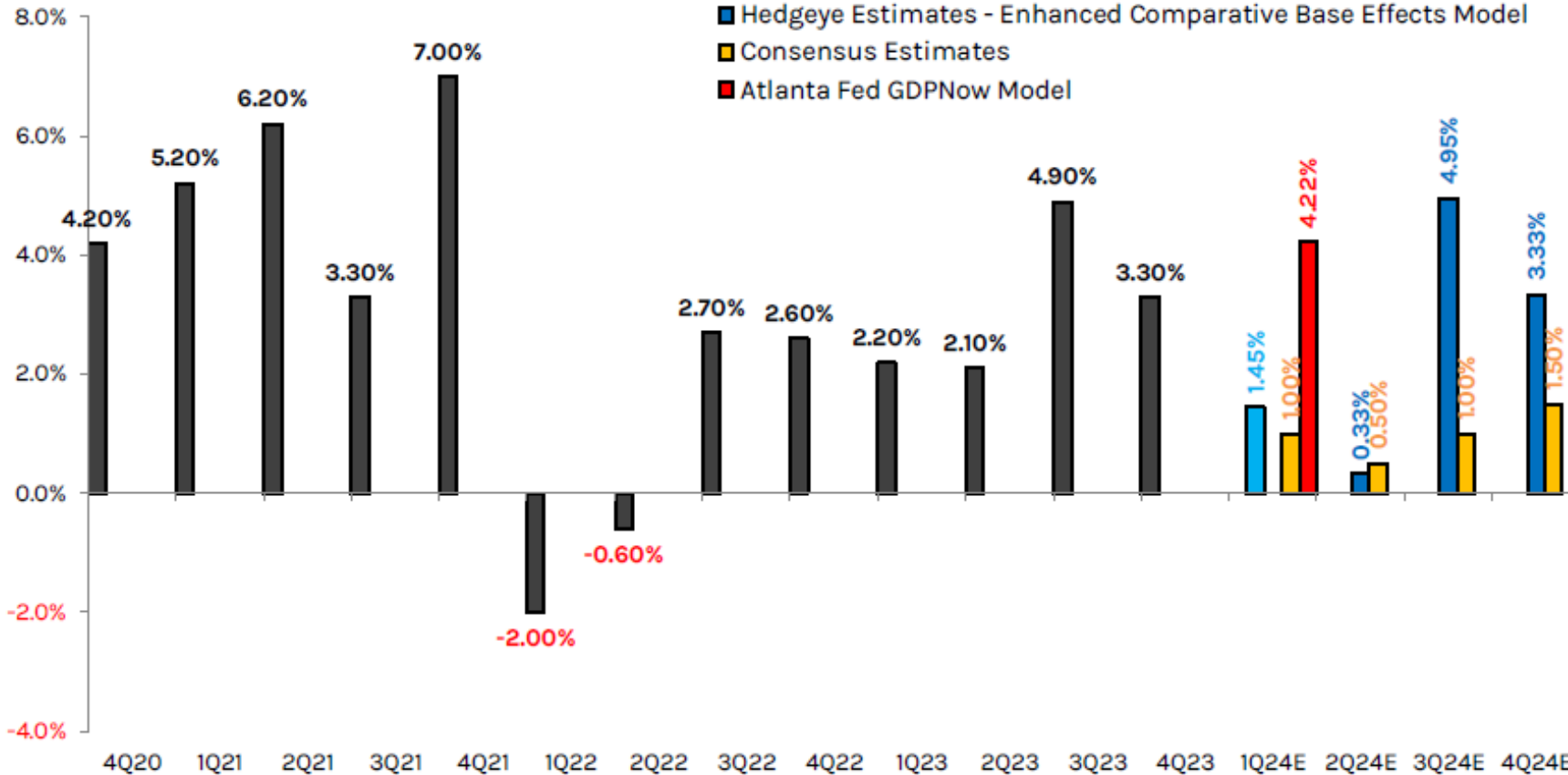
Intra-quarter, we employ a stochastic nowcasting framework that anchors on nonlinear interpolation to relay rate of change signals from the individual features of the dynamic factor model to the base rate. In out-quarters where high-frequency data has yet to be reported, we employ a Bayesian Inference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

US Real GDP QoQ SAAR Projections

United States

- Real GDP QoQ SAAR
- Hedgeye Estimates - Nowcast Model
- Hedgeye Estimates - Enhanced Comparative Base Effects Model
- Consensus Estimates
- Atlanta Fed GDPNow Model



