

ThrasherAnalytics.com

BI-WEEKLY RESEARCH & ANALYSIS

Sector Rotation: November	
Real Estate	XLRE
Utilities	XLU
Health Care	XLV

Fixed Income Rotation: Q4	
Junk Bond	JNK
Aggr Bond	AGG

Index & Sector Adaptive Trend Models		
	Up Trend	Down Trend
SPX	X	
QQQ	X	
IWM	X	
XLF	X	
XLY	X	
XLK	X	
XLV	X	
XLU	X	
XLP	X	
XLI	X	
XLRE	X	
XLE		X
XLB	X	

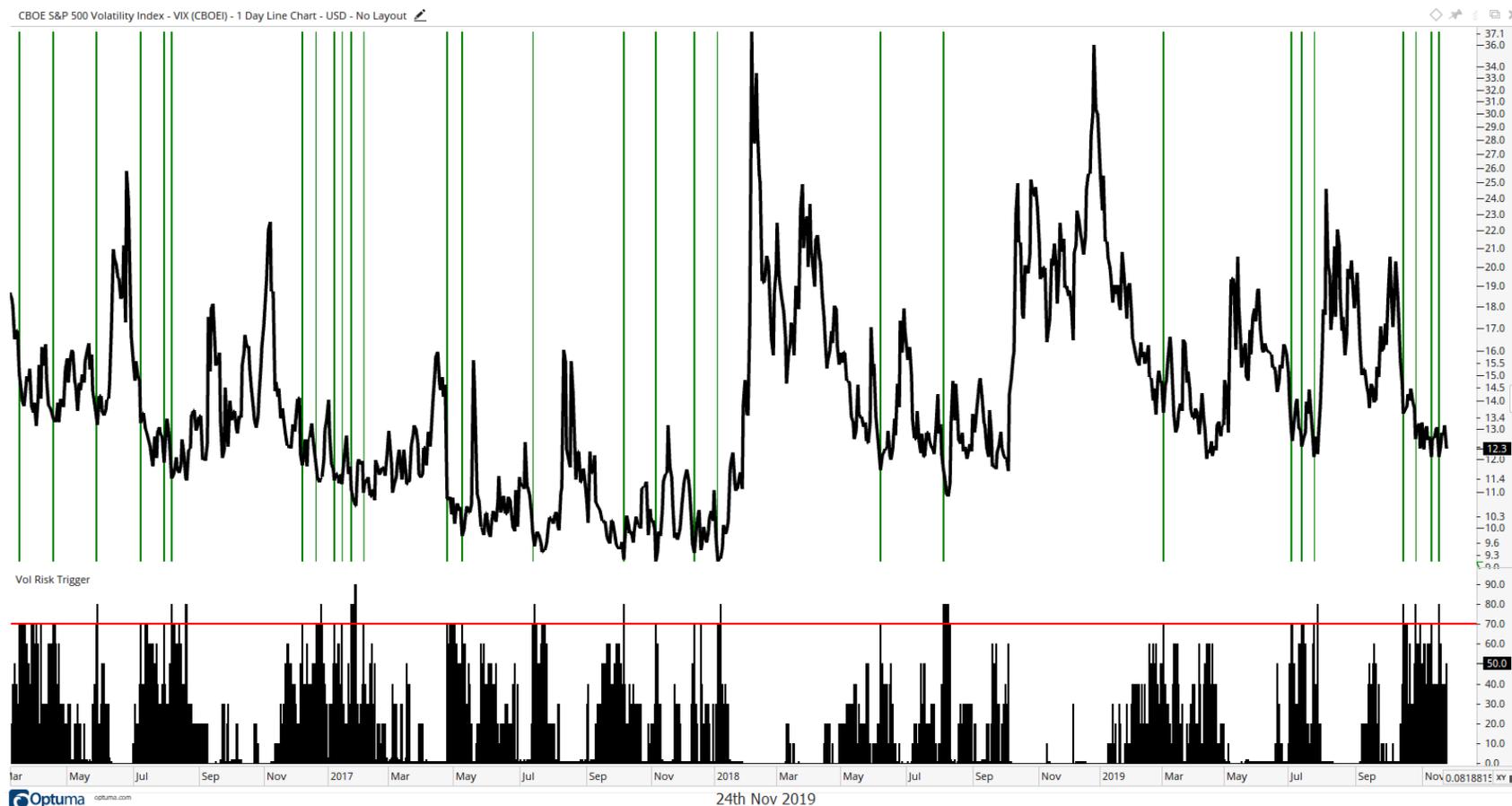
Daily Sentiment Index	
	% Bullish
S&P 500	76
Nasdaq 100	79
Nikkei	69
VIX	15
10yr Treasury	43
5yr Treasury	43
CRB Index	61
Gold	31
U.S. Dollar	59

