



**CPM**  
INVESTING

ETF "RSP" | S&P 500® Equal Weighted Index

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*We provide this three-week forecast of investor sentiment as an example of our perspective on stock market corrections and recoveries.*

*We provide clients with multi-month forecasts and strategy sessions followed by periodic status reports. We also offer technology transfer engagements for those wanting to make physics-based sentiment forecasts in-house.*

**Overview (data as of Nov 08 2024):** Our physics-based sentiment drivers, along with the MRI and RSI analyses, continue to indicate overall investor optimism and a resilient but volatile stock market over the next three weeks.

**Recent Market Dynamics** - We expected higher price momentum in early November and the stock market was indeed strong. Our forecast and related market action are most clearly seen in Figure 3. While the US presidential election likely affected the markets, it appears to have amplified the expected pattern. **Continued on page 5.**

**Outlook** - As shown in the lower panel of Figure 1, the Long-Term Driver indicates continued optimism over the next three weeks, providing support to the market and inhibiting widespread investor panic. The Short-Term Driver is neutral and the Minor Flash Driver indicates a brief period of naturally occurring pessimism mid-November.

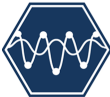
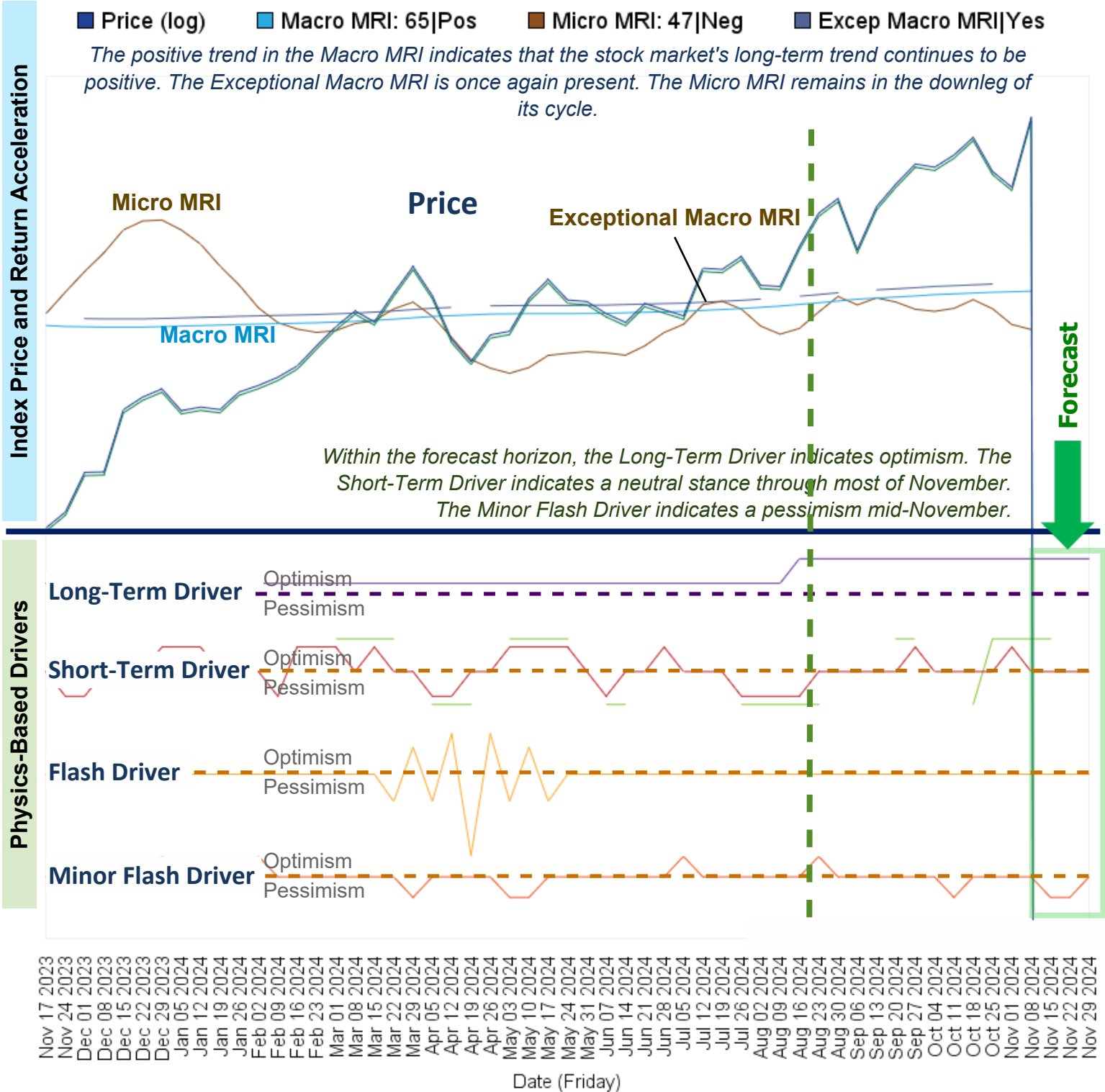
As of November 8, the MRI (upper panel, Figure 1) indicate that the stock market has shifted once again to a more resilient stance. The Exceptional Macro is again present as of last week (denoted by the "Yes" in the legend). **Continued on page 5.**

