



US DIRECTIONAL EQUITY DASHBOARD

As of December 31, 2022

COMMENTARY

- What we were seeing in the more complete Radiant model set has now made it to the ETNA indicators published on the US Directional Equity Dashboard. In short, after many months of a Hawkish central bank policy narrative, our models have flipped to Dovish.
- To be clear, that doesn't mean that Central Banks *are* being dovish, or that we are predicting dovish policy. It means that the language investors are hearing, reading and consuming about central banks is now dominated by pleading for, recommending or predicting a dovish pivot (even with the brief interlude of skepticism in late December).
- Combined with continued saturation of bearish narratives about risky assets and the economy, and emerging shoots of language describing "pockets of value" and "buying opportunities", our macro models are bullish, if only moderately, for the first time in a very long while.
- While this is interesting to observe, we would also point out that we remain in a polynarrative environment. Hawkish, recessionary, valuation-focused and bubble-concerned language are ALL present at significant levels. Investors should not be surprised to see continued dynamism in narrative space and flipping on the risk-on / risk-off spectrum as news, published economic figures and events affect the dominant short-term framing.

SIGNAL VALUES AS OF DECEMBER 31, 2022

SIGNAL CATEGORY	SIGNAL STATE	DIRECTION
Central Bank Policy	Dovish	Bullish (New)
Stock Story Types	Fundamentals-Focused	Bearish
Cheap Narrative	Emerging Cheap	Bullish
Expensive Narrative	Neutral	Neutral
Cheap vs. Expensive	Emerging Cheap	Bullish
Fading Expensive Narrative	Neutral	Neutral
Rising Expensive Narrative	Neutral	Neutral
Bullish Narrative	Neutral	Neutral
Bearish vs. Bullish	Saturated Bearish	Bullish
Aggregate View		Moderately Bullish

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US DIRECTIONAL EQUITY DASHBOARD

