# HEDGEYE

# HEDGEYE'S CURRENT MARKET OUTLOOK

More Cowbell Required

Updated: September 29, 2020



**MACRO THEMES**

USA: Quad 3 Or Quad 4 In Q4?

Biden vs. Trump

China: Quads 1 & 2

# Legal

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# Q4 2020 Macro Themes

HEDGEYE

**[1]** ## USA: Quad 3 Or Quad 4 In Q4?

Investor consensus is heavily net short of NASDAQ futures, long bond futures, and DXY futures. One or two of these conditions must give in the coming weeks. In the presentation, we'll detail the economic and market signals we're leaning on to proactively prepare for a nasty Quad 4 market or a resumption of the Quad 3 regime Wall Street completely missed calling for back in June.

**[2]** ## Biden vs. Trump

Goldman was out recently highlighting the electoral process risk Hedgeye Demography Sector Head Neil Howe has called attention to for months. In the presentation, we'll build upon Neil's work, detail the economic drivers of America's polarized political climate, and shine light on the increasingly probable path towards MMT.

**[3]** ## China: Quads 1 & 2

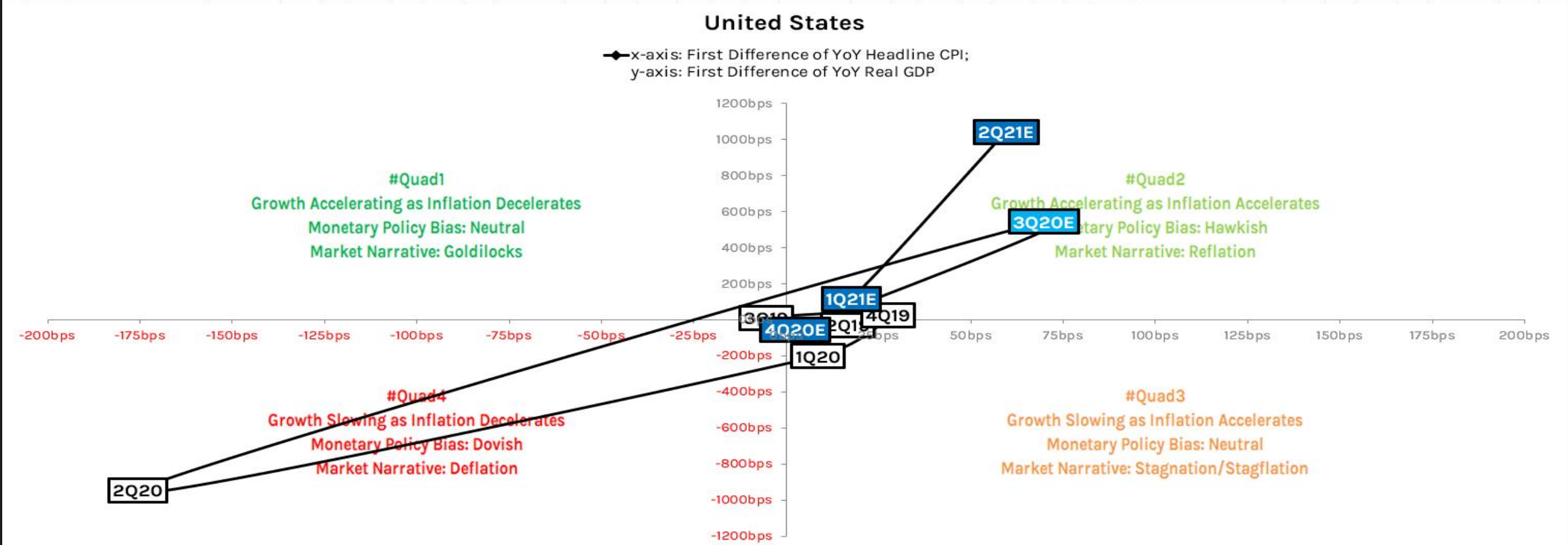We've long held the belief that Phase 3 in unencumbered economies like China and pockets of EM and Northern Europe is unlikely to resemble Phase 3 in overly indebted economies like the USA, Core Europe, and Japan. In the presentation, we'll detail why investors should expect heightening dispersion in the economic and financial market performance of economies across the globe in this post-Phase 2 world.
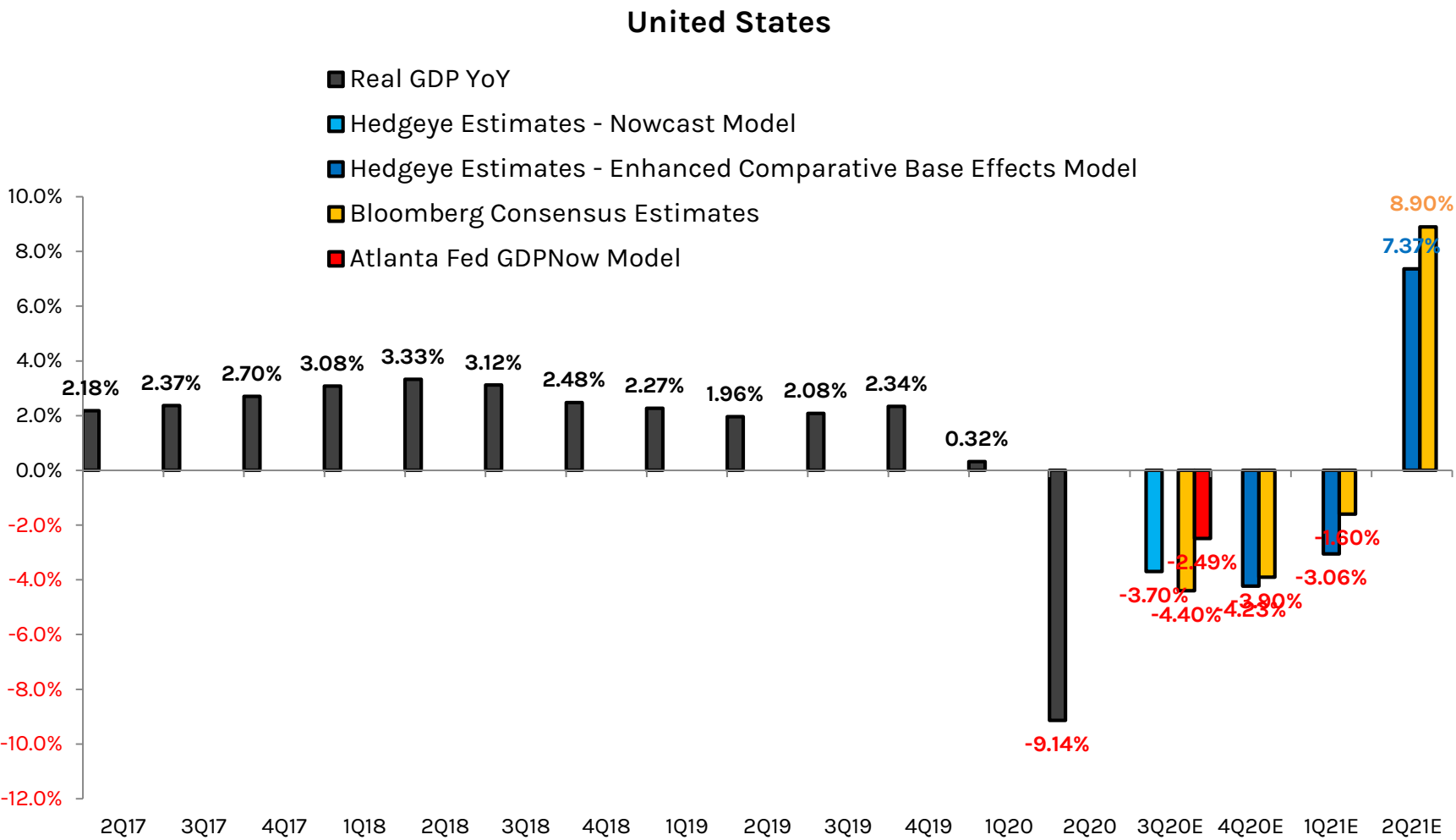
# What Are The Quads?

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 | 3Q17 | 4Q17 | 1Q18 | 2Q18 | 3Q18 | 4Q18 | 1Q19 | 2Q19 | 3Q19 | 4Q19 | 1Q20 | 2Q20 | ← Actuals \| Estimates → | 3Q20E | 4Q20E | 1Q21E | 2Q21E |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Real GDP QoQ SAAR | 2.90% | 3.90% | 3.80% | 2.70% | 2.10% | 1.30% | 2.90% | 1.50% | 2.60% | 2.40% | -5.00% | -31.70% | Real GDP QoQ SAAR | 26.66% | 0.12% | -0.21% | 2.73% |
| Real GDP YoY | 2.37% | 2.70% | 3.08% | 3.33% | 3.12% | 2.48% | 2.27% | 1.96% | 2.08% | 2.34% | 0.32% | -9.14% | Real GDP YoY | -3.70% | -4.23% | -3.06% | 7.37% |
| 2yr Comparative Base Effects | 2.08% | 2.12% | 1.92% | 1.80% | 1.98% | 2.39% | 2.57% | 2.75% | 2.74% | 2.59% | 2.67% | 2.64% | 2yr Comparative Base Effects | 2.60% | 2.41% | 1.29% | -3.59% |
| Headline CPI YoY | 1.97% | 2.12% | 2.21% | 2.71% | 2.64% | 2.20% | 1.64% | 1.81% | 1.76% | 2.03% | 2.12% | 0.36% | Headline CPI YoY | 1.06% | 1.09% | 1.26% | 1.86% |
| 2yr Comparative Base Effects | 0.61% | 1.13% | 1.81% | 1.48% | 1.54% | 1.96% | 2.38% | 2.33% | 2.30% | 2.16% | 1.93% | 2.26% | 2yr Comparative Base Effects | 2.20% | 2.12% | 1.86% | 1.09% |



United States

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

#Quad1
Growth Accelerating as Inflation Decelerates
Monetary Policy Bias: Neutral
Market Narrative: Goldilocks

#Quad2
Growth Accelerating as Inflation Accelerates
Monetary Policy Bias: Hawkish
Market Narrative: Reflation

#Quad4
Growth Slowing as Inflation Decelerates
Monetary Policy Bias: Dovish
Market Narrative: Deflation

#Quad3
Growth Slowing as Inflation Accelerates
Monetary Policy Bias: Neutral
Market Narrative: Stagnation/Stagflation

Data Source: Bloomberg. Light Blue box= Hedgeye Predictive Tracking Algorithm nowcast. Dark Blue boxes = Hedgeye COVID19 Scenario Analysis estimates.