**Figures on the 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

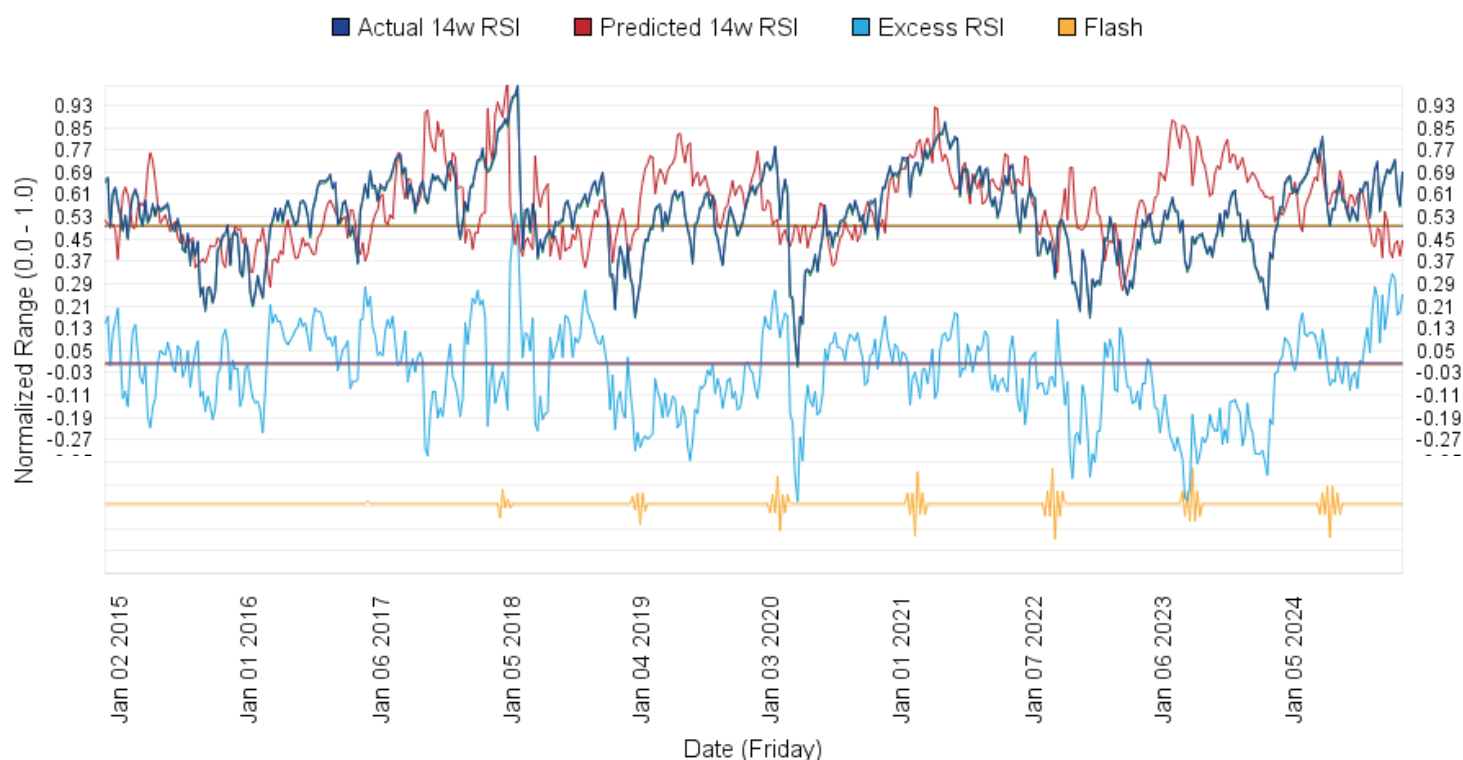
Physics-Based Sentiment Forecasts  
 ETF "RSP" | S&P 500® Equal Weighted Index as of Nov 08 2024  
 MRI and Their Drivers: Nov 10 2023 - Nov 29 2024



