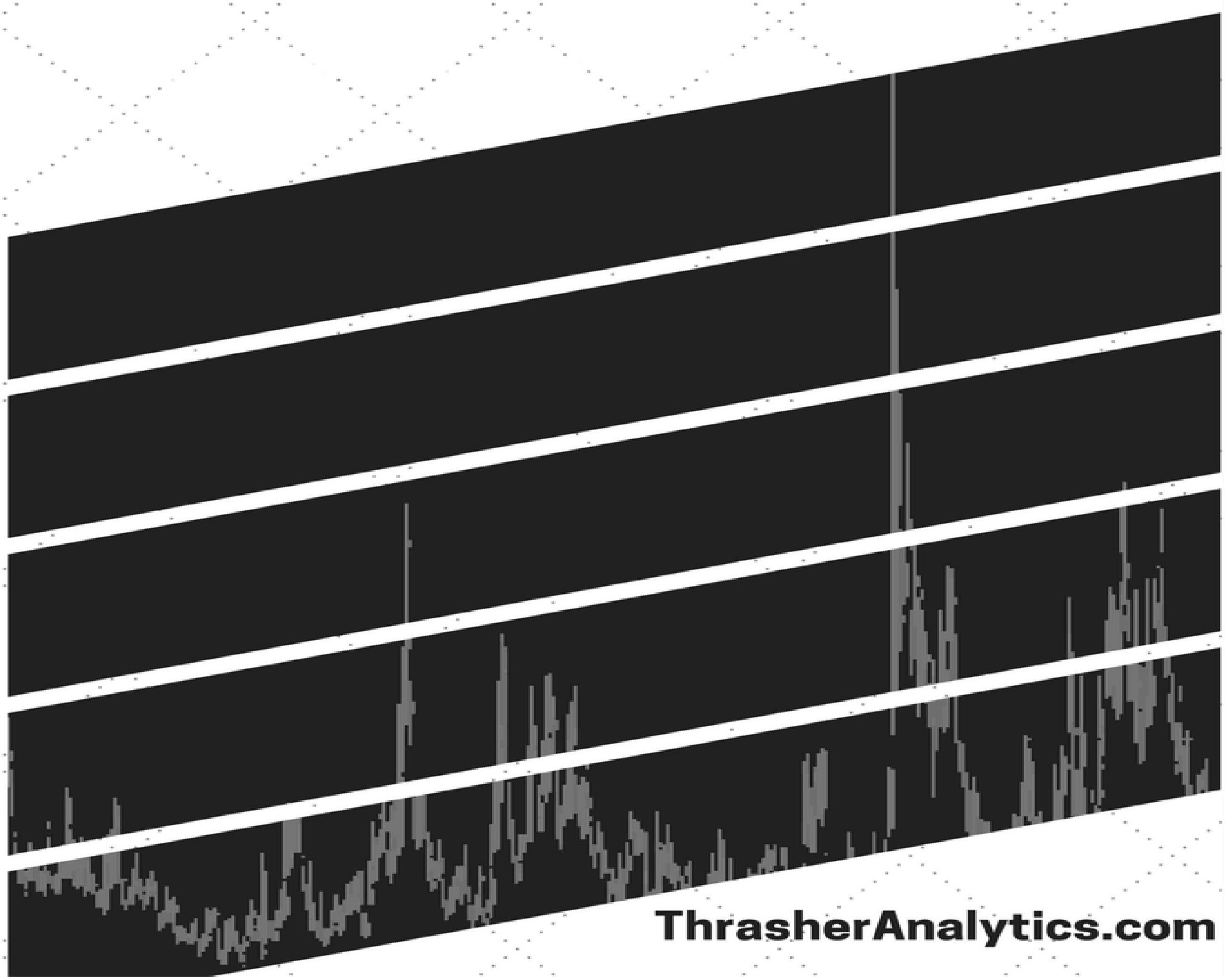
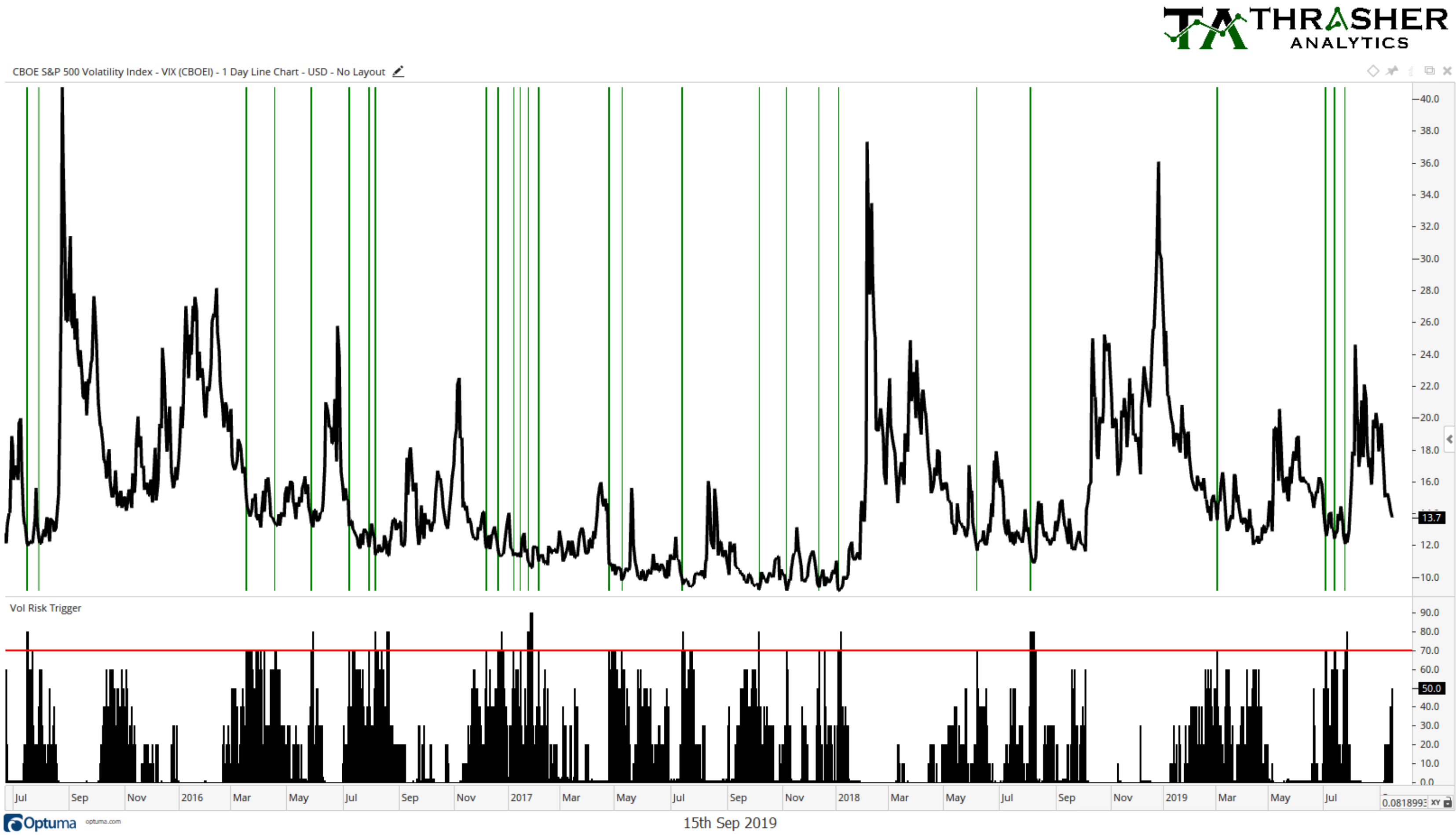
THRASHER ANALYTICS

BI-WEEKLY RESEARCH & ANALYSIS



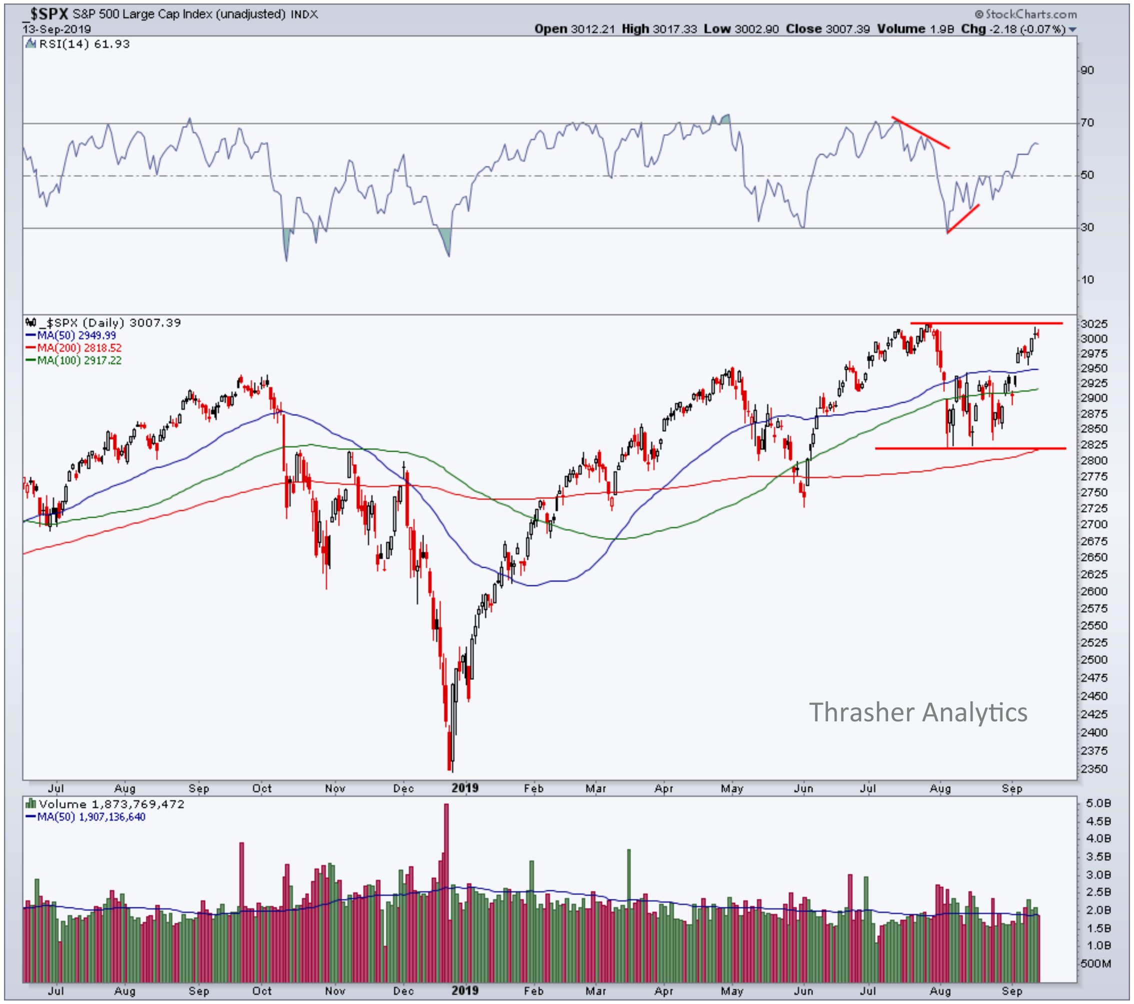
Sector	> 50MA	> 200MA	1wk Perf	1mo Perf	3mo Perf	12mo Perf
SPDR Financial Select Sector Fund ETF	True	True	3.83%	5.60%	4.82%	1.64%
SPDR Energy Select Sector Fund ETF	True	False	3.47%	3.63%	-0.54%	-17.31%
SPDR Materials Select Sector Fund ETF	True	True	3.32%	2.96%	1.75%	-0.49%
SPDR Industrial Select Sector Fund ETF	True	True	2.78%	5.42%	4.81%	0.85%
SPDR Communication Services Select Sector ETF	True	True	1.1%	2.97%	6.79%	5.84%
SPDR Consumer Discretionary Select Sector Fund ETF	True	True	0.45%	4.16%	4.39%	5.16%
SPDR Health Care Select Sector Fund ETF	True	True	0.26%	-0.20%	0.05%	-2.48%
SPDR Utilities Select Sector Fund ETF	True	True	0.21%	3.54%	4.59%	15.3%
SPDR Technology Select Sector Fund ETF	True	True	-0.42%	2.22%	5.72%	8.21%
SPDR Consumer Staples Select Sector Fund ETF	True	True	-0.65%	2.43%	3.35%	11.16%
SPDR Real Estate Select Sector Fund ETF	True	True	-3.04%	0.34%	2.74%	13.94%

The best performing sectors last week were financials and energy with the worst performing sectors coming from the defensive camp, real estate and consumer staples. With the rise in Treasury yields, financial stocks have been able to get a bounce and the short-term strength in energy is likely be to be heavily impacted by this weekend's attack on Saudi Arabia.

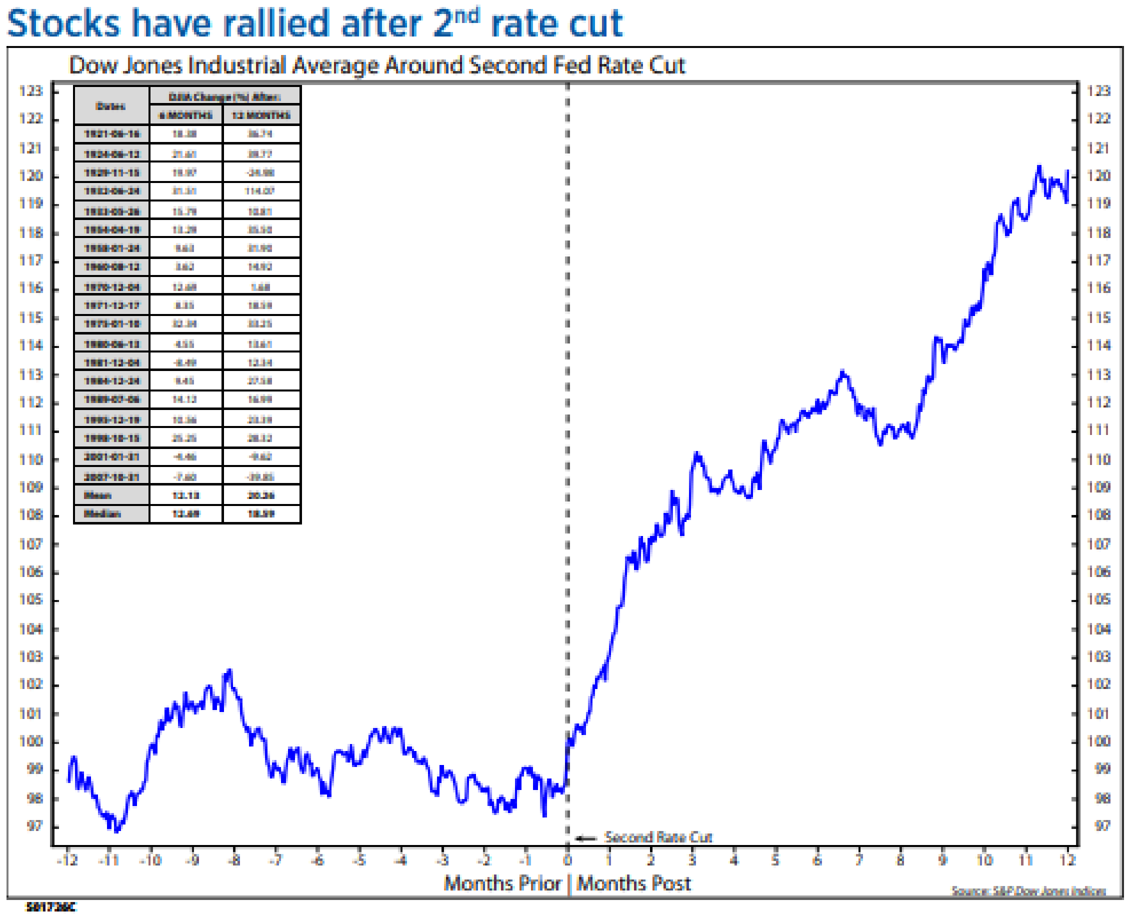


The Volatility Risk Trigger (VRT) has begun to rise once again, as you can see on the chart above. As the VIX falls below 14, the VRT has started to accumulate triggers in the underlying data. However, we are not at a level to signal the VRT. While we aren't at a VRT signal point just yet, I do believe volatility is prepping for a move higher - like an avocado just a day or two before its perfectly ripe.

I'll be discussing some more volatility-related data later in the letter.

