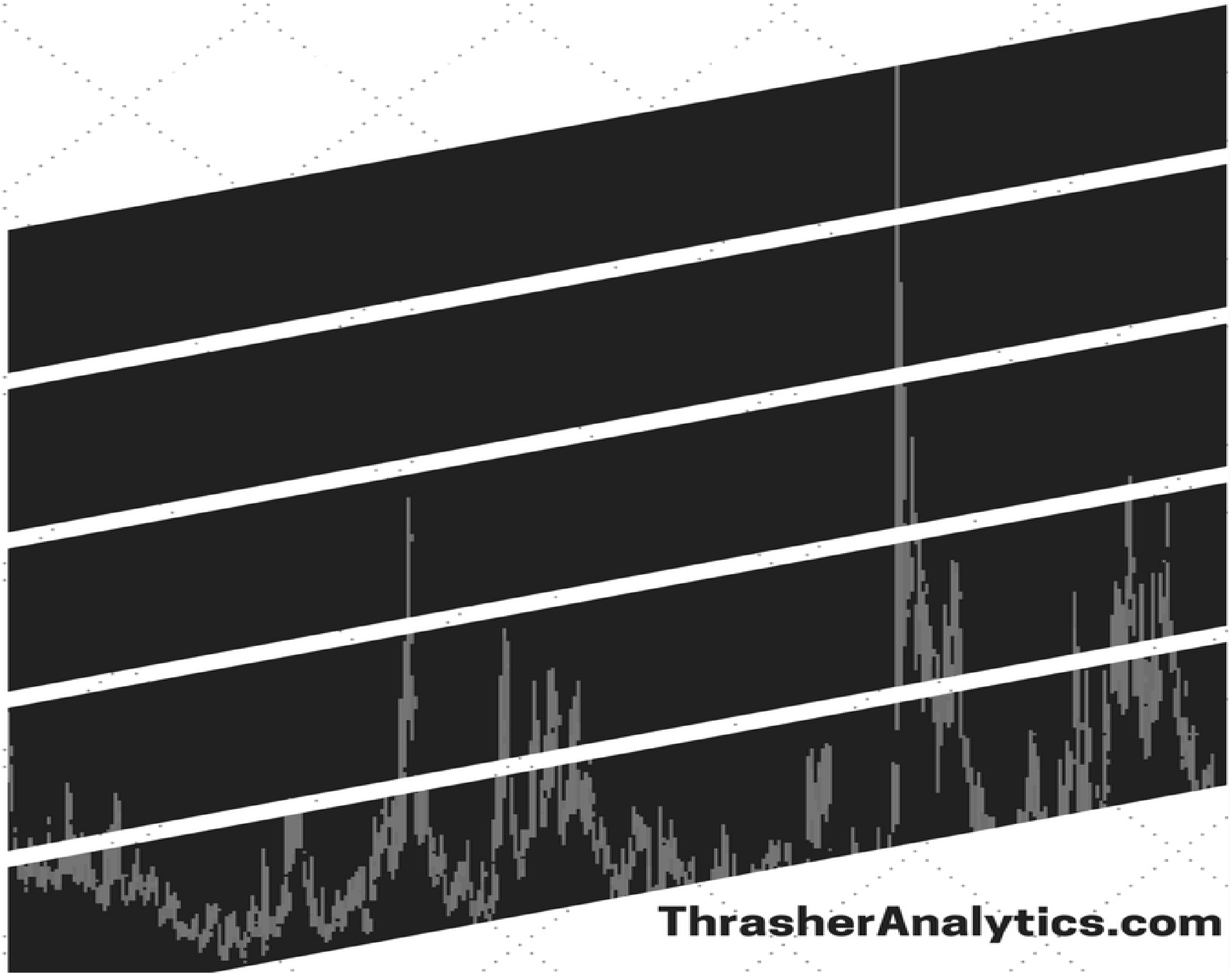
THRASHER ANALYTICS

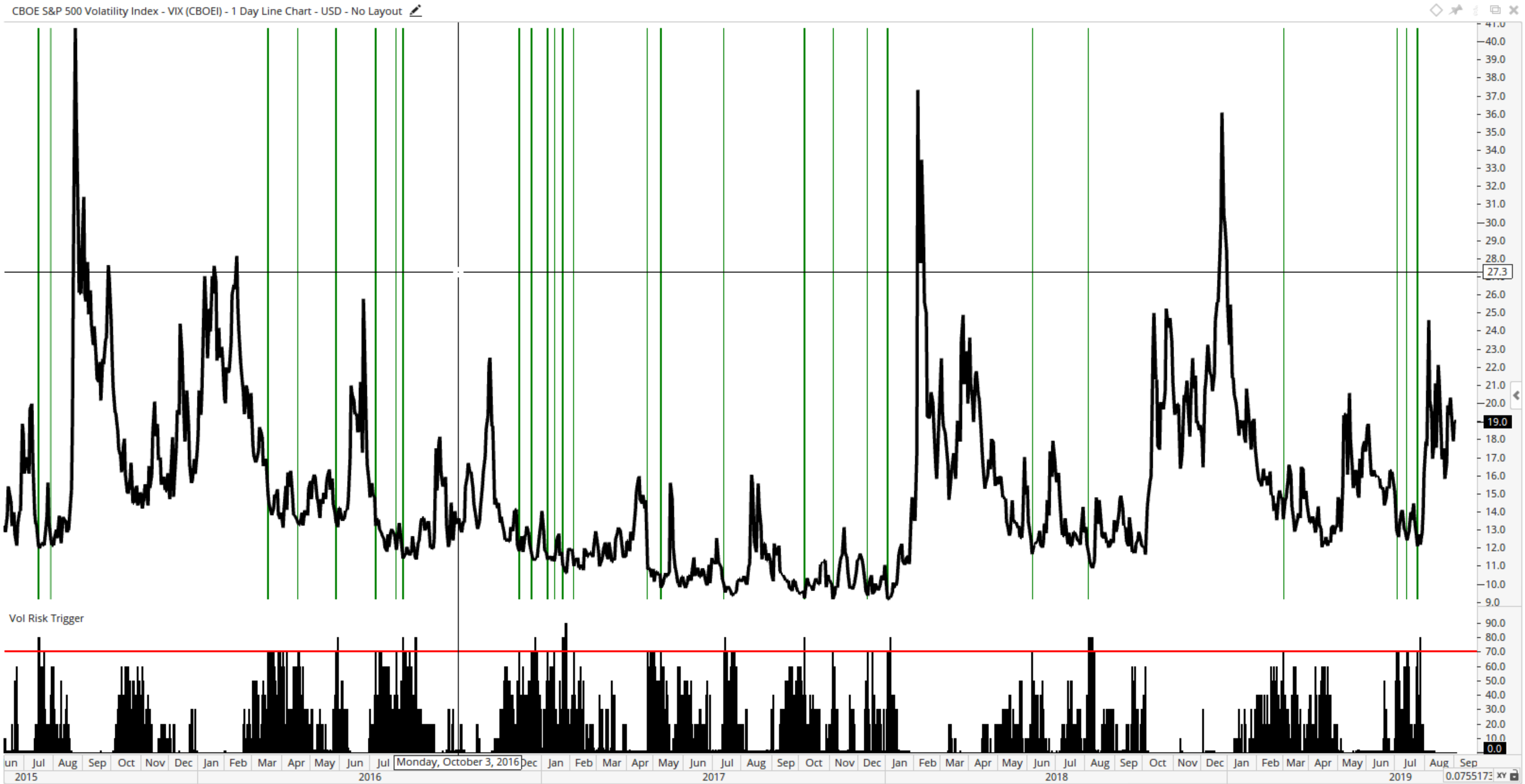
BI-WEEKLY RESEARCH & ANALYSIS



ThrasherAnalytics.com

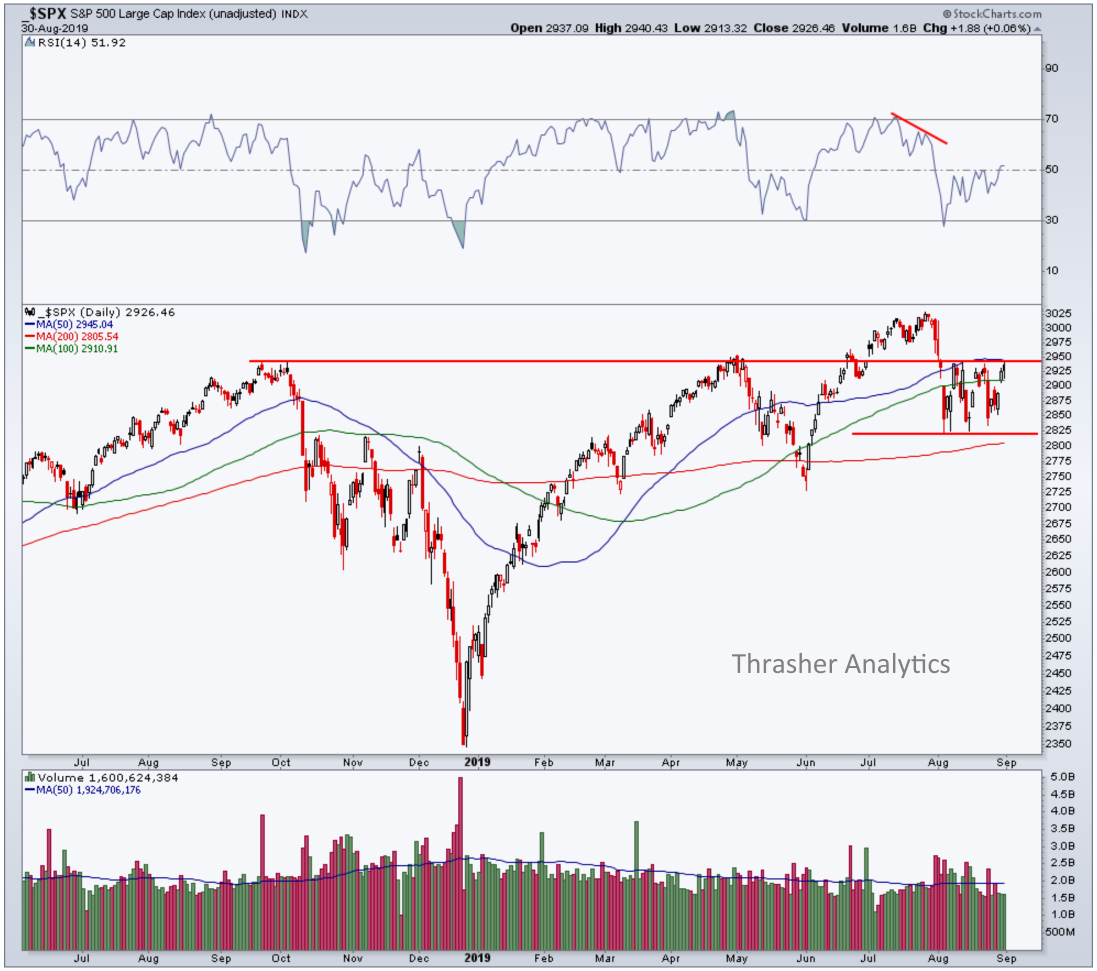
Name	1W%	1Mo %	3Mo %	12Mo %	YTD%
SPDR Utilities Select Sector Fund ETF	0.63%	4.04%	7.43%	17.04%	18.25%
SPDR Real Estate Select Sector Fund ETF	0.69%	3.76%	7.51%	15.83%	26.48%
SPDR Consumer Staples Select Sector Fund	0.60%	2.52%	9.19%	12.90%	19.57%
SPDR Consumer Discretionary Select Sector	1.65%	1.25%	7.79%	2.25%	20.78%
SPDR Technology Select Sector Fund ETF	1.65%	0.61%	10.63%	5.20%	28.32%
SPDR Industrial Select Sector Fund ETF	2.85%	-0.08%	5.15%	-1.74%	17.62%
SPDR Health Care Select Sector Fund ETF	1.01%	-0.49%	3.80%	-2.35%	4.73%
SPDR Communication Services Select Sector	1.87%	-1.04%	5.18%	0.71%	19.99%
SPDR Materials Select Sector Fund ETF	2.83%	-1.12%	7.47%	-4.35%	12.21%
SPDR Financial Select Sector Fund ETF	2.16%	-2.46%	3.50%	-4.98%	13.01%
SPDR Energy Select Sector Fund ETF	2.28%	-4.83%	-2.19%	-22.78%	0.23%

The best performing sectors over the last month were utilities, real estate, and consumer staples, two of which were the Thrasher Analytics Sector Rotation sectors (XLRE and XLP). The performance for the major S&P sectors was mixed for the month with an even split of positive and negative returns. Tech remains the best performing sector for the year followed by Real Estate.



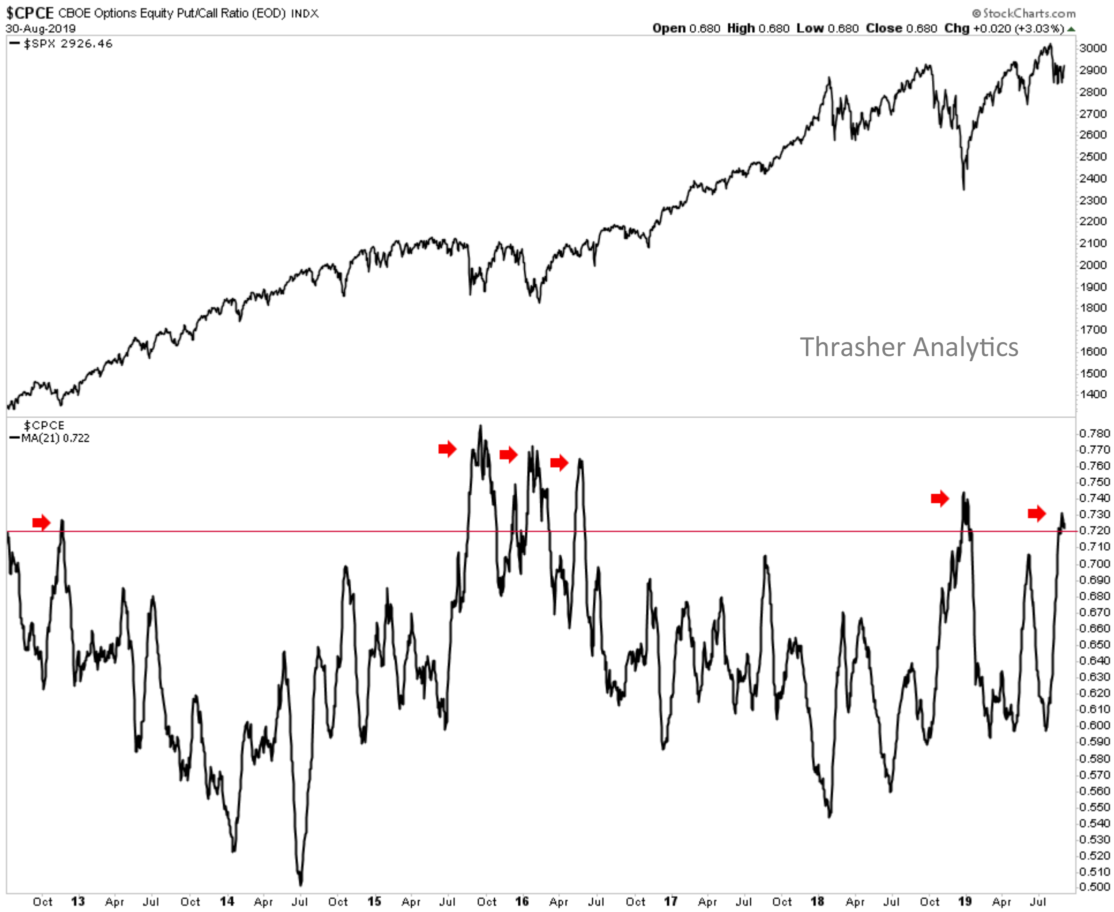
2nd Sep 2019

The Volatility Index remains elevated with the market still uneasy about which direction the current large cap consolidation will resolve itself. With several major economic reports out this week there's been a steady bidding of puts (more on this later) relative to calls with some of the crossover landing in index options which is helping hold volatility higher. The one concern I have that relates to volatility is that if we continue to see sideways price action then this coiling will lead to a compression in dispersion which could set us up for another spike higher in volatility. I'm not seeing the evidence of that as of right now but it's something that could develop if we remain trendless in equities and in volatility.



