CPM INVESTING

S&P 500 Equal Weighted Index

Jeffrey Hansen
www.cpminvesting.com

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

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

The graph on the following page has two panels. The upper panel shows the price of the index (S&P 500 EW) along with our Market Resilience Index$^{®}$ series. The MRI are based only on the price of the index and measure the return acceleration of the market index over different periods, lasting from a few weeks (Micro MRI) to several quarters (Macro MRI). The MRI are designed to identify sentiment inflection points and indicate good short-term and long-term opportunities to enter and exit the stock market. They are shown with their current levels (from 0 to 100) and recent slope (Pos=Positive, Neg=Negative) in the legend.

The lower panel on the following page shows physics-based drivers of investor sentiment that are calibrated to show the naturally occurring shifts in sentiment most explanatory of the MRI shown in the upper panel. These drivers are exogenous and completely independent of the economy. The predicted contribution of each driver is shown in the light green box on the right.

We also show on pages 3 and 4 forecasted price momentum as measured by the 14-week RSI. The advantage to the RSI metric is that it is familiar to many investors. See Notes at end of this document for more information.
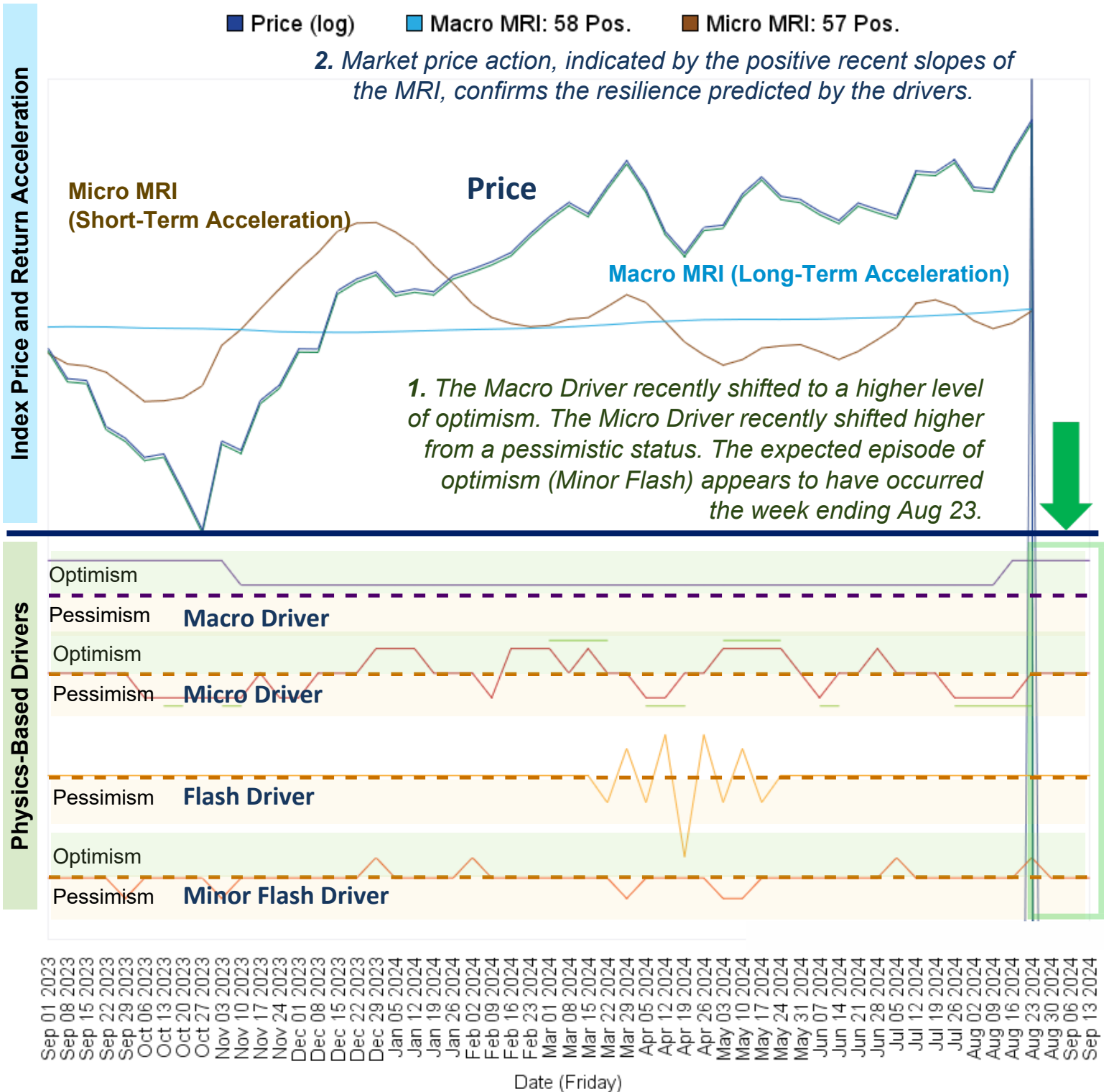
Comment (data as of Aug 23 2024): Recent market performance has been consistent with the predicted changes in sentiment as shown on page 2. The Micro and Macro Drivers (lower panel) recently indicated greater optimism. The Minor Flash Driver (formerly Episodic Noise Driver) predicted a burst of optimism would take place last week, and that appears to have happened. We cannot determine the relative impact of these drivers and current events from just one or two weeks of data. We only assert that the positive current events taking place last week were amplified compared to what they would have been just a few weeks earlier.

