

Pring's Diffusion Indicators

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Created by Martin Pring, Diffusion Indicators take a basket of securities and create an oscillator that shows how many of those securities are in a positive trend - typically the percent of symbols that are above a given moving average. The shorter the period of the moving average used, the more volatile the resulting oscillator becomes.

The objective is to ascertain how many of that basket of securities is acting positively. The more that are, the greater the overbought condition and the higher the probability that the prevailing trend is about to reverse. Conversely, a small number of securities in a positive trend is a bullish factor.


Given the broad definition above, there are many market indicators on StockCharts.com that could be called Diffusion Indicators including the Bullish Percent Indexes and the "Stocks Above 50-, 150-, and 200-day SMA" indicators. However, the rest of this article is about the different Diffusion Indicators Martin Pring has defined:

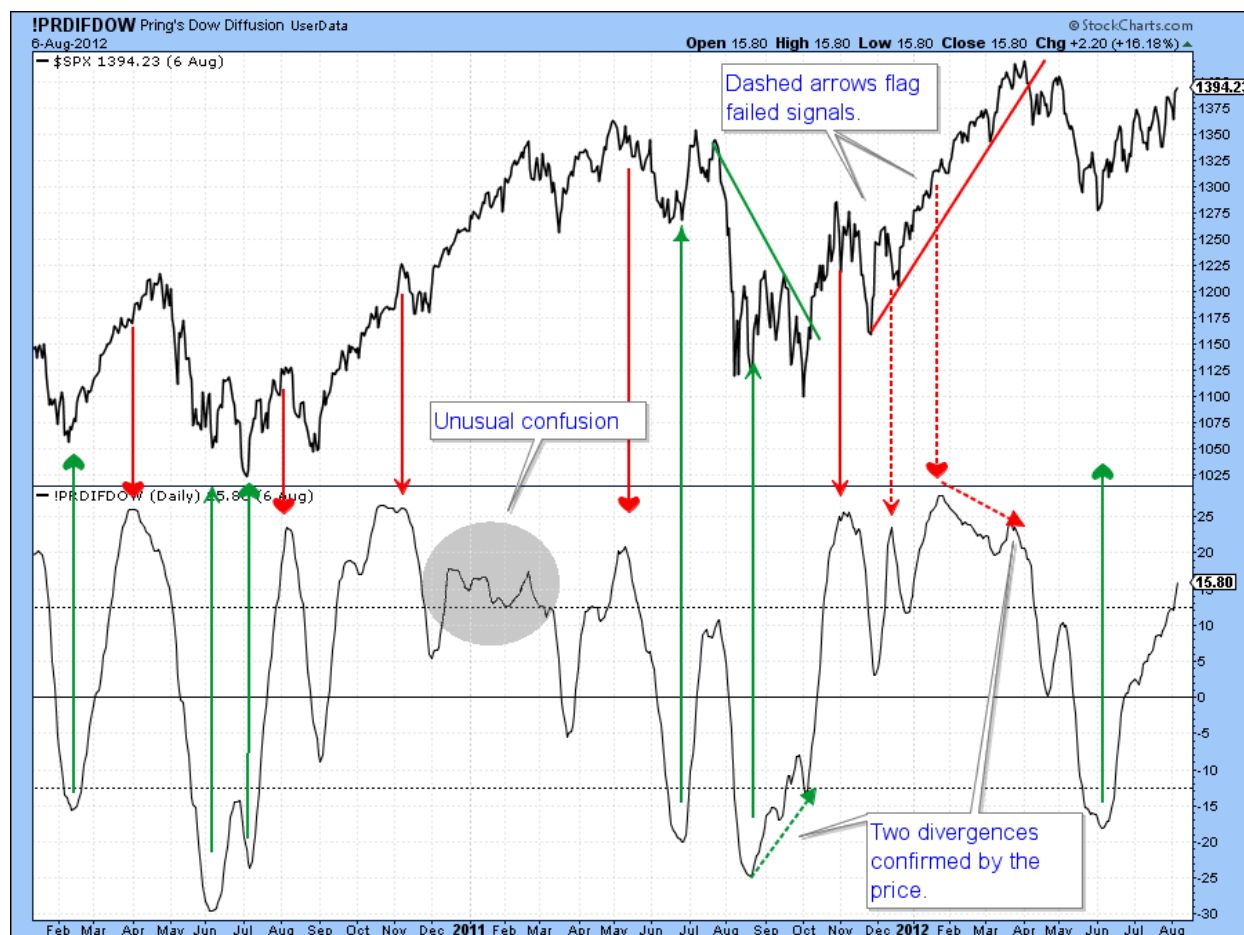
- The Dow Diffusion Indicator (!PRDIFDOW)
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In general, a Diffusion Indicator is calculated by taking a basket of stocks/ETFs that are related in a particular way and counting the number of those stocks that are currently trading above their 40-day simple moving average. The Pring Diffusion Indicator is the 10-period moving average of that number. Some of the indicators use slightly different MA periods, however (see below).

