

“Next Day Move Analysis” for SPY Detector Signals

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There are more than 5,000 daily bars included in the history of the SPY Detector signals. The following is a quick analysis of how the market performed the following day after each level of the SPY Detector signal.

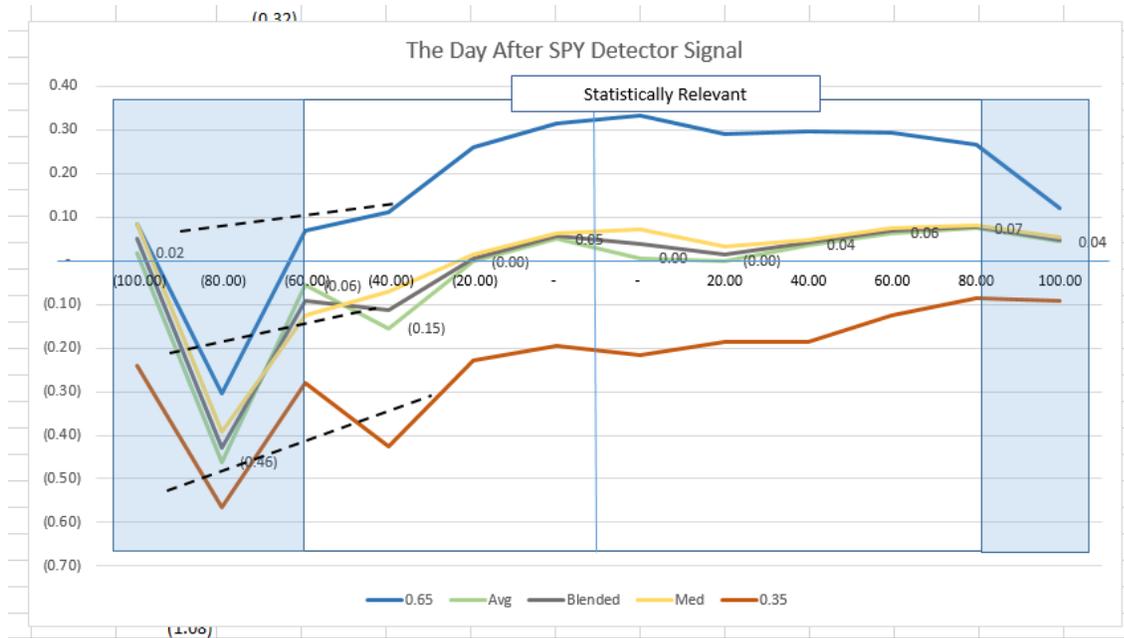
First, a review of the signal components: The nature of the five underlying systems is to identify different reasons to be in the market. All of the systems seek to confirm the trend in one way or another. Some wait for pull backs before looking for the first signs that momentum is shifting back into the trend; others look for a little more confirmation to get in and stick with the trend until momentum confirms an exit.

The #1 goal of SPY Detector is to identify and minimize potential directional risk in options trades that derive their primary benefit from premium decay. So this will be the first focus of the analysis.

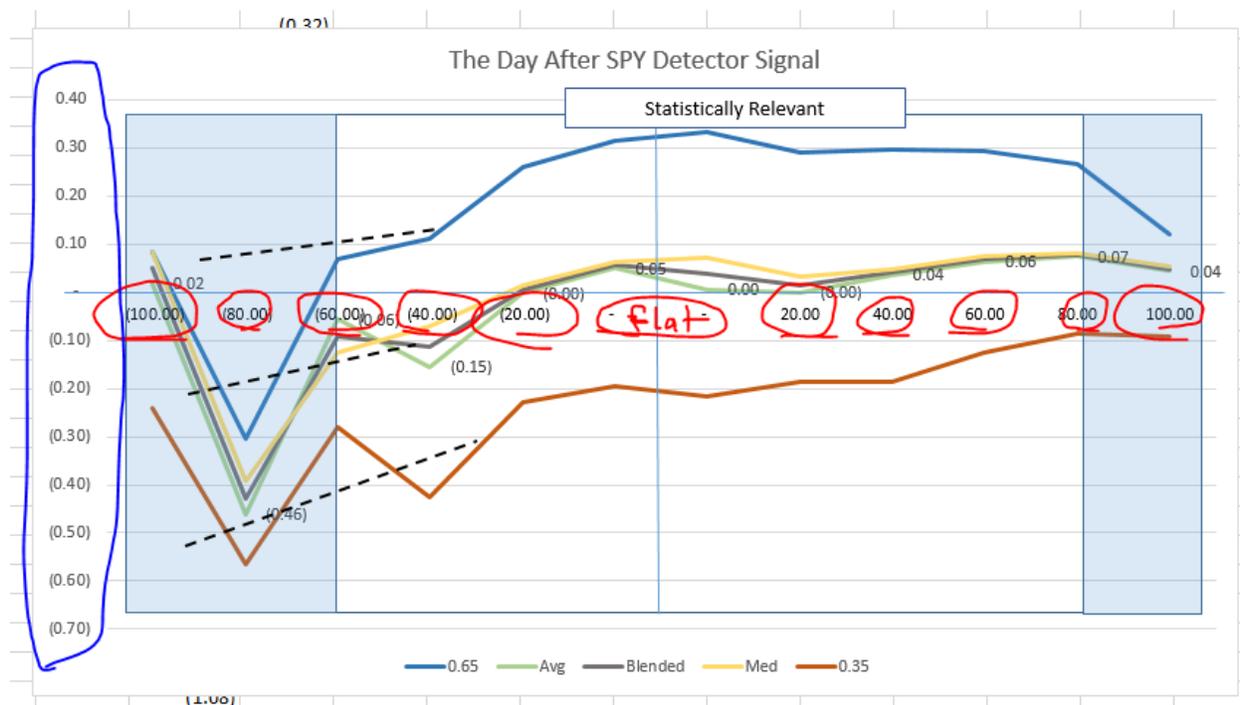
When SPY Detector is generating long signals that means we are in a longer term bull market. If the signal is flat it means that none of the sub-systems can confirm the current trend.