*Green < 25% Red > 80%

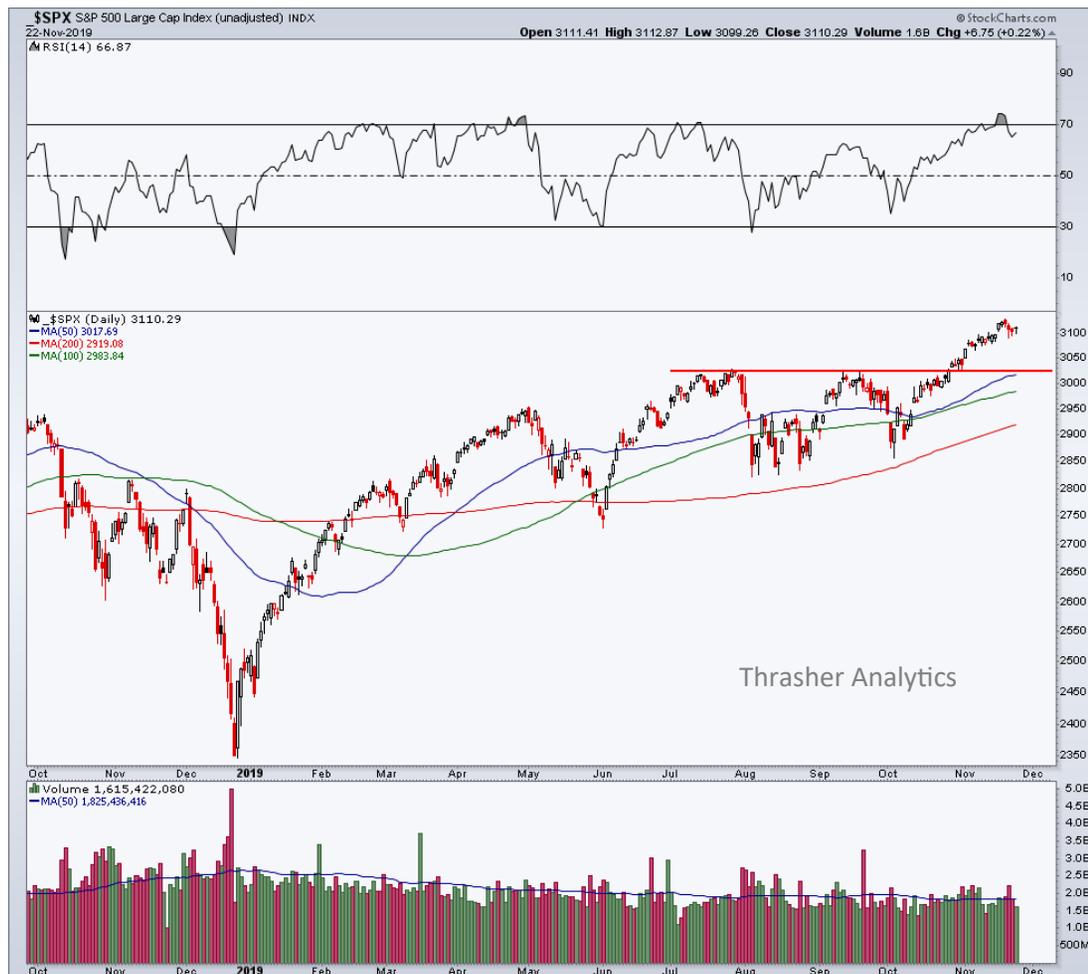
Notable Breadth Data:	
SPX >50MA	65.15%
SPX >200MA	69.31%
Nasdaq >50MA	66.02%
Nasdaq >200MA	68.93%

Sector	> 50MA	> 200MA	1wk Perf ▼	1mo Perf	3mo Perf	12mo Perf
SPDR Health Care Select Sector Fund ETF	True	True	0.82%	6.97%	8.14%	9.78%
SPDR Financial Select Sector Fund ETF	True	True	0.57%	5.28%	11.73%	14.15%
SPDR Utilities Select Sector Fund ETF	False	True	0.24%	-2.08%	1.38%	16.49%
SPDR Communication Services Select Sector ETF	True	True	0.1%	3.85%	5.66%	19.74%
SPDR Consumer Staples Select Sector Fund ETF	True	True	-0.05%	0.56%	1.11%	12.27%
S & P 500 Stock Index	True	True	-0.33%	3.82%	6.41%	17.37%
SPDR Energy Select Sector Fund ETF	True	False	-0.42%	1.75%	3.33%	-9.32%
SPDR Technology Select Sector Fund ETF	True	True	-0.75%	7.33%	8.5%	33.9%
SPDR Industrial Select Sector Fund ETF	True	True	-0.78%	4.69%	8.7%	16.89%
SPDR Consumer Discretionary Select Sector Fund ETF	False	True	-0.87%	-1.24%	0.53%	17.4%
SPDR Real Estate Select Sector Fund ETF	False	True	-1.12%	-4.84%	-2.43%	15.2%
SPDR Materials Select Sector Fund ETF	True	True	-1.71%	3.92%	5.36%	10.09%

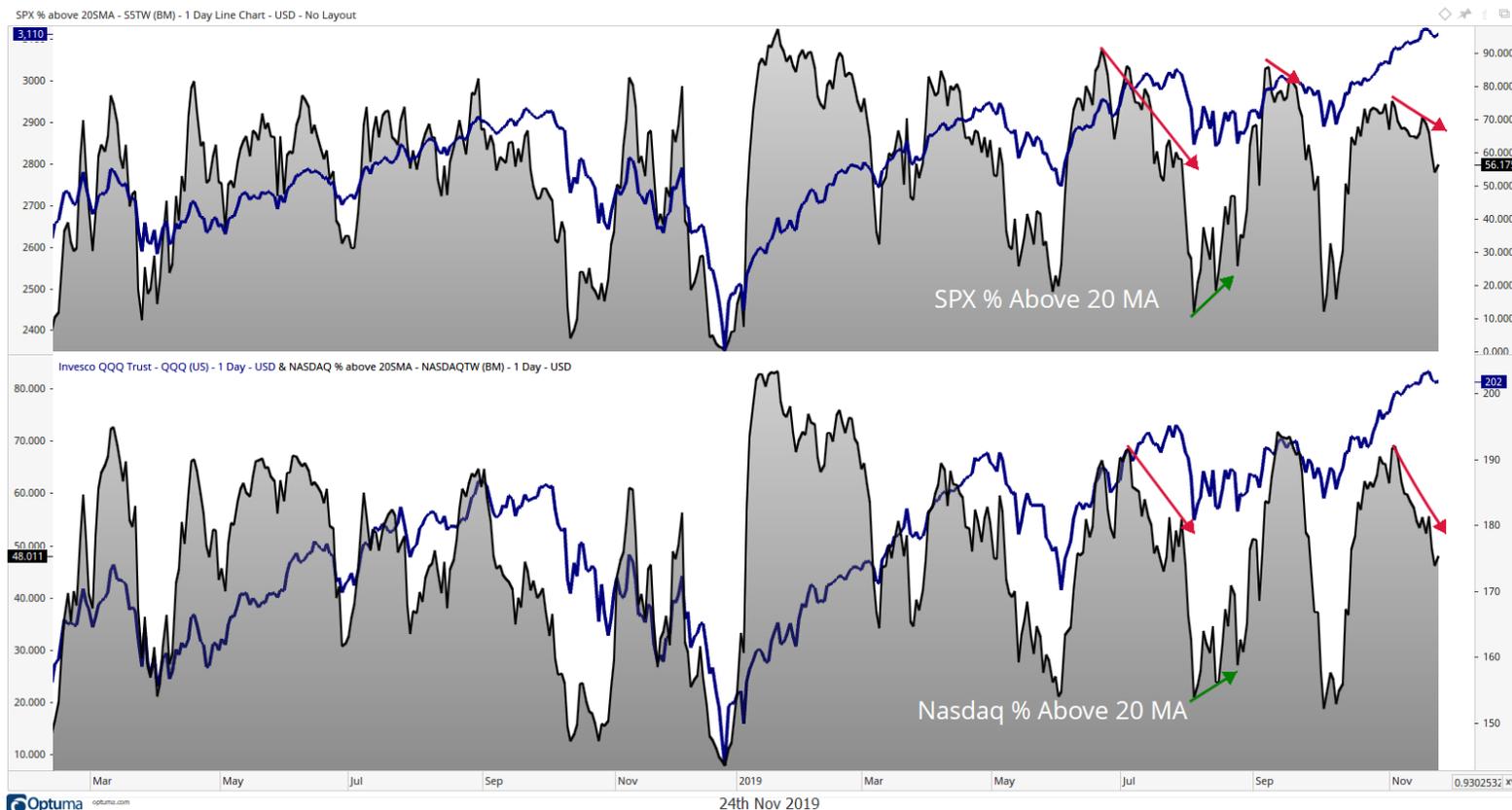
The best performing sector last week was Health Care with five sectors out-performing the S&P 500.



