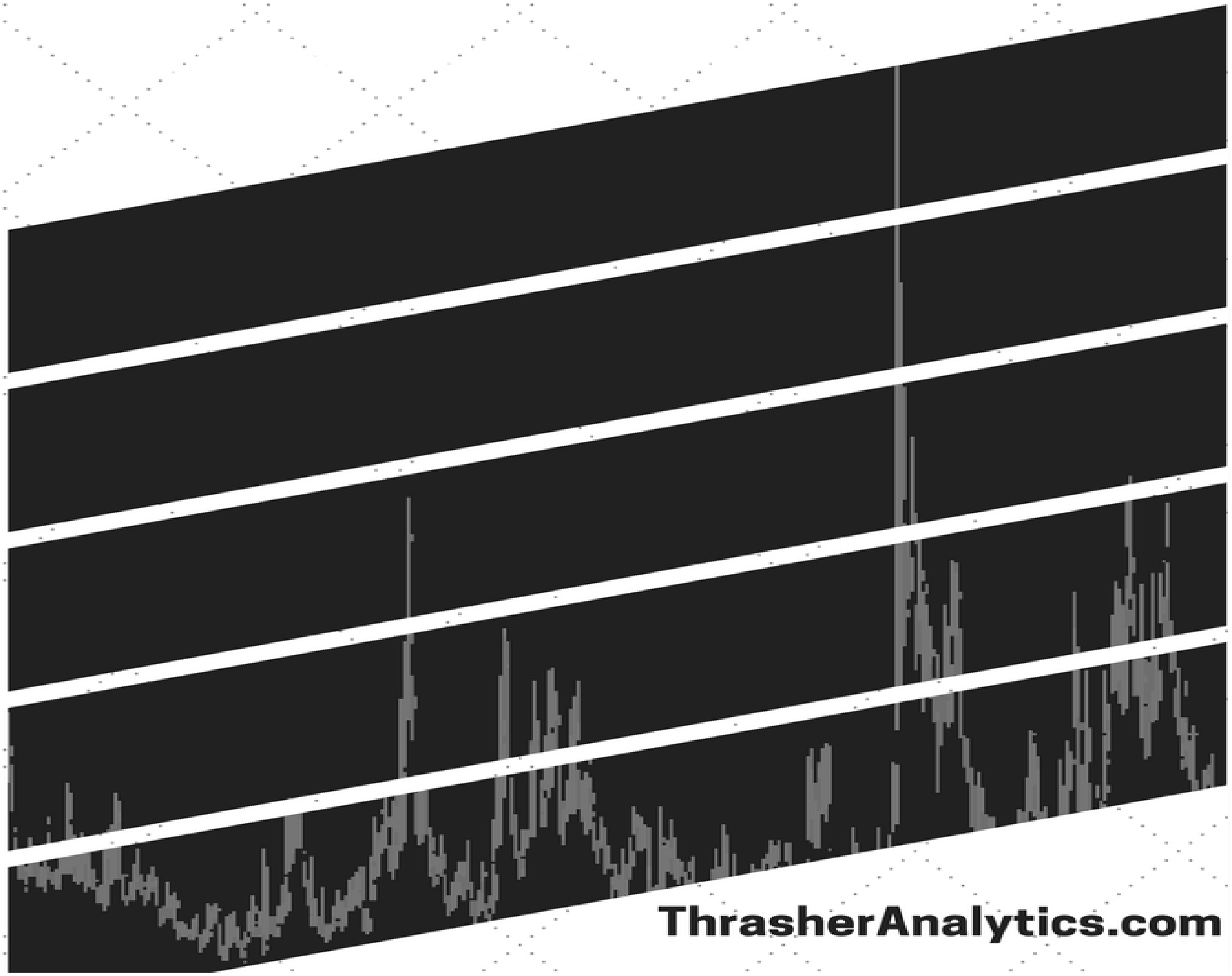
THRASHER ANALYTICS

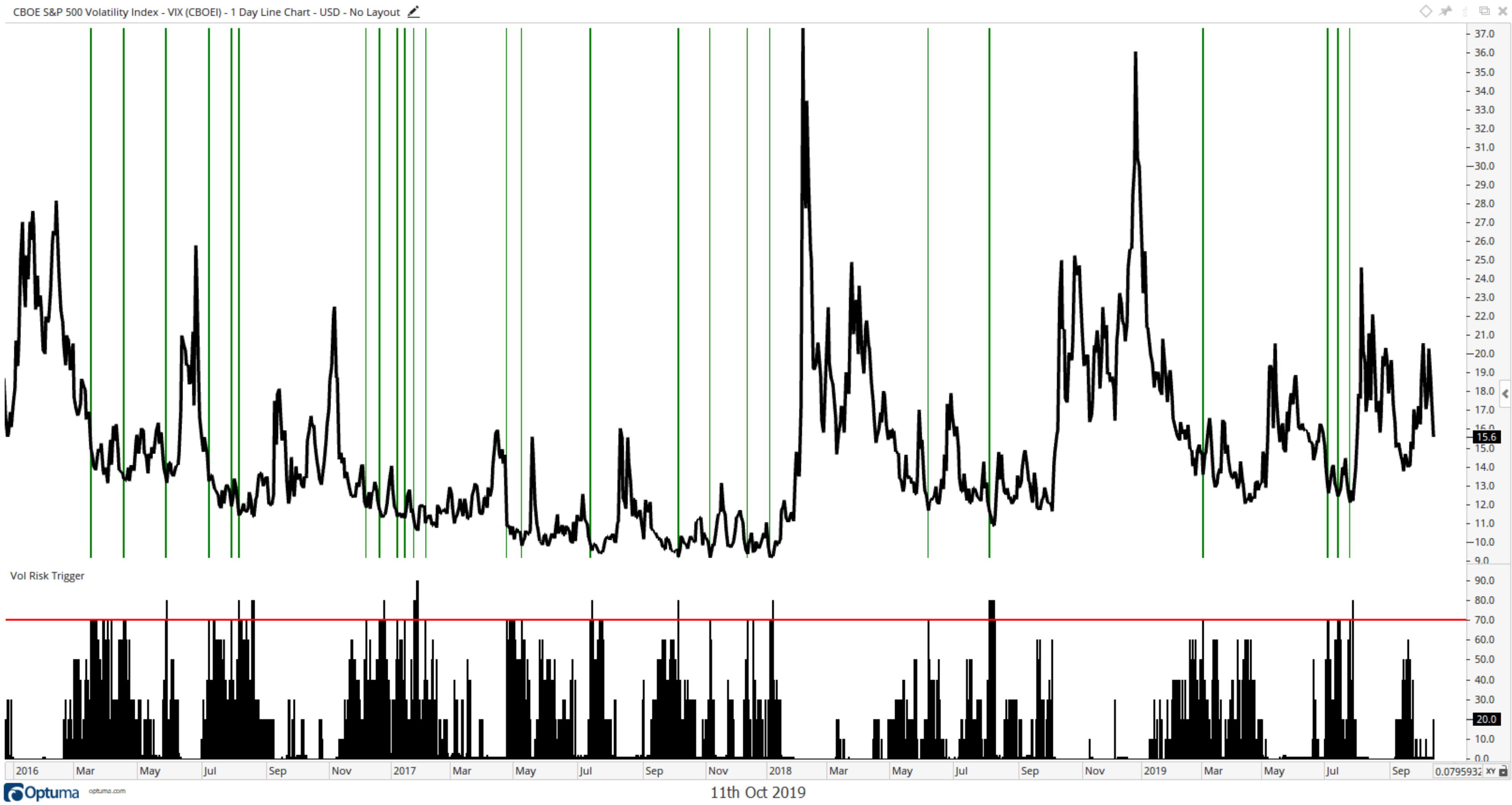


ThrasherAnalytics.com

BI-WEEKLY RESEARCH & ANALYSIS

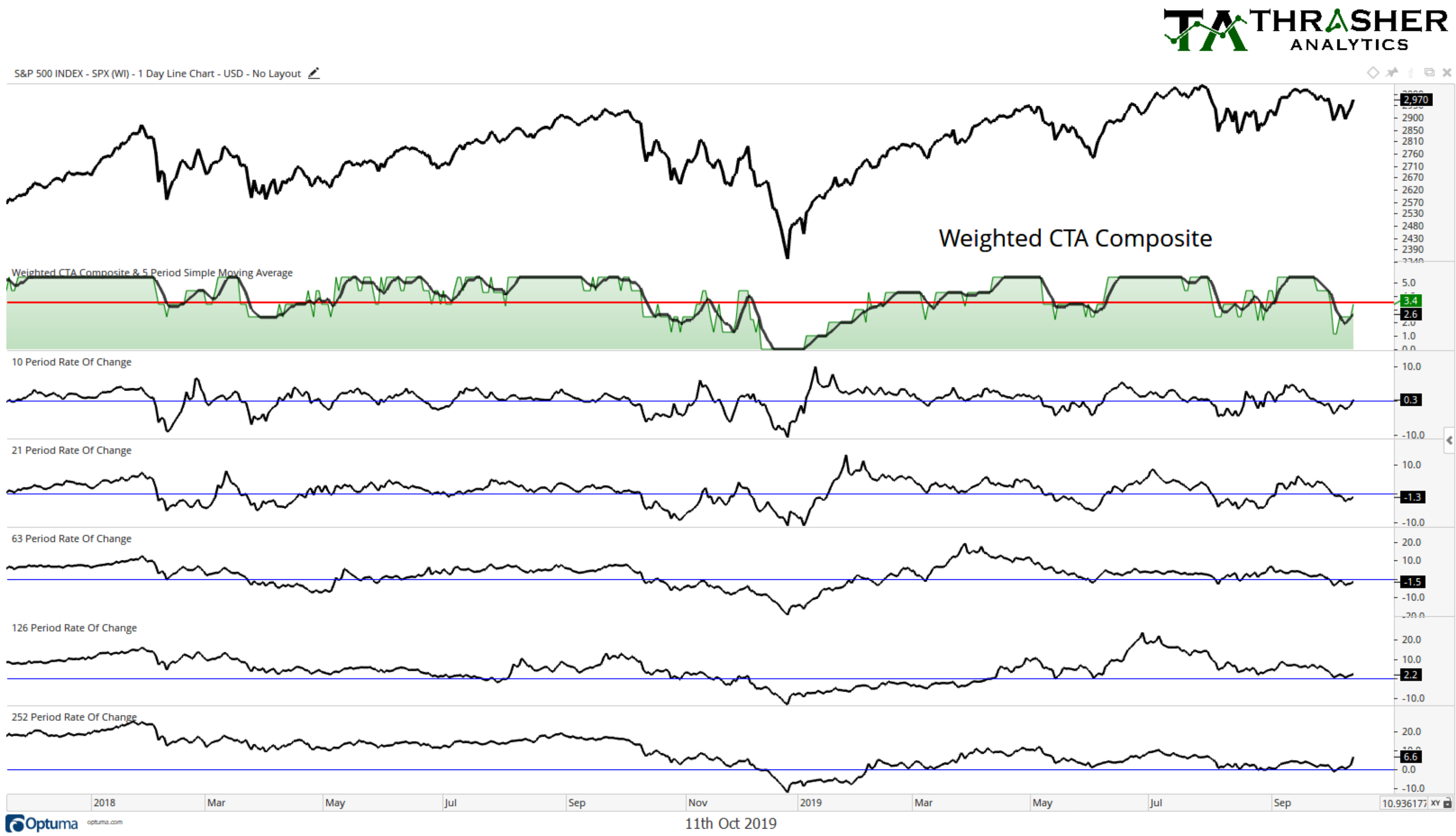
Sector	> 50MA	> 200MA	1wk Perf	1mo Perf	3mo Perf	12mo Perf
SPDR Materials Select Sector Fund ETF	True	True	1.85%	-1.21%	-0.78%	6.98%
SPDR Industrial Select Sector Fund ETF	True	True	1.57%	-2.62%	-0.31%	4.62%
SPDR Technology Select Sector Fund ETF	True	True	1.27%	0.31%	1.27%	18.85%
SPDR Consumer Discretionary Select Sector Fund ETF	True	True	1.15%	-2.02%	-1.7%	13.22%
SPDR Energy Select Sector Fund ETF	False	False	0.89%	-5.07%	-9.79%	-20.48%
SPDR Communication Services Select Sector ETF	True	True	0.71%	-2.87%	-2.18%	9.7%
SPDR Financial Select Sector Fund ETF	True	True	0.69%	-1.67%	-1.71%	4.73%
SPDR Health Care Select Sector Fund ETF	False	False	-0.21%	-1.80%	-3.79%	0.28%
SPDR Real Estate Select Sector Fund ETF	True	True	-0.43%	1.03%	3.87%	27.25%
SPDR Consumer Staples Select Sector Fund ETF	True	True	-0.91%	-0.49%	1.98%	16.8%
SPDR Utilities Select Sector Fund ETF	True	True	-1.31%	1.14%	4.77%	20.58%

The best performing sectors last week were materials, industrials, and technology with the worst performing being real estate, consumer staples, and utilities. However, just three sectors remain in positive territory over the last month: technology, real estate, and utilities.

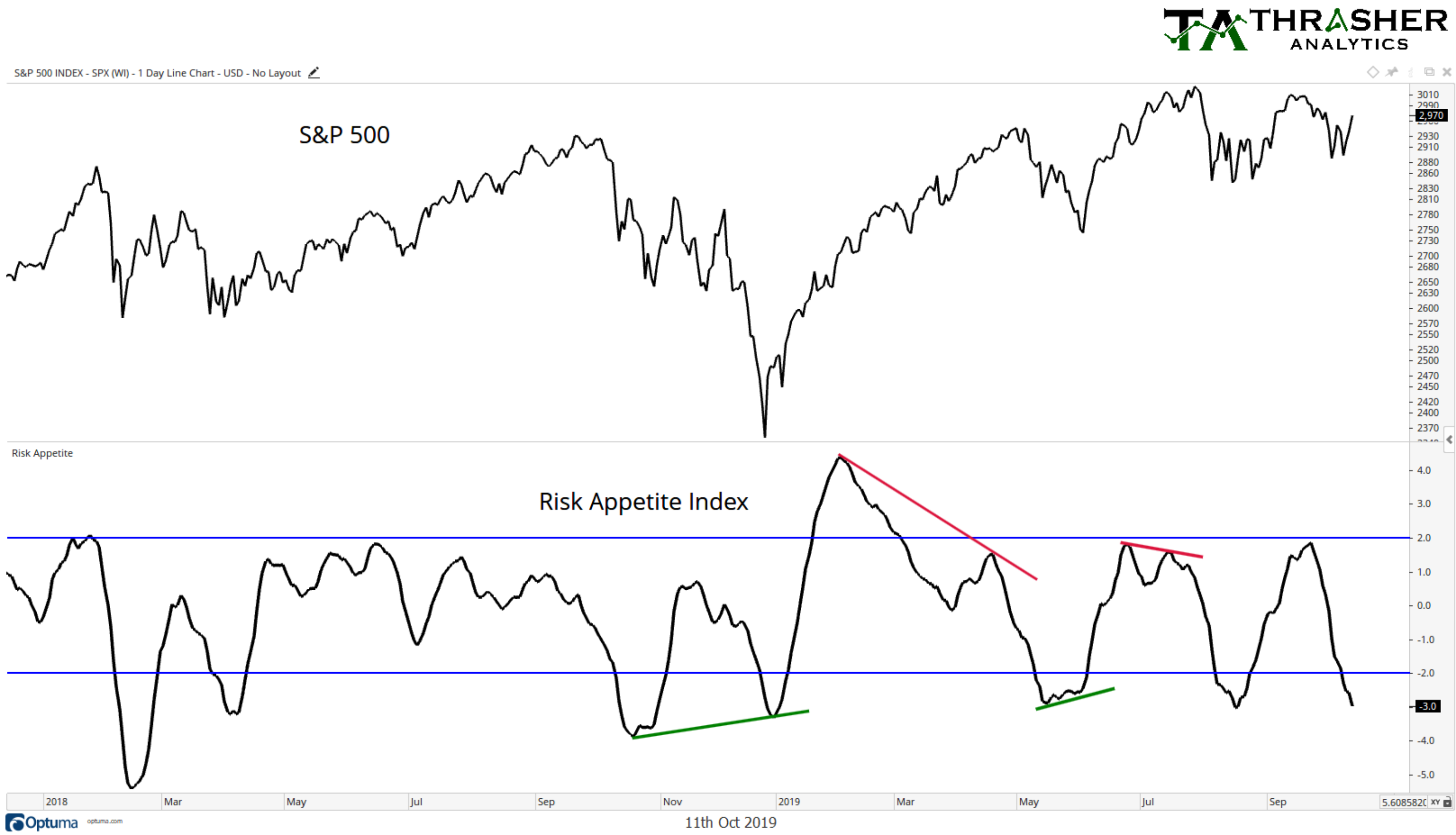


Volatility worked its way lower this last week after its advance from 14 to 20 after the VRT had creped higher nearing a trigger point. The advance was short-lived with the VIX already back under 16, largely due to Friday's price action. Weekly volatility remains compressed and VIX of the VIX (VVIX) held up fairly well during today's move lower in volatility, suggesting maybe traders weren't releasing their volatility hedges just yet on the hopes of a positive China trade deal.