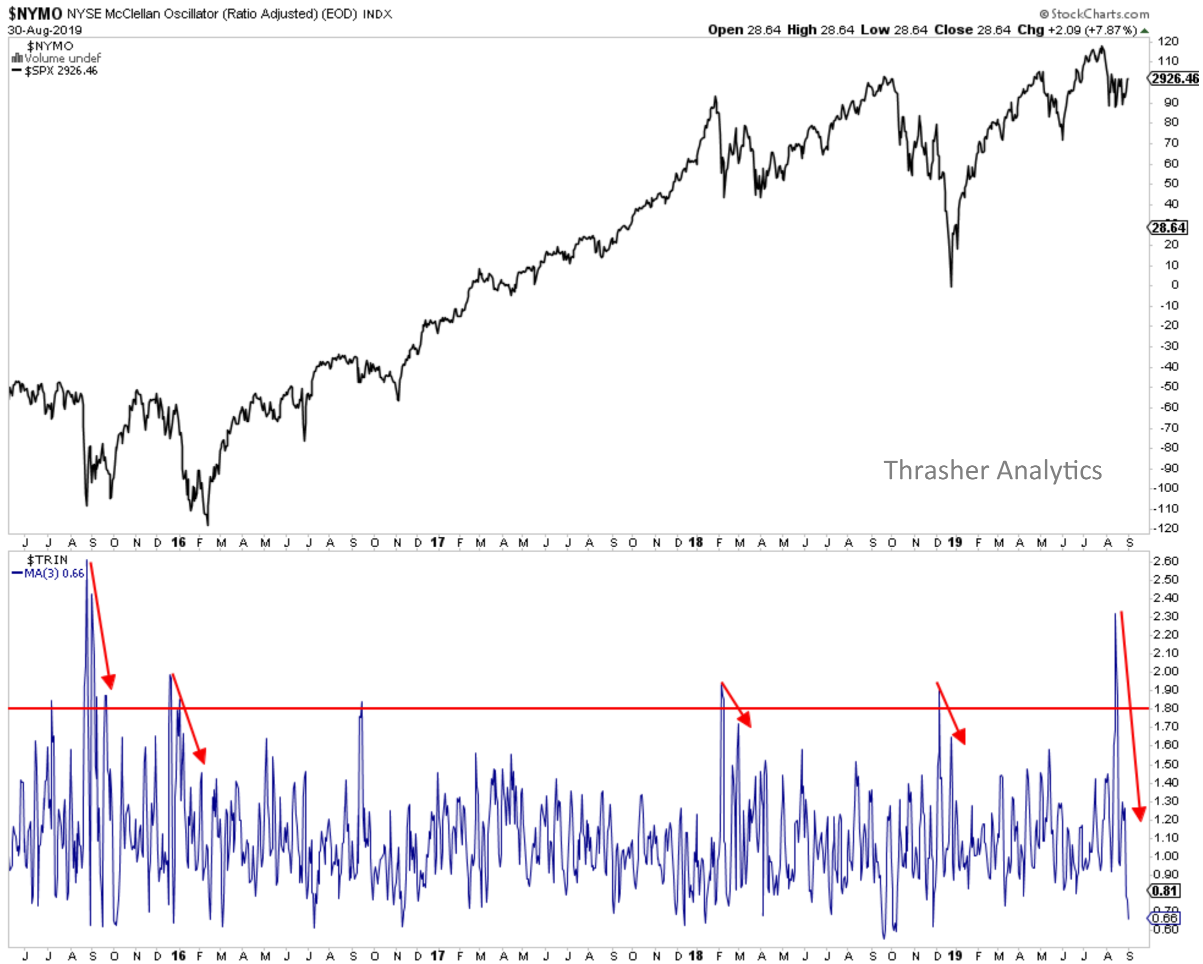
Not a lot to update on this chart with the S&P 500 still in its multi-week range. Patience continues to be a virtue here, allowing price action to whipsaw between support and resistance. Friday’s trading saw a positive move in stocks - finishing the week at the upper-end of the range - but until we see a clear break (in either direction) I continue to sit on my hands with regards to a bias. With the constant Tariff news hitting the wires and Trumps Twitter account, along with several key economic reports coming out this week, there’s potential for one to be a strong enough catalyst to get the equity market out of this range - but again - until then, I wait.

Put/call Ratio Rises near Prior Highs



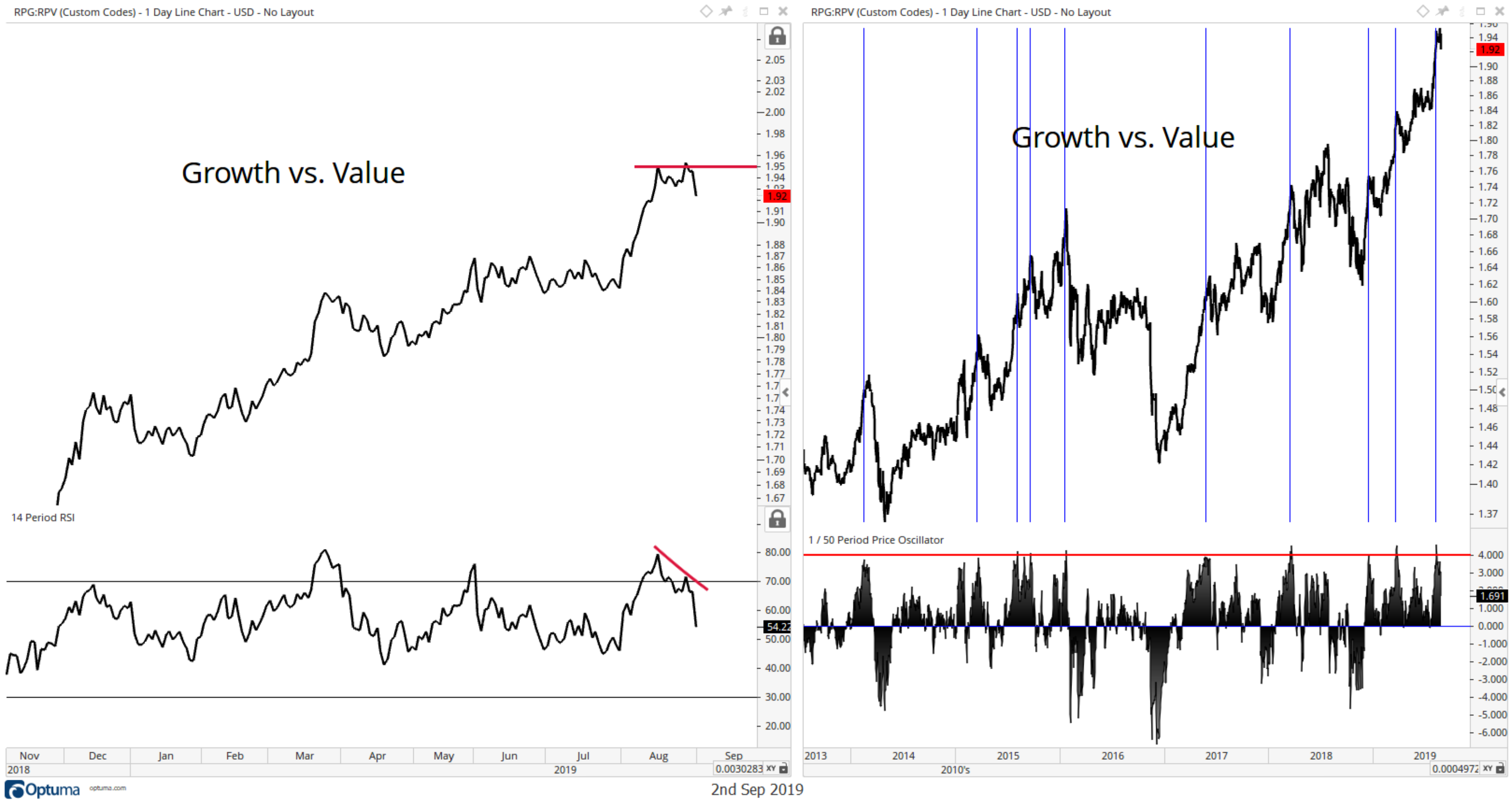
Above is the S&P 500 in the top panel with the 1-month average of the Equity Put/Call Ratio in the bottom panel. While equities have remained in a range, there's been a steady increase in put buying (relative to calls), sending the 1-month average above 0.72, which means there's 0.72 puts being purchased for each call. Going back several years, when the 1-month avg got above this level and turned lower (like it has recently) a low in equities wasn't too far behind. This is a bullish setup for equities and one we play out last December and several times during the '15/'16 bottoming process and again in early 2013.

Bullish Divergence in Breadth

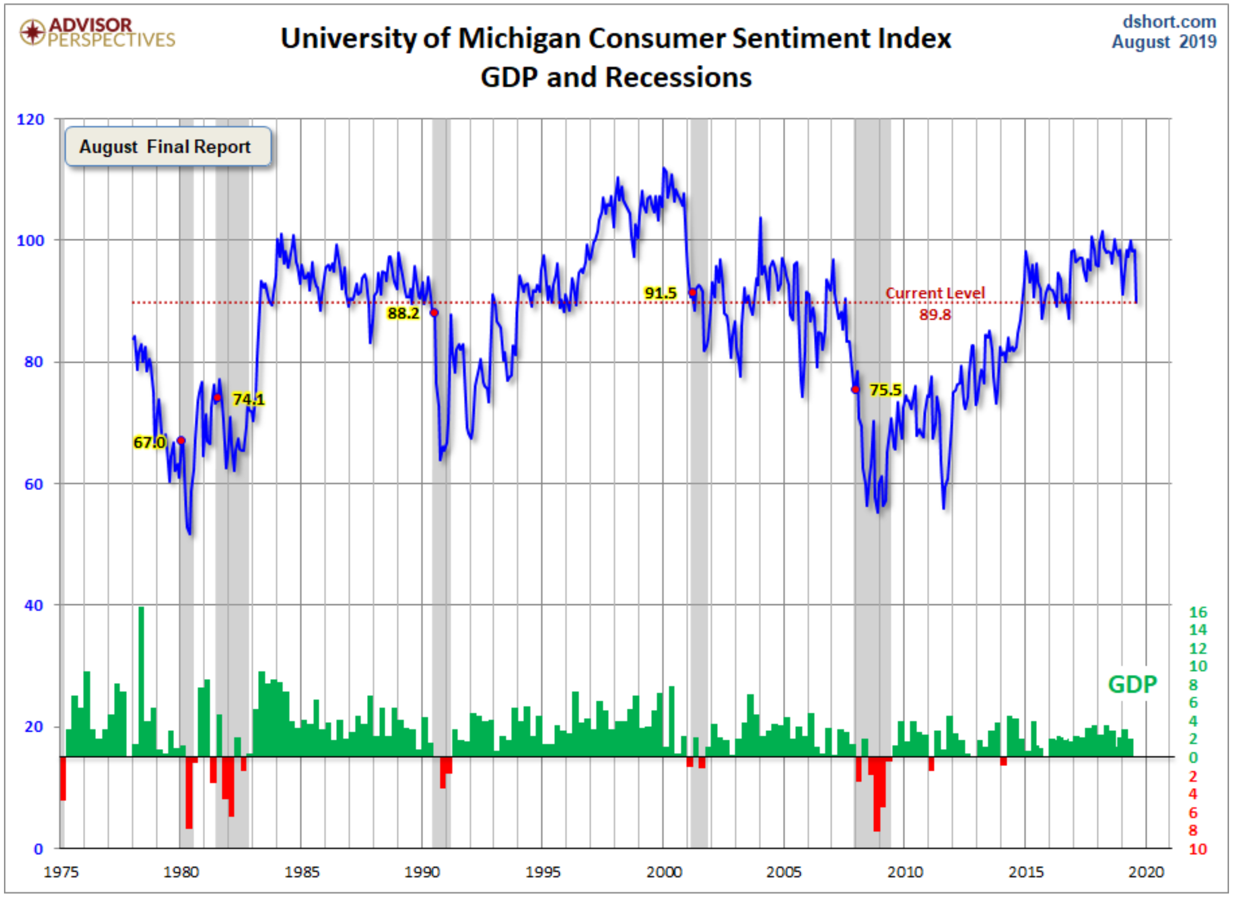


The TRIN indicator is a unique breadth tool that evaluates the relationship between advancing and declining stocks and advancing and declining volume. When the TRIN equals 1, it's believed the market is at equilibrium with the same degree of rising stocks to rising volume. We typically see spikes in TRIN data during market sell-offs, as the chart above would suggest. When TRIN retreats from a high level, like it's doing now, its telling us the market breadth has begun to improve with more stocks rising on positive volume. This can be attributed to one of two things: 1. the consolidation in price has a slight positive bias, with less stock declining as breadth improves and/or 2. volume has dried up that there's little selling taking place, which would pull down the TRIN data and give a false sense of confidence.

The cumulative Adv-Dec Line has also been steadily rising, a bullish development believed by many, but I think it can also be potentially explained due to the lack of trading activity with the index in this range, there's just not been a catalyst to warrant major activity on either side of the ledger so gravity is taking over (to so speak) with the market internal data. With that, I'm encouraged to see this development but still skeptical in its underlying meaning.

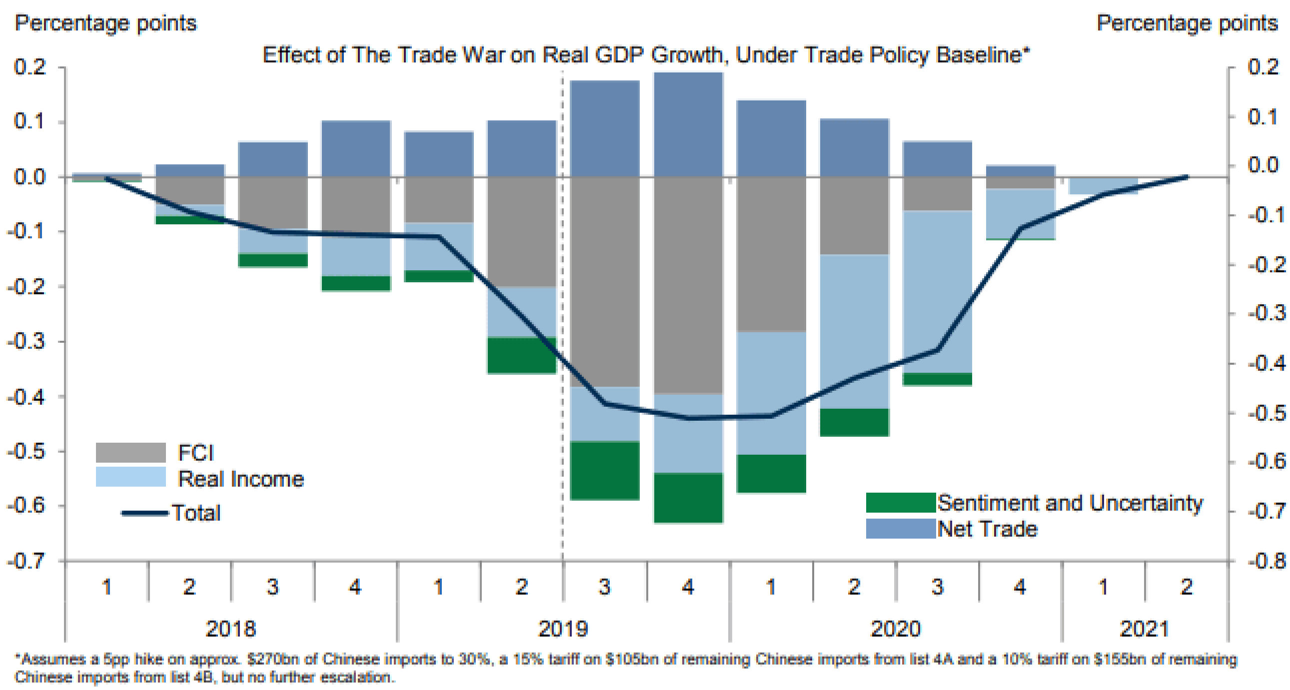


The ratio between Growth (RPG) vs. Value (RPV) has been on a steady rise higher for the last several years. The ratio between these two has caught my attention with the potential double top and bearish divergence in momentum on the daily chart, shown in the left panel. The right panel shows the daily ratio as well but with an indicator that measures the distance the ratio sits above or below its 50-day Moving Average. When the ratio has gotten close to being 4+% above the 50-MA a counter-trend pullback has often followed (as shown by the blue vertical lines). 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.



