US Directional Equity Dashboard

As of April 30, 2023

Commentary

- Slightly bullish seems to have been the correct order of the day for April, especially given the volatility.

- For largely similar reasons, we maintain a very slightly bullish position for May.

- The main reason for this is that bearishness and recession fears continue to dominate in a way that our models see as saturated, which can be thought of as a narrative-based way of saying "fully discounted."

- At the same time, despite the backdrop of stubborn inflation, in narrative space the prescriptions of market commentators have been to maintain a (relatively) more dovish policy, something that we think has led to a surprising outcome: *we still have an overarching narrative of faith that the Fed is not going to let things get screwed up too badly.*

- This is all at the margin, however, and we note that idiosyncratic narratives—those specifically about countries, economic sectors and issuers more specifically—have undergone significant volatility in recent weeks.

- In particular, we think that our macro models are probably not as closely attuned to the specific language of a regional banking crisis; some will show up in what looks like "dovish" language, but it would be fair to say that some risks to markets may be slightly underrepresented in the ETNA macro factors below.

Signal Values as of April 30, 2023

Signal Category	Signal State	Direction
Central Bank Policy	Dovish	Bullish
Stock Story Types	Fundamentals-Focused	Bearish
Cheap Narrative	Neutral	Neutral
Expensive Narrative	Neutral	Neutral
Cheap vs. Expensive	Neutral	Neutral
Fading Expensive Narrative	Fading	Bullish (New)
Rising Expensive Narrative	Neutral	Neutral
Bullish Narrative	Absent	Neutral (New)
Bearish vs. Bullish	Saturated Bearish	Bullish
Aggregate View		Slightly Bullish

US Directional Equity Dashboard
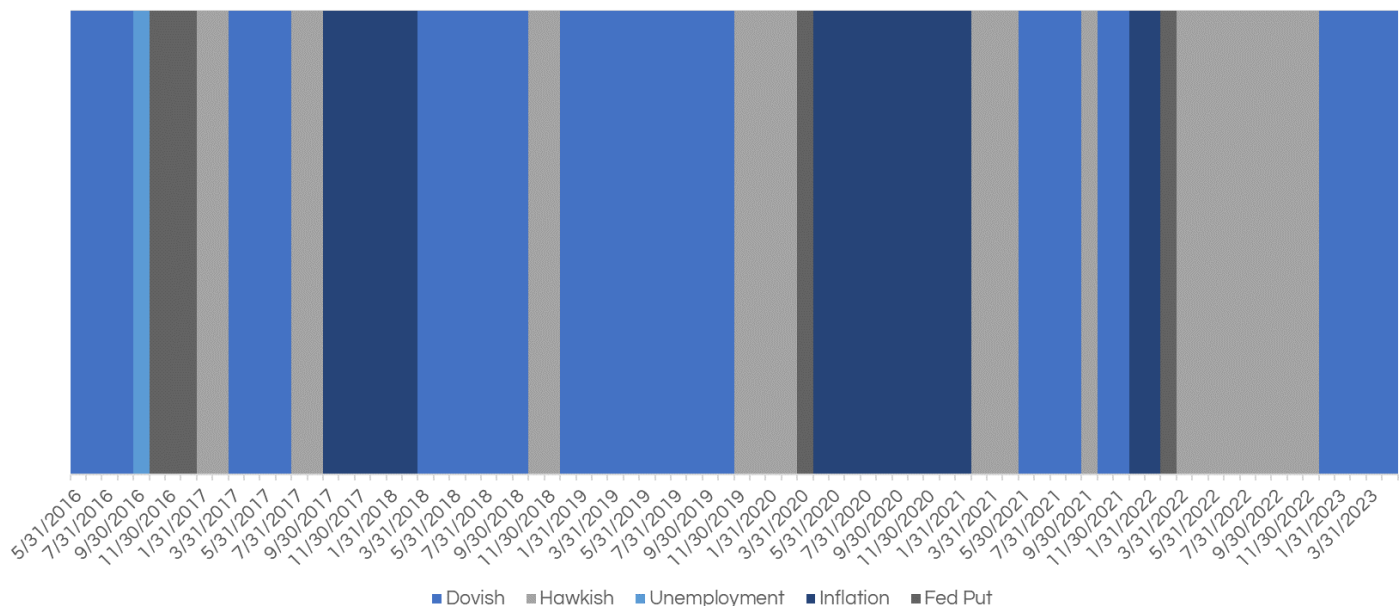
As of April 30, 2023