Data Source: BLS, BEA, Atlanta Fed, FactSet

© Hedgeye Risk Management

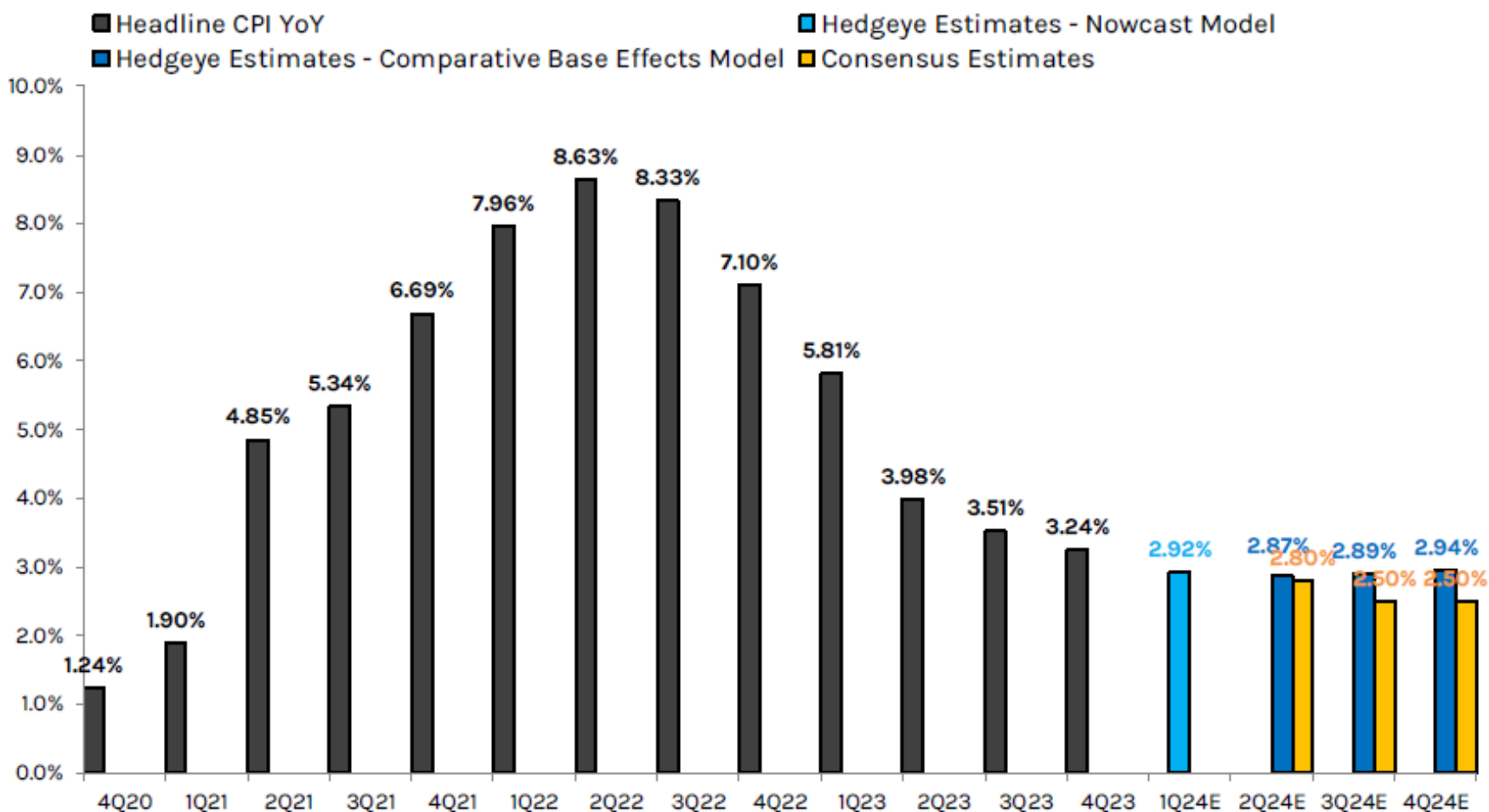
One differentiating factor of our forecasting process is that we aim to solve for where the economy is trending on a **Full Investing Cycle** basis, rather than trying to identify super short-term economic momentum.

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

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

US Headline CPI YoY Projections

United States



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.