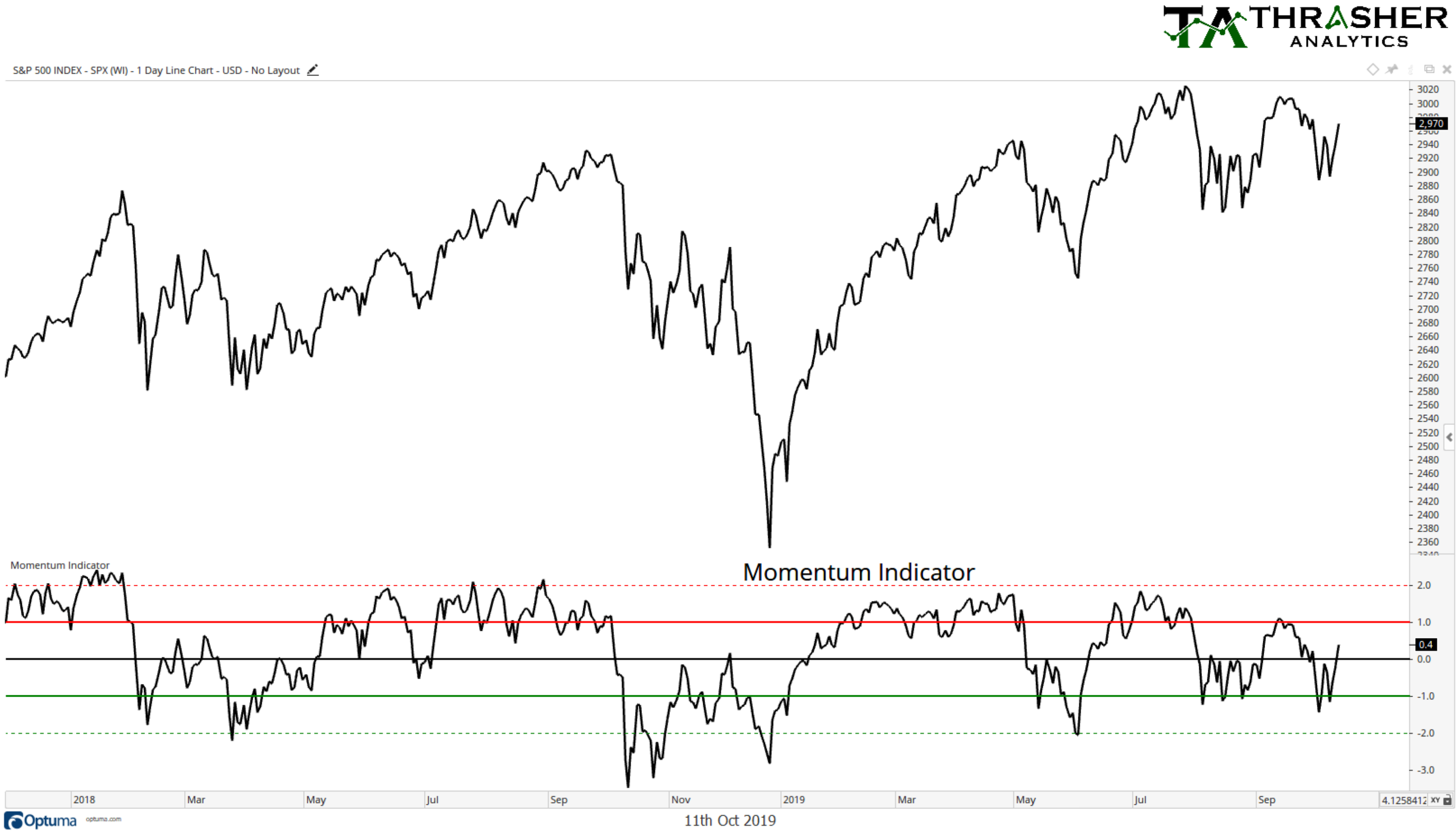
The S&P 500 remains within its multi-month range. While Friday saw a nice move higher, taking the index within 50 points of reaching the prior high, importantly we have not broken out. Until we see such a break, patience is warranted.



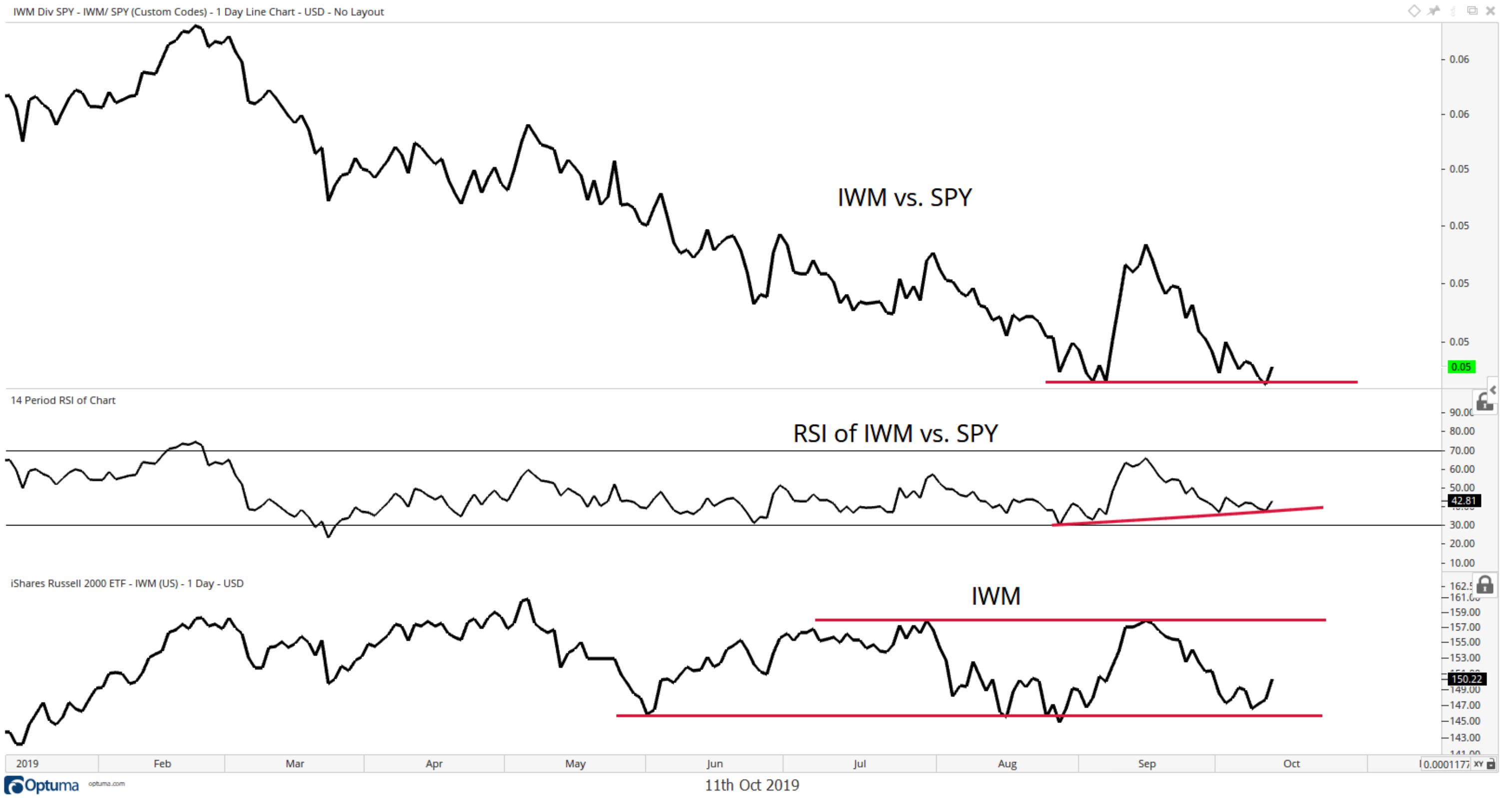
CTAs are traditionally trend followers, allowing us to use momentum indicators as a gauge for how the broad category of asset managers are viewing the market and positioned. Above is a weighted CTA composite along with the individual lookback components below. As of the end of this week three of the five periods are positive; 2-week, 6-month, and 1-year. This leaves the overall composite negative and still below the prior summer 2019 low. As equities attempted to rally this last week, we'll need to see continued strength to push the remaining components positive and take the composite back above zero, signaling a reversal in trend for CTAs as they move back into risky assets.



This chart was a surprise to me when I opened it up this evening. I did not expect to see the RAI to be this negative after equities rallied and we even had small caps participate on Friday. However, Friday was really the only day recently that we've seen small caps or equal weight equities show any signs of life. This lack of relative strength in the smaller stocks along with muted moves in the other components, has been enough to weight down the entire Risk Appetite Index. This isn't an ideal sign for equities in the short-term as this past week's move up in the index did not see broad support from other risk-taking assets.



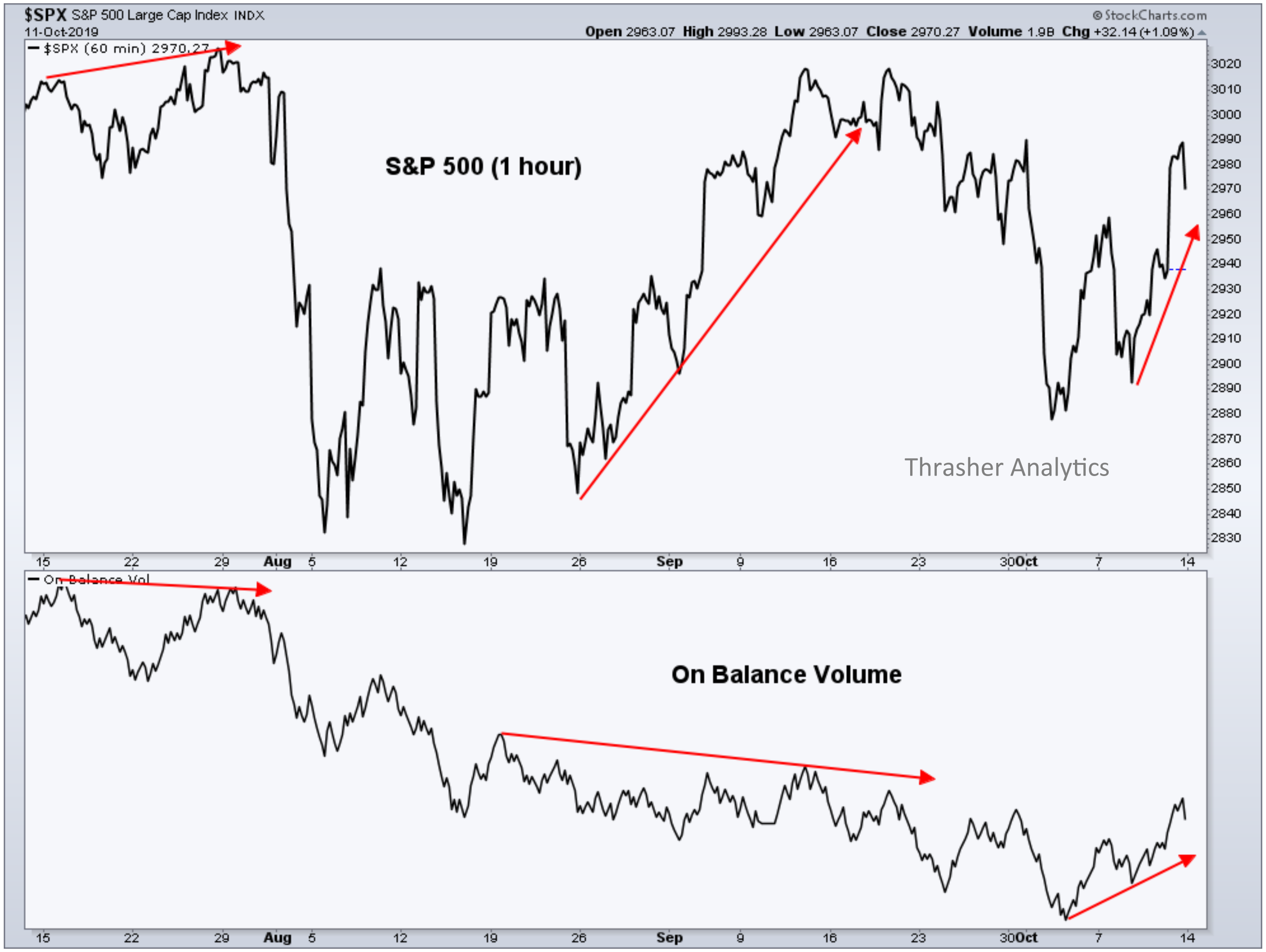
Above is my proprietary momentum indicator and the S&P 500. As you can see, we saw a test of the 'oversold' green line at the September low with the indicator moving higher back above zero on the latest rally in equities. This is an encouraging development as momentum is confirming latest price action. While we are no longer 'oversold' I'll be looking if we reach a point of being 'overbought' on any further strength in stocks - which would suggest the potential for a short-term pull back. But we are not there yet, so from the point-of-view of momentum, things look positive for the S&P 500.



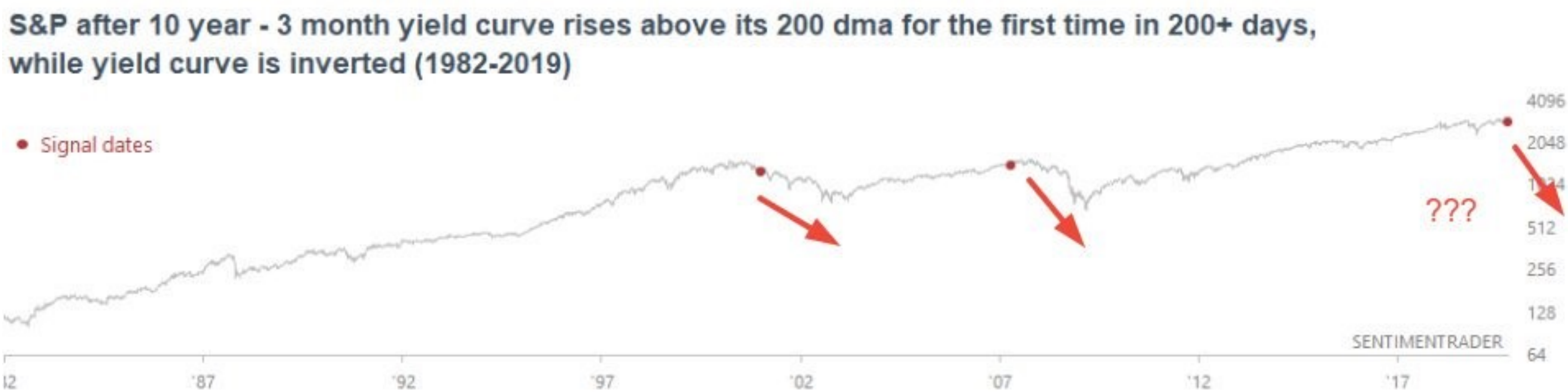
One bullish divergence I have my eye on recently has been in the relative performance chart of the Russell 200 (IWM) and the S&P 500 (SPY). Above is a chart of the ratio in the top panel and the 14-period Relative Strength Index (RSI) in the middle with the pure IWM price chart on the bottom. As you can see as the ratio tested the prior early September low, we have a clear higher low in momentum as measured by the RSI indicator. This is a positive development for the Russell 2000, which also remains above its prior price lows from August and May. Like the S&P 500 shown earlier in the letter, IWM still has yet to break out of its multi-month range. But this improvement in relative strength may suggest that we see a rotation favoring the Russell as we move into the bullish seasonal period of the year (Nov./Dec.).