Most of the signals generated are between 60% short and 80% long. Very rarely do we see signals stronger than these. Since there are so few data points beyond this range, the data is not statistically relevant.

The dashed lines show my interpretation of how I believe future data may shape this graph in the areas where there are currently only a handful of data points. All the other information comes from an analysis of the 20 years of SPY Detector signal history. Here is the summary chart:



This study measures the number of ATRs that the market moved the day after SPY Detector closed at each signal level. You can see the signal level along the zero line (circled in red below), and the number of ATRs (on the left, circled in blue)



The white area represents signals that have more than 100 data points (most have more than 300). The far left (negative 100 and negative 80) only have three and six data points respectively... so you can see why the lines are so sloppy.

I have split the flat signals into bull market and bear market; simply defined as above or below a 200 moving average. The bull market flats were slightly more bearish than the bear market flats, but hardly enough to warrant any further investigation.

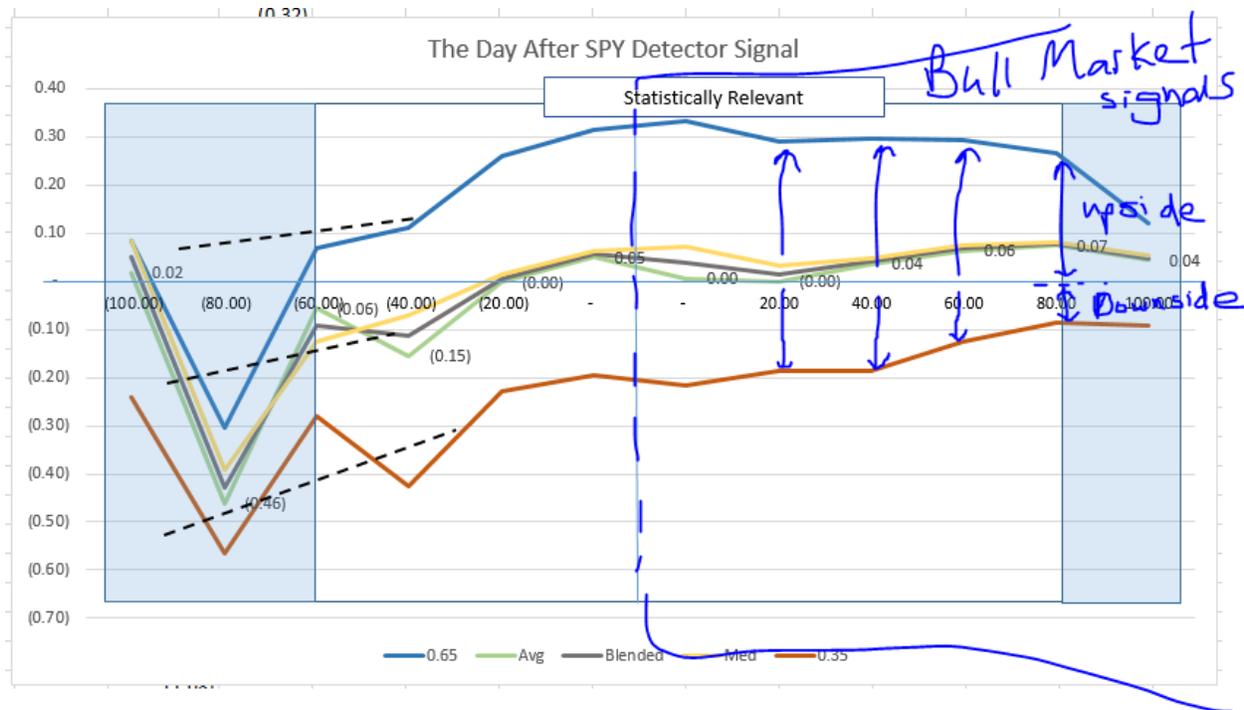
Now let's take a very close look at the dark orange line at the bottom. This is the line that represents the 35th percentile of one day moves after each level of SPY Detector.

[Side note: I find it interesting that these types of studies aren't done more often... shouldn't we want to know the immediate results of ALL signals from the past; rather than 3 or 4 anecdotal examples?]

