

## Correlation Between VIX and S&P500

**eResearch Corporation** is pleased to provide a weekly commentary, authored by Tom McClellan, entitled "The McClellan Chart-In-Focus", which is a free technical analysis article published each week.

In this article, Mr. McClellan examines the relationship between movements in the S&P 500 Index and the volatility measurement, the VIX.

The article is reproduced below, beginning on the next page, or you can use this link to go to the article directly:

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Bob Weir, CFA  
Director of Research

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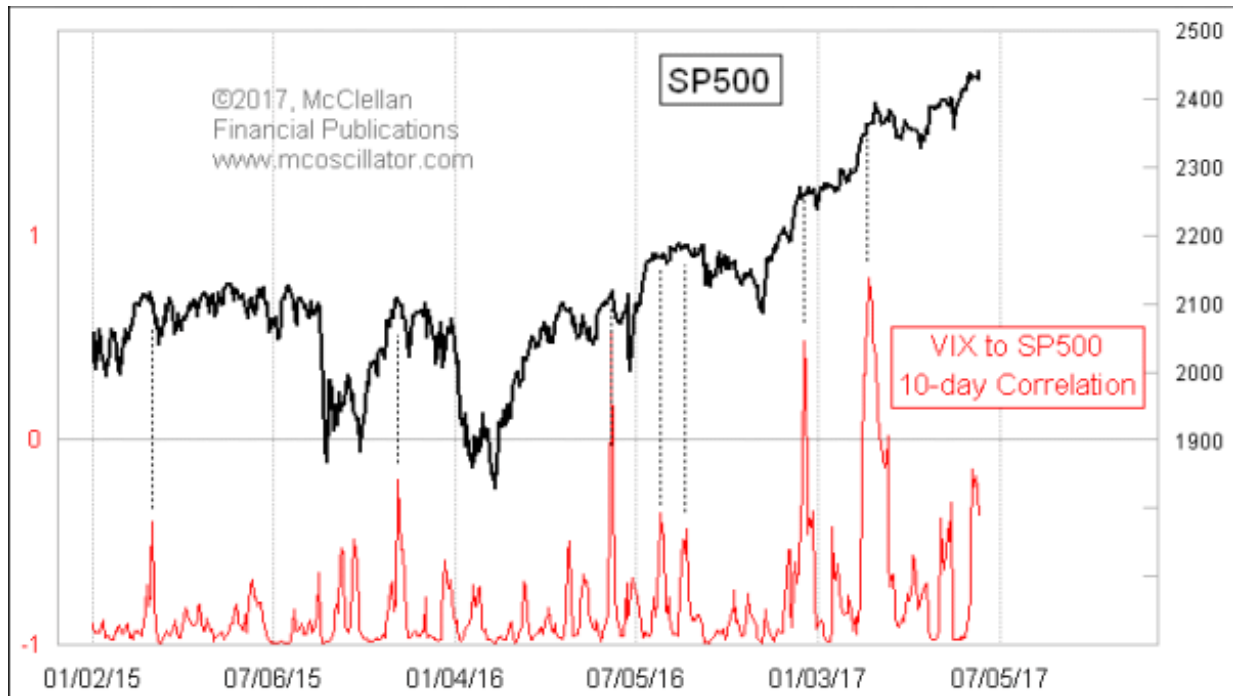
June 15, 2017

## The McClellan Chart-In-Focus

by Tom McClellan (bio at end)

### Correlation Between VIX and S&P500

When the normally inverse correlation between the VIX Index and the S&P500 gets crazy, it offers us a great message. That is the point behind this week's chart, which is based on a great observation by Jesse Felder of [www.TheFelderReport.com](http://www.TheFelderReport.com).



Jesse first wrote about it in a [Tweet here](#) back on March 3, 2017 and, that same day, it was featured in a [MarketWatch article](#). I did my own investigation, which revealed that this is, indeed, a really cool insight.

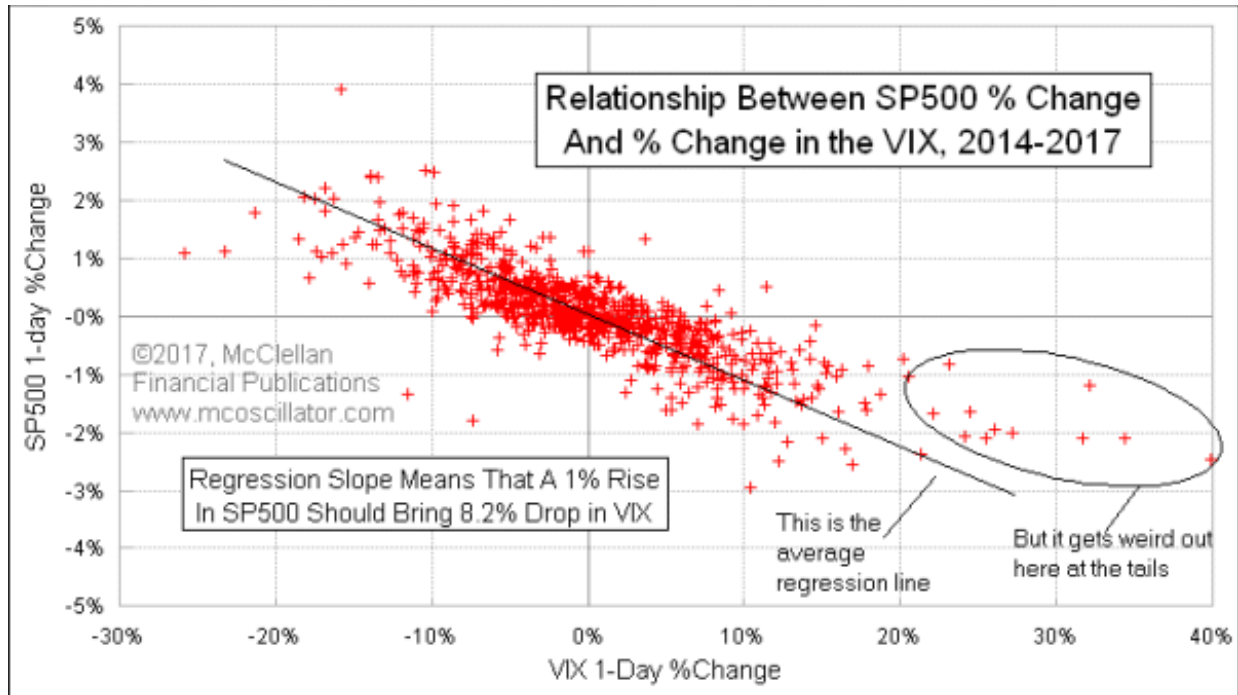
What Jesse did, and what I have replicated here, is to calculate a 10-day Pearson's Correlation Coefficient between the VIX and the S&P500. You can do this incredibly easy in any spreadsheet program, or even more easily as Jesse did at [www.stockcharts.com](http://www.stockcharts.com).