© Hedgeye Risk Management
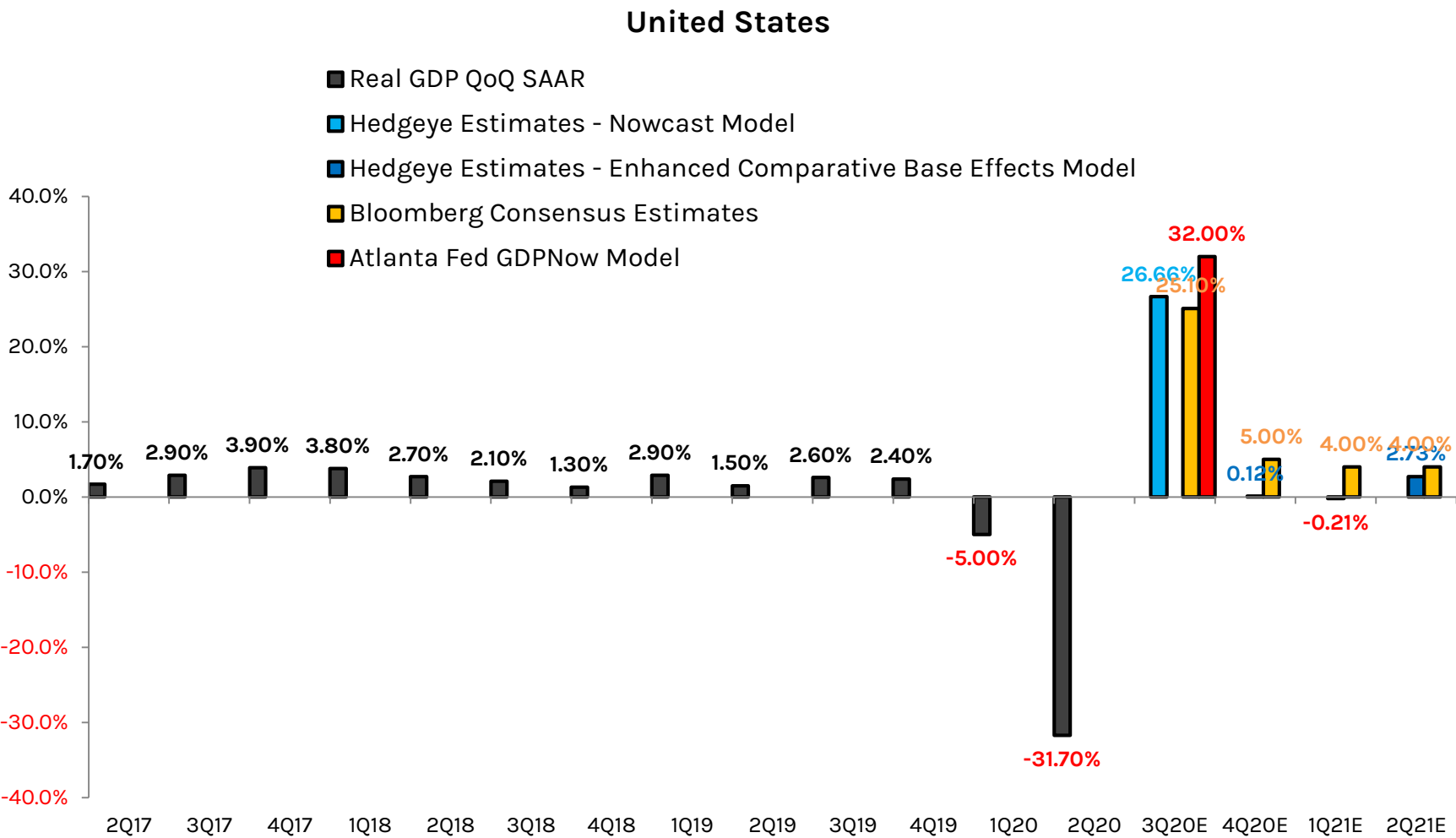
# US Real GDP YoY Projections

# US Real GDP QoQ SAAR Projections



**United States**

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

Chart values by quarter:
- 2Q17: 1.70%
- 3Q17: 2.90%
- 4Q17: 3.90%
- 1Q18: 3.80%
- 2Q18: 2.70%
- 3Q18: 2.10%
- 4Q18: 1.30%
- 1Q19: 2.90%
- 2Q19: 1.50%
- 3Q19: 2.60%
- 4Q19: 2.40%
- 1Q20: -5.00%
- 2Q20: -31.70%
- 3Q20E: 26.66% / 25.10% / 32.00%
- 4Q20E: 0.12% / 5.00%
- 1Q21E: -0.21% / 4.00%
- 2Q21E: 2.73% / 4.00%

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.
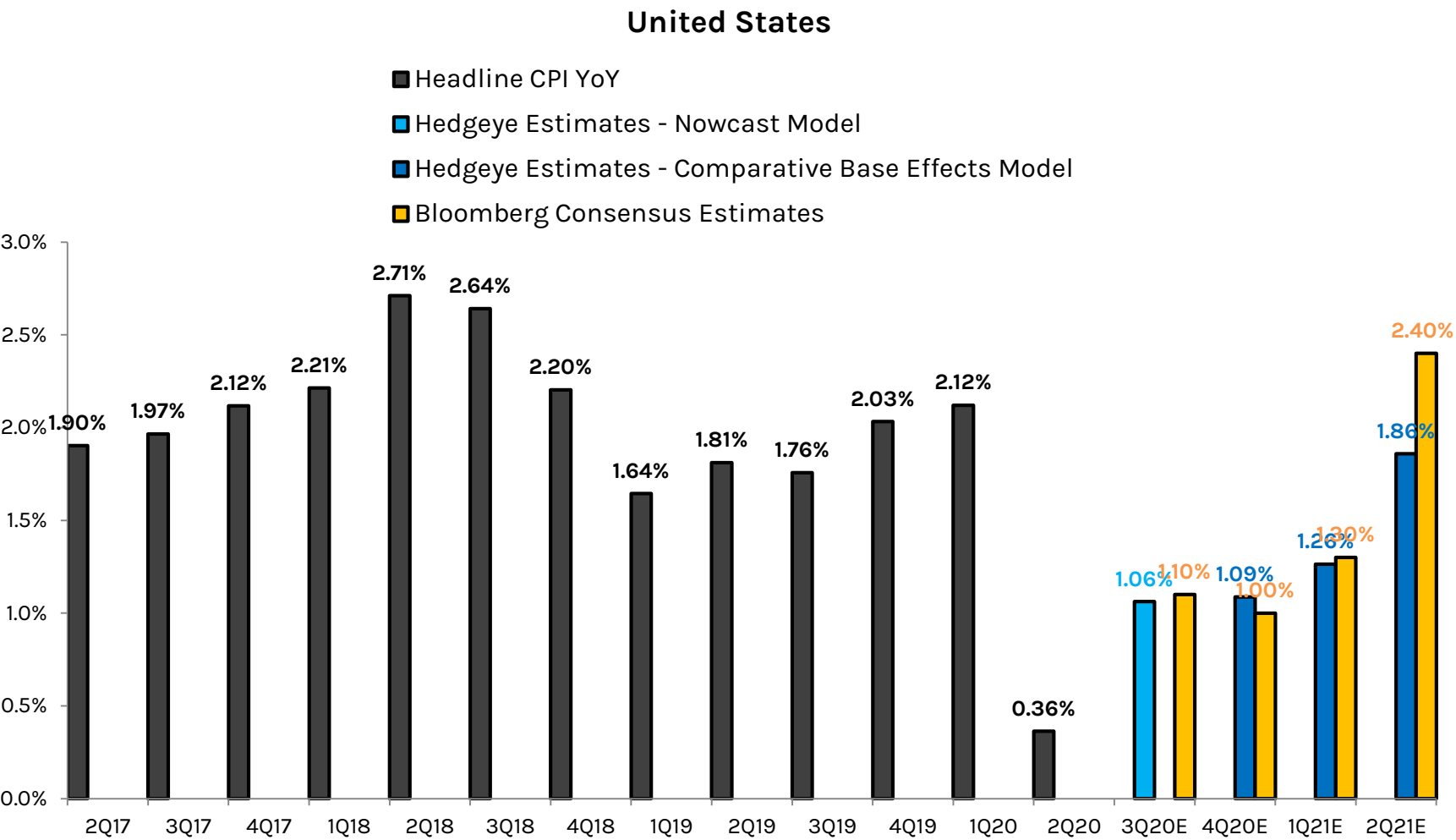
# US Real GDP Nowcast Model