If historical patterns hold, the market may drop slightly the week ending Aug 30. However, the market is likely to remain resilient during the weeks shown because of naturally occurring optimism associated with the Macro Driver and the neutral stance of the Micro Driver. This positive stance is confirmed by the MRI. There are no sentiment inflection points in the next three weeks.
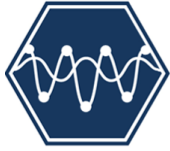
Physics-Based Market Resilience Forecasts
SP500 EW as of Aug 23 2024
MRI and Their Drivers: Aug 25 2023 – Sep 13 2024

■ Price (log) ■ Macro MRI: 58 Pos. ■ Micro MRI: 57 Pos.

2. Market price action, indicated by the positive recent slopes of the MRI, confirms the resilience predicted by the drivers.

Index Price and Return Acceleration

Micro MRI (Short-Term Acceleration)

Price

Macro MRI (Long-Term Acceleration)

1. The Macro Driver recently shifted to a higher level of optimism. The Micro Driver recently shifted higher from a pessimistic status. The expected episode of optimism (Minor Flash) appears to have occurred the week ending Aug 23.

Physics-Based Drivers

Optimism / Pessimism — **Macro Driver**

Optimism / Pessimism — **Micro Driver**

Pessimism — **Flash Driver**

Optimism / Pessimism — **Minor Flash Driver**

Date (Friday)