As of December 31, 2022

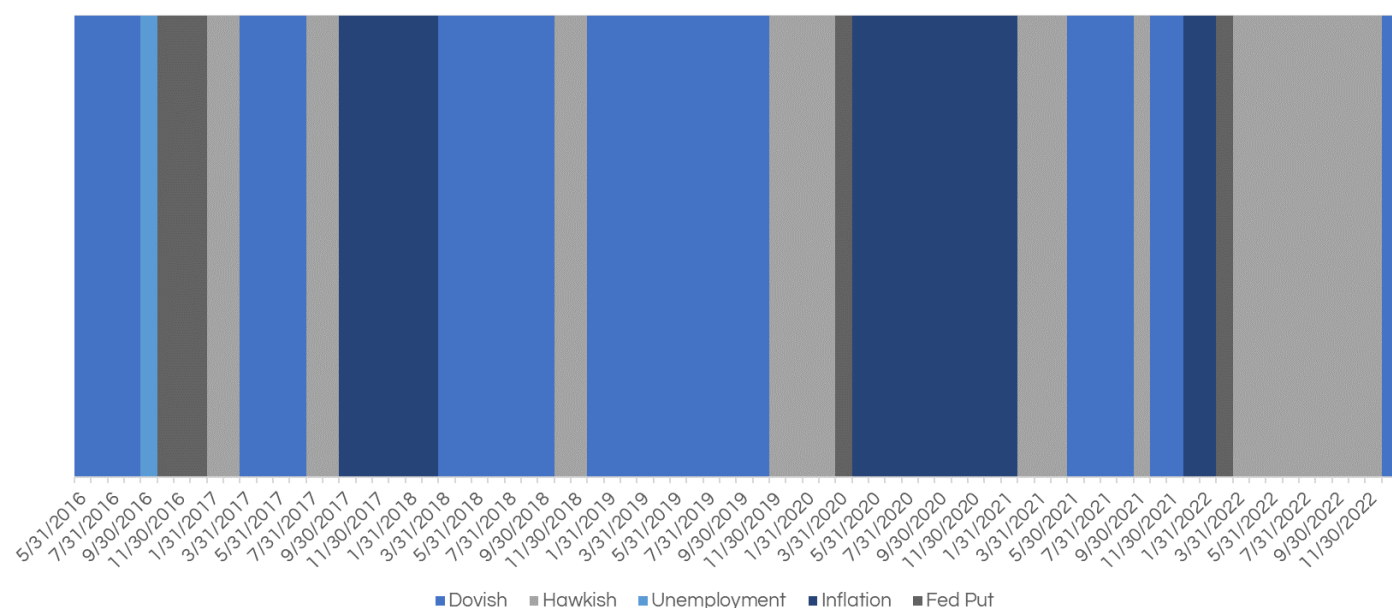
SIGNAL REFERENCE—CENTRAL BANK POLICY

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.

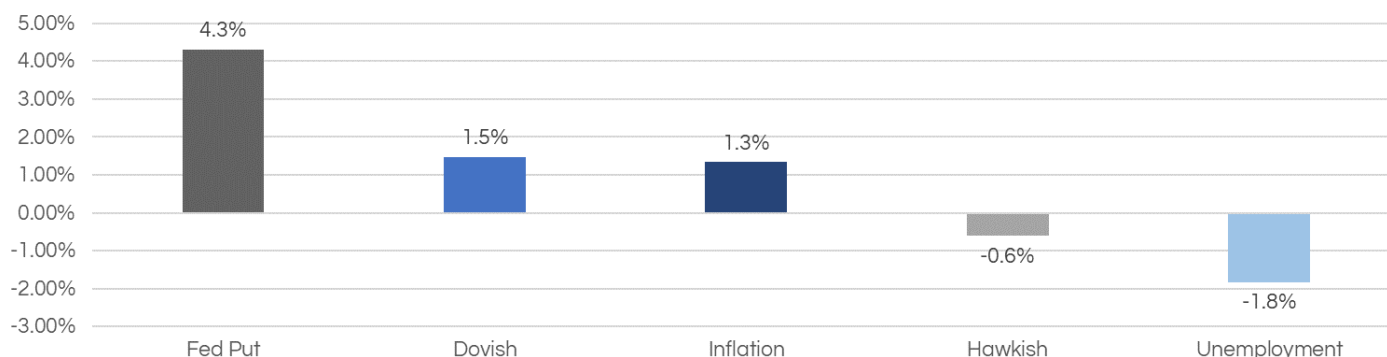
CURRENT STATE

DOVISH (BULLISH)