The Volatility Index moves intraweek just above 14 and finished higher by 29bps but overall, along with equities, it was a pretty calm week. The VRT remains signaling a heightened risk of volatility moving materially higher. The commentary from my last letter (two weeks ago) and market update (last week) is still my view on the volatility landscape today - over complacent, frothy sentiment, and short-term weakness in market internals.

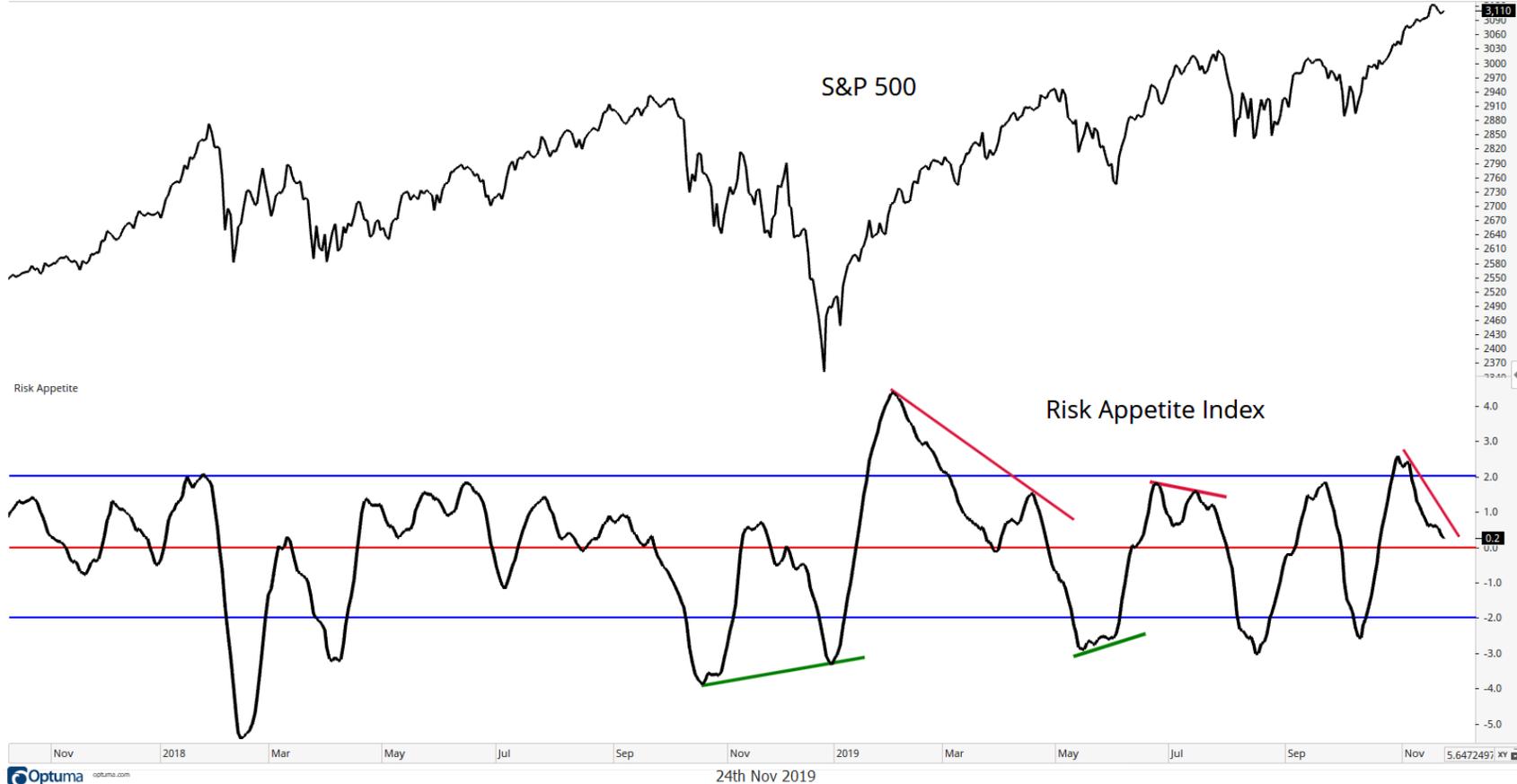


The S&P 500 finished last week lower by 10 points as we move into the shortened trading week this week due to the Thanksgiving holiday in the U.S. Seasonality remains a tailwind for equities, with an extra push by this being a pre-election year which Jeff Hirsch of the Stock Trader’s Almanac notes has given December an avg. gain of nearly 3% for the S&P 500. The SPX has moved off ‘overbought’ momentum with last week’s weakness. Remember, ‘overbought’ momentum is a long-term positive and short-term negative for markets, it’s when momentum is weak and diverging that becomes a concern. This week should be fairly low volume, although the month does finish this week so some degree of rebalancing will likely take place from systematic traders, which coupled with the lack of activity could push markets artificially around in intraday trading.