Just call up a chart of \$SPX, choose as your indicator "Correlation" from the list, and set "\$VIX,10" in the parameters window. It is that easy. Then you can adjust the period under observation as you might wish.

What we see is that most of the time, the correlation hangs around down near -1.00, meaning that they have a strongly negative correlation. In other words, if the S&P500 goes up, the VIX usually goes down, and vice versa. That is what is normal. But, the instances of abnormal behavior contain the really interesting information.

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Here is a regression chart showing the one-day S&P500 change versus the one-day VIX change:



Each dot represents one day's combination of the S&P500 change and the VIX change. You can see that most of the dots line up close to the linear regression line, and that makes complete sense. It is not a perfectly inverse correlation, but it is a very strong one. Over this entire study period, since January 2014, the correlation for their daily percentage changes is -0.83, which is pretty close to a perfectly inverse correlation.

But, if you calculate the correlation coefficient using the raw VIX and S&P500 indices rather than their daily changes, then the math is different. I don't want to get too deep into the statistics, but I want to make the point that there are differences between running correlation analyses of the raw indices and those of their daily changes.

What is more, real statisticians will tell you that Pearson's Correlation Coefficient is the wrong statistical tool to use for a time series anyway. There are other more suitable tools for analyzing the strength of relationships between two contemporaneous time series. But they are a whole lot harder to use and to program, and so a lot of technicians just use what is easier, and sometimes what is easier can sometimes be good enough.

The chart of the 10-day correlation between the VIX and the S&P500 is good enough to tell us when there is a moment of strange behavior between the two data sets. Those moments of strange behavior just happen to be pretty good at marking tops for stock prices. The higher that the Correlation Coefficient goes, especially when it gets above zero, the more important is the message. That usually means a more significant price top. But meaningful tops can also be found when the Correlation Coefficient gets up to a level shy of the zero line.

Ten days seems like a good period for this purpose, but others may work as well. [Darshan Dorsey asserts](#) that a 22-day correlation coefficient (a month of trading) works even better.

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On June 7, 2017, the 10-day correlation went up as far as -0.17. That was not quite to zero, but big price tops have been found on lesser readings. Usually the corrective mode suggested by one of these readings lasts until this 10-day correlation gets back down closer to -1.0, or perhaps longer.

So there is still a lot of room for a correction to do its job from here before we can say that the correlation has returned to “normal”.

Tom McClellan

Editor, The McClellan Market Report

**BW: Information on Tom McClellan and *The McClellan Market Report* and *The Daily Edition* follows on the ensuing page.**

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## ABOUT THE AUTHOR



### Tom McClellan

Tom McClellan has done extensive analytical spreadsheet development for the stock and commodities markets, including the synthesizing of the four-year Presidential Cycle Pattern. He has fine-tuned the rules for inter-relationships between financial markets to provide leading indications for important market and economic data.

Tom is a graduate of the U.S. Military Academy at West Point, where he studied aerospace engineering, and he served as an Army helicopter pilot for 11 years. He began his own study of market technical analysis while still in the Army, and discovered ways to expand the use of certain indicators to forecast future market turning points.

Tom views the movements of prices in the financial market through the eyes of an engineer, which allows him to focus on what the data really say rather than interpreting events according to the same "conventional wisdom" used by other analysts.

In 1993, he left the Army to join his father in pursuing a new career doing this type of analysis. Tom and his Father spent the next two years refining their analysis techniques and laying groundwork.

In April 1995 they launched their newsletter, The McClellan Market Report, an 8-page report covering the stock, bond, and gold markets, which is published twice a month. They utilize the unique indicators they have developed to present their view of the market's structure as well as their forecasts for future trend direction and the timing of turning points.

A [Daily Edition](#) was added in February 1998 to give subscribers daily updates on their indicators and also provide market position indications for stocks, bonds, and gold. Their subscribers range from individual investors to professional fund managers. Tom serves as editor of both publications, and runs the newsletter business from its location in Lakewood, WA.

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