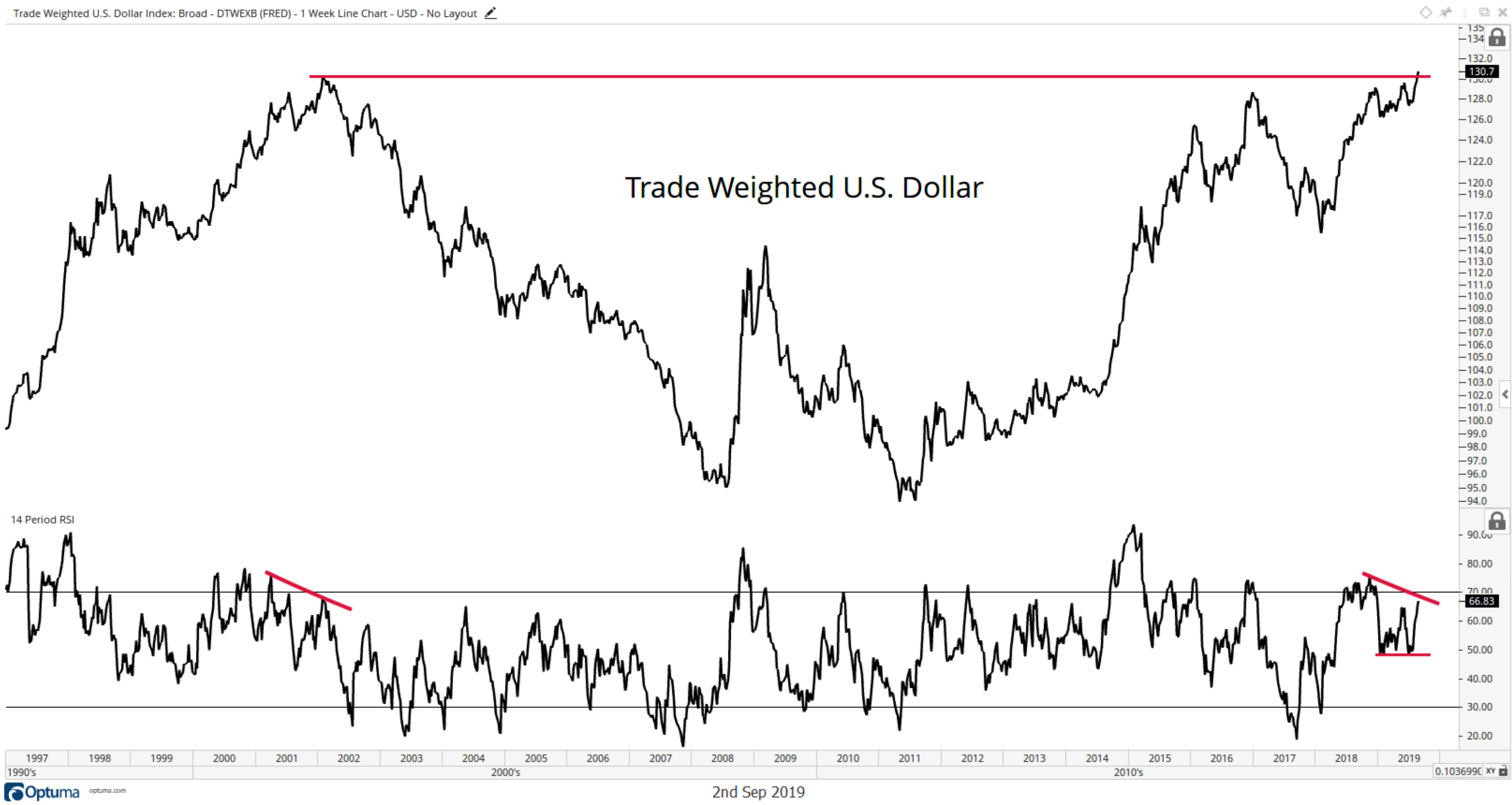
Sentiment (via the UofM survey) saw its largest monthly decline in in July since December 2012. The sentiment level is still above the historical average, but it's noteworthy that one in three respondents cited concerns over the trade tariff. Whether consumers are truly being impacted (most would argue they are) or not is secondary. If the consumer *feels* like the tariffs are impacting them then that can have rippling effects in their spending behavior. We'll get jobs numbers on Friday and ISM data later this week. What the market doesn't want to see is a miss on NFP and ISM data to mirror the Market manufacturing data that suggests slowing (coming in at 49.5 for August). Trump will surely take to Twitter to blast Powell, applying additional pressure to the Fed, who will have a rates announcement later this month. Powell will be giving a speech in Switzerland on Friday afternoon as well, which will be the last word we hear from the Fed before their 'quiet period' ahead of the FOMC.

Exhibit 3: A Slightly More Negative Effect on Growth



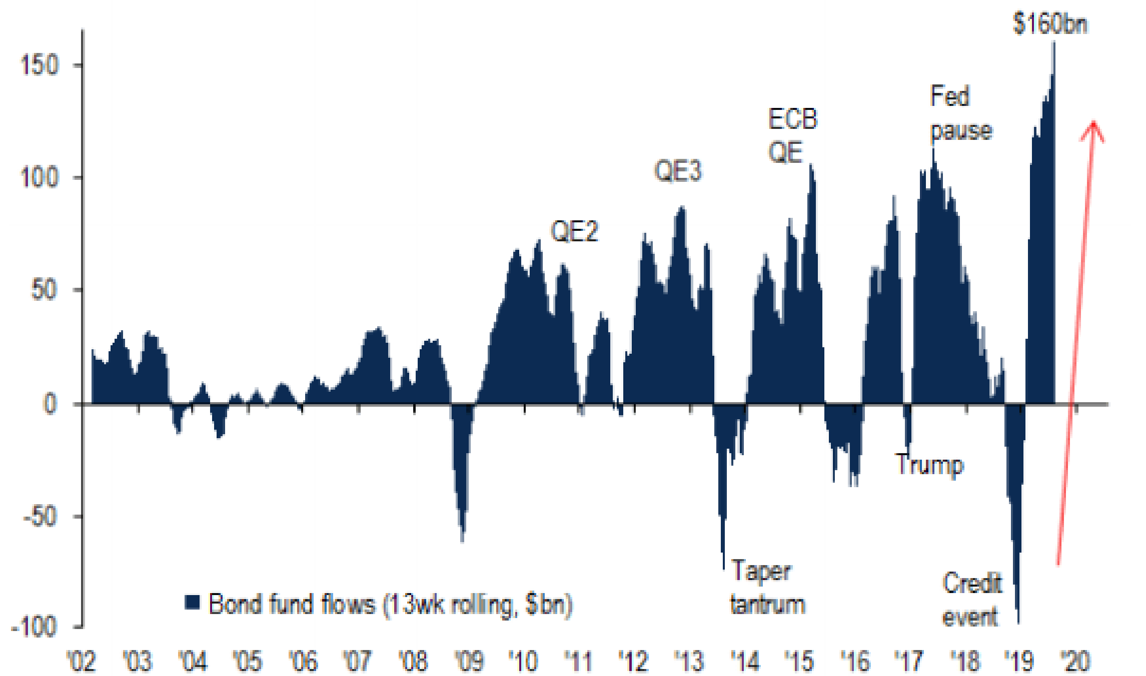
Source: Goldman Sachs Global Investment Research

Goldman raised their tariff war impact to GDP from 10 basis points to 70 basis points last week. The bank also set their estimate for the impact on inflation at 5 to 10 basis points by mid-next year, something Powell will likely be pleased with as he seems to be yearning for inflation.



The trade weighted U.S. dollar has broken out to a new high, surpassing the prior 2002 peak. Similar to the '02 top, momentum currently is showing a lower-high on the weekly chart, but momentum is firming in a bullish range with the prior lows having held above 50. Credit Suisse recently noted the increase in demand for dollars due to capital outflows from Asia (read: China) as the Yuan continues to depreciate while the trade war escalates. Dollar strength can also be attributed to the weakness in Europe, with the Euro falling against the USD to under 1.1, the lwest level since 2017.

Chart 4: Big global bond fund inflows often precede big policy changes



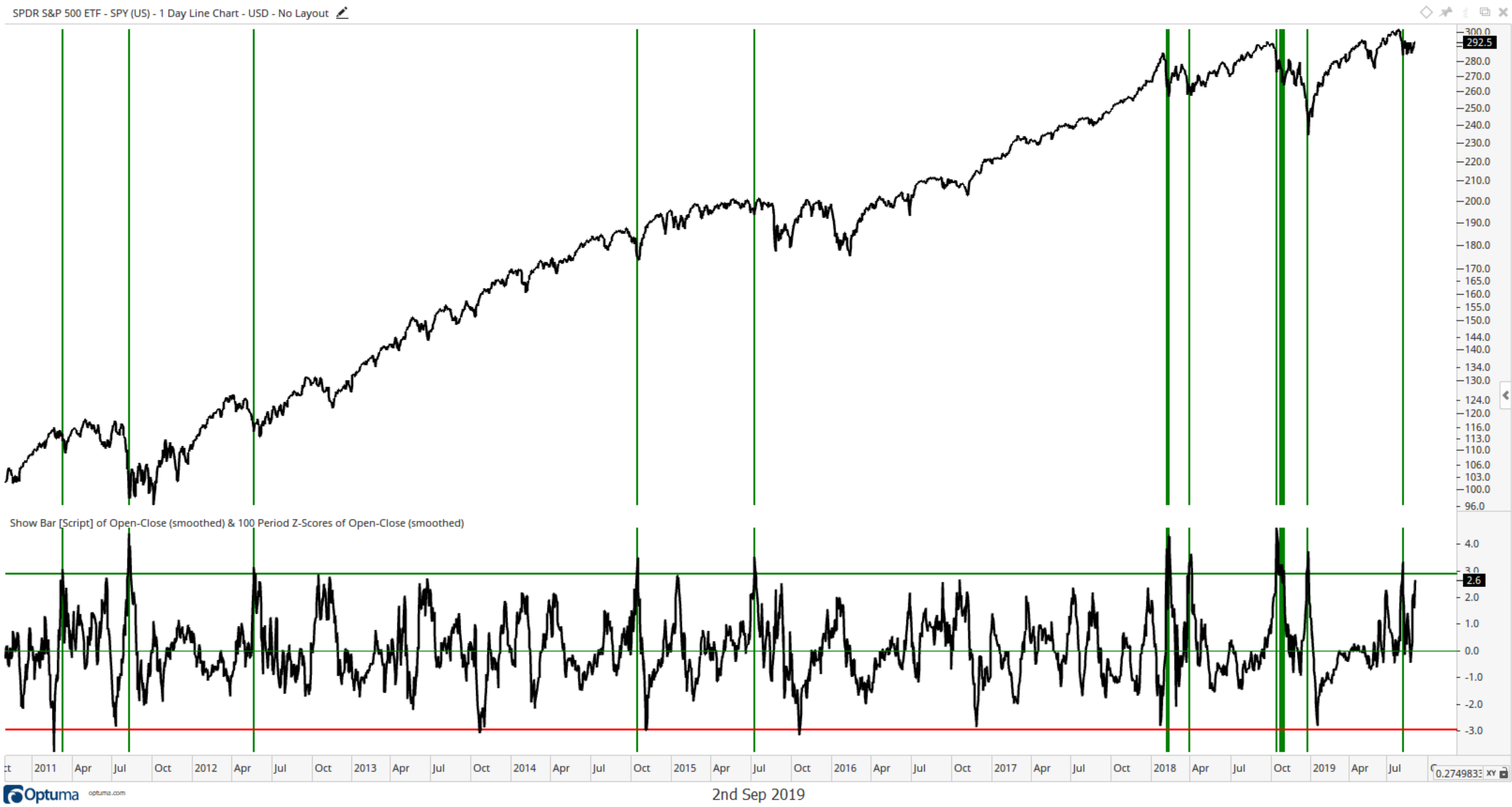
Source: BofA Merrill Lynch Global Investment Strategy, EPFR Global

There's little question in my mind regarding if bonds have entered the 'bubble's stage of their accent. With increase in negative rates in foreign bonds - including sovereign and corporate - and the massive inflows into U.S. Treasury's lay ample evidence that a bubble has formed. What important to recognize though is just because they're in a bubble doesn't mean the bubble must pop right away. There will be pain felt from here but the timing is still unknown. Treasury's are the prettiest pig in the pen and the fund flows data (chart above) shows their attractiveness. This isn't a trend that can sustainably continue. The Fed's expected to cut 25 to 50 bps later this month, shaving a few layers of U.S. attractiveness off our fixed income market, however still retaining its pretty pig status.

