## Physics-Based Sentiment Forecasts - US Stocks | Jan 31 2025



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

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Three-Week Forecasts (periods between shifts)			
Physics- Based	Long-Term Sentiment (qtrs):	3 (1-4, with 4=Strongly Optimistic)	Figure 1
	Short-Term Sentiment (wks):	Shifting to pessimistic over the next three weeks	s Figure 1
	Flash Sentiment:	None	Figure 1
	<b>Market Price Momentum:</b>	Trending lower	Figure 3
Impli	ed Economics-Based Sentiment:	Meaningfully Negative F	igures 2,3

Video summary of this week's report: <a href="https://youtu.be/lU61\_0zu2gY">https://youtu.be/lU61\_0zu2gY</a>

## Summary (data as of Jan 31 2025):

**Outlook** – Despite the Long-Term Physics-Based Driver continuing to indicate a moderately optimistic stance over the coming weeks, three other conditions indicate near-term market vulnerability. First, our measure of the market's current long-term price trend (the Macro MRI) recently changed and currently indicates that the long-term trend of market prices is negative.

Second, both the Short-Term Physics-based Driver (Figure 1) and the predicted price momentum of the market (Figure 3) indicate a naturally occurring pessimistic bias over the next three weeks.

Third, the Implied Economics-Based Sentiment (Figure 3) has become meaningfully negative, suggesting investors hold a pessimistic view of economic and market conditions. If a meaningful stock market decline is needed for economic reasons, we are entering a period in which it is more likely to take place compared to the August through November period of 2024.

**Recent Market Dynamics** – Recent stock market gains align with the Short-Term Physics-Based Driver's indication of investor optimism and the Micro MRI's shift into the upleg of its cycle, as shown in Figure 1. These gains have also been supported by positive expected price momentum shown in Figure 3.

#### Notes:

Introductory video: https://youtu.be/CzI67Md1s1w

See this page for written notes: <a href="https://cpminvesting.com/notes">https://cpminvesting.com/notes</a>



## **MRI** and Sentiment Drivers

Fig. 1

Video - Indicator Descriptions: <a href="https://youtu.be/YOpocz">https://youtu.be/YOpocz</a> C8is

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ETF "RSP" | S&P 500® Equal Weighted Index as of Jan 31 2025
MRI and Their Drivers: Feb 2 2024 - Feb 21 2025





2 Moderately Pessimistic

1 Strongly Pessimistic

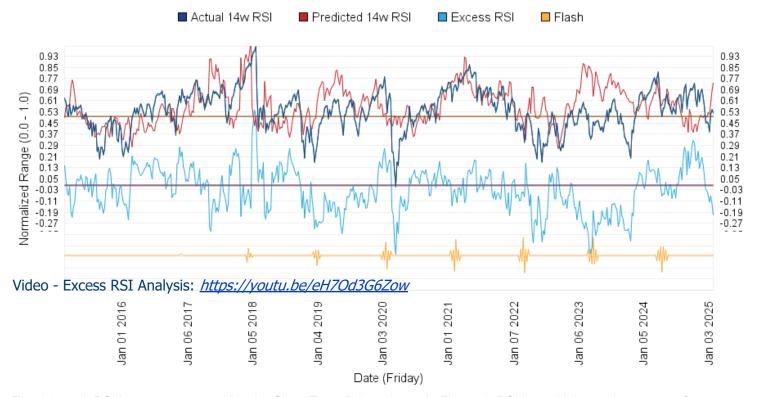
Pessimistic with description

1 Pessimistic

# RSI Analysis - Excess RSI Over 10-Year Horizon

Fig. 2

ETF "RSP" | S&P 500® Equal Weighted Index 14-Week RSI - Actual and Predicted: Feb 13 2015 - Jan 31 2025



The 14-week RSI is a component within the Short-Term Driver shown in Figure 1. RSI is a widely used measure of asset price momentum. Our predicted RSI explains much of the weekly volatility in the actual RSI over the last several decades. | The upper portion of Figure 2 displays the predicted and actual 14-week RSI for an 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, which may be caused by positive economic or market conditions. Conversely, low values suggest weaker-than-expected momentum, likely reflect negative conditions. Excess RSI reflects investor sentiment related to a range of factors including investor views of stock valuations, inflation, interest rates, and economic growth. | The Flash Driver is included for reference.