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

| HEDGEYE US NOWCAST MODEL SUMMARY | Oct-18 | Nov-18 | Dec-18 | Jan-19 | Feb-19 | Mar-19 | Apr-19 | May-19 | Jun-19 | Jul-19 | Aug-19 | Sep-19 | Oct-19 | Nov-19 | Dec-19 | Jan-20 | Feb-20 | Mar-20 | Apr-20 | May-20 | Jun-20 | Jul-20 | Aug-20 | Sep-20 | 2Q20 | 3Q20 | Δ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Real PCE YoY (1) | 2.97 | 2.80 | 1.30 | 2.19 | 2.22 | 2.50 | 2.43 | 2.34 | 2.55 | 2.44 | 2.33 | 2.58 | 2.30 | 2.06 | 3.02 | 2.69 | 2.61 | -4.69 | -16.70 | -9.88 | -5.08 | -3.77 | - | - | -10.56 | -3.77 | 6.78 |
| Real Disposable Personal Income YoY (14) | 3.40 | 3.42 | 4.29 | 3.47 | 3.37 | 2.89 | 2.39 | 2.05 | 1.85 | 1.58 | 1.79 | 2.02 | 1.81 | 2.10 | 0.83 | 1.55 | 2.01 | 0.63 | 16.45 | 10.74 | 8.64 | 8.43 | - | - | 11.94 | 8.43 | -3.51 |
| Personal Savings Rate % of DPI (7) | 7.6 | 7.4 | 9.1 | 8.5 | 8.6 | 8.0 | 7.5 | 7.3 | 7.1 | 7.0 | 7.3 | 7.3 | 7.2 | 7.5 | 7.2 | 7.6 | 8.3 | 12.9 | 33.7 | 24.6 | 19.2 | 17.8 | - | - | 25.8 | 17.8 | -8.0 |
| Headline Retail Sales YoY (12) | 4.40 | 3.63 | 0.92 | 2.52 | 1.99 | 3.61 | 3.86 | 2.90 | 3.44 | 3.57 | 4.21 | 3.95 | 3.31 | 3.25 | 5.61 | 4.87 | 4.48 | -5.59 | -19.86 | -5.55 | 2.23 | 2.44 | 2.57 | - | -7.73 | 2.50 | 10.23 |
| Retail Sales Control Group YoY (13) | 4.71 | 4.54 | 0.46 | 3.68 | 2.81 | 3.88 | 3.86 | 3.45 | 4.97 | 4.83 | 5.00 | 4.41 | 4.10 | 2.51 | 6.20 | 3.70 | 4.01 | 6.32 | -7.46 | 1.50 | 7.01 | 7.51 | 7.22 | - | 0.35 | 7.37 | 7.02 |
| Auto Sales YoY (16) | -2.67 | 0.00 | -1.46 | -2.75 | -2.36 | 0.57 | -3.93 | 2.91 | -0.46 | 0.84 | 2.23 | -1.21 | -5.43 | -1.78 | -4.57 | 1.45 | 1.63 | -35.03 | -47.68 | -29.42 | -24.57 | -13.67 | -10.49 | - | -33.89 | -12.08 | 21.81 |
| MBA Mortgage Purchase Index YoY (30) | -1.60 | -0.28 | -1.07 | 5.99 | 0.20 | 3.40 | 5.56 | 5.11 | 8.16 | 6.21 | 5.97 | 10.50 | 9.34 | 11.00 | 9.05 | 9.09 | 10.61 | -2.10 | -29.85 | -1.13 | 15.98 | 17.46 | 26.46 | 22.21 | -5.00 | 22.04 | 27.04 |
| Total Employees On Nonfarm Payrolls YoY (5) | 1.60 | 1.53 | 1.57 | 1.67 | 1.39 | 1.37 | 1.42 | 1.28 | 1.26 | 1.29 | 1.27 | 1.35 | 1.34 | 1.42 | 1.42 | 1.38 | 1.55 | 0.54 | -13.42 | -11.65 | -8.59 | -7.56 | -6.78 | - | -11.22 | -7.17 | 4.05 |
| Aggregate Hours Worked YoY (2) | 1.89 | 1.24 | 1.57 | 1.96 | 1.10 | 1.37 | 1.12 | 0.99 | 0.67 | 0.71 | 0.97 | 1.06 | 1.05 | 1.13 | 0.84 | 0.80 | 1.55 | -0.63 | -13.92 | -10.88 | -8.06 | -7.02 | -6.24 | - | -10.95 | -6.63 | 4.33 |
| Aggregate Labor Income YoY (3) | 5.28 | 4.63 | 5.00 | 5.28 | 4.65 | 4.84 | 4.50 | 4.32 | 4.10 | 4.20 | 4.46 | 4.20 | 4.30 | 4.45 | 3.87 | 3.90 | 4.59 | 2.70 | -7.05 | -5.03 | -3.59 | -2.68 | -1.87 | - | -5.22 | -2.28 | 2.95 |
| Monthly Initial Jobless Claims YoY (4) | -9.82 | -0.76 | -9.71 | -5.67 | 2.84 | -2.75 | -4.20 | -2.23 | 2.48 | -3.12 | 0.75 | 0.12 | -0.82 | -5.95 | 4.62 | -7.12 | -7.20 | 1075.85 | 2245.45 | 1024.38 | 574.43 | 509.26 | 373.87 | 386.24 | 1281.42 | 423.12 | -858.30 |
| Bloomberg Consumer Comfort Index (10) | 60.2 | 60.9 | 59.5 | 57.9 | 59.7 | 60.7 | 60.3 | 60.2 | 62.3 | 64.2 | 62.0 | 62.6 | 62.7 | 59.2 | 62.2 | 66.1 | 65.3 | 60.9 | 43.8 | 36.0 | 40.9 | 44.1 | 44.3 | 48.5 | 40.2 | 45.6 | 5.4 |
| Industrial Production YoY (9) | 4.06 | 4.06 | 3.77 | 3.63 | 2.74 | 2.26 | 0.71 | 1.73 | 1.02 | 0.40 | 0.30 | -0.18 | -0.81 | -0.42 | -0.81 | -0.85 | -0.24 | -4.70 | -16.50 | -15.86 | -10.73 | -7.42 | -7.73 | - | -14.36 | -7.58 | 6.79 |
| Capacity Utilization (6) | 79.3 | 79.6 | 79.5 | 79.0 | 78.5 | 78.4 | 77.8 | 77.8 | 77.7 | 77.4 | 77.8 | 77.4 | 77.0 | 77.6 | 77.2 | 76.9 | 76.9 | 73.6 | 64.1 | 64.7 | 68.7 | 71.1 | 71.4 | - | 65.8 | 71.3 | 5.5 |
| Durable Goods New Orders YoY (23) | -6.01 | 3.77 | 3.59 | 8.07 | 0.04 | 2.26 | -1.66 | -3.96 | -4.41 | 0.38 | -3.27 | -5.73 | -1.61 | -3.95 | -3.27 | -3.62 | 1.62 | -18.64 | -30.29 | -18.64 | -12.42 | -4.54 | -4.58 | - | -20.45 | -4.56 | 15.88 |
| Core Capital Goods New Orders YoY (29) | 4.15 | 1.62 | 2.44 | 5.56 | 4.74 | 6.40 | 2.25 | 0.84 | 0.49 | -3.29 | 0.10 | -0.12 | -0.74 | 3.43 | 1.67 | 0.56 | 0.97 | -2.63 | -7.25 | -4.34 | -2.34 | 0.39 | 2.79 | - | -4.64 | 1.59 | 6.24 |
| Factory Orders YoY (20) | 6.44 | 3.04 | 2.26 | 4.41 | 1.22 | 2.45 | 0.84 | -1.29 | -2.25 | 0.48 | -1.75 | -3.28 | -1.31 | -1.16 | 0.29 | -0.55 | 0.53 | -12.43 | -22.74 | -16.08 | -10.40 | -6.18 | - | - | -16.40 | -6.18 | 10.23 |
| Manufacturing & Trade Inventories YoY (22) | 5.03 | 4.43 | 4.91 | 5.20 | 5.09 | 5.05 | 5.29 | 5.29 | 5.10 | 4.77 | 3.93 | 3.41 | 2.86 | 2.66 | 1.87 | 0.77 | -0.16 | -0.48 | -2.25 | -4.80 | -5.75 | -5.87 | - | - | -4.27 | -5.87 | -1.61 |
| Nonresidential Construction Spending YoY (27) | 3.81 | 2.01 | 3.12 | 1.81 | 1.71 | 4.04 | 4.93 | 4.38 | 5.12 | 5.85 | 5.24 | 8.88 | 8.34 | 11.18 | 9.05 | 7.75 | 5.78 | 4.30 | -0.10 | 0.83 | 1.10 | -0.84 | - | - | 0.61 | -0.84 | -1.44 |
| Residential Construction Spending YoY (28) | -0.70 | -4.76 | -8.21 | -8.23 | -10.62 | -8.94 | -7.78 | -7.49 | -4.63 | -2.27 | 0.99 | 1.66 | 4.00 | 6.33 | 9.80 | 11.72 | 13.40 | 12.15 | 6.10 | 1.81 | -0.03 | 0.97 | - | - | 2.62 | 0.97 | -1.65 |
| ISM Manufacturing PMI (25) | 58.5 | 58.8 | 55.0 | 55.5 | 54.1 | 54.6 | 53.4 | 52.3 | 51.6 | 51.3 | 48.8 | 48.2 | 48.5 | 48.1 | 47.8 | 50.9 | 50.1 | 49.1 | 41.5 | 43.1 | 52.6 | 54.2 | 56.0 | - | 45.7 | 55.1 | 9.4 |
| ISM Non-Manufacturing PMI (17) | 60.3 | 60.2 | 58.0 | 56.0 | 58.5 | 56.3 | 55.7 | 56.3 | 55.4 | 54.8 | 56.0 | 53.5 | 54.4 | 53.9 | 54.9 | 55.5 | 57.3 | 52.5 | 41.8 | 45.4 | 57.1 | 58.1 | 56.9 | - | 48.1 | 57.5 | 9.4 |
| NFIB Small Business Optimism Index (21) | 107.4 | 104.8 | 104.4 | 101.2 | 101.7 | 101.8 | 103.5 | 105.0 | 103.3 | 104.7 | 103.1 | 101.8 | 102.4 | 104.7 | 102.7 | 104.3 | 104.5 | 96.4 | 90.9 | 94.4 | 100.6 | 98.8 | 100.2 | - | 95.3 | 99.5 | 4.2 |
| Exports YoY (11) | 5.94 | 2.55 | -0.30 | 1.50 | 0.41 | -0.06 | -1.32 | -1.01 | -1.55 | -0.07 | -0.15 | -1.87 | -1.83 | -0.42 | 1.22 | -0.46 | -0.55 | -12.44 | -29.58 | -33.38 | -25.70 | -20.12 | - | - | -29.55 | -20.12 | 9.43 |
| Imports YoY (15) | 8.88 | 3.71 | 3.38 | 1.92 | -0.21 | 2.30 | 0.67 | 3.09 | 1.58 | 0.12 | 0.03 | -2.87 | -4.98 | -3.63 | -3.08 | -2.56 | -4.44 | -11.19 | -22.26 | -24.40 | -19.95 | -11.41 | - | - | -22.20 | -11.41 | 10.79 |
| Rail Traffic YoY (18) | 1.96 | 3.83 | 1.76 | 3.89 | -3.32 | -4.72 | -2.42 | -5.54 | -4.59 | -5.53 | -5.04 | -6.39 | -7.90 | -7.70 | -9.40 | -6.22 | -6.74 | -10.09 | -20.91 | -20.61 | -14.29 | -8.19 | -5.95 | -2.22 | -18.60 | -5.45 | 13.15 |
| Headline CPI YoY (24) | 2.52 | 2.18 | 1.91 | 1.55 | 1.52 | 1.86 | 2.00 | 1.79 | 1.65 | 1.81 | 1.75 | 1.71 | 1.76 | 2.05 | 2.29 | 2.49 | 2.33 | 1.54 | 0.33 | 0.12 | 0.65 | 0.99 | 1.31 | - | 0.36 | 1.15 | 0.78 |
| PCE Deflator YoY (26) | 2.08 | 1.97 | 1.88 | 1.47 | 1.37 | 1.50 | 1.62 | 1.49 | 1.46 | 1.53 | 1.52 | 1.39 | 1.43 | 1.44 | 1.64 | 1.88 | 1.84 | 1.34 | 0.46 | 0.49 | 0.86 | 1.00 | - | - | 0.60 | 1.00 | 0.40 |
| Core PCE Deflator YoY (19) | 1.91 | 2.04 | 2.08 | 1.85 | 1.69 | 1.58 | 1.69 | 1.60 | 1.71 | 1.74 | 1.87 | 1.72 | 1.74 | 1.58 | 1.62 | 1.75 | 1.87 | 1.65 | 0.91 | 0.95 | 1.07 | 1.25 | - | - | 0.98 | 1.25 | 0.28 |
| M2 Money Supply YoY (8) | 3.75 | 3.51 | 3.94 | 4.34 | 4.15 | 3.81 | 4.07 | 4.27 | 4.54 | 5.00 | 5.06 | 5.51 | 6.26 | 6.89 | 6.49 | 6.71 | 7.26 | 10.70 | 17.20 | 21.87 | 22.90 | 23.41 | 23.25 | 24.09 | 20.66 | 23.58 | 2.93 |

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

# US Headline CPI YoY Projections

## United States

■ Headline CPI YoY
■ Hedgeye Estimates - Nowcast Model
■ Hedgeye Estimates - Comparative Base Effects Model
■ Bloomberg Consensus Estimates



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.
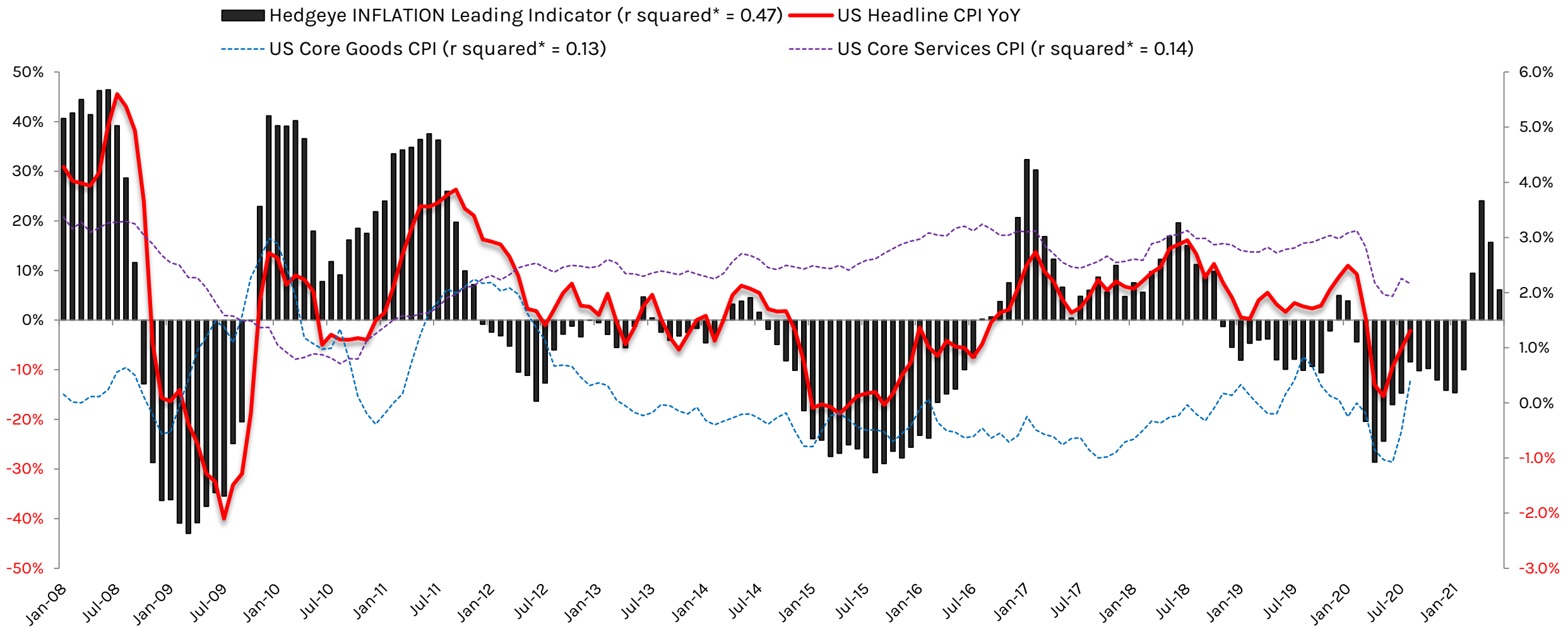
Intra-quarter, we employ a stochastic nowcasting framework that anchors on nonlinear interpolation to relay rate of change signals from the individual features of the dynamic factor model to the base rate. In out-quarters where high-frequency data has yet to be reported, we employ a Bayesian Inference 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 17bps and an 85% success rate in terms of accurately projecting the rate of change of INFLATION.**