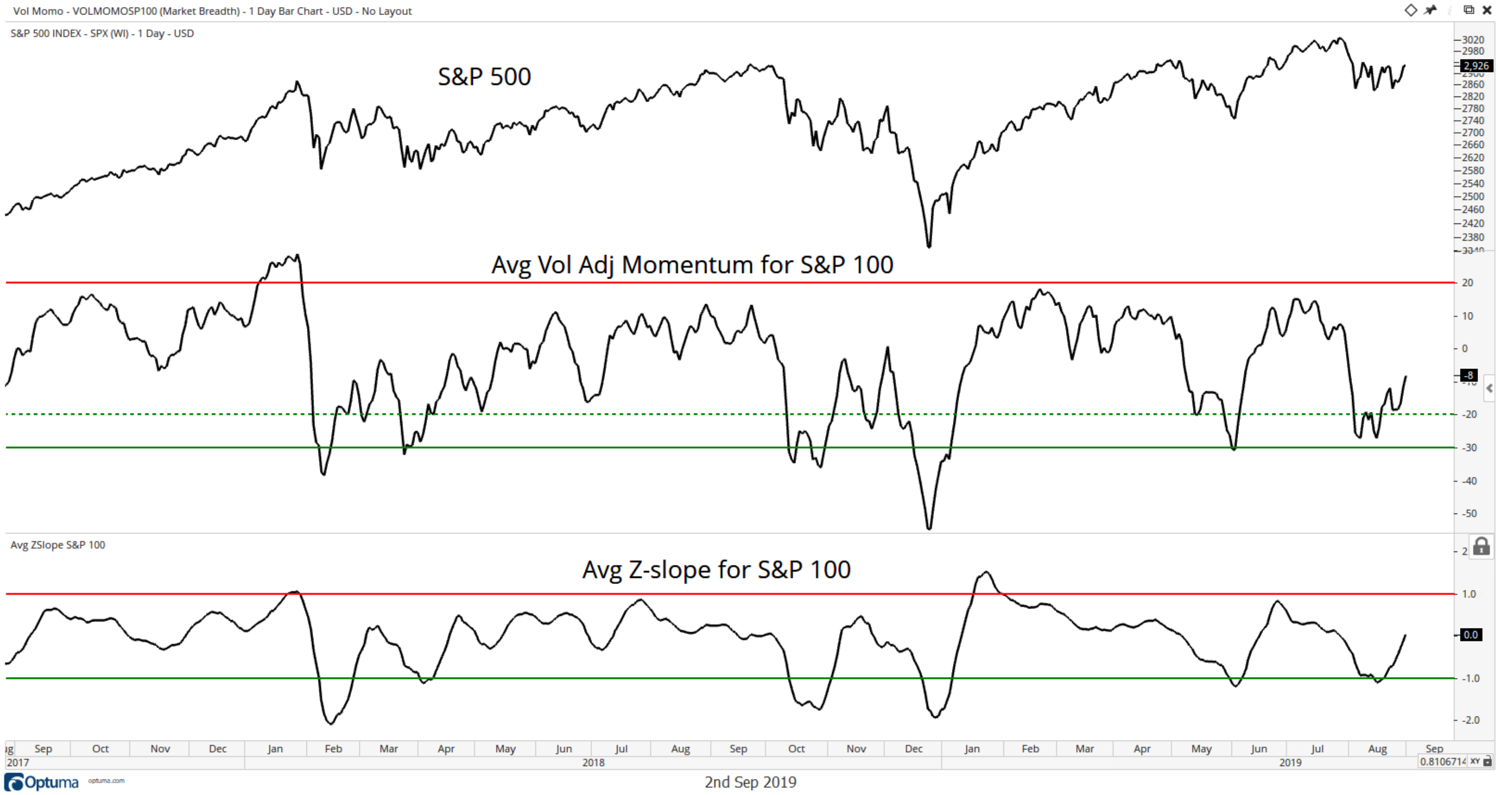
It probably comes to no surprise to you that with yields dropping across the globe, European banks aren't doing too hot. In fact, the European Bank Index has fallen to the major lows last seen in 2016 and 2011. Will this be a multi-year triple bottom? We'll see. But the one difference that the prior two lows saw that we aren't seeing right now is a bullish divergence in momentum. Both prior breaches of $117 saw higher lows in weekly momentum. Today we're seeing the RSI come off 'oversold' levels but not producing the desired trend pattern that would suggest a drying up of downside momentum. There will surely be dip buyers that step in at these prior lows but if price does bounce higher, I'll be watching the January '18 low of $128 as possible resistance and see if any bounce turns into just a counter-trend rally that very well could set up for a final low in banks if it brings with it a higher low in the weekly RSI. Strength in European Banks would be a welcomed development for foreign equities and so I'll be keeping a close eye on this chart over the coming weeks.

The volume profile for the S&P 500 continues to show a downward bias. Volume last week as a whole was fairly light as we headed into the Labor Day weekend. But it's interesting to observe that while equities consolidate, more shares are being traded on down ticks, a sign of distribution which is not being reflective in the breadth data as I discussed earlier.

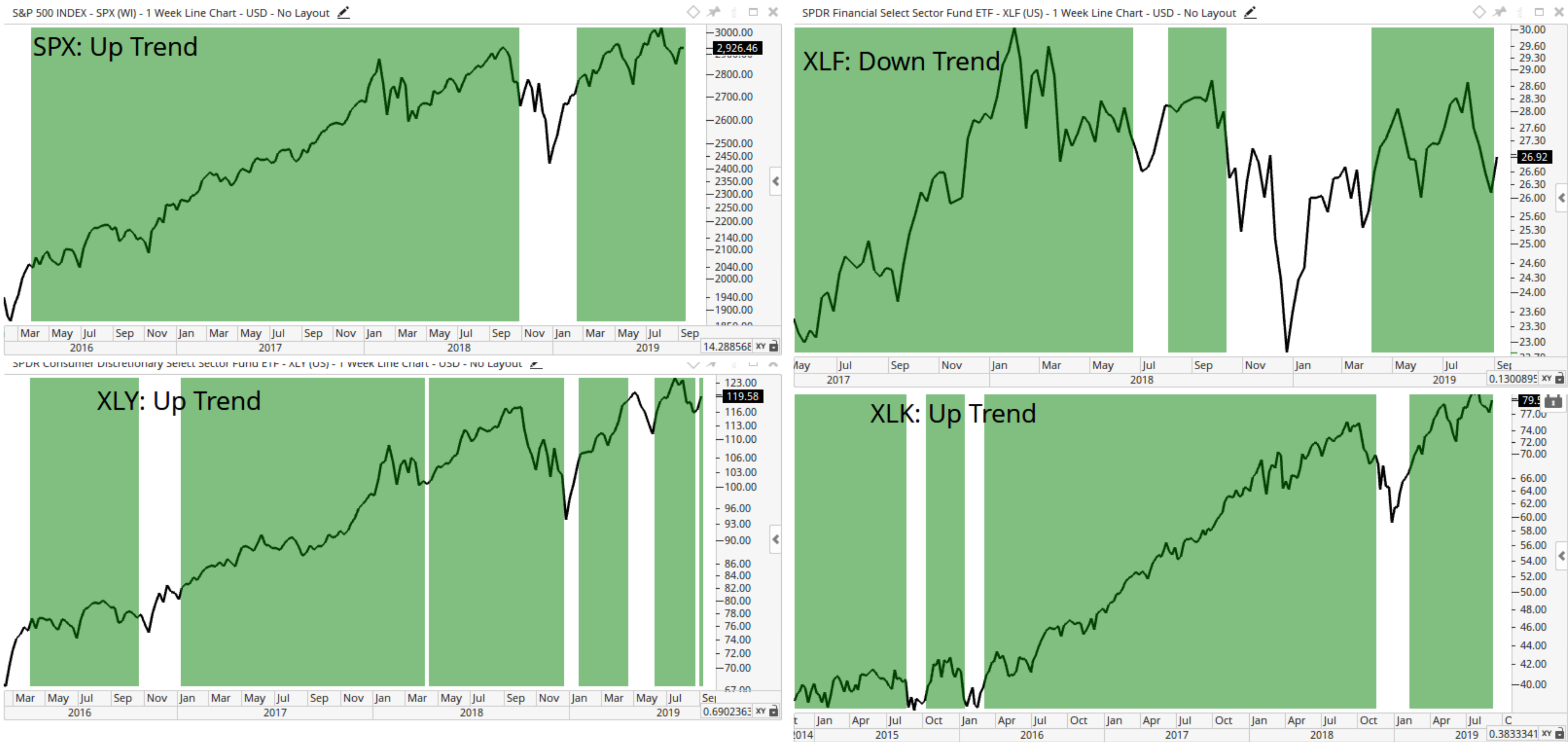
Market Hours Trading Activity



A lot of the trading activity has been occurring outside overnight. However, it's believed that the bulk of institutional trading still occurs during market hours. By evaluating the price action from when the market opens to when it closes, and whether it's positive or negative, we can get a better sense of the potential bullish or bearish bias of institutional trading activity (obviously in a very simplistic manner). By comparing the latest data to its 100-day history through a z-score I've found that readings of 3 sigma to be significant. We've seen this level of tail-like contrarian bullishness during several major market lows in the past few years. We last saw this during the initial low in early August and we're approaching it again as of Friday (currently at 2.6 sigma). This is a bullish sign for equities.



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.



Optuma

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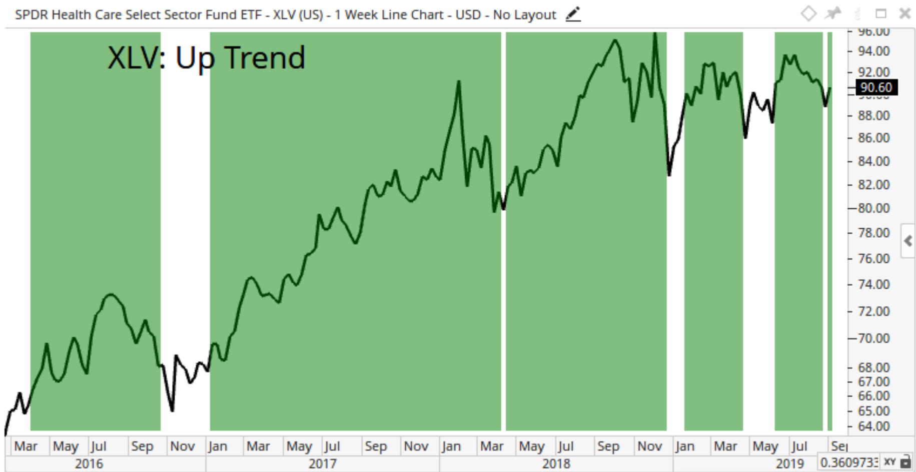
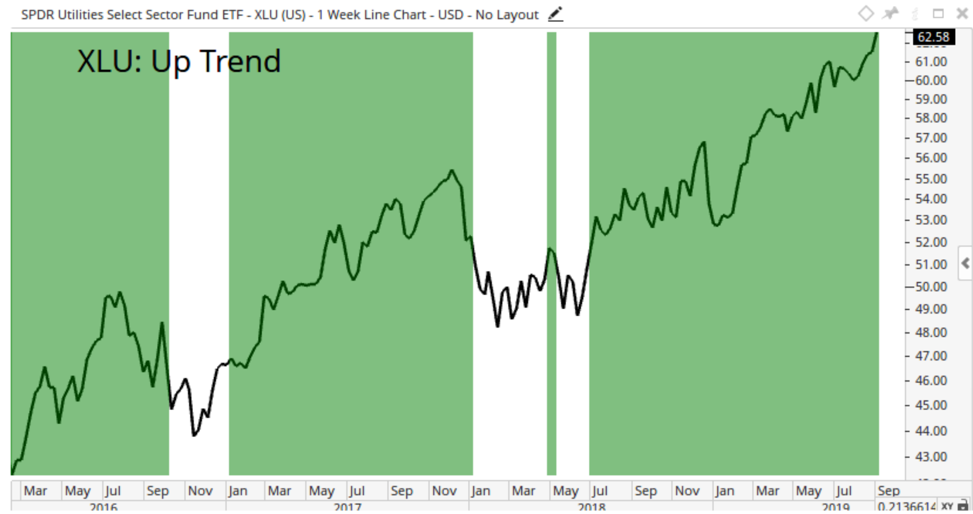
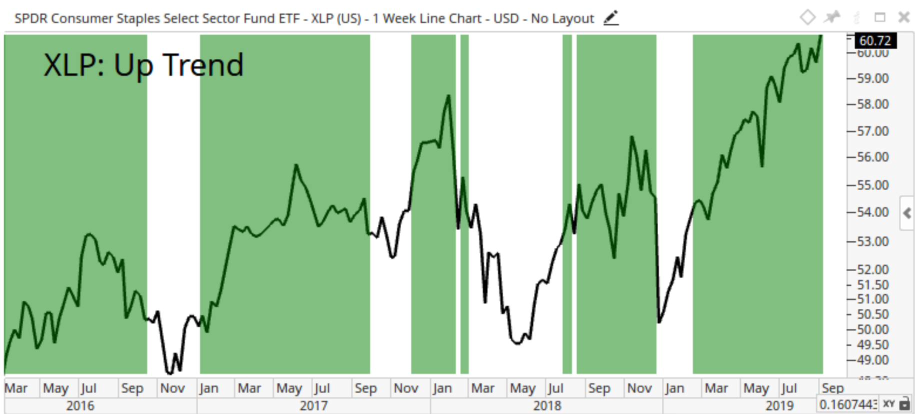
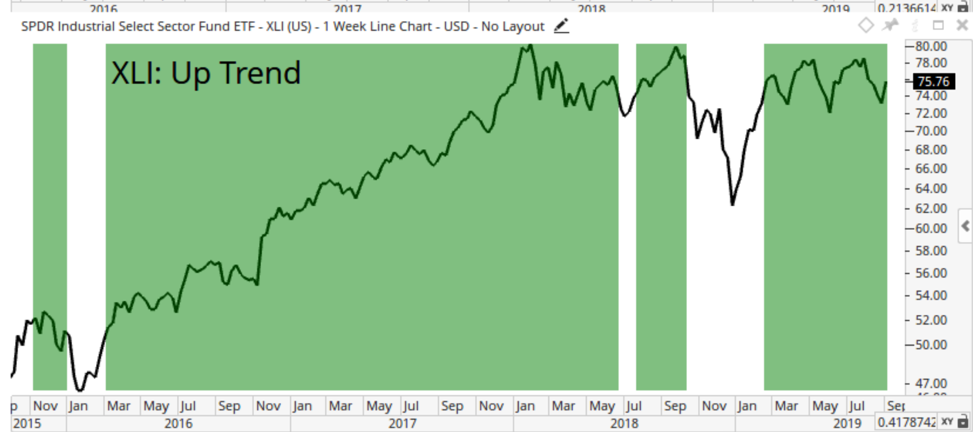
SPX, XLY, and XLK are all in up trends with XLF in a down trend.