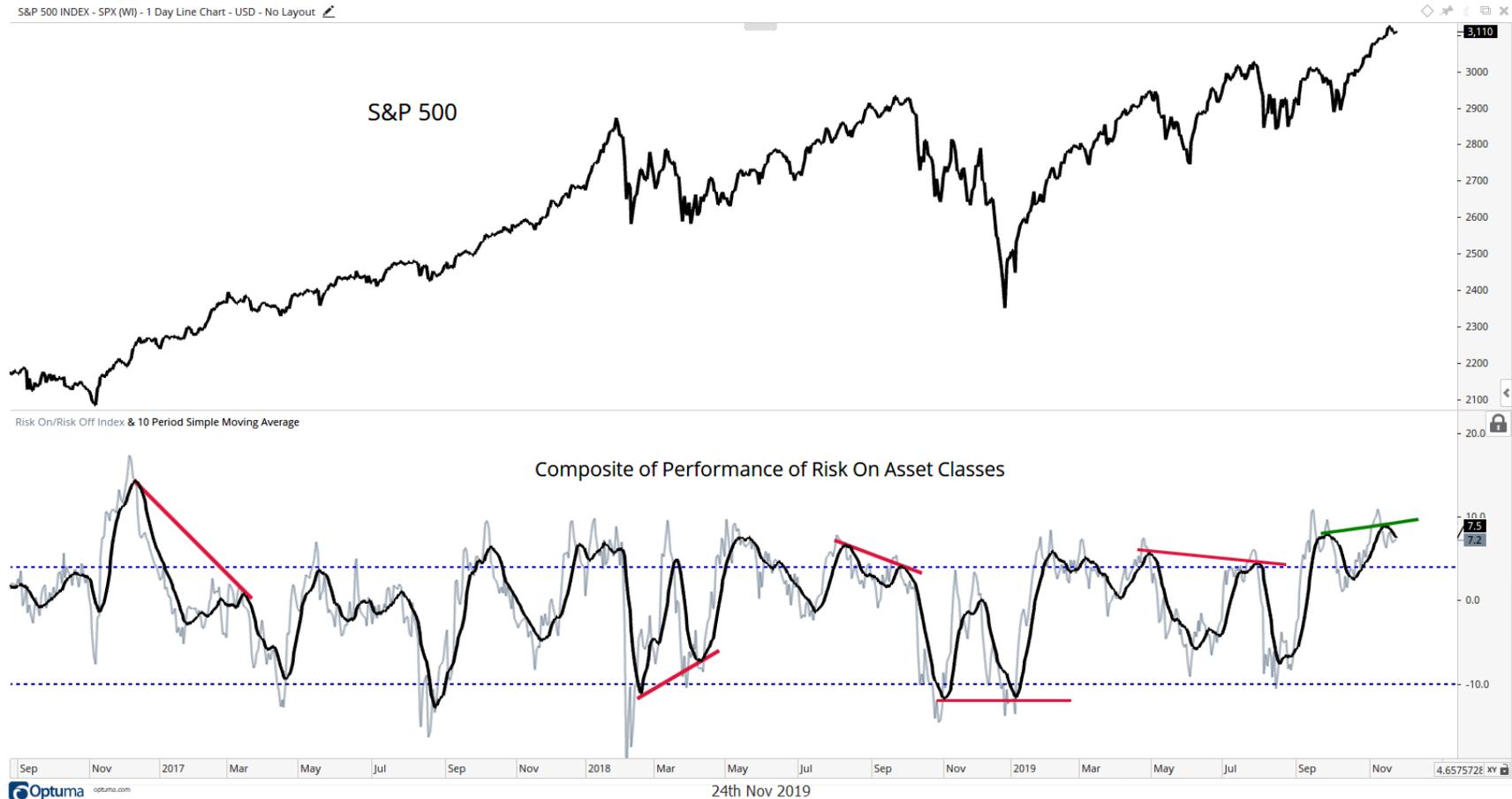


The percentage of stocks trading above their respective 20-day MA for the S&P 500 and Nasdaq 100 have been declining with the stagnating price action in the indices. The figure remains above 50% for SPX but has dipped below for QQQ. This thins out the potential support of individual securities should the indices continue to weaken further on top of last week's slight dip.