HISTORICAL SIGNAL TRIGGER PERIODS



HISTORICAL MONTHLY S&P RETURNS BY STATE



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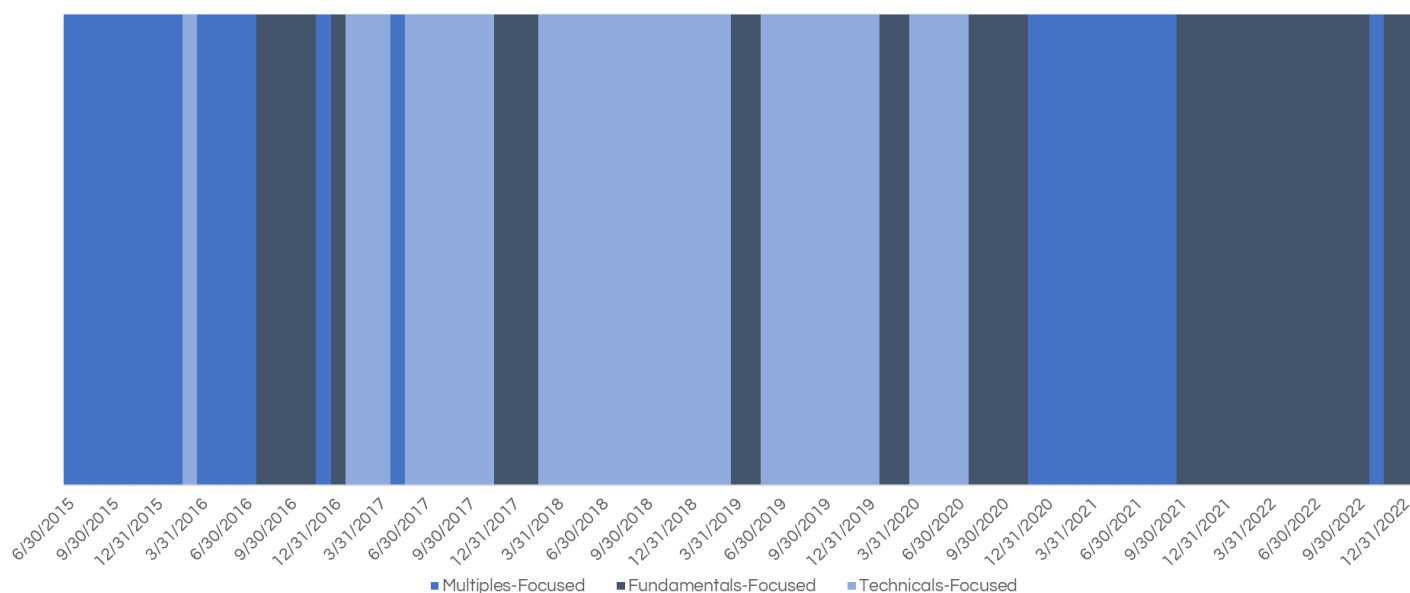
SIGNAL REFERENCE—STOCK STORY TYPES

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.

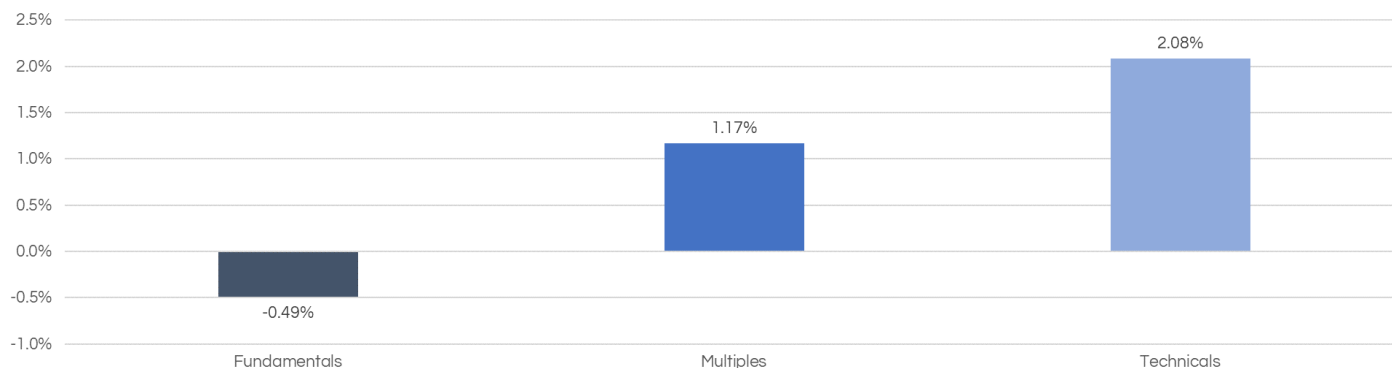
CURRENT STATE

FUNDAMENTALS-FOCUSED (BEARISH)

HISTORICAL SIGNAL TRIGGER PERIODS



HISTORICAL MONTHLY S&P RETURNS BY STATE



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US DIRECTIONAL EQUITY DASHBOARD

As of December 31, 2022

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 LONG S&P 500 exposure on an extreme value.**