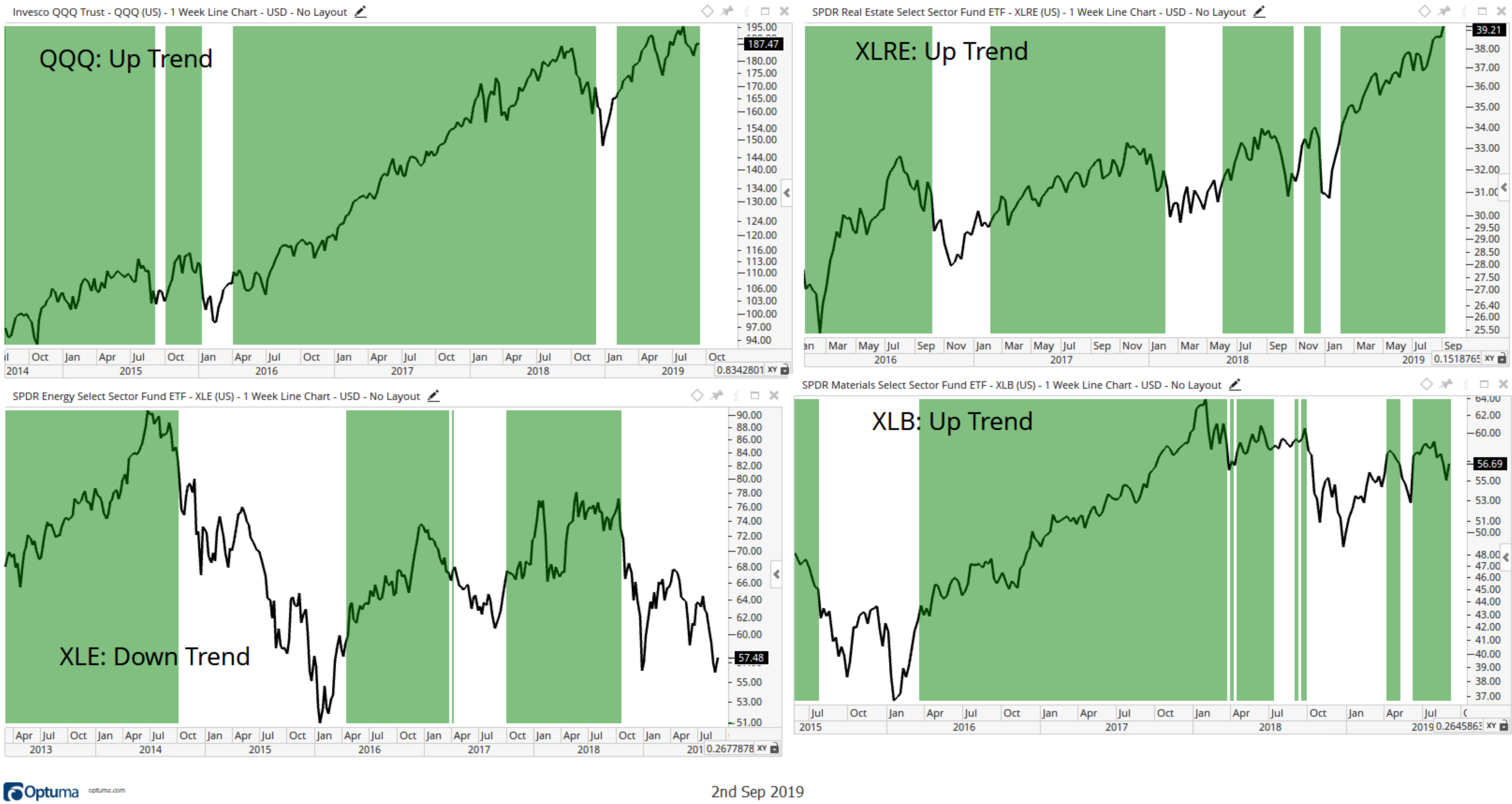




Optuma

2nd Sep 2019

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

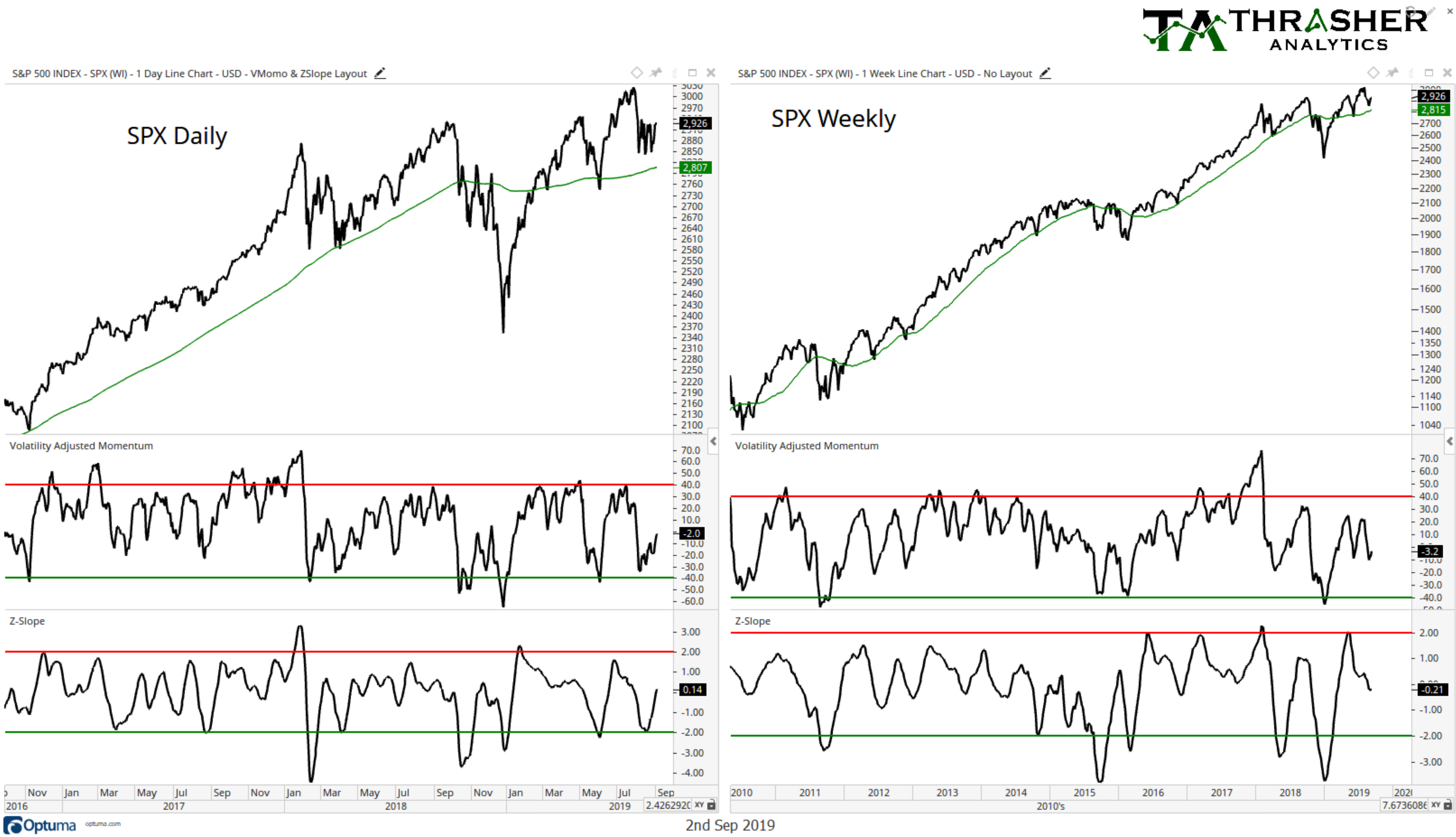


QQQ, XLRE, and XLB are in up trends and XLE is in a down trend.

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.

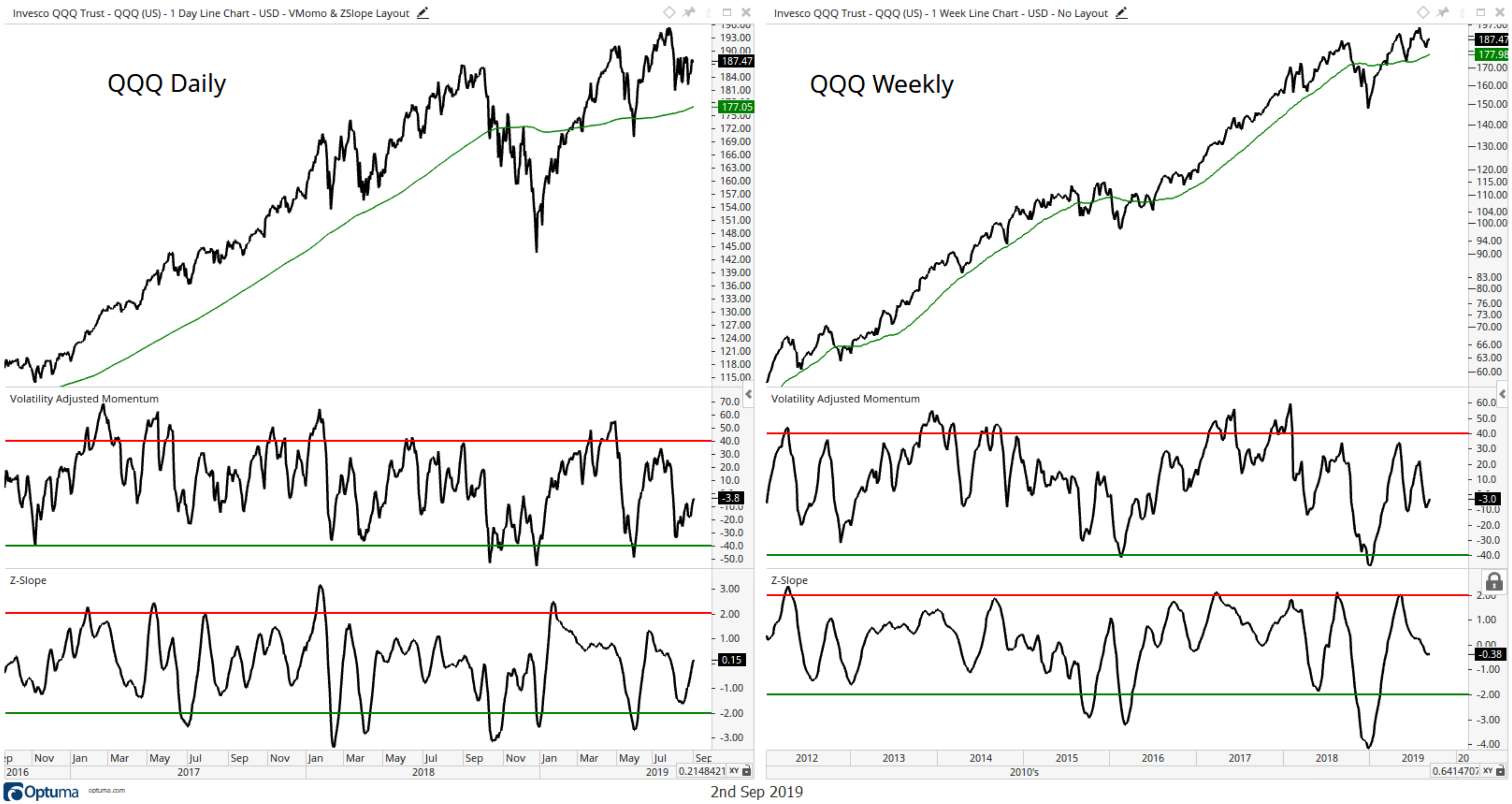
Volatility-Adjusted Momentum (VaM: This is a spin on the traditional measures of momentum, taking into account the volatility of the underlying asset into the calculation. By adjusting for volatility we can get a better look at potential mean-reversion signals when risk/reward becomes unbalanced towards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



Daily Z-Slope and VaM both are trending higher.

Neutral readings for both VaM and Z-slope as they move close to 'oversold.'



Neutral readings for both VaM and Z-slope.

Neutral readings for both VaM and Z-slope.

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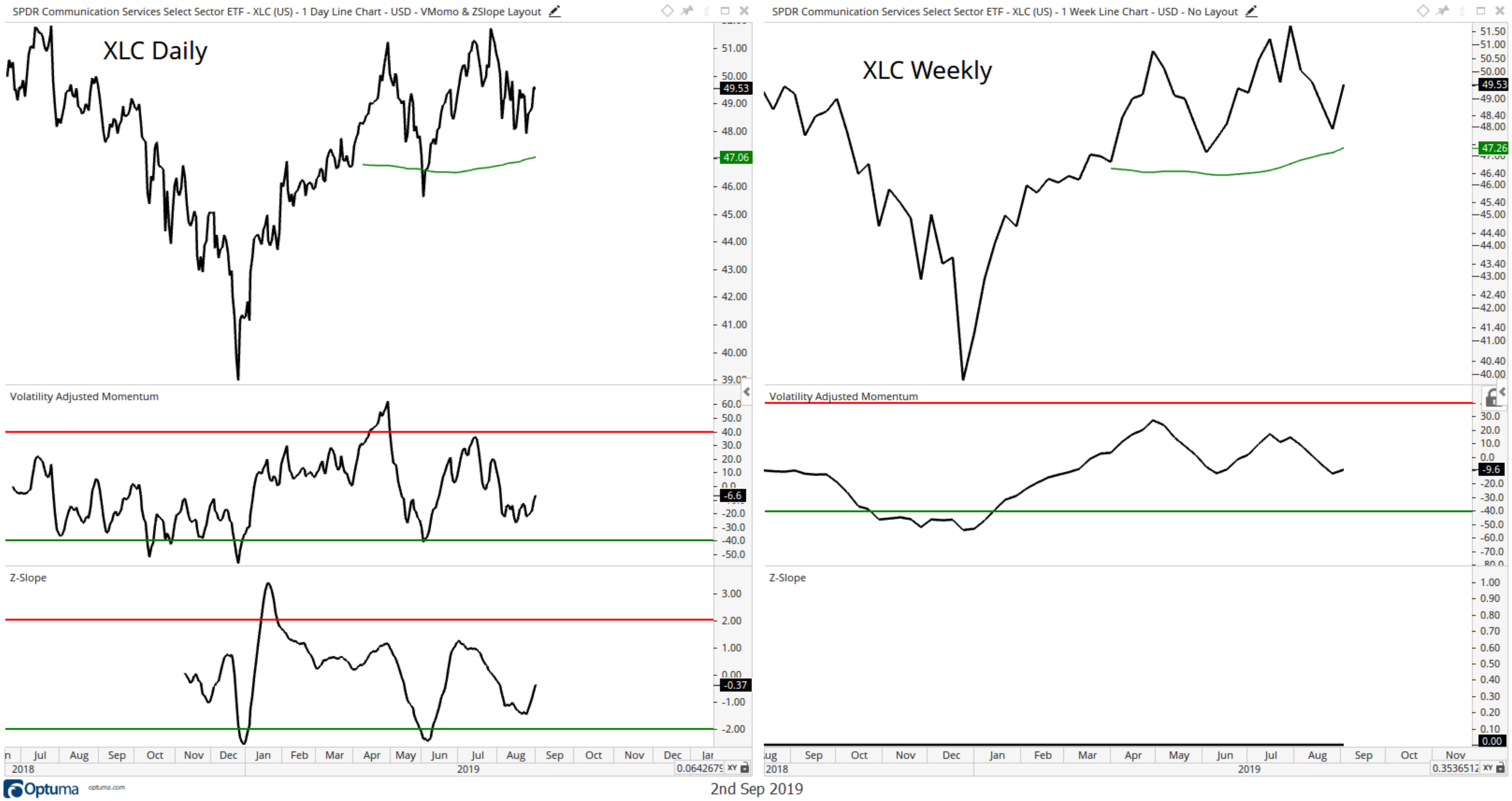
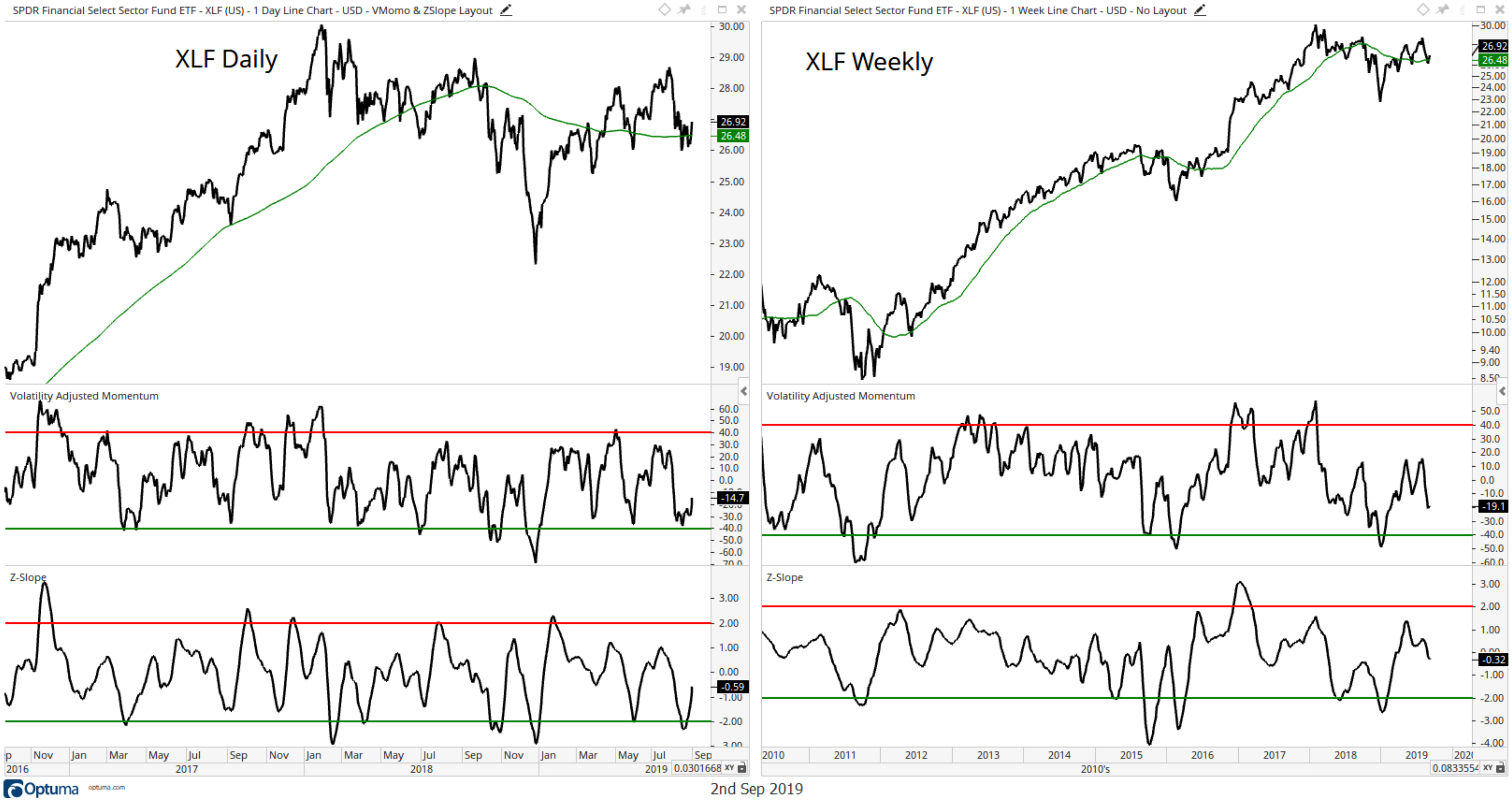
Neutral readings for both VaM and Z-slope and weekly z-slope is 'oversold'



Neutral readings for both VaM and Z-Score.