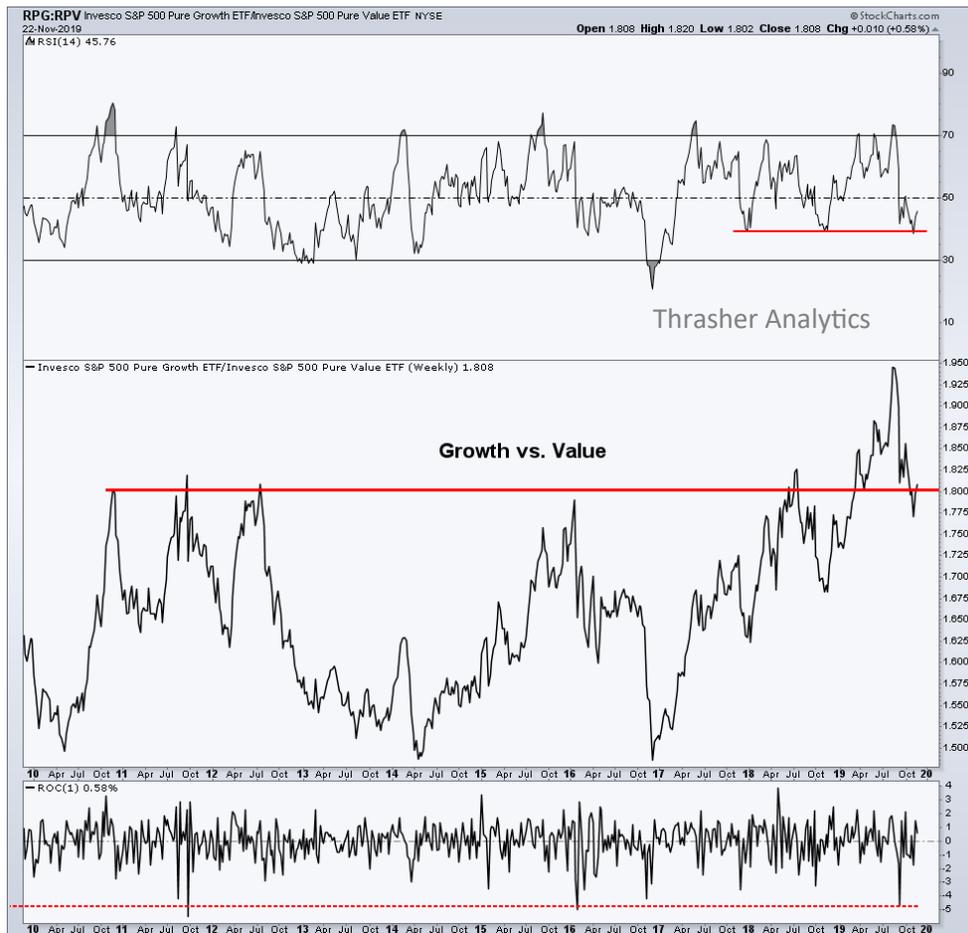
S&P 500 INDEX - SPX (WI) - 1 Day Line Chart - USD - No Layout



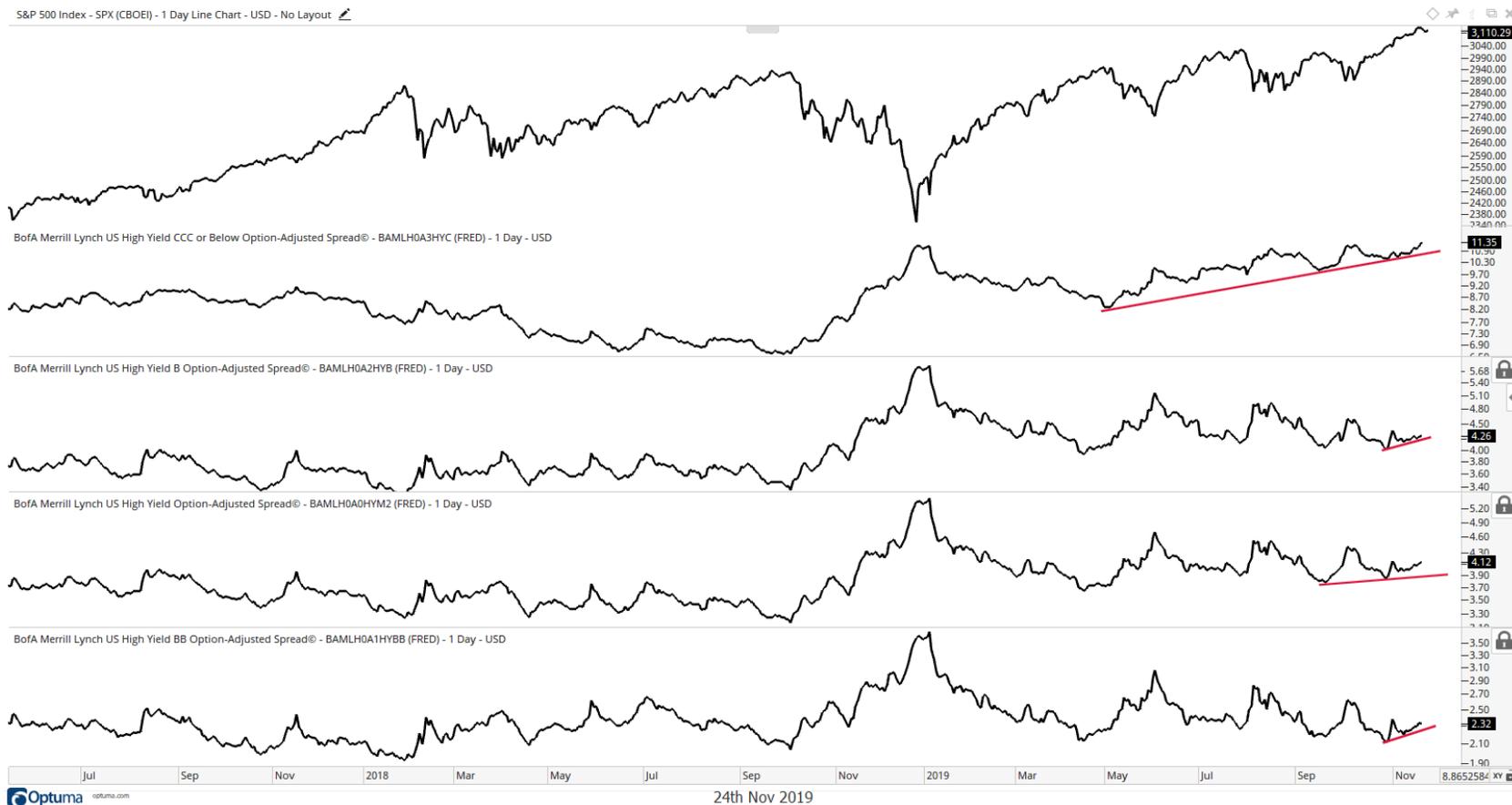
The Risk Appetite Index continued lower last week and is approaching the zero line. Typically when the RAI crosses zero after being above 2, equities continue lower at least briefly. The market appears to be cooling off from its September/October advance, which I'll be looking at more closely later in the letter, where I'll break down some of the inputs into the RIA individually.



