Physics-Based Sentiment Forecasts - US Stocks | Jan 3 2025



ETF "RSP" | S&P 500® Equal Weighted Index
Three-week Horizon
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This three-week forecast of investor sentiment as an example of our perspective on stock market corrections and recoveries.

Introductory video: <u>www.cpminvesting.com/vidintro</u>
Request subscription to a six-week forecast: <u>contact@cpminvesting.com</u>

Summary (data as of Jan 03 2025): Overall stock market resilience, as indicated by the Market Resilience Indexes (Figure 1), is decreasing. The slope of the Macro MRI turned negative last week at a level of 68, after remaining positive for over a year except for two weeks in May, when it was at only the midpoint of its range (54). Historically, most Macro cycles end nearer the current level rather than at 100. This shift aligns with our earlier forecasts of the Long-Term Physics-Based Sentiment Driver, which moved away from its most optimistic stance in early December 2024.

None of the three MRI currently indicate resilience, leaving the market vulnerable to declines and slow recoveries from negative events. However, based on historical patterns when the Long-Term Driver is "moderately positive," a dramatic decline (over 30%) in the next three weeks is unlikely unless economic news is extremely negative.

Recent Market Dynamics - Current market dynamics are consistent with forecasts we made several months ago. The stock market's recent decline and weakening MRI coincided with the expected shift in the Long-Term Driver. Excess RSI (EMA) analysis (Figure 3) now shows neutral excess price momentum tied to economic and market factors.

Outlook - The Long-Term Driver (Figure 1, lower panel) signals "moderately optimistic" sentiment over the next three weeks, suggesting any positive market price trend will be mild. The Short-Term Driver is varied but optimistic, with a Minor flash of optimism expected this week, potentially masking any emerging negative trends. The Micro MRI, tracking short-term return acceleration, is at a low normal range but is poised to rise. The Micro MRI's move higher and any associated price gains could also obscure any emerging negative trends. A further reduction in Excess RSI (EMA, Fig 2, 3) in the coming weeks would signal increased risks for the stock market.

Figure 1 (following page): Notes linked here: https://cpminvesting.com/notes and the Additional Notes of this report are useful background for this report. Figure 1 on the following page contains two panels. The upper panel displays the asset price and our Market Resilience Index® series. The MRI are derived solely from the asset price and measure its return acceleration over different time frames, from a few weeks (Micro MRI) to several quarters (Macro MRI). These MRI are shown with their current levels (ranging from 0 to 100) and their recent slope/trend (Pos=Positive, Neg=Negative) indicated in the legend. The Exceptional Macro MRI is shown as a line above the Macro MRI and is indicated as being present (Yes) or not (No) in the legend. See note #1 on https://cpminvesting.com/notes for background on the MRI. The lower panel on Figure 1 shows the physics-based drivers of investor sentiment, which have been calibrated to show naturally occurring shifts affecting the MRI. The predicted status of each driver is shown in the light green vertical box on the right. See #2 on https://cpminvesting.com/notes for background on the physics-based drivers and note #4 regarding these indicators converging on a negative trend.

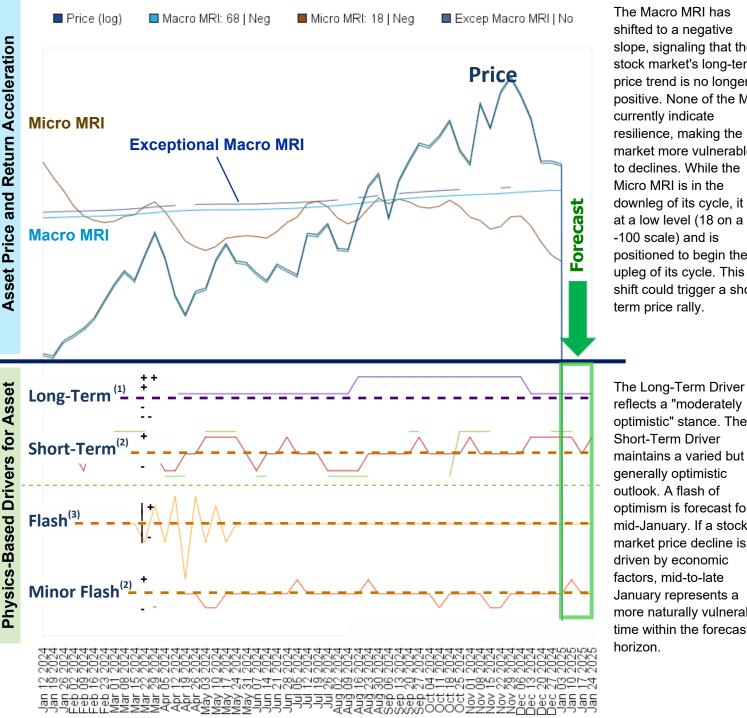


MRI and Sentiment Drivers

Fig. 1

Video - Indicator Descriptions: www.cpminvesting.com/vidfig1

Physics-Based Sentiment Forecasts ETF "RSP" | S&P 500® Equal Weighted Index as of Jan 03 2025 MRI and Their Drivers: Jan 5 2024 - Jan 24 2025