Signal Reference—Central Bank Policy

This model examines the Density and Narrative Strength / Attention of certain archetypal narratives relating to Central Bank Policy. We classify the dominant narrative among five such archetypes, which we believe reflect different states of common knowledge that both respond to and influence investor behavior. Present archetypes include Dovish, Hawkish, Inflation-Focused, Unemployment-Focused and Fed Put. Historical subsequent period results for directional S&P 500 exposure and historical states for the model are presented below.
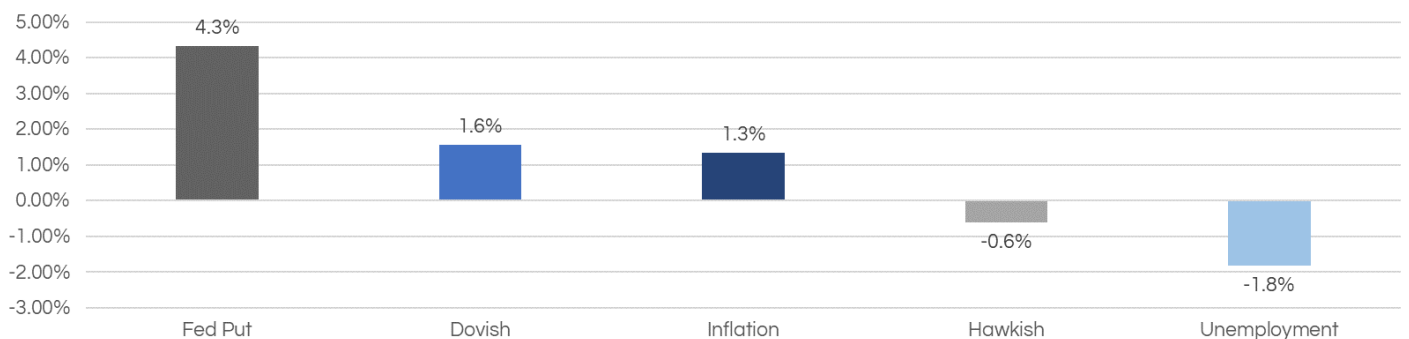
Current State	Dovish (Bullish)

Historical Signal Trigger Periods

Legend: Dovish ■ Hawkish ■ Unemployment ■ Inflation ■ Fed Put ■

Historical Monthly S&P Returns by State

Fed Put	Dovish	Inflation	Hawkish	Unemployment
4.3%	1.6%	1.3%	-0.6%	-1.8%

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US Directional Equity Dashboard
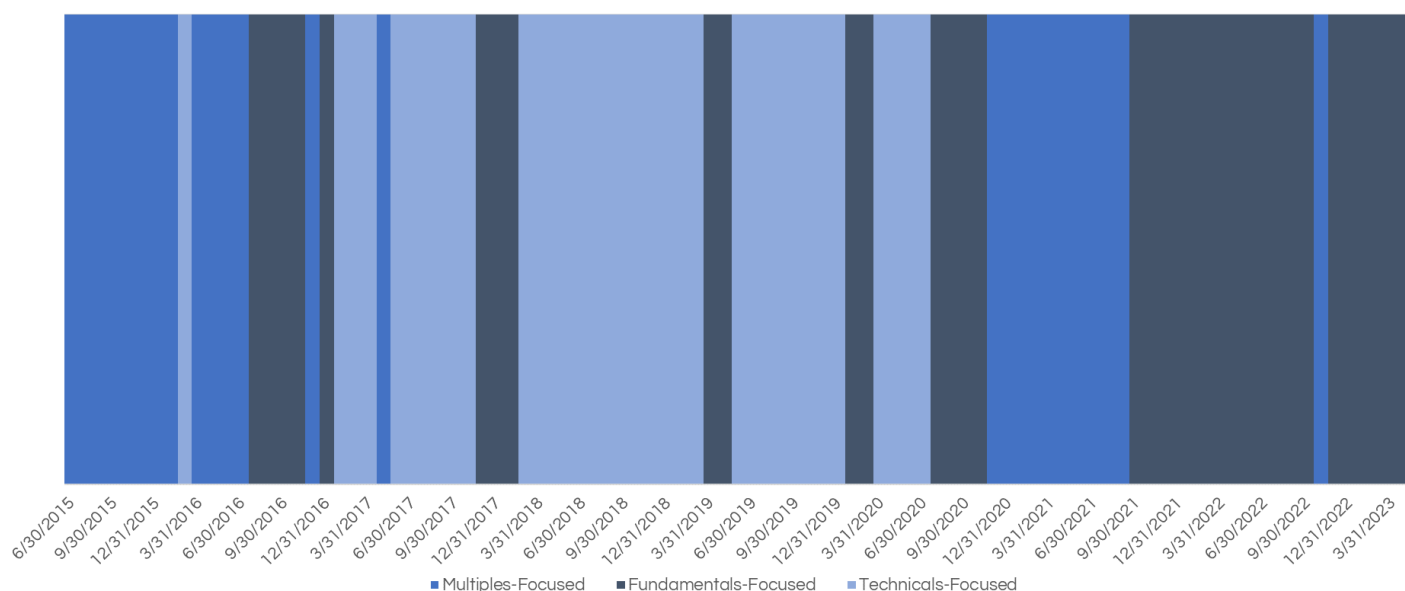
As of April 30, 2023