Data Source: BLS, BEA, Atlanta Fed, FactSet

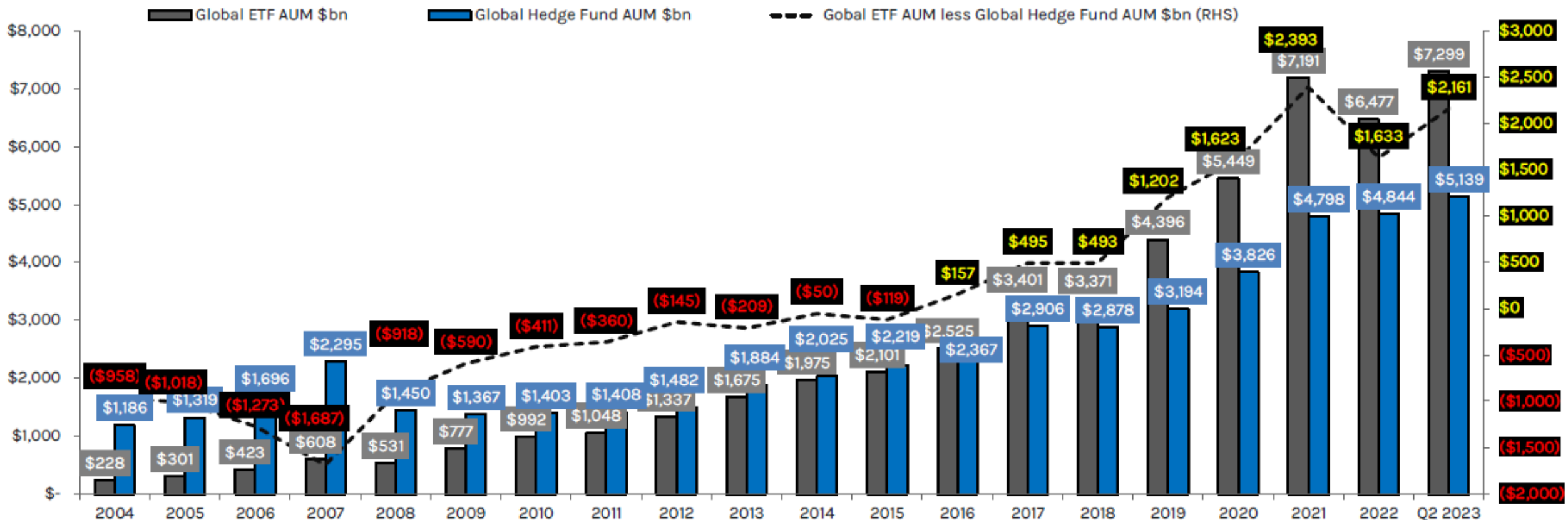
© Hedgeye Risk Management

OUR MACRO PROCESS



The Investment Landscape Has Evolved Tremendously

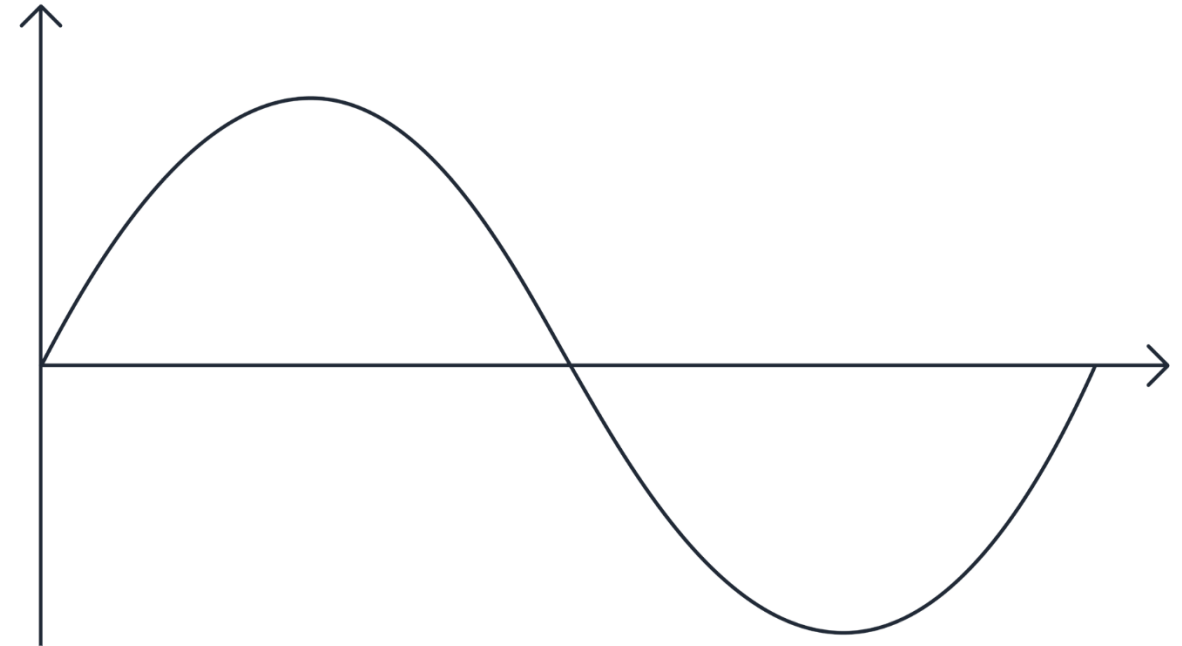
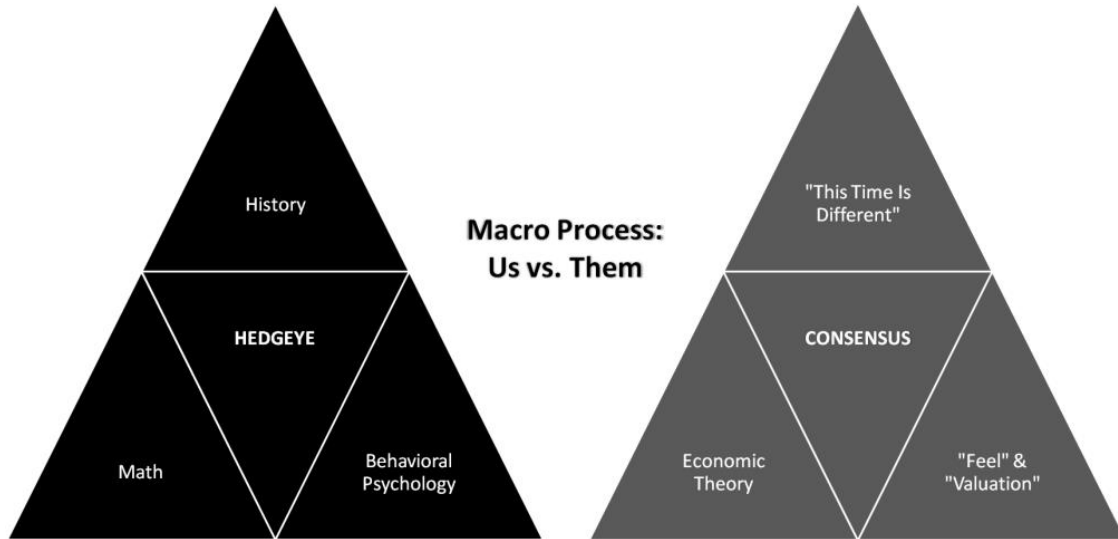
Stock-picking has given way to factor-picking and it's our job as investors to embrace this sea change, rather than fight it.



