Trading Social Media Sentiment Cycles in EUR/USD

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ABSTRACT

In recent years, social media has become ubiquitous and important for social networking and online communication among market participants for stock market news. This article demonstrates how social media sentiment can be used to predict financial cycles. In particular, it shows how social chatter, pre-processed from PsychSignal, is used to forecast market turns in the EUR/USD currency pair.

The Importance of Social Media Sentiment

Back in 1949, investing legend Benjamin Graham eloquently characterized the cyclical nature of financial markets in his book "The Intelligent Investor":

> *"The market is a pendulum that forever swings between unsustainable optimism and unjustified pessimism."*

Today, the emerging field of social media sentiment datasets support Graham's point of view, providing a strong empirical foundation for the overreaction bias that is often the driving factor in cyclical markets.

Normally, social mood waxes and wanes positively and negatively. Thus sentiment waxes and wanes in the form of dynamic cycles. Social mood refers to a feeling, emotion or attitude about something, and, of course, it can have a range of values. Whenever mood is related to corporations, the economy, or assets, the character of events will unfold in the related financial assets. Fear and despondency represents one extreme, while thrill and euphoria represents the other end of the spectrum.

Cycles are the important structure here because sentiment does not jump rapidly from one state to another.
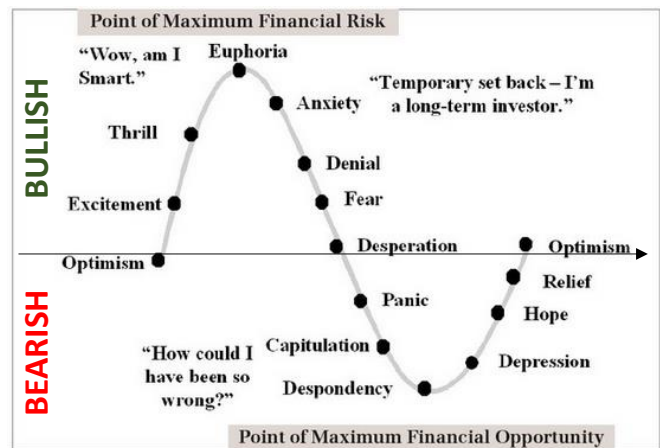

Chart 1: Market pendulum that forever swings between bullish and bearish extremes

A change of mood requires time; therefore, sentiment moves in dynamic cycles or waves. This is a similar process to changes in air temperature: the outside temperature does not jump from one state to another. Therefore, the challenge is to spot and predict the extreme turning points called "Maximum Financial Risk" (Euphoria) and "Maximum Financial Opportunity" (Panic/Despondency).

The fascinating aspects of market cyclicality is that the average investor badly underperforms across the

board because he or she is prone to chasing performance near market tops and panicking near market bottoms. For this reason, an effective measure of sentiment may be of significant value in identifying the hot-spots of maximum financial risk or opportunity within the dominant sentiment cycle.

Consequently, if you have data sets that provide raw social "mood" information related to financial assets on the one hand, and on the other hand have cyclic tools that are able to decipher and track dominant cycles, you have the toolset needed to predict and forecast sentiment "hot-spots".

A real-time case based on the EUR/USD pair

In the volatile world of currencies it always pays to grasp the big picture. Regardless of your trading horizon, it is best to determine the dominant cycle before you proceed. The Situation in March 2015 – EUR/USD to Resume its Downtrend or Experience a Major Turnaround?

The EUR/USD currency pair traded at 1.081 after pausing a multi-year downtrend.

At this point, it is always of major importance to know whether this is just a pause in the overall downtrend and whether one would expect EURUSD pair to resume going down. At such times, sentiment cycles can guide the process.

First, we need raw mood information about EUR/USD. PsychSignal is a company which provides social sentiment information derived from internet chatter (www.psychsignal.com). At every second in every corner of the Internet, millions of people are expressing their emotions. In this context, PsychSignal listens to the crowd's mood and builds bullish/bearish sentiment data clustered according to financial assets. Such bullish/bearish data is available on their website, on Quandl or directly accessible via the WhenToTrade Charting and Cycles application.

Chart 2: EUR/USD on March 20th 2015

Chart 3 shows the composite sentiment value plotted on a chart in the upper panel. We additionally smoothed the data shown by the red line.