Signal Reference—Stock Story Types

This model examines the Density and Narrative Strength / Attention of certain linguistic archetypes of investment theses promoted in financial media and by sell side research houses. We think there are three such archetypes: multiples-focused, technicals-focused or fundamentals-focused. That is, analysts and commentators tend to describe why investments are attractive or unattractive using one or more of those linguistic sets. We think the market's varying tendency to frame investment outcomes in terms of each of these archetypes is indicative of risk appetites.
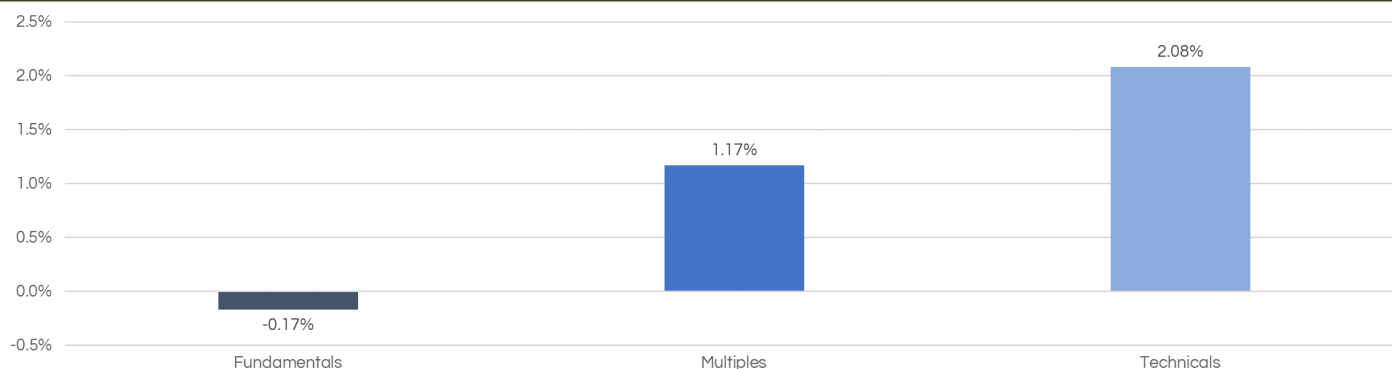
Current State	Fundamentals-Focused (Bearish)

Historical Signal Trigger Periods

Legend: ■ Multiples-Focused ■ Fundamentals-Focused ■ Technicals-Focused

X-axis labels: 6/30/2015, 9/30/2015, 12/31/2015, 3/31/2016, 6/30/2016, 9/30/2016, 12/31/2016, 3/31/2017, 6/30/2017, 9/30/2017, 12/31/2017, 3/31/2018, 6/30/2018, 9/30/2018, 12/31/2018, 3/31/2019, 6/30/2019, 9/30/2019, 12/31/2019, 3/31/2020, 6/30/2020, 9/30/2020, 12/31/2020, 3/31/2021, 6/30/2021, 9/30/2021, 12/31/2021, 3/31/2022, 6/30/2022, 9/30/2022, 12/31/2022, 3/31/2023

Historical Monthly S&P Returns by State

Fundamentals	Multiples	Technicals
-0.17%	1.17%	2.08%

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US Directional Equity Dashboard

As of April 30, 2023

Signal Reference—Extreme Cheap Narrative

This model examines the Density and Narrative Strength / Attention of narratives describing the stock market in general as being inexpensive, cheap or a "good value." We believe that extreme values for these language patterns may be predictive of marginal investor buying behaviors and above average forward-looking excess returns for equity markets, sectors and individual securities. **The signal indicates <u>LONG</u> S&P 500 exposure on an extreme value.**
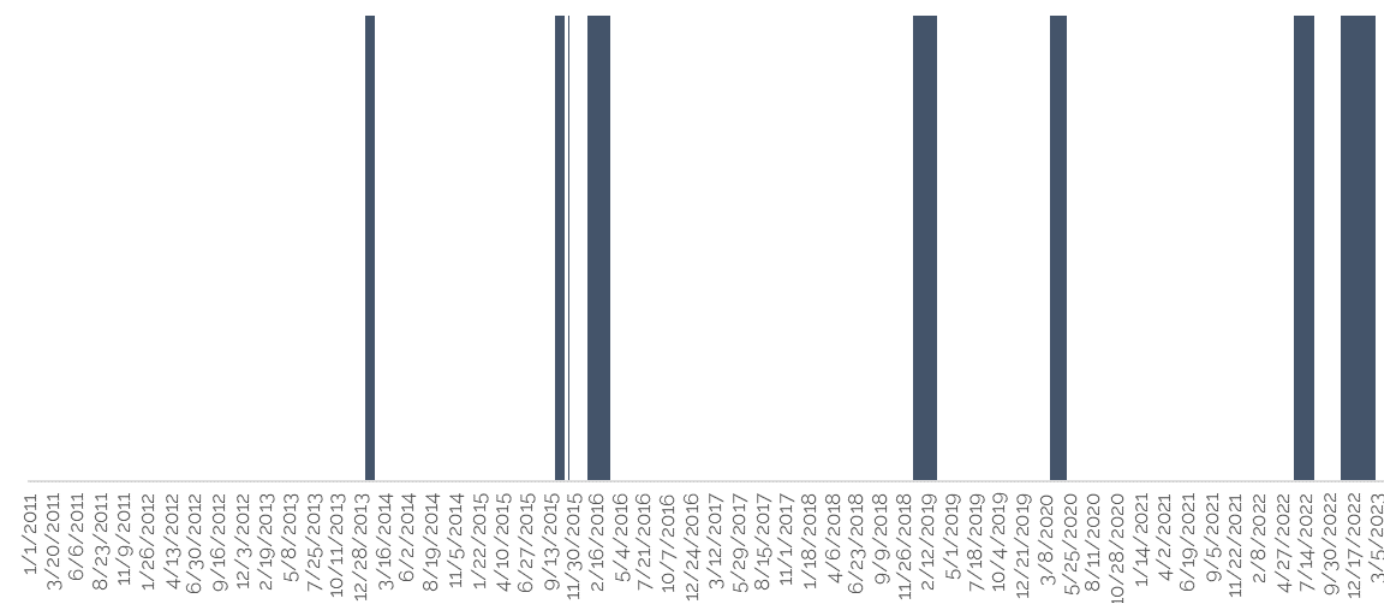
Current State	Neutral
Hist. Daily S&P Return When Active	0.28%

