

HEDGEYE



HEDGEYE'S CURRENT MARKET OUTLOOK

ON TILT | PHASE III, REITERATED

May 8, 2023



MACRO THEMES

#Quad4 Profit Recession
Reiterated

#Quad4 Credit Event Reiterated

Long Gold Reiterated

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1 #Quad4 Profit Recession Reiterated

New Quarter, Same TREND as the slowest moving Quad4 wreck in modernity continues to soldier southward. Lost pricing power, tighter credit, contracting liquidity, negative real income growth, deteriorating real discretionary consumption capacity and rolling credit events continue to define the local (& global) macro trajectory, and the trajectory of the domestic profit cycle by extension. We'll detail the fragility and trap door risk associated with the progressive hollowing out of underlying conditions and update the outlook and risk management playbook as Phase III of the Bear Market remains in conspicuous motion.

2 #Quad4 Credit Event Reiterated

The stressors of Quad 4 have been building for some time and the pressure in the system has reached a critical threshold. Bank runs triggered by long-duration assets funded with fickle, uninsured liabilities are simply the latest symptom. The next phase of the credit cycle will reflect further tightening in credit availability and deteriorating credit quality at both the household and commercial level. Still-too-high inflation coupled with persistent labor market imbalances and that will keep the pressures in the system simmering. So long as Quad 4 remains the trajectory and cost, availability and quality of credit continue to deteriorate, credit event risk will simply remain a when, not an if.

3 Long Gold Reiterated

Any port in a storm? How about the Quad 4 port trifecta of Gold, \$USD, Duration. While most commodity prices have been collapsing under Quad 4 demand destruction (oil, anyone?), gold has been doing what it should do in Quad 4 ... a) not lose value and b) push slowly, steadily higher. While the full economic fallout of policy mismanagement has yet to play out, the downstream reaction function is increasingly coming into focus. Not only is Gold a port in the storm, but investors know the policy reaction function down the road will be to print. Knowing this, Gold reacts accordingly.

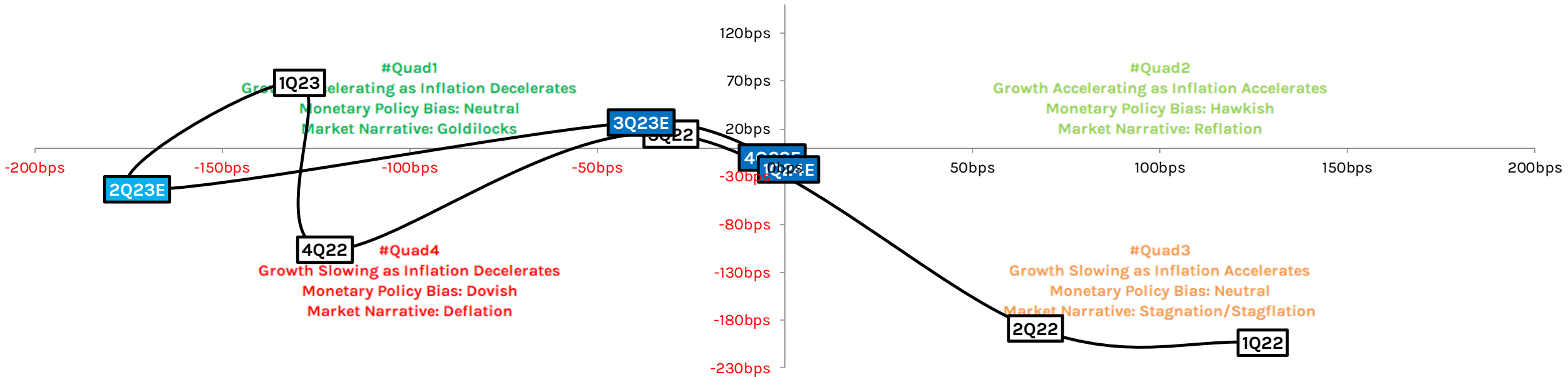
What Are The Quads?

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 | 2Q20 | 3Q20 | 4Q20 | 1Q21 | 2Q21 | 3Q21 | 4Q21 | 1Q22 | 2Q22 | 3Q22 | 4Q22 | 1Q23 | ← Actuals Estimates → | 2Q23E | 3Q23E | 4Q23E | 1Q24E |
|------------------------------|---------|--------|--------|-------|--------|-------|-------|--------|--------|-------|-------|-------|------------------------------|--------|-------|-------|-------|
| Real GDP QoQ SAAR | -29.90% | 35.30% | 3.90% | 6.30% | 7.00% | 2.70% | 7.00% | -1.60% | -0.60% | 3.20% | 2.60% | 1.10% | Real GDP QoQ SAAR | -2.25% | 4.35% | 2.17% | 0.17% |
| Real GDP YoY | -8.35% | -2.02% | -1.52% | 1.19% | 12.46% | 4.96% | 5.72% | 3.68% | 1.80% | 1.94% | 0.88% | 1.56% | Real GDP YoY | 1.14% | 1.40% | 1.30% | 1.08% |
| 2yr Comparative Base Effects | 2.70% | 2.73% | 2.44% | 1.49% | -3.11% | 0.14% | 0.53% | 1.01% | 2.06% | 1.47% | 2.10% | 2.44% | 2yr Comparative Base Effects | 2.13% | 3.45% | 3.30% | 2.62% |
| Headline CPI YoY | 0.36% | 1.22% | 1.24% | 1.90% | 4.85% | 5.34% | 6.69% | 7.96% | 8.63% | 8.33% | 7.10% | 5.81% | Headline CPI YoY | 4.08% | 3.70% | 3.67% | 3.68% |
| 2yr Comparative Base Effects | 2.26% | 2.20% | 2.12% | 1.88% | 1.09% | 1.49% | 1.64% | 2.01% | 2.61% | 3.28% | 3.96% | 4.93% | 2yr Comparative Base Effects | 6.74% | 6.83% | 6.90% | 6.89% |