Skate To Where The Puck Is Going Within Asset Management

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

... So We Evolved Alongside It



WE ARE DIFFERENTIATED FROM THE HERD

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

...BECAUSE WE FOCUS ON THE FACTS

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

Quarterly Expected Values By GIP Model Quad Regime

Hedgeye Macro US GIP Model Backtest Exposure	EV by Quadrant				Shallow GDP A				Deep GDP A				Fed Easing				Fed On Hold				Fed Tightening				Quad 1 Prior				Quad 2 Prior				Quad 3 Prior				Quad 4 Prior				China Quad				
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
S&P 500 INDEX (SPR)	8.0%	4.4%	-0.3%	-1.8%	1.6%	4.1%	2.0%	5.2%	8.0%	3.4%	-4.8%	-11.4%	8.8%	7.7%	0.6%	-6.7%	3.4%	1.5%	-2.8%	-0.6%	5.0%	2.9%	3.6%	1.8%	10.0%	8.1%	0.4%	1.2%	2.8%	6.7%	2.0%	-5.9%	3.1%	-0.6%	-3.2%	-3.6%	8.6%	3.9%	5.7%	-0.8%	3.2%	4.3%	-1.7%	0.6%	
Communication Services (XLC)	8.2%	0.7%	-1.1%	-0.3%	4.3%	1.6%	3.4%	8.2%	6.4%	-1.1%	-7.0%	-10.5%	9.3%	4.9%	1.2%	-5.0%	2.4%	-2.8%	-5.0%	3.2%	5.0%	-1.8%	3.2%	2.1%	11.4%	3.1%	-1.6%	4.5%	4.0%	4.2%	1.9%	-3.5%	3.0%	-0.0%	-3.2%	0.6%	7.5%	-5.8%	3.9%	-1.9%	2.5%	2.8%	-1.5%	1.8%	
Consumer Cyclical (XLY)	7.3%	4.5%	-0.5%	-0.8%	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%	0.6%	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%	8.8%	3.3%	-2.1%	-18.1%	6.3%	11.9%	8.2%	-13.1%	3.1%	2.6%	-4.3%	1.2%	8.9%	1.8%	6.7%	-0.2%	4.5%	0.7%	3.3%	-4.8%	2.4%	10.2%	8.1%	-24.8%	3.8%	2.8%	-2.3%	-1.0%	10.4%	2.5%	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%	-0.9%	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%	-8.7%	-2.7%	8.6%	4.6%	5.5%	-0.8%	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%	-4.8%	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%	1.3%	
Industrials (XLU)	6.2%	4.8%	-0.2%	-2.0%	1.1%	1.6%	2.1%	6.4%	8.6%	4.5%	-4.4%	-11.5%	8.0%	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%	1.8%	-8.5%	3.1%	-0.2%	-3.1%	-3.0%	8.3%	4.1%	5.3%	-0.4%	2.6%	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%	6.1%	1.1%	-6.4%	2.9%	3.9%	-2.8%	-1.8%	5.0%	9.0%	6.3%	3.5%	18.8%	10.5%	-0.5%	0.1%	5.0%	9.3%	4.6%	-1.6%	3.3%	0.7%	-2.6%	-10.4%	10.0%	10.9%	8.5%	1.7%	4.1%	5.2%	-0.7%	3.3%	
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%	-7.8%	5.5%	1.7%	-5.1%	5.4%	7.2%	-0.2%	3.9%	2.2%	5.7%	6.3%	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%	6.6%	-5.6%	-16.1%	9.6%	8.3%	-3.2%	-24.9%	1.4%	-1.0%	-2.3%	5.8%	-	-	0.2%	0.8%	2.8%	-	-	-	-	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%	15.5%	1.6%	4.0%	-5.0%	5.5%	3.6%	3.1%	-6.5%	3.1%	-3.7%	-1.4%	5.9%	2.2%	0.4%	6.6%	3.1%	3.1%	2.9%	-0.1%	2.7%	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%	3.9%	1.2%	0.7%	
Growth (IWF)	8.4%	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%	5.8%	0.8%	4.5%	1.3%	6.8%	4.4%	0.5%	1.5%	2.5%	6.1%	3.2%	-10.5%	2.8%	-2.6%	-3.7%	-0.8%	8.5%	3.5%	6.0%	-0.8%	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%	-10.4%	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%	-7.7%	10.5%	7.6%	7.0%	-0.7%	4.1%	5.2%	-3.4%	1.4%	
Defensives (DEF)	5.4%	3.7%	0.0%	-0.5%	2.3%	2.7%	1.5%	8.1%	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%	1.8%	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%	7.6%	2.2%	3.3%	14.1%	4.2%	-7.7%	-20.3%	11.6%	1.8%	-10.7%	2.7%	3.6%	-6.9%	-6.0%	4.5%	4.3%	6.9%	2.9%	13.0%	7.2%	-0.8%	-2.1%	2.9%	15.3%	7.0%	-15.6%	3.8%	-3.2%	8.1%	-13.3%	-12.7%	11.3%	11.3%	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%	5.3%	4.2%	-0.5%	4.8%	2.2%	2.4%	2.2%	-7.0%	4.2%	0.8%	0.8%	0.2%	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%	8.0%	6.2%	0.9%	-8.1%	5.3%	1.3%	-2.0%	-5.2%	7.1%	7.6%	5.5%	1.0%	13.3%	8.3%	1.8%	1.2%	3.6%	6.1%	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)	8.4%	4.6%	0.2%	-0.3%	3.1%	2.8%	2.3%	8.2%	9.1%	4.9%	-4.1%	-6.2%	6.0%	7.5%	1.2%	-4.7%	3.9%	1.7%	-2.3%	2.5%	5.7%	3.7%	3.6%	2.2%	8.6%	6.0%	0.8%	1.4%	3.8%	5.9%	1.6%	-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)	8.2%	3.1%	0.7%	1.2%	1.8%	0.3%	1.5%	6.8%	9.2%	3.7%	-1.8%	-5.1%	8.2%	7.4%	0.0%	-2.9%	4.8%	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%	0.2%	9.2%	0.5%	4.3%	2.2%	3.8%	4.0%	-0.3%	2.1%	
Size (DEF)	8.0%	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%	3.6%	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%	10.0%	9.2%	1.0%	-6.7%	0.7%	3.0%	-4.5%	-3.5%	1.1%	11.3%	7.5%	3.4%	9.5%	10.0%	-2.2%	3.3%	5.5%	11.5%	6.0%	-0.8%	2.6%	-0.4%	-2.8%	-3.7%	8.4%	10.7%	8.6%	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%	8.0%	8.2%	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%	-2.6%	-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%	5.8%	10.8%	2.3%	-5.8%	-13.9%	7.6%	6.5%	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%	8.0%	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%	1.0%	0.9%	0.1%	2.9%	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%	1.8%	1.4%	0.6%	3.1%	1.5%	0.5%	1.1%	1.8%	0.9%	1.0%	1.2%	1.0%	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 (BIDZ)	5.7%	6.5%	-1.5%	-0.8%	4.3%	1.3%	-0.3%	5.1%	12.8%	10.5%	-3.1%	-38.4%	7.5%	10.6%	-1.8%	-28.4%	1.3%	1.7%	-2.5%	5.4%	6.6%	2.4%	2.3%	8.8%	8.7%	3.8%	-0.5%	4.1%	-3.8%	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%	1.8%	-0.3%	1.5%	3.5%	4.2%	-2.1%	-14.6%	2.8%	3.3%	0.6%	-1.1%	0.8%	2.0%	-1.8%	3.2%	1.9%	4.0%	-0.3%	1.7%	3.4%	-0.4%	1.3%	0.8%	3.8%	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%	1.1%	
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%	1.6%	1.8%	0.6%	0.3%	3.5%	1.1%	2.0%	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%	1.9%	3.2%	5.2%	2.9%	-2.4%	-6.5%	3.6%	3.2%	1.3%	3.7%	2.8%	1.4%	-1.3%	1.5%	2.7%	1.0%	0.6%	5.3%	3.0%	3.4%	0.6%	1.2%	1.6%	2.1%	0.6%	-5.1%</													