# US Headline CPI Nowcast Model

Structural shifts in the economy have increasingly mitigated the risk of a wage/price spiral, leading to an increased sensitivity of Headline CPI to annual fluctuations in tradeable goods prices – a dynamic our model has astutely capitalized on.
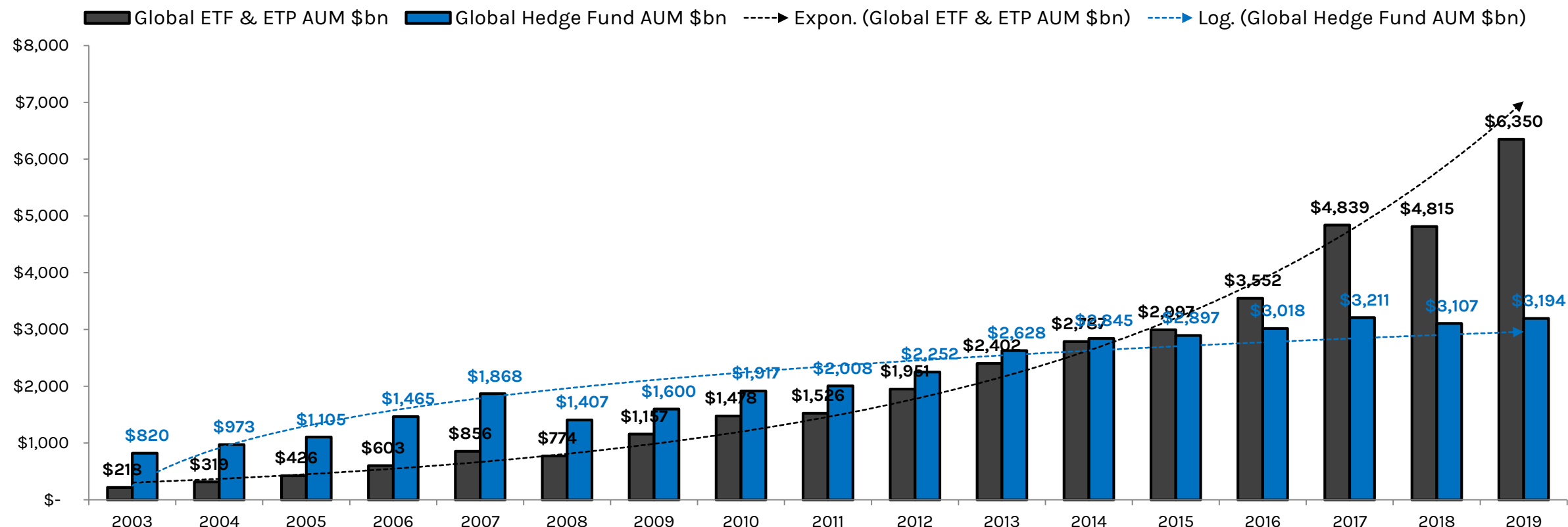


Legend:
- Hedgeye INFLATION Leading Indicator (r squared* = 0.47)
- US Headline CPI YoY
- US Core Goods CPI (r squared* = 0.13)
- US Core Services CPI (r squared* = 0.14)

# 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.



Legend: Global ETF & ETP AUM $bn · Global Hedge Fund AUM $bn · Expon. (Global ETF & ETP AUM $bn) · Log. (Global Hedge Fund AUM $bn)

| Year | Global ETF & ETP AUM $bn | Global Hedge Fund AUM $bn |
|------|--------------------------|---------------------------|
| 2003 | $213 | $820 |
| 2004 | $319 | $973 |
| 2005 | $426 | $1,105 |
| 2006 | $603 | $1,465 |
| 2007 | $856 | $1,868 |
| 2008 | $774 | $1,407 |
| 2009 | $1,157 | $1,600 |
| 2010 | $1,478 | $1,917 |
| 2011 | $1,526 | $2,008 |
| 2012 | $1,951 | $2,252 |
| 2013 | $2,402 | $2,628 |
| 2014 | $2,783 | $2,845 |
| 2015 | $2,997 | $2,897 |
| 2016 | $3,552 | $3,018 |
| 2017 | $4,839 | $3,211 |
| 2018 | $4,815 | $3,107 |
| 2019 | $6,350 | $3,194 |

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

**AUM in listed ETFs and ETPs surpassed $6 trillion globally as of YE 2019, topping global hedge fund assets by over $3 trillion.** Moreover, BlackRock anticipates ETF/ETP AUM to double to $12 trillion over the next 5 years. Regardless of whether you agree with this projection, you must agree that **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

**Macro Process: Us vs. Them**
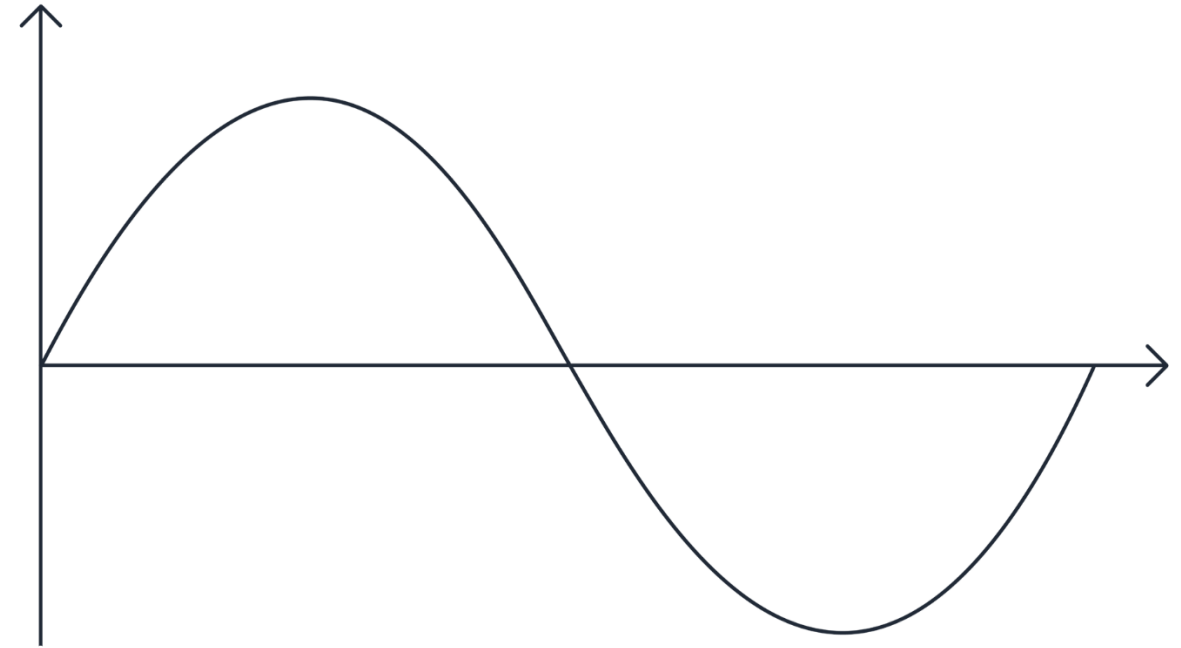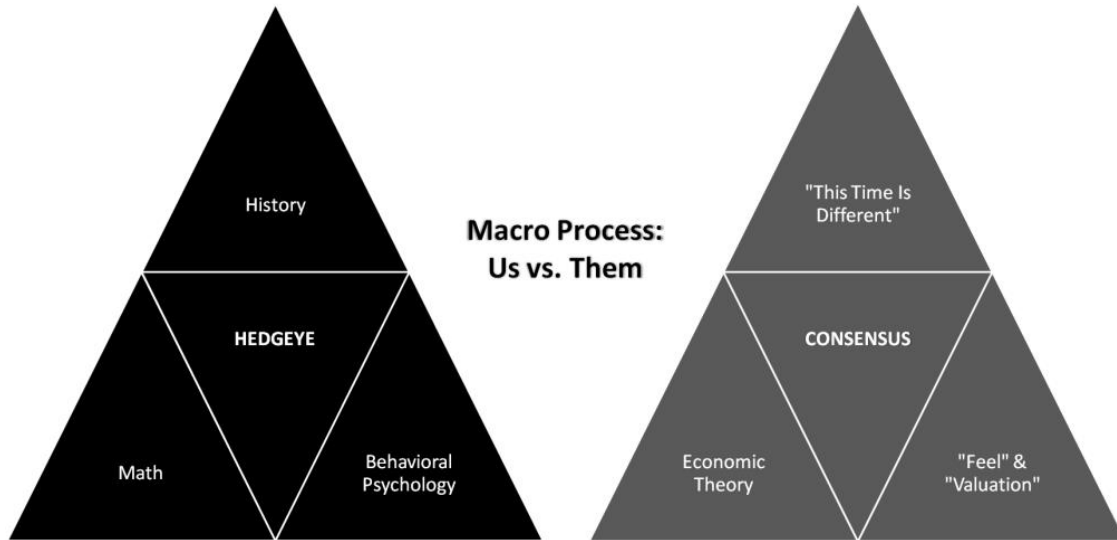
## WE ARE DIFFERENTIATED FROM THE HERD

Macroeconomic Research and Global 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.**

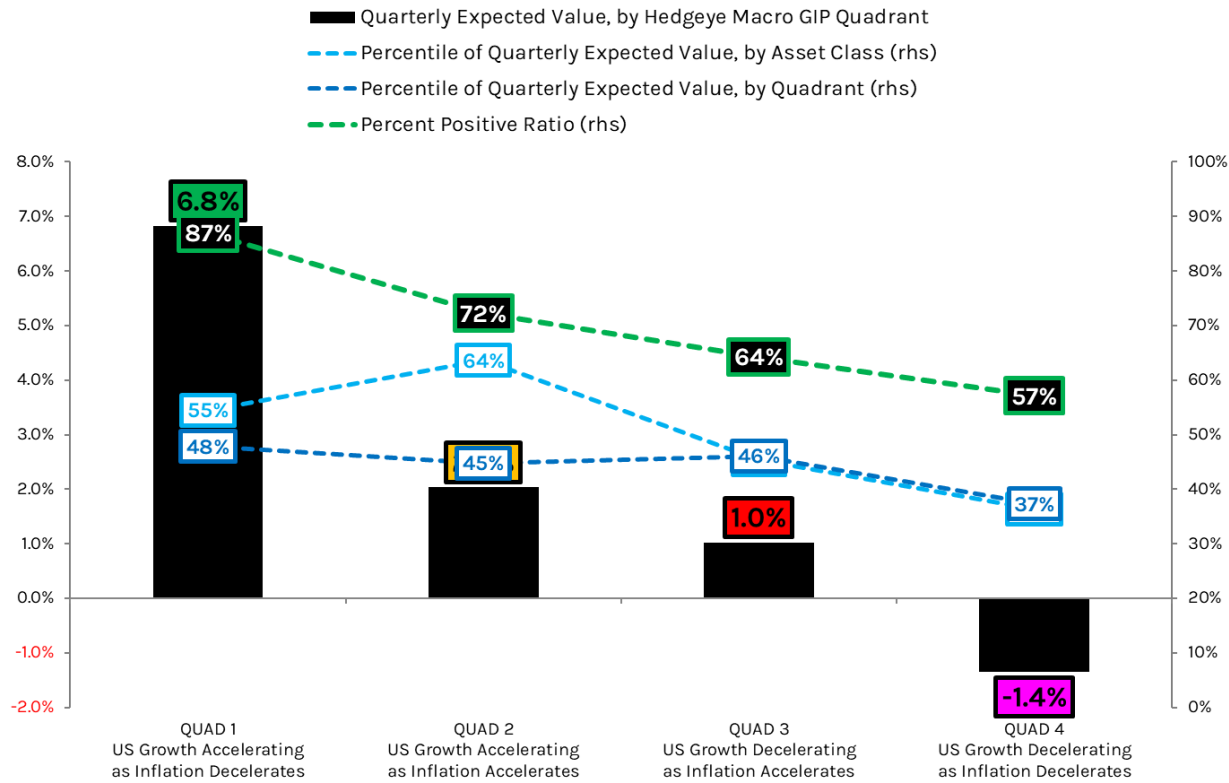# What Tends To Work/Not Work In Each Quad Regime?