In addition, we need to run cycle detection algorithms to the composite social sentiment score. The WhenToTrade ("WTT") platform has one of the best embedded cycle detection algorithms and deciphers the underlying dominant cycle. WTT provides a Dynamic Cycle Explorer toolset that is designed specifically to detect and track cycles that do not stay static in real-time data sets. This is very important because we do not want to detect static cycles that fit to the past – we need cycles that can explain the past but focus more on staying in sync with current market characteristics.

Current Sentiment Cycle in EUR/USD

The dominant cycle of 208 days is also shown on the chart in the lower panel. The cycle was detected automatically. The turns have been mapped with red and green arrows against the raw sentiment chart in the upper panel.

Chart 3 shows the PsychSignal EUR/USD Bullish/Bearish Social Media Sentiment Index and the detected dominant cycle (208 days) via the Dynamic Cycle Explorer from WhenToTrade Cycles Toolset.

In theory, as with all sentiment vehicles, the scores work as contra-indicators. Thus, extreme points of bullishness should correspond to market tops, and extreme bearish composite scores should correspond to market bottoms.

The window at the bottom of the chart shows the detected dominant cycle as a blue line. The indicator text shows that there is an underlying cycle with an active length of 208 days in the EUR/USD sentiment data set. The red plotted data behind the blue cycle shows that we have a valid match between the ideal cycle and the real score movements on the sentiment. You can compare the highs and bottoms of this cycle match with major turns in the sentiment index.
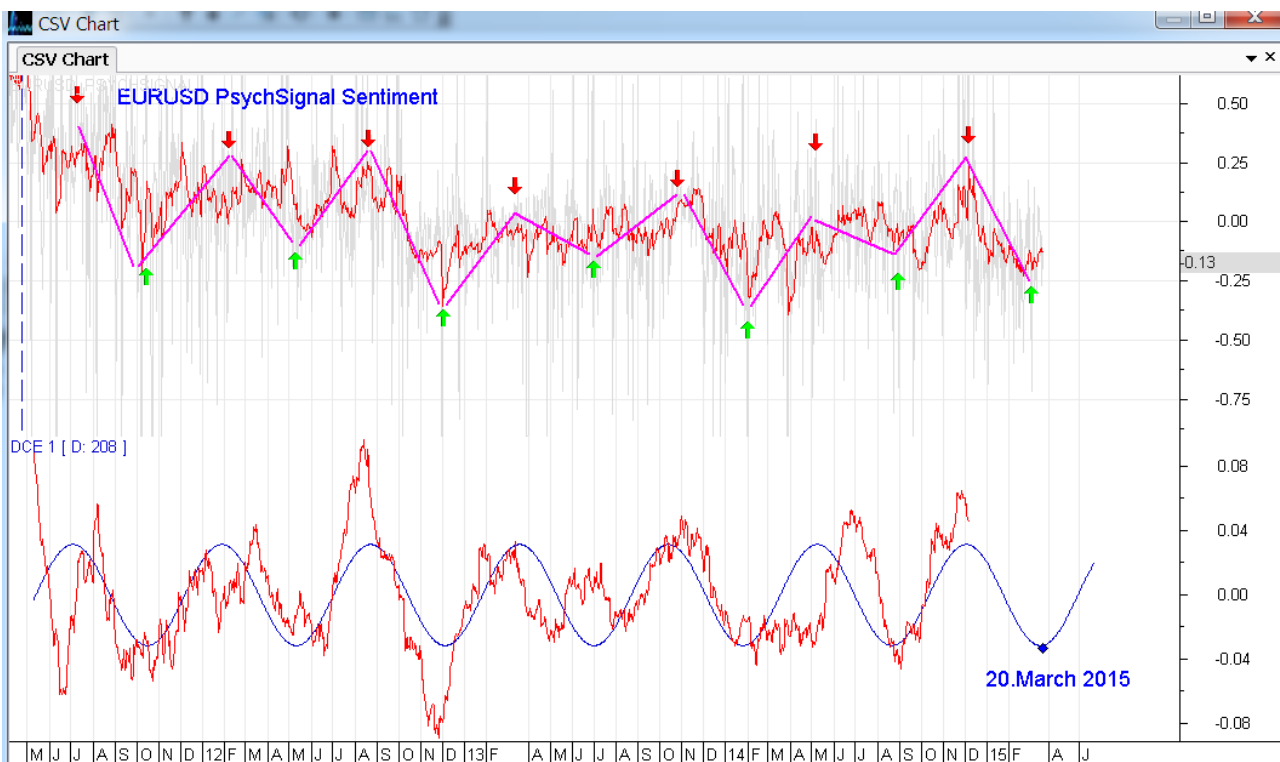