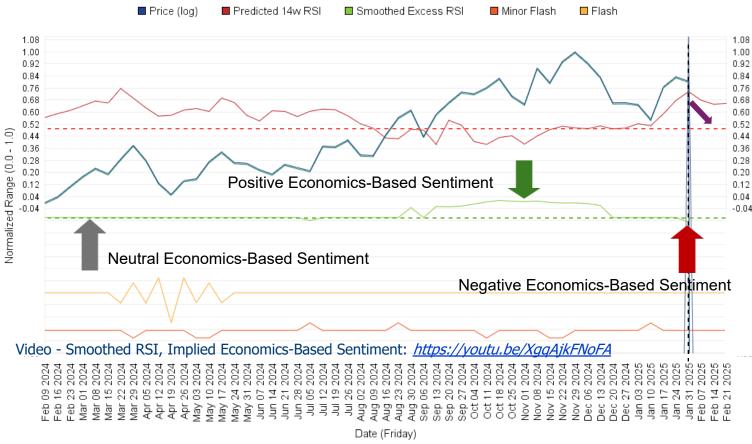
**Comments (data as of Jan 31 2025):** On the far right of Figure 2, the light blue line indicates that the 'Excess RSI' remains below the center line. This condition marks a departure from the economics-based optimism observed in the latter half of 2024, suggesting that investors have now adopted a pessimistic outlook on economic, market, and real-world conditions.



# **RSI Analysis - Smoothed Excess RSI**

Fig. 3

ETF "RSP" | S&P 500® Equal Weighted Index Index Price, Predicted 14-Week RSI: Feb 2 2024 - Feb 21 2025



The upper panel of Figure 3 shows the asset price (heavy blue line) and the predicted price momentum, measured as the 14-week Relative Strength Index (RSI, red line). The "Smoothed Excess RSI" is displayed as the light green line, which deviates from its neutral level (represented by the dashed light green line) when the actual 14-week RSI of the market (not shown) remains meaningfully higher or lower than the expected level over several weeks. | Smoothed Excess RSI represents the "Implied Economics-Based Sentiment" and can signal unusually strong or weak economic conditions. | Smoothed Excess RSI is calculated as the exponential moving average (EMA) of the difference between the actual 14-week RSI and the predicted 14-week RSI (labeled "Excess RSI" on the prior page). To emphasize meaningful deviations, only z-score values exceeding ±0.5 are shown. A horizontal line indicates that the actual 14-week RSI is not significantly different from what is expected due to natural sentiment shifts.

Comments (data as of Jan 31 2025): Although difficult to see in Figure 3, the Smoothed Excess RSI (green line) has fallen below the neutral (dashed green) line, indicating meaningfully negative investor sentiment regarding economic conditions. This condition will likely amplify price declines when they occur. The solid red line shows the predicted RSI declining over the next few weeks, signaling greater natural vulnerability for the stock market and increased sensitivity to negative news.

Both factors suggest the market will react more strongly to negative economic news than it did a few months ago.



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### **Additional Notes**

#### Links

Please contact us with questions: <a href="mailto:contact@cpminvesting.com">contact@cpminvesting.com</a>

See additional notes: <a href="https://www.cpminvesting.com/notes">www.cpminvesting.com/notes</a>
General information: <a href="https://www.cpminvesting.com/notes">www.cpminvesting.com/notes</a>

Join our Discord Server: https://discord.gg/3c6327VwbW

#### 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



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Relative Strength Index (RSI) to measure price momentum for a market index. Upward sloping RSI indicates positive 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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