United States

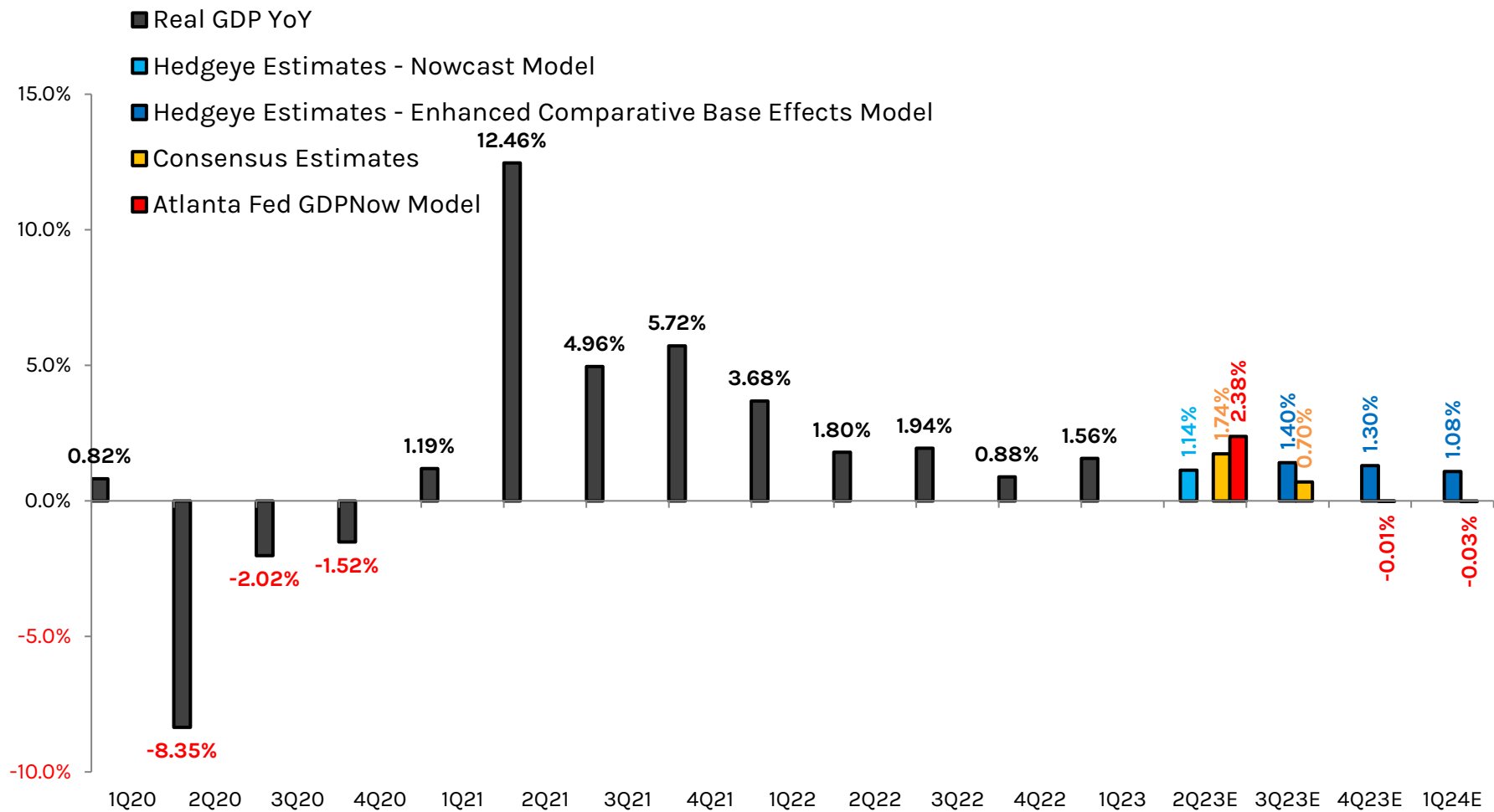
◆ x-axis: First Difference of YoY Headline CPI;
y-axis: First Difference of YoY Real GDP



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



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

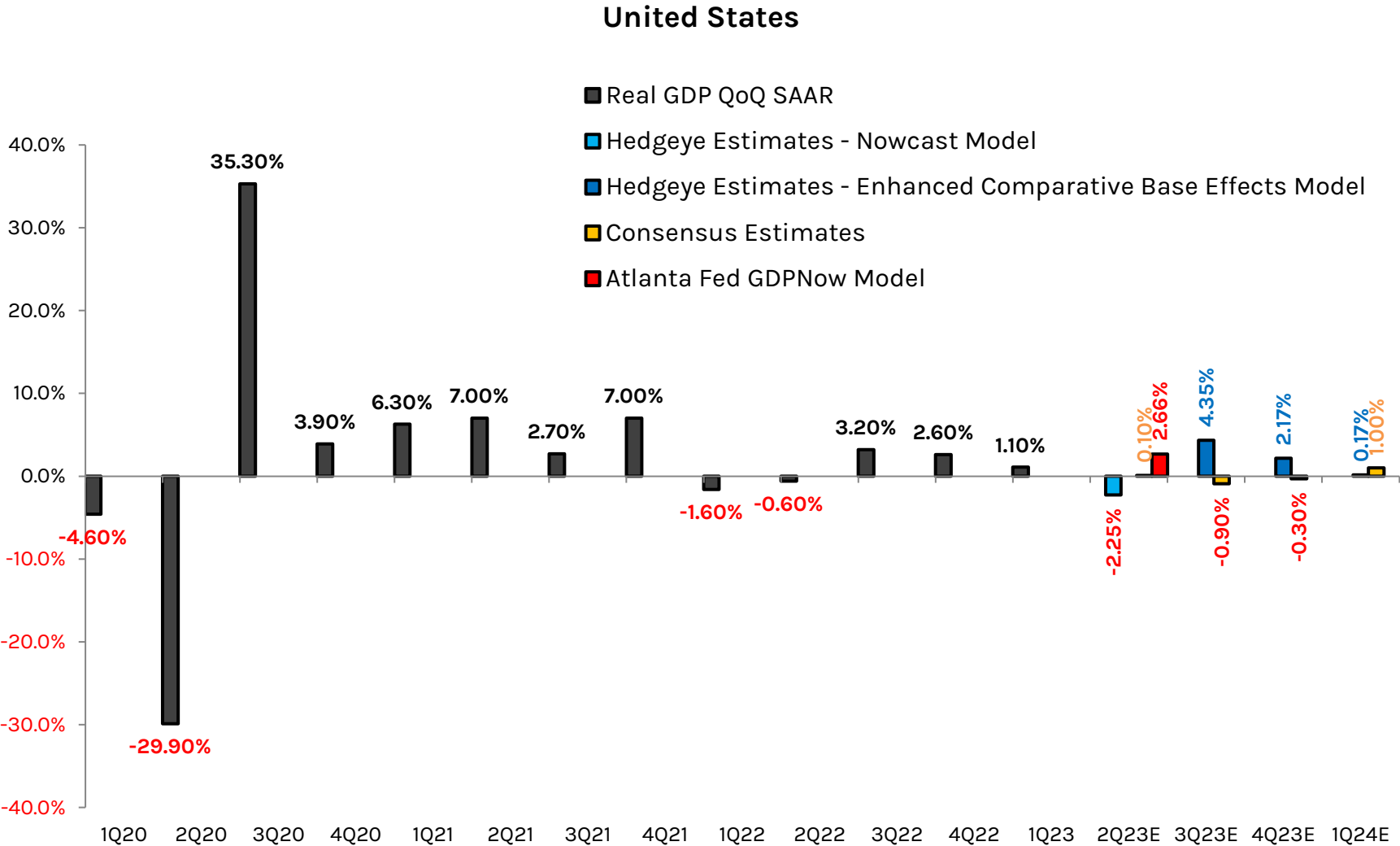
Intra-quarter, we employ a stochastic nowcasting framework that anchors on nonlinear interpolation to relay rate of change signals from the individual features of the dynamic factor model to the base rate. In out-quarters where high-frequency data has yet to be reported, we employ a Bayesian Inference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