For more information about the drivers see: https://cpminvesting.com/notes

S&P 500 Equal Weighted Index
## Index Price, Predicted 14-Week RSI: Aug 25 2023 – Sep 13 2024
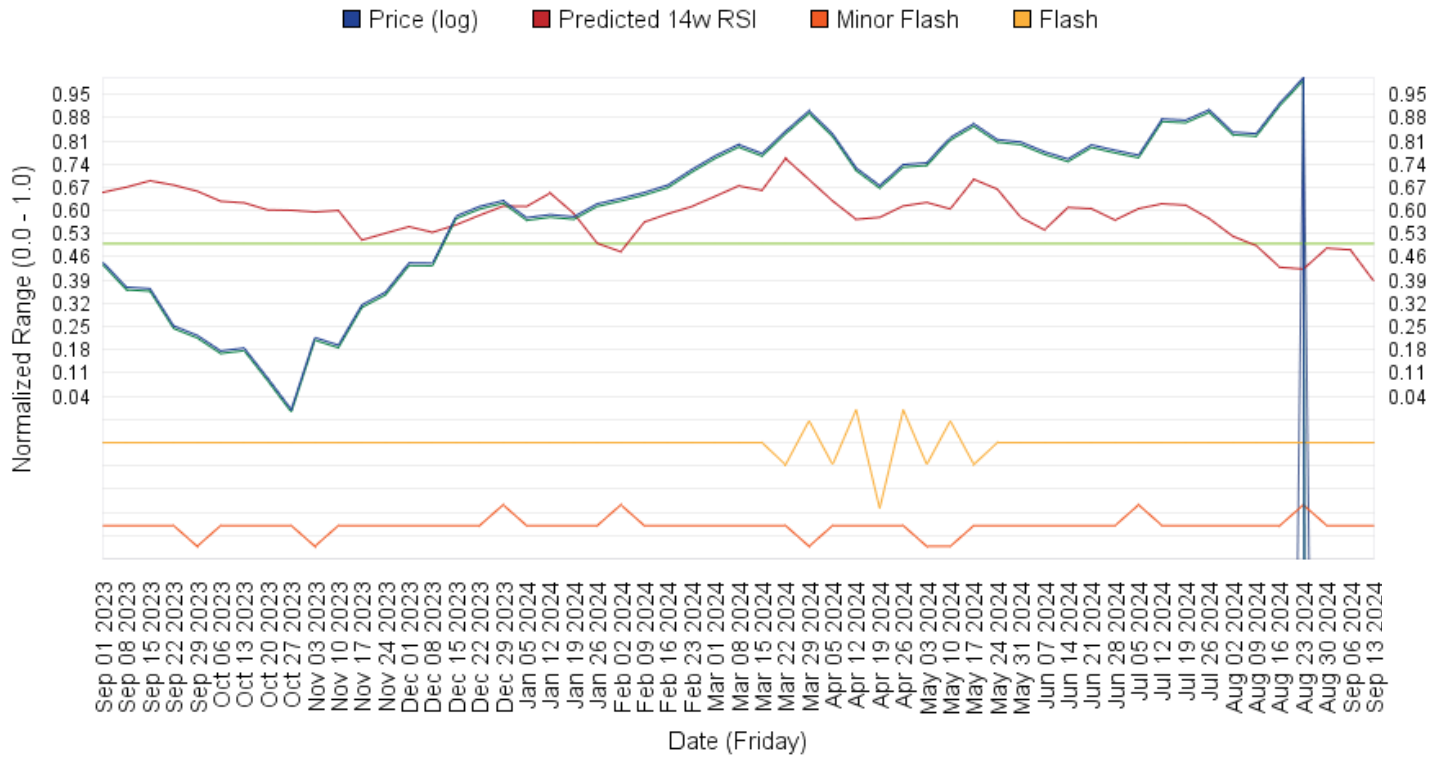
The figure above shows the actual price of the index (heavy line, normalized log scale), the predicted 14-week RSI, and two Episodic drivers. The shifts in the Flash Driver, when they happen, have a statistically significant negative impact on the actual RSI. The shifts indicated by the Minor Flash Driver can be positive or negative. They are not statistically significant but periodically correspond to market price and RSI changes.

Comment (data as of Aug 23 2024): It appears that the S&P 500 EW has been influenced by the Minor Flash Driver. However, using the MRI framework may be more useful at this time because the MRI drivers suggest an important inflection point has taken place (the greater optimism associated with the Macro Driver).