The Semiconductors are one of the most important markets I watch each day as a sign of market health for the tech sector and for the market as a whole. The relative strength of the semis has been improving and on Friday we saw the SMH ETF relative to SPY reach up to the prior highs but unfortunately didn't close with a breakout. The Semi Index (SOX), which has a smaller weighting to Taiwan Semiconductor (TSM) (4% in SOX vs. 14% in SMH) has not been as strong, suggesting that the strength in SMH may be largely attributed to TSM and not the entire industry.

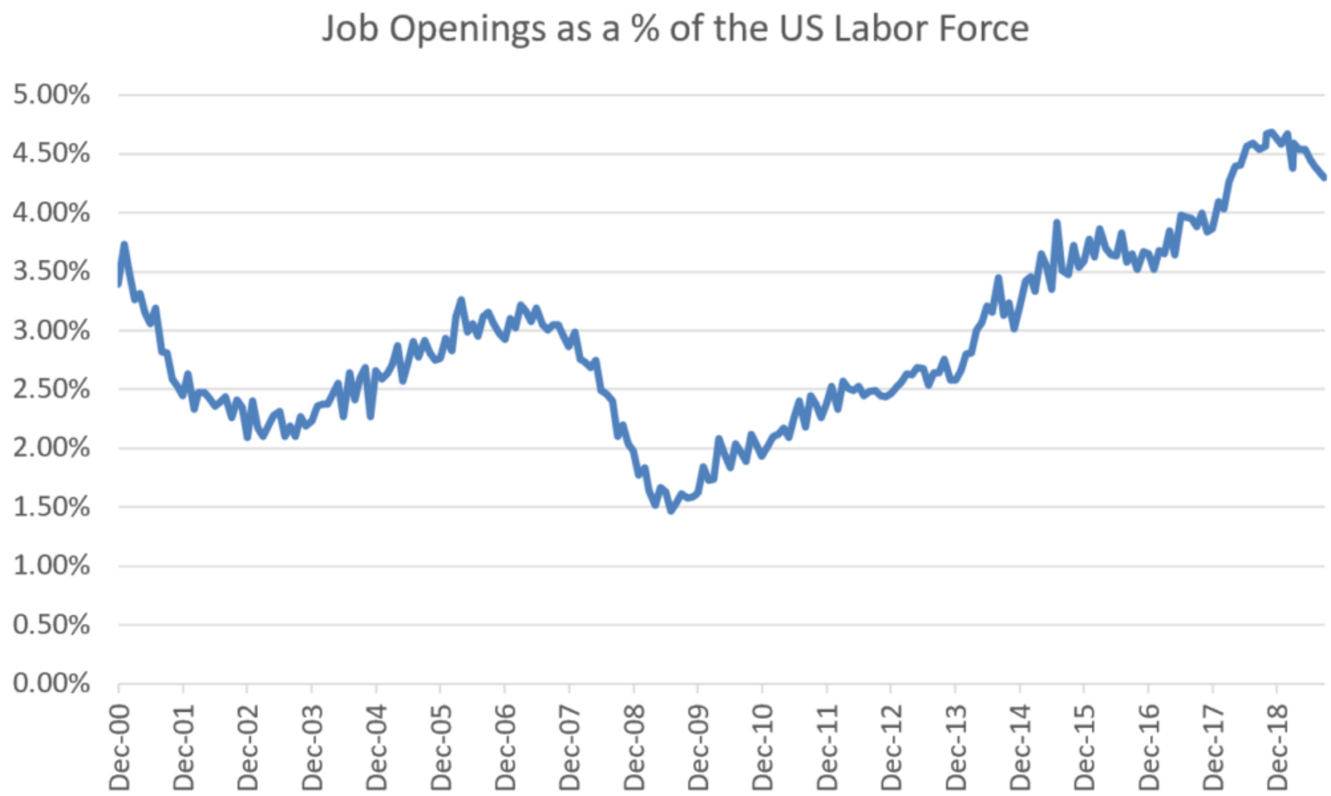
Going into next week I'll continue to keep a close eye on semis and hopefully we'll see a breakout to a new high relative to the S&P 500, suggesting bullish price action for the tech sector which is the largest sector weighting of the SPX.



The volume profile for the S&P 500 has been positive in October after seeing a down trend in net volume during most of August and September.

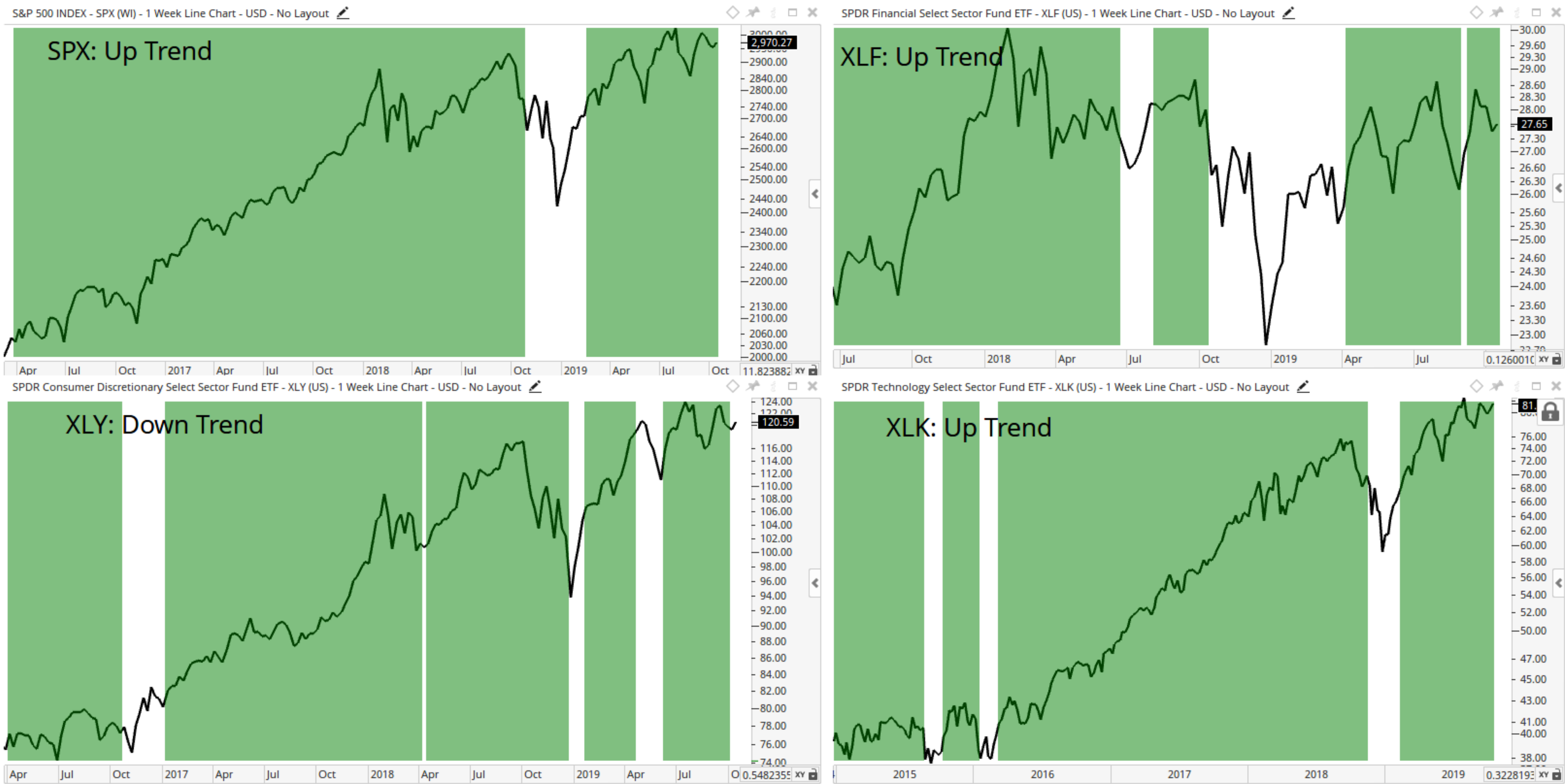


Jason at SentimenTrader recently shared this chart of the S&P 500 with three red dots, which signify when the 10yr-3mo yield curve has gone above its 200-day Moving Average for the first time in over 200 days. This occurred as a result of the yield curve becoming un-inverted (if that's the right way to phrase that) and since the early 1980s the curve has strengthened above its long-term moving average after being in a down trend for this length of time just two previous times. Unfortunately those two times (as small of a sample size as this is) were after the 2000 top and just before the 2007 top. This is not to say that we've see a market peak or are about it but it's worth noting nonetheless.



The above chart comes from Data Trek Research and shows data extracted from the latest JOLTS report, specifically the percentage of job openings of the labor force. This has been a rising trend since 2009 as a positive sign for the overall labor market but recently the up trend has come under fire as job openings fell by 123,000 in August. The trend peaked in 2018 had has been declining ever sense, with the lowest level being marked in the August report at 4.3%. The JOLTs report also noted that the percentage of workers who quit their job, a positive figure as a sign of optimism they'll be able to find other work, also declined to 2.15% from the recent high of 2.25%. While I'll admit this is nitpicking the data, which is still very near post-recovery highs, the suggestion that the peak is in for the labor market is a bit concerning.

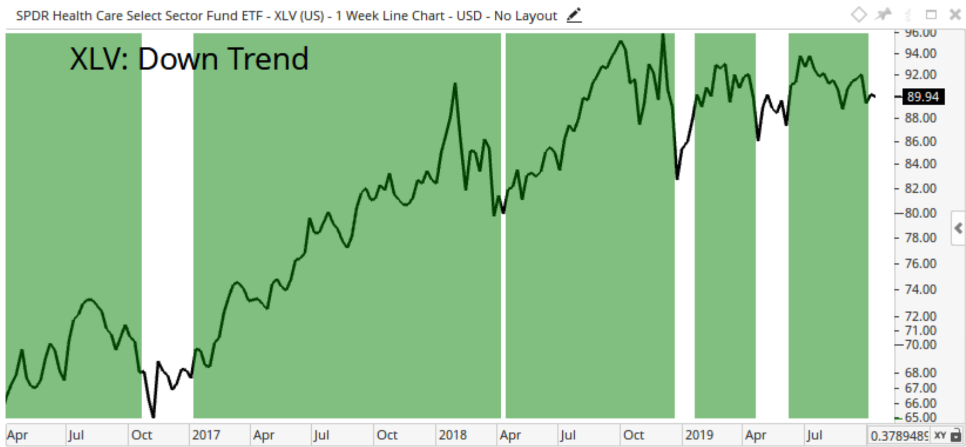
I've written before that the consumer has been the last bright spot for the economy, so if we start seeing labor market pressure on the consumer then that third leg of the stool (along with banking and manufacturing) could become unstable soon. I'll be watching this going forward and highlight any important developments in the future.

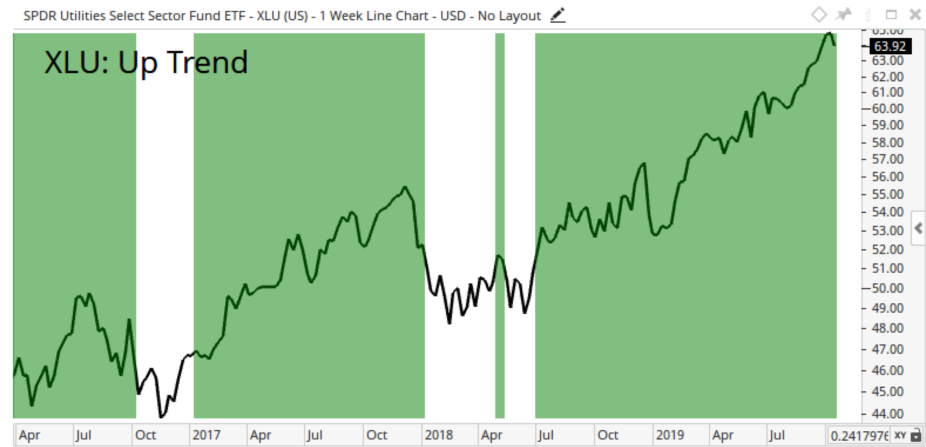


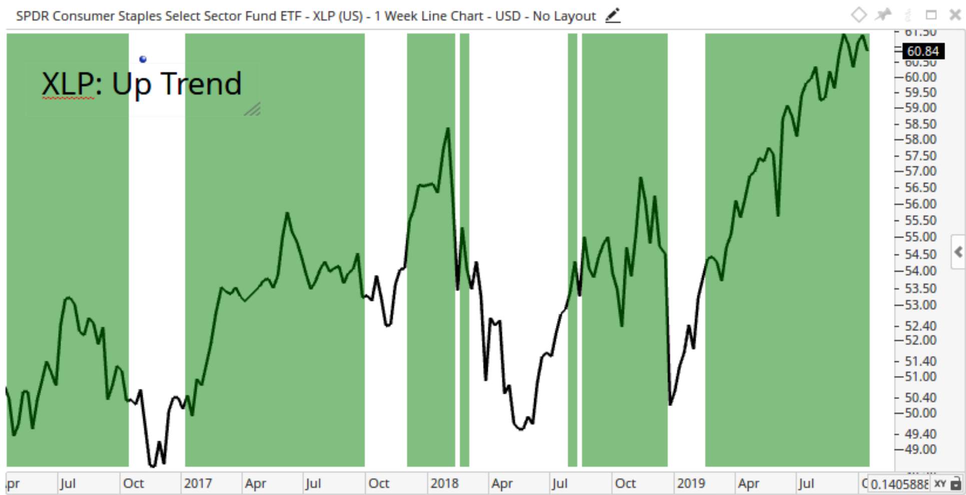
Optuma

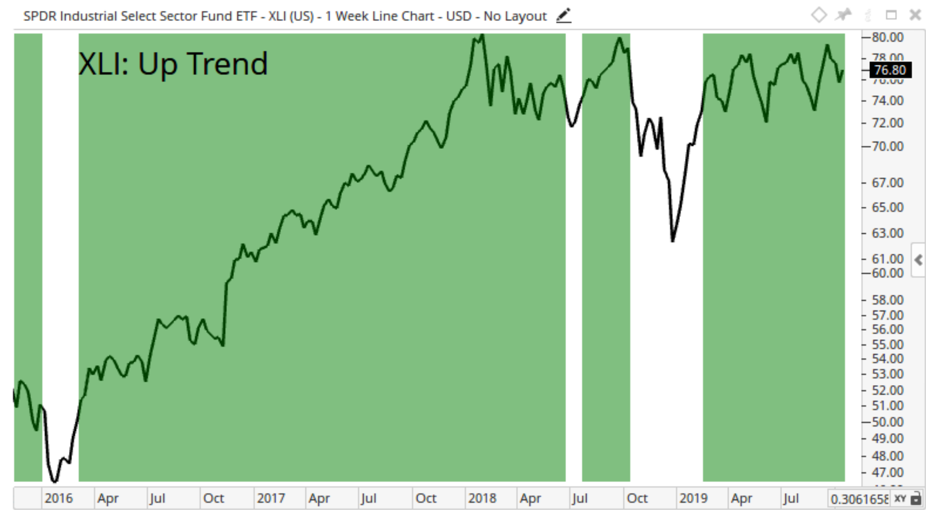
11th Oct 2019

SPX, XLK, and XLF are now all in up trends and XLY is now in a down trend. The cause for XLY being classified as a down trend is attributed to the underlying breadth of the sector which has been weakening to a point that's flipped its trend score negative.