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

Data Source: BLS, BEA, Atlanta Fed, FactSet

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US Real GDP QoQ SAAR Projections



Data Source: BLS, BEA, Atlanta Fed, FactSet

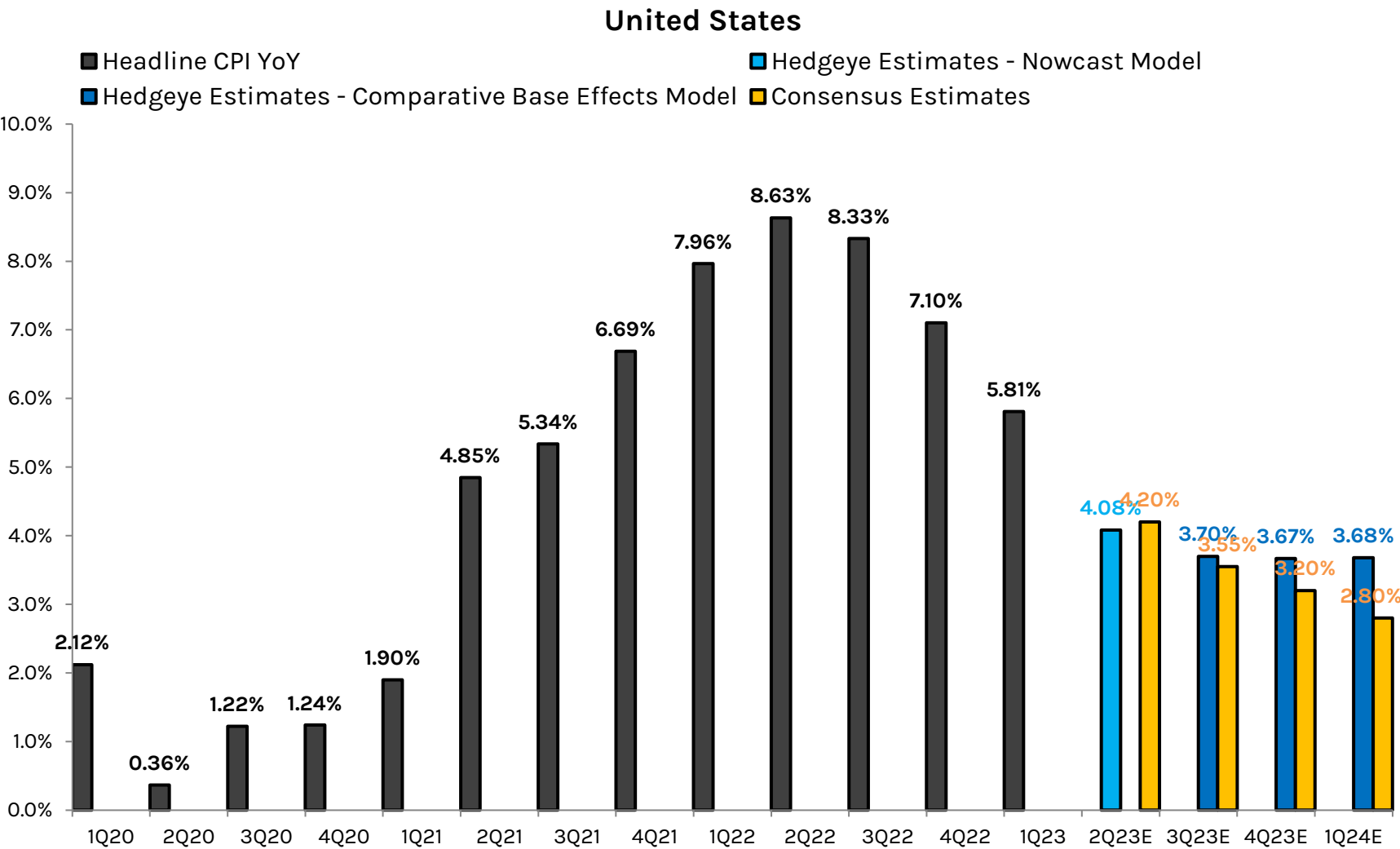
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One differentiating factor of our forecasting process is that we aim to solve for where the economy is trending on a **Full Investing Cycle** basis, rather than trying to identify super short-term economic momentum.

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



Data Source: BLS, BEA, Atlanta Fed, FactSet

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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.