Highest/Lowest Expected Values By Quad Regime

Quad 1: Goldilocks

Best Asset Classes:

Equities, Credit, Commodities, FX

Worst Asset Classes:

Fixed Income, USD

Best Equity Sectors:

Tech, Consumer Discretionary, Materials, Industrials, Telecom

Worst Equity Sectors:

Utilities, REITS, Consumer Staples, Financials, Energy

Best Equity Style Factors:

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

Worst Equity Style Factors:

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

Best Fixed Income Sectors:

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

Worst Fixed Income Sectors:

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

Quad 2: Reflation

Best Asset Classes:

Commodities, Equities, Credit, FX

Worst Asset Classes:

Fixed Income, USD

Best Equity Sectors:

Tech, Consumer Discretionary, Industrials, Energy, Financials

Worst Equity Sectors:

Telecom, Utilities, REITS, Consumer Staples, Health Care

Best Equity Style Factors:

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

Worst Equity Style Factors:

Low Beta, Dividend Yield, Value, Defensives, Size

Best Fixed Income Sectors:

Convertibles, BDCs, Preferreds, Leveraged Loans, HY Credit

Worst Fixed Income Sectors:

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

Quad 3: Stagflation

Best Asset Classes:

Gold, Commodities, Fixed Income

Worst Asset Classes:

Credit

Best Equity Sectors:

Utilities, Tech, Energy, Industrials, Consumer Discretionary

Worst Equity Sectors:

Financials, REITS, Materials, Telecom, Consumer Staples

Best Equity Style Factors:

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

Worst Equity Style Factors:

Small Caps, Dividend Yield, Value, Defensives, Size

Best Fixed Income Sectors:

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

Worst Fixed Income Sectors:

BDCs, Preferreds, Convertibles, Leveraged Loans, HY Credit

Quad 4: Deflation

Best Asset Classes:

Fixed Income, Gold, USD

Worst Asset Classes:

Commodities, Equities, Credit, FX

Best Equity Sectors:

Consumer Staples, Utilities, REITS, Health Care, Telecom

Worst Equity Sectors:

Energy, Tech, Industrials, Financials, Materials

Best Equity Style Factors:

Low Beta, Dividend Yield, Quality, Defensives, Value

Worst Equity Style Factors:

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

Best Fixed Income Sectors:

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

Worst Fixed Income Sectors:

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

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



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

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

A | B Testing Process: Quantify Investor Consensus

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

STYLE FACTOR PERFORMANCE*

FACTOR	1D	1W	1M	3M	6M	YTD
	% Chg	% Chg	% Chg	% Chg	% Chg	% Chg
Debt						
High Debt/EV	-0.7%	-1.6%	-1.1%	20.5%	0.7%	-1.1%
Low Debt/EV	1.0%	1.2%	3.8%	22.6%	10.8%	3.8%
SI						
High Short Interest	-0.2%	-0.2%	-1.0%	21.0%	-1.5%	-1.0%
Low Short Interest	0.0%	1.2%	3.1%	15.7%	7.5%	3.1%
BETA						
High Beta	0.6%	0.5%	0.1%	27.3%	4.6%	0.1%
Low Beta	-0.6%	0.8%	1.1%	7.5%	1.1%	1.1%
YIELD						
High Yield	-0.8%	-1.3%	-3.3%	10.9%	-5.5%	-3.3%
Low Yield	0.4%	1.3%	1.9%	24.5%	6.7%	1.9%
MKT CAP						
MCAP Bottom 25%	-0.6%	-1.1%	-2.8%	15.4%	-4.6%	-2.8%
MCAP Top 25%	0.3%	1.2%	3.6%	18.9%	10.2%	3.6%
Sales						
Top 25% Sales Growth	0.6%	0.7%	1.6%	21.6%	8.5%	1.6%
Bottom 25% Sales Growth	-0.8%	-0.3%	-2.2%	12.3%	-4.3%	-2.2%
EPS						
Top 25% EPS Growth	0.3%	0.1%	-0.4%	20.2%	3.4%	-0.4%
Bottom 25% EPS Growth	-0.5%	-0.1%	-1.2%	12.8%	-1.7%	-1.2%