Historical Signal Trigger Periods

Most Recent >30 Day Triggers	Active Period S&P Return	Ann. Active Period S&P Return
11/10/2022—2/28/2023	5.00%	17.39%
06/10/2022—8/12/2022	6.64%	44.32%
03/24/2020—05/14/2020	27.83%	460.27%
12/28/2018—03/14/2019	13.40%	81.46%

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US Directional Equity Dashboard

As of April 30, 2023

SIGNAL REFERENCE—EXTREME EXPENSIVE NARRATIVE

This model examines the Density and Narrative Strength / Attention of narratives describing the stock market in general as being expensive or overpriced. We believe that extreme values for these language patterns may be predictive of marginal investor selling behaviors and below average forward-looking excess returns for equity markets, sectors and individual securities. **The signal indicates SHORT or REDUCED S&P 500 exposure on an extreme value.**
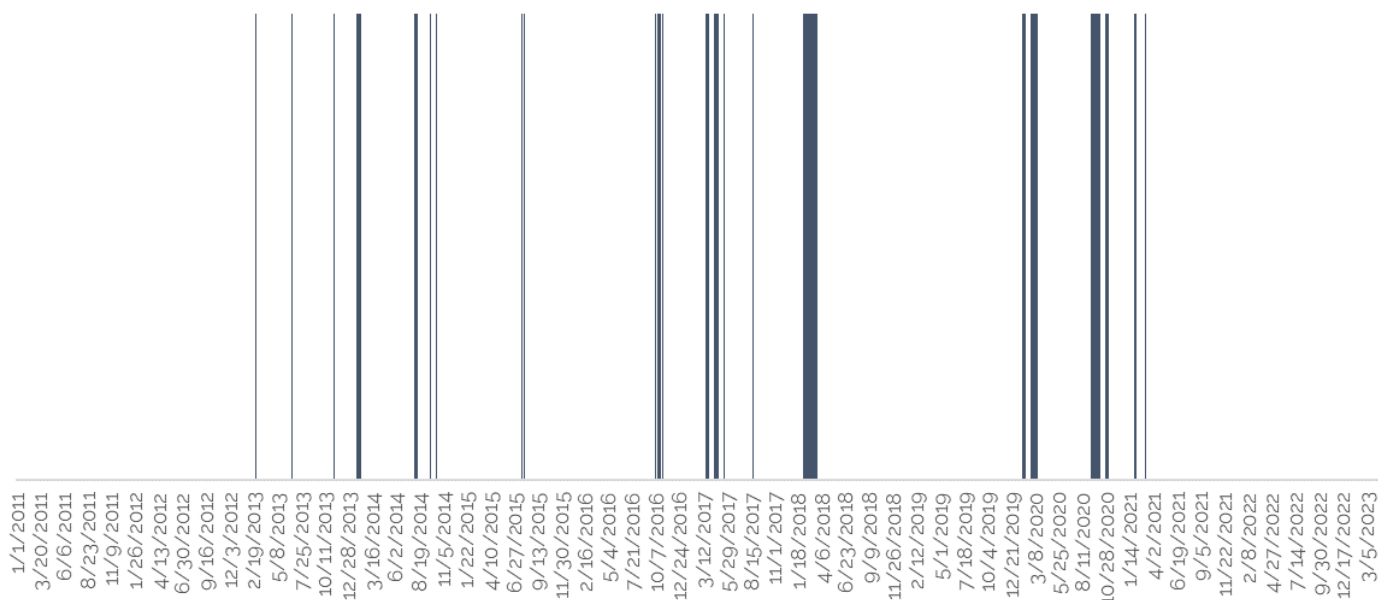
CURRENT STATE	NEUTRAL
HIST. DAILY S&P RETURN WHEN ACTIVE	0.00%