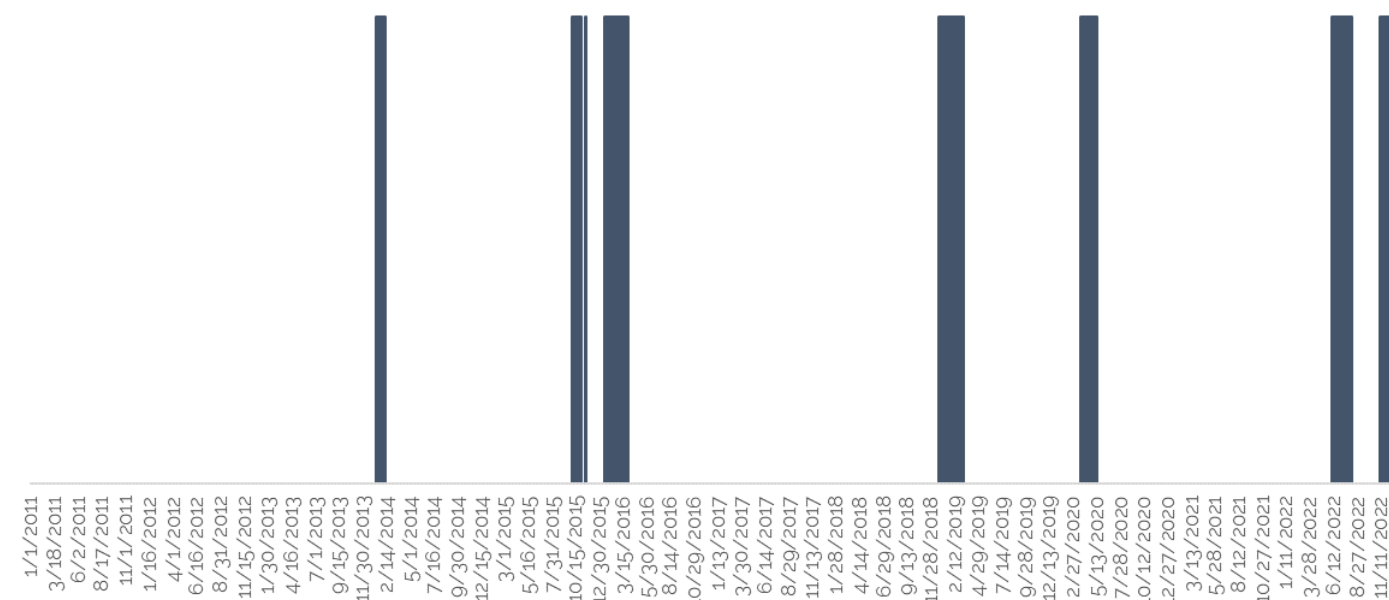
CURRENT STATE

EXTREME CHEAP (BULLISH)

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—Present	1.97%	14.70%
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 December 31, 2022