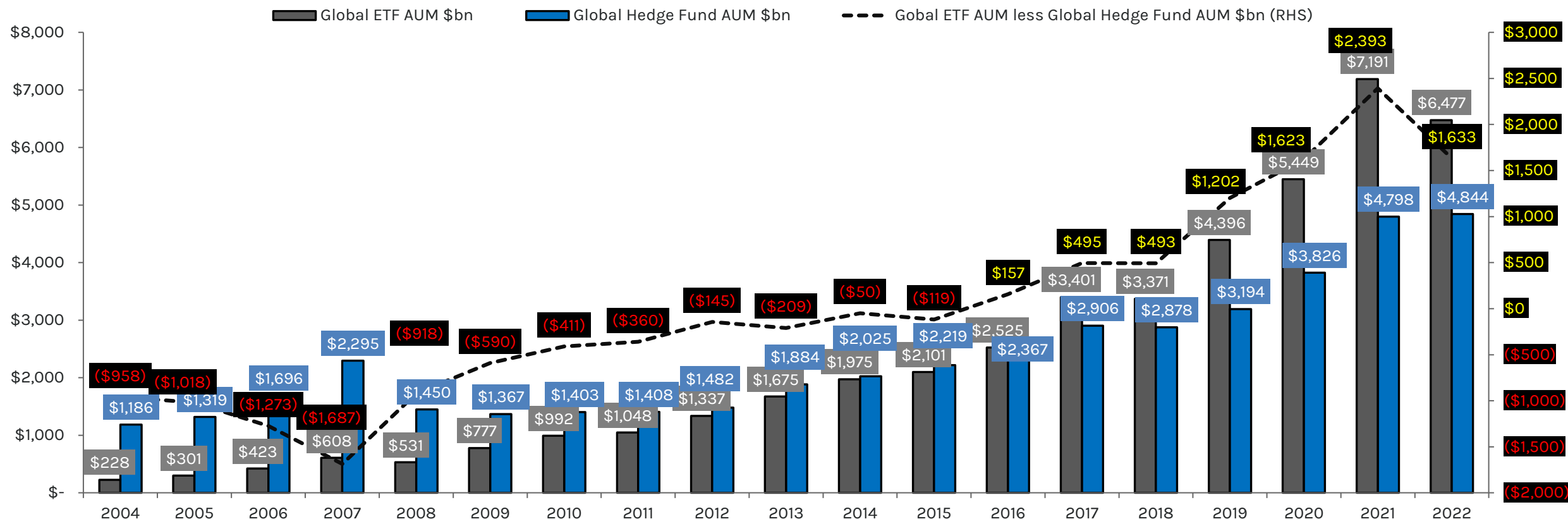
All told, our US CPI nowcast model has an average absolute forecast error of 36bps and an 85% success rate in terms of accurately projecting the rate of change of INFLATION.

OUR MACRO PROCESS



The Investment Landscape Has Evolved Tremendously

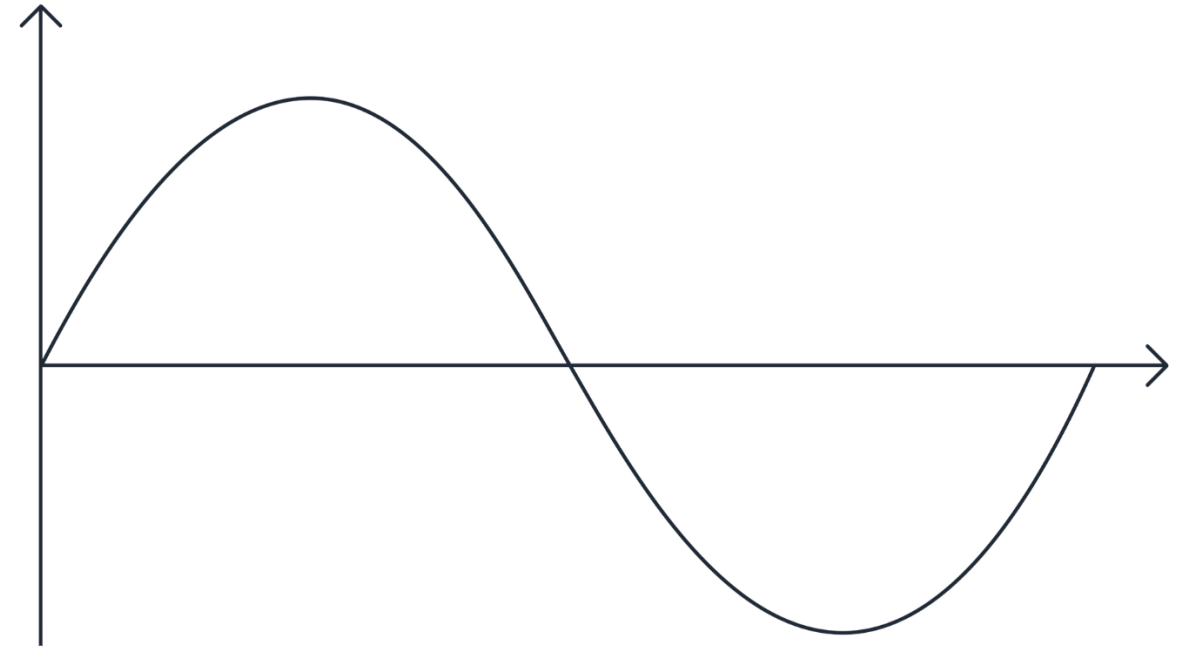
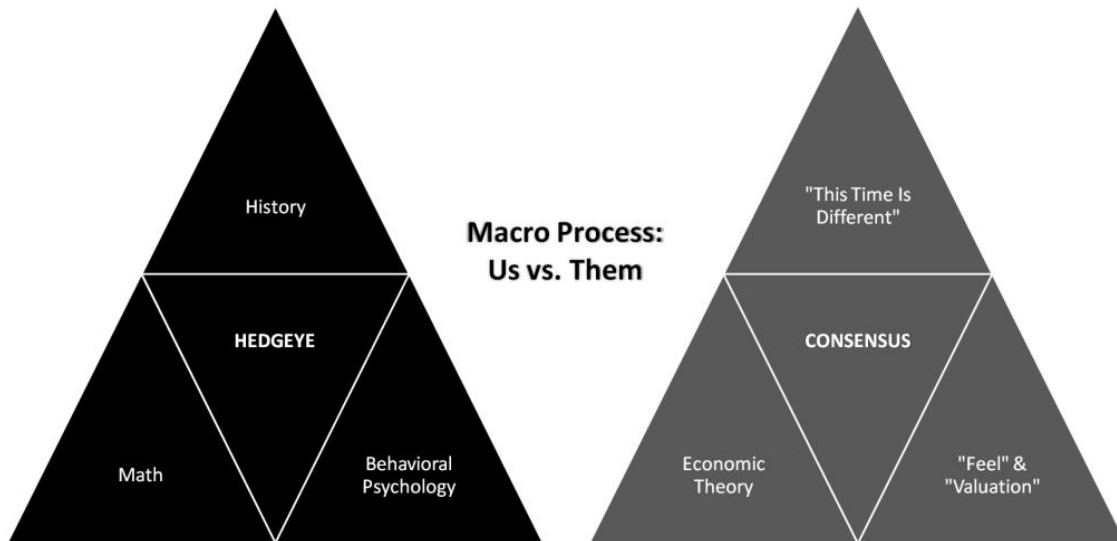
Stock-picking has given way to factor-picking and it's our job as investors to embrace this sea change, rather than fight it.