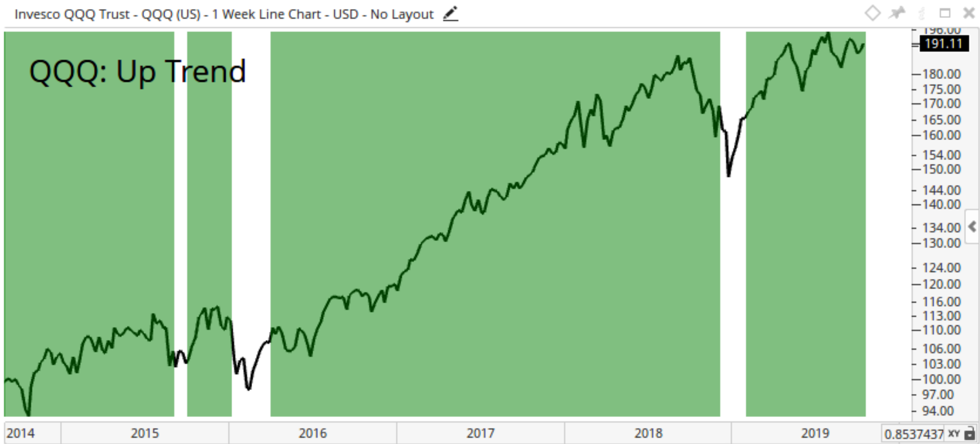


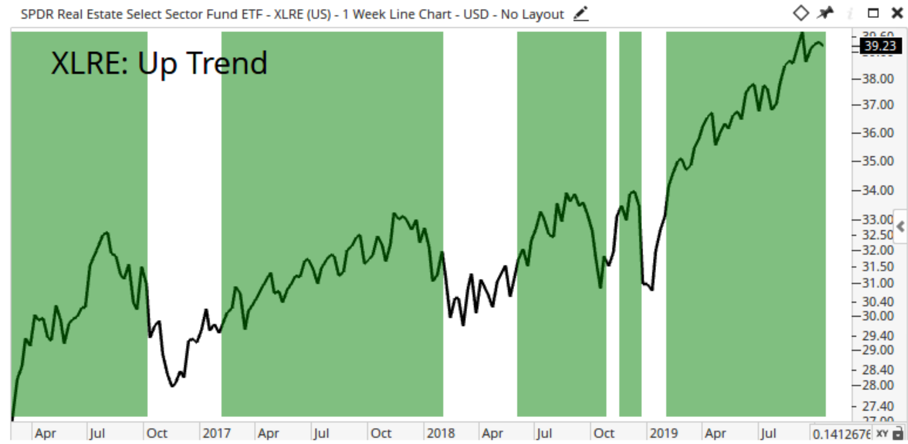


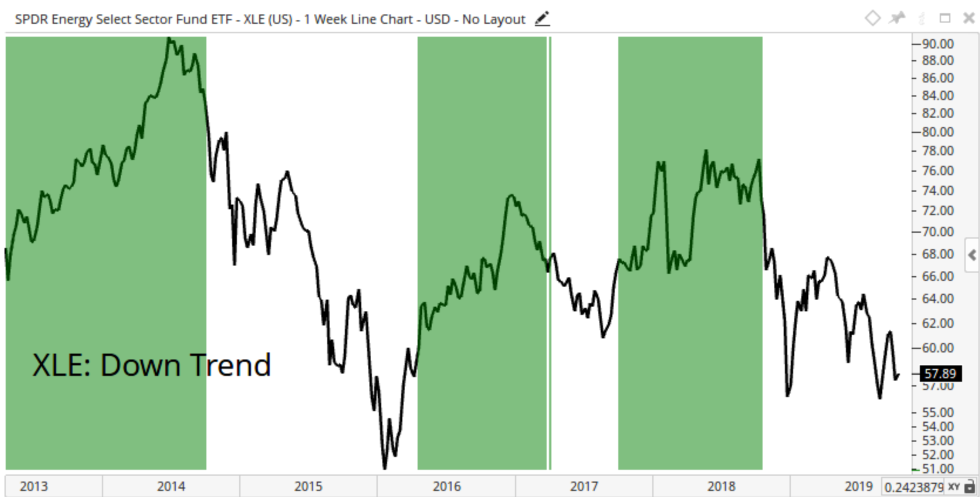


11th Oct 2019

XLU, XLP, and XLI are all in up trends and XLV is in a down trend. The cause for XLV being classified as a down trend is attributed to the underlying breadth of the sector which has been weakening to a point that's flipped its trend score negative.







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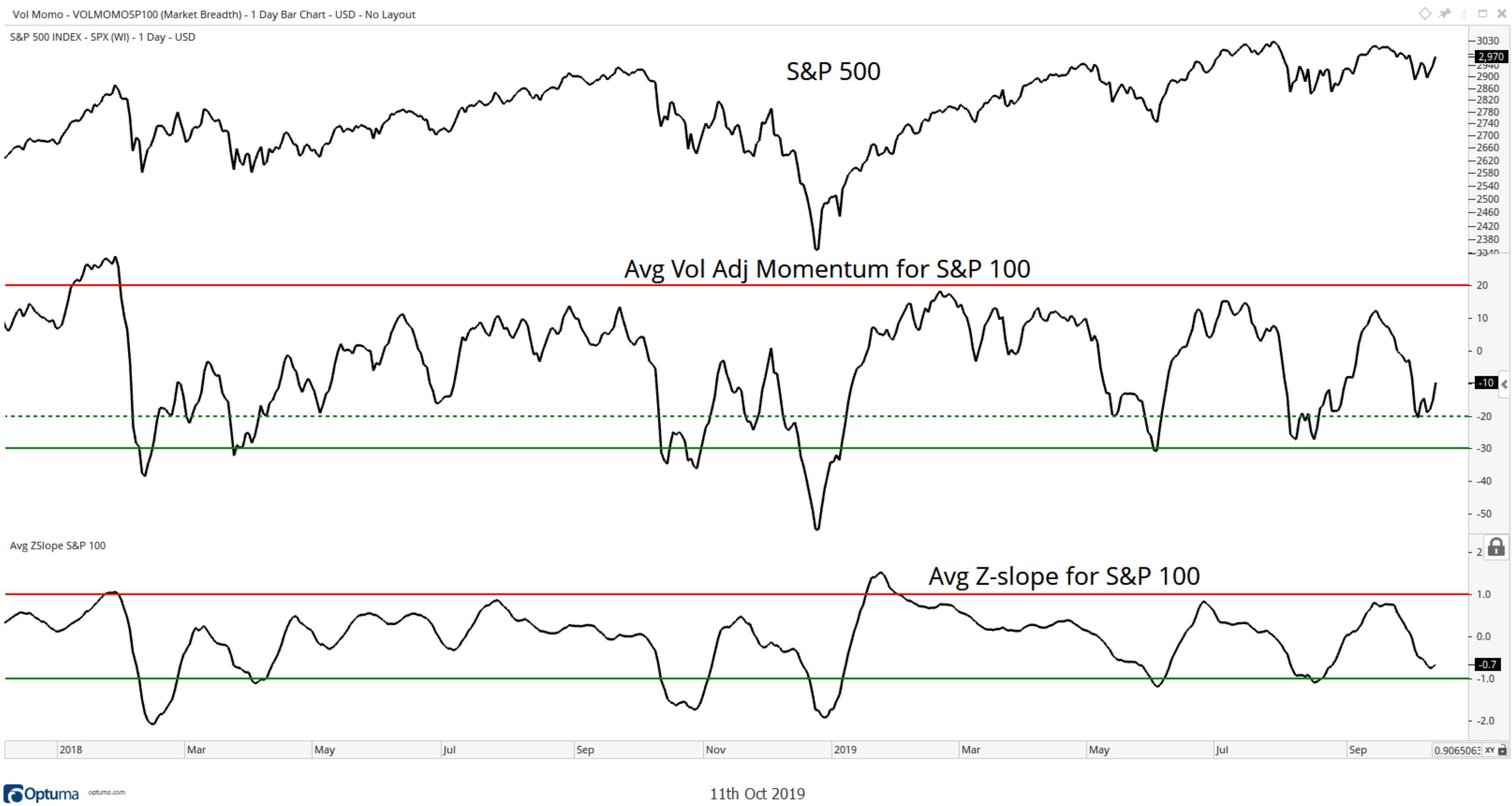
11th Oct 2019

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.

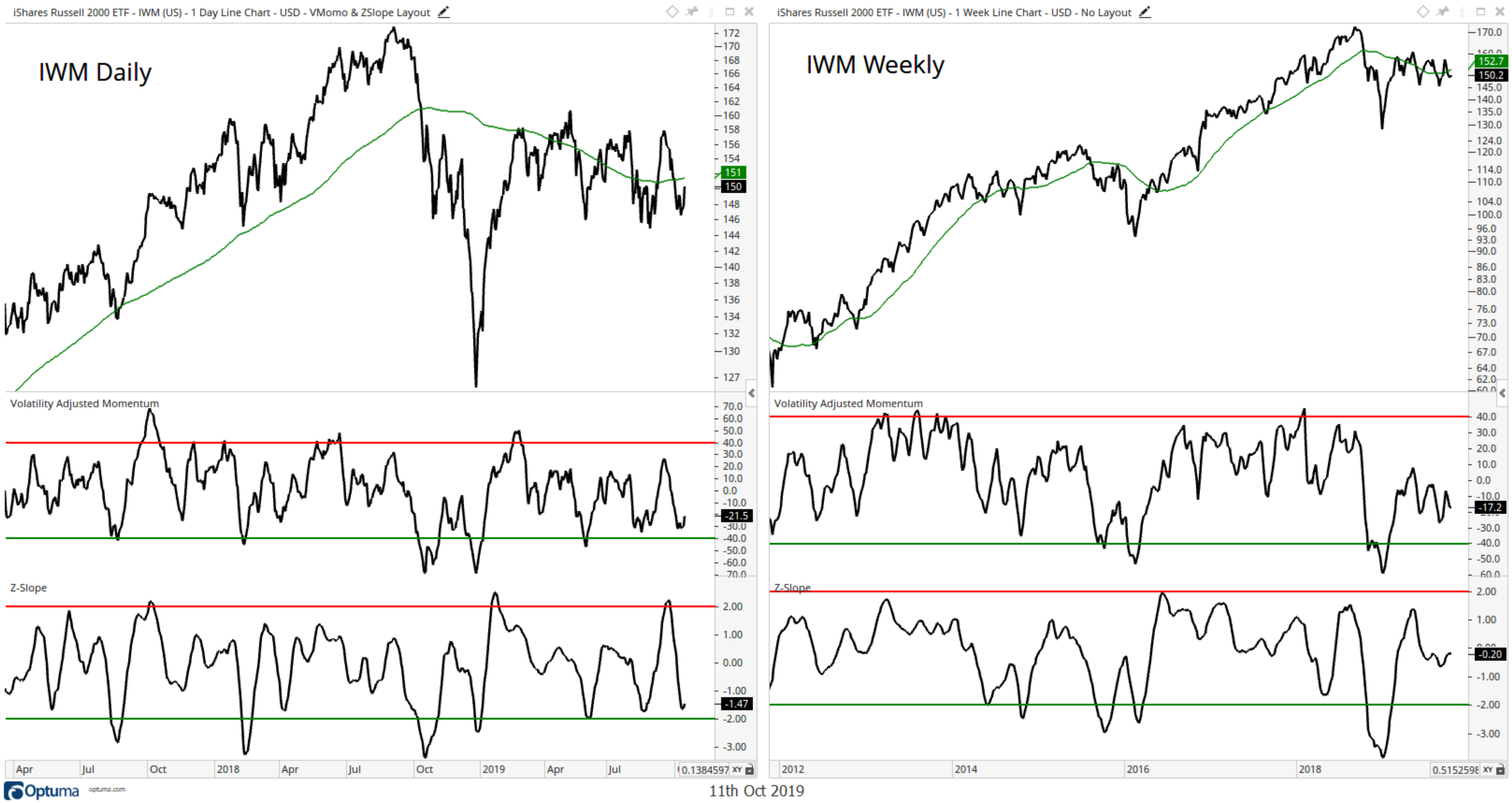


11th Oct 2019

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 have begun to recover and strengthened over the last week.

11th Oct 2019

Daily Z-Slope and VaM both are neutral.



Neutral readings for both VaM and Z-slope.

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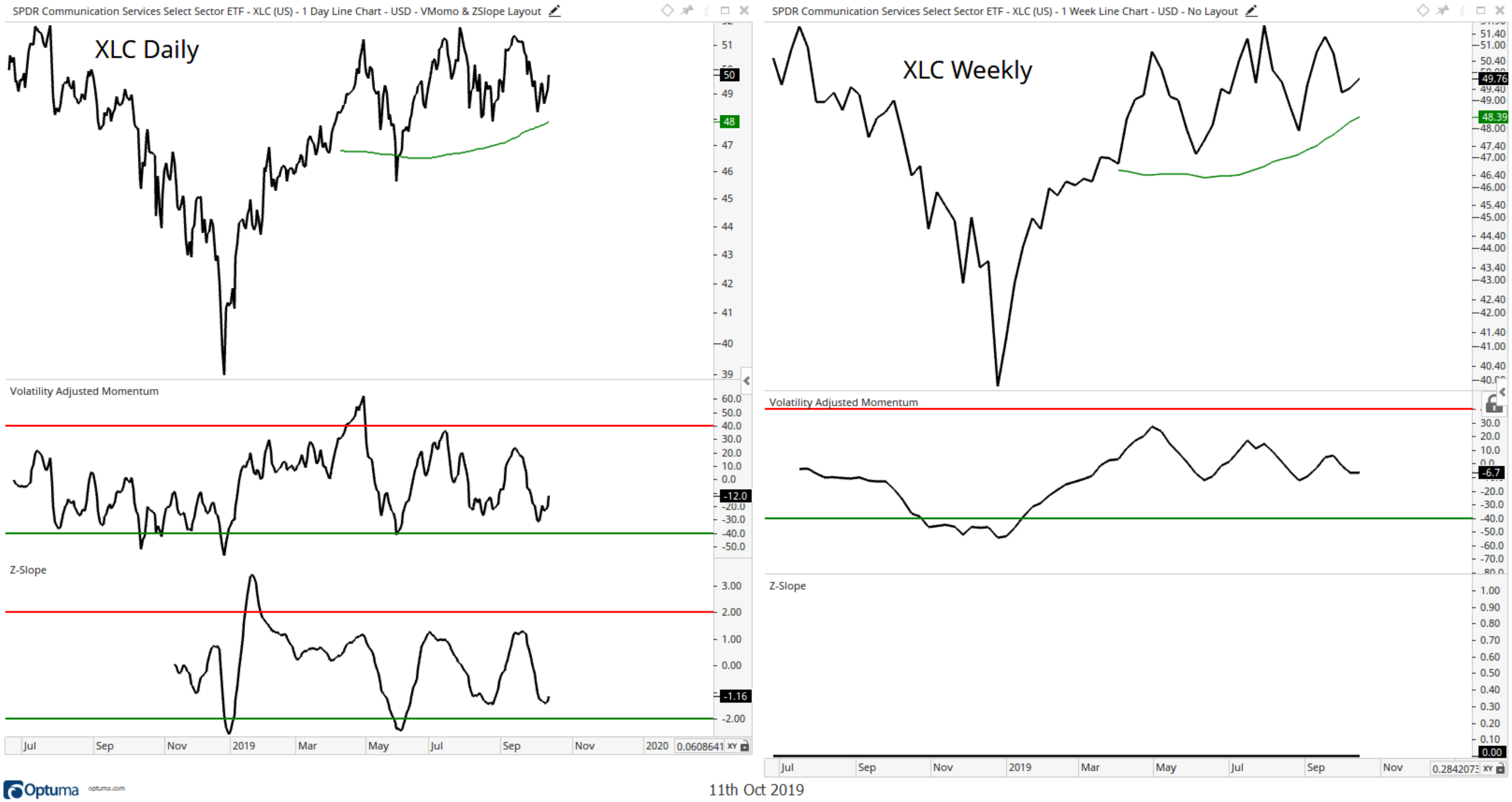
11th Oct 2019

Neutral readings for both VaM and Z-slope.