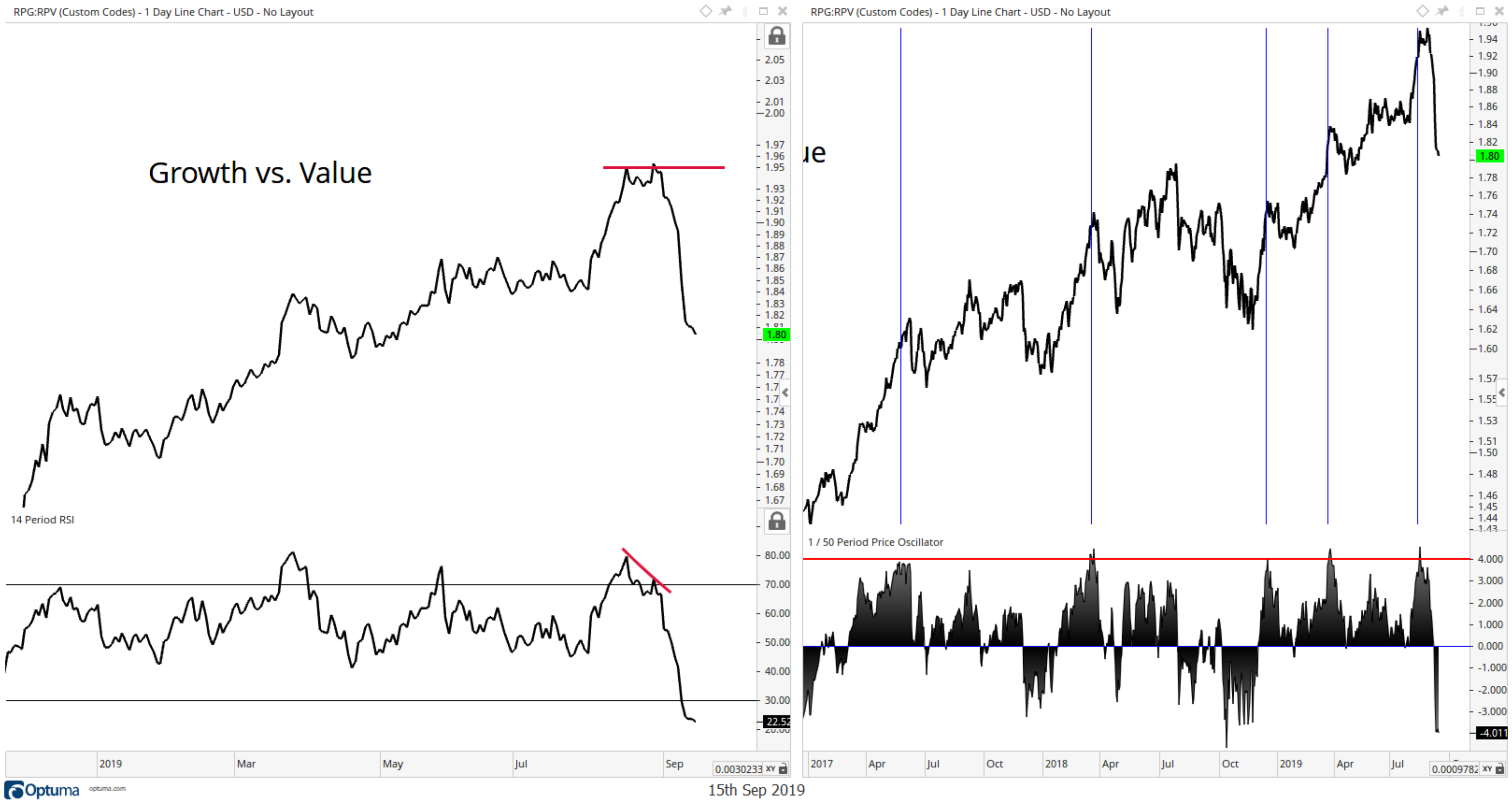


The S&P 500 has continued to rise out of the consolidated it created last month. As I noted in my prior letter, the data suggested that the breakout was likely to be to the upside and that is in fact what we've now seen take place. Equities sit just below their prior summer high with the focus this week turning to the Middle East/oil and the FOMC announcement on Wednesday.



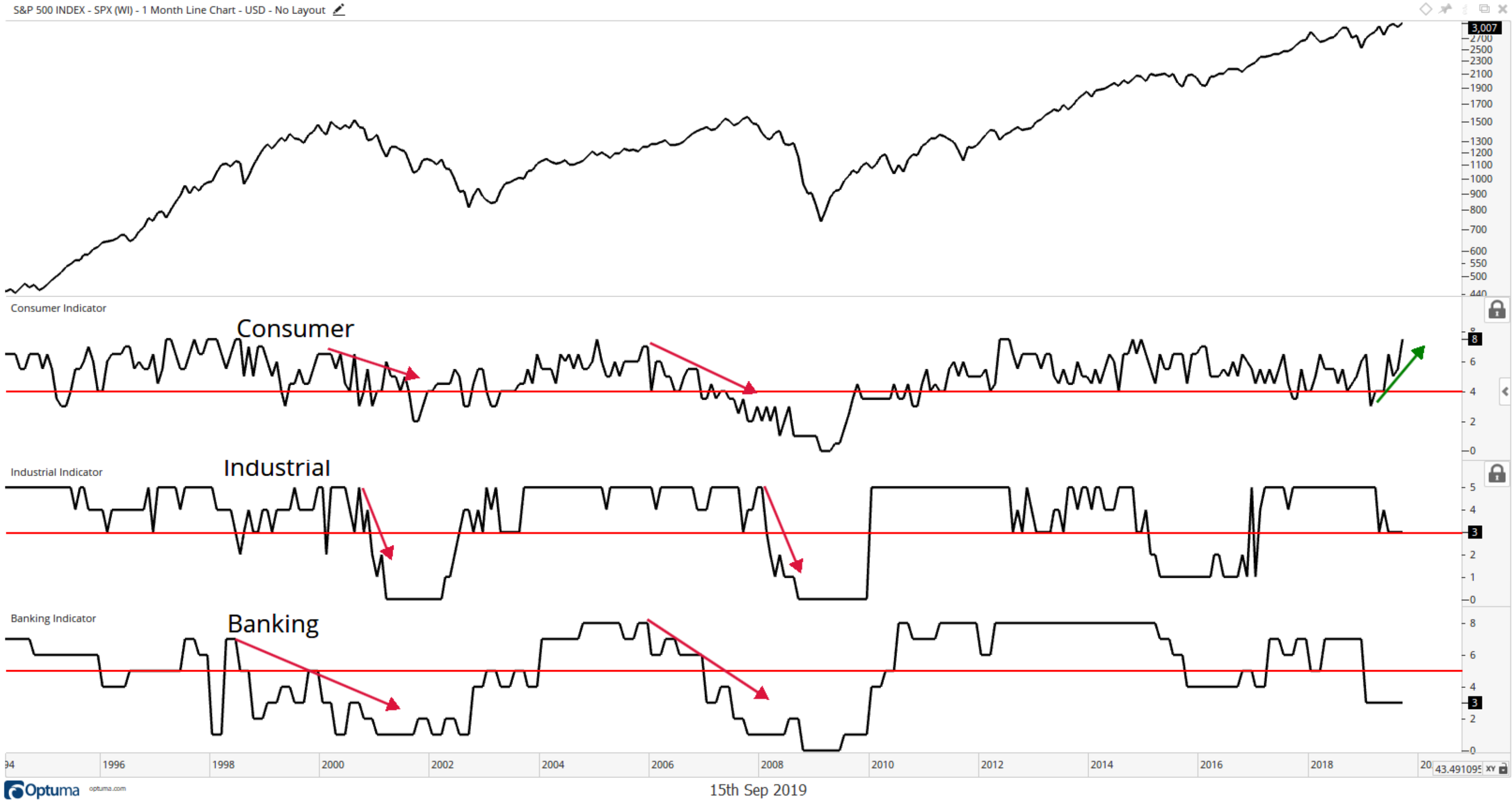
The following chart comes from Ned Davis Research and shows the U.S. equity market's reaction following the second rate cut. NDR notes that the Dow has gained on average 20% in the 12 months following the second cut, a positive sign for equity bulls.

Semiconductors have done an excellent job at leading the equity market. Ever since I wrote in 2013 on my blog how Semi's had replaced copper as the true barometer of the market, they continue to be a chart I stay focused on each week. Above we have the ratio between Semi's and the S&P 500. Note the red arrows showing when Semis began to strengthen ahead of the broad market. In August we saw the ratio run up near the prior highs but unable to break out. We are now seeing a similar move with the ratio nearing the 0.41 level. If we see semiconductors weaken ahead of the SPX, that would be a bearish sign for the overall U.S. equity market. At this point that's yet to happen, so I continue to watch to see if the ratio can break above the prior 2018 and 2019 highs.



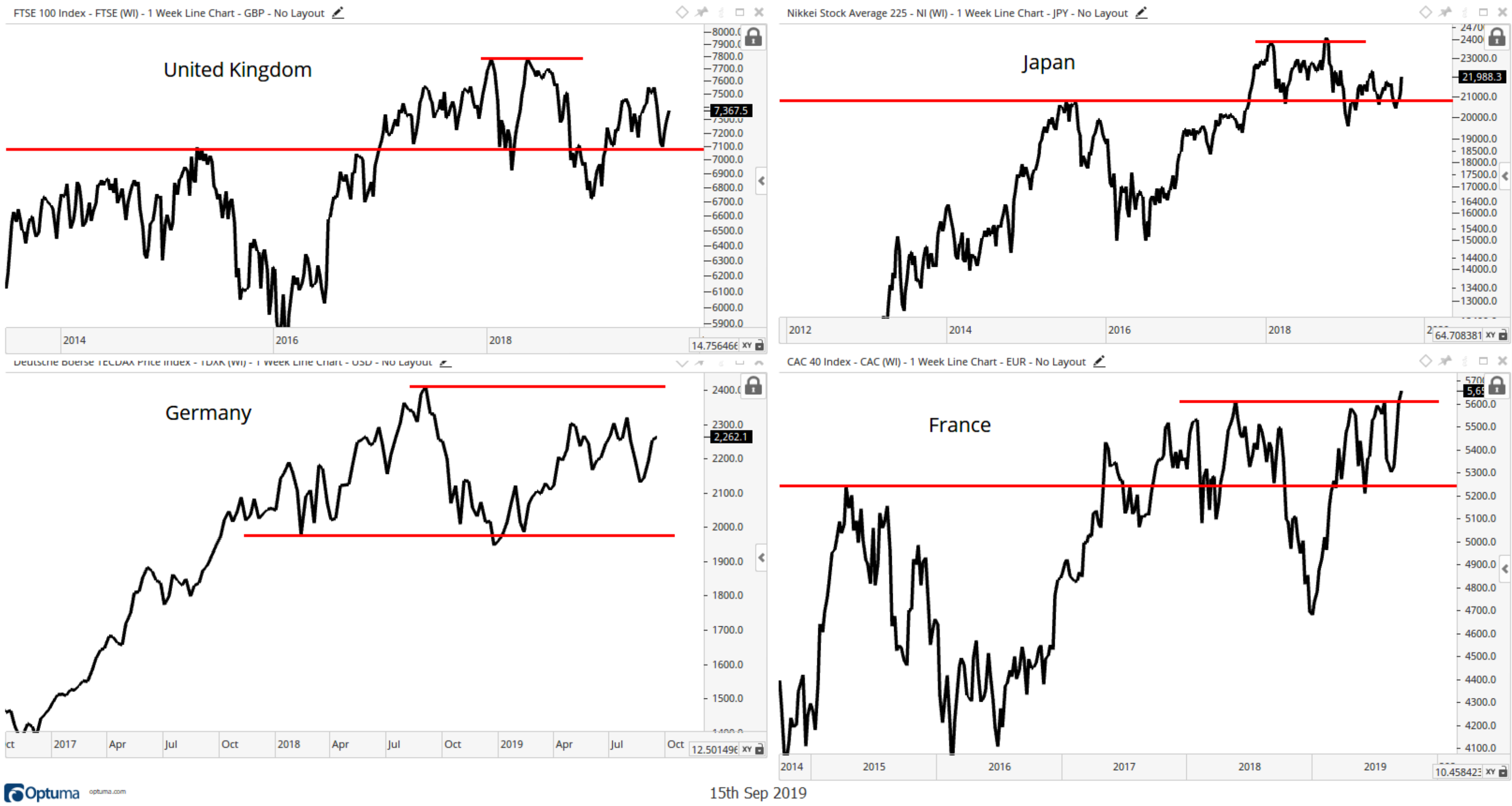
Above is an updated chart from my last letter, which I highlighted as a potential sign we see a rotation from growth to value. I wrote, "While I'm not convinced we've seen a major top in growth vs value, there's a chance we're about to experience another counter-trend move that favors value stocks over growth if this ratio continues to dip lower." I by no means thought the resulting price action would be a severe as its been over the last two weeks but thankfully the turn shouldn't have been too much of a surprise to the readers of this letter.

We've now gone from being overly stretched towards a preference of growth to the exact opposite, which is clearly shown in the chart to the left, the spread between the ratio between Growth and Value and the ratio's 50-day moving average. We're now back to levels not seen since late 2018 before Growth once again took over as the market leader. It's amazing how quick commentators and analysts have jumped ship calling for a major long-term rotation to favor Value. All it took was two weeks! As I said in my last letter, I'm not convinced we've seen a major high in the ratio between growth and value nor do I believe it'll happen in a straight line if in fact we have seen a top in growth stocks.

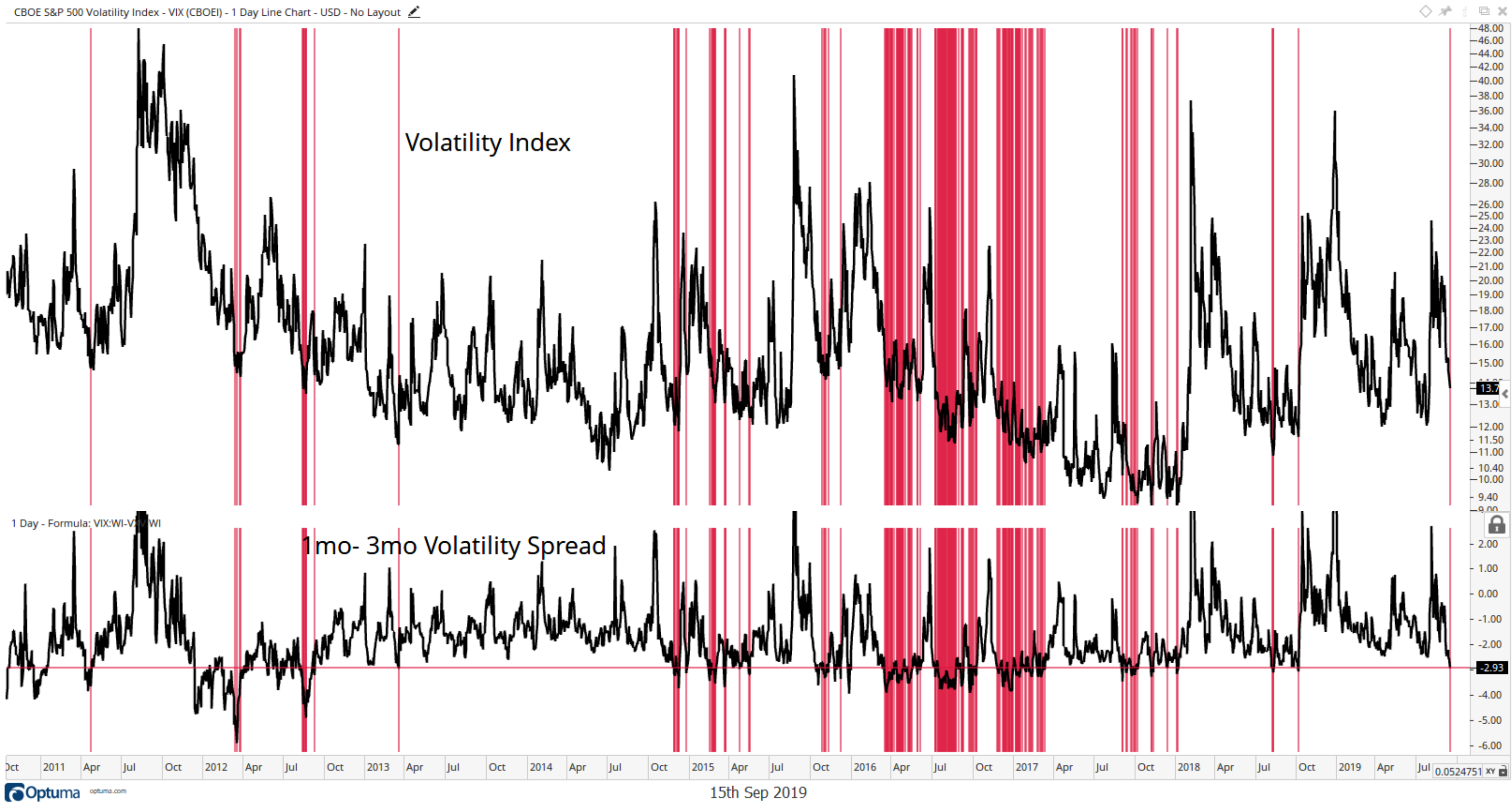


Above are three economic indicators for the U.S. - Consumer, Industrial, and Banking. I've taken a large grouping of various economic data and grouped them into one of these three categories. As you can see, prior to the 2000 and 2007 peaks, the data began to weaken with banks leading followed by Industrial and Consumer. Today we have Banking with weak data, the inversion in the curve plays a roll here. However, consumer data still is very strong. In fact, the consumer category is at one of its highest multi-year levels. This does just suggest we're at the peak in economic growth and on the ledge of falling into a natural recession. I say natural recession because there's always the chance the market itself takes control and "forces" a recession like some would argue we saw in 2015 which was brief and didn't do too much damage. But if we are to see a protracted turn in the economy, the consumer data and much of the industrial data is not supporting that thesis.