Skate To Where The Puck Is Going Within Asset Management

AUM in listed ETFs surpassed \$7.1 trillion globally as of Q4 2021, topping global hedge fund assets by over \$2.3 trillion. Moreover, since 2015 ETF AUM has increased 208% with net assets from Hedge funds to ETFs increasing 940% 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.**

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

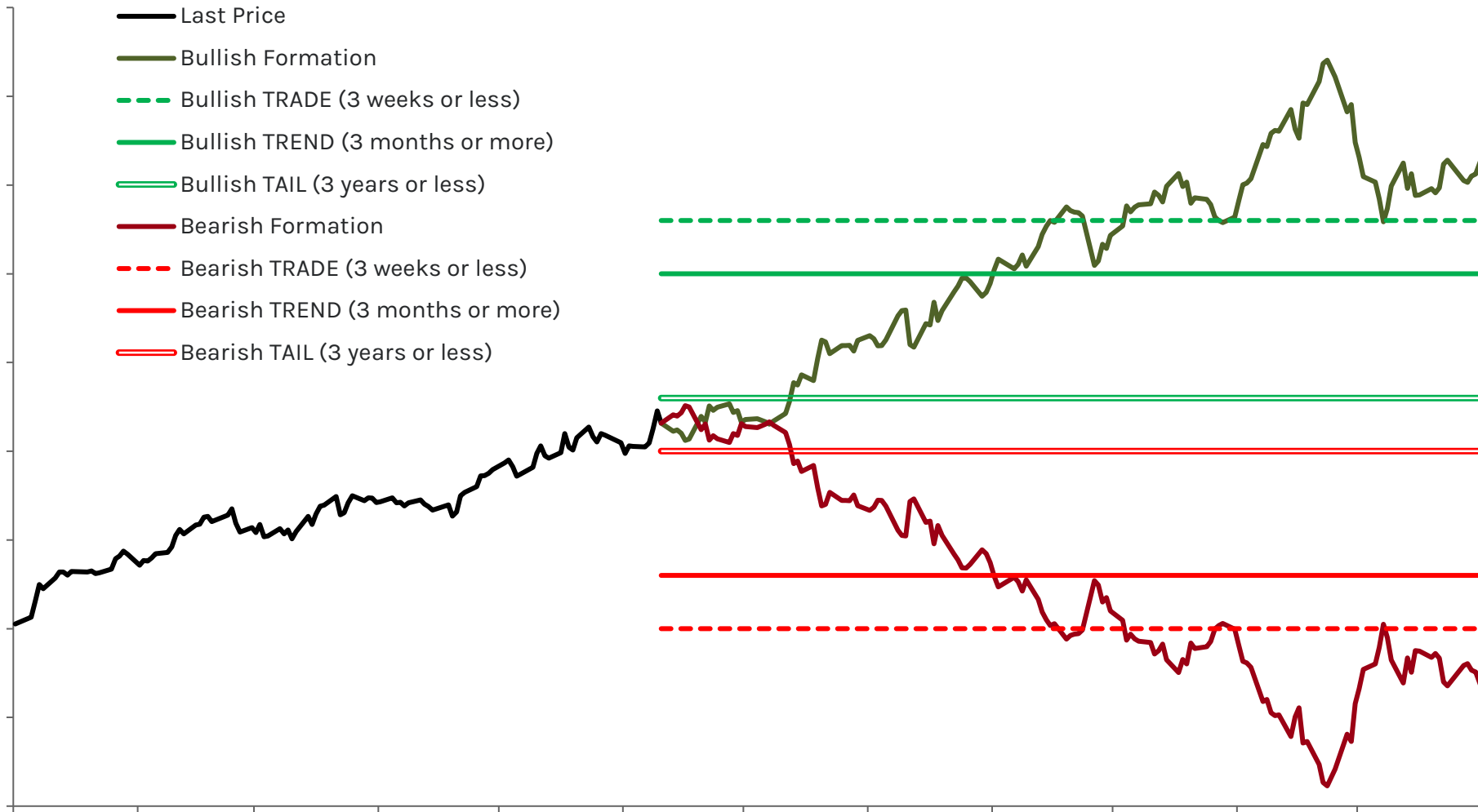
Best Fixed Income Sectors:

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, inasmuch 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 | 2.6% | -2.4% | -1.6% | -10.7% | -1.0% | -2.4% |
| | Low Debt/EV | 1.2% | -1.2% | -1.9% | 1.0% | 10.7% | 8.6% |
| SI | High Short Interest | 2.4% | -1.9% | -3.3% | -8.6% | 1.4% | 1.2% |
| | Low Short Interest | 1.3% | -1.0% | 0.5% | -1.3% | 4.5% | 2.3% |
| BETA | High Beta | 2.4% | -2.3% | -4.8% | -6.7% | 8.6% | 7.4% |
| | Low Beta | 1.1% | -0.6% | 2.3% | -0.2% | 1.2% | -0.4% |
| YIELD | High Yield | 2.3% | -3.1% | -3.0% | -12.1% | -6.6% | -7.1% |
| | Low Yield | 1.5% | -0.7% | -1.7% | -0.5% | 11.9% | 10.6% |
| MKT CAP | MCAP Bottom 25% | 2.0% | -2.9% | -4.0% | -12.5% | -2.8% | -3.2% |
| | MCAP Top 25% | 1.6% | -1.2% | 0.3% | 0.3% | 8.1% | 5.6% |
| Sales | Top 25% Sales Growth | 1.7% | -1.5% | -1.7% | -1.2% | 10.6% | 9.2% |
| | Bottom 25% Sales Growth | 2.3% | -2.3% | -2.5% | -9.9% | -3.2% | -4.8% |
| EPS | Top 25% EPS Growth | 1.7% | -1.7% | -1.3% | -4.3% | 7.5% | 6.2% |
| | Bottom 25% EPS Growth | 2.2% | -2.1% | -2.6% | -8.7% | -1.4% | -3.2% |