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14-Week RSI - Actual and Predicted: Sep 5 2014 - Aug 23 2024
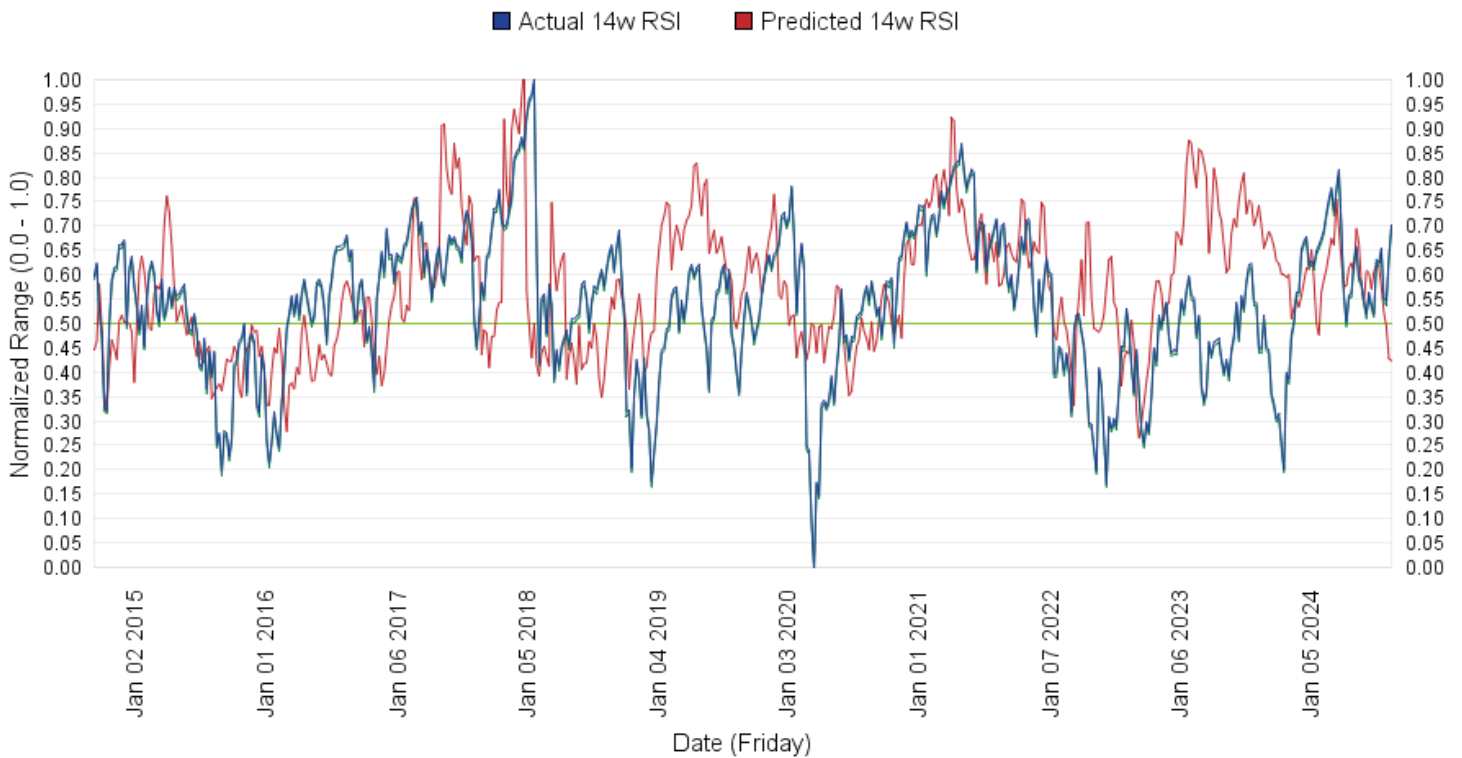
The figure above shows the 10-year history of the predicted and actual RSI. Sustained deviation of the actual RSI from the predicted RSI indicates a relatively higher impact of economic forces on this sentiment metric.

Please contact us with questions at contact@cpminvesting.com, or visit www.cpminvesting.com.

Notes

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 sentiment shifts have a bigger impact than many investors realize, and typically explain over 70% of the 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.

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), we can more effectively gauge the impact of the economic forces.

In general, a key early indicator of an impending market correction is when the actual sentiment metric converges with a negatively trending predicted metric.

Two types of Physics-Based Drivers

We maintain over two dozen physics-based drivers. There are two general types:
    > Cyclic Drivers - sentiment changes gradually over time
    > Episodic Drivers - sentiment change abruptly

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

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