Back to the orange line... By looking at the 35th percentile we are capturing what I call a "typical down day". I looked at 25th and 15th percentiles as well and the shape is very similar.

We can see as the long signals for SPY Detector get stronger, the downside of the next day is generally smaller. For example: an 80% long signal shows half as much downside as 20% long.

Also, as the long signals get stronger, the upside (blue line) stays about the same; at least in the signals with enough data to be relevant.



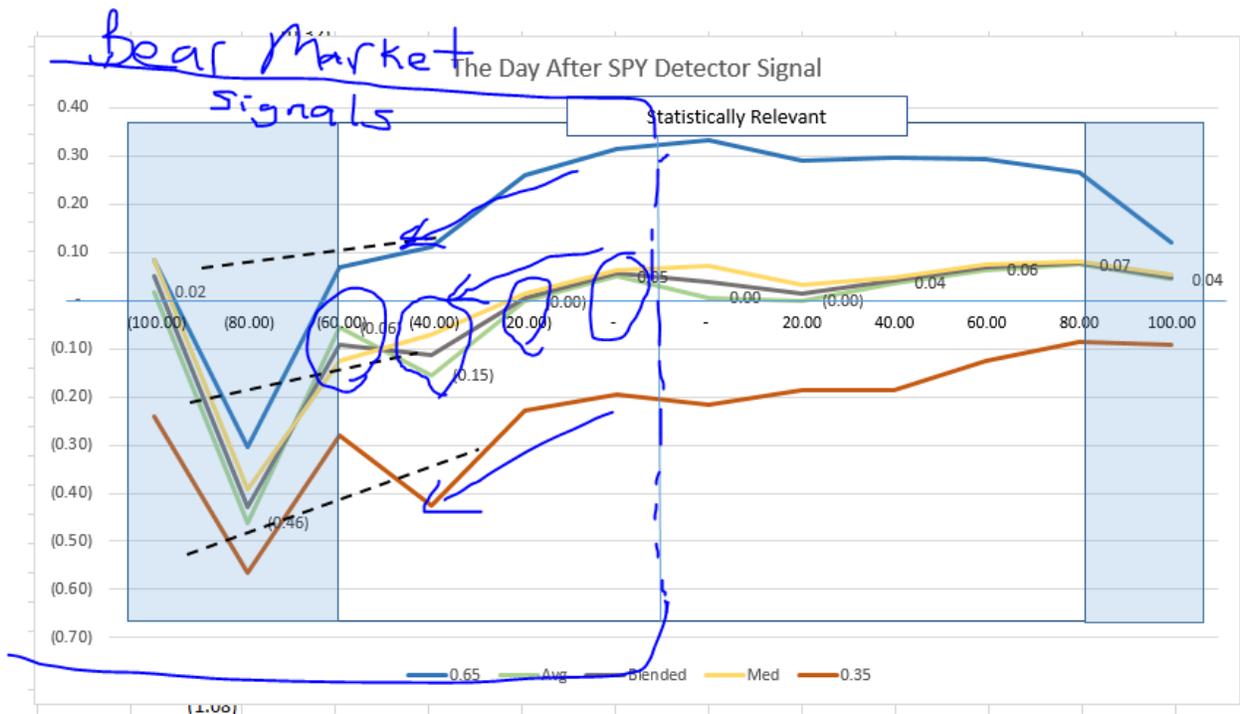
This combination of sustained upside and reduced downside causes the middle lines (a mixture of average and median measurements) to rise with the strength of the signal. This is very useful information.

Now let's look at the bear market information. Bottom line, bear markets are a bear. They are sloppy and difficult to trade. However, I don't want to be on the sidelines for months on end when there are still edges to be found.

It's important to note that SPY Detector automatically switches gears in bear markets (below the traditional 200± moving averages). Holding short positions when the market is making new lows is dangerous because the market tends to recover just about as fast as it declines.

To navigate this, SPY Detector looks to short rallies in bear markets. One key component is that the rally must be slowing in speed to trigger shorts. When the market resumes its down trend, many of the underlying systems immediately go flat and the others will exit on the very first sign of a weakening trend.

Now that we know how SPY Detector works in bear markets, let's look at the signal statistics for the following day after each level of the signal.



Flat signals in a bear market are actually quite bullish, showing limited downside, very high upside, and positive median/average moves. Does this mean to get long? No! Some of the largest outliers exist in the flat signals (think 2008 and Flash crash). Remember, the primary purpose of SPY Detector is to identify risk; and flat signals in bear markets are a good warning to “not be short”.

As we get into the negative 20 to 60 levels, we can see a trend of more downside, less upside, and negative median/average moves. The idea of saying “don’t be long” in these conditions looks very compelling to me.

Application

I will be using this information to formulate some “always-in” strategies. I expect things to be more volatile because I’ll have to deal with crashes and corrections. Overall, I believe increased returns can be seen by controlling risk in the direction of market momentum while steadily being on the positive side of premium decay.

Be sure that you are subscribed to free email updates at www.lessthanrandom.com to receive updates on the testing of SPY Detector systems. You can also learn about getting access to the signals and trading commentary.