*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) | (354,744) | (6,468) | (235,967) | (200,367) | (165,291) | 248,601 | (354,744) | -1.91X | -2.31X |
| | VIX | (79,979) | 1,871 | (59,974) | (63,731) | (67,585) | (26,748) | (163,238) | -0.72X | -0.16X |
| | Russell 2000 (mini) | (57,544) | (7,317) | (54,371) | (59,244) | (77,489) | 46,446 | (120,386) | 0.86X | -0.53X |
| | Dow Jones (mini) | (21,023) | 4,665 | (18,458) | (14,024) | (15,454) | 9,207 | (28,732) | -0.82X | -1.20X |
| | Nasdaq (mini) | 14,752 | 7,229 | (8,439) | (4,386) | 5,689 | 47,085 | (133,005) | 0.57X | 0.43X |
| | Nikkei Index | (3,005) | (433) | (2,369) | (2,631) | (2,264) | 4,738 | (9,401) | -0.40X | -0.17X |
| RATES | 10Y UST | (746,376) | (49,239) | (589,286) | (469,508) | (355,787) | 238,882 | (746,376) | -2.28X | -2.65X |
| | 2Y UST | (632,487) | (84,552) | (583,442) | (552,566) | (380,874) | 86,786 | (708,168) | -1.27X | -2.17X |
| | 5Y UST | (983,240) | (58,364) | (727,496) | (675,401) | (512,965) | 148,962 | (983,240) | -2.26X | -3.02X |
| | UST Bonds | (91,788) | 7,539 | (138,115) | (140,584) | (98,544) | 49,853 | (241,003) | 0.11X | 0.17X |
| | 30D Fed Funds | (40,137) | 50,471 | (117,544) | (86,563) | (13,282) | 488,558 | (320,917) | -0.29X | -0.28X |
| | Eurodollar | (11,233) | (9,438) | (545,070) | (630,802) | (808,224) | 1,039,687 | (1,411,302) | 2.58X | 0.49X |
| CURRENCIES | USD | 11,330 | 612 | 12,397 | 16,553 | 26,511 | 44,971 | (15,000) | -1.35X | -0.26X |
| | JPY | (76,116) | (5,499) | (59,228) | (51,569) | (61,316) | 52,239 | (117,217) | -0.64X | -0.76X |
| | EUR | 182,451 | 3,083 | 174,328 | 162,367 | 83,470 | 212,535 | (47,358) | 1.14X | 1.37X |
| | GBP | 204 | (5,045) | (15,084) | (20,270) | (37,874) | 40,671 | (79,646) | 1.73X | 0.58X |
| | AUD | (46,187) | (5,420) | (34,660) | (36,848) | (41,520) | 15,665 | (94,816) | -0.51X | -0.39X |
| | CAD | (52,451) | (6,381) | (45,917) | (35,893) | (18,627) | 50,344 | (61,016) | -1.46X | -1.98X |
| | MXN | 57,749 | 3,593 | 20,619 | 10,143 | (910) | 68,505 | (64,080) | 1.37X | 2.00X |
| | NZD | (1,866) | 1,342 | 288 | 465 | (4,225) | 17,126 | (19,771) | 0.29X | -0.28X |
| | CHF | (2,894) | 498 | (5,908) | (7,754) | (8,601) | 17,848 | (20,171) | 1.26X | -0.09X |
| COMMODITIES | CRUDE OIL | 258,688 | (19,538) | 249,211 | 260,504 | 288,629 | 594,465 | 183,345 | -0.68X | -1.48X |
| | GOLD | 147,816 | 14,642 | 97,930 | 78,938 | 49,356 | 184,127 | (41,300) | 1.97X | 1.09X |
| | COPPER | (22,765) | (3,932) | (8,037) | (699) | (10,466) | 80,564 | (30,614) | -0.91X | -1.42X |
| | Natural Gas | (143,239) | (5,920) | (154,133) | (159,798) | (146,488) | 71,340 | (182,100) | 0.15X | -0.72X |
| | RBOB Gasoline | 47,812 | (1,118) | 53,445 | 54,207 | 47,444 | 87,991 | 27,945 | 0.04X | -0.36X |
| | ULSD Heating Oil | 3,729 | (3,708) | 11,036 | 16,392 | 14,644 | 40,330 | (14,002) | -1.29X | -0.89X |
| | Silver | 34,087 | 2,198 | 14,337 | 20,013 | 11,953 | 58,462 | (12,811) | 1.68X | 0.26X |
| | Platinum | 27,779 | (2,438) | 13,350 | 18,670 | 9,855 | 36,198 | (8,246) | 1.55X | 1.24X |
| | Corn | (92,461) | (96,400) | 90,636 | 156,169 | 222,484 | 557,581 | (257,102) | -2.71X | -1.94X |
| | Soybeans | 69,687 | (30,813) | 147,285 | 135,138 | 119,936 | 270,935 | 25,136 | -1.26X | -1.07X |
| | Wheat | (102,365) | (9,814) | (69,267) | (53,703) | (25,983) | 59,368 | (102,365) | -2.27X | -3.22X |
| | Live Cattle | 135,339 | 2,423 | 118,292 | 100,708 | 81,035 | 135,339 | 32,625 | 1.88X | 2.40X |
| | Lean Hogs | (12,428) | 11,724 | (13,608) | 8,228 | 23,486 | 101,947 | (28,885) | -1.28X | -2.00X |
| | Sugar | 225,303 | (19,861) | 229,323 | 215,461 | 152,239 | 316,046 | (9,197) | 0.86X | 0.41X |
| | Cotton | (7,509) | (980) | (3,217) | 5,278 | 26,313 | 127,919 | (13,367) | -1.28X | -1.88X |
| | Coffee | 32,407 | (2,859) | 16,416 | (516) | 16,375 | 72,005 | (37,467) | 0.67X | -0.05X |
| | Cocoa | 53,536 | (4,427) | 42,142 | 25,530 | 6,411 | 57,963 | (32,129) | 1.84X | 1.72X |
| | Orange Juice | 4,352 | (38) | 4,781 | 5,056 | 4,724 | 6,673 | (2,109) | -0.43X | 0.75X |

