Using VIX Momentum Signals to Identify Intermediate-Term Trend Changes in the S&P500

The Volatility Index (VIX) has historically been a sentiment indicator which, when hitting extremes, tended to indicate a pending reversal in the equity markets. Notably, during the 2008 bear market and to a lesser extent the 2002 bear market, VIX remained significantly overbought at extreme levels while the equity markets continued to decline. Those anticipating a reversal in the equity markets during the SPX collapse in October and November 2008 were disappointed as VIX remained historically overbought for a lengthy period.

Our analysis focuses on a short-term period of October and November 2008, reviewing 60-minute data on SPX and VIX. Our goal is to identify the conditions under which changes in measures of VIX will precipitate a trend change in the S&P500 (SPX) with reasonable accuracy. Here are our findings:

Relative Strength Index (RSI) on VIX

1. Using RSI (14-period) on VIX was an effective indicator in identifying SPX trend changes. In particular, when RSI (VIX) is at 50 and above, the SPX was down-trending. When RSI (VIX) consistently remained below 50, SPX was up-trending.
2. A correction of RSI (VIX) from above 50 or from below 50 identified the point at which SPX trend changed:
   a. In late October 2008, RSI (VIX) dropped below 50, coinciding with the start of an SPX uptrend (which remained in place while RSI (VIX) remained below 50). SPX gained 18% before it reversed on 11/5/08.
   b. On 11/5/08, RSI (VIX) crossed up through 50 and stayed above 50 while SPX fell 34% through 11/20/08.

Moving Average Crossover on VIX

We also used a 5-day and 34-day EMA cross-over indicator on VIX. The points at which the EMA's crossed coincided with the RSI findings above.

CCI

CCI was also helpful in demonstrating extreme overbought and oversold levels of VIX; however this measure was more erratic than the RSI measure and provided less consistent signals.

Summary

While it was tempting (especially for a long-term investor) to average in to the declining equity markets (especially in November as the SPX sunk to an intraday low of 748 on November 20th , our VIX indicators warned us not to take this risk. At the 11/28 close, RSI (VIX) remained below 50 and consistent with the current rise in the SPX. RSI (VIX) climbed above 50 on 12/1 as SPX declined almost 9%. Bob Palmerton, 12/1/08.

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60-Minute Chart of SPX, VIX and CCI