Generally speaking, reversals of these indicators from extreme readings will offer valid signals. Nevertheless, as with any indicator, there are times when they fail. Fortunately, this is mostly limited to two situations. First, contra-trend signals rarely work; in other words, buy signals in bear markets and sell signals in bull markets. Second, contra-trend signals that develop at the beginning of a primary trend, whether up or down, usually experience unusually strong momentum and are even more likely to fail or result in a very truncated corrective move.

The Dow Diffusion Indicator


The Dow Diffusion Indicator monitors how many of the 30 Dow stocks are above their 50-period SMA. It then smoothes that raw information in order to create the final indicator - !PRDIFDOW . On the chart below, the arrows show that for the most part that reversals from beyond the overbought/oversold areas work reasonably effectively. The dashed ones again show the failures.

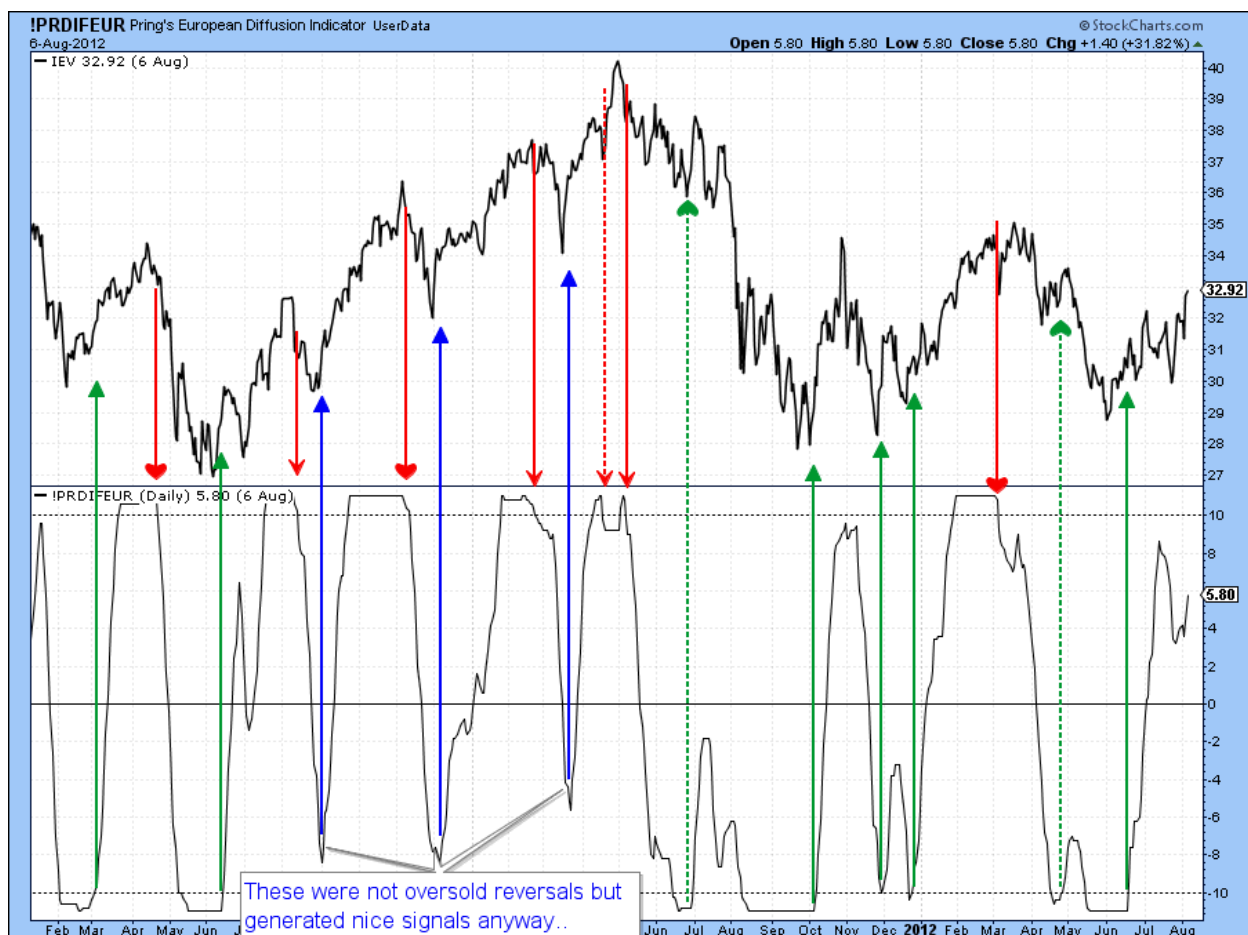


The action in the gray ellipse warns us that in rare situations the indicator will leave us in doubt; all the more reason to consider other evidence and not to rely on one or two indicators. Finally, the two confirmed divergences show that this series can also be used to point up sub-surface strength or weakness. To be effective such divergences should be confirmed by some kind of trend reversal in the price, which in these two cases was signaled by trendline violations.

Note that the chart compares this series to the S&P Composite as it seems to work just as well with this average as the DJIA itself.