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

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

| TIME WINDOW SETTING: VOLATILITY_30D PUT_IMP_VOL_30D | | TICKER | TOTAL RETURN PERFORMANCE YTD % | IVOL PREMIUM/DISCOUNT IVOL PREM % IVOL / RVOL Yesterday1W Ago1M Ago | | | | REALIZED VOLATILITY TRENDS MM %10YR | | IMPLIED VOLATILITY TRENDS MM %10YR | | |
|---|------------|---------|--------------------------------------|--|------|------|---------|--|------|---------------------------------------|---------|---------|
| US EQUITIES | | CURRENT | | | | | | | | | | |
| SPDR S&P 500 ETF Trust | SPY | 7.90% | 45% | 72% | 30% | 21% | 2.0 | 0.2 | -19% | 56% | -3% | 63% |
| Power Shares QQQ Trust ETF | QQQ | 21.26% | 34% | 53% | 34% | 35% | 1.7 | 0.2 | -9% | 55% | -9% | 63% |
| I-Shares Russell 2000 ETF | IWM | 0.05% | 35% | 56% | 8% | 6% | 1.7 | 0.6 | -23% | 54% | -2% | 68% |
| Materials Sector SPDR ETF | XLB | 2.55% | 83% | 40% | 32% | -12% | 2.8 | 1.9 | -31% | 46% | 44% | 88% |
| Communication Services SPDR ETF | XLC | 21.55% | -18% | -5% | -22% | 20% | -0.7 | -1.0 | 15% | 58% | -21% | 35% |
| Energy Sector SPDR ETF | XLE | -8.28% | 7% | 21% | 9% | -6% | -0.1 | -0.1 | -13% | 64% | -1% | 64% |
| Financials Sector SPDR ETF | XLF | -5.47% | 44% | 78% | 11% | -8% | 1.4 | 1.0 | -39% | 52% | -5% | 75% |
| Industrials Sector SPDR ETF | XLI | 1.32% | -16% | 62% | -37% | 25% | -1.4 | -1.3 | -13% | 61% | -41% | 36% |
| Technology Sector SPDR ETF | XLK | 21.54% | -3% | 37% | 1% | 19% | 0.0 | -0.4 | -4% | 59% | -22% | 55% |
| Consumer Staples Sector SPDR ETF | XLP | 3.53% | 25% | 97% | -8% | 20% | 0.0 | -0.3 | -28% | 14% | -26% | 16% |
| Real Estate Sector SPDR ETF | XLRE | 1.38% | 21% | 25% | -11% | -12% | 1.3 | 0.8 | -28% | 65% | 0% | 78% |
| Utilities Sector SPDR ETF | XLU | -2.09% | 39% | 62% | -10% | -2% | 1.1 | 0.6 | -36% | 47% | -9% | 81% |
| Health Care Sector SPDR ETF | XLV | -1.66% | 4% | 38% | 1% | -4% | -0.2 | -0.6 | -16% | 33% | -10% | 25% |
| Consumer Discretionary Sector SPDR ETF | XLV | 13.96% | -20% | 23% | -10% | 15% | -1.2 | -1.1 | -8% | 70% | -36% | 55% |
| INTERNATIONAL EQUITIES | | | | | | | | | | | | |
| I-Shares MSCI Emerging Markets ETF | EEM | 3.93% | 11% | 33% | 13% | 9% | 0.0 | -0.1 | -17% | 15% | -15% | 12% |
| Euro Stoxx 50 Index | SXSE Index | 14.41% | 21% | 43% | 13% | -31% | 0.6 | 0.6 | -46% | 23% | -5% | 34% |
| I-Shares China Large-Cap ETF | FXI | 1.31% | 3% | 2% | 0% | 7% | -0.1 | 0.0 | -4% | 67% | -8% | 69% |
| I-Shares MSCI Japan ETF | EWJ | 9.35% | 13% | 33% | 11% | 2% | 0.5 | 0.3 | -24% | 26% | -15% | 28% |
| CURRENCIES | | | | | | | | | | | | |
| PowerShares US Dollar Index ETF | UUP | -0.54% | 69% | 53% | 59% | 25% | 0.8 | 0.7 | -26% | 46% | 0% | 71% |
| Currency Shares Euro Trust ETF | FXE | 2.95% | 38% | 48% | 74% | -1% | 1.8 | 1.5 | -24% | 52% | 6% | 86% |
| Currency Shares British Pound ETF | FXB | 4.53% | 6% | 7% | 6% | -13% | 0.5 | 0.1 | -28% | 41% | -12% | 48% |
| Currency Shares Japanese Yen ETF | FXJ | -2.80% | -5% | 2% | -6% | 10% | -0.3 | -0.6 | -1% | 79% | -15% | 72% |
| COMMODITIES | | | | | | | | | | | | |
| SPDR Gold Shares ETF | GLD | 10.50% | 14% | 29% | -11% | -7% | 0.2 | -0.1 | -21% | 62% | -3% | 64% |
| United States Oil Fund ETF | USO | -10.10% | -6% | 15% | 5% | 0% | -1.8 | -0.9 | 7% | 75% | 1% | 33% |
| United States Natural Gas Fund ETF | UNG | -56.24% | 8% | 9% | 6% | 13% | -0.2 | -0.1 | -23% | 74% | -26% | 64% |
| Teucrium Corn ETF | CORN | -11.70% | 25% | 26% | 27% | 20% | -0.4 | -0.3 | 16% | 39% | 20% | 39% |
| iPath Coffee Subindex ETN | JO | 15.23% | 0% | -9% | -3% | 21% | -0.7 | -0.9 | 3% | 44% | -15% | 28% |
| iPath Cocoa Subindex ETN | NIB | 18.70% | 49% | 85% | -17% | 10% | -0.3 | 0.5 | -11% | 29% | 20% | 79% |
| FIXED INCOME | | | | | | | | | | | | |
| I-Shares 20+ Year Treasury Bond ETF | TLT | 5.35% | -6% | 1% | 4% | -9% | -0.8 | -1.0 | -4% | 89% | -1% | 84% |
| I-Shares 7-10 Year Treasury Bond ETF | IEF | 4.08% | 3% | 11% | 1% | -20% | 0.0 | -0.7 | -20% | 91% | 3% | 90% |
| I-Shares IBOX IG Corporate Bond ETF | LQD | 2.95% | 10% | 22% | 32% | 31% | -0.5 | -0.8 | 10% | 87% | -7% | 71% |
| I-Shares J.P. Morgan USD EM Bond ETF | EMB | 0.95% | - | - | 41% | 50% | #VALUE! | #VALUE! | -16% | 71% | #VALUE! | #VALUE! |
| I-Shares IBOX HY Corporate Bond ETF | HYG | 1.53% | 45% | 25% | 3% | 1% | 2.9 | 0.8 | -20% | 72% | 15% | 85% |
| MEGA-CAP | | | | | | | | | | | | |
| Apple | AAPL | 25.59% | 15% | 76% | 52% | 45% | 0.3 | 0.0 | 9% | 45% | -14% | 41% |
| Amazon | AMZN | 25.78% | -3% | 6% | -3% | 54% | -0.1 | -0.4 | 26% | 66% | -21% | 65% |
| Alphabet | GOOGL | 19.65% | 14% | 23% | 5% | 27% | 0.8 | 0.1 | -11% | 62% | -20% | 70% |
| Facebook | META | 93.44% | -15% | -11% | -20% | 33% | -0.3 | -0.6 | 17% | 78% | -26% | 61% |
| Microsoft | MSFT | 20.96% | -9% | -3% | -16% | 25% | -0.4 | -0.9 | 21% | 69% | -12% | 62% |
| Tesla | TSLA | 38.06% | -4% | 8% | -11% | 16% | -0.4 | -0.5 | -4% | 54% | -21% | 38% |
| Data Source: CBOE, CME | | | | | | | | | | | | |