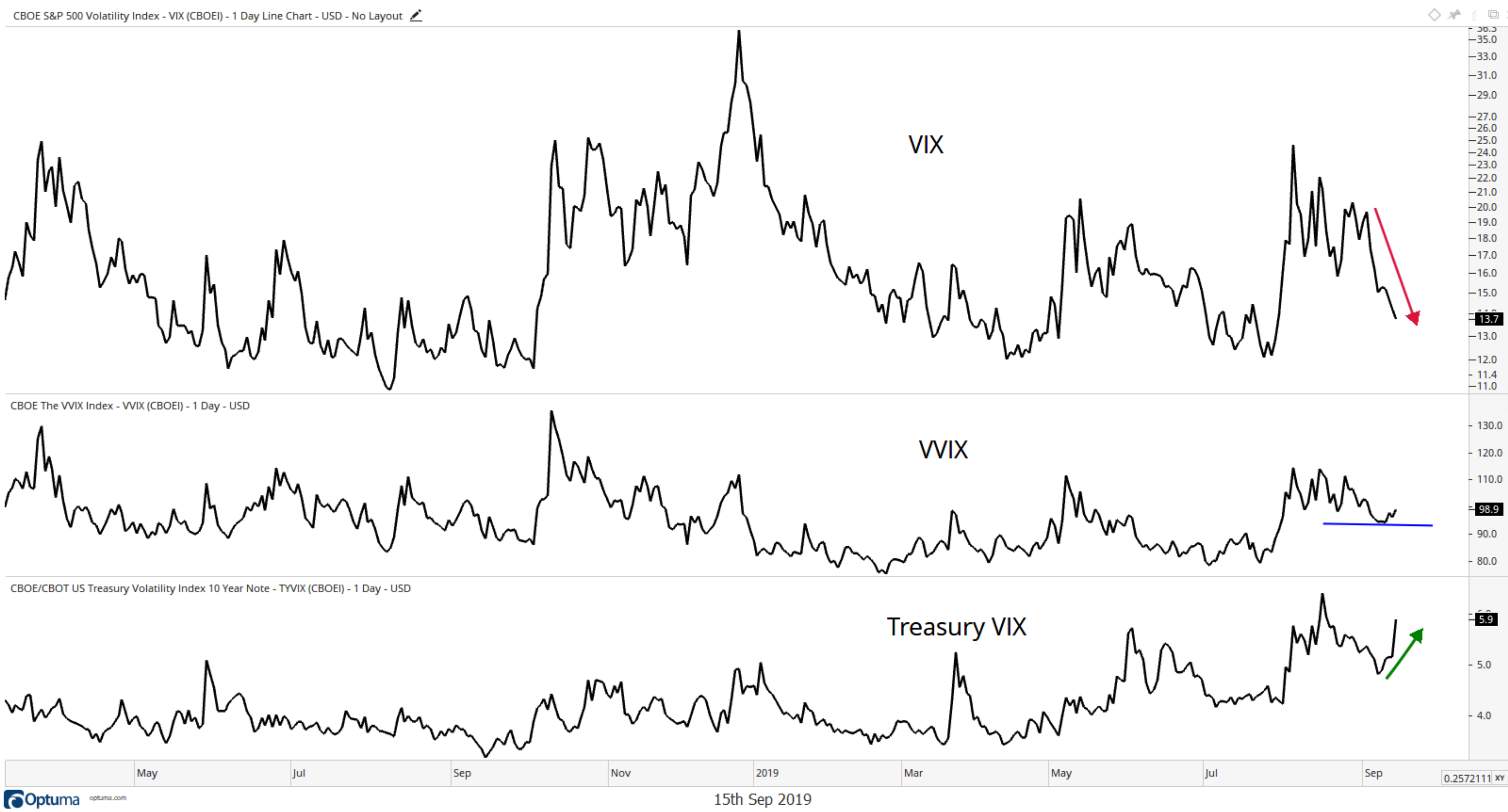
The Four Major International Markets



Above are the four non-U.S. international markets. France is clearly the strongest of the group, having broken out to a new high as of last week. The other three remain below their prior ‘18/’19 highs.



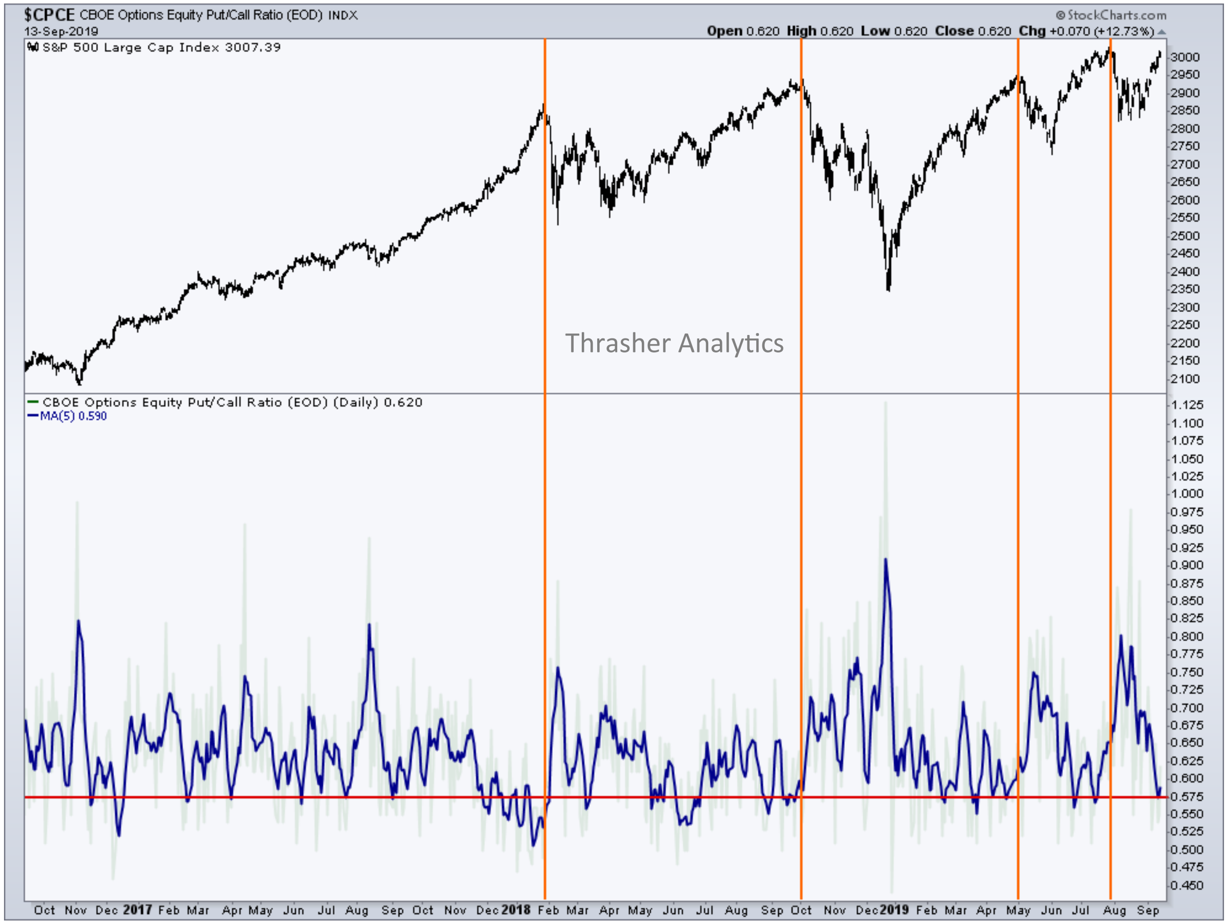
The spread between one and three month volatility has me a bit concerned. There's a large discount in 30 day volatility compared to three months out to a level we haven't seen since October of last year. The red lines indicate when the VIX has been under 15 and the spread has been at or below its current level. While this alone is not a practical timing tool, it does show the rarity of the spread being this wide. Several volatility spikes have followed such a complacent volatility market, notably in 2011, 2014 and most recently the fourth quarter of last year.



While the Volatility Index has been moving lower, the Volatility of the VIX (VVIX) and the Treasury VIX have been bucking that downward trend. As you can see on the chart above, the VVIX declined slightly but has recently began to flatten out and even rose towards the end of last week. The same action is taking place in Treasury Volatility, likely has the market prepares for this weeks FOMC announcement. Treasury Volatility has been in an intermediate up trend off the early '19 low, buoyed by the steady stream of fixed income catalysts coming from the Fed and int'l bond markets. When these three don't agree, I take note and right now we're seeing a volatility divergence with two of the three suggesting the VIX needs to move higher.

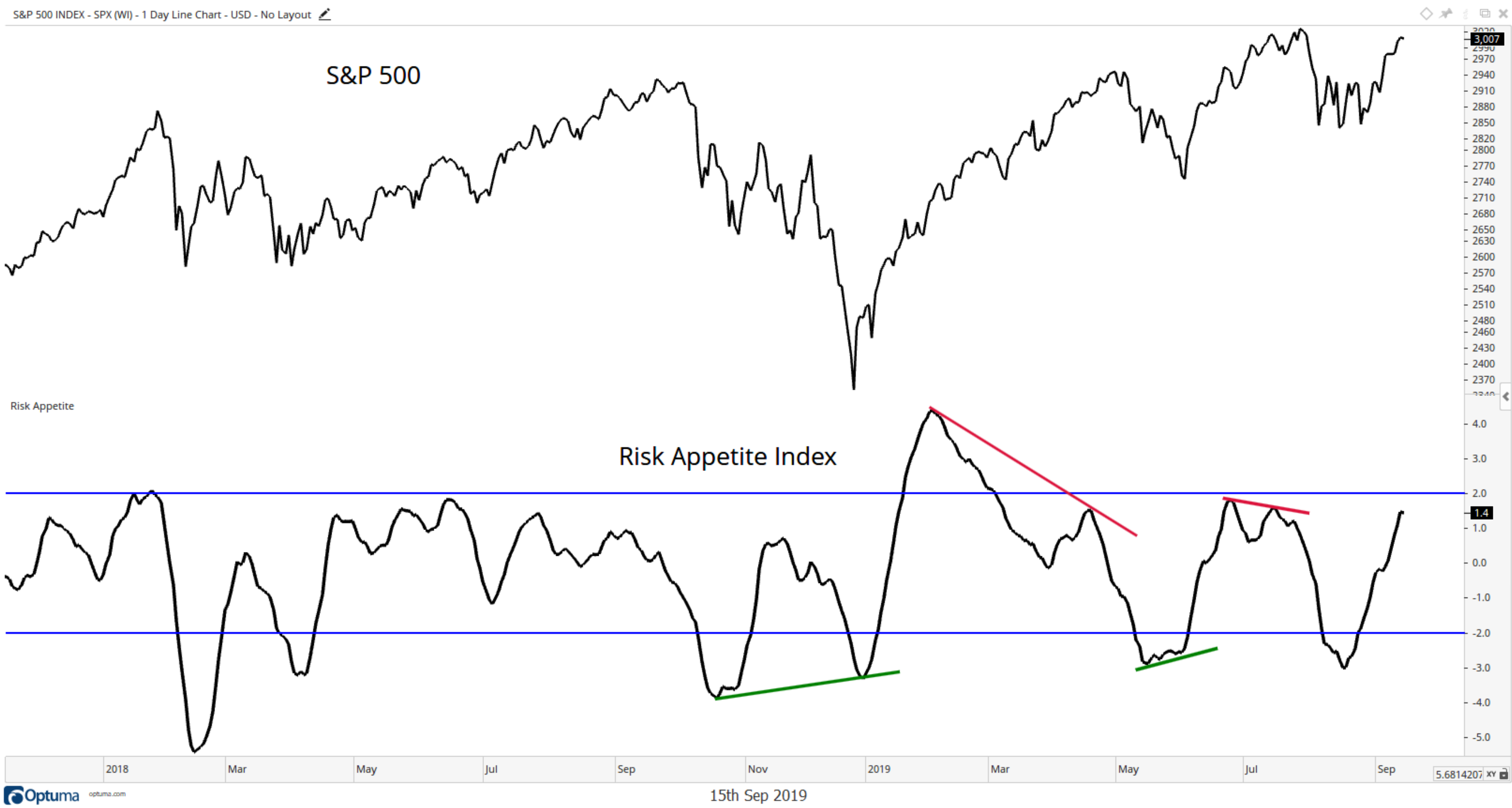
The following chart to the right shows the S&P, Dow, and Nasdaq along with their % of stocks trading above their respective 50-day moving averages. We've seen a nice move higher in these breadth indicators with the S&P back to 70%. What sticks out to me most is the inability of Nasdaq breadth to get above 60% over the last several months. Each rally has ended at this (for some reason) key breadth level.

If we do get a breakout in any of the indices I'd like to see these intermediate gauges get above 75-80% as a good sign that breadth is firmly in the bullish camp. We saw this take place coming out of the Dec. '18 low but the S&P indicator struggled at stay above 80% in April and again in July before the two counter-trends lower.

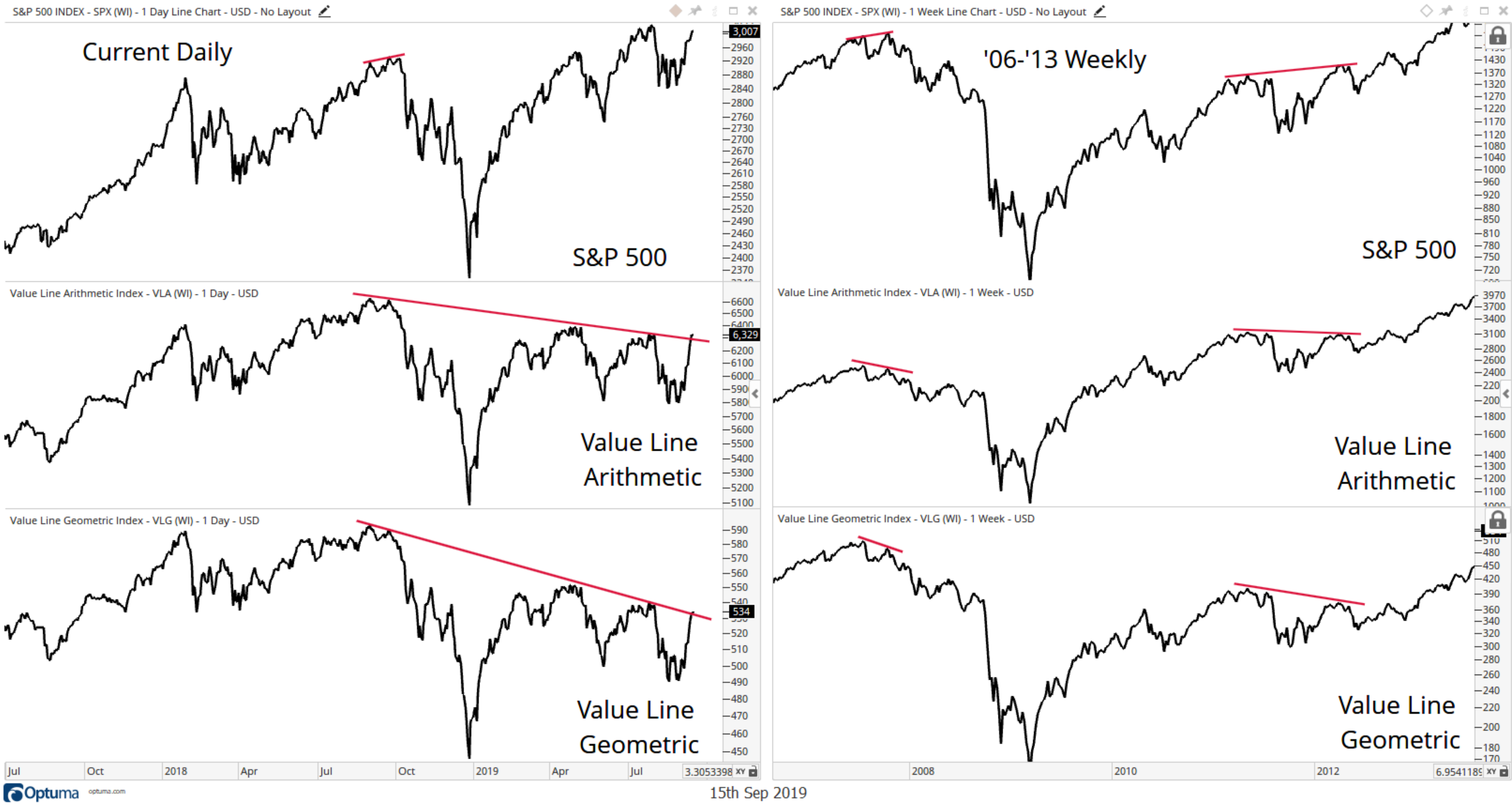


The above chart is a 5-period moving average on the CBOE Equity Put/Call Ratio. The put/call ratio has declined with the rally in equities, something to be expected with fewer traders interested in buying put protection as stocks broke out of the consolidation. The moving average is now back near the lower end of its multi-year average range as you can see with the red horizontal line. This is viewed as bearish by many traders but I'd point out that it's not when the put/call ratio is low that is cause for concern but instead when the ratio begins to rise, likely due to the start of traders adding put protection at least less interested in calls. The orange horizonal lines market he past four highs in the SPX, notice that the 5-day average put/call ratio had already come off its low by those points and begun moving higher. Each time, the put/call ratio began moving higher ahead of the market's intermediate or short-term peak. So going forward I'll be keeping a close eye, and of course keeping this letter up-to-date with any changes, to the trend direction in option activity.