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.**

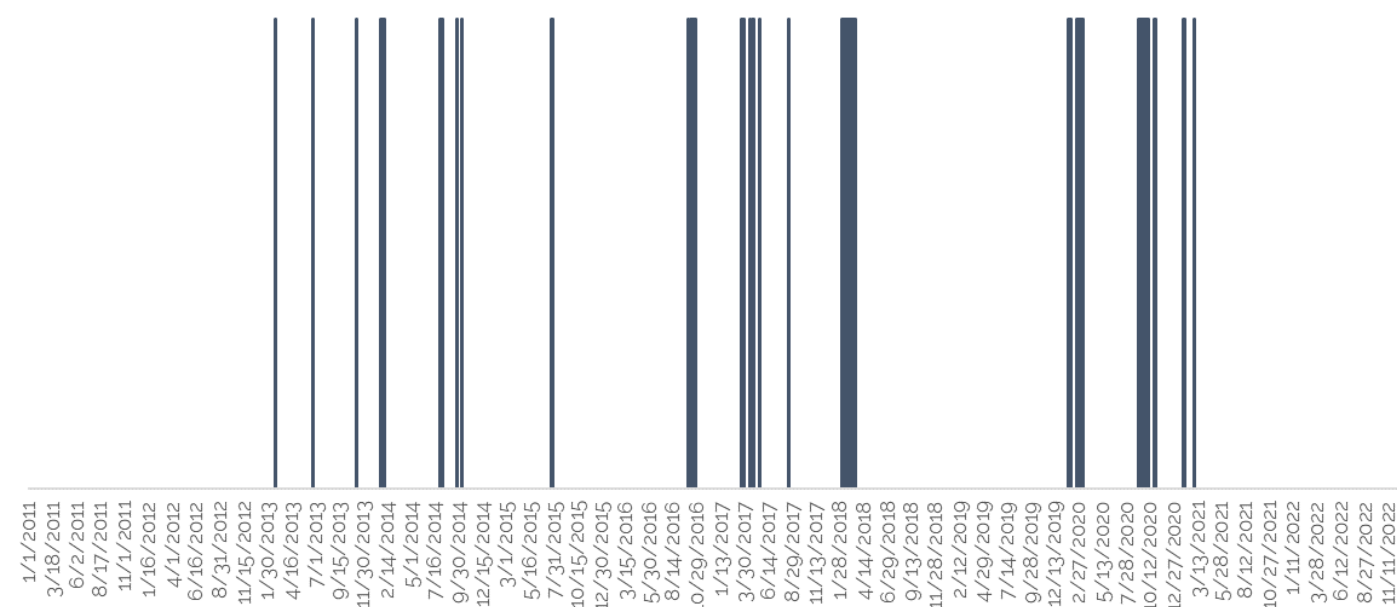
CURRENT STATE

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 December 31, 2022

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.**

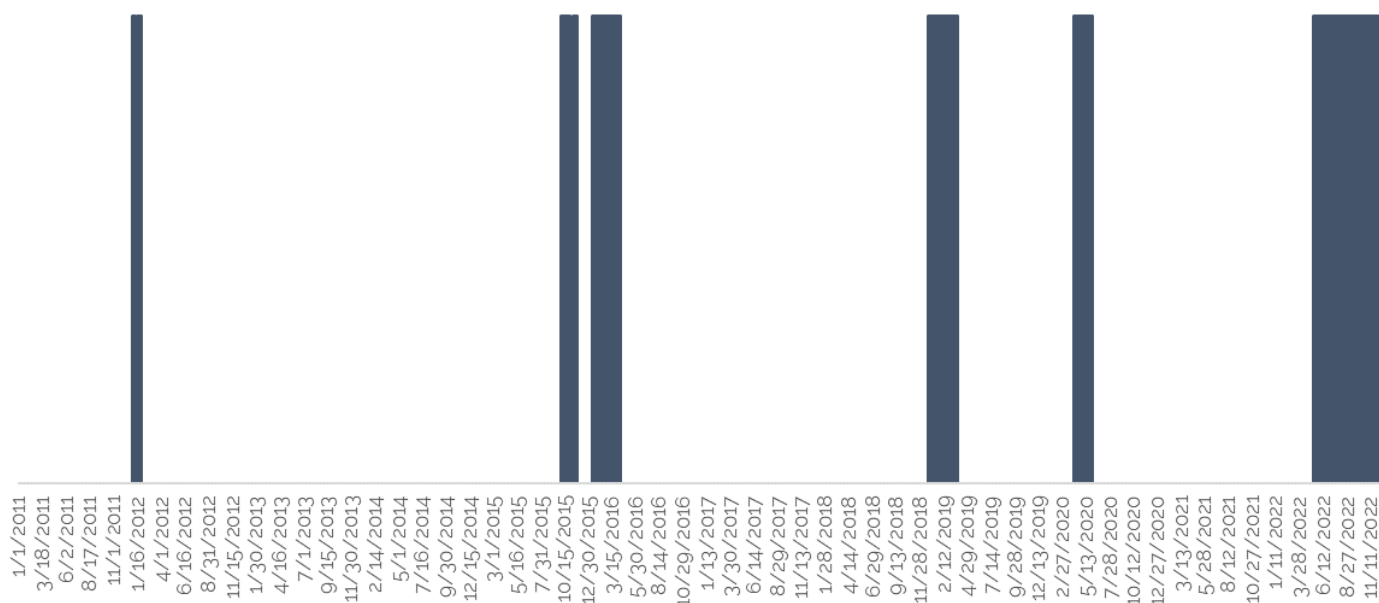
CURRENT STATE

EMERGING CHEAP (BULLISH)