HISTORICAL SIGNAL TRIGGER PERIODS

MOST RECENT TRIGGERS	ACTIVE PERIOD S&P RETURN	ANN. ACTIVE PERIOD S&P RETURN
09/04/2020—11/04/2020	-0.13%	-0.75%
02/25/2020—03/20/2020	-28.42%	N/A
03/14/2018—04/02/2018	-6.56%	-71.01%
10/12/2016—11/07/2016	-0.14%	-1.85%

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US Directional Equity Dashboard

As of April 30, 2023

Signal Reference—Cheap vs. Expensive

This model examines the relative deviation of the Density and Narrative Strength / Attention of narratives describing the stock market as being cheap and expensive, respectively, relative to their historical norms. In short, we believe that the *relative dominance* of cheap archetypal language over expensive archetypal language may be predictive of investor risk-taking behaviors above and beyond the raw value of the density and influence of cheap language itself. **The signal indicates LONG or INCREASED S&P 500 exposure on an extreme value differential in favor of Cheap language.**
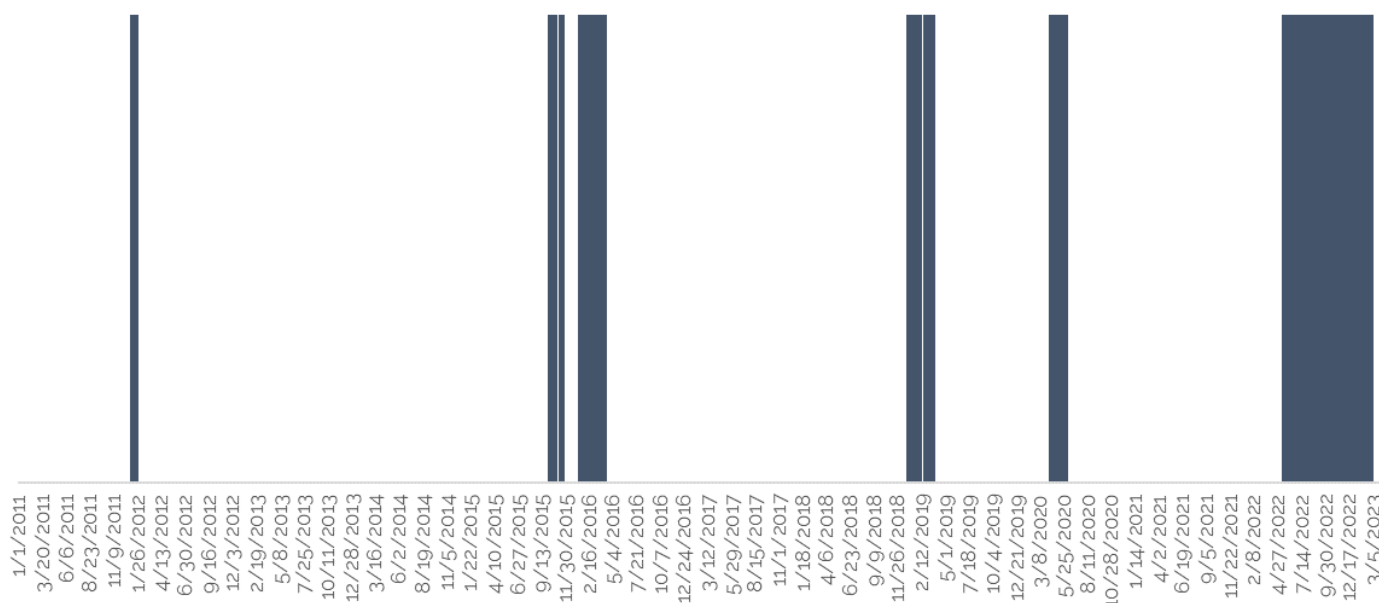
Current State	Neutral
Hist. Daily S&P Return When Active	0.16%

Historical Signal Trigger Periods

Most Recent >30 Day Triggers	Active Period S&P Return	Ann. Active Period S&P Return
05/13/2022—3/8/2023	0.45%	0.54%
04/08/2020—06/05/2020	20.53%	217.34%
12/26/2018—03/29/2019	21.23%	111.15%
01/19/2016—04/13/2016	11.38%	58.01%

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US Directional Equity Dashboard