The Macro MRI has shifted to a negative slope, signaling that the stock market's long-term price trend is no longer positive. None of the MRI currently indicate resilience, making the market more vulnerable to declines. While the Micro MRI is in the downleg of its cycle, it is at a low level (18 on a 0 -100 scale) and is positioned to begin the upleg of its cycle. This shift could trigger a shortterm price rally.

reflects a "moderately optimistic" stance. The Short-Term Driver maintains a varied but generally optimistic outlook. A flash of optimism is forecast for mid-January. If a stock market price decline is driven by economic factors, mid-to-late January represents a more naturally vulnerable time within the forecast



- Strongly Optimistic
- Moderately Optimistic
- Moderately Pessimistic Strongly Pessimistic
- 2) + Optimistic Neutral

Pessimistic

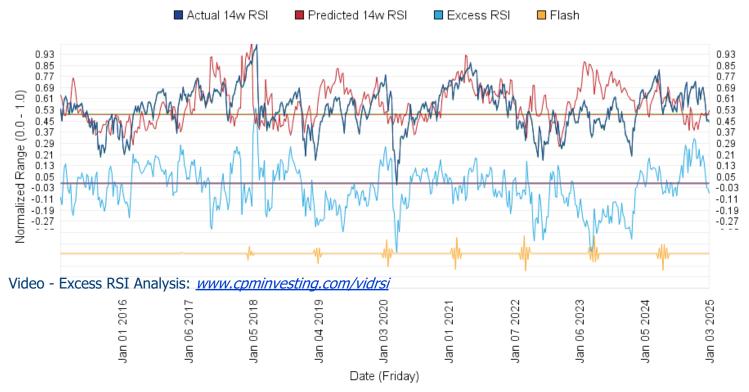
- Optimistic
 - Pessimistic
 - with description



RSI Analysis - 10-Year

Fig. 2

ETF "RSP" | S&P 500® Equal Weighted Index 14-Week RSI - Actual and Predicted: Jan 16 2015 - Jan 3 2025



The 14-week RSI is an important component within the Short-Term Driver shown in Figure 1. RSI is a widely used measure of asset price momentum and our RSI forecasts explain most of the weekly volatility of the actual RSI. | The upper portion of Figure 2 displays the predicted and actual 14-week RSI for the asset price (not shown) over the past 10 years. The light blue line in the middle of the figure, labeled "Excess RSI," represents the difference between the two series. High values of Excess RSI indicate stronger-than-expected price momentum, often driven by positive economic or market conditions. Conversely, low values suggest weaker-than-expected momentum, likely reflecting negative conditions. | The Flash Driver is shown for reference.

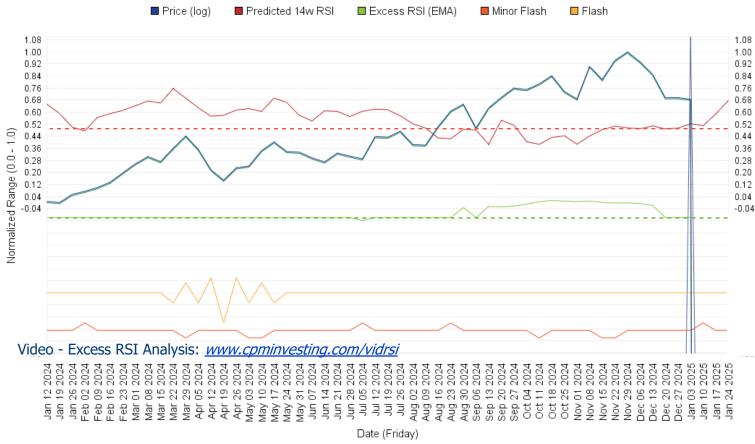
Comments (data as of Jan 03 2025): [No material change from last week] On the far right of Figure 2, the light blue line shows the Excess RSI has moved to a neutral level. This indicates the index's price momentum is now aligned with naturally occurring shifts in sentiment. Compared to recent months, this suggests investors have adopted a more neutral outlook on economic, market, and real-world conditions. Sentiment related to stock valuations, inflation, and interest rates would be reflected in the Excess RSI.