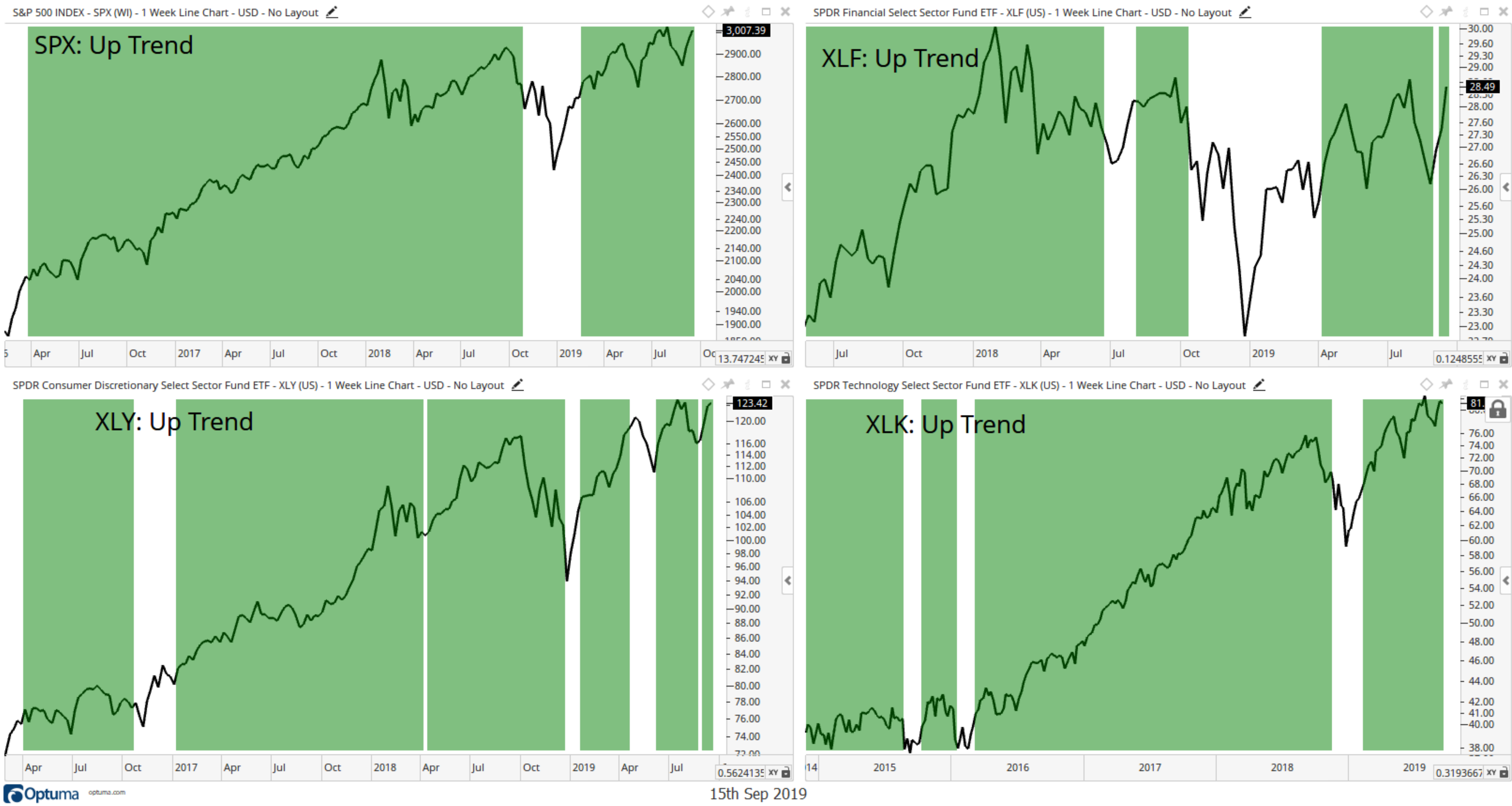
The volume profile for the S&P 500 has been less than impressive with equity prices trending higher. In fact, there's been little upside participation from a volume perspective as equities near their prior high. If you were to just look at the volume profile you would be hard pressed to assume the price action has been anything but bearish. This isn't a great sign that institutional activity has returned to U.S. equities, at least their foot prints are yet to show up in SPX volume.



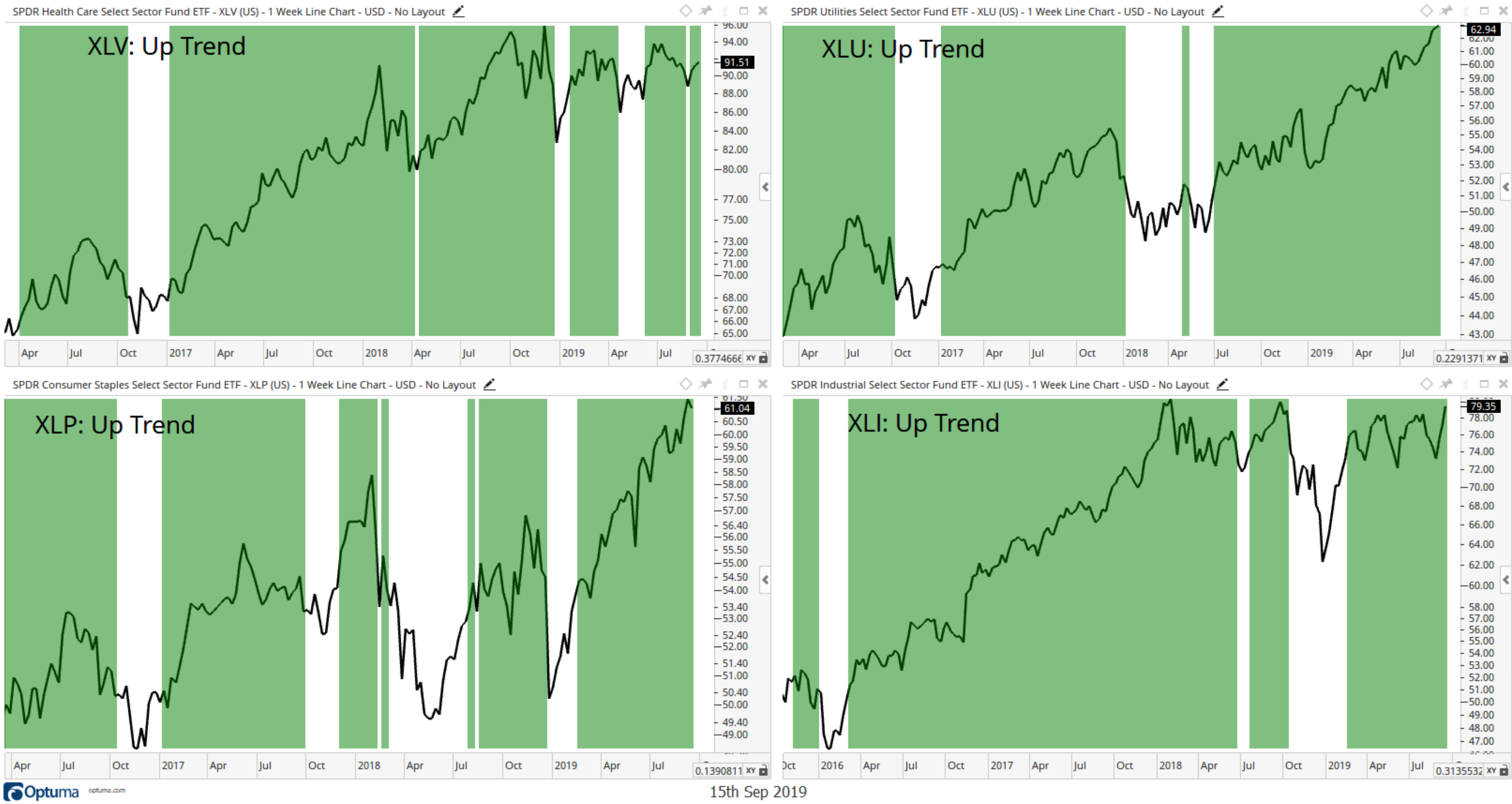
Risk appetite has been positive during this move higher in stocks. The Risk Appetite Index bottomed during the consolidation period and has confirmed the latest trend in SPX, having moved back near the prior July highs.



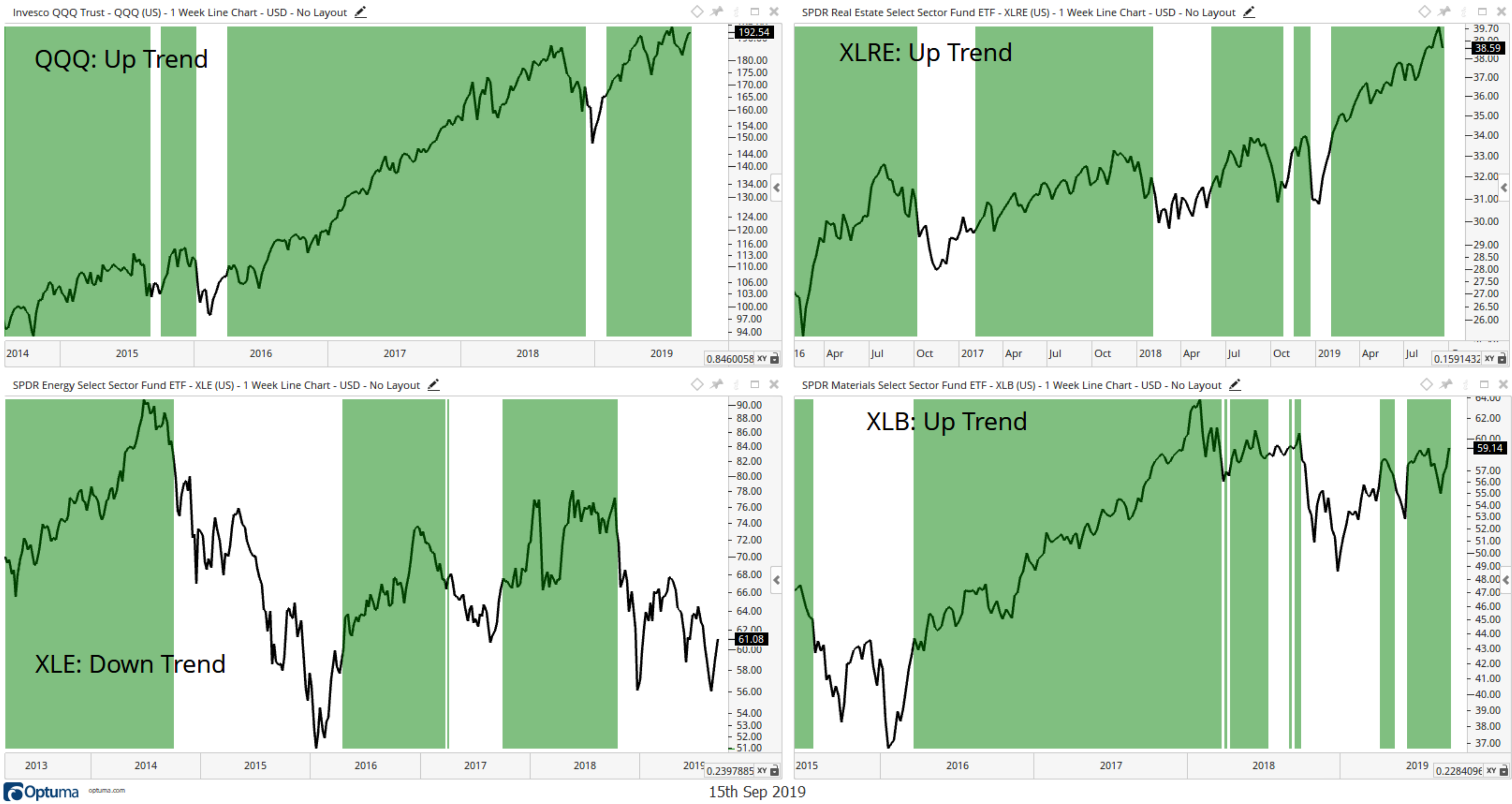
This is a chart from a blog article I'll be posting later this week but I wanted to share with you all first. The two Value Line indices, Arithmetic and Geometric (equal-weighted) track over 1,600 stocks and give a unique perspective on the equity market. They typically track in lock-step with the S&P 500 but when they divergence, it's worth paying attention. The chart on the right shows the divergence that marked the 2007 high but also the divergence that followed the 2011 correction. The chart on the left is present day and shows the series of lower highs in both Value Line indices. We saw them begin to diverge going into the October '18 high but they barely recovered from the Dec. low. This is a bearish sign for the equity market, but what we must now wait and see is whether the divergence gets resolved like in 2012 or of something more serious is developing like last year or in 2007.



SPX, XLY, XLK, and XLF are now all in up trends.



XLV, XLU, XLP, and XLI are all in up trends.

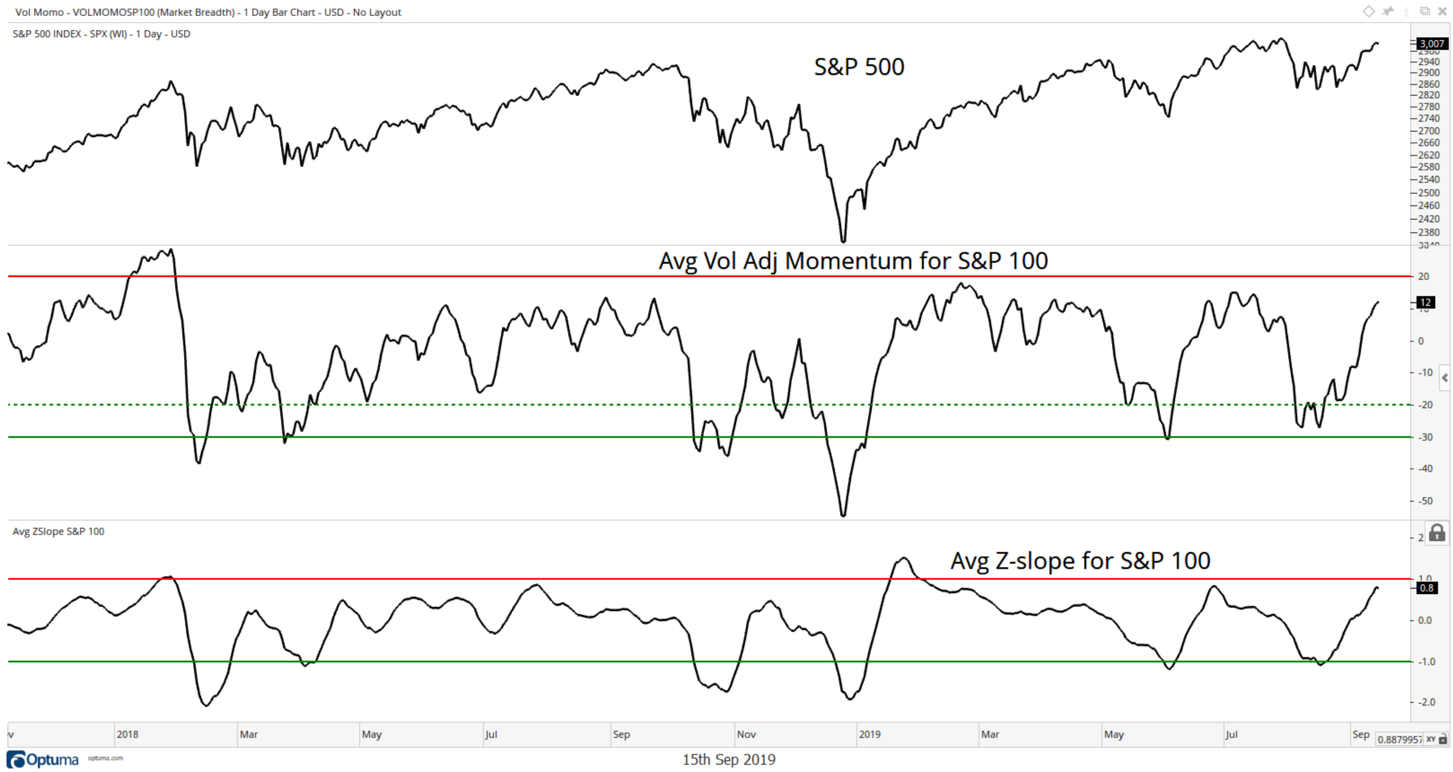


QQQ, XLRE, and XLB are in up trends and XLE is in a down trend.

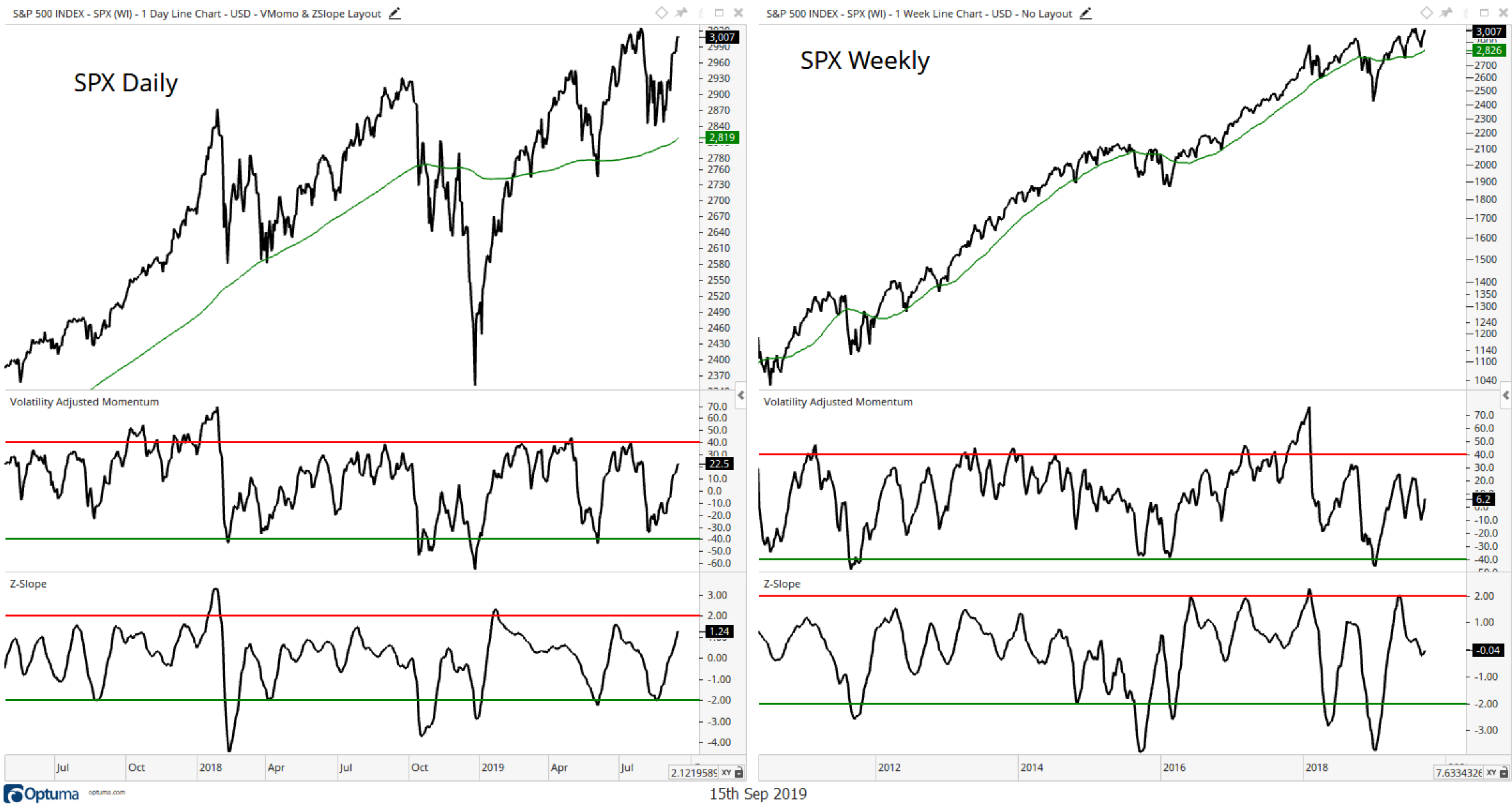
The following charts will become a regular installment for this, and future letters. Each page will include a daily and weekly chart with two indicators that are unique to Thrasher Analytics. With a focus on risk mitigation, the focus of these charts is on potential mean-reversion of each asset through the analysis of the two indicators described below.