**HEDGEYE**

| | QUAD 1 | | | QUAD 2 | | | QUAD 3 | | | QUAD 4 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Straight | Shallow | Deep | Straight | Shallow | Deep | Straight | Shallow | Deep | Straight | Shallow | Deep |
| S&P 500 INDEX (SPY) | 6.8% | 2.8% | 7.2% | 2.0% | 0.7% | -0.1% | 1.0% | 4.3% | -2.3% | -1.4% | 6.9% | -10.9% |
| Consumer Cyclical (XLY) | 8.4% | 2.4% | 11.2% | 2.3% | 0.4% | -0.1% | 1.1% | 3.7% | -1.6% | -0.3% | 7.4% | -9.1% |
| Consumer Non-Cyclical (XLP) | 4.9% | -0.2% | 5.0% | 0.5% | -2.9% | 3.3% | 0.8% | 1.2% | 1.3% | 1.8% | 9.6% | -1.5% |
| Energy (XLE) | 6.3% | 2.2% | 7.6% | 2.9% | 0.8% | 0.4% | 1.8% | 6.9% | -5.5% | -3.8% | 6.4% | -16.7% |
| Financials (XLF) | 6.2% | 0.2% | 8.5% | 1.7% | -0.8% | -0.9% | 0.1% | 0.5% | 3.9% | -1.4% | 6.7% | -14.7% |
| Health Care (XLV) | 6.3% | 5.8% | 5.0% | 1.9% | -4.0% | 4.8% | 0.8% | 3.0% | -0.6% | 0.6% | 4.9% | -3.6% |
| Industrials (XLI) | 7.2% | 2.0% | 7.3% | 2.2% | -0.3% | 1.4% | 1.1% | 4.1% | -0.3% | -1.8% | 7.0% | -10.1% |
| Information Technology (XLK) | 9.0% | 5.1% | 9.0% | 4.7% | 7.3% | -0.8% | 2.5% | 9.1% | -5.7% | -2.6% | 6.3% | -14.7% |
| Materials (XLB) | 7.3% | 1.0% | 11.2% | 1.6% | 2.2% | -2.6% | 0.6% | 6.3% | -5.4% | -0.5% | 3.3% | -5.9% |
| REITS (XLRE) | 4.0% | -0.7% | 9.6% | -0.1% | -2.7% | 4.9% | 0.2% | 0.7% | 4.1% | 0.9% | 10.0% | -13.4% |
| Communication Services (XLC) | 7.0% | 4.9% | 3.3% | -2.8% | -4.0% | -7.1% | 0.7% | 6.1% | -5.1% | 0.1% | 7.7% | -9.8% |
| Utilities (XLU) | 3.5% | 3.6% | 1.4% | -1.9% | -6.0% | -0.9% | 4.0% | 5.0% | 6.1% | 1.3% | 9.6% | -6.5% |
| Growth (IWF) | 7.4% | 3.4% | 8.1% | 3.3% | 2.7% | 0.6% | 1.2% | 4.8% | -3.7% | -2.2% | 7.0% | -12.5% |
| Value (IWD) | 6.4% | 2.0% | 7.2% | 0.8% | -1.3% | -0.9% | 1.0% | 3.8% | -0.1% | -0.7% | 7.2% | -10.1% |
| Cyclicals (RSP) | 8.0% | 2.1% | 10.0% | 2.7% | 2.1% | -0.8% | 1.2% | 5.6% | -2.9% | -2.8% | 6.7% | -15.9% |
| Defensives (DEF) | 6.0% | 3.2% | 5.5% | 1.6% | -0.3% | 0.7% | 1.0% | 3.1% | -1.1% | -0.1% | 7.5% | -7.2% |
| High Beta (SPHB) | 9.6% | 1.3% | 11.7% | 3.2% | 1.9% | -0.5% | 1.2% | 7.7% | -2.9% | -4.0% | 6.5% | -20.2% |
| Low Beta (SPLV) | 4.5% | 2.3% | 4.7% | 0.5% | -2.8% | 2.1% | 1.6% | 2.9% | 2.9% | 2.2% | 9.4% | -3.7% |
| Momentum (MTUM) | 8.1% | 3.9% | 7.8% | 3.4% | 5.7% | 0.3% | 1.7% | 5.5% | -3.8% | -3.0% | 8.1% | -13.8% |
| Quality (QUAL) | 7.3% | 4.2% | 7.4% | 2.6% | -0.3% | 2.4% | 1.4% | 4.6% | -1.9% | 0.0% | 8.0% | -6.5% |
| Dividend Yield (SDY) | 6.8% | 2.2% | 8.1% | 0.9% | -1.9% | 0.5% | 0.8% | 2.5% | 1.1% | 1.7% | 8.0% | -4.2% |
| Size (OEF) | 6.9% | 3.0% | 6.6% | 2.3% | 1.5% | -0.3% | 1.1% | 4.3% | -2.9% | -1.7% | 6.2% | -9.9% |
| Secular Growth (QQQ) | 7.8% | 6.6% | 9.2% | 5.2% | 9.6% | -0.9% | 2.6% | 8.7% | -4.3% | -2.7% | 5.6% | -13.1% |
| Mid-Caps (MDY) | 7.5% | 0.8% | 10.5% | 2.8% | 1.4% | 1.0% | 1.7% | 4.5% | 0.9% | -0.9% | 8.2% | -11.5% |
| Small-Caps (IWM) | 6.8% | 0.0% | 10.0% | 3.4% | 3.7% | -0.2% | 0.5% | 4.1% | -1.2% | -1.2% | 7.7% | -12.3% |
| BARCLAYS AGG (AGG) | 1.2% | 1.7% | 1.8% | 0.7% | 1.1% | 1.7% | 0.9% | 0.0% | 1.2% | 2.3% | 1.9% | 3.1% |
| Leveraged Loans (BKLN) | 2.3% | 1.6% | 4.1% | 1.6% | 1.2% | 2.0% | 0.6% | 1.6% | -0.4% | 0.6% | 2.1% | -8.5% |
| BDCs (BIZD) | 6.3% | 5.6% | 12.8% | 4.8% | 3.8% | 12.4% | -1.3% | -3.4% | -0.2% | -0.3% | 8.7% | -42.2% |
| Preferreds (PFF) | 1.9% | 1.6% | 3.5% | 1.5% | 3.2% | 1.7% | -0.3% | 1.3% | -2.2% | -0.5% | 1.8% | -17.1% |
| IG Credit (LQD) | 2.0% | 2.3% | 3.3% | 0.7% | 1.2% | 1.9% | 0.7% | 0.1% | 0.4% | 2.5% | 2.7% | 1.3% |
| HY Credit (HYG) | 3.4% | 1.7% | 5.7% | 1.3% | 0.3% | 2.4% | 0.8% | 2.1% | -0.7% | 1.3% | 3.5% | -9.5% |
| Convertibles (CWB) | 5.6% | 4.1% | 9.6% | 4.6% | 5.8% | 4.9% | 0.0% | 3.0% | -2.5% | 0.4% | 5.7% | -16.4% |
| EM Hard Currency (EMB) | 3.2% | -1.3% | 5.9% | 1.2% | 2.4% | 2.1% | 1.9% | 3.7% | 0.7% | 1.8% | 2.1% | -3.3% |
| EM Local Currency (EMLC) | 1.6% | 2.2% | 2.7% | 1.4% | 3.0% | 4.4% | 0.7% | 5.6% | -2.4% | -0.5% | 0.7% | -6.6% |
| 1-3yr Treasuries (SHY) | 0.6% | 0.9% | 0.4% | 0.6% | 0.9% | 0.9% | 0.7% | 0.1% | 1.0% | 1.2% | 0.7% | 2.3% |
| 5-10yr Treasuries (IEF) | 1.1% | 2.0% | 1.3% | 0.5% | 1.0% | 2.0% | 1.1% | -0.8% | 1.9% | 2.9% | 2.1% | 6.1% |
| 10-20yr Treasuries (TLT) | 1.3% | 1.8% | 1.7% | 0.1% | 0.9% | 1.9% | 1.4% | -1.0% | 2.4% | 4.1% | 3.3% | 8.9% |
| 25+ Year Treasuries (EDV) | 1.4% | 2.1% | 2.0% | -0.7% | 0.6% | 1.4% | 1.8% | -1.6% | 3.3% | 5.6% | 4.1% | 15.0% |
| 0-5yr TIPS (STIP) | 0.5% | 0.1% | 1.2% | 0.7% | 0.4% | 1.3% | 1.1% | 0.7% | 0.1% | 0.6% | 1.4% | -3.0% |
| 5-10yr TIPS (TIP) | 0.8% | 0.0% | 2.6% | 1.4% | 2.1% | 2.9% | 1.5% | 0.8% | 0.1% | 1.7% | 2.4% | -1.6% |
| MBS (MBB) | 0.9% | 1.2% | 1.3% | 0.8% | 1.3% | 1.7% | 1.0% | 0.5% | 1.6% | 2.0% | 1.4% | 3.0% |
| Munis (MUB) | 1.6% | 1.7% | 2.4% | 0.5% | 0.6% | 1.5% | 0.7% | 0.4% | 0.9% | 1.9% | 1.6% | 1.3% |
| Taxable Munis (BAB) | 2.2% | 1.5% | 4.4% | -0.1% | 1.3% | 1.5% | 1.9% | 1.6% | 2.4% | 2.4% | 2.7% | -2.1% |
| CRB INDEX - Expected Value (DBC) | 0.9% | -0.6% | 4.0% | 3.7% | 3.0% | 4.8% | 1.1% | 3.7% | -5.0% | -4.7% | 4.2% | -17.7% |
| CRB Raw Industrials Index (DBB) | 1.0% | -0.1% | 2.2% | 2.9% | 3.3% | 3.5% | -0.3% | -0.7% | -1.9% | -0.9% | 1.1% | -8.0% |
| CRB Foodstuffs Index (DBA) | -0.3% | 1.9% | -1.4% | 1.6% | -3.8% | 4.9% | 1.8% | 0.1% | 0.1% | -1.1% | 2.1% | -5.2% |
| WTI Crude Oil (USO) | 6.7% | 1.8% | 17.2% | 9.7% | 9.1% | 8.8% | 3.3% | 9.6% | -7.8% | -6.1% | 10.2% | -33.8% |
| US DOLLAR INDEX (UUP) | -0.7% | -2.8% | 0.4% | -0.5% | -2.9% | 0.9% | -0.2% | -0.5% | 2.6% | 1.7% | 2.3% | 0.9% |
| Gold (GLD) | 2.2% | 1.8% | 8.0% | 2.3% | 3.3% | 5.3% | 2.3% | 2.0% | -1.7% | 1.9% | 0.8% | 2.4% |
| EM FX (CEW) | 0.3% | 1.0% | 0.4% | -0.8% | -0.6% | -0.7% | -0.4% | 2.1% | -3.1% | -2.1% | -0.6% | -6.8% |
| DM FX (UDN) | 0.7% | 2.8% | -0.4% | 0.5% | 2.9% | -0.9% | 0.2% | 0.5% | -2.6% | -1.7% | -2.3% | -0.9% |

# Why Use The Quads?

Contrary to conflicted and compromised financial literature that wants you to remain fully invested and fully diversified throughout, our DELIBERATE STUDY of financial market history shows meaningful deltas in absolute and relative asset performance tend to CLUSTER around PARTICULAR moments in time – usually in conjunction with regime changes in economic conditions.



### S&P 500 Total Return Index

- Quarterly Expected Value, by Hedgeye Macro GIP Quadrant
- Percentile of Quarterly Expected Value, by Asset Class (rhs)
- Percentile of Quarterly Expected Value, by Quadrant (rhs)
- Percent Positive Ratio (rhs)

QUAD 1 — US Growth Accelerating as Inflation Decelerates
QUAD 2 — US Growth Accelerating as Inflation Accelerates
QUAD 3 — US Growth Decelerating as Inflation Accelerates
QUAD 4 — US Growth Decelerating as Inflation Decelerates

Data Source: Bloomberg. Asset classes include equities, fixed income, currencies and commodities. Quarterly observations starting in 1Q98.