The above composite looks at the performance of various asset classes from an absolute lens, meaning are they rising or falling (regardless if its more or less than the SPX). When this proprietary indicator diverges like we saw in Q4 of last year, it's a bearish sign for risky assets. As of right now we don't have such a bearish divergence, with the indicator making a higher high. This is a positive sign for equities from one vantage point.



I've shared this chart before and wrote a blog post on the topic earlier this summer when Growth took quite a punch in relative terms to Value. I noted that we'd need see the ratio of Growth vs. Value break below its prior breakout point and see momentum make a lower-low under the prior 2018/2019 levels. We initially saw a break in the ratio but momentum has held strong in support of Growth, which has now brought the ratio just barely back above 1.8 (the initial breakout level). There's been many calls made that we've seen a peak in Growth and a rotation is underway favoring value. But the market doesn't appear as convinced. I hold to the notation that we need to see momentum weakness before that rotation can take place.

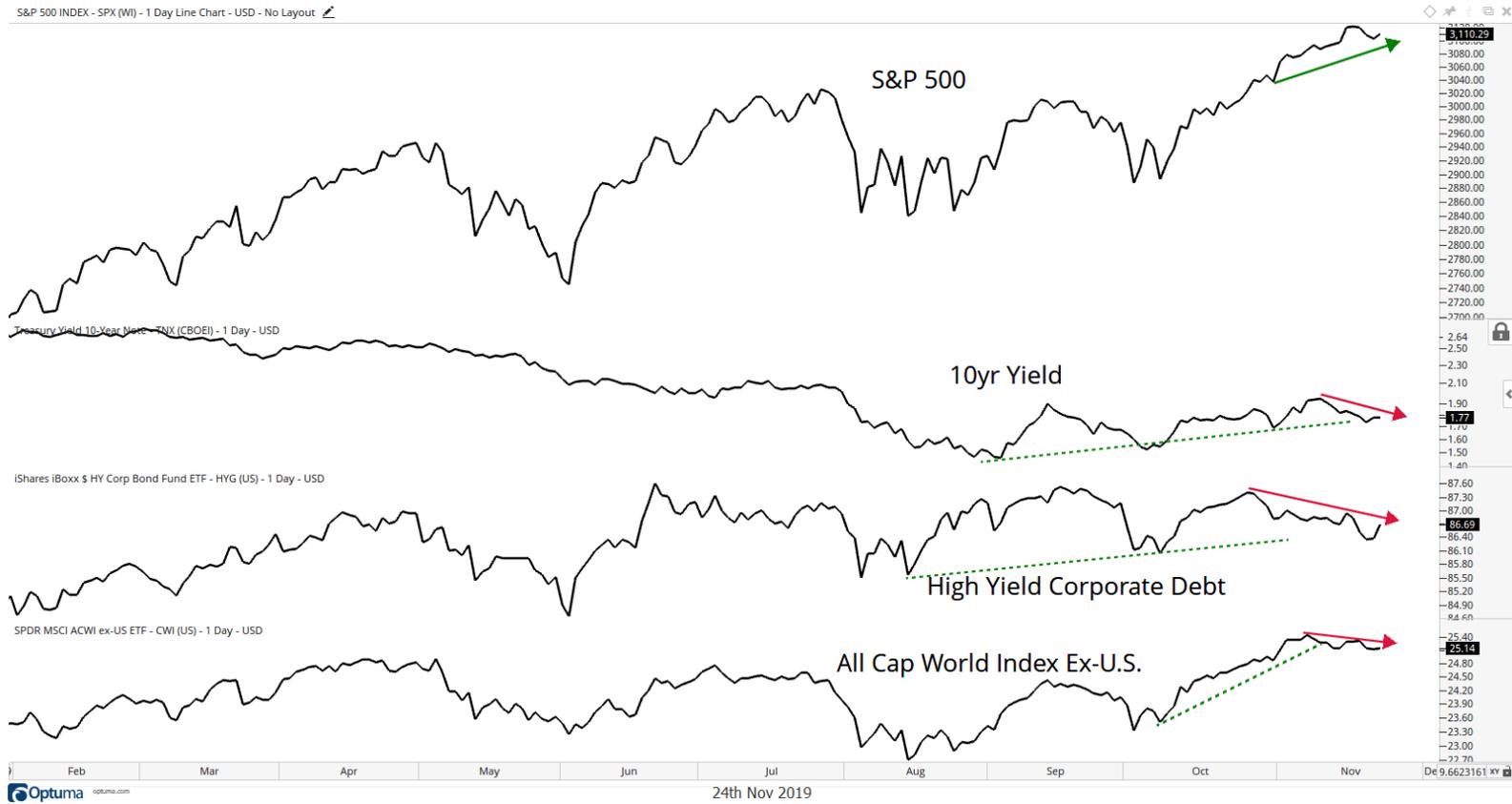


The corporate high yield spread landscape has been rising from multiple views. The above chart shows the breakdown of the spread by CCC, B, the broad spread, and BB. The CCC or Below has gained some attention lately as it has broken out to a new multi-year high. However, this market is rather small and fairly illiquid, meaning a few poorly priced trades in companies that make up this index can move it quite a bit. What I'm more focused on is when all the spreads rise together. We saw this happen back in 2015 and its briefly begun to happen again. As you can see on the chart, with the S&P 500 hitting new highs the spreads across the board have widened and did not hit new lows like the bulls would want to see happen as confirmation in fixed income. The trends in spread are still down (except for CCC), so I'll be watching the prior lower highs and see if they get taken out in the process of widening of the HY spreads continuing. This could turn into something very concerning as the rumbles of fixed income can flow rather quickly to equities when financial markets grow nervous.