## RSI Analysis - 10-Year

Fig. 2

### ETF "RSP" | S&P 500® Equal Weighted Index 14-Week RSI - Actual and Predicted: Nov 21 2014 - Nov 8 2024



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 shows the predicted and actual 14-week RSI for the asset price (not shown) for the last 10 years. The light blue line in the middle of the figure ("Excess RSI") indicates the difference between these two RSI series. High values of the light blue line indicate that the market has stronger price momentum than can be expected from the natural shifts indicated by the predicted RSI, presumably due to positive economic and/or market conditions. Low values indicate that the market has weaker price momentum than expected, presumably because of negative conditions. The Flash Driver is shown for reference.

**Comments (data as of Nov 08 2024):** [No change from last week] On the far right of Figure 2, the light blue line shows a positive spike, indicating that the index's price momentum has exceeded what can be attributed to naturally occurring shifts in sentiment. The current level of Excess RSI is among the highest observed over the last ten years, suggesting that investors hold a positive outlook on economic, market, and other real-world conditions.

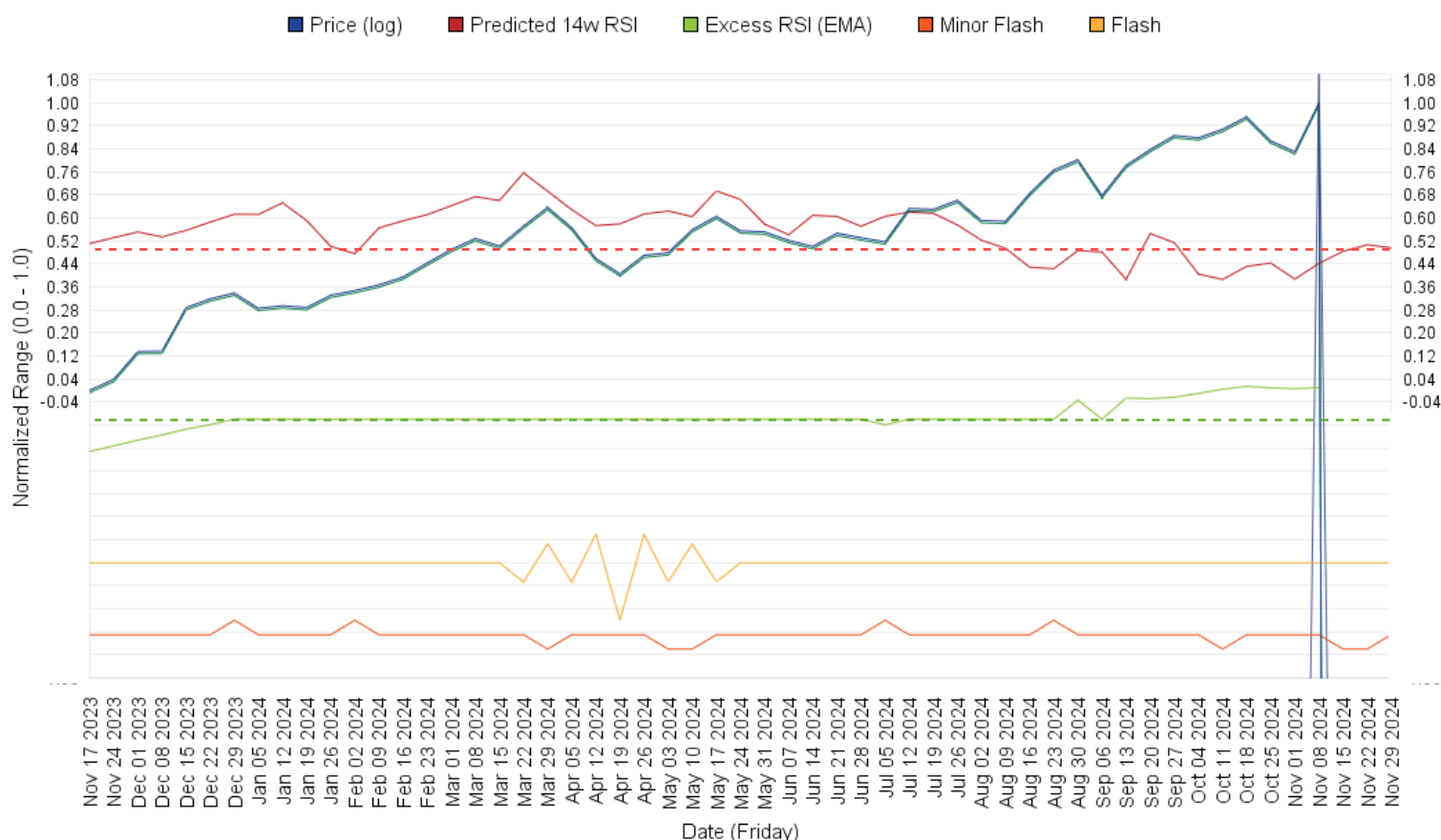
Concerns about potential negative economic factors, such as recession and high valuation measures, do not appear to significantly affect price momentum, as reflected by the RSI. While investor sentiment surrounding the US presidential election is likely reflected in the Excess RSI, we cannot determine its specific influence relative to other factors (e.g., economic or market conditions) in this analysis.