### S&P 500 Total Return Index
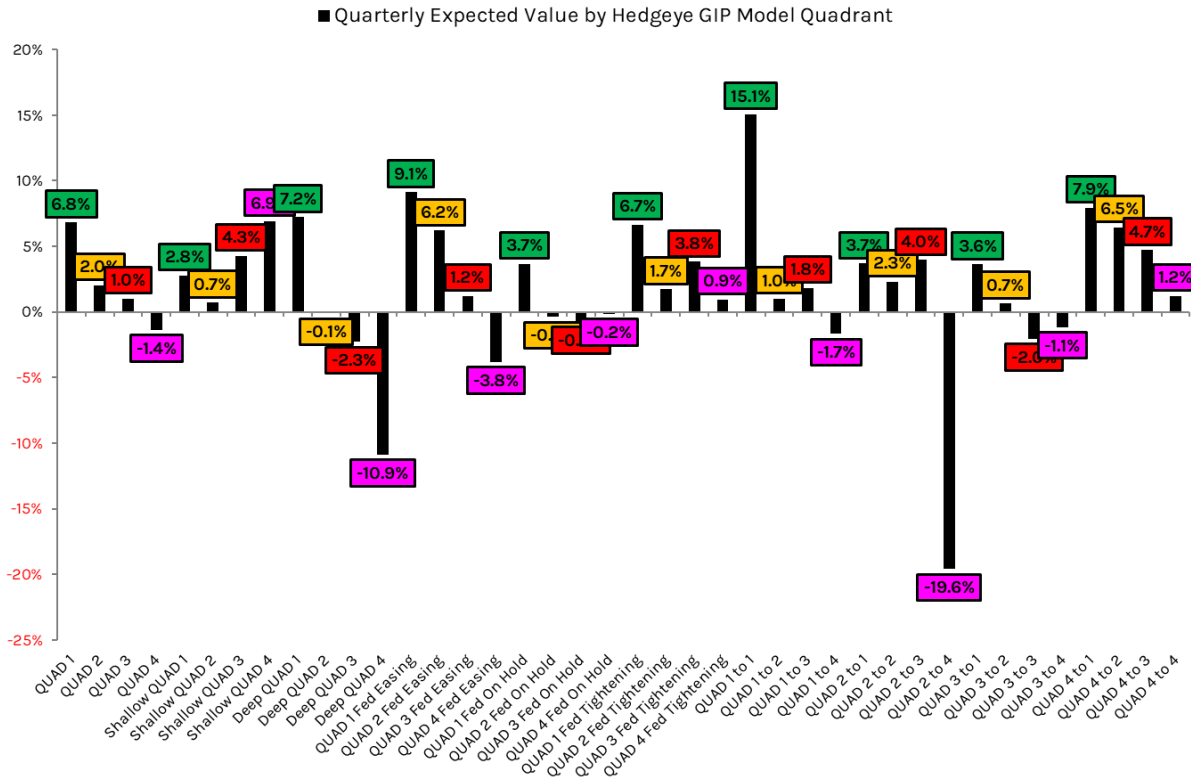
- Quarterly Expected Value by Hedgeye GIP Model Quadrant

Data Source: Bloomberg. Asset classes include equities, fixed income, currencies and commodities. Quarterly observations starting in 1Q98.

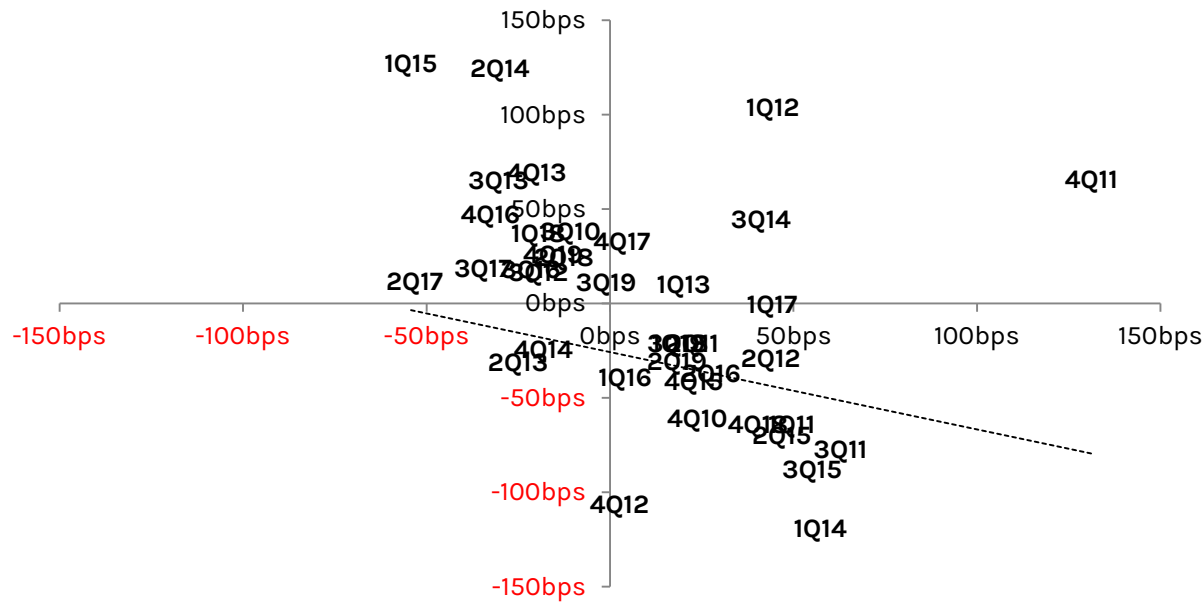# A Quick Lesson In Base Effects

x-axis: First Difference of the 2yr Average YoY Real GDP Growth Rate in the Comparative Base Period;
y-axis: First Difference of the YoY Real GDP Growth Rate in the Forecast Period (Trailing 10Y)
Raw Backtest: 80%; Momentum Backtest: 80%

x-axis: First Difference of the 2yr Average YoY Headline CPI Rate in the Comparative Base Period;
y-axis: First Difference of the YoY Headline CPI Rate in the Forecast Period (Trailing 10Y)
Raw Backtest: 70%; Momentum Backtest: 76%
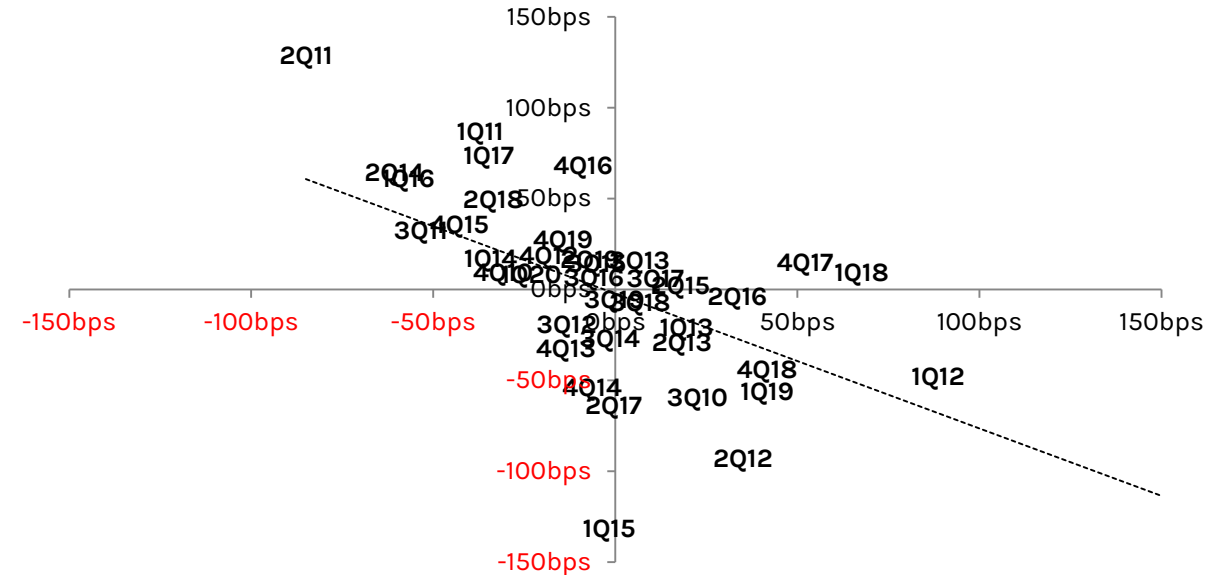


Using the US economy as an example, the marginal rate of change in **the 2yr comparative base explains INFLECTIONS in GROWTH and INFLATION 80% and 70% of the time, respectively**. Moreover, **2yr comps perpetuate MOMENTUM in GROWTH and INFLATION 80% and 76% of the time, respectively**. These figures 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.

# Base Effects Matter More Now Than Ever
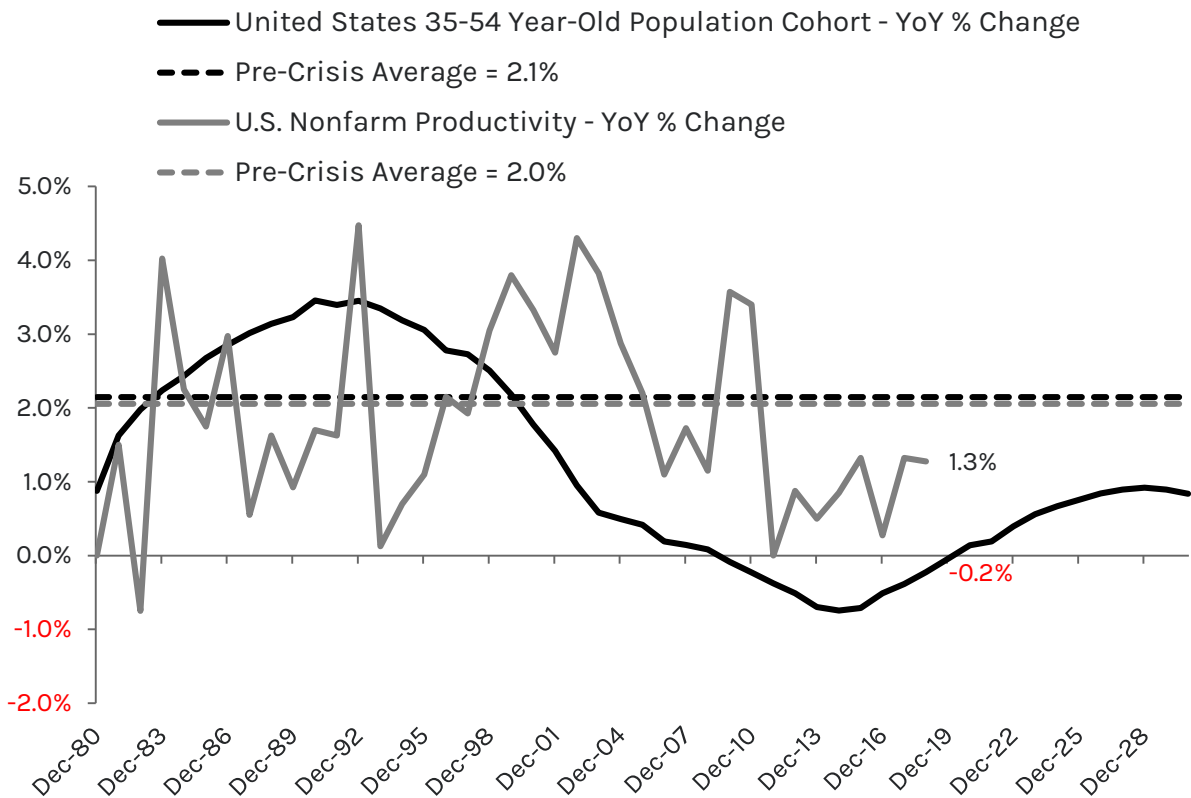
As **the economy has grown increasingly reliant upon financial leverage** to replace a lost ~300 basis points of organic growth potential…
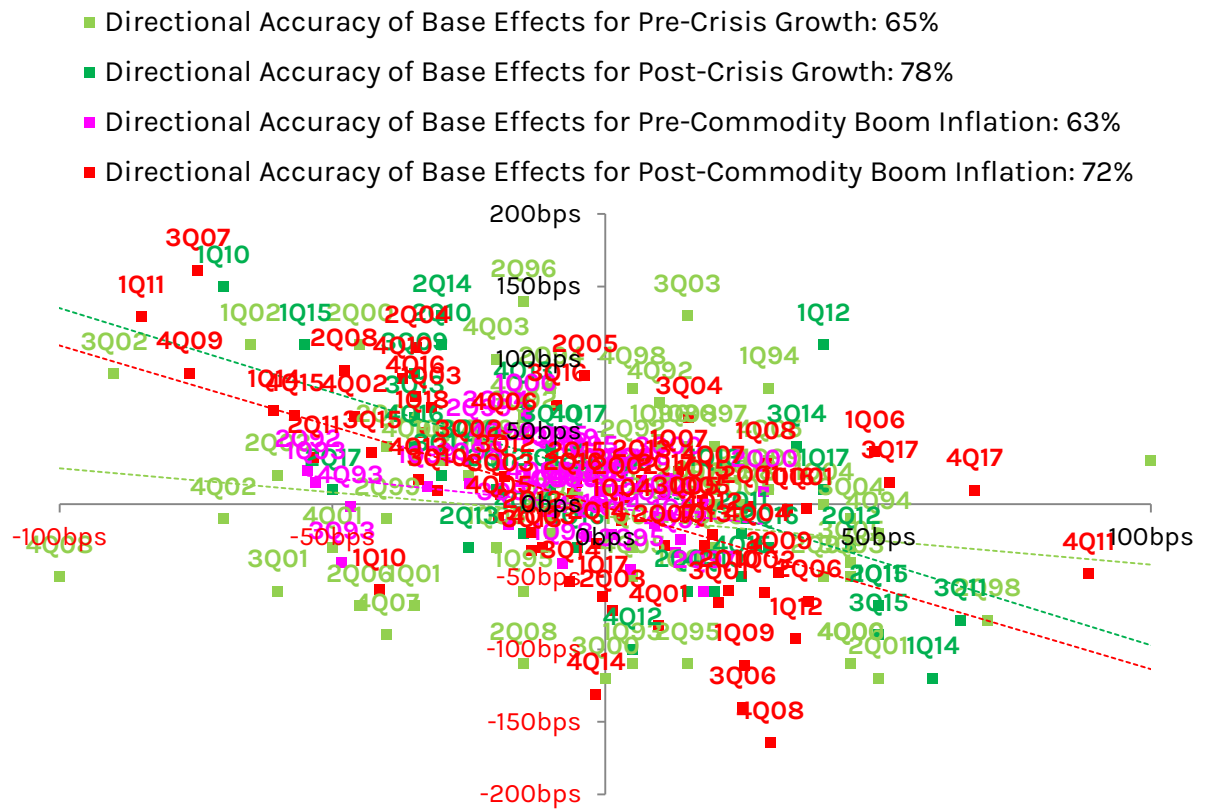
… both growth and inflation have become decidedly more cyclical throughout the post-crisis era. **Leverage amplifies both economic and financial market volatility**.