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

CFTC NON-COMMERCIAL NET LONG POSITIONING

METRIC	Latest	W/W Chg	3M Ave	6M Ave	1Y Ave	3Y		Z-Score	
						Max	Min	1Y	3Y
EQUITIES									
SPX (Index + E-mini)	(222,876)	(34,712)	(140,240)	(117,407)	(192,916)	248,601	(447,046)	-0.28X	-1.00X
VIX	(54,540)	(5,347)	(45,924)	(38,462)	(48,274)	(13,979)	(163,238)	-0.42X	0.41X
Russell 2000 (mini)	(10,297)	(4,432)	(29,180)	(44,863)	(52,010)	21,422	(120,386)	1.88X	1.46X
Dow Jones (mini)	24,410	6,159	(521)	(10,351)	(13,539)	24,410	(37,076)	2.32X	3.14X
Nasdaq (mini)	40,234	5,991	23,274	16,935	9,760	41,791	(24,622)	1.89X	2.16X
Nikkei Index	(3,868)	(175)	(2,849)	(1,853)	(2,733)	2,324	(9,401)	-0.60X	-0.36X
RATES									
10Y UST	(764,975)	(51,328)	(697,653)	(710,135)	(691,230)	238,882	(870,838)	-0.78X	-1.41X
2Y UST	(1,308,875)	(40,973)	(1,322,043)	(1,292,610)	(1,043,438)	86,786	(1,476,201)	-0.86X	-1.80X
5Y UST	(1,206,263)	61,769	(1,344,901)	(1,254,740)	(1,081,475)	148,962	(1,506,938)	-0.50X	-1.50X
UST Bonds	(123,232)	(909)	(122,998)	(155,823)	(141,759)	49,853	(229,064)	0.44X	-0.40X
30D Fed Funds	(156,080)	(80,701)	(124,086)	(171,881)	(149,128)	147,168	(320,917)	-0.11X	-0.68X
CURRENCIES									
SUSD	344	(1,277)	10,156	10,943	11,399	44,971	(14,318)	-1.84X	-1.39X
JPY	(84,743)	(9,802)	(85,244)	(94,883)	(86,841)	35,127	(129,984)	0.09X	-0.44X
EUR	94,351	(259)	120,613	116,388	145,130	198,934	(47,358)	-1.39X	0.21X
GBP	32,022	2,428	7,389	12,756	10,929	66,045	(79,646)	0.73X	1.19X
AUD	(59,052)	(4,132)	(56,078)	(65,938)	(53,897)	11,168	(98,824)	-0.28X	-0.42X
CAD	(3,290)	6,603	(40,953)	(37,553)	(35,401)	50,344	(72,137)	1.49X	0.26X
MXN	81,620	5,407	72,544	67,184	60,233	99,697	(64,080)	0.59X	1.49X
NZD	(1,040)	703	(8,724)	(2,288)	(4,867)	17,126	(21,272)	0.52X	0.10X
CHF	(4,959)	2,202	(11,296)	(10,572)	(7,838)	13,895	(20,263)	0.52X	0.24X
COMMODITIES									
CRUDE OIL	218,435	12,963	215,629	272,844	253,250	594,465	170,119	-0.61X	-1.18X
GOLD	71,976	(4,639)	112,414	81,033	92,760	175,694	(41,300)	-0.52X	-0.16X
COPPER	(8,434)	21,509	(7,217)	(13,131)	(11,869)	75,754	(35,712)	0.29X	-0.54X
Natural Gas	(104,287)	(22,446)	(96,132)	(92,935)	(112,604)	37,997	(182,100)	0.26X	0.32X
RBOB Gasoline	73,169	(533)	66,894	57,188	54,481	76,197	27,945	1.64X	2.15X
ULSD Heating Oil	23,476	1,648	28,868	32,965	24,036	43,514	(14,002)	-0.05X	0.42X
Silver	18,344	5,687	25,214	20,404	19,787	54,034	(12,811)	-0.14X	-0.38X
Platinum	11,507	3,637	12,825	9,315	12,806	36,198	(8,246)	-0.14X	-0.16X
Corn	(241,269)	(9,525)	(169,022)	(126,280)	(37,990)	526,059	(241,269)	-1.66X	-2.16X
Soybeans	(135,910)	(30,640)	(2,841)	19,638	64,557	220,990	(135,910)	-2.77X	-3.60X
Wheat	(39,627)	7,789	(57,413)	(62,137)	(65,696)	42,229	(107,489)	1.21X	-0.52X
Live Cattle	50,942	13,795	46,531	78,637	102,655	144,819	30,899	-1.42X	-1.24X
Lean Hogs	37,777	26,869	7,761	16,255	5,668	101,947	(29,164)	1.49X	-0.15X
Sugar	62,852	11,258	101,843	149,185	181,607	301,889	(9,197)	-1.90X	-1.57X
Cotton	45,788	4,895	15,596	33,097	20,382	127,919	(13,367)	1.12X	-0.21X
Coffee	55,708	2,194	40,904	14,619	14,653	72,005	(37,467)	1.78X	0.92X
Cocoa	64,234	(5,592)	66,003	70,056	63,111	86,695	(32,129)	0.07X	1.17X
Orange Juice	925	414	1,798	2,677	3,404	6,673	(2,109)	-1.98X	-1.06X