Volatility-Adjusted Momentum (VaM: This is a spin on the traditional measures of momentum, taking into account the volatility of the underlying asset into the calculation. By adjusting for volatility we can get a better look at potential mean-reversion signals when risk/reward becomes unbalanced towards 40 as 'overbought' or –40 as 'oversold.'

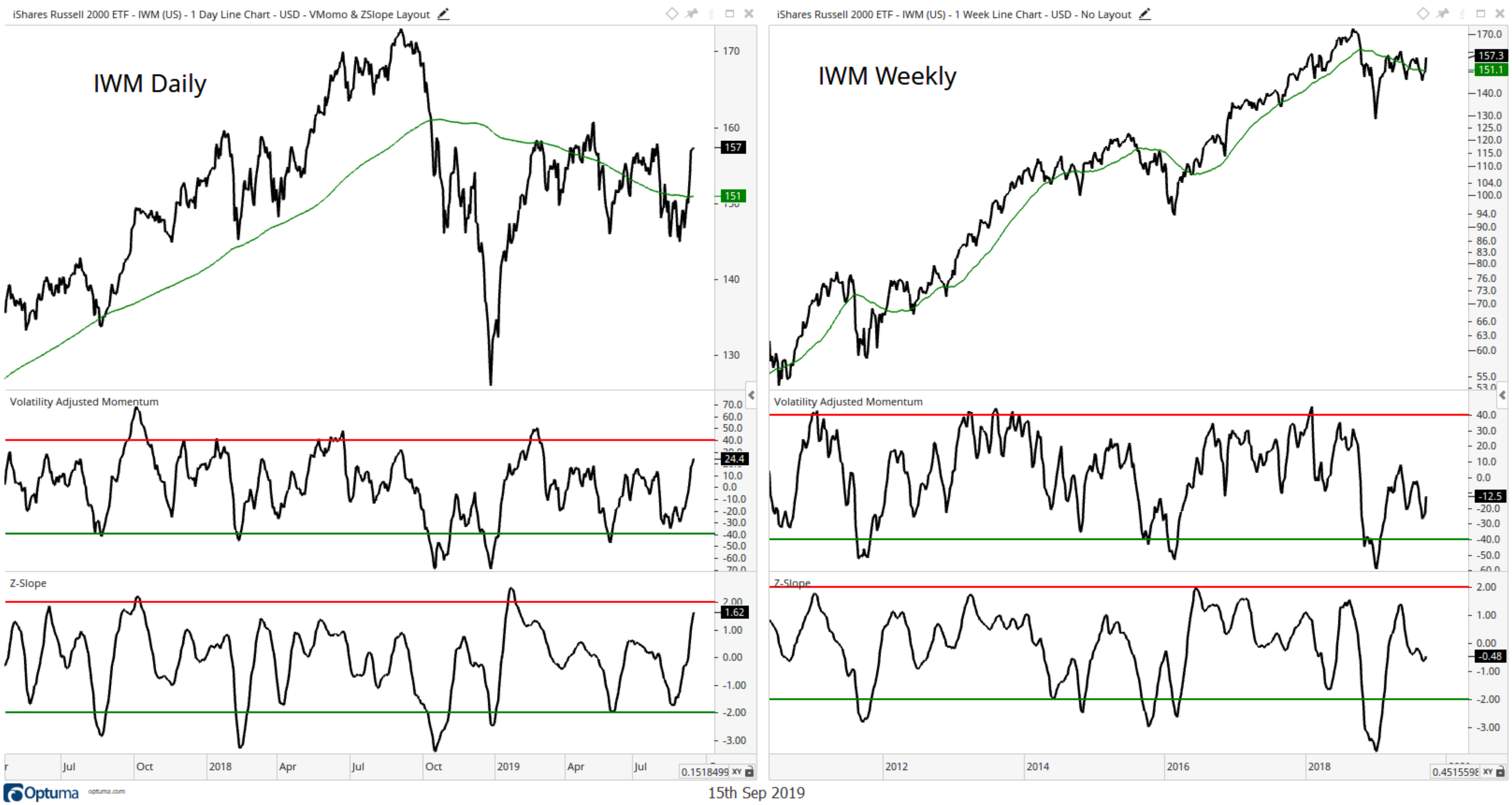
Z-Slope: This indicator takes two lookback periods, one long and one short, for calculating the slope and evaluates the z-score of the difference. This provides insight into whether the current slope of the trend fits within the long-term price history of the security. If a z-score breaks above 2, then the slope has gotten to upward sloping compared to its history. And the opposite is true when we get readings below –2, that the downward sloping trend has gotten 'oversold' compared to the asset's price history.



Above are the average Volatility Adjusted Momentum Indicator (VaM) and Z-slope scores for the S&P 100. I've shown just the S&P 100 because they are the most impactful to the overall S&P 500 index. Both, VaM and Z-Slope are trending higher, a positive sign for equities.

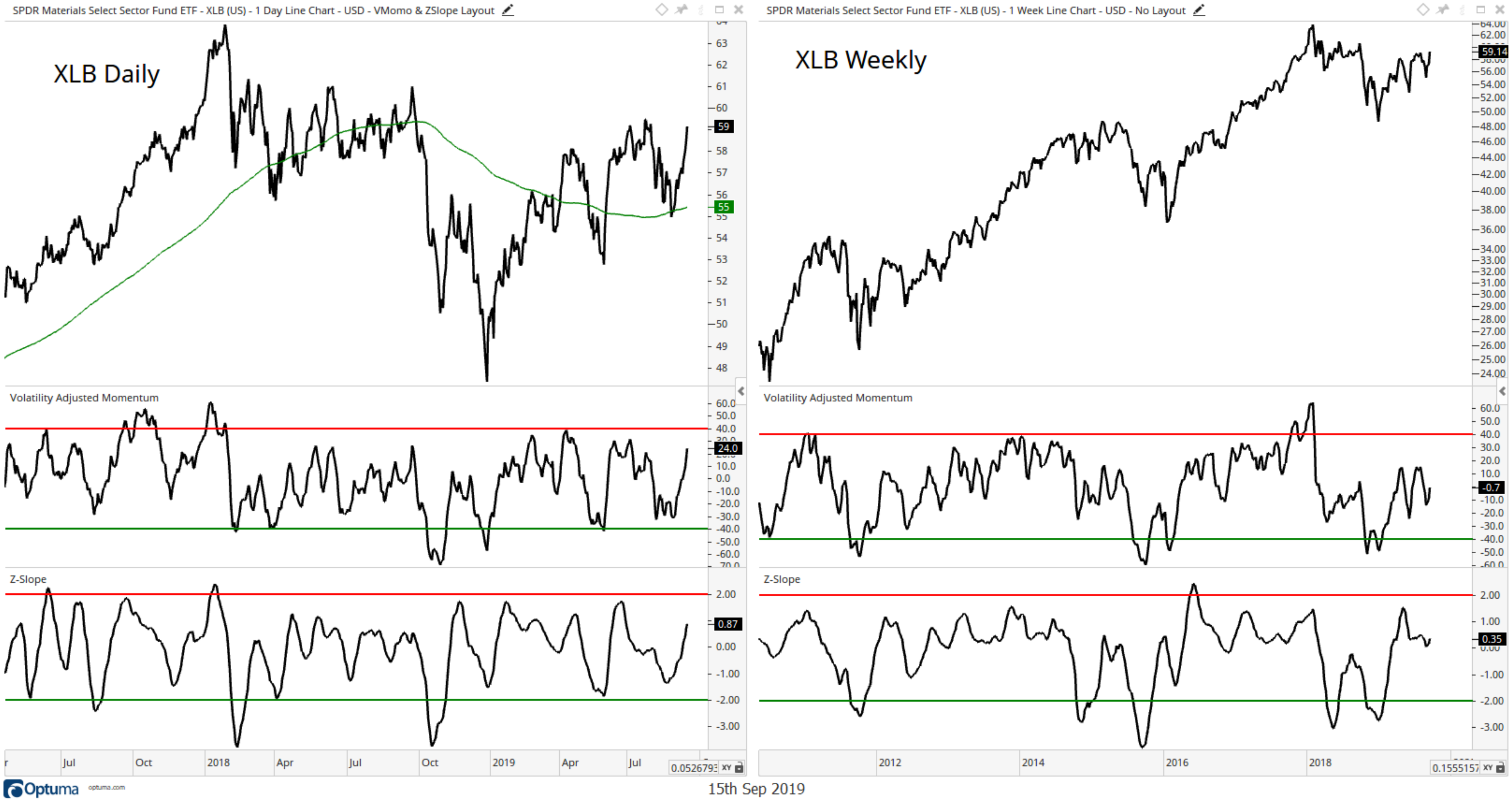


Daily Z-Slope and VaM both are trending higher.

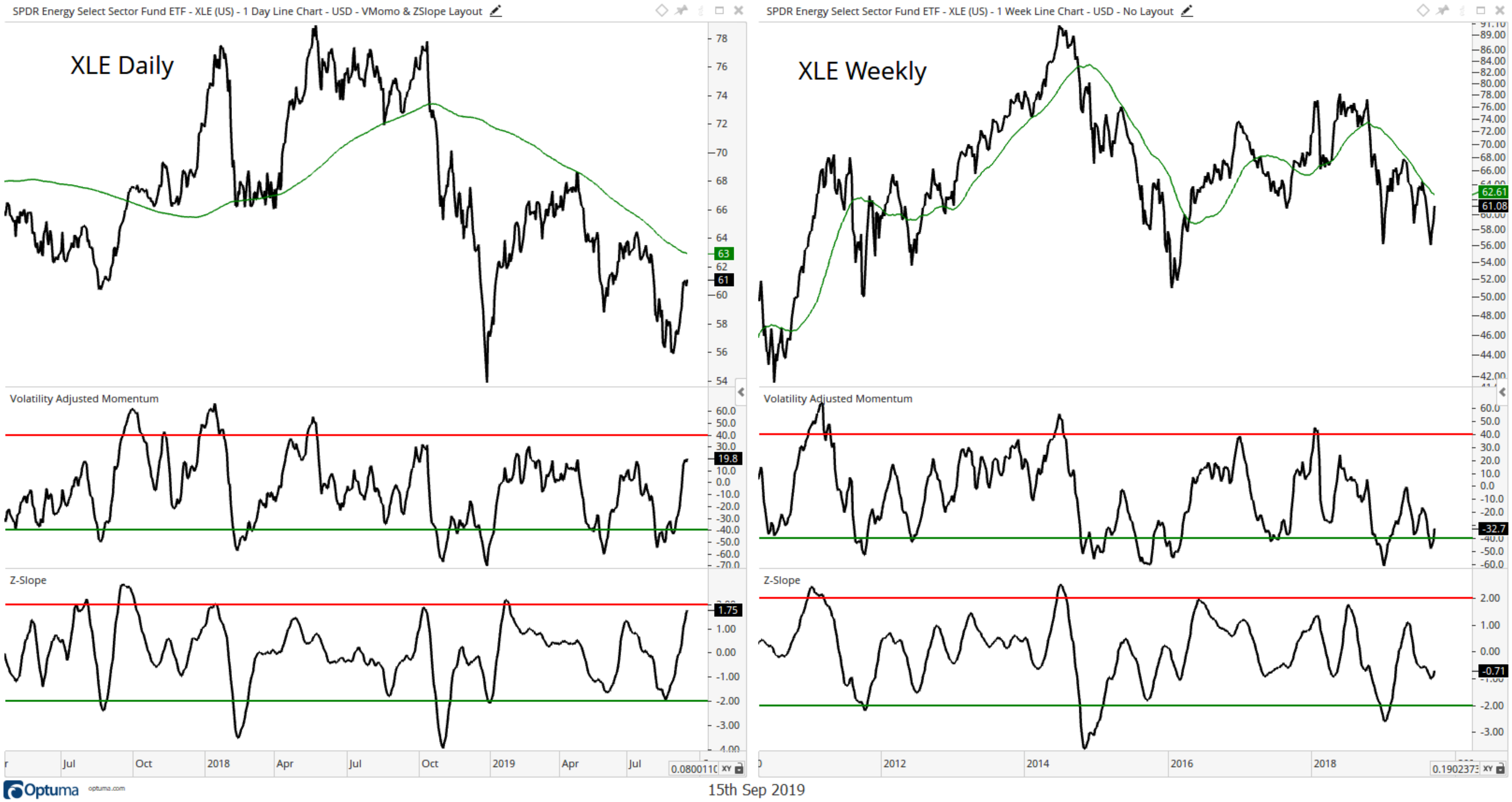


Neutral readings for both VaM and Z-slope but the daily's are moving closer to being 'overbought.'

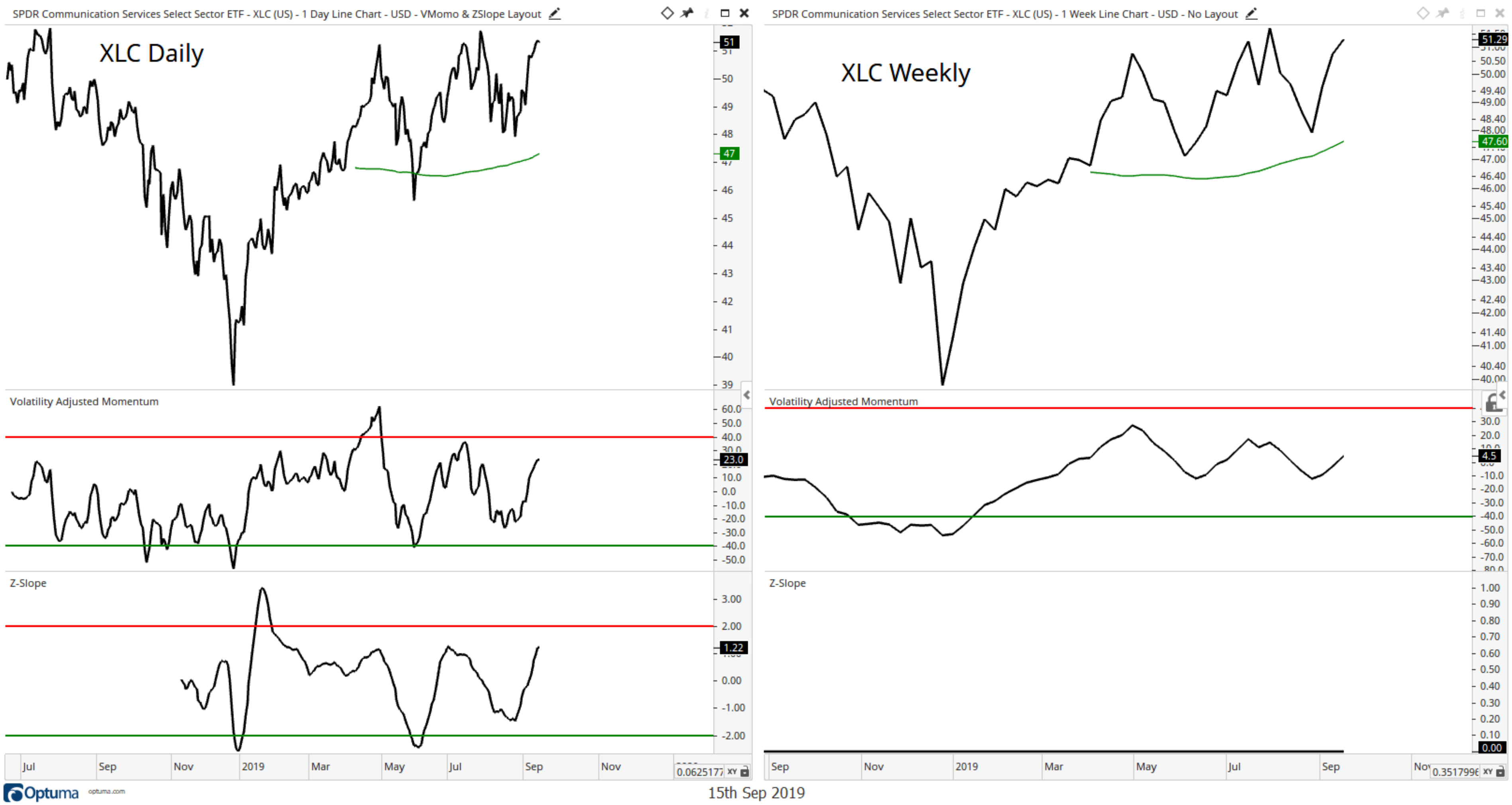
Neutral readings for both VaM and Z-slope.



Neutral readings for both VaM and Z-slope.