11th Oct 2019

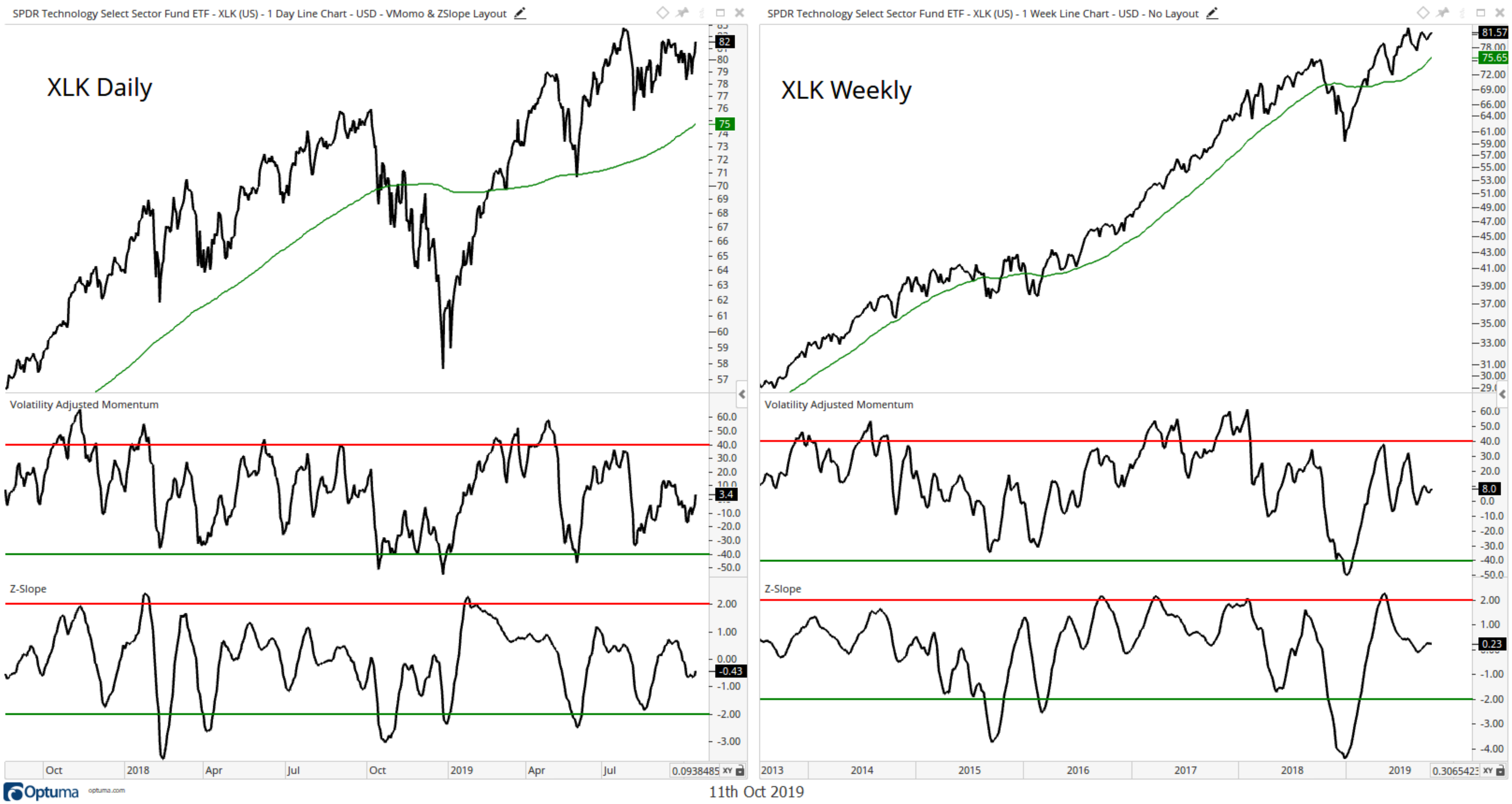
Neutral readings for both VaM and Z-slope.

Neutral readings for both VaM and Z-slope with VaM coming off 'oversold' level.

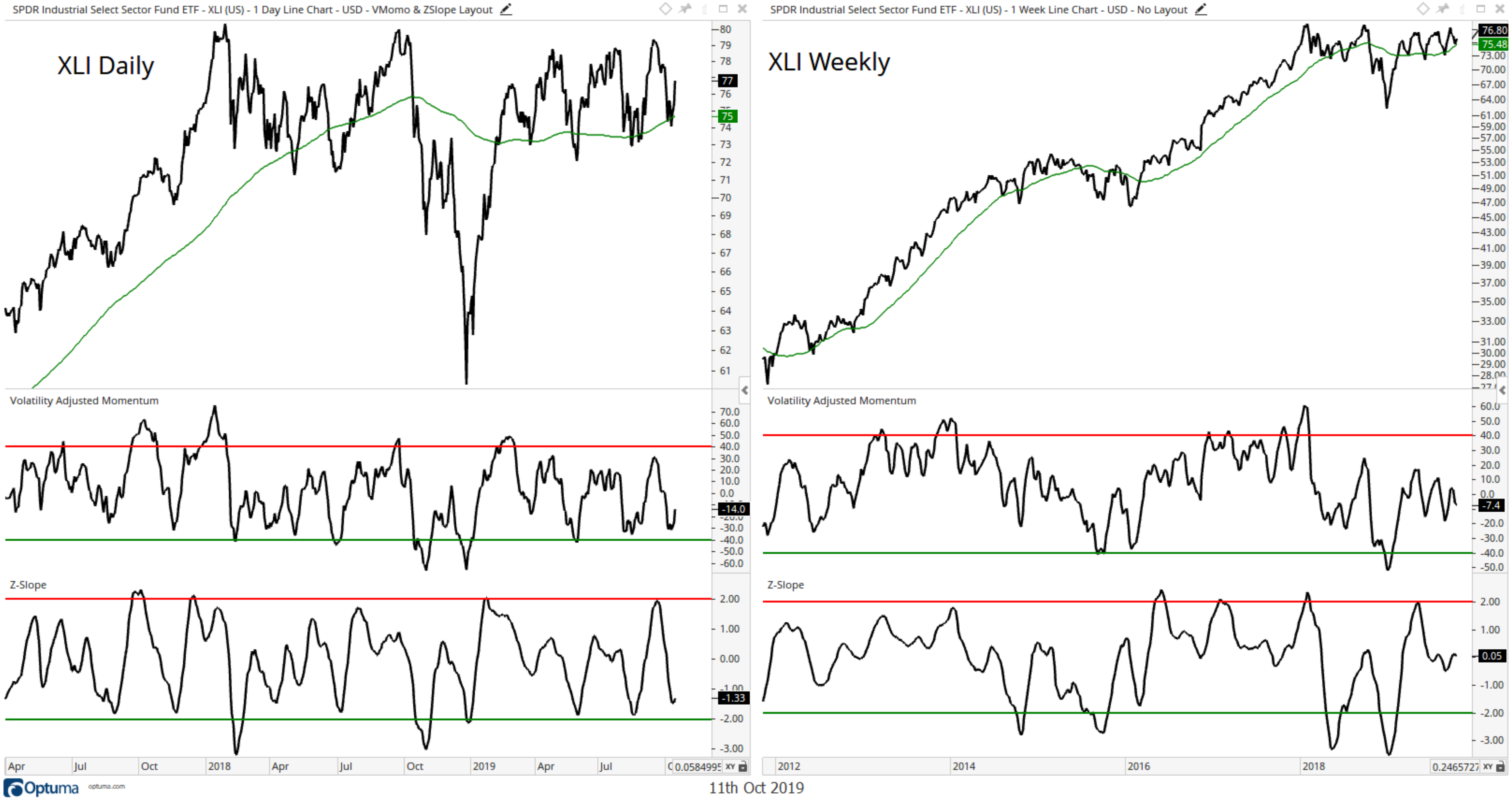


Neutral readings for both VaM and Z-Score.

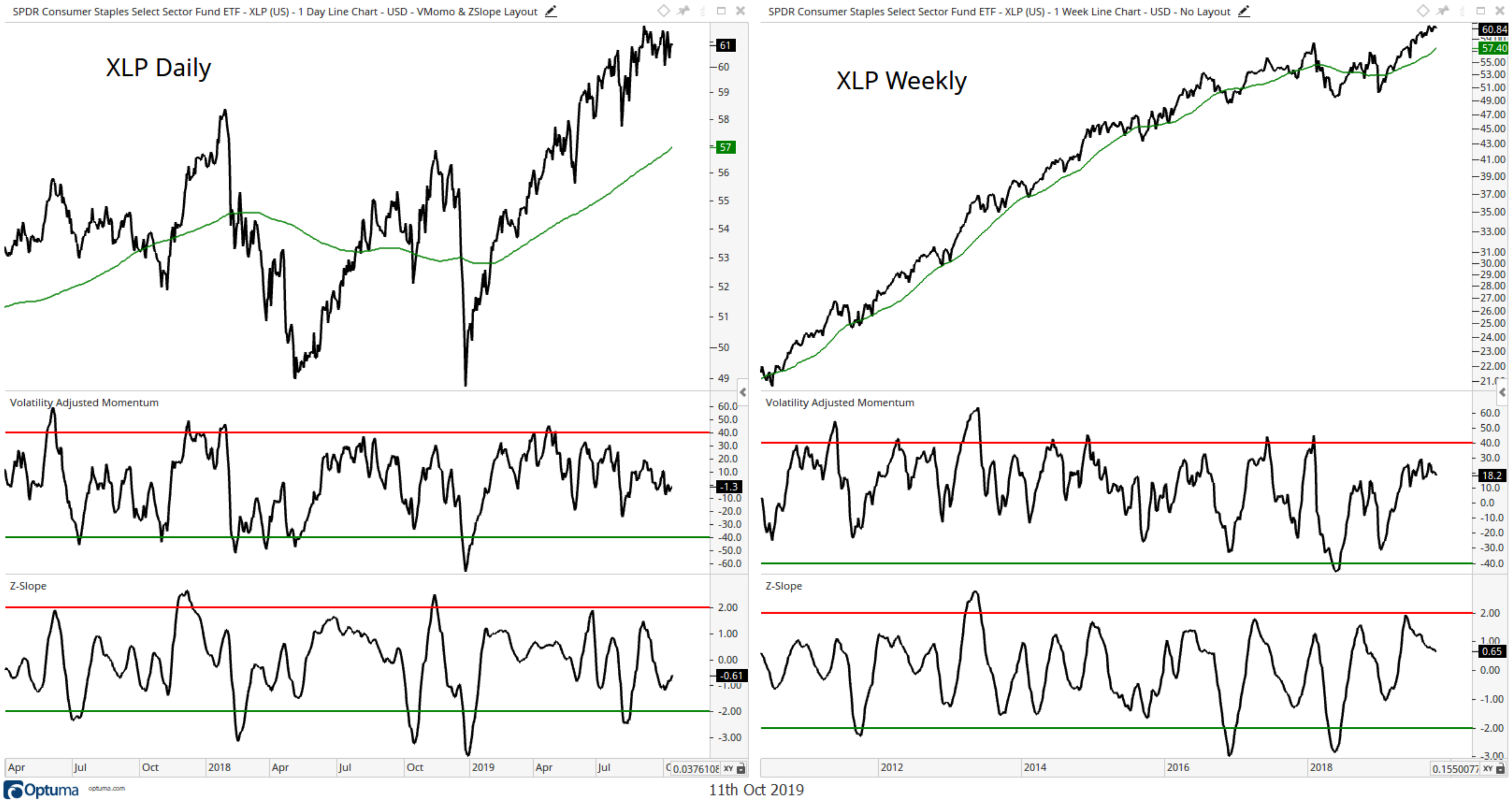
Neutral readings for both VaM and Z-slope.



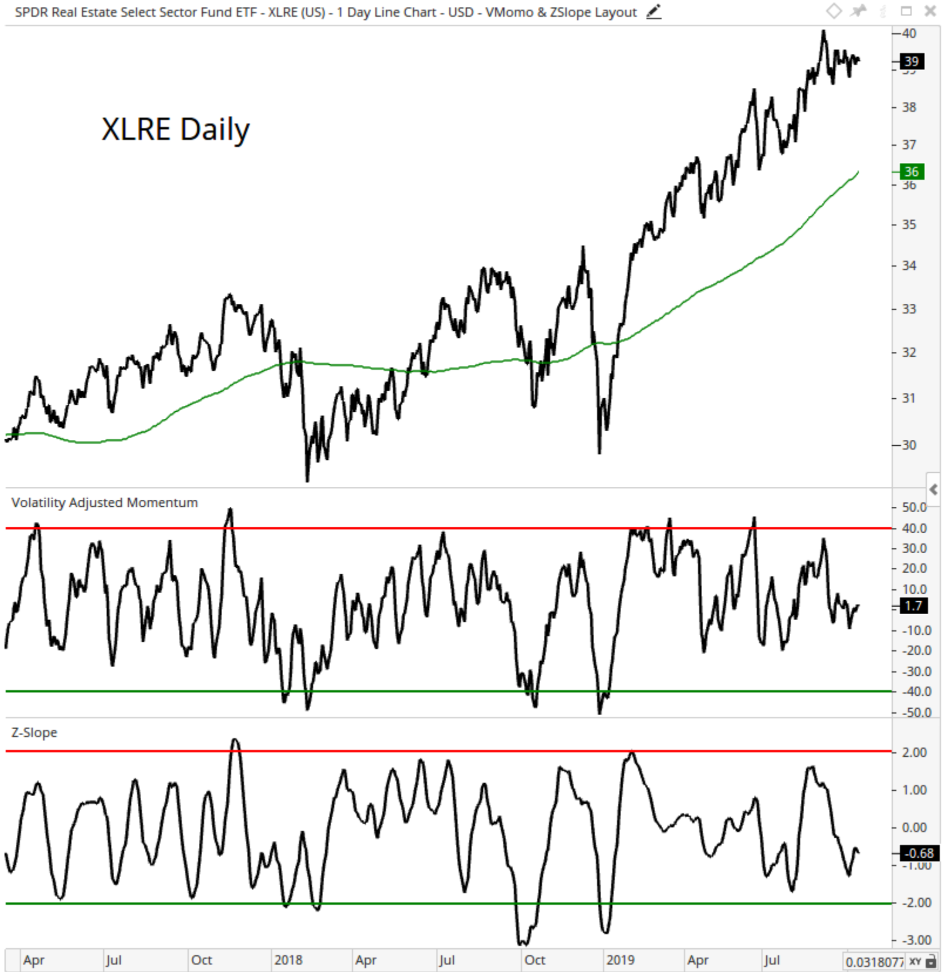
Neutral readings for both VaM and Z-slope.



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.