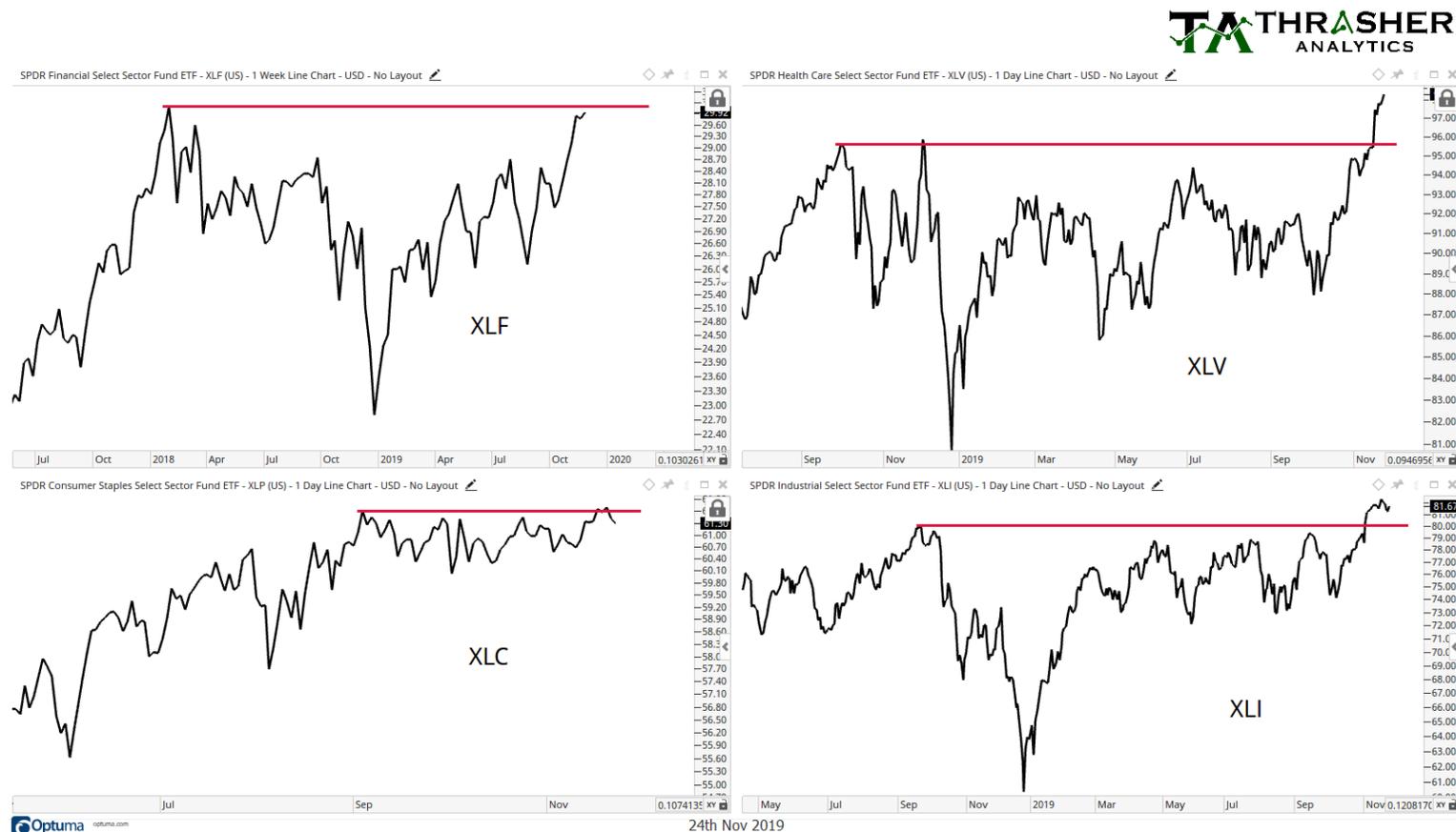


The chart to the right shows a few of the components that make up the Risk Appetite Index. With the latest new high in the S&P 500, I'm not seeing signs of confirmation in relative strength in any of the four components shown.

After the move higher in October, which did see confirmation in risk appetite, that appetite for risk has disappeared with equal weigh, HY, High beta, and Small Caps all turning lower relative to their respective index since the clock rolled into November. This takes another layer of support from out under the broad index that had previously been there off the early October low—the market has become more risk adverse than bulls would like to see.



While on the topic of lacking confirmation... The 10-year Treasury Yield had been rising along with equities since August, until it turned lower in November. Same for High Yield debt which has begun a short-term trend lower. Internationally, there's yet to be a higher-high in the ACWI ex-U.S. Index. These types of diverges don't typically occur in the middle of trends or at the start of trends, they occur when risk/reward becomes poor.



There are four sectors I'm focused on the most right now due to their respective price action. First (top left) is Financials, which are approaching their prior 2018 high. If XLF can breakout, that'd be a bullish sign of another sector seeing a new high. Second (top right) is Health Care, which has clearly broken out already. If XLV can't hold this breakout then we'd lose one of the few sectors to hit new highs. Same for Industrials (bottom right) which is still above its prior 2018 high but did see some weakness last week, I'll be watching if it can stay above \$80. Finally, Communications (bottom left) which briefly broke out to a new multi-month high but was unable to hold above and (so far) created a false breakout.