The European Diffusion Indicator

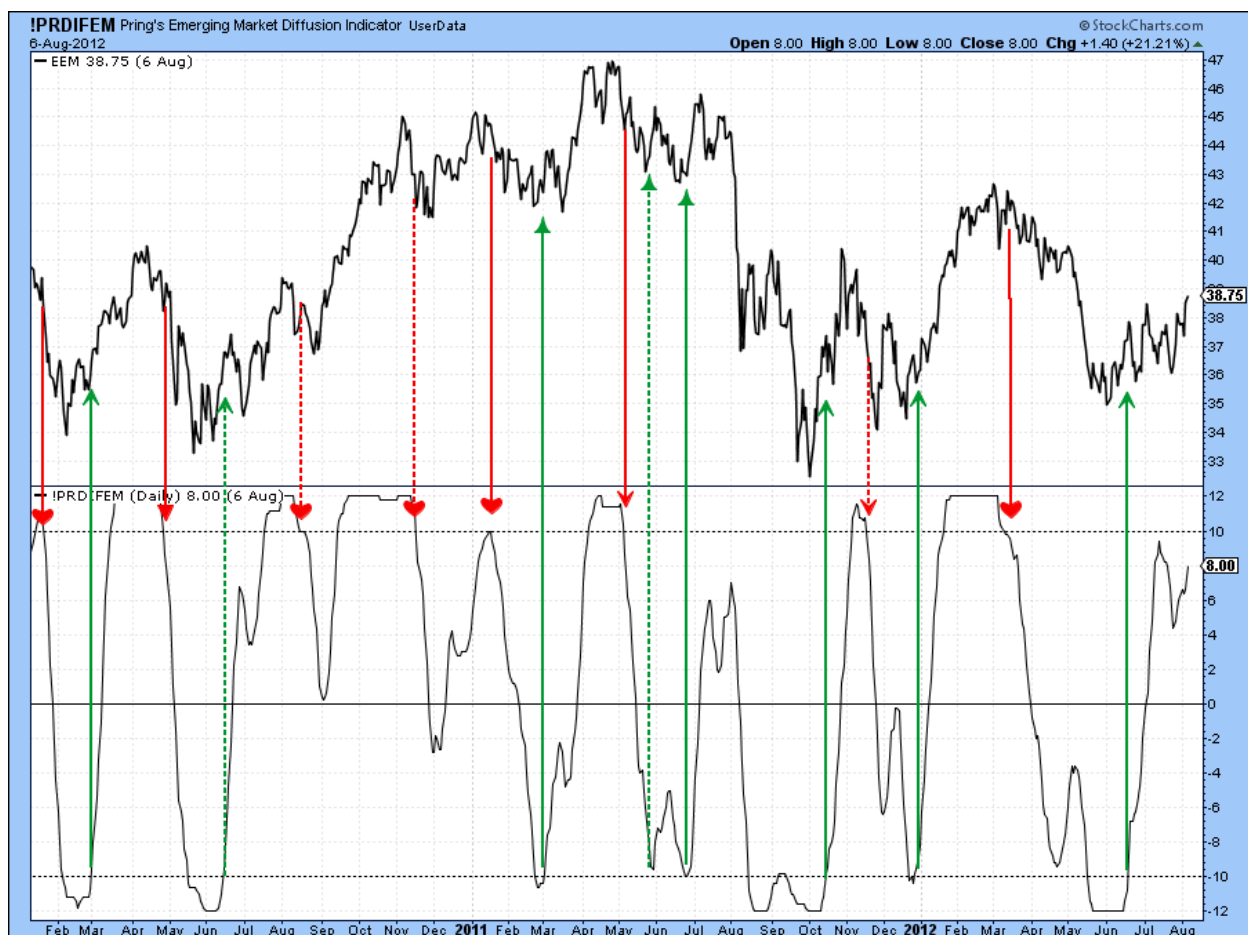
The !PRDIFEUR  indicator calculates a basket of European ETFs that are above their 40-period MA. Again the data have been smoothed to isolate excessive jaggedness.



Overbought and oversold lines have been placed at +10 and -10 and reversals that take place from a position that is beyond those points are flagged by the green and red arrows. Note that just because the indicator does not fall to an oversold level it does not mean that a good rally cannot take place, as you can see from the blue arrows.