As of April 30, 2023

Signal Reference— Fading Expensive Narrative

This model examines the rate of change of the Density and Narrative Strength / Attention of narratives describing the stock market as being expensive. In short, we believe that sharp rates of change in the use of archetypal language in favor of cheapness may be predictive of investor risk-taking behaviors above and beyond the raw value of the density and influence of cheap language itself. **The signal indicates INCREASED S&P 500 exposure on a rapid shift away from Expensive archetypal language.**
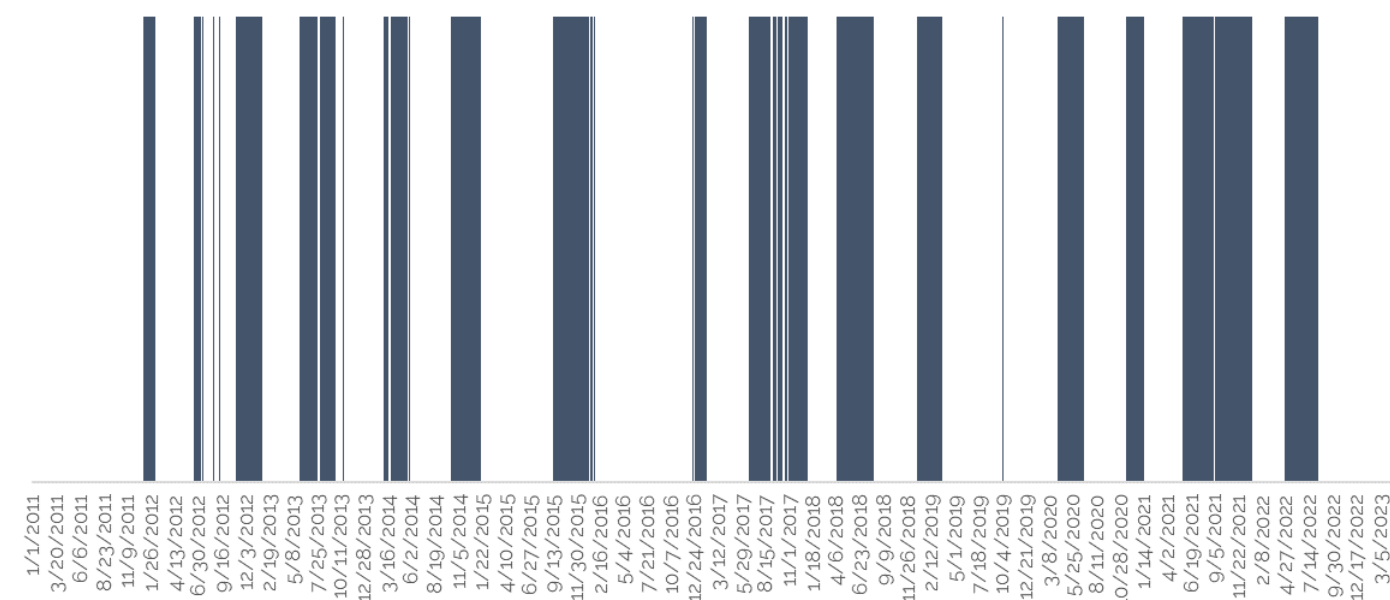
Current State	Bullish
Hist. Daily S&P Return When Active	0.11%

Historical Signal Trigger Periods

Most Recent >30 Day Triggers	Active Period S&P Return	Ann. Active Period S&P Return
04/27/2022—8/11/2022	1.18%	4.07%
05/24/2021—01/04/2022	16.38%	27.91%
11/20/2020—01/14/2021	6.22%	48.16%
04/06/2020—06/29/2020	23.24%	145.33%

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US Directional Equity Dashboard