RSI Analysis - 1-year with EMA

Fig. 3

ETF "RSP" | S&P 500® Equal Weighted Index Index Price, Predicted 14-Week RSI: Jan 5 2024 - Jan 24 2025



The asset price (heavy blue line) and predicted price momentum measured as the 14w RSI (red) are shown in the upper panel of Figure 3. "Excess RSI (EMA)" is shown as the light green line. Conceptually, this line deviates from its neutral stance, indicated by the dashed light green line, when the actual 14w RSI of the market (not shown) is meaningfully higher or lower than what can be expected from the natural shifts in sentiment as embodied in the predicted RSI. This line can call attention to economic conditions that are unusually strong or weak based on the sustained deviation of the actual RSI relative to the predicted RSI. Excess RSI (EMA) is calculated as the exponential moving average (EMA) of the actual 14w RSI less the predicted 14w RSI (labeled "Excess RSI" on the prior page). Only z-score values in excess of +/-0.5 are shown in order to highlight meaningful deviations. When the line is horizontal, the actual 14w RSI is not meaningfully different than what we expect from the natural shifts in sentiment.

Comments (data as of Jan 03 2025): The Excess RSI (EMA) has shifted from a positive to a neutral status, indicating that investor sentiment about real-world conditions is now neutral. The solid red line shows that the predicted RSI will rise over the next three weeks. If market prices fail to increase meaningfully during this period, it likely signals further weakening of economics-based sentiment. A negative shift in Excess RSI would be a bearish signal for the stock market, as sentiment related to valuations, inflation, interest rates, and other factors is captured in the Excess RSI.



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Additional Notes

Links

Please contact us with questions: contact@cpminvesting.com

See additional notes: www.cpminvesting.com/notes

General information: www.cpminvesting.com

Citations

RSP is an ETF issued by Invesco that seeks to track the performance of the S&P 500® Equal Weight Index, providing equal exposure to each of the 500 largest publicly traded U.S. companies.

For more information, visit: https://www.invesco.com

Background

Sentiment shifts occur periodically and are described as changes between:

Optimism|Pessimism Risk-on|Risk-off Resilience|Vulnerability Euphoria|Panic Aspirational thinking|Critical thinking

Total sentiment reflects economic forces and the naturally occurring forces that directly affect human behavior:

- > Economic forces
 - Investor views on economic conditions
 - Investor views on market fundamentals
 - Investor behavior (e.g., trend following, mean reverting, calendar effects, response to current events)
- > Natural forces Our focus is here

Naturally Occurring Shifts Have a Big Impact: Naturally occurring sentiment shifts have a bigger impact than many investors realize, and typically explain over 70% of the weekly variability of widely used index price momentum measures such as the Relative Strength Index (RSI). In addition, systematically predicting the future strength of the natural forces can be done more easily and reliably than predicting the future strength of economic forces.

We can Infer Impact of Economic and Market Conditions: When total sentiment deviates meaningfully from the natural shifts, we can infer that economic forces have a higher impact. If we take the actual RSI, for example, which reflects both economic and natural forces, and subtract the effect of the natural forces (represented by the predicted series), the difference is a reasonable gauge of the impact of the economic forces.

Early Indicators of Market Declines: Key early indicators of an impending market correction are a) when Excess RSI (EMA) moves to negative levels, and b) when actual sentiment metrics, such as one of our Market Resilience Indexes or the 14-week RSI, converges with a negatively trending predicted metric. See Note #4 on this page (https://cpminvesting.com/notes).

Two types of Physics-Based Sentiment Drivers: We maintain over two dozen physics-based drivers. There are two general types:

- > Cyclic Drivers sentiment changes gradually over time. The Long- and Short-Term drivers are cyclic.
- > Episodic Drivers sentiment changes abruptly. The Flash and Minor Flash drivers are episodic. Our forecasts of Episodic Drivers tend to be more accurate than those for the Cyclic Drivers.

For descriptions of each driver, see Note #2 on this page (https://cpminvesting.com/notes).

Two Sentiment-Related Metrics: We use two different metrics in our forecasts of sentiment. We forecast the 14-week Relative Strength Index (RSI) to measure price momentum for a market index. Upward sloping RSI indicates positive



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sentiment.

https://en.wikipedia.org/wiki/Relative strength index

We also forecast our own Market Resilience Index® (MRI) series. The MRI measure return acceleration. Upward sloping MRI indicate positive sentiment. MRI indicate short- and long-term shifts in market resilience for each market index:

- > Micro MRI short-term trends lasting several weeks
- > Macro MRI long-term trends lasting several quarters

The RSI and MRI have different features.

RSI (Relative Strength Index)

- Widely used in investment industry
- Effective in identifying market bottoms
- Less effective in identifying market tops. RSI can peak several months before the index price peaks.

MRI (Market Resilience Index)

- Designed to identify accurately both market tops and bottoms

For descriptions of each driver, see Note #1 on this page (https://cpminvesting.com/notes).

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