The Emerging Market Diffusion Indicator

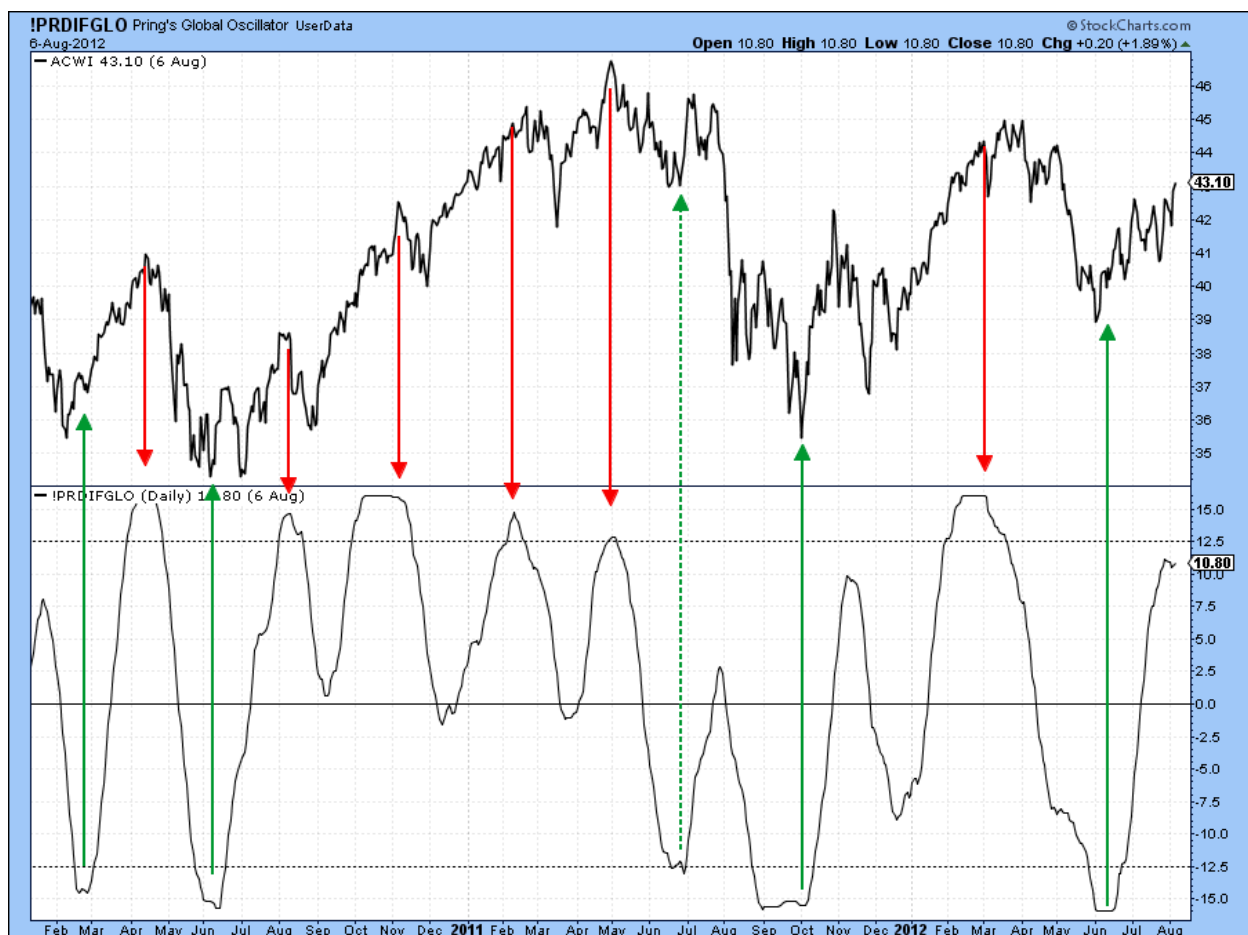
The !PRDIFEM  indicator is calculated in the same way as the European Diffusion indicator, but in this case, Emerging Market ETFs are substituted.



It is interpreted in the same way, but due to the volatility of this sector, some of the buy and sell signals develop after most of the price move has taken place.

The Global Diffusion Indicator

The Global Diffusion indicator monitors a basket of country ETFs that are above their 40-period SMA's. Since the resulting plot would be quite jagged the [!PRDIFGLO](#) indicator contains an additional smoothing. Generally speaking, it is best interpreted by using reversals in excess of the overbought and oversold lines. In the case of daily data, these are plotted at +12.5 and -12.5, as you can see from the chart below. The dashed green buy signal in July of 2011 “worked” for a short period, but it was really a failure. That was because it was a contra-trend signal, since the 25% drop between the spring and fall of 2011 qualified as a mini-bear market.