Chart 3: Detected Sentiment Cycle in EUR/USD on March 20

Thus, we have a clue to the fact that a 208-day cycle has driven social sentiment during the last two years. The most important point is the current day because we do not need a perfect fit in the distant past. Further, we know that cycles have a dynamic nature; therefore, the most important time period is the current past where the cycle parameters have to be in alignment with the real world.

Before we start to interpret the current conditions, though, we must check if this cycle – which is only related to social sentiment and has nothing to do with real price data – has correlations to turns in the price of EUR/USD currency pair.

Thus, Chart 4 shows the EUR/USD exchange rate plotted on top of this analysis. The turns of the discovered dominant cycle are marked with red and green arrows on the price chart.

We can see that we have an ideal fit between the social sentiment cycle and price turns of the currency pair. However, this cycle does not become visible on the exchange rate alone; further, the cycle does not predict the strength of each move. To see the situation more clearly, we have added a purple line to connect the arrows on the exchange rate.

In this context, it becomes clearly visible that it is more interesting to decipher the underlying pattern in the form of dynamic sentiment cycles than to try to interpret the raw sentiment data. In general, the raw turns of mood will not match price turns exactly because there are delays, noise, and distortions between mood and the unfolding events. Consequently, we are not interested in the exact micro turns of mood on the price chart; instead, we are looking for the general mood cycle to change its direction.
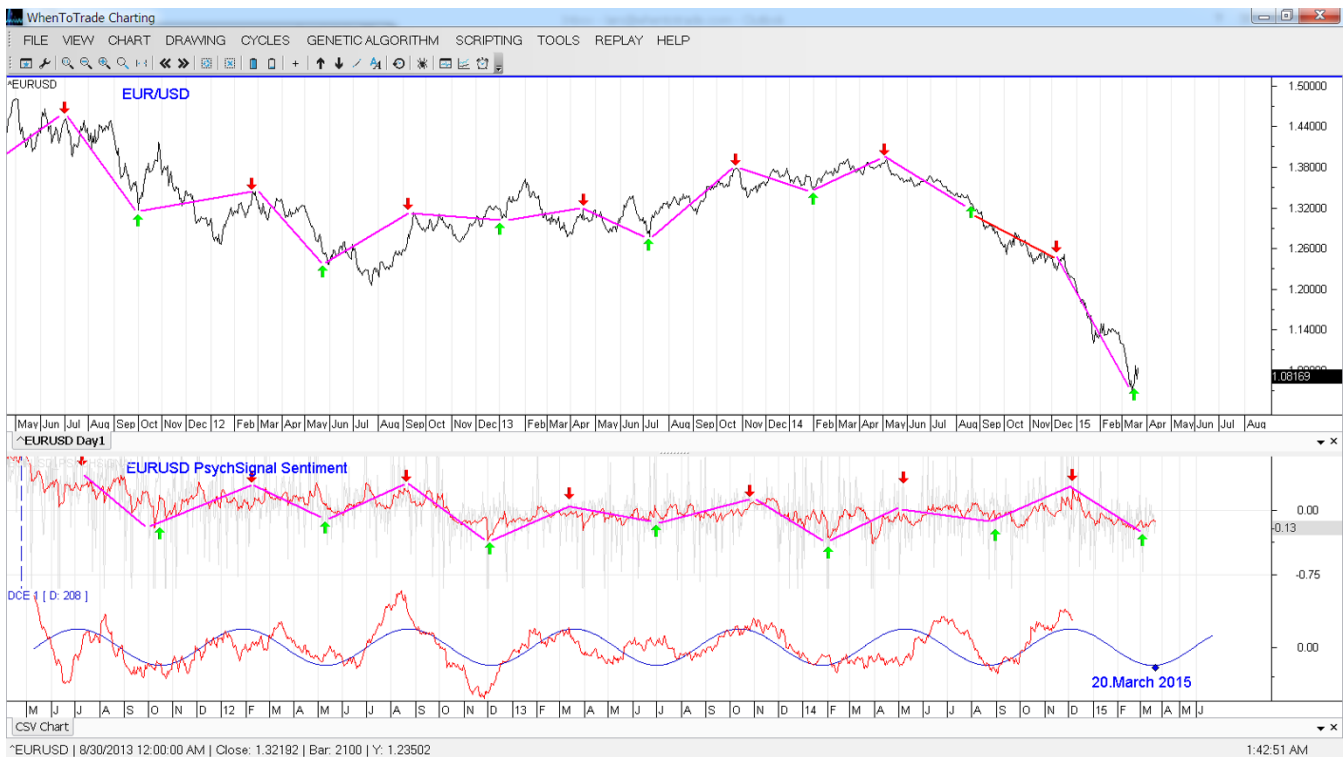