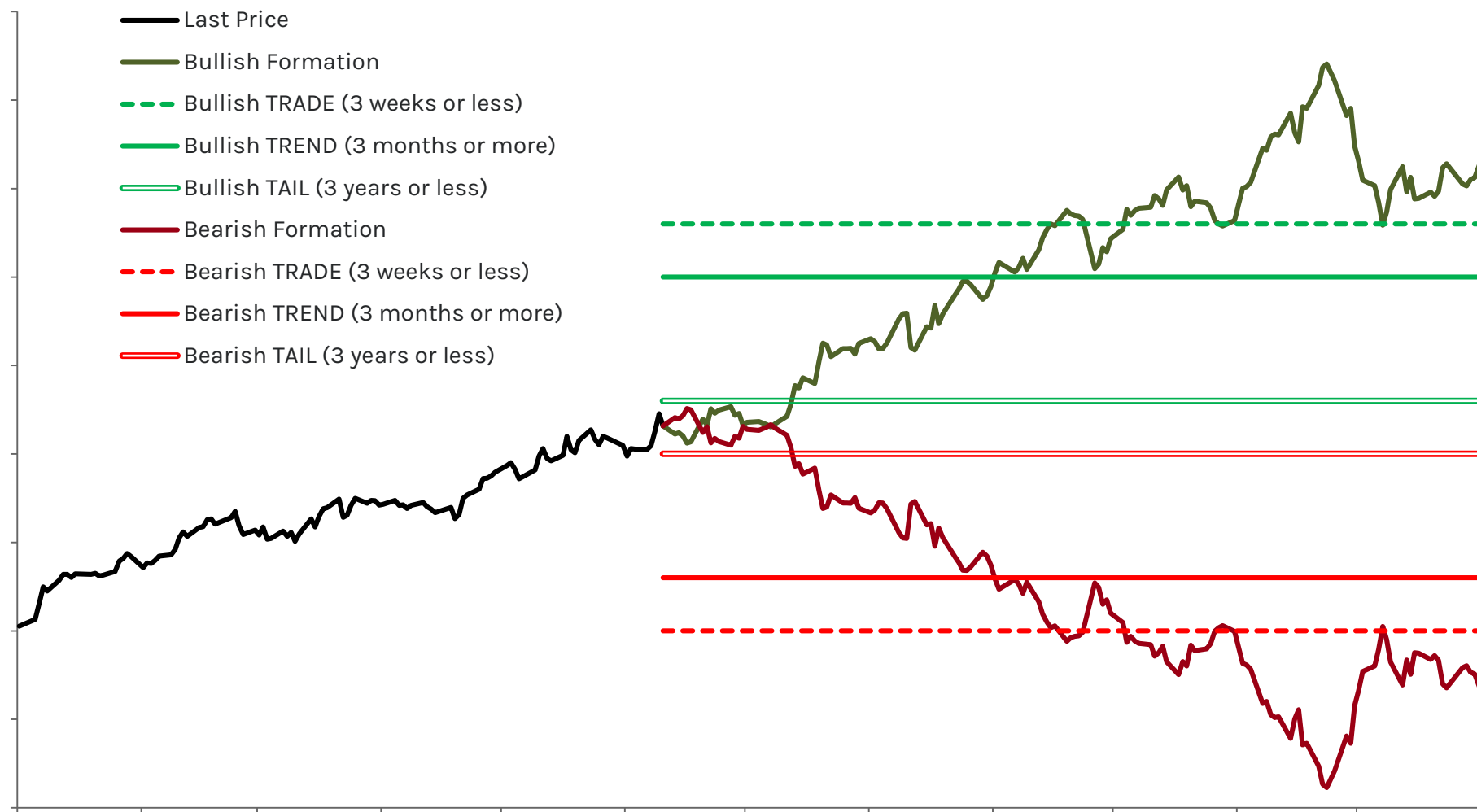# The Quads Provide A Reliable Starting Point For Asset Allocation And Keith's Quantitative Signaling Overlay Confirms Market Direction And Helps Risk Manage Core Exposures

Legend:
- Last Price
- Bullish Formation
- Bullish TRADE (3 weeks or less)
- Bullish TREND (3 months or more)
- Bullish TAIL (3 years or less)
- Bearish Formation
- Bearish TRADE (3 weeks or less)
- Bearish TREND (3 months or more)
- Bearish TAIL (3 years or less)

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 % Chg | 1W % Chg | 1M % Chg | 3M % Chg | 6M % Chg | YTD % Chg |
|---|---|---|---|---|---|---|---|
| Debt | High Debt/EV | 1.9% | 1.1% | -4.0% | 6.2% | 25.3% | -21.1% |
| Debt | Low Debt/EV | 1.6% | 2.5% | -3.2% | 9.4% | 37.3% | 15.6% |
| SI | High Short Interest | 2.3% | 1.9% | -4.1% | 6.4% | 31.7% | -12.1% |
| SI | Low Short Interest | 1.5% | 1.3% | -3.4% | 9.5% | 29.8% | 3.6% |
| BETA | High Beta | 2.9% | 1.7% | -4.6% | 8.3% | 36.4% | -22.9% |
| BETA | Low Beta | 1.0% | 1.6% | -2.5% | 7.3% | 25.6% | 12.1% |
| YIELD | High Yield | 2.3% | 0.6% | -5.5% | 1.2% | 14.6% | -29.2% |
| YIELD | Low Yield | 1.8% | 2.4% | -2.8% | 11.2% | 42.4% | 13.9% |
| MKT CAP | MCAP Bottom 25% | 2.3% | 0.9% | -5.2% | 5.1% | 24.9% | -23.7% |
| MKT CAP | MCAP Top 25% | 1.5% | 1.6% | -2.8% | 10.0% | 29.5% | 7.4% |
| Sales | Top 25% Sales Growth | 2.1% | 2.4% | -4.0% | 9.9% | 38.9% | -0.8% |
| Sales | Bottom 25% Sales Growth | 2.1% | 1.1% | -4.4% | 2.9% | 18.5% | -16.0% |
| EPS | Top 25% EPS Growth | 2.1% | 1.4% | -3.0% | 11.3% | 35.7% | -6.2% |
| EPS | Bottom 25% EPS Growth | 2.1% | 1.5% | -5.2% | 2.3% | 20.4% | -19.4% |