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—Present	-2.86%	-4.44%
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 December 31, 2022

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.**

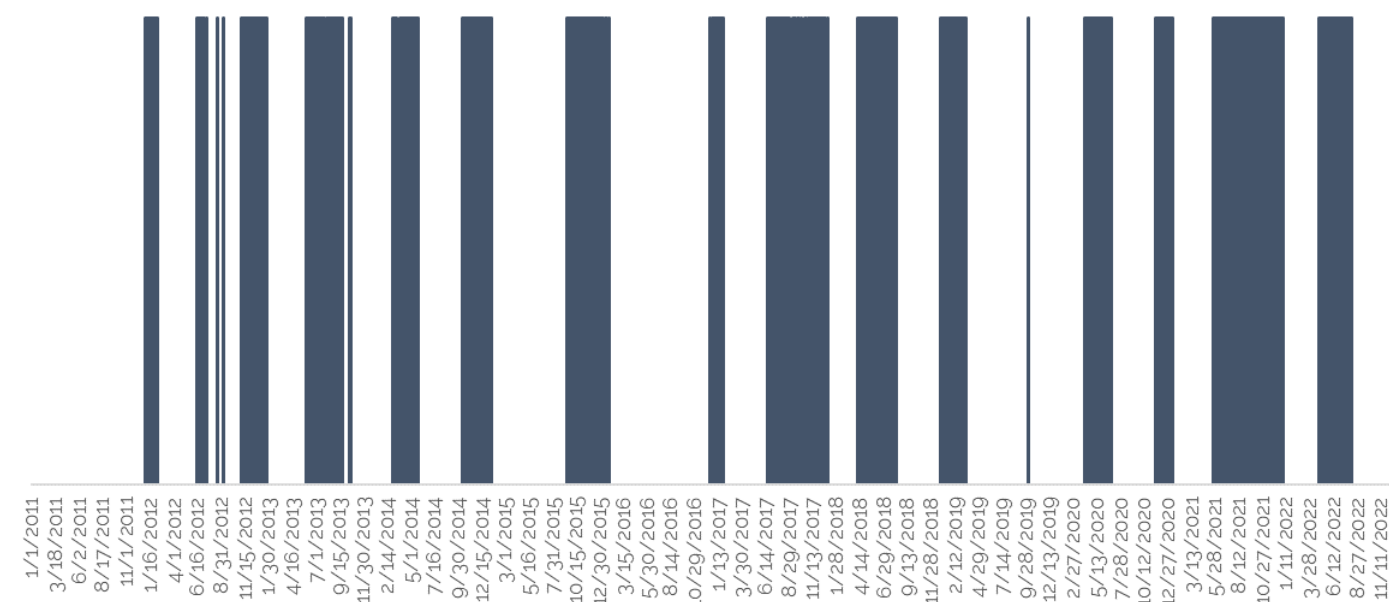
CURRENT STATE

NEUTRAL

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 December 31, 2022

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.**