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

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

TIME WINDOW SETTING: VOLATILITY_30D		TOTAL RETURN PERFORMANCE	IVOL PREMIUM/DISCOUNT					REALIZED VOLATILITY TRENDS		IMPLIED VOLATILITY TRENDS		
PUT_IMP_VOL_30D	TICKER	YTD %	IVOL PREM %	Yesterday	1W Ago	1M Ago	TTM Z-Score	3Yr Z-Score	MM %	PERCENTILE	MM %	PERCENTILE
PUT_IMP_VOL_30D	TICKER	YTD %	IVOL / RVOL	Yesterday	1W Ago	1M Ago	TTM Z-Score	3Yr Z-Score	MM %	10YR	MM %	10YR
US EQUITIES												
CURRENT												
SPDR S&P 500 ETF Trust	SPY	4.01%	27%	25%	38%	60%	-0.7	-0.3	30%	42%	3%	22%
Power Shares QQQ Trust ETF	QQQ	4.76%	18%	14%	36%	51%	-0.6	-0.2	36%	48%	6%	39%
I-Shares Russell 2000 ETF	IWM	-3.14%	10%	12%	-3%	-4%	-0.3	-0.4	-8%	63%	4%	56%
Materials Sector SPDR ETF	XLB	-2.86%	92%	85%	129%	59%	1.3	1.8	-8%	19%	12%	68%
Communication Services SPDR ETF	XLC	9.74%	-13%	15%	49%	59%	-0.9	-0.8	56%	40%	-15%	10%
Energy Sector SPDR ETF	XLE	-0.38%	33%	29%	23%	30%	1.0	1.2	3%	31%	6%	46%
Financials Sector SPDR ETF	XLF	3.67%	58%	64%	47%	59%	0.8	1.3	2%	11%	1%	28%
Industrials Sector SPDR ETF	XLI	1.39%	48%	25%	62%	12%	0.6	0.8	-2%	28%	29%	59%
Technology Sector SPDR ETF	XLK	5.07%	-14%	-1%	10%	25%	-1.3	-0.8	36%	57%	-7%	39%
Consumer Staples Sector SPDR ETF	XLP	2.97%	9%	-6%	-1%	-8%	-0.3	-0.6	-13%	44%	3%	43%
Real Estate Sector SPDR ETF	XLRE	-4.37%	13%	8%	-3%	1%	0.4	0.4	-14%	52%	-4%	60%
Utilities Sector SPDR ETF	XLU	-2.91%	35%	-8%	5%	-4%	0.9	0.5	-8%	59%	28%	54%
Health Care Sector SPDR ETF	XLV	4.11%	94%	30%	64%	29%	2.9	3.1	-21%	10%	19%	72%
Consumer Discretionary Sector SPDR ETF	XLY	-0.83%	-8%	-8%	14%	27%	-0.9	-0.6	23%	54%	-11%	44%
Retail SPDR ETF	XRT	-2.18%	34%	31%	5%	11%	0.0	0.3	-16%	53%	2%	62%
INTERNATIONAL EQUITIES												
I-Shares MSCI Emerging Markets ETF	EEM	-3.88%	-3%	-27%	-23%	-3%	-0.4	-0.4	-8%	27%	-8%	18%
Euro Stoxx 50 Index	SX5E Index	2.94%	4%	9%	3%	46%	-0.3	-0.2	40%	20%	-1%	13%
I-Shares China Large-Cap ETF	FXI	-10.90%	-15%	-16%	-14%	-9%	-1.4	-0.9	21%	88%	13%	77%
I-Shares MSCI Japan ETF	EWJ	3.70%	15%	4%	8%	22%	0.7	0.7	6%	38%	0%	52%
CURRENCIES												
PowerShares US Dollar Index ETF	UUP	3.14%	16%	86%	-54%	-54%	-0.4	-0.5	-69%	39%	-24%	11%
Currency Shares Euro Trust ETF	FXE	-2.41%	13%	29%	-1%	-8%	-0.1	0.1	-21%	30%	-3%	40%
Currency Shares British Pound ETF	FXB	-1.05%	3%	2%	-13%	-13%	0.2	0.1	-22%	20%	-7%	17%
Currency Shares Japanese Yen ETF	FXJ	-5.01%	-17%	-2%	-15%	-24%	-1.0	-0.9	-24%	73%	-17%	52%
COMMODITIES												
SPDR Gold Shares ETF	GLD	-1.34%	14%	29%	-7%	-15%	0.2	0.0	-31%	19%	-8%	18%
United States Oil Fund ETF	USO	1.29%	21%	25%	27%	11%	0.1	0.0	-9%	42%	-1%	26%
United States Natural Gas Fund ETF	UNG	-4.54%	-26%	-27%	18%	-	-0.7	-0.7	65%	93%	#VALUE!	29%
Teucrium Corn ETF	CORN	-5.61%	42%	38%	43%	51%	1.1	0.7	12%	19%	6%	32%
TEUCRIUM SOYBEAN FUND	SOYB	-7.22%	49%	51%	57%	31%	1.4	1.4	-5%	33%	8%	47%
VANECK STEEL ETF	SLX	-6.37%	46%	38%	18%	47%	1.0	1.5	-8%	4%	-8%	19%
FIXED INCOME												
I-Shares 20+ Year Treasury Bond ETF	TLT	-2.84%	2%	18%	-6%	-11%	0.2	-0.4	-13%	68%	0%	66%
I-Shares 7-10 Year Treasury Bond ETF	IEF	-0.86%	8%	33%	3%	0%	0.1	-0.3	-7%	77%	1%	65%
I-Shares iBOXx IG Corporate Bond ETF	LQD	-0.94%	30%	44%	17%	12%	0.9	0.1	-18%	74%	-5%	59%
I-Shares J.P. Morgan USD EM Bond ETF	EMB	-1.59%	30%	23%	14%	-	0.1	0.0	-17%	67%	#VALUE!	33%
I-Shares iBOXx HY Corporate Bond ETF	HYG	-0.26%	12%	23%	15%	3%	0.5	0.1	-14%	45%	-6%	41%
MEGA-CAP												
Apple	AAPL	-3.47%	8%	28%	23%	44%	-1.2	-0.5	26%	37%	-6%	19%
Amazon	AMZN	13.08%	-5%	67%	86%	58%	-0.7	-0.5	55%	54%	-6%	37%
Alphabet	GOOGL	1.93%	-14%	-12%	84%	16%	-0.8	-0.8	23%	67%	-9%	48%
Facebook	META	34.19%	-42%	87%	92%	58%	-1.7	-1.5	144%	91%	-11%	46%
Microsoft	MSFT	9.36%	44%	48%	96%	87%	0.9	1.0	13%	21%	-13%	37%
Tesla	TSLA	-24.38%	-8%	-10%	-7%	36%	-0.8	-0.7	39%	51%	-5%	24%