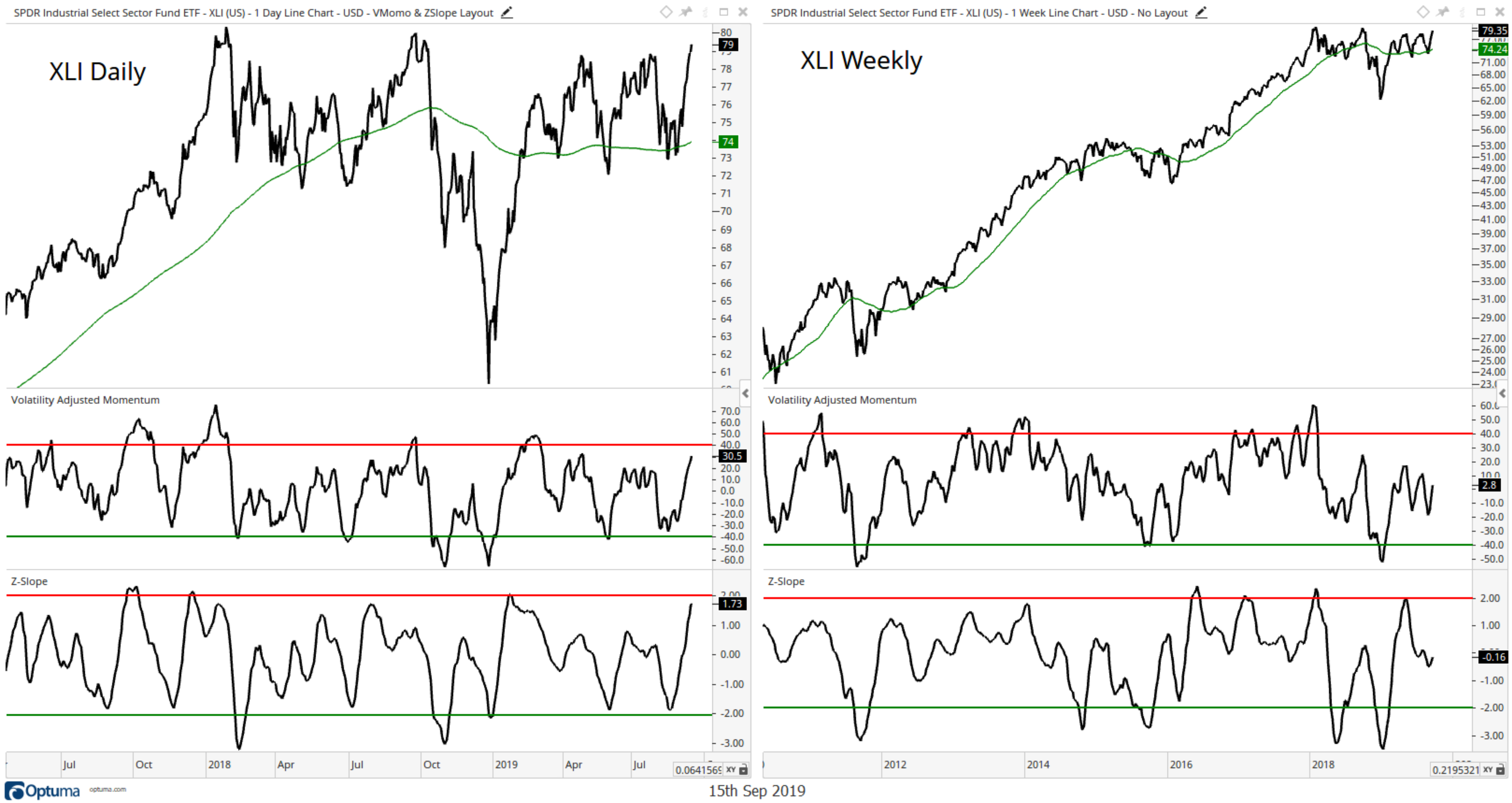
Neutral readings for both VaM and Z-slope and weekly z-slope is 'oversold'



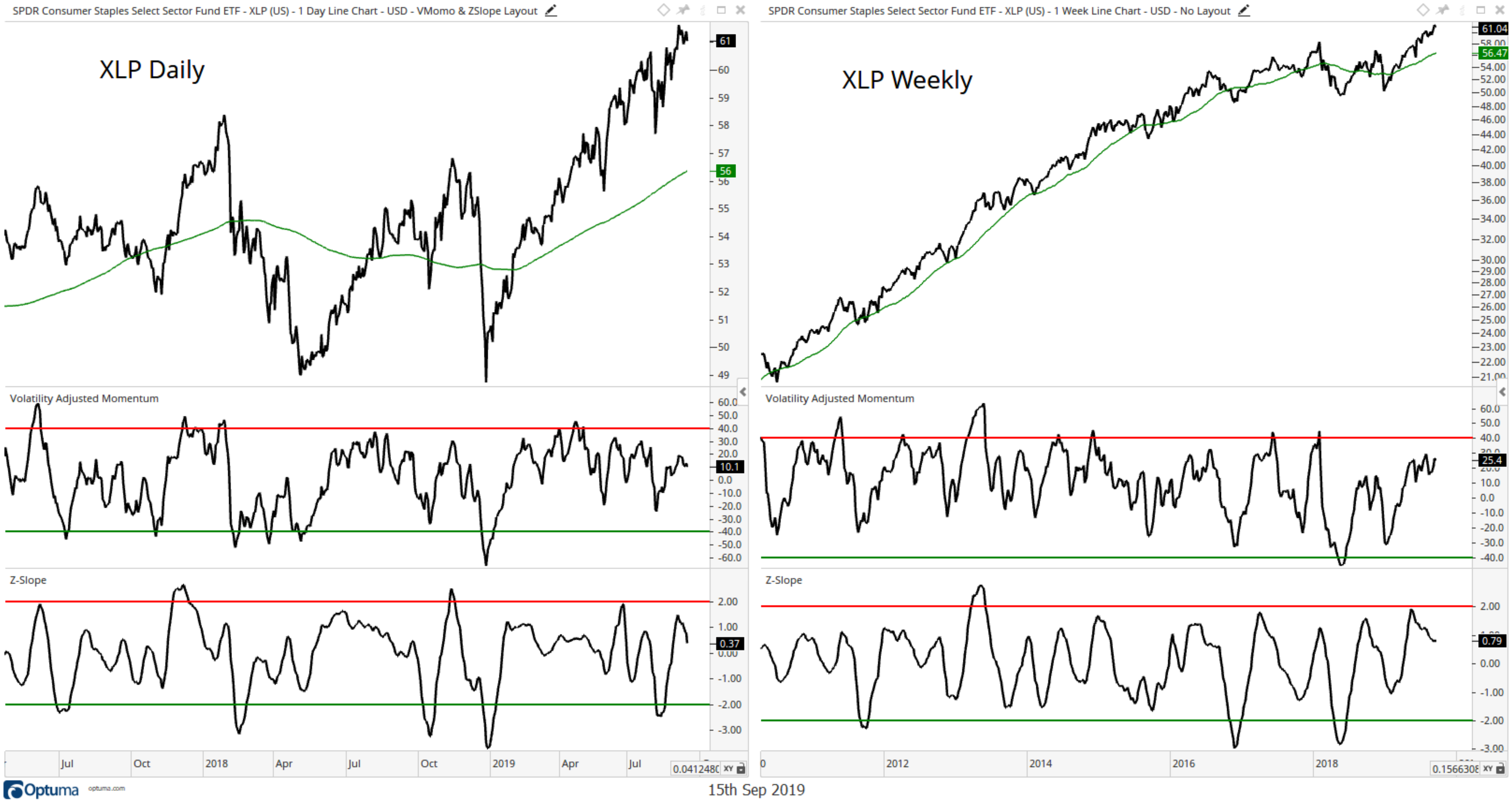
Neutral readings for both VaM and Z-Score.

Neutral readings for both VaM and Z-slope but the daily's are moving closer to being 'overbought.'

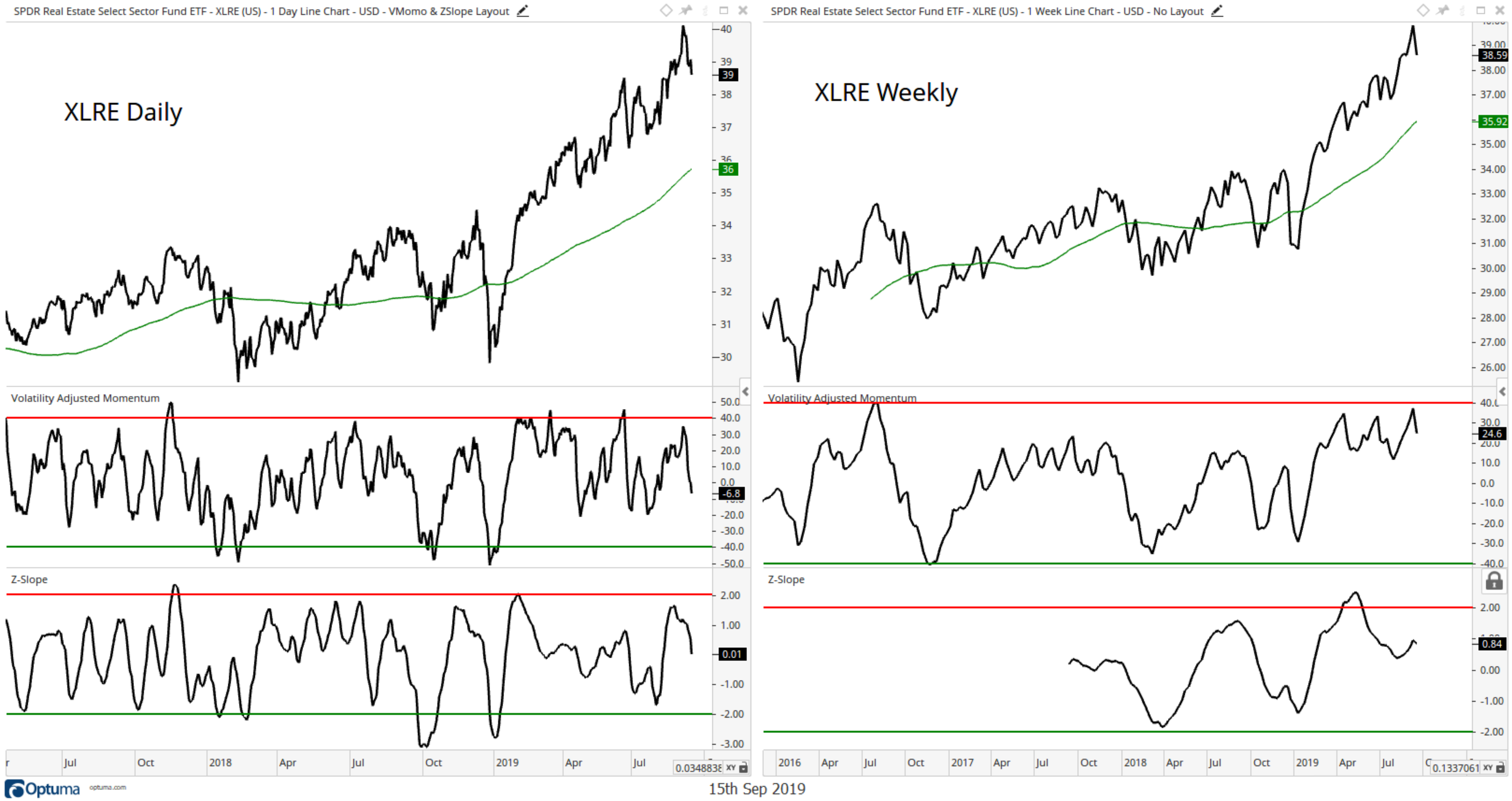
Neutral readings for both VaM and Z-slope.



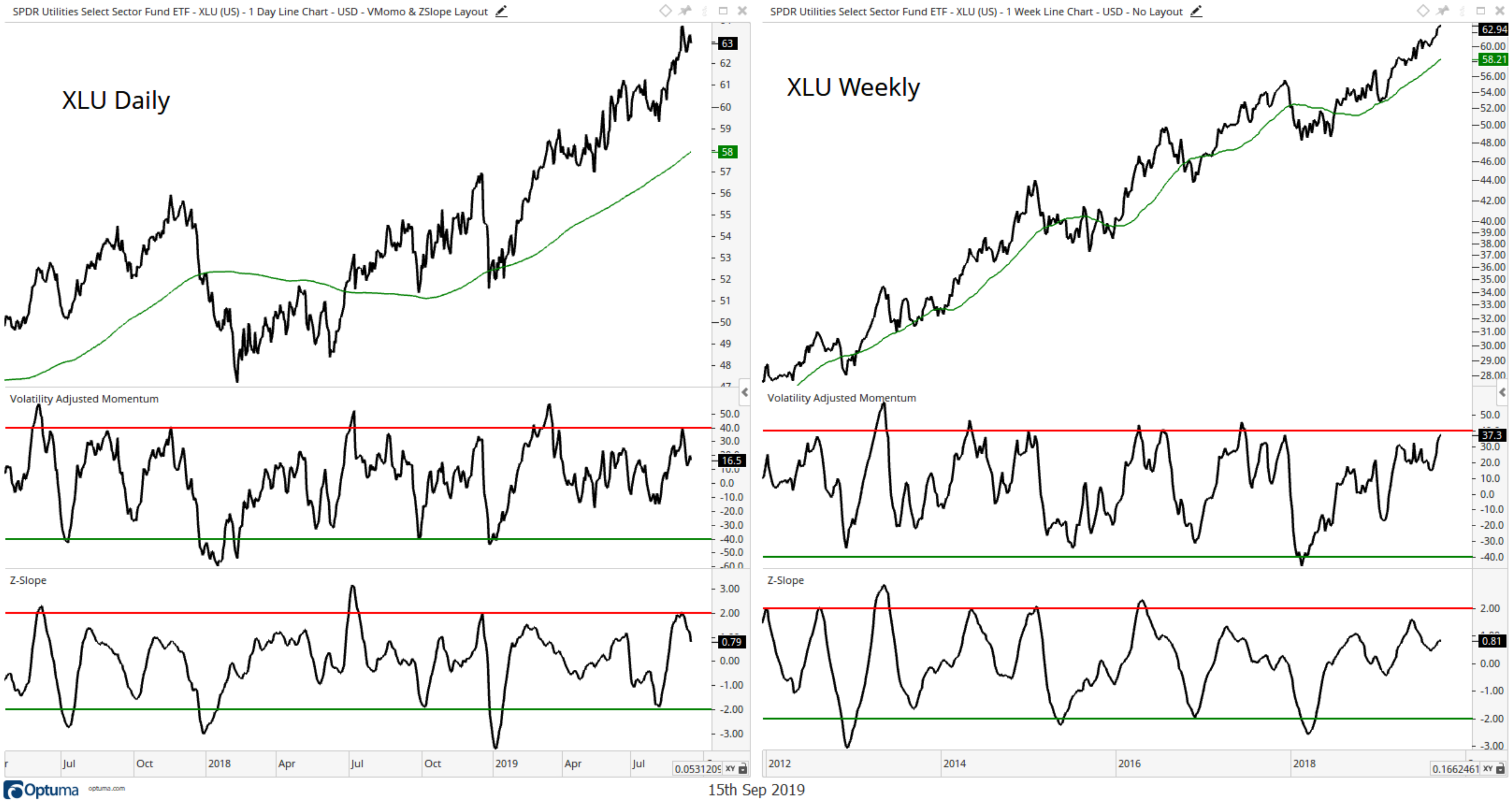
Neutral readings for both VaM and Z-slope but the daily's are moving closer to being 'overbought.'



Neutral readings for both VaM and Z-slope.

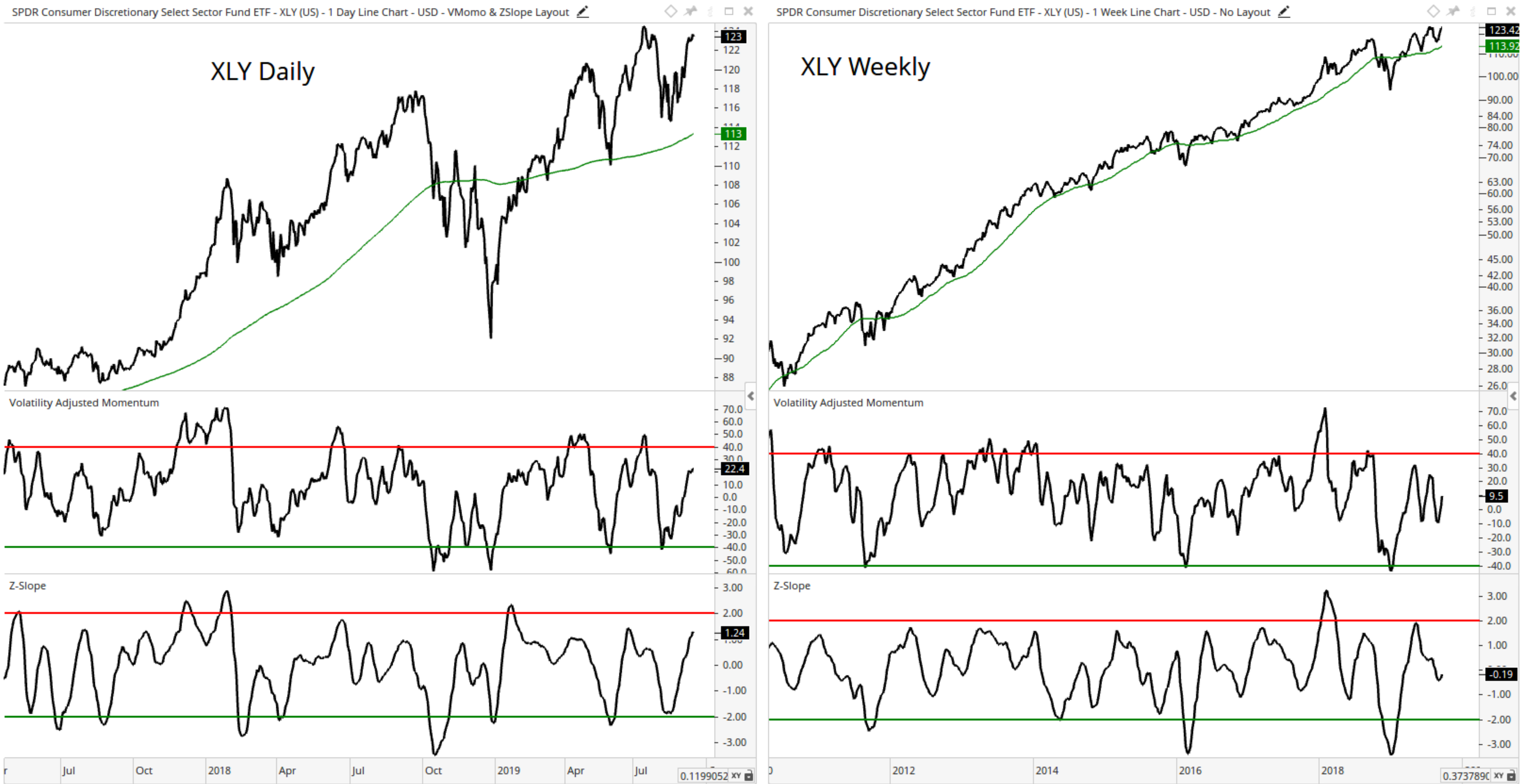


Neutral readings for both VaM and Z-slope.