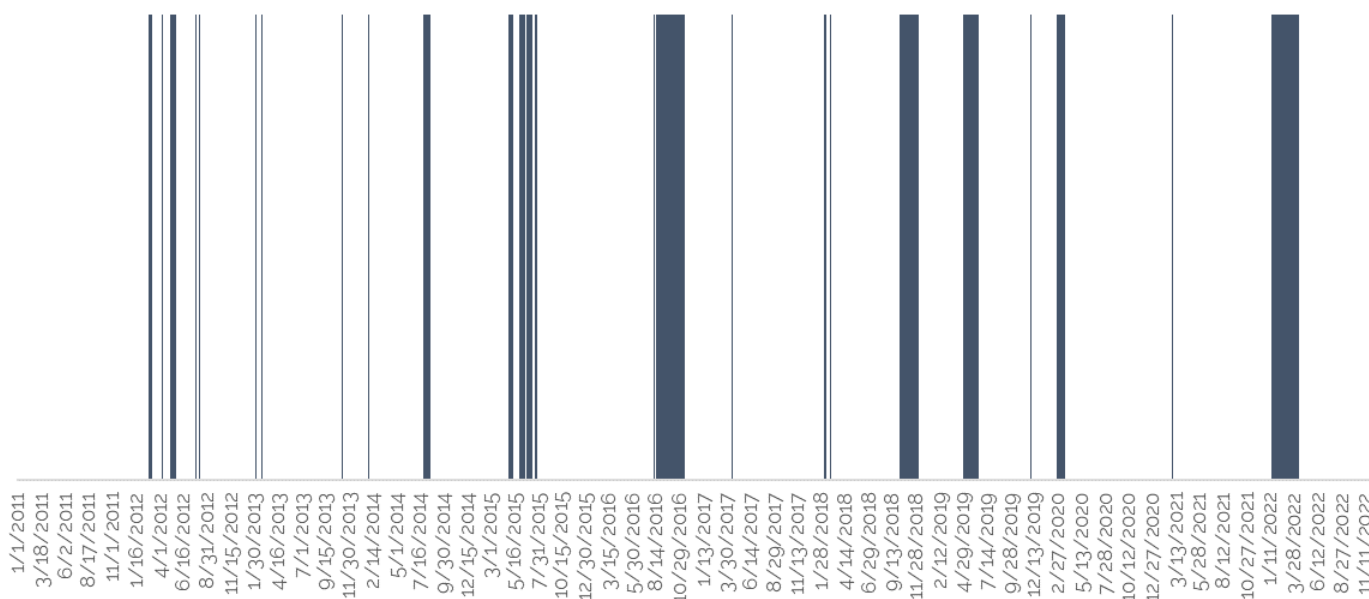
CURRENT STATE

NEUTRAL

HIST. DAILY S&P RETURN WHEN ACTIVE

-0.04%

HISTORICAL SIGNAL TRIGGER PERIODS





US DIRECTIONAL EQUITY DASHBOARD

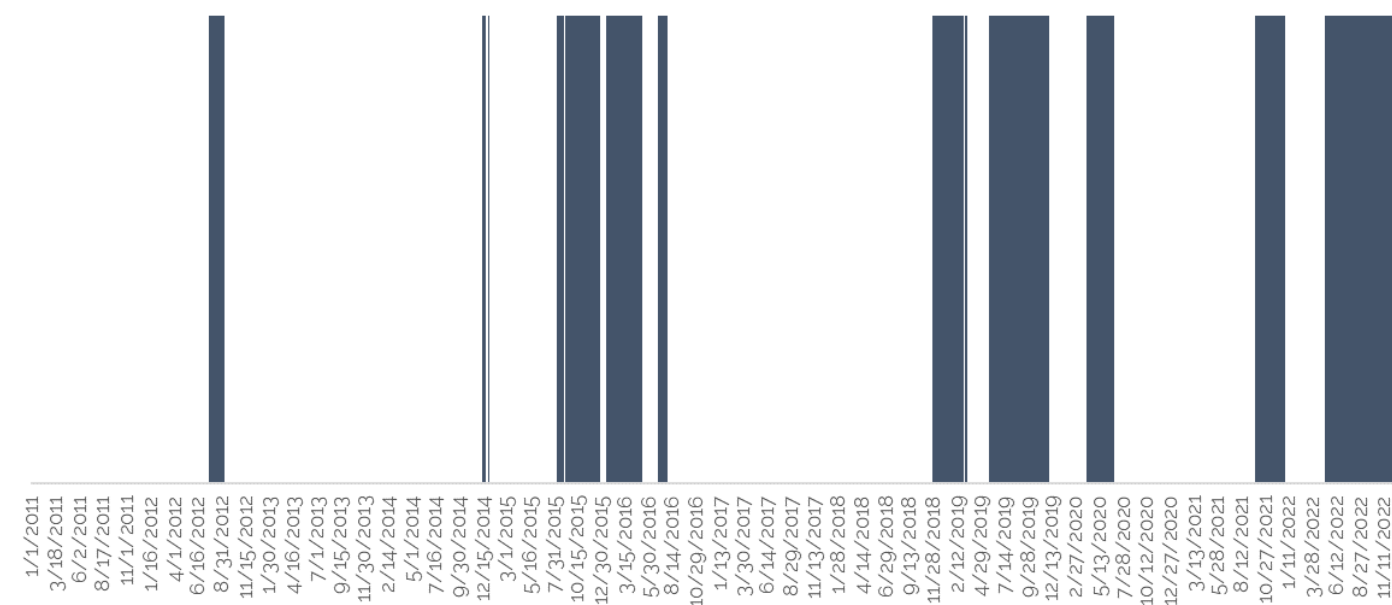
As of December 31, 2022

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 BEARISH (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—Present	-4.28%	-6.54%