Data Source: CBDE, CME

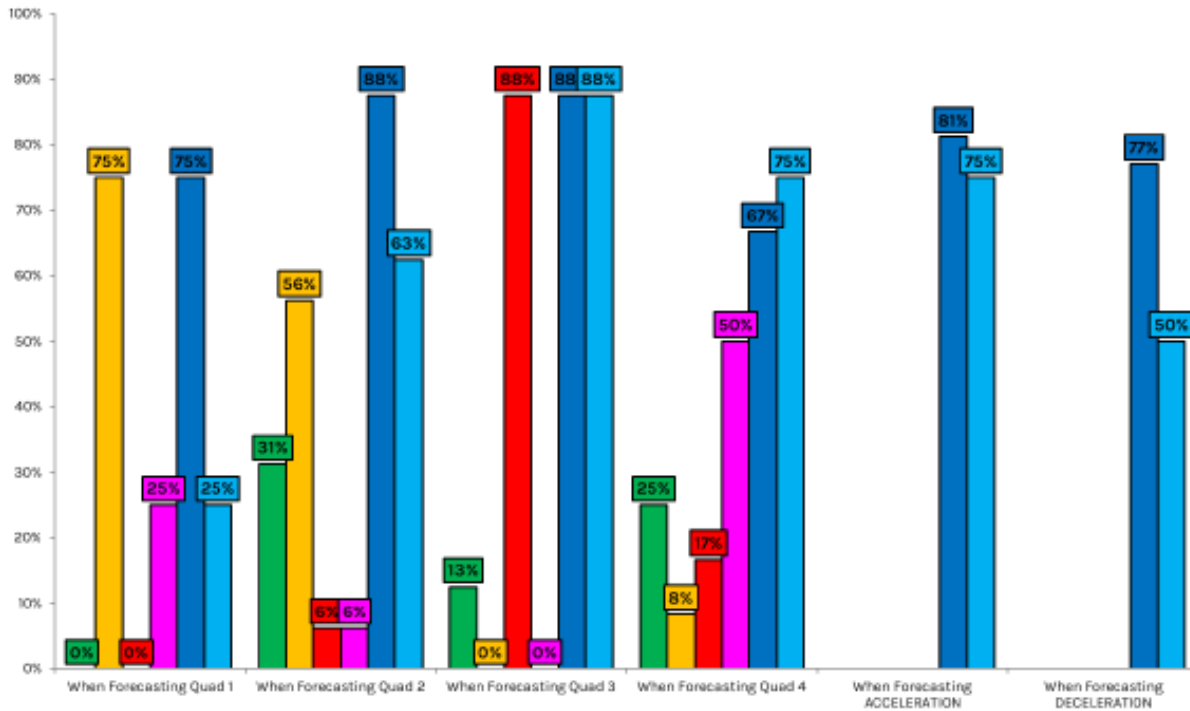
Measuring And Mapping The Quads With Precision Ex Ante Matters To Driving Ex Post Returns

US Comparative Base Effects Model Backtest

US Nowcast Model Backtest

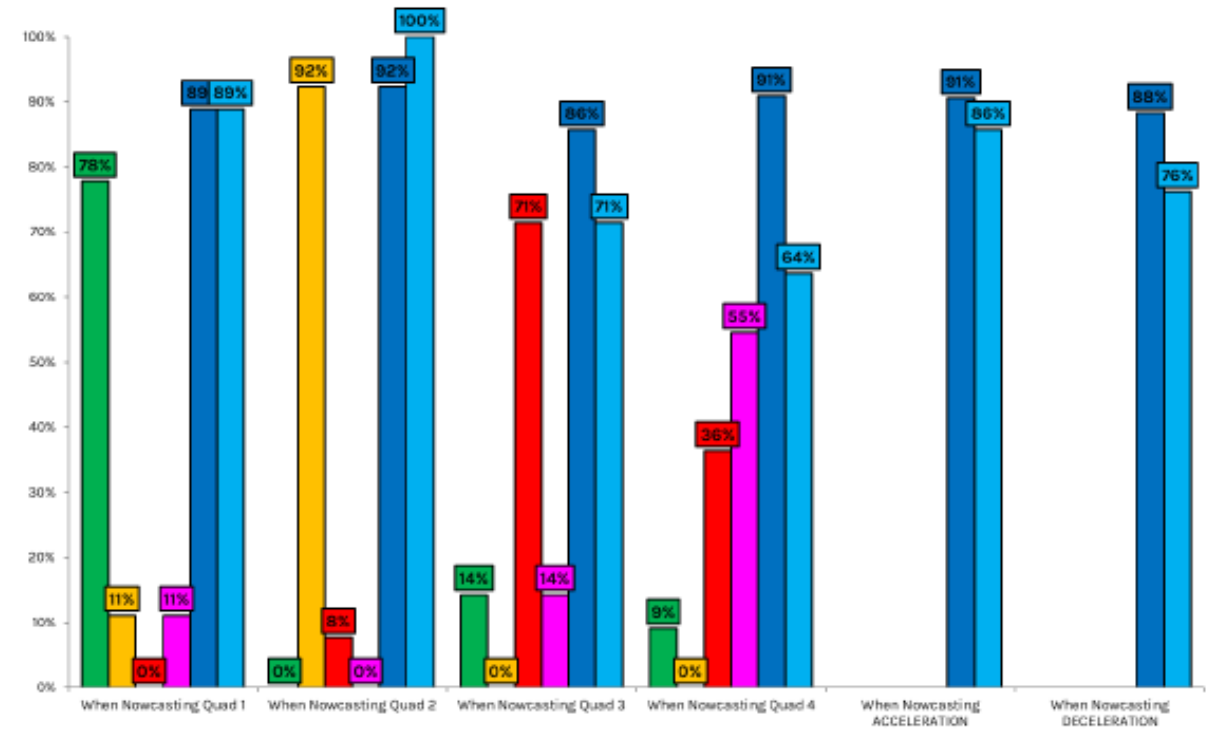
Hedgeye Comparative Base Effects Model Quad Projection Accuracy: United States

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



Hedgeye Nowcast Model Quad Projection Accuracy: United States

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



WANT MORE HEDGEYE PROCESS EDUCATION?

UNIVERSITY.HEDGEYE.COM

CONTACT US AT:

INFO@HEDGEYE.COM