Chart 4: EUR/USD exchange rate turns in sync with detected sentiment cycle

It can be seen that we have a valid sentiment cycle of 208 days running – which points to the "hotspot" of maximum financial opportunity at the day of the analysis.

As a result, we can pay close attention to where we are now in this sentiment cycle. The data analysis was done on March 20, 2015. The blue dot on the cycle marks the current day of the analysis. The important point here is that the dominant cycle shows an imminent bottom with an extreme reading of bearishness. So we would expect the sentiment to rise over the next weeks with an expected price increase of EUR/USD happening in parallel. Thus, we would not expect the downtrend to resume shortly; instead, we would expect a major upswing in the currency pair that follows the dominant active sentiment pattern.

We now move forward six weeks and check the forecast. Chart 5 shows the same EUR/USD price that was shown at the beginning of this example and progresses it eight weeks to May 15, 2015:

The analysis has proved to be extremely accurate. The EUR/USD currency pair ended its long downtrend in March 2015 and started a strong upswing. Just six-eight weeks after the forecast, prices increased more than 5%.

But not only did this analysis projected an upturn right on time. The cyclic sentiment analysis predicted the largest 30days price increase since 2013. (see Chart 6)

It is important to mention that the cycle analysis shown in this article about EUR/USD mood was conducted live and in real time. This example was not cherry-picked. We alerted our community on March 20th about this issue in the public open internet magazine available at whentotrade.com
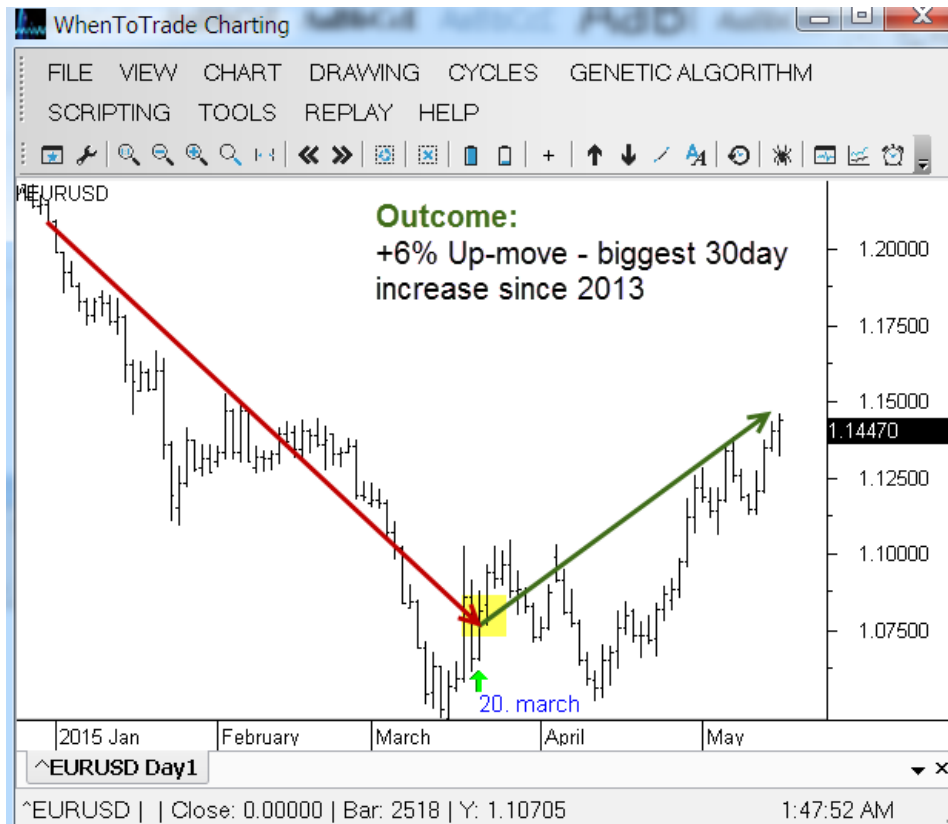