As of April 30, 2023

SIGNAL REFERENCE— RISING EXPENSIVE NARRATIVE

This model examines the rate of change of the Density and Narrative Strength / Attention of narratives describing the stock market as being expensive. In short, we believe that sharp rates of change in the use of archetypal language in favor of cheapness may be predictive of investor risk-taking behaviors above and beyond the raw value of the density and influence of cheap language itself. **The signal indicates REDUCED S&P 500 exposure on a rapid shift toward Expensive archetypal language.**
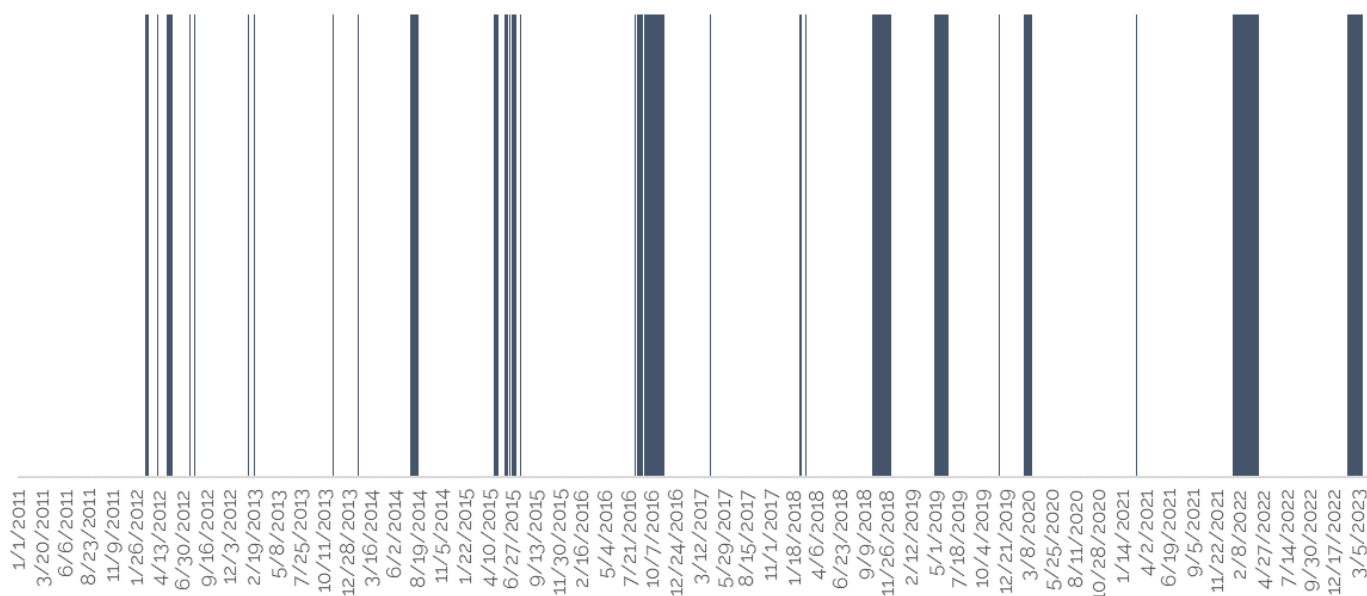
CURRENT STATE	NEUTRAL
HIST. DAILY S&P RETURN WHEN ACTIVE	0.06%

HISTORICAL SIGNAL TRIGGER PERIODS

MOST RECENT >30 DAY TRIGGERS	ACTIVE PERIOD S&P RETURN	ANN. ACTIVE PERIOD S&P RETURN
02/3/2023– 03/24/2023	5.24%	45.22%
01/18/2022—4/13/2022	-3.77%	-15.06%
02/26/2020—03/20/2020	-26.19%	N/A
05/02/2019—06/18/2019	0.14%	1.08%

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US DIRECTIONAL EQUITY DASHBOARD

As of April 30, 2023

SIGNAL REFERENCE— BEARISH VS. BULLISH

This model examines the relative deviation of the Density and Narrative Strength / Attention of narratives describing using the tropes and linguistic patterns of bullish and bearish archetypes, respectively, relative to their historical norms. We believe that the *relative dominance* of bearish over bullish archetypes may be indicative of a narrative structure saturated by pessimism in ways that create upside asymmetry to individual assets and risky assets more broadly. **The signal indicates LONG or INCREASED S&P 500 exposure on an extreme value differential in favor of Bearish language.**

CURRENT STATE	SATURATED (BULLISH)
HIST. DAILY S&P RETURN WHEN ACTIVE	0.11%

HISTORICAL SIGNAL TRIGGER PERIODS
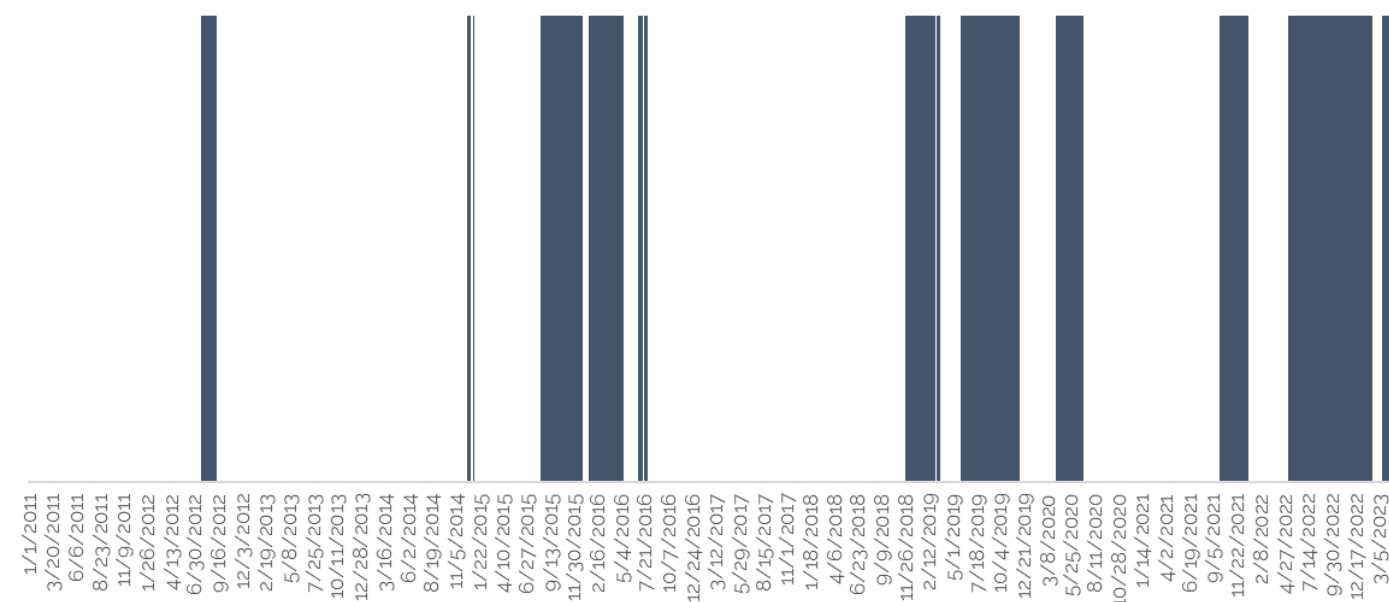
MOST RECENT >30 DAY TRIGGERS	ACTIVE PERIOD S&P RETURN	ANN. ACTIVE PERIOD S&P RETURN
05/10/2022—02/09/2023	0.40%	0.53%
09/27/2021– 12/29/2021	7.96%	34.62%
04/06/2020—07/02/2020	26.38%	164.11%
05/29/2019—12/06/2019	12.74%	25.61%