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%

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US DIRECTIONAL EQUITY DASHBOARD

As of December 31, 2022

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.**

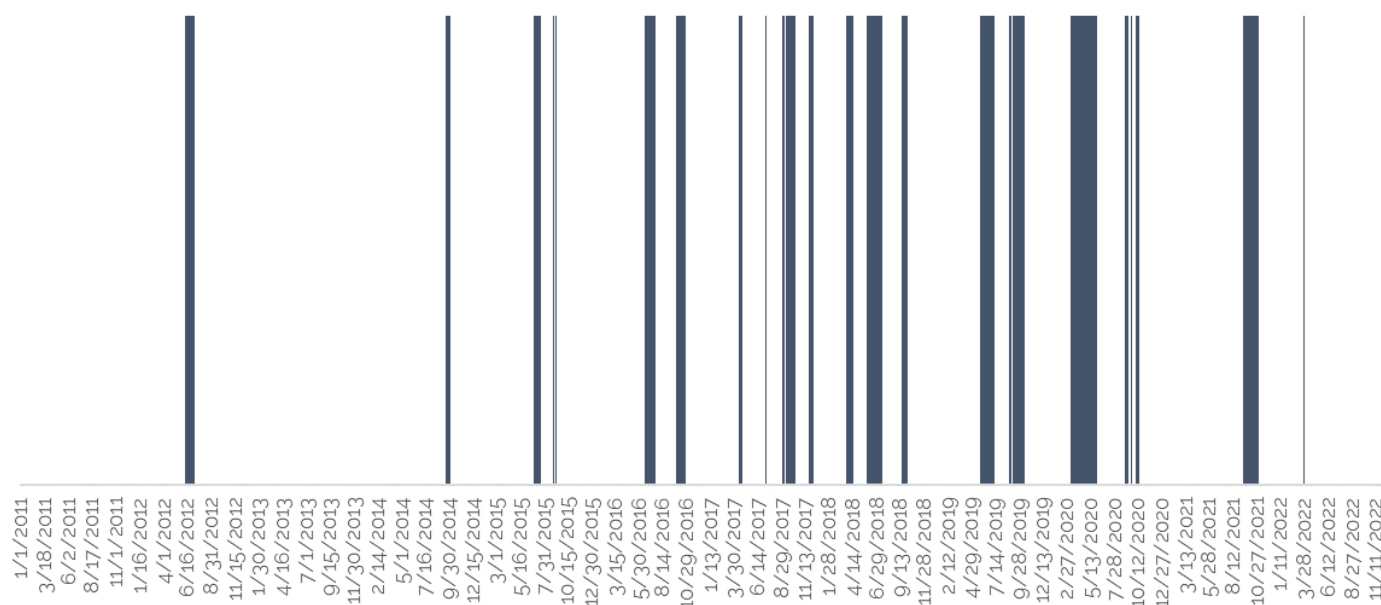
CURRENT STATE

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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