Neutral readings for both VaM and Z-slope after kissing ‘overbought’ levels with weekly VaM nearing its own ‘overbought’ level.

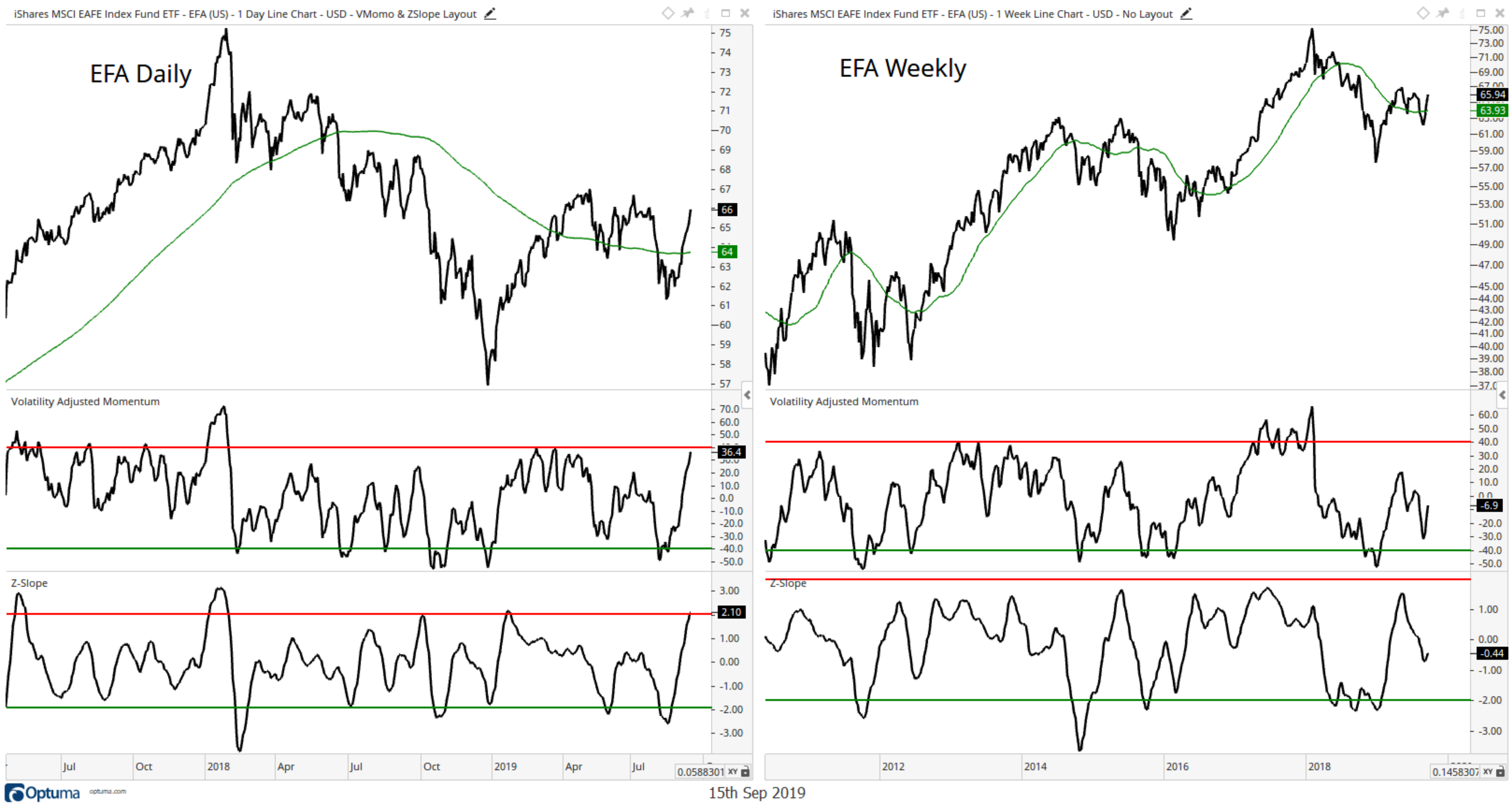
XLY



15th Sep 2019

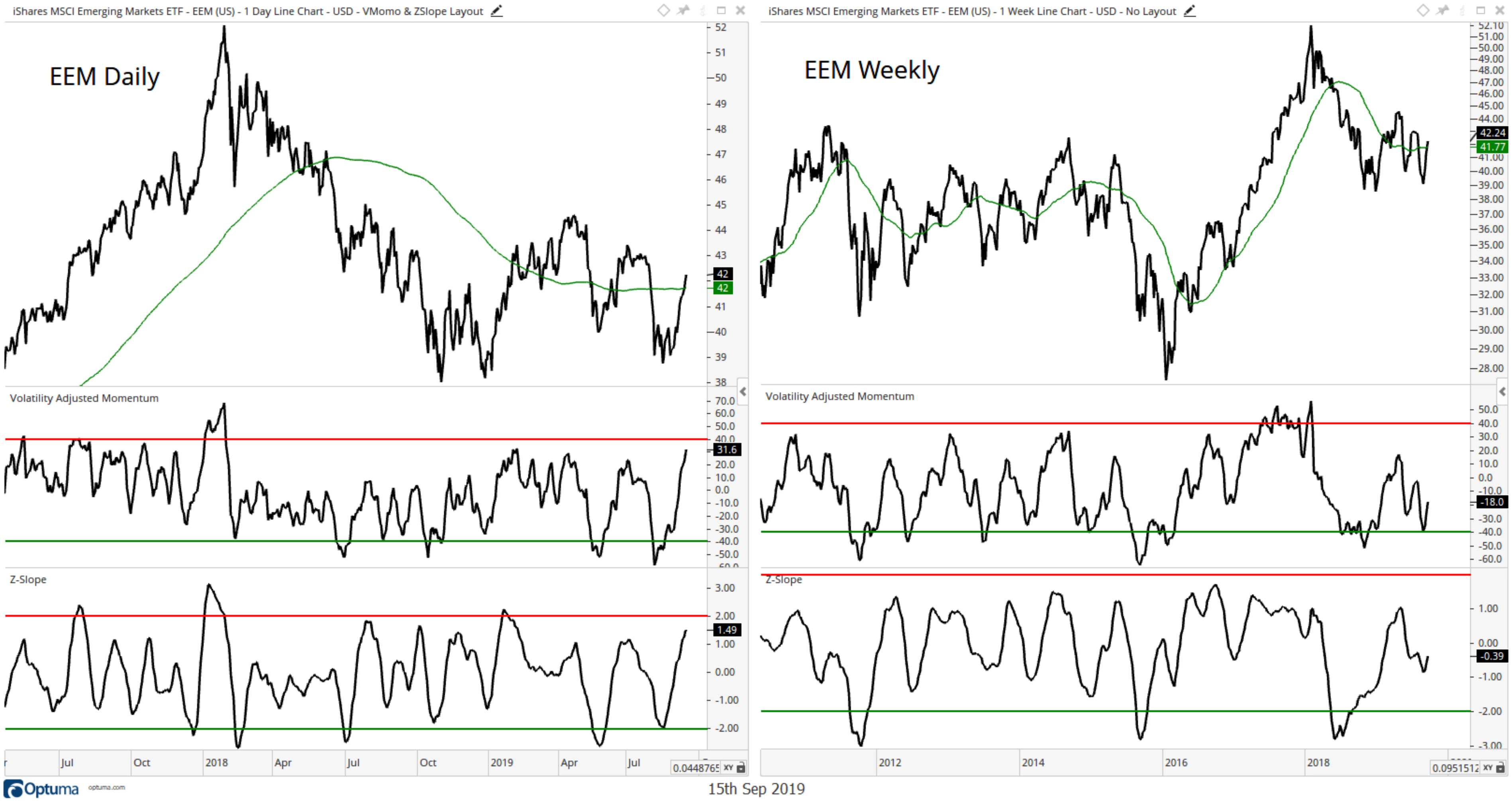
Neutral readings for both VaM and Z-slope.

Neutral readings for both VaM and Z-slope.



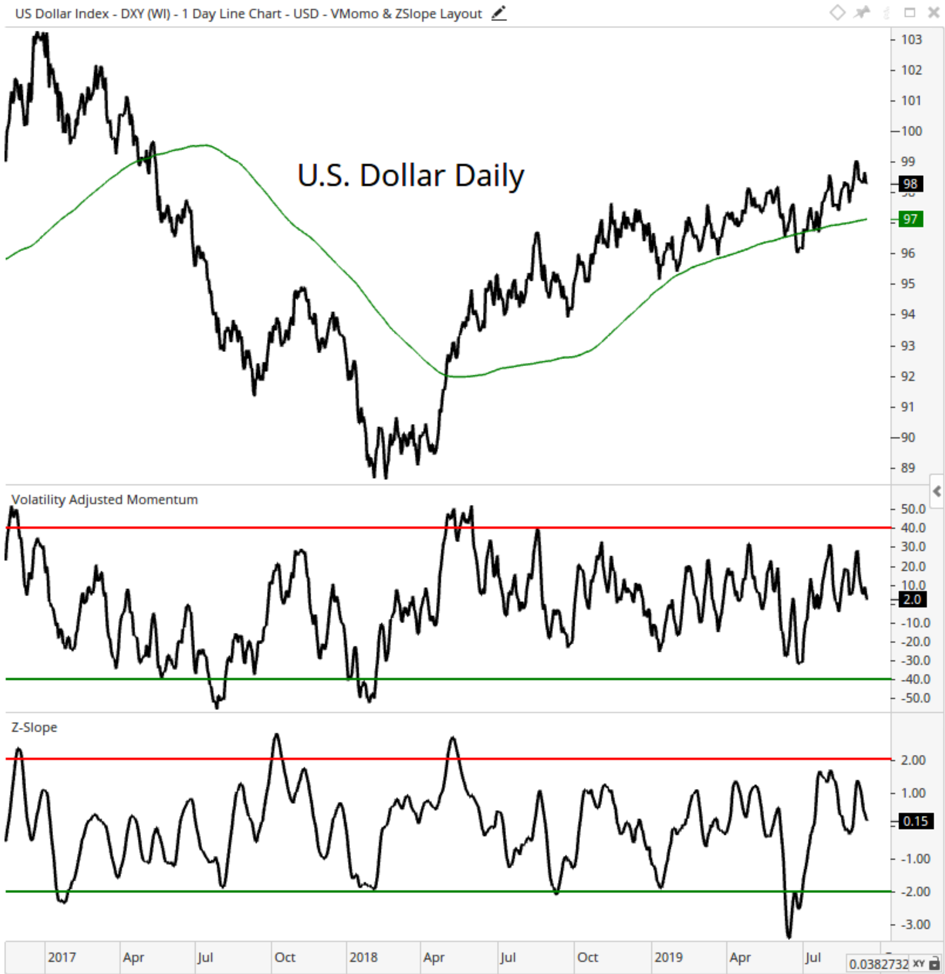
Daily VaM is nearing ‘overbought’ with daily Z-Slope already above its ‘overbought’ level.

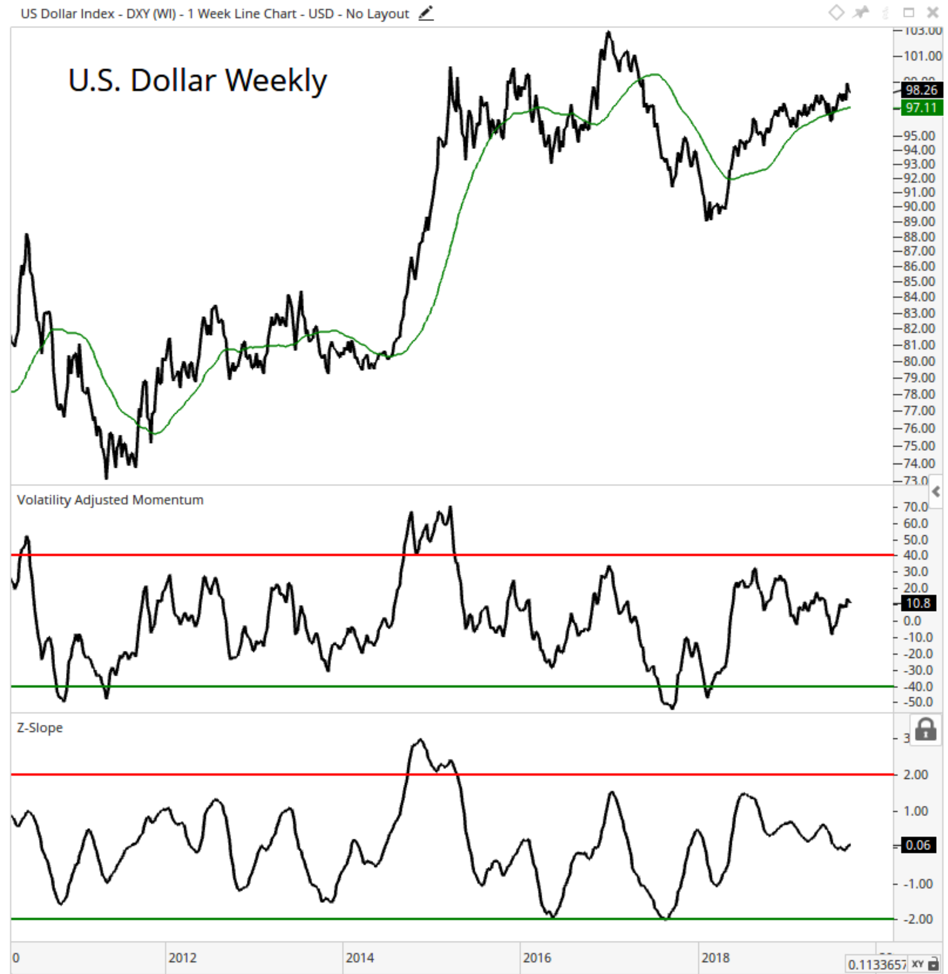
THRASHER ANALYTICS



Neutral readings for both VaM and Z-slope are nearing 'overbought' levels.

U.S. DOLLAR



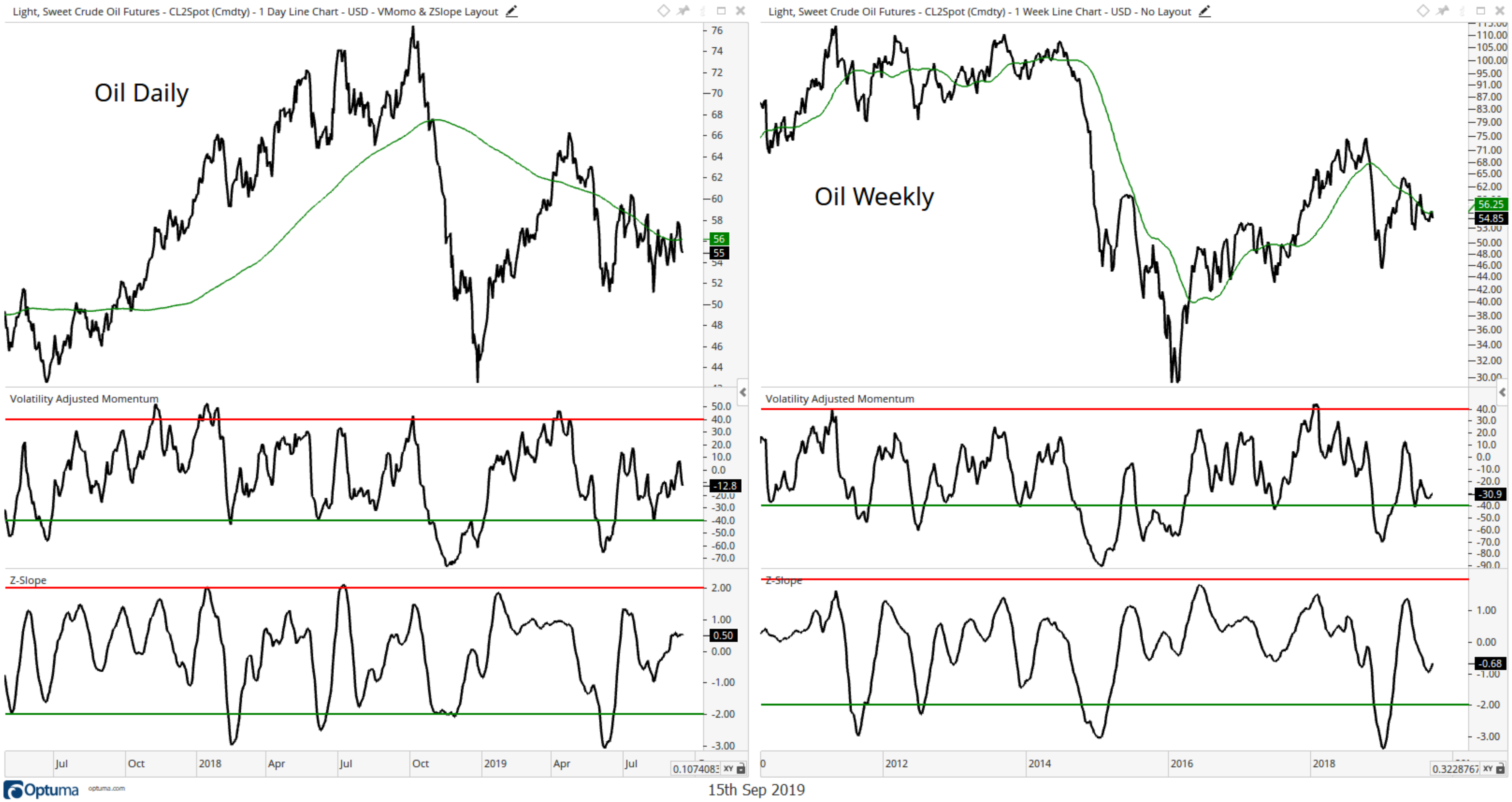


Optuma

15th Sep 2019

Neutral readings for VaM and daily Z-slope moving to 'overbought' level

Daily VaM and Z-slope have moved off their ‘overbought’ level as gold moves lower. Both weekly VaM and Z-Slopes are still ‘overbought.’