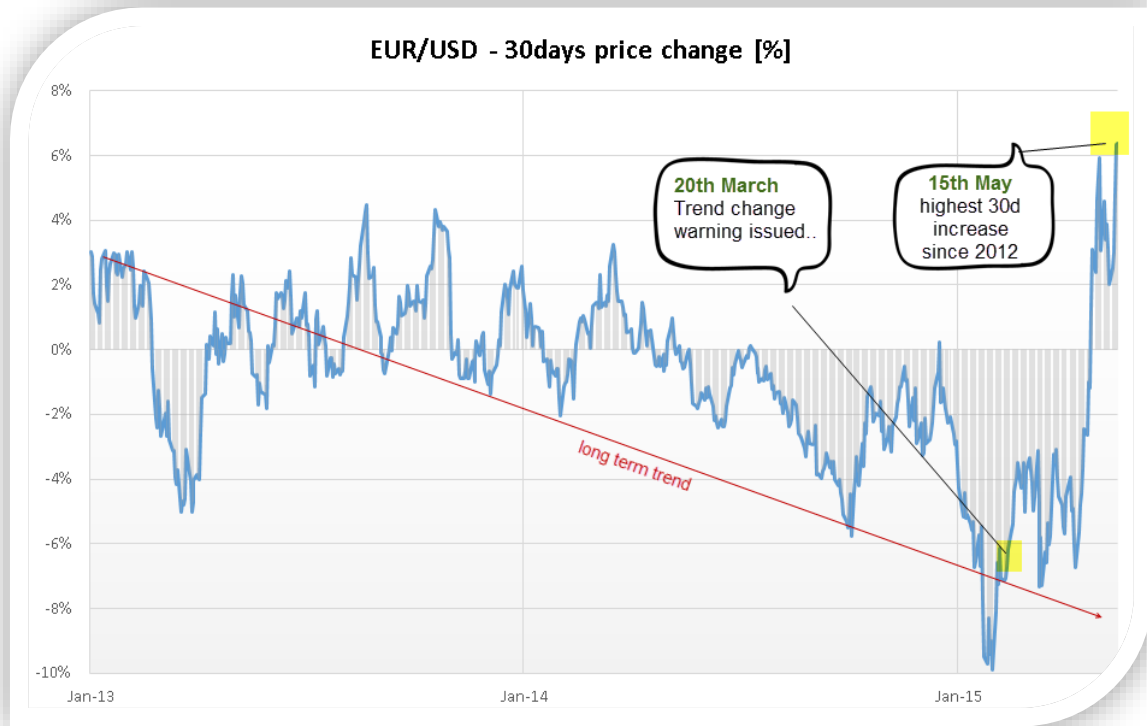
Chart 5: Forecast results 8 weeks after the call

*Chart 6: 30day change of the EUR/USD pair
with highest increase after the forecast*

Therefore, this is a genuine forecast based on the power of dynamic cycle tracking tools and the new area of available sentiment data sets.

This article underpins the importance of cyclic research in social sentiment data sets in order to forecast important market turns. Thus, the combination of state-of-the-art sentiment data from PsychSignal with the latest cycle analysis and prediction tools from WTT delivers a truly unique view on financial markets.

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NOTES

Supplementary video material on the presented cycle research is available:

http://youtu.be/V3o7hA4K-xk