*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) | 55,833 | 37,862 | (33,524) | (128,949) | (59,386) | 271,423 | (319,133) | 1.09X | 0.04X |
| EQUITIES | VIX | (90,863) | 1,340 | (89,950) | (66,618) | (104,664) | 92,913 | (218,362) | 0.24X | -0.18X |
| EQUITIES | Russell 2000 (mini) | 12,103 | (4,756) | 11,801 | 3,585 | 10,632 | 72,749 | (88,708) | 0.06X | 0.33X |
| EQUITIES | Dow Jones (mini) | (17,284) | (1,462) | (11,488) | (13,620) | 6,829 | 86,226 | (28,732) | -1.05X | -1.65X |
| EQUITIES | Nasdaq (mini) | (133,005) | (55,142) | 3,411 | 7,862 | 16,819 | 47,085 | (133,005) | -5.27X | -6.69X |
| EQUITIES | Nikkei Index | (468) | 1,202 | (4,037) | (5,591) | (7,560) | 14,214 | (16,298) | 1.86X | 0.49X |
| RATES | 10Y UST | 105,871 | 62,273 | 83,613 | 28,017 | (64,914) | 207,818 | (758,490) | 1.41X | 1.54X |
| RATES | 2Y UST | (255,076) | (16,119) | (254,888) | (243,537) | (233,173) | 67,767 | (421,551) | -0.27X | -0.52X |
| RATES | 5Y UST | (216,006) | 27,276 | (101,105) | (144,077) | (182,231) | 65,383 | (866,140) | -0.33X | 0.40X |
| RATES | UST Bonds | (173,404) | (13,286) | (143,263) | (121,106) | (87,784) | 122,839 | (173,404) | -2.07X | -2.20X |
| RATES | 30D Fed Funds | 196,046 | (3,206) | 256,161 | 332,290 | 310,272 | 488,558 | (222,037) | -1.32X | 0.59X |
| RATES | Eurodollar | 699,532 | 184,192 | 230,540 | (77,832) | 529,951 | 2,134,274 | (3,110,209) | 0.22X | 0.96X |
| CURRENCIES | $USD | (9,166) | (922) | (6,709) | 1,688 | 11,330 | 43,033 | (10,663) | -1.46X | -1.63X |
| CURRENCIES | JPY | 28,683 | 5,329 | 22,696 | 24,425 | (364) | 33,088 | (140,151) | 0.97X | 1.35X |
| CURRENCIES | EUR | 188,745 | 9,609 | 166,978 | 128,736 | 35,010 | 212,535 | (123,765) | 1.47X | 1.89X |
| CURRENCIES | GBP | (2,738) | (440) | (7,049) | (8,754) | (6,921) | 49,216 | (107,406) | 0.16X | 0.48X |
| CURRENCIES | AUD | 14,512 | (1,153) | 555 | (14,190) | (27,418) | 73,266 | (74,181) | 2.13X | 1.36X |
| CURRENCIES | CAD | (19,572) | (2,946) | (21,456) | (25,055) | (3,930) | 78,001 | (67,121) | -0.61X | -0.37X |
| CURRENCIES | MXN | 27,210 | 75 | 12,035 | 9,118 | 70,172 | 170,379 | (21,903) | -0.63X | -0.82X |
| CURRENCIES | NZD | 4,855 | 1,615 | 2,232 | (4,656) | (11,983) | 27,603 | (42,544) | 1.15X | 1.08X |
| CURRENCIES | CHF | 16,190 | 3,686 | 11,030 | 8,397 | 1,026 | 17,848 | (47,216) | 1.45X | 1.95X |
| COMMODITIES | CRUDE OIL | 503,312 | 27,489 | 527,908 | 536,725 | 495,497 | 784,290 | 332,714 | 0.12X | -0.24X |
| COMMODITIES | GOLD | 131,089 | (34,162) | 162,823 | 164,217 | 199,794 | 292,066 | (103,009) | -1.58X | 0.05X |
| COMMODITIES | COPPER | 68,119 | 9,339 | 43,165 | 18,001 | (3,909) | 68,119 | (60,135) | 2.19X | 1.95X |
| COMMODITIES | Natural Gas | 45,510 | (5,842) | 1,371 | (28,630) | (113,536) | 51,352 | (262,534) | 1.69X | 1.83X |
| COMMODITIES | RBOB Gasoline | 55,905 | (3,911) | 57,969 | 64,019 | 79,709 | 129,000 | 42,174 | -1.00X | -1.58X |
| COMMODITIES | ULSD Heating Oil | 4,650 | (1,076) | 8,998 | 4,490 | (2,154) | 67,696 | (27,674) | 0.60X | -0.29X |
| COMMODITIES | Silver | 40,969 | (1,772) | 37,706 | 34,104 | 44,529 | 80,646 | (30,158) | -0.24X | 0.47X |
| COMMODITIES | Platinum | 10,099 | (9,887) | 18,401 | 18,045 | 32,652 | 69,306 | (11,540) | -1.23X | -0.66X |
| COMMODITIES | Aluminum | 163,475 | (2,043) | 159,128 | 161,536 | 158,399 | 168,292 | 122,356 | 0.48X | 0.98X |
| COMMODITIES | Nickel | 42,230 | (365) | 42,658 | 44,026 | 37,396 | 47,708 | 13,508 | 0.55X | 0.91X |
| COMMODITIES | Corn | 198,282 | 44,582 | (7,952) | (92,924) | (69,648) | 372,754 | (270,560) | 2.90X | 1.24X |
| COMMODITIES | Soybeans | 237,760 | 14,761 | 132,221 | 88,186 | 45,721 | 237,760 | (148,817) | 2.71X | 2.67X |
| COMMODITIES | Wheat | 27,474 | 695 | 12,418 | 5,808 | 15,602 | 63,219 | (119,350) | 0.52X | 0.86X |
| COMMODITIES | Live Cattle | 77,063 | (3,163) | 62,598 | 49,986 | 61,539 | 183,134 | 19,421 | 0.54X | -0.12X |
| COMMODITIES | Lean Hogs | 62,461 | 2,936 | 33,293 | 31,512 | 33,221 | 97,769 | (11,151) | 2.53X | 0.95X |
| COMMODITIES | Sugar | 236,211 | 31,813 | 180,931 | 109,601 | 64,359 | 242,326 | (205,161) | 1.35X | 2.44X |
| COMMODITIES | Cotton | 64,239 | 405 | 48,814 | 26,689 | 18,756 | 129,851 | (37,827) | 1.84X | 0.52X |
| COMMODITIES | Coffee | 55,593 | (4,809) | 24,357 | 17,390 | 12,478 | 60,402 | (106,651) | 1.51X | 2.24X |
| COMMODITIES | Cocoa | 45,897 | (6,054) | 18,897 | 9,813 | 30,701 | 81,269 | (31,483) | 0.52X | 0.95X |
| COMMODITIES | Orange Juice | (37) | (351) | 1,138 | 1,160 | (2,420) | 5,540 | (9,416) | 0.63X | 0.64X |

# 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 RVOL CURRENT | MM % | PERCENTILE 10YR | IMPLIED VOLATILITY TRENDS IVOL CURRENT | MM % | PERCENTILE 10YR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **US EQUITIES** | | | | | | | | | | | | | | |
| Power Shares QQQ Trust ETF | QQQ US EQUITY | 31.07% | -6% | -3% | 5% | 43% | -0.6 | -0.5 | 32.6 | 66% | 95% | 30.6 | 9% | 95% |
| Technology Sector SPDR ETF | XLK US EQUITY | 27.96% | -8% | -2% | 7% | 37% | -0.5 | -0.4 | 33.6 | 62% | 95% | 30.9 | 9% | 94% |
| Consumer Discretionary Sector SPDR ETF | XLY US EQUITY | 18.24% | 16% | 26% | 37% | 94% | -0.1 | 0.0 | 21.3 | 85% | 84% | 24.8 | 11% | 91% |
| Communication Services SPDR ETF | XLC US EQUITY | 11.34% | 4% | 7% | 14% | 50% | -0.4 | | 26.1 | 48% | 74% | 27.1 | 3% | 75% |
| SPDR S&P 500 ETF Trust | SPY US EQUITY | 5.36% | 2% | 5% | 19% | 69% | -0.3 | -0.2 | 22.0 | 121% | 88% | 22.4 | 33% | 91% |
| Materials Sector SPDR ETF | XLB US EQUITY | 5.14% | 0% | 8% | 22% | 47% | -0.3 | -0.2 | 26.5 | 72% | 88% | 26.6 | 18% | 88% |
| Health Care Sector SPDR ETF | XLV US EQUITY | 3.43% | 17% | 20% | 27% | 71% | 0.2 | 0.3 | 17.9 | 72% | 77% | 21.0 | 18% | 89% |
| Consumer Staples Sector SPDR ETF | XLP US EQUITY | 3.23% | 18% | 21% | 29% | 79% | -0.3 | -0.1 | 15.6 | 87% | 83% | 18.4 | 24% | 91% |
| Industrials Sector SPDR ETF | XLI US EQUITY | -2.83% | 15% | 21% | 35% | 59% | 0.1 | 0.2 | 22.8 | 58% | 86% | 26.3 | 15% | 90% |
| Utilities Sector SPDR ETF | XLU US EQUITY | -6.37% | 15% | 8% | 20% | 34% | 0.2 | 0.3 | 18.4 | 18% | 84% | 21.3 | 1% | 93% |
| I-Shares Russell 2000 ETF | IWM US EQUITY | -8.44% | 25% | 32% | 52% | 58% | 0.3 | 0.5 | 24.6 | 60% | 88% | 30.7 | 27% | 92% |
| Vanguard Real Estate REIT ETF | VNQ US EQUITY | -12.41% | 14% | 18% | 26% | 28% | 0.6 | 0.7 | 23.8 | 41% | 89% | 27.1 | 26% | 92% |
| Financials Sector SPDR ETF | XLF US EQUITY | -20.21% | 26% | 36% | 35% | 58% | 0.4 | 0.6 | 22.5 | 30% | 80% | 28.5 | 4% | 90% |
| Energy Sector SPDR ETF | XLE US EQUITY | -45.74% | 20% | 24% | 31% | 12% | 0.8 | 0.7 | 32.8 | 3% | 87% | 39.3 | 10% | 94% |
| **INTERNATIONAL EQUITIES** | | | | | | | | | | | | | | |
| I-Shares MSCI Japan ETF | EWJ US EQUITY | 1.38% | 50% | 62% | 41% | 14% | 1.7 | 1.9 | 12.1 | -24% | 28% | 18.1 | 0% | 62% |
| I-Shares MSCI Emerging Markets ETF | EEM US EQUITY | -2.66% | 22% | 24% | 19% | 24% | 0.5 | 0.8 | 18.4 | 17% | 48% | 22.5 | 15% | 70% |
| I-Shares China Large-Cap ETF | FXI US EQUITY | -4.48% | 27% | 28% | 16% | 37% | 1.3 | 1.5 | 17.8 | 8% | 26% | 22.6 | 0% | 55% |
| Euro Stoxx 50 Index | SX5E INDEX | -11.77% | 14% | 29% | 32% | 16% | 0.6 | 0.3 | 21.4 | 16% | 75% | 24.4 | 14% | 83% |
| **CURRENCIES** | | | | | | | | | | | | | | |
| Currency Shares Euro Trust ETF | FXE US EQUITY | 3.34% | 13% | 13% | 19% | 10% | 0.4 | 0.6 | 6.1 | -14% | 21% | 6.9 | -11% | 26% |
| Currency Shares Japanese Yen ETF | FXY US EQUITY | 2.56% | 22% | 12% | 19% | 4% | 1.0 | 0.8 | 5.9 | -22% | 21% | 7.2 | -9% | 26% |
| PowerShares US Dollar Index ETF | UUP US EQUITY | -1.93% | 17% | 23% | 28% | 25% | -0.2 | -0.1 | 6.0 | -8% | 35% | 7.0 | -14% | 34% |
| Currency Shares British Pound ETF | FXB US EQUITY | -3.35% | -6% | -7% | -2% | 4% | -0.2 | -0.5 | 12.3 | 45% | 97% | 11.6 | 32% | 90% |
| **COMMODITIES** | | | | | | | | | | | | | | |
| SPDR Gold Shares ETF | GLD US EQUITY | 23.65% | 2% | -1% | -28% | -24% | -0.3 | -0.1 | 17.3 | -36% | 75% | 17.6 | -15% | 74% |
| PowerShares DB Agriculture Fund ETF | DBA US EQUITY | -12.26% | 100% | 93% | 82% | 90% | 1.2 | 2.0 | 11.6 | -5% | 49% | 23.1 | 0% | 93% |
| United States Natural Gas Fund ETF | UNG US EQUITY | -25.98% | 12% | 15% | 18% | -22% | -0.2 | 0.0 | 57.2 | -14% | 88% | 63.8 | 23% | 96% |
| United States Oil Fund ETF | USO US EQUITY | -72.00% | 5% | 7% | 11% | 55% | -0.2 | 0.0 | 33.0 | 80% | 67% | 34.5 | 22% | 68% |
| **FIXED INCOME** | | | | | | | | | | | | | | |
| I-Shares 20+ Year Treasury Bond ETF | TLT US EQUITY | 22.82% | 14% | 18% | 8% | 41% | 0.7 | 0.7 | 11.2 | -3% | 37% | 12.8 | -22% | 50% |
| I-Shares 7-10 Year Treasury Bond ETF | IEF US EQUITY | 11.66% | 66% | 72% | 48% | 214% | 0.3 | 0.5 | 3.0 | -7% | 1% | 4.9 | -51% | 18% |
| I-Shares IBOXX IG Corporate Bond ETF | LQD US EQUITY | 7.48% | 31% | 52% | 24% | 49% | 0.5 | 0.6 | 6.1 | 3% | 77% | 7.9 | -10% | 91% |
| I-Shares J.P. Morgan USD EM Bond ETF | EMB US EQUITY | -0.78% | 63% | 68% | 73% | 49% | 1.3 | 1.7 | 7.6 | 39% | 79% | 12.4 | 52% | 90% |
| I-Shares IBOXX HY Corporate Bond ETF | HYG US EQUITY | -1.73% | 82% | 83% | 73% | 62% | 1.8 | 2.0 | 6.5 | 28% | 63% | 11.8 | 44% | 90% |
| **MEGA-CAP TECH** | | | | | | | | | | | | | | |
| Amazon | AMZN US EQUITY | 71.77% | 15% | 15% | 27% | 37% | 0.0 | 0.0 | 41.8 | 41% | 84% | 48.1 | 19% | 96% |
| Apple | AAPL US EQUITY | 57.68% | -12% | -11% | 1% | 13% | -0.6 | -0.5 | 52.2 | 20% | 98% | 46.2 | -6% | 98% |
| Microsoft | MSFT US EQUITY | 33.86% | -11% | -12% | 3% | 27% | -0.6 | -0.4 | 38.6 | 26% | 94% | 34.2 | -12% | 95% |
| Facebook | FB US EQUITY | 25.13% | 5% | -3% | 3% | 4% | 0.0 | 0.1 | 42.8 | -6% | 80% | 45.1 | -4% | 84% |
| Alphabet | GOOGL US EQUITY | 8.90% | 7% | 5% | 11% | 49% | -0.1 | 0.1 | 34.5 | 48% | 88% | 37.0 | 6% | 95% |

*Data Source: CBOE, CME, Bloomberg*

**FOR MORE INFORMATION CONTACT US AT:**

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