Neutral readings for both VaM and Z-slope.

TLT

Both Daily VaM and Z-Slope indicators have declined and are nearing 'oversold' levels.

Optuma optuma.com

15th Sep 2019

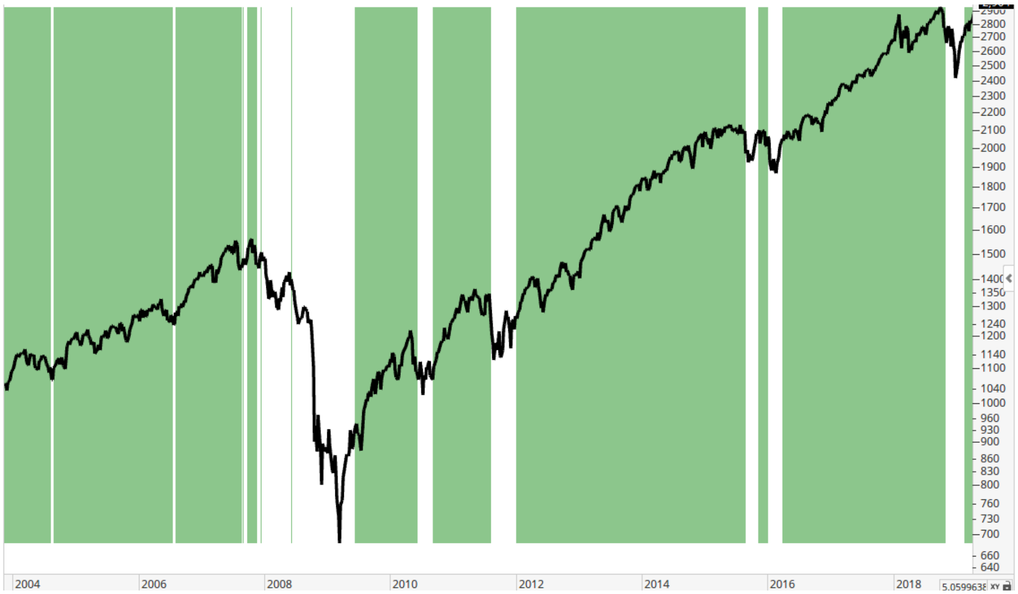
Neutral readings for both VaM and Z-slope.

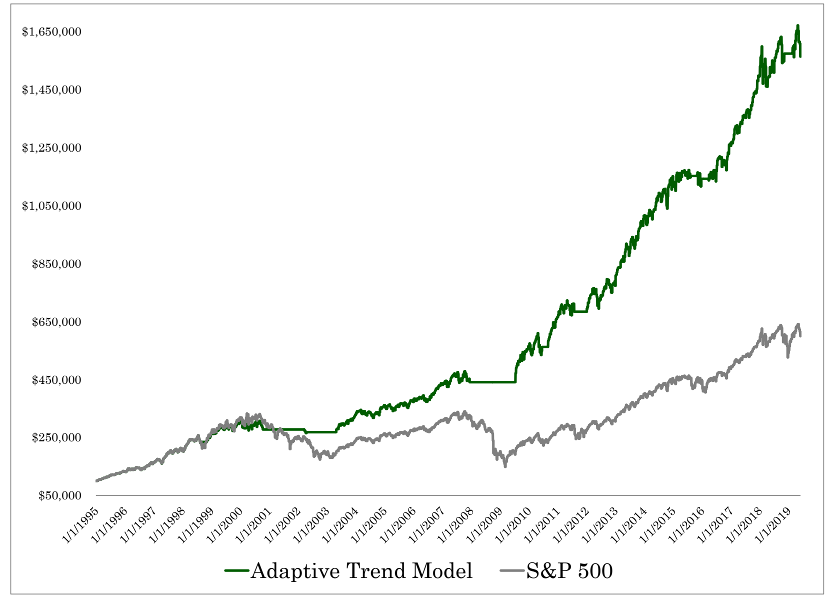
Neutral readings for both VaM and Z-slope.

Trend-based analysis is a process built on the idea of enduring minor pullbacks in the anticipating of avoiding protracted drawdowns in financial markets. With a focus on stepping out of the market during large down trends, the Thrasher Analytics Adaptive Trend Model (TAATM) pursues to minimize the "whipsaws" of signals during highly volatile periods of market activity. To accomplish this, TAATM incorporates multiple look-back time periods and incorporates volatility gauges in its evaluation of the equity market's overall trend.

Thrasher Analytics analysis concludes the market's trend is led by the resulting trend of its individual stocks. This means, if the majority of stocks are trending in one direction, then the broad index will be persuaded to follow that trend as well. By incorporating the individual stock trends, volatility, and multiple time periods, the TAATM provides a data-focused look at the overall trend of the U.S. equity market.

Adaptive Trend Model



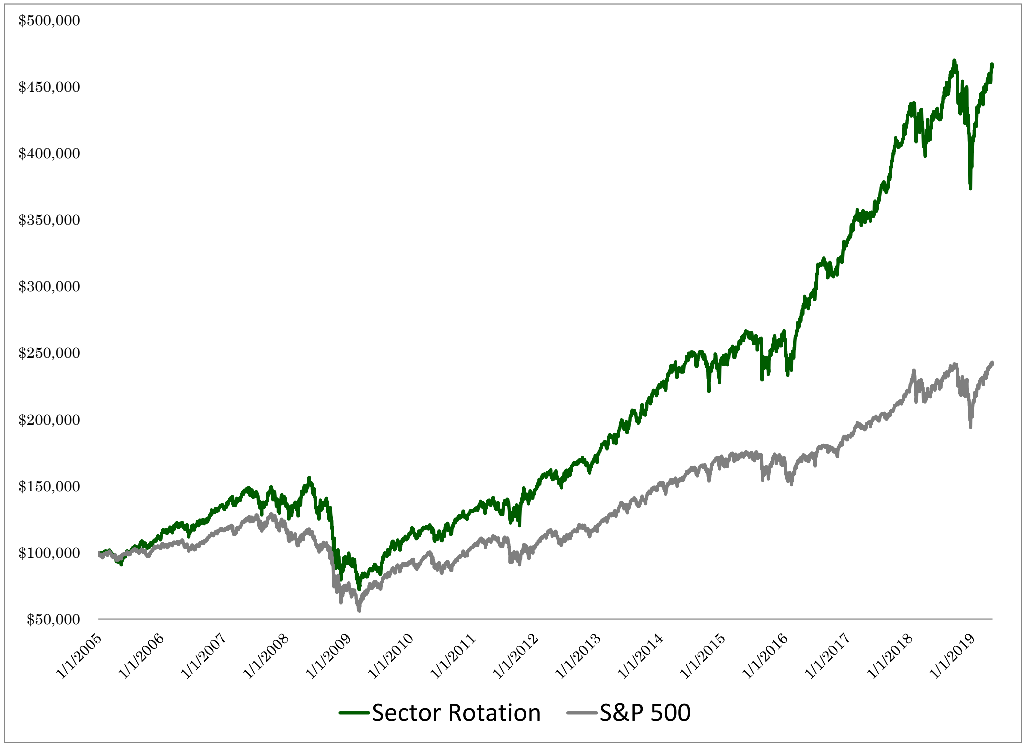


	Annualized Return	Annualized Volatility	Beta	Sharpe	Maximum Drawdown
Adaptive	12.5%	10.3%	0.47	0.97	14.1%
S&P 500	8.9%	15.3%	1	0.42	56.6%

Provided charts, data, and descriptions are a result of a back test using historical market data. No representation is being made that the use of this strategy or any system or data will generate profits. The results do not represent actual results and actual results may significantly differ from the theoretical returns being presented.

Please see complete disclosure for additional information.

Thrasher Analytics holds the belief, resulted from an in-depth examination of the performance of the primary S&P sectors, that they historically cycle through periods of strength and weakness. In order to move towards capturing the alpha from this rotation, a mean-reversion model is deployed with a monthly rebalance of the lowest scoring sectors. Using proprietary methods of systematic technical analysis, Thrasher Analytics sector rotation model focuses on equity sectors that are most heavily showing signs of volatility and trend exhaustion and likely to be exposed to a positive shift in investor sentiment. By pairing this mean reversion approach towards sectors with the Adaptive Trend Model for the broad index, a layer of risk management can be achieved through strategy diversification.



	Annualized Return	Annualized Volatility	Beta	Sharpe	Maximum Drawdown
Sector	12.7%	15.9%	0.96	0.64	53.9%
S&P 500	7.5%	14.8%	1	0.34	56.6%

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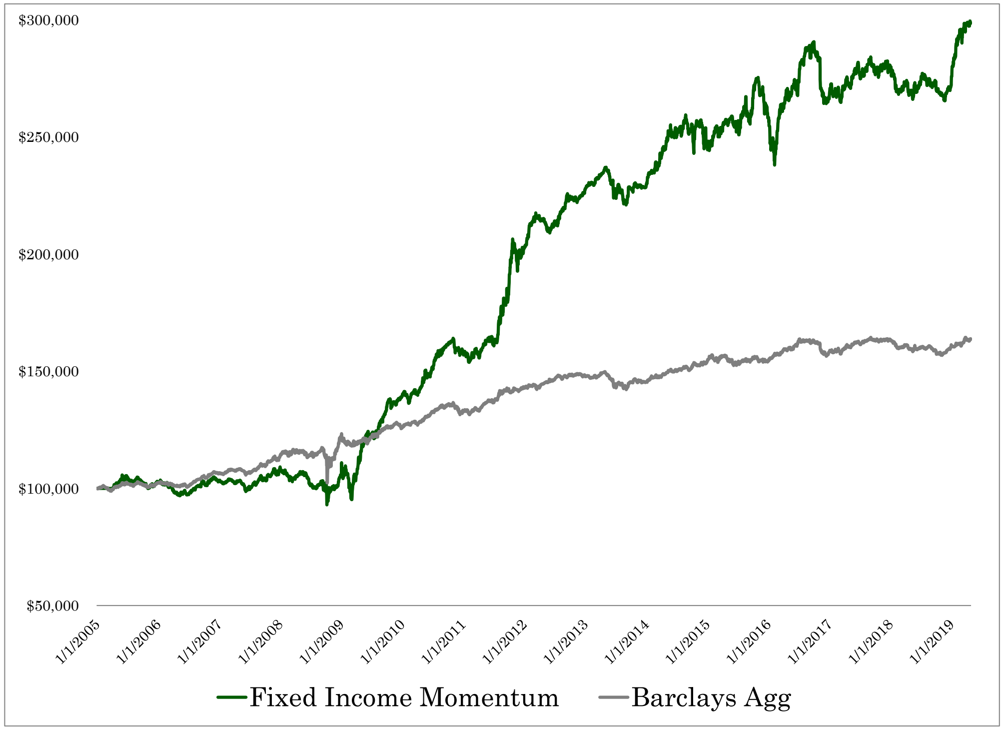
If equities are the speedboats in the sea of financial markets then fixed income securities are the tanker ships. While stocks can move violently in both directions, Thrasher Analytics research has shown that fixed income markets historically show consistent trends. Because of the tanker-like movements displayed by bonds, a quarterly rebalance method is used for the Thrasher Analytics Fixed Income Momentum Model, with a pursuit focusing on the strongest performing corners of the fixed income market. By evaluating the risk adjusted momentum of both long- and short-term momentum, the Fixed Income Momentum Model also incorporates a proprietary indicator that acts as a throttle of the momentum score of each fixed income ETF. This indicator penalizes those ETFs that have moved too high and too fast in short-term trading while still allowing overall positive momentum to be the guiding principle of the model.



	Annualized Return	Annualized Volatility	Beta	Sharpe	Maximum Drawdown
Fixed Income	8.3%	8.2%	1.04	0.7	14.9%
Barclays Agg	3.6%	3.7%	1	0.29	11.0%

Provided charts, data, and descriptions are a result of a back test using historical market data. No representation is being made that the use of this strategy or any system or data will generate profits. The results do not represent actual results and actual results may significantly differ from the theoretical returns being presented.

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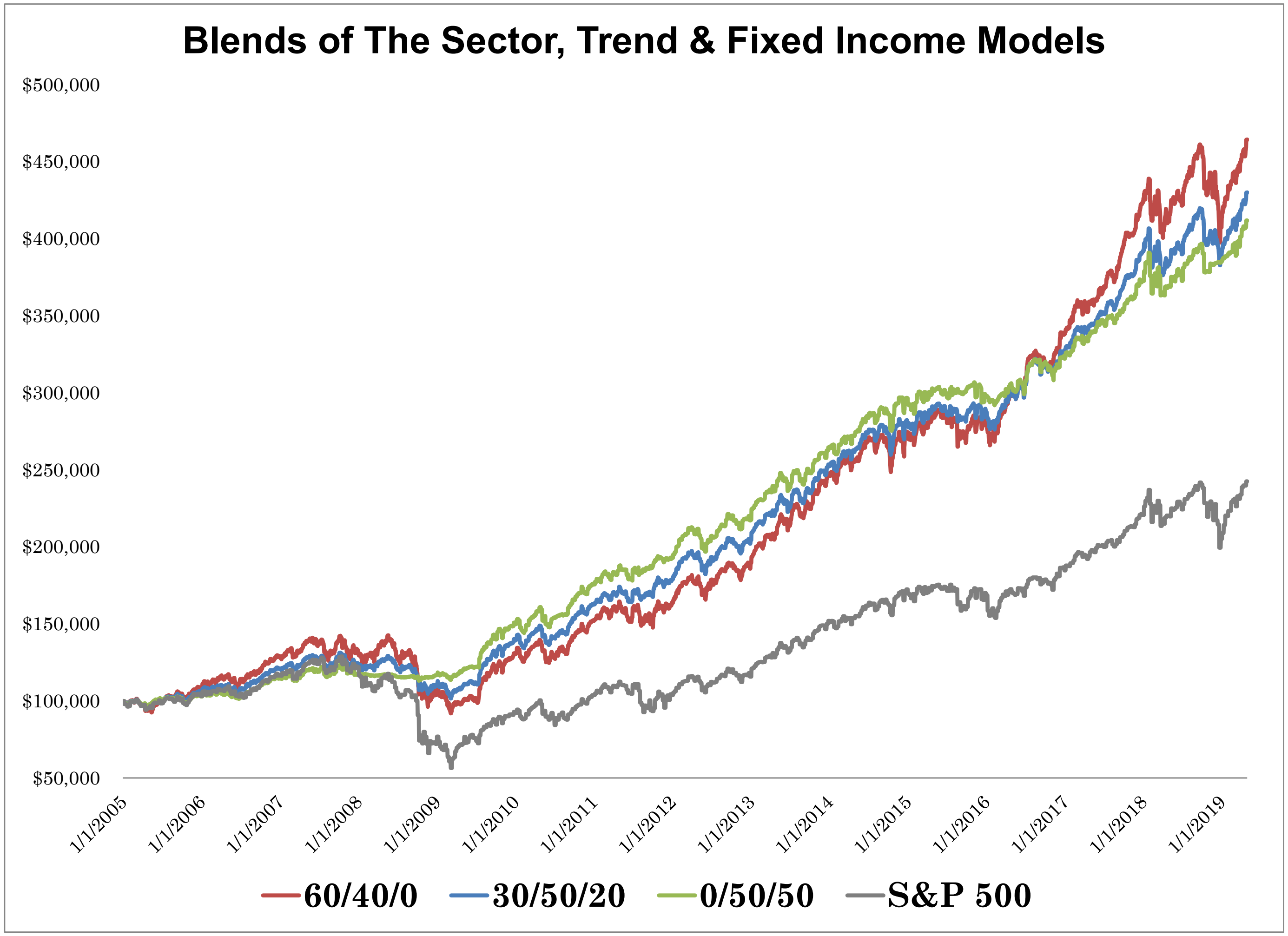
The concept of diversification is not new to financial markets. While many market participants focus on the diversification of the underlying holdings. This procedure is can be vastly skewed during periods of high market turmoil, in which correlations across asset classes tend to historically rise. Thrasher Analytics believes in diversifying in strategy styles. By using multiple investment philosophies, specifically trend following, mean-reversion, and momentum, a blended model is created that has the ability to adapt to changing market environments and volatility. For example, when equity markets show a strong trend preference, the adaptive S&P 500 trend following component benefits but if there's a shift favoring a range-bound market the sector rotation strategy based on mean-reversion should provide favorable performance.



The above chart shows examples of blending the sector, trend, and fixed income models . Ranging from an all equity approach of 60% in sector rotation, 40% trend and 0% in fixed income; 30% in sector rotation, 50% in trend, and 20% in fixed income; 0% in sector rotation, 50% in trend, and 50% in fixed income.

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Trend (weekly)	Sector Rotation (monthly)	Fixed Income Momentum (quarterly)
Positive	XLRE XLK XLP	JNK AGG

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