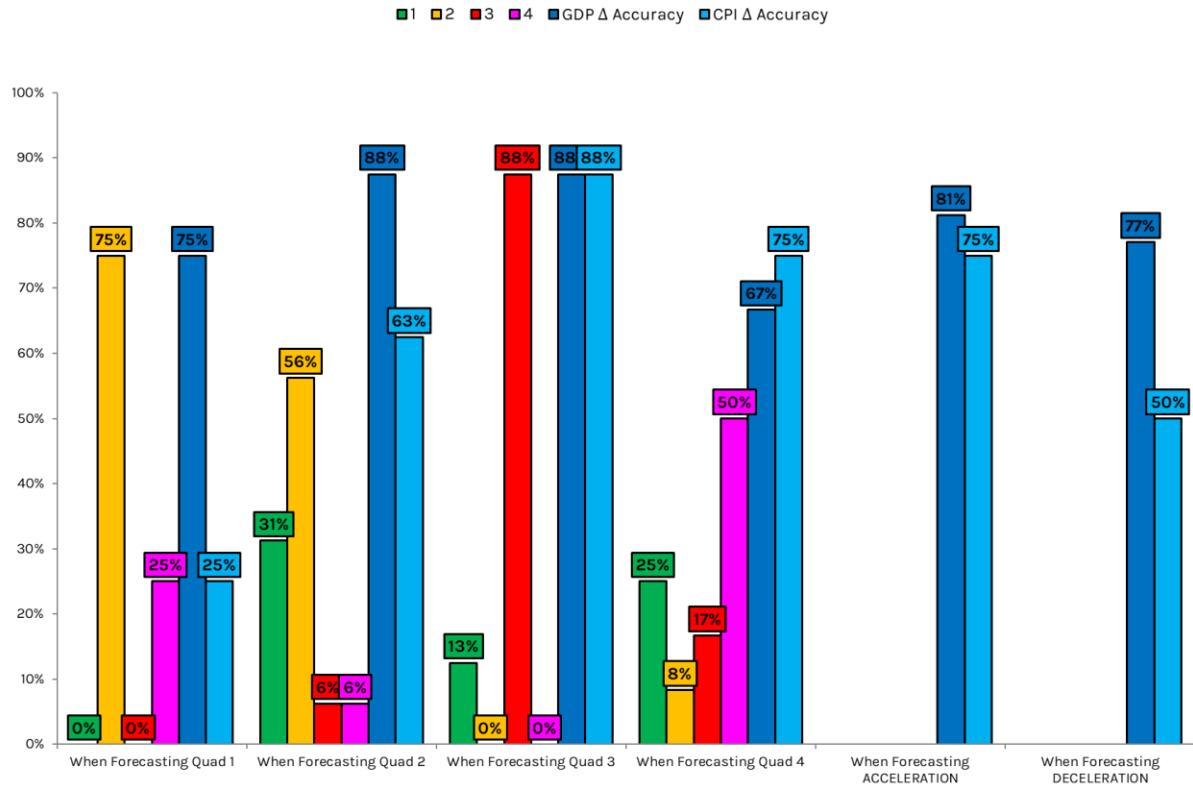
Data Source: CBOE, CME

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

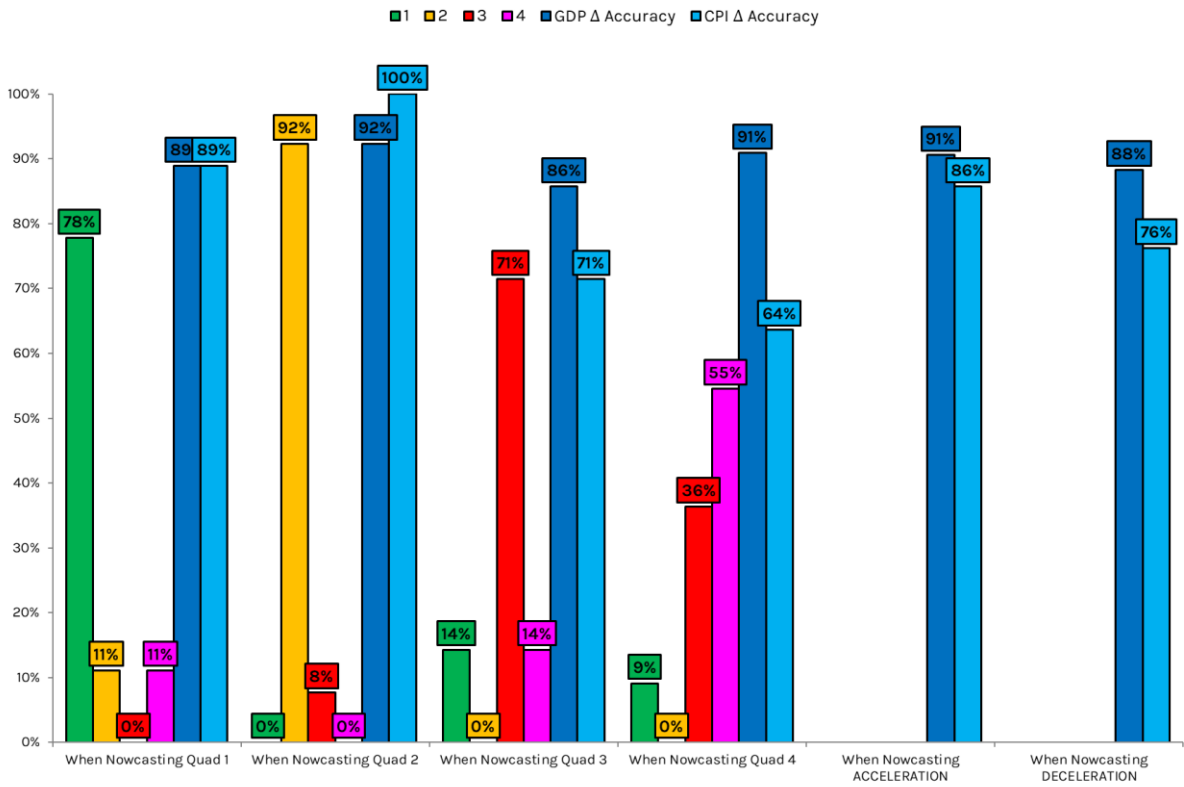
US Comparative Base Effects Model Backtest

US Nowcast Model Backtest

Hedgeye Comparative Base Effects Model Quad Projection Accuracy: United States



Hedgeye Nowcast Model Quad Projection Accuracy: United States



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