US Directional Equity Dashboard

As of April 30, 2023

Signal Reference— Bullish Narrative

This model examines the rate of change of the Density and Narrative Strength / Attention of narratives describing bull cases for individual assets or the market in general. We believe that bull case language tends to gain influence after the case has been demonstrated in market performance—thus, it is the relative absence of bull case narratives that we expect to be moderately predictive of above average returns. **The signal indicates INCREASED S&P 500 exposure on a low density/influence of Bullish archetypal language.**
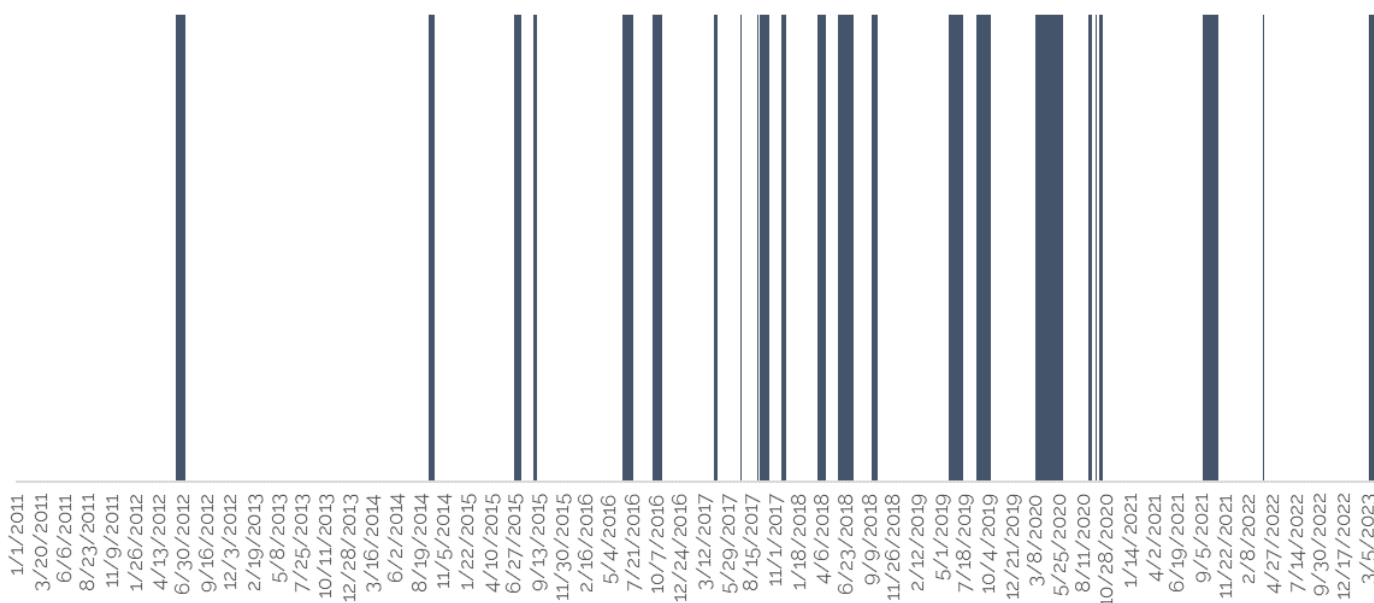
Current State	Neutral
Hist. Daily S&P Return When Active	0.16%

Historical Signal Trigger Periods

Most Recent >30 Day Triggers	Active Period S&P Return	Ann. Active Period S&P Return
09/15/2021—11/03/2021	4.36%	39.25%
03/13/2020—06/05/2020	29.39%	202.32%
08/30/2019—10/15/2019	2.58%	21.87%
05/31/2019—07/12/2019	8.33%	97.22%

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