XLF



Daily Z-slope is ‘oversold’ with VaM close to being ‘oversold.’

Neutral readings for both VaM and Z-slope.

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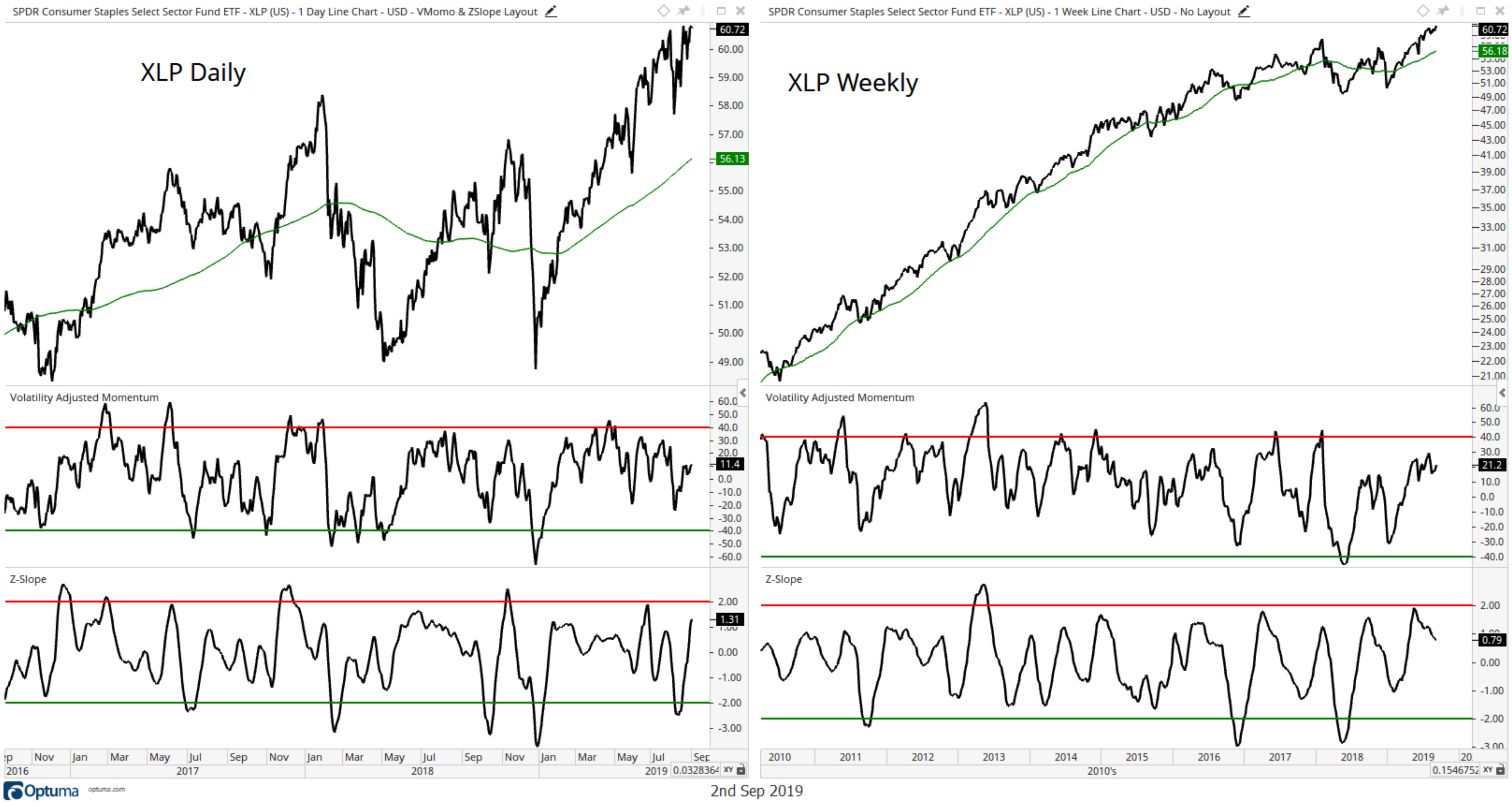
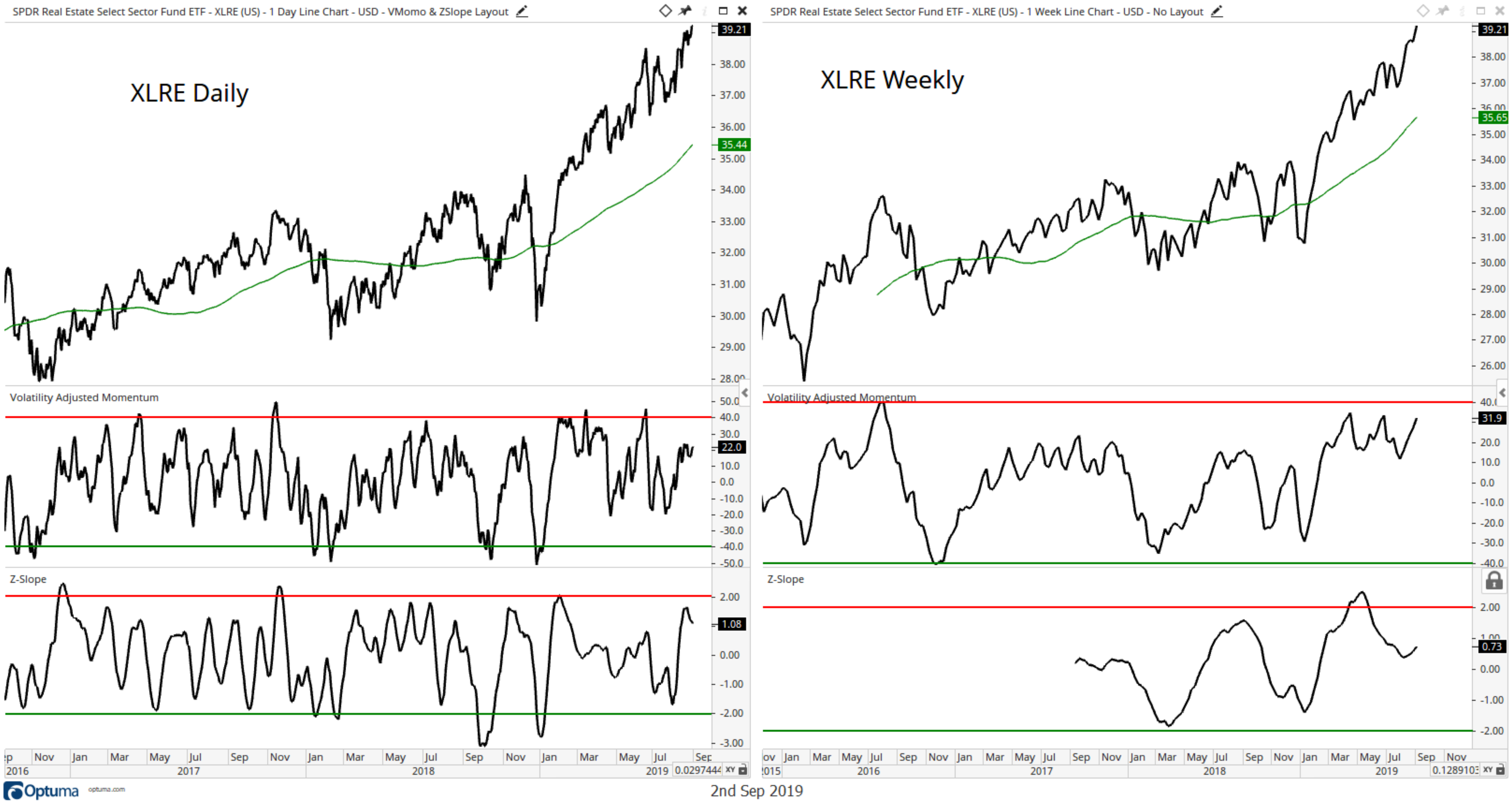
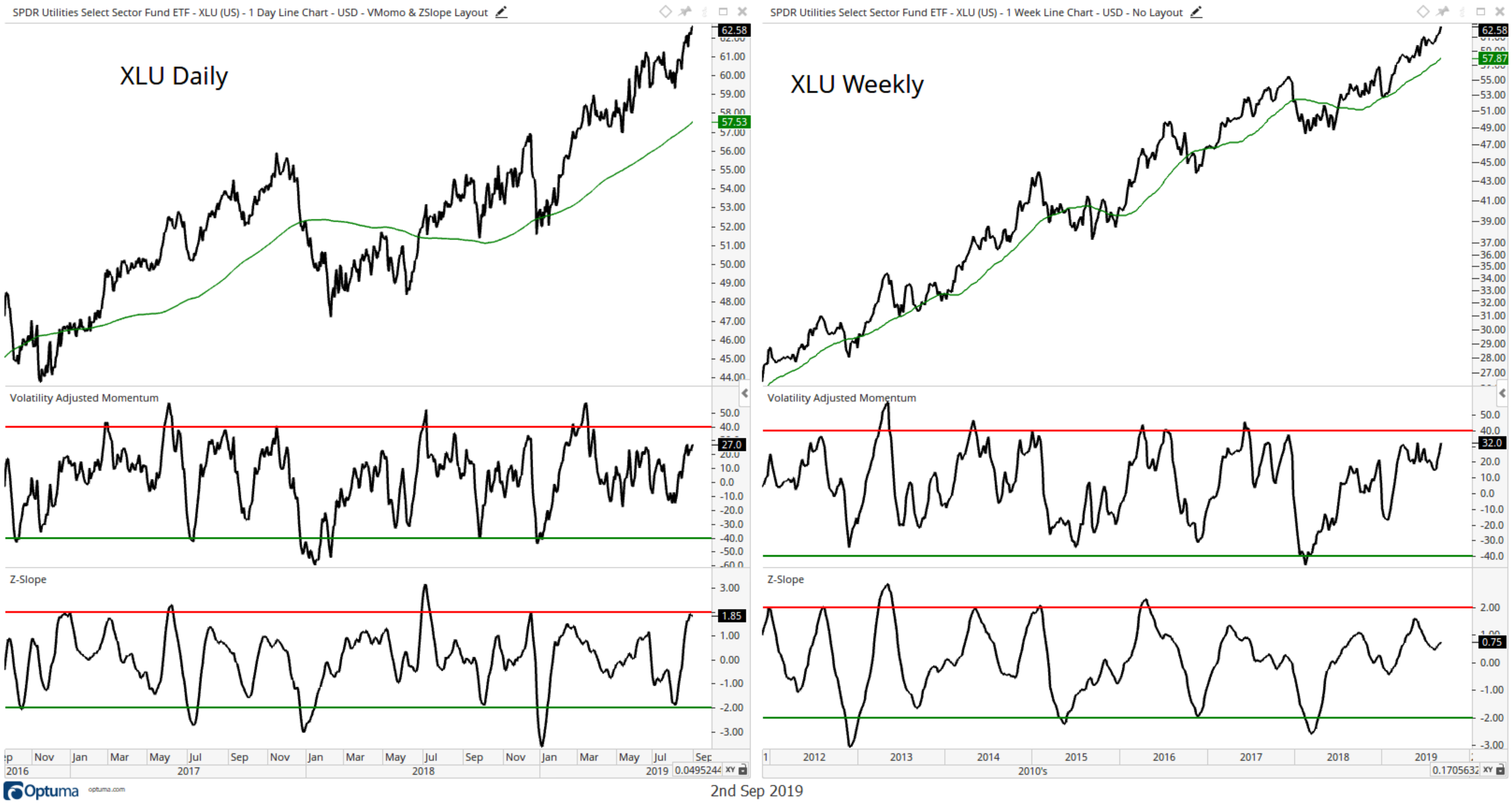
Neutral readings for both VaM and Z-slope.



Neutral readings for both VaM and Z-slope.



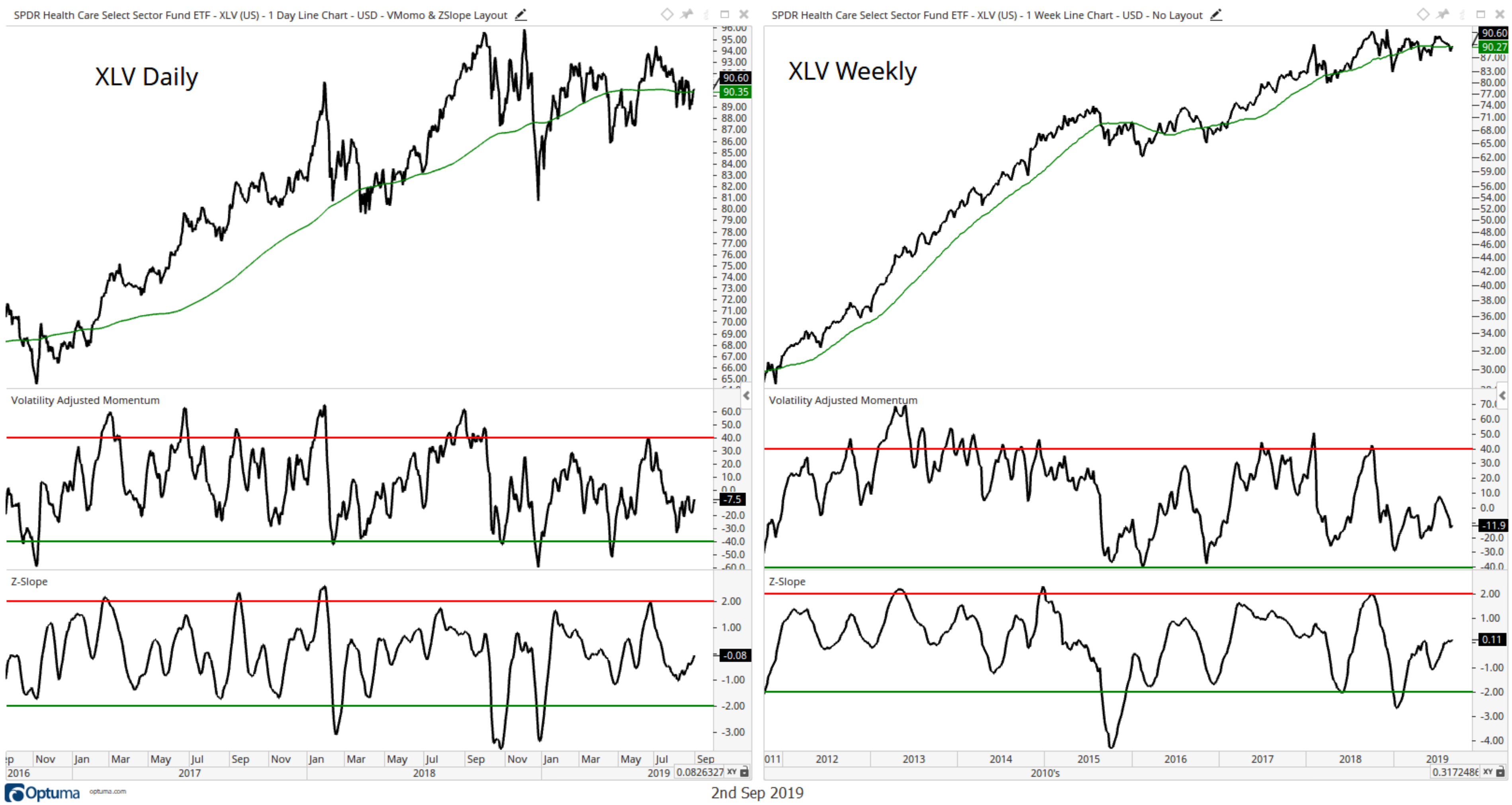
Neutral readings for both VaM and Z-slope.



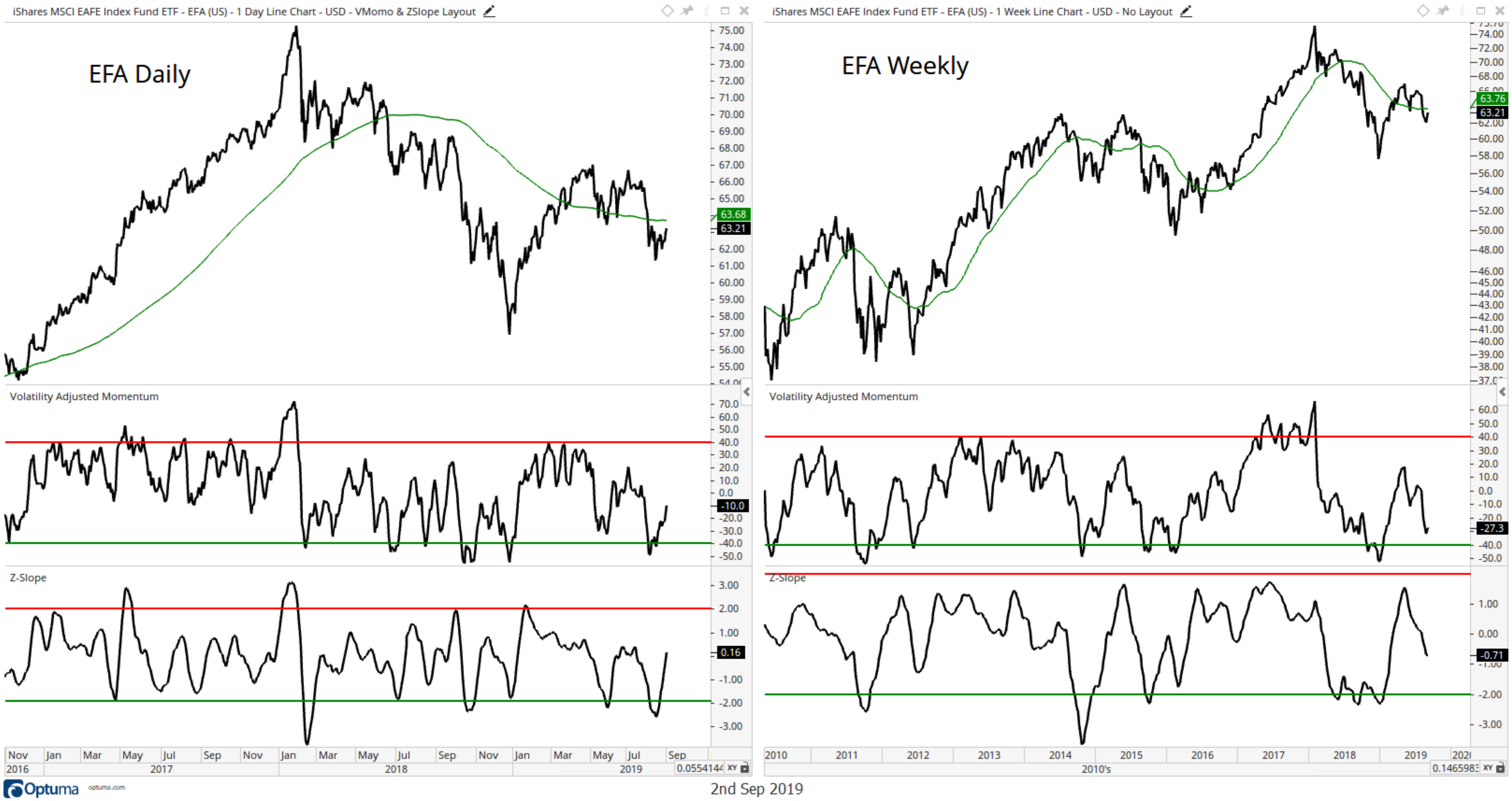
2nd Sep 2019

Neutral readings for both VaM and Z-slope.

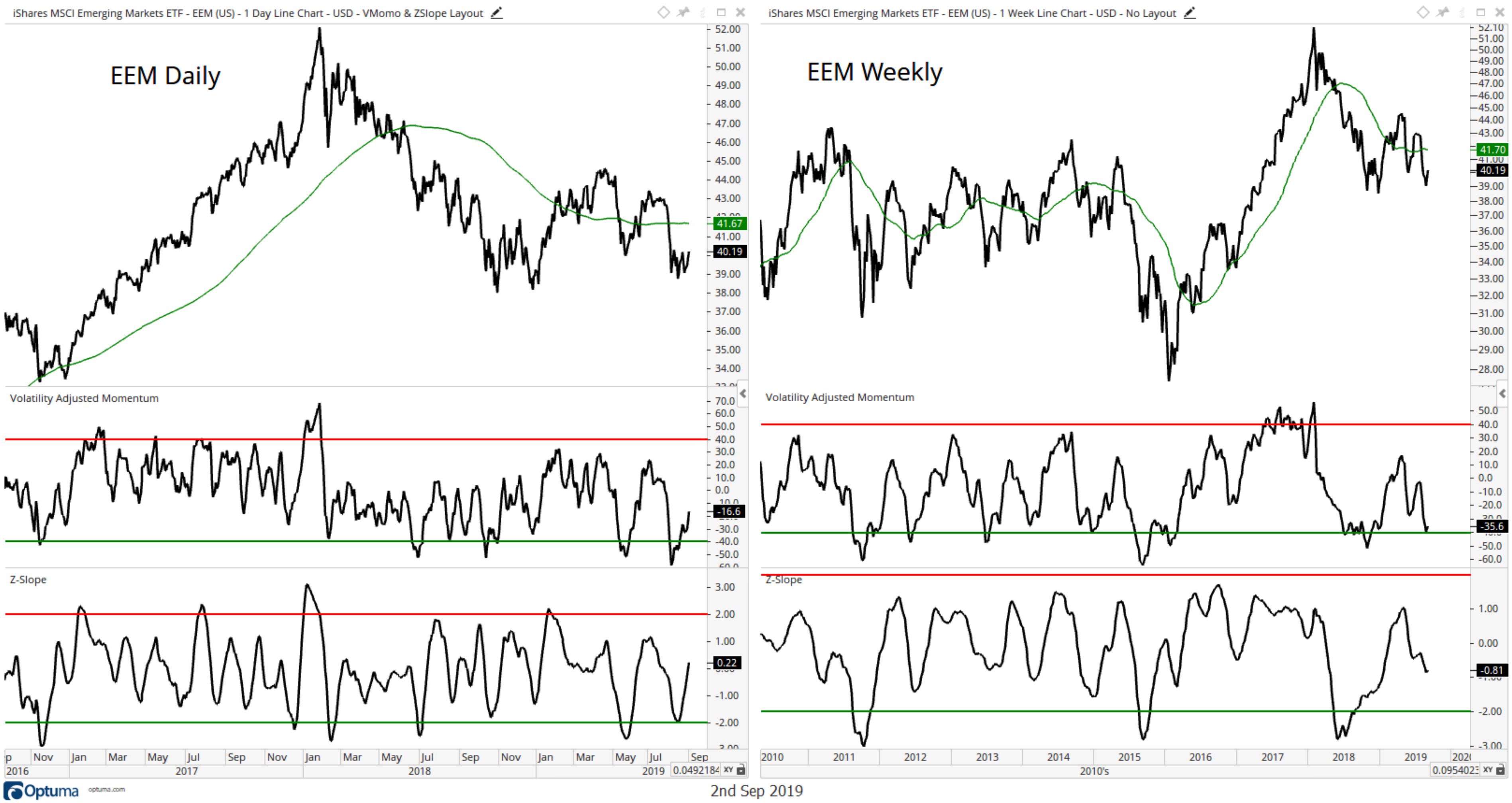
Neutral readings for both VaM and Z-slope.



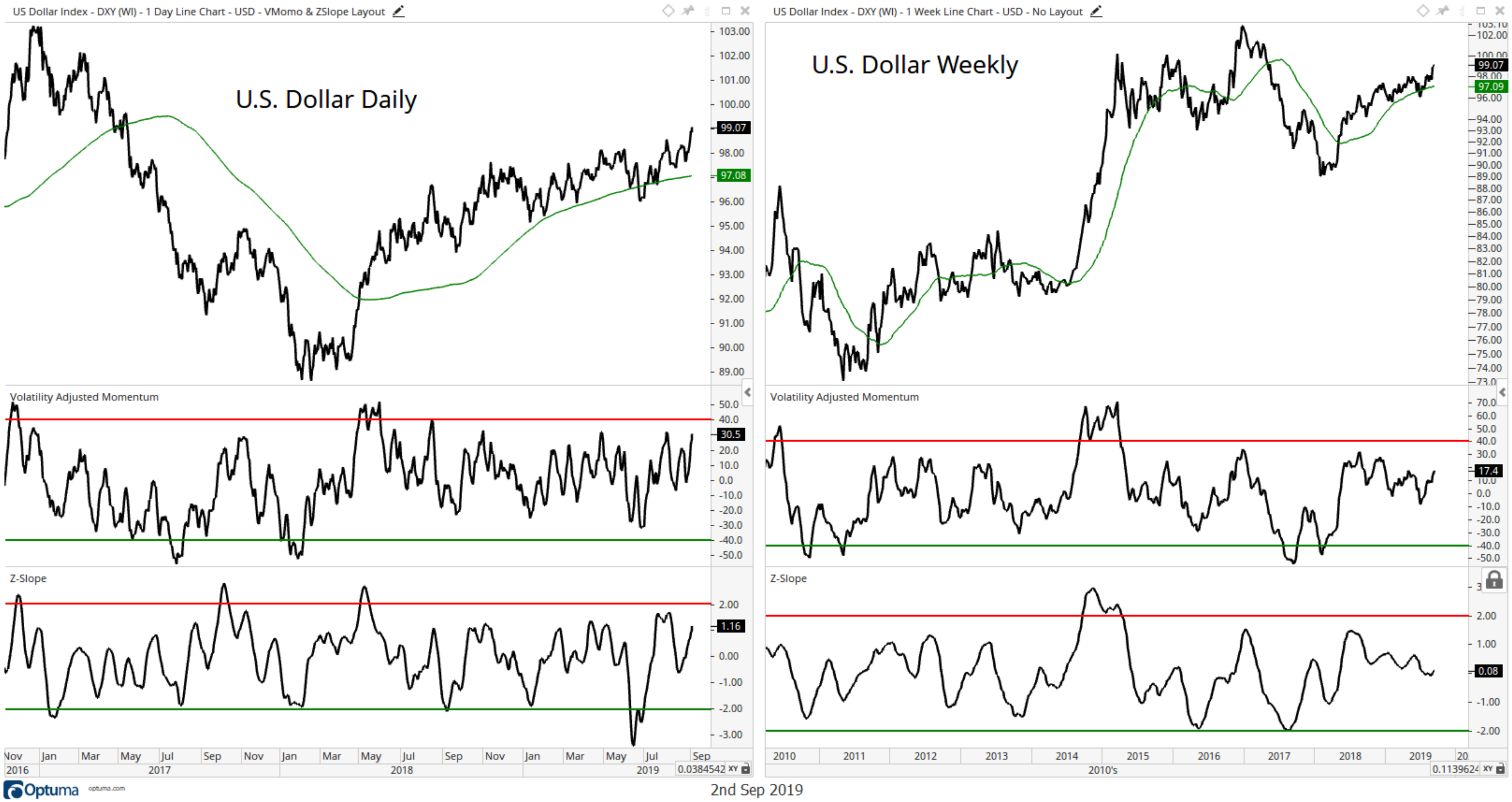
Neutral readings for both VaM and Z-slope.



Neutral readings for both VaM and Z-slope.