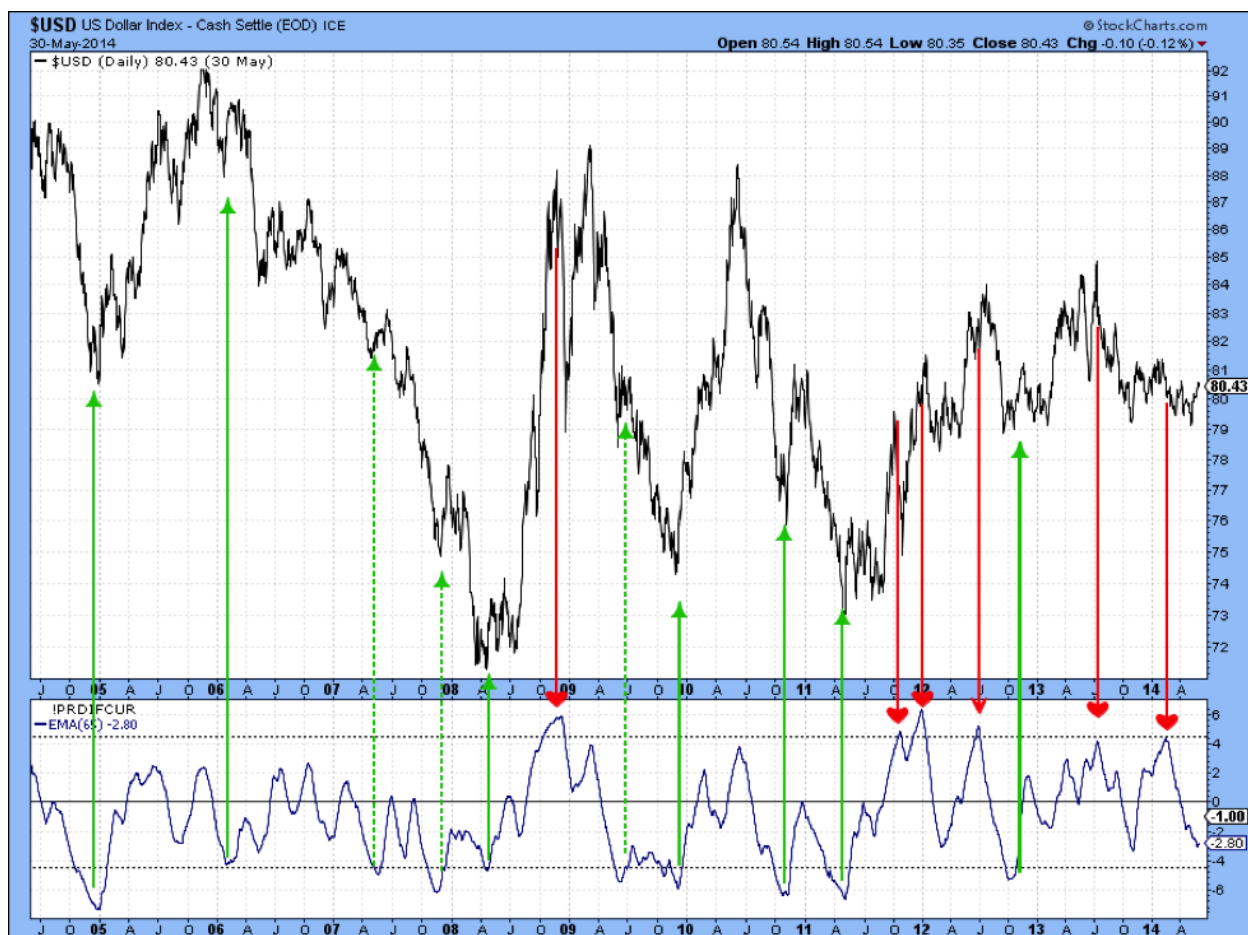


The Dollar (Currency) Diffusion Indicator

The Dollar Index (\$USD) is heavily weighted by the Euro (over 50%), which means that it occasionally offers a distorted picture of the currency's fortunes. The Pring Dollar Diffusion Indicator ([!PRDIFCUR](#)) attempts to get around that problem by calculating a broader measure its performance. This is done by monitoring a basket of cross currency rates that are above their 40-day MAs. Currencies used include:

- the Australian Dollar
- the Japanese Yen
- the British Pound
- the Canadian Dollar
- the Mexican Peso
- the Indian Rupee
- ... and several others

Since the resultant series is quite jagged, entering the symbol `!PRDIFCUR` into the StockCharts platform returns a smoothed average of the raw data, as shown below:



The Dollar Diffusion Indicator can be used in two principal ways. The chart above flags overbought and oversold reversals using + and -4.5 as the signaling benchmarks. The solid arrows indicate successful ones and the dashed lines failed signals.

The next chart, on the other hand, shows that the indicator occasionally lends itself to trendline construction as well as bullish and bearish divergences. It's by no means perfect, but does offer a useful addition for analyzing the technical position of the US Dollar Index.



- Martin Pring