## RSI Analysis - 1-year with EMA

Fig. 3

ETF "RSP" | S&P 500® Equal Weighted Index  
Index Price, Predicted 14-Week RSI: Nov 10 2023 - Nov 29 2024



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 Nov 08 2024):** [No change from last week] The Excess RSI (EMA) currently has a positive deviation, suggesting positive investor views about economic, market, and other conditions. The predicted RSI (red line) signals higher expected price momentum beginning in early November.



## Continued...

**Continued from page 1 'Recent Market Dynamics'** - While one cannot accurately determine the relative impacts of news/events and physics-based drivers for any given week, we can see over several weeks that market behavior has followed the expected naturally occurring shifts in investor sentiment.

The legs of the Micro MRI cycles have been unusually short over the last several months. Although this pattern is seen in other technical measures, it is not typical of the Micro MRI and may foreshadow more dramatic moves in the future. Similarly, the Exceptional Macro is present as of last Friday (indicated by the "Yes" in the legend). Its presence indicates a strong market resilience and investor optimism. Its on and off behavior over the last several months is not typical of its long-term behavior. We interpret the current behavior as an indication of a borderline status. Its typical behavior is more definitive as present or not.

**Continued from page 1 'Outlook'** - An important feature of the last few months is that price momentum (as measured by the 14-week RSI) has been more positive than expected, as shown in Figures 2 and 3. Historically, Excess RSI tends to decrease to neutral before market corrections. Thus, the current excess provides a buffer for the upcoming periods of minor naturally occurring pessimism.

As mentioned last week, the Long-Term Driver will shift in the first two weeks of December to an only moderately optimistic stance from its current very optimistic stance. This could be an important shift.

## Additional Notes

### Links

Please contact us with questions: [contact@cpminvesting.com](mailto:contact@cpminvesting.com)  
See additional notes: [www.cpminvesting.com/notes](http://www.cpminvesting.com/notes)  
General information: [www.cpminvesting.com](http://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 sentiment.

[https://en.wikipedia.org/wiki/Relative\\_strength\\_index](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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# Physics-Based Sentiment Forecasts - US Stocks | Nov 8 2024

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