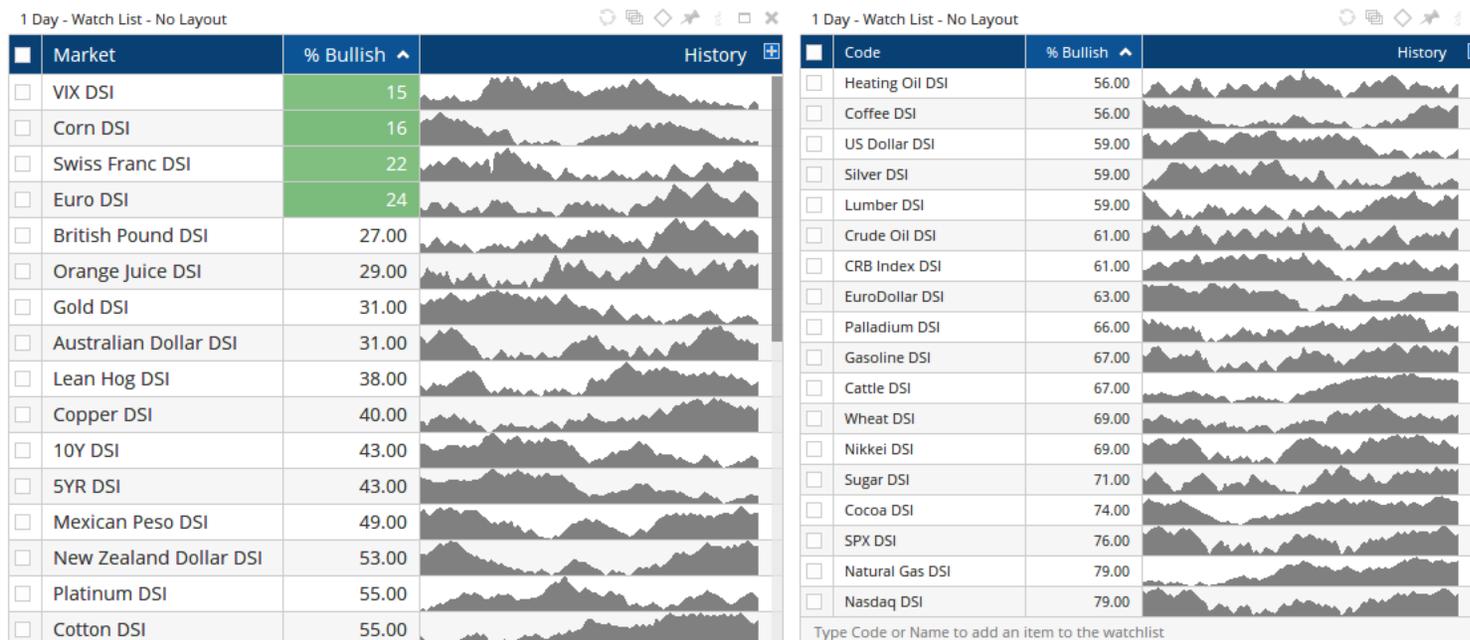


Semiconductors have been one of the strongest components of the market lately and the industry's breakout was heavily leaned on as a bullish catalyst for the broad market. As I've written many times, semiconductors are an excellent leading indicator for the S&P 500 and tech sector.

Because of that, I take notice when the SOX Index dropped in relative performance last week to test its breakout point. SMH still is above its own breakout point (both SMH and SOX are made up of semiconductor stocks but with different weightings, specifically to Taiwan Semiconductors). This week I want to see semi's regain their strength and SOX to test this level and bounce higher. If we do see another leg lower in semis, then that may be the canary traders latch on to in lightening up their equity exposure.



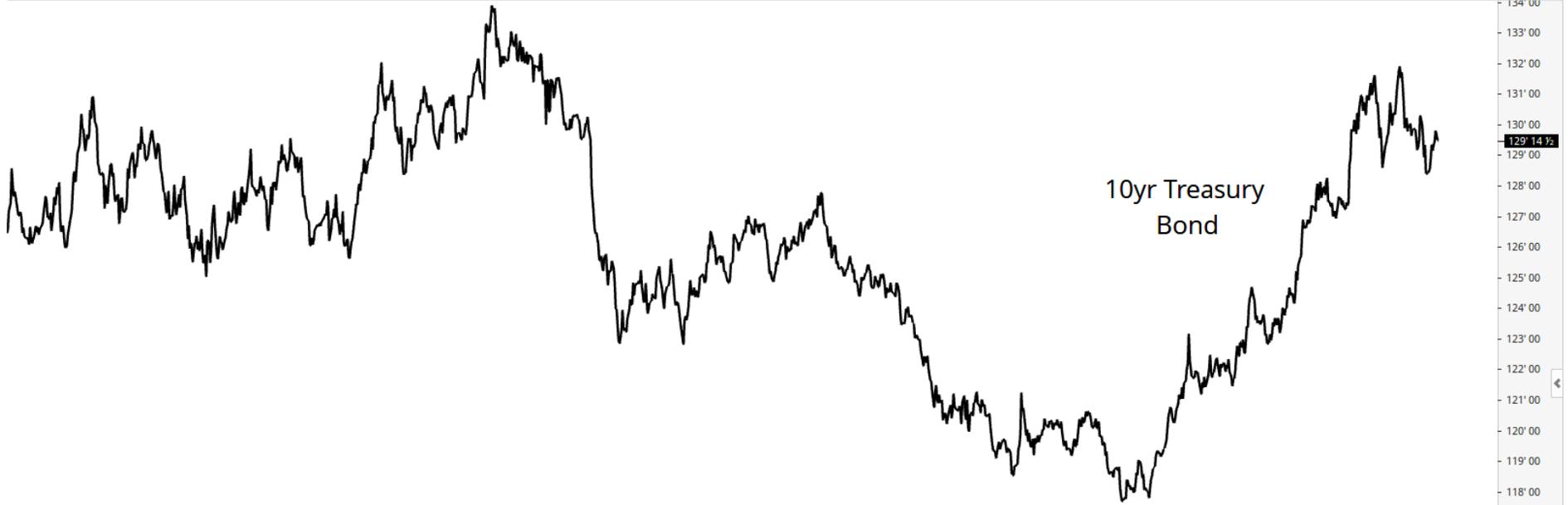
There's a growing theme in this week's letter in lack of confirmation. Next up... The Value Line Geometric Index (VLG), which provides broad insight into over 1,600 companies with an equal weight. Typically the VLG moves with the S&P 500, confirming the trend in the large cap index. However, the VLG was unable to break above its prior September level, much less to a new 2019 high like the S&P 500. Since testing the September high, VLG has moved lower, not a bullish sign for the U.S. large cap index.