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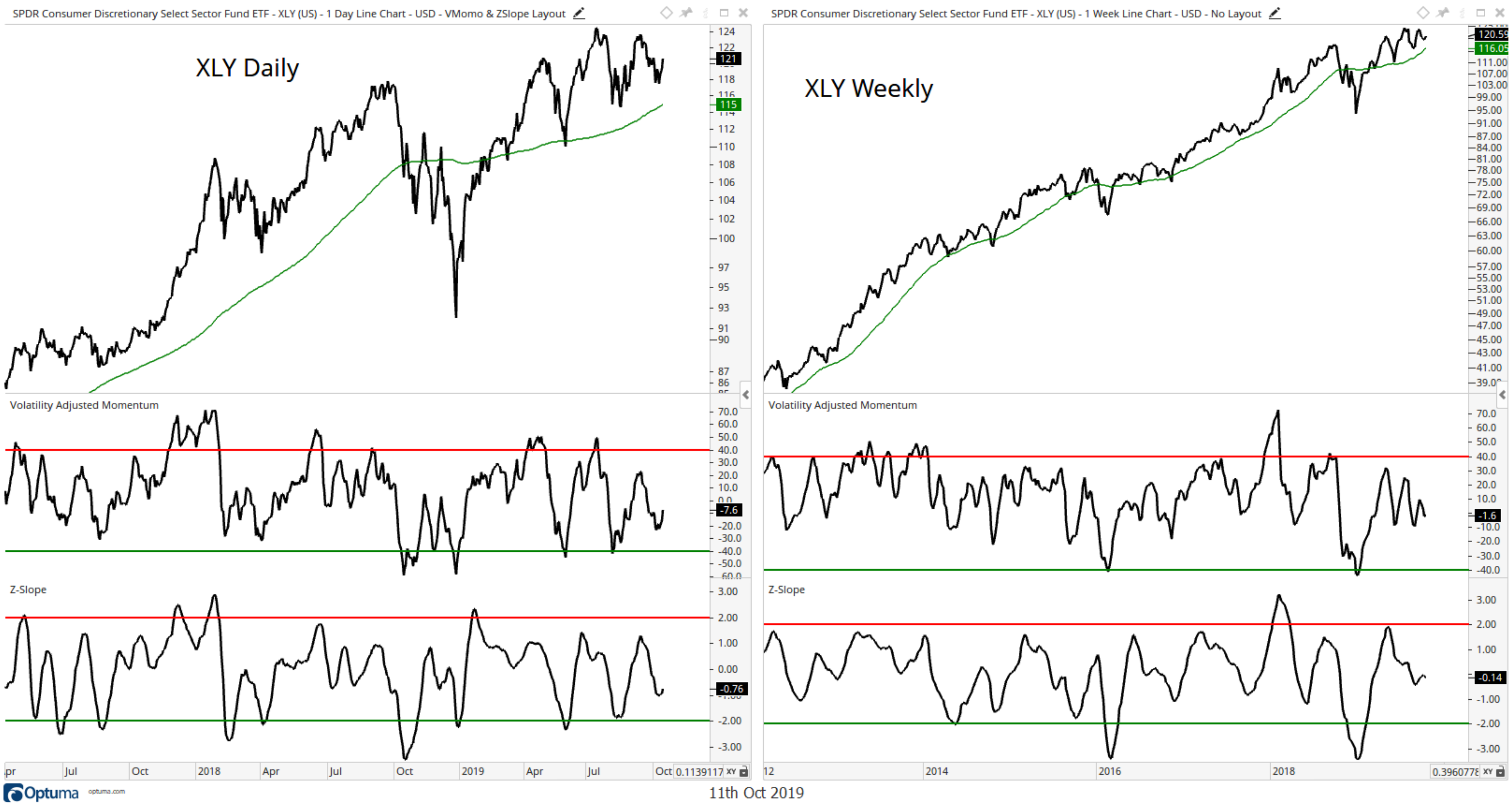
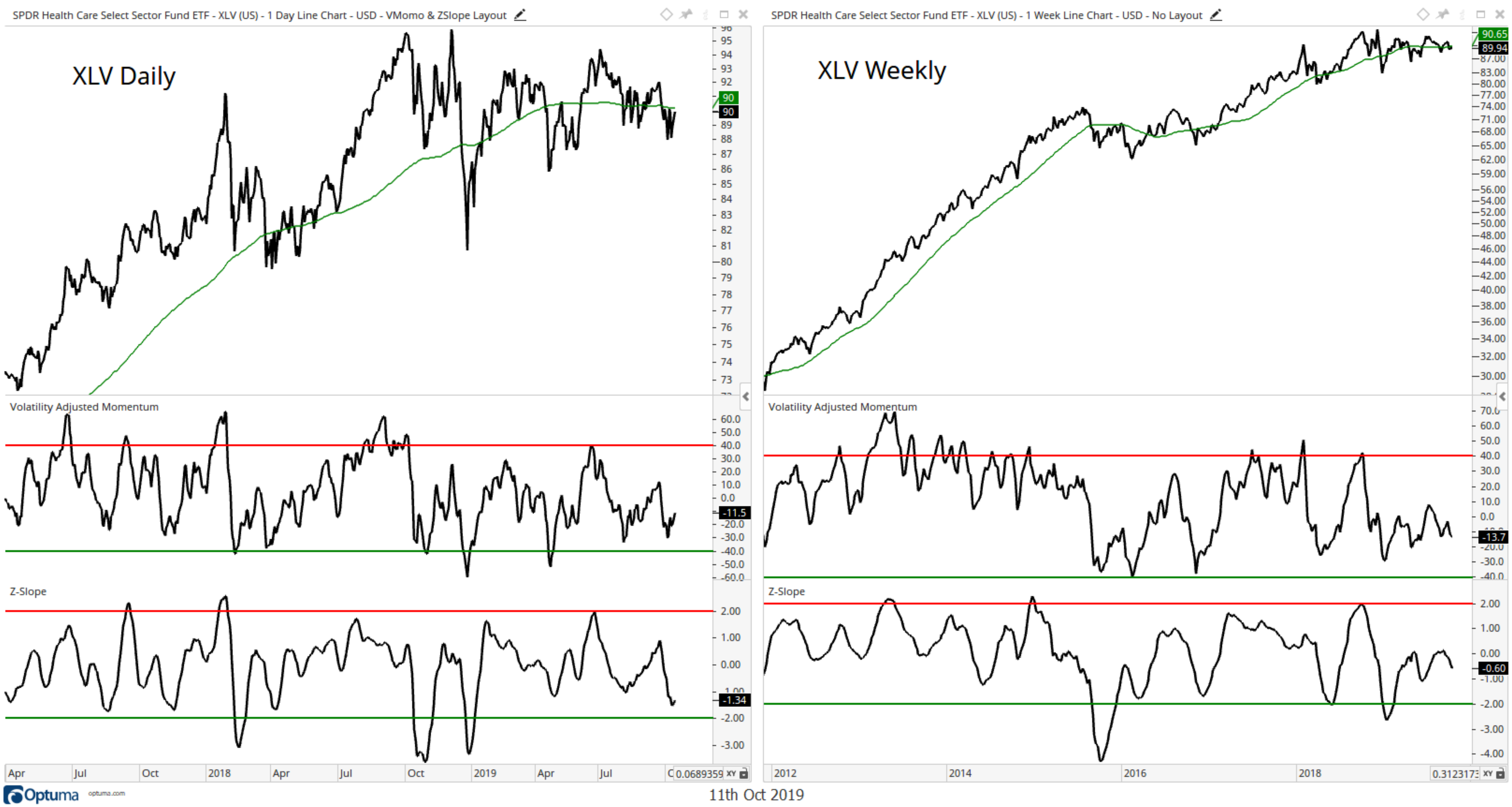
11th Oct 2019

Neutral readings for both VaM and Z-slope.

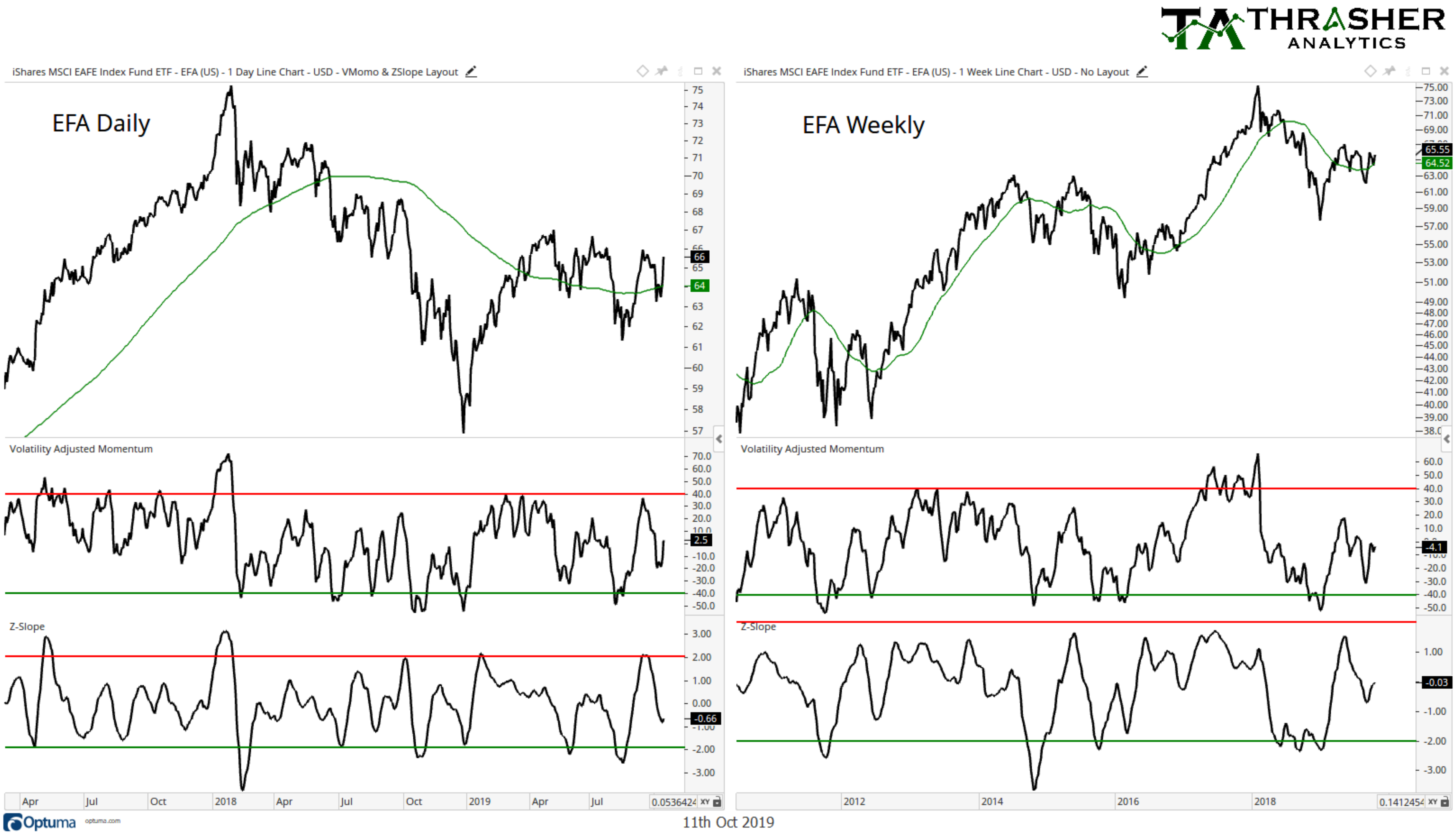
Neutral readings for both VaM and Z-slope.



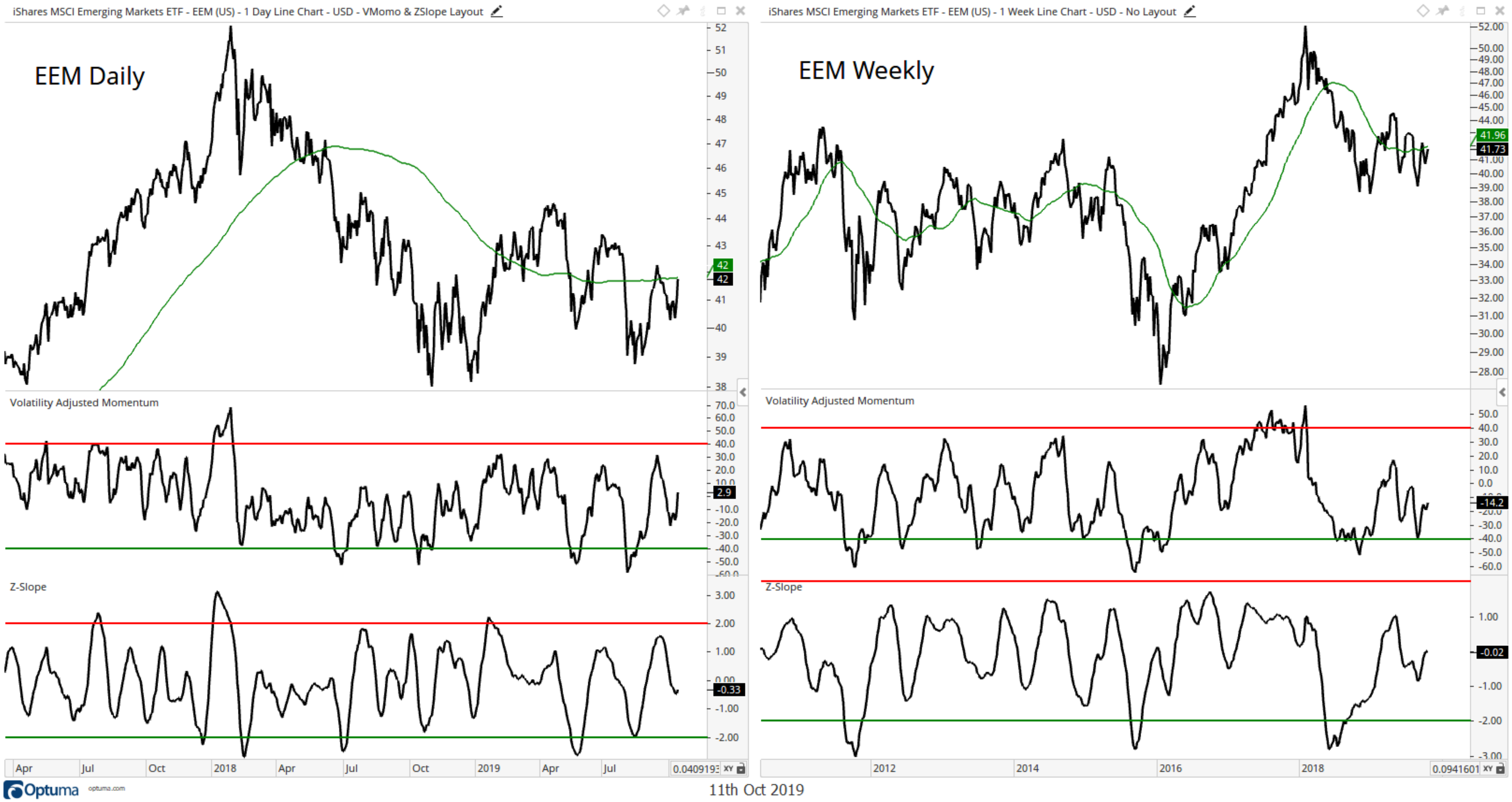
Neutral readings for both VaM and Z-slope.



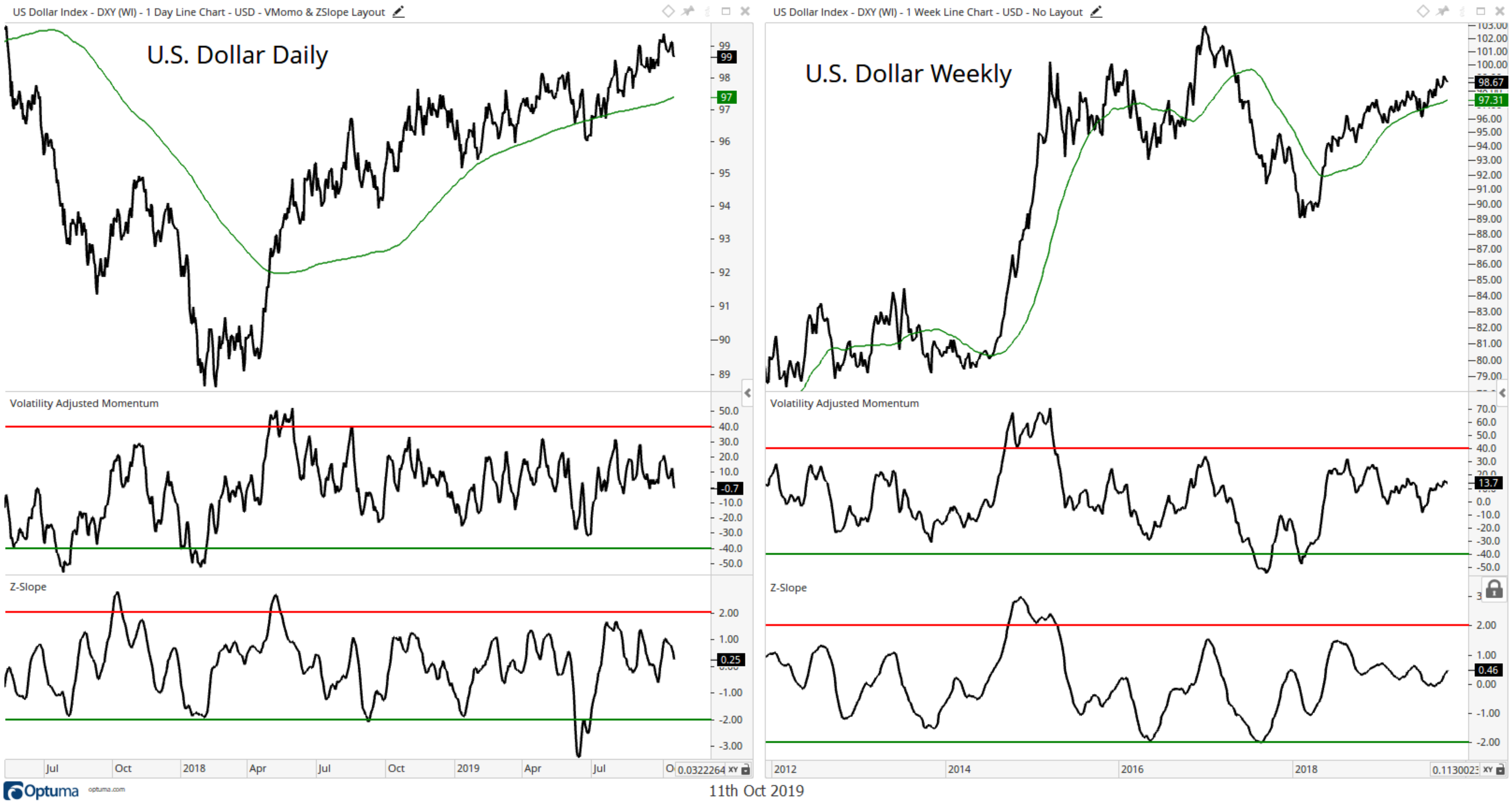
Neutral readings for both VaM and Z-slope.



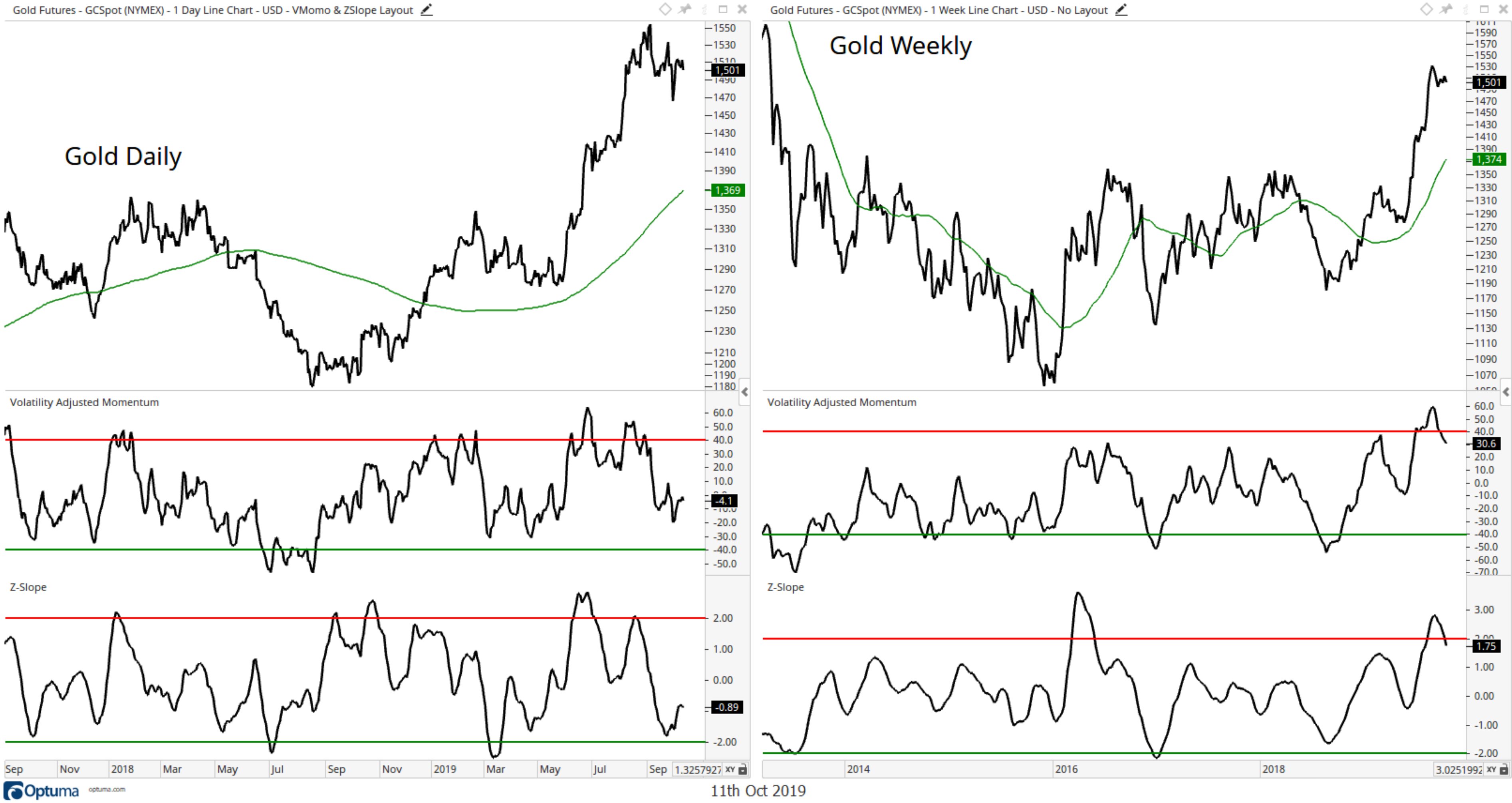
Neutral readings for both VaM and Z-slope after coming off ‘overbought’ status.



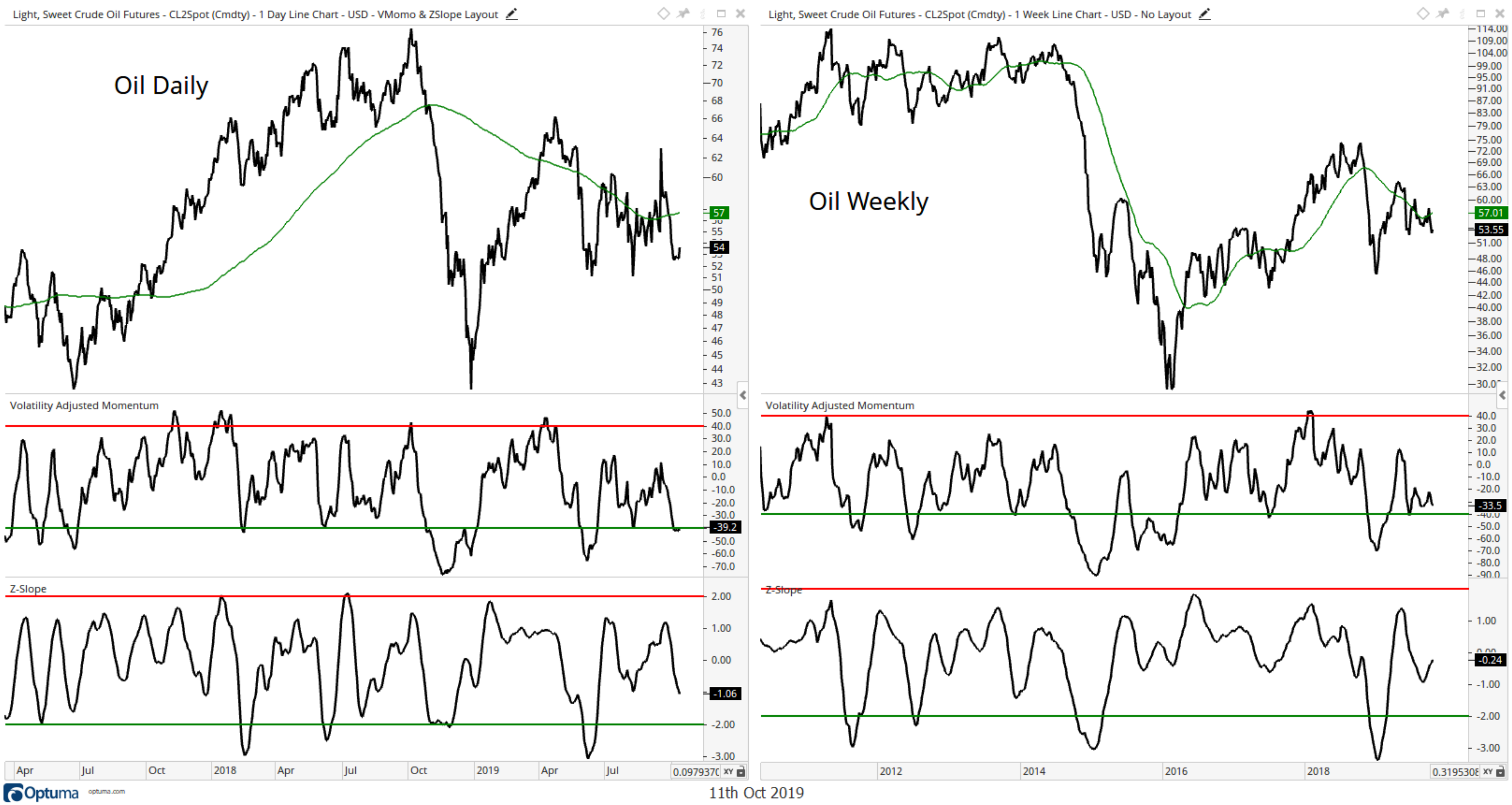
Neutral readings for both VaM and Z-slope.



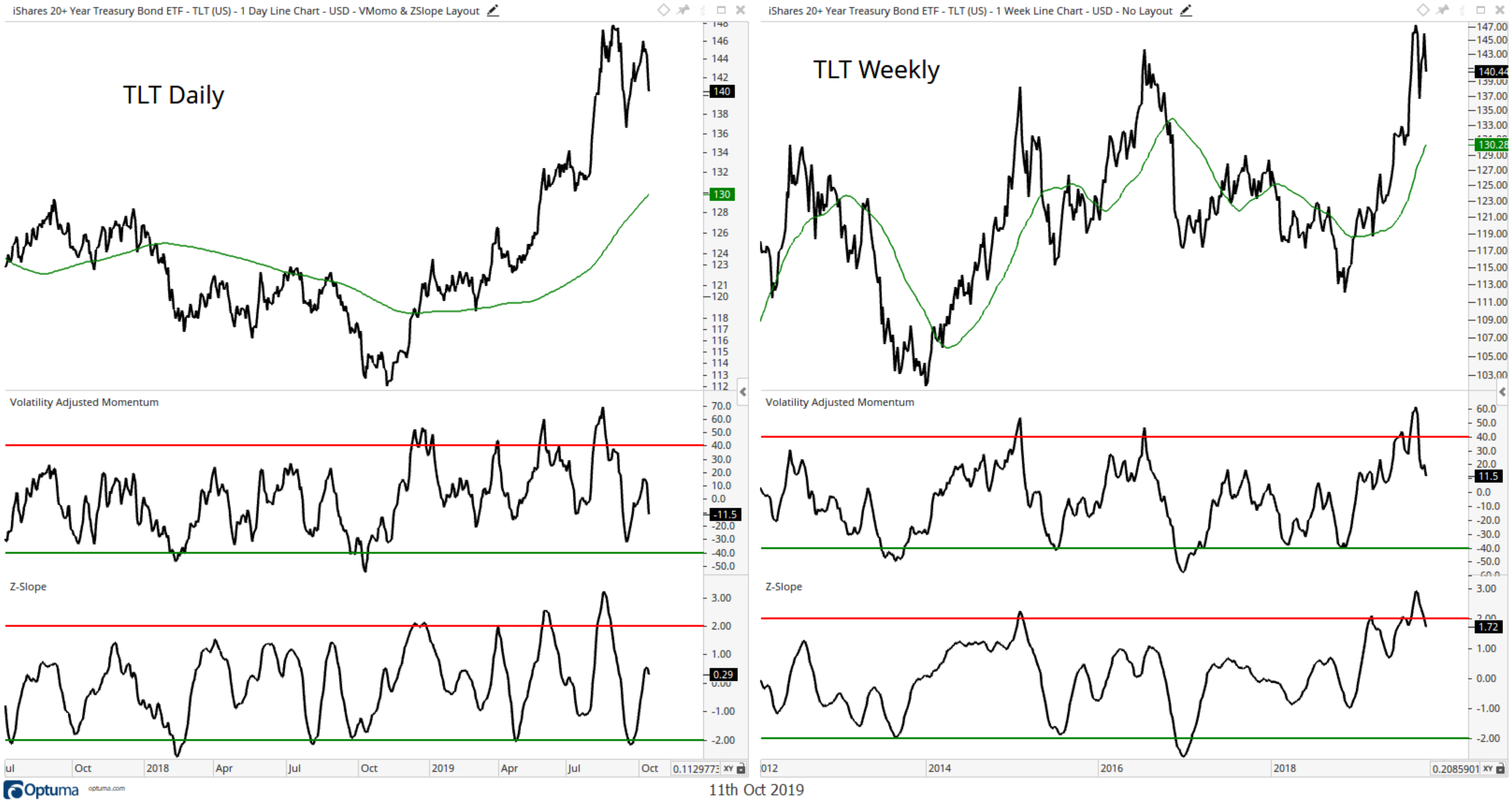
Neutral readings for both VaM and Z-slope.



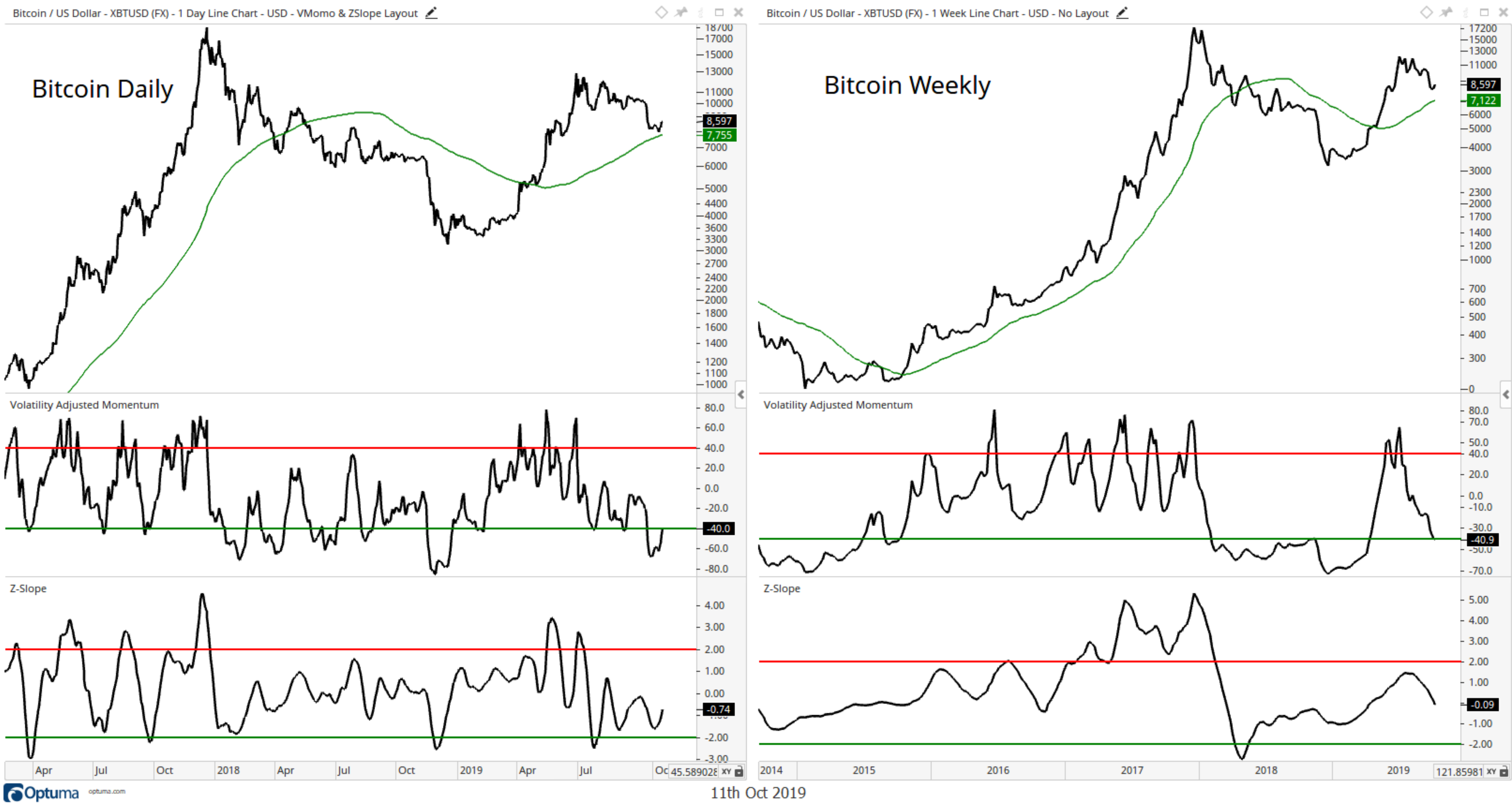
Neutral readings for both VaM and Z-slope with weekly VaM and Z-slope coming off 'overbought' level.



Neutral readings for Z-slope with VaM ‘oversold’ on daily.



Neutral readings for both VaM and Z-slope.

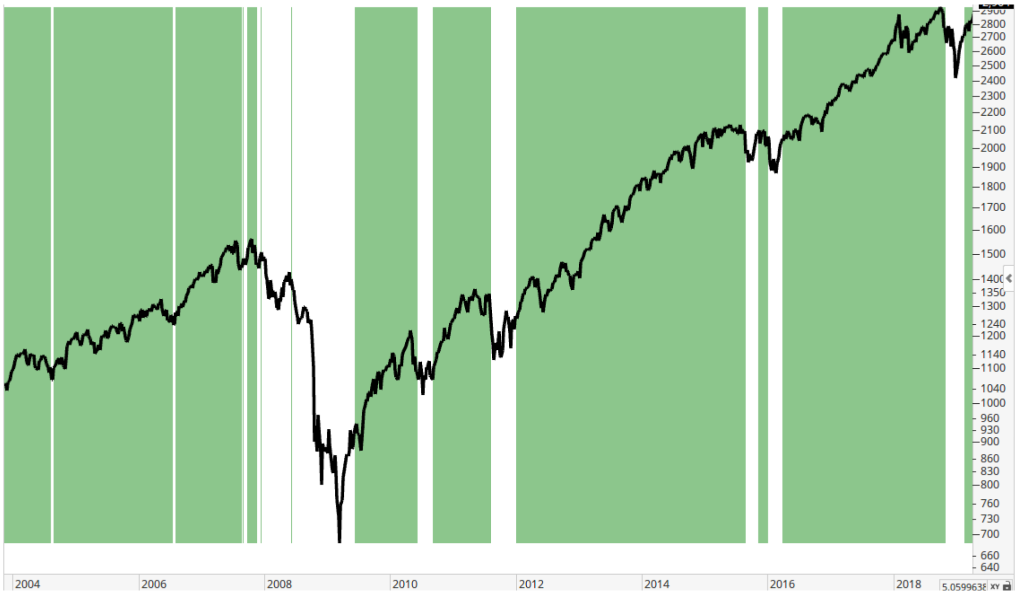


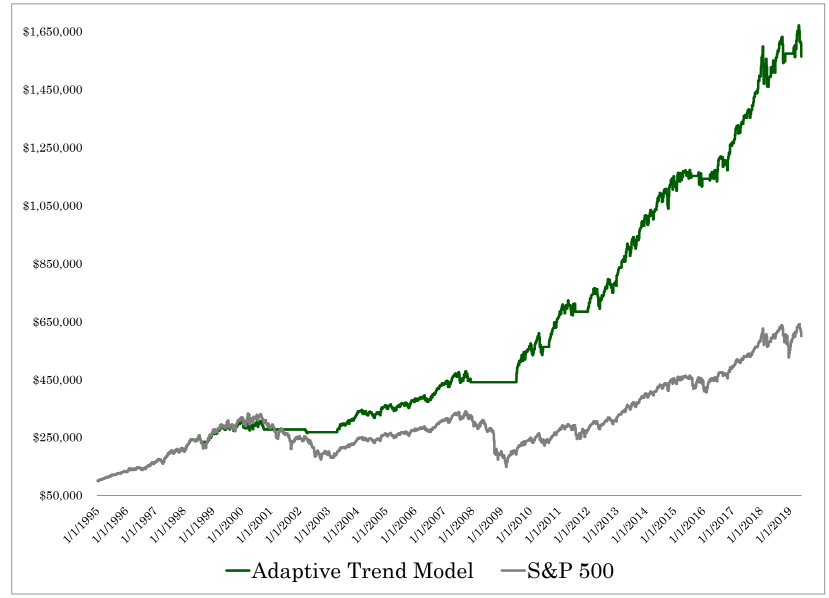
Daily VaM is 'oversold'.

Daily VaM is 'oversold'.

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.



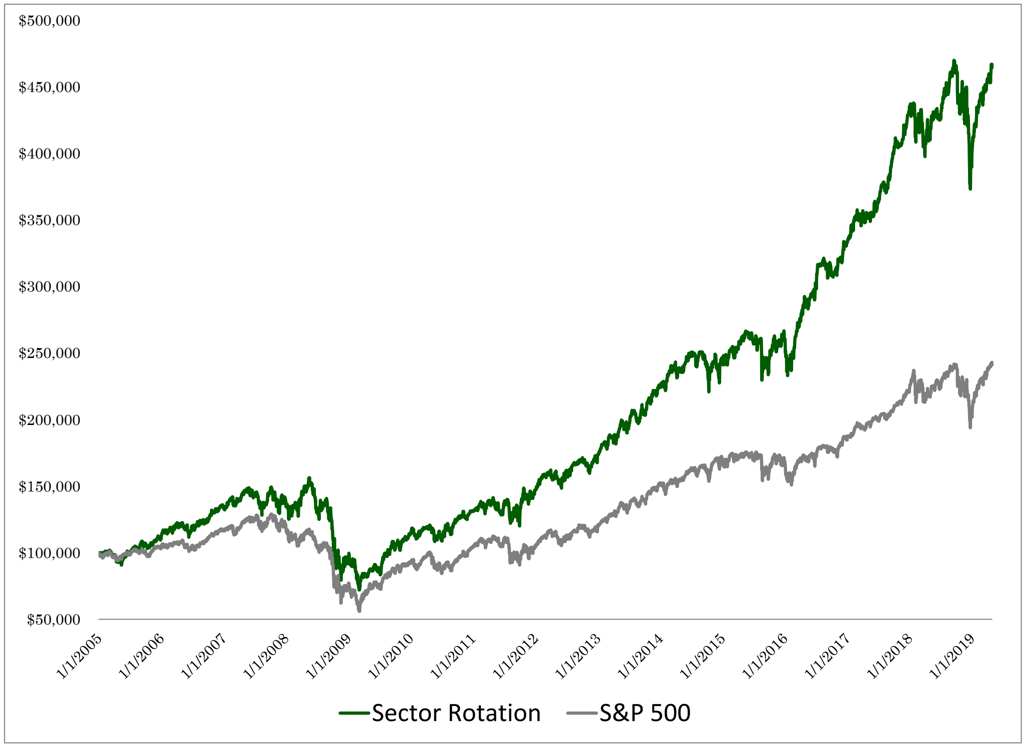


	Annualized Return	Annualized Volatility	Beta	Sharpe	Maximum Drawdown
Adaptive	12.5%	10.3%	0.47	0.97	14.1%
S&P 500	8.9%	15.3%	1	0.42	56.6%

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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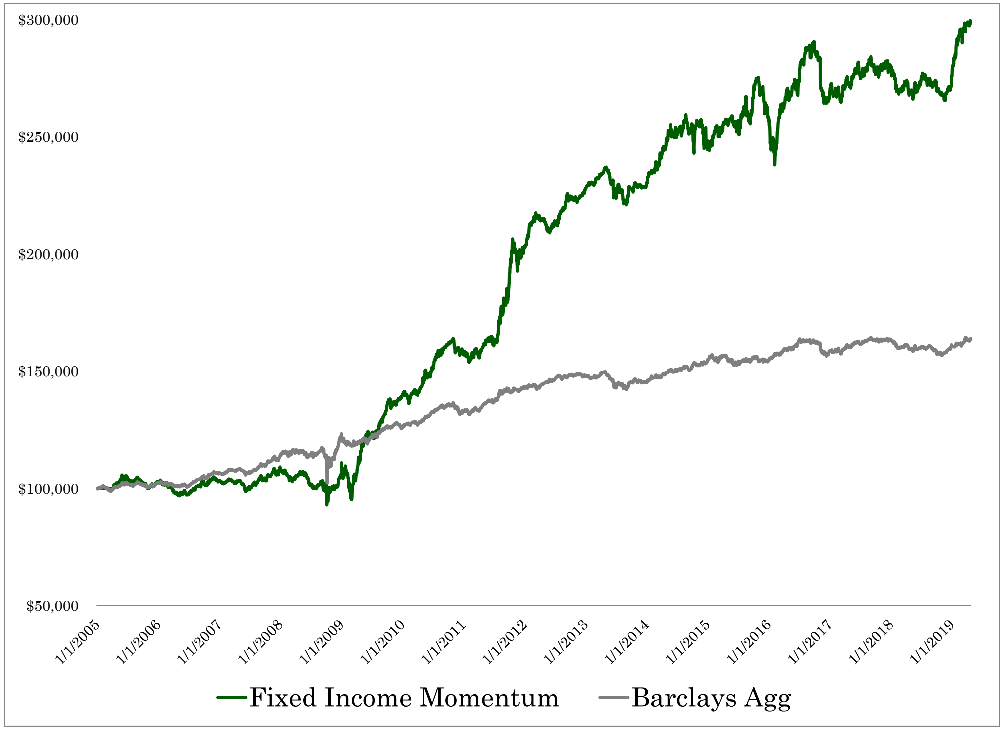
If equities are the speedboats in the sea of financial markets then fixed income securities are the tanker ships. While stocks can move violently in both directions, Thrasher Analytics research has shown that fixed income markets historically show consistent trends. Because of the tanker-like movements 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%

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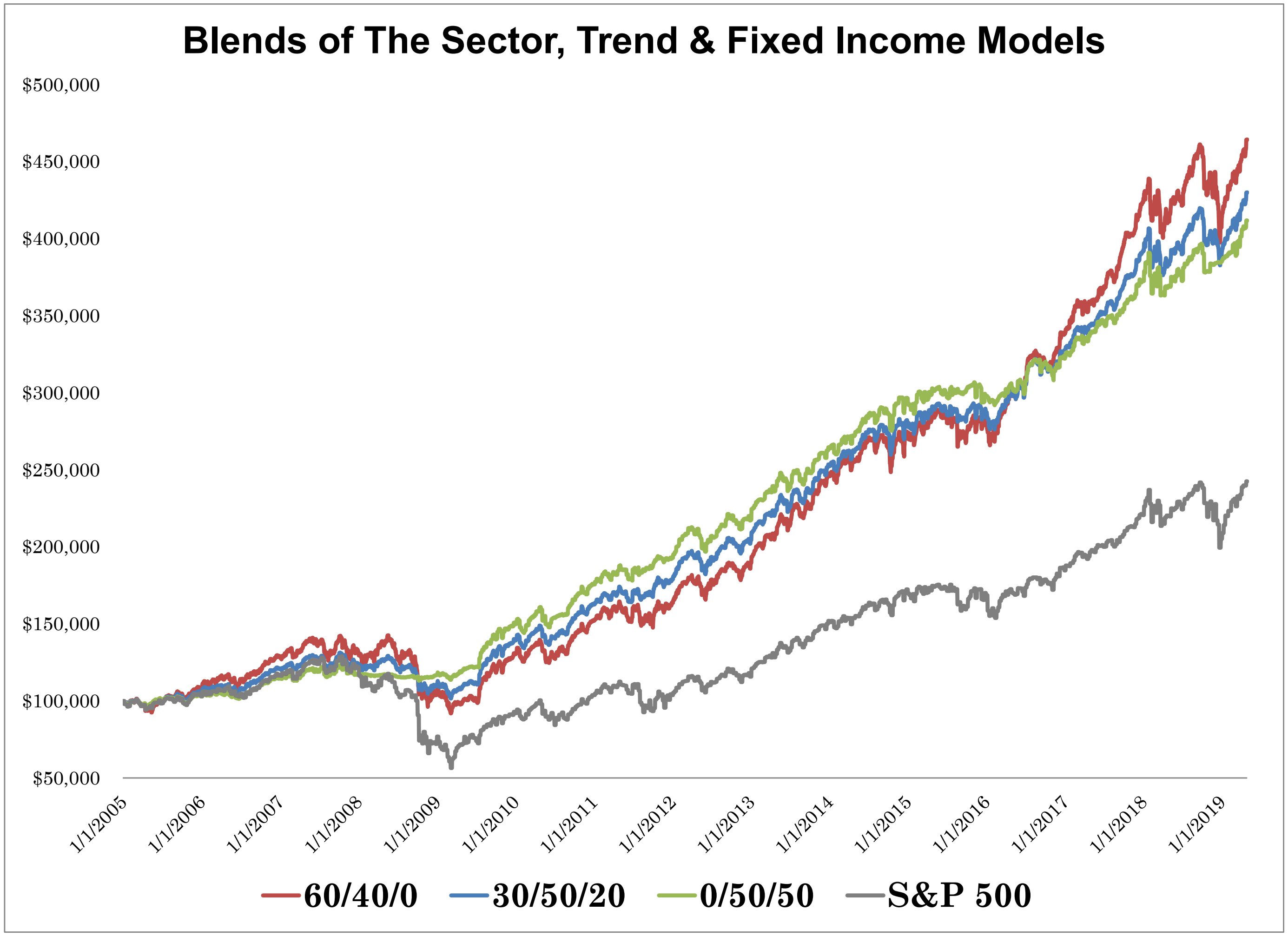
The concept of diversification is not new to financial markets. While many market participants focus on the diversification of the underlying holdings. This procedure is can be vastly skewed during periods of high market turmoil, in which correlations across asset classes tend to historically rise. Thrasher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

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