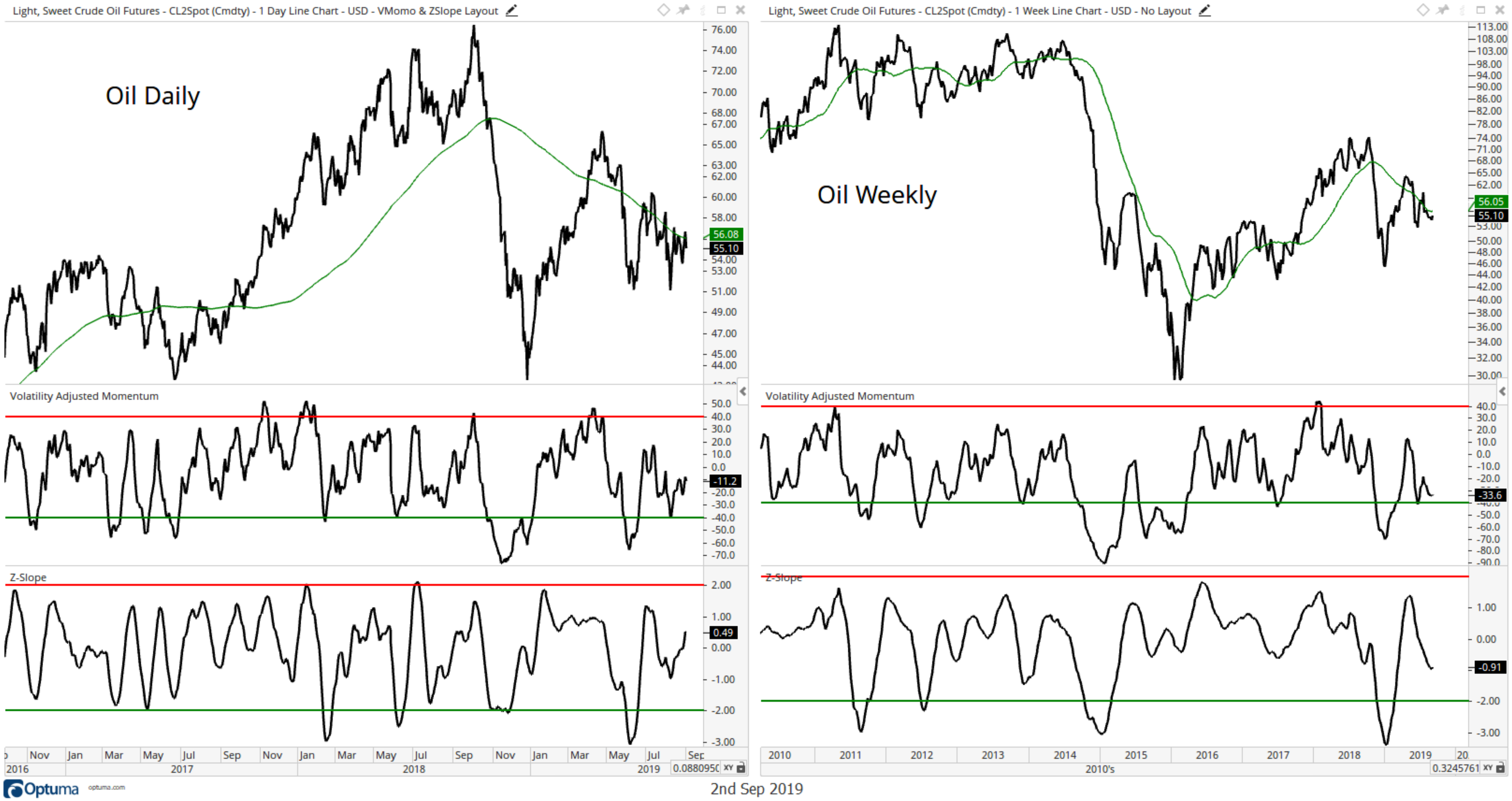


Neutral readings for both VaM and Z-slope.



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

Gold is now 'overbought' for weekly VaM and Z-slope indicators.



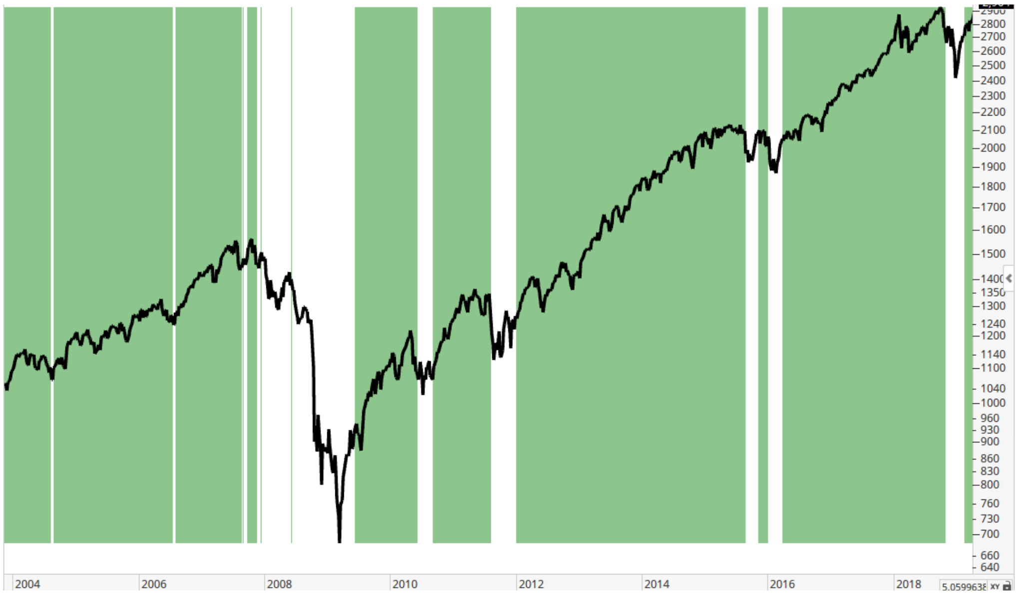
Neutral readings for both VaM and Z-slope.

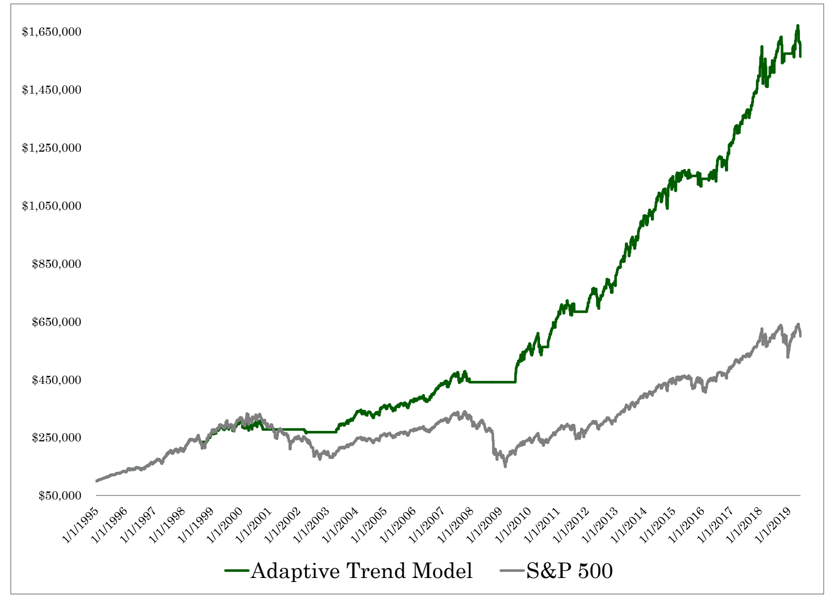
2nd Sep 2019

Neutral readings for both VaM and Z-slope and ‘overbought’ for both on weekly.

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.



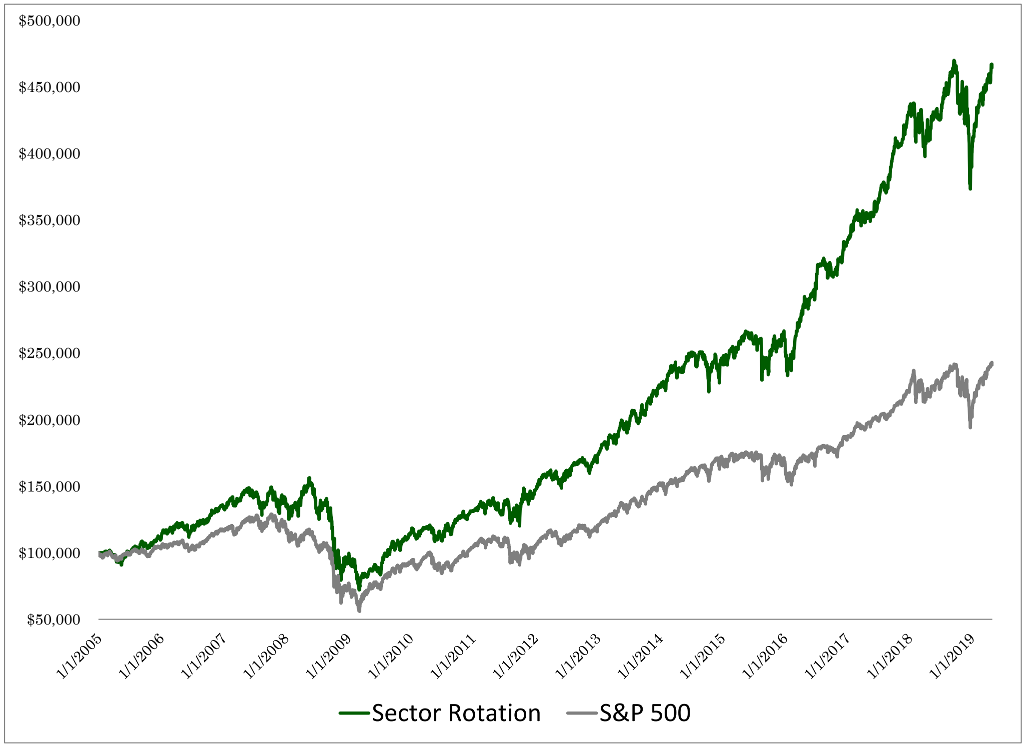


	Annualized Return	Annualized Volatility	Beta	Sharpe Ratio	Maximum Drawdown
Adaptive Trend	12.5%	10.3%	0.47	0.97	14.1%
S&P 500	8.9%	15.3%	1	0.42	56.6%

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 Ratio	Maximum Drawdown
Sector Rotation	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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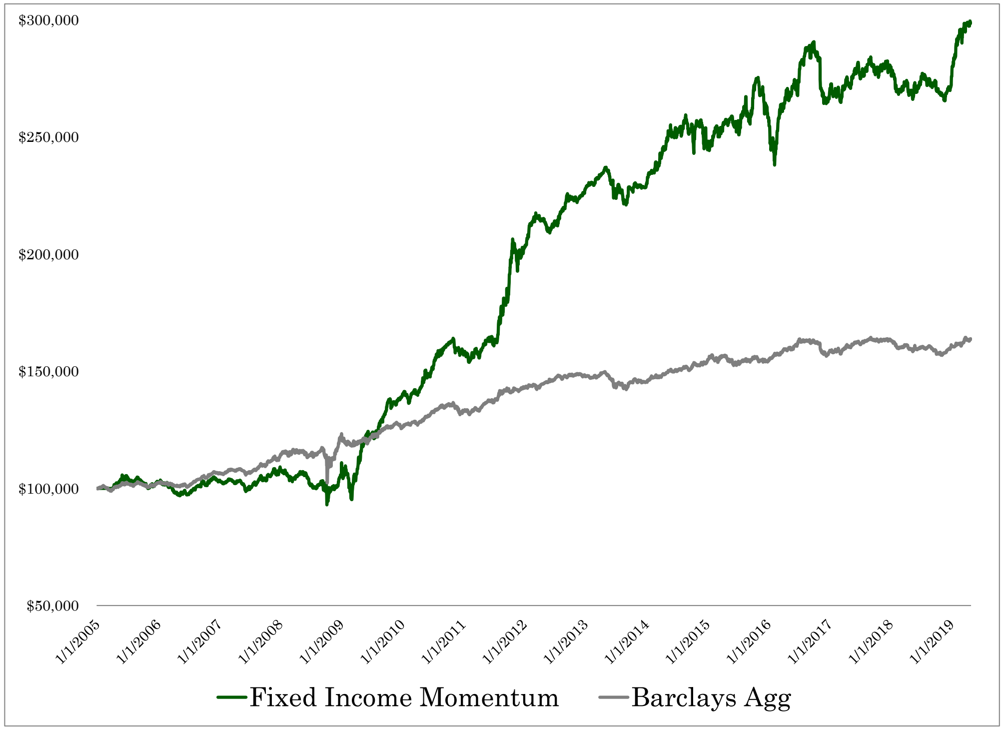
If equities are the speedboats in the sea of financial markets then fixed income securities are the tanker ships. While stocks can move violently in both directions, Thrasher Analytics research has shown that fixed income markets historically show consistent trends. Because of the tanker-like movements 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 Ratio	Maximum Drawdown
Fixed Income Momentum	8.3%	8.2%	1.04	0.7	14.9%
Barclays Agg	3.6%	3.7%	1	0.29	11.0%

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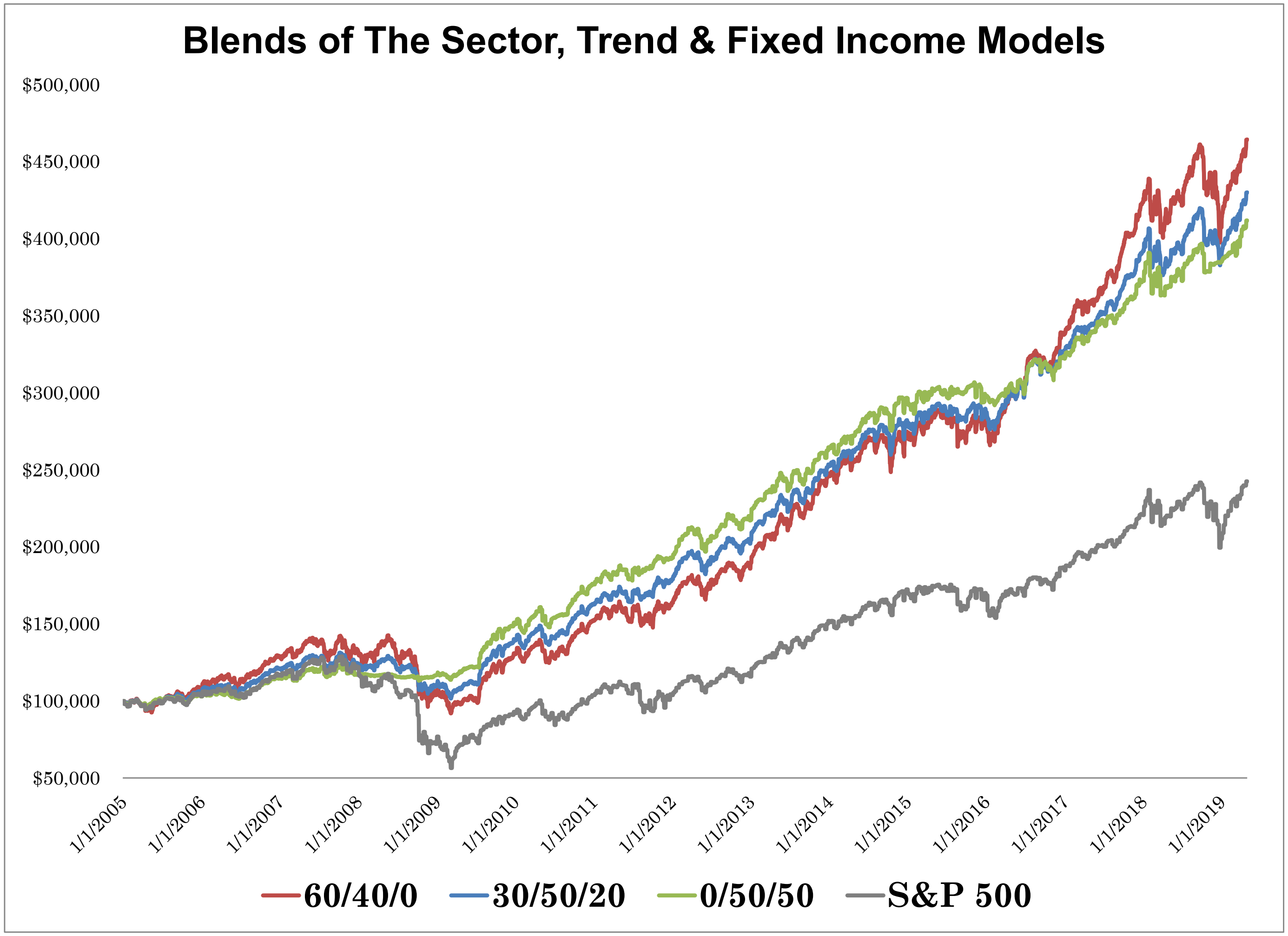
The concept of diversification is not new to financial markets. While many market participants focus on the diversification of the underlying holdings. This procedure is can be vastly skewed during periods of high market turmoil, in which correlations across asset classes tend to historically rise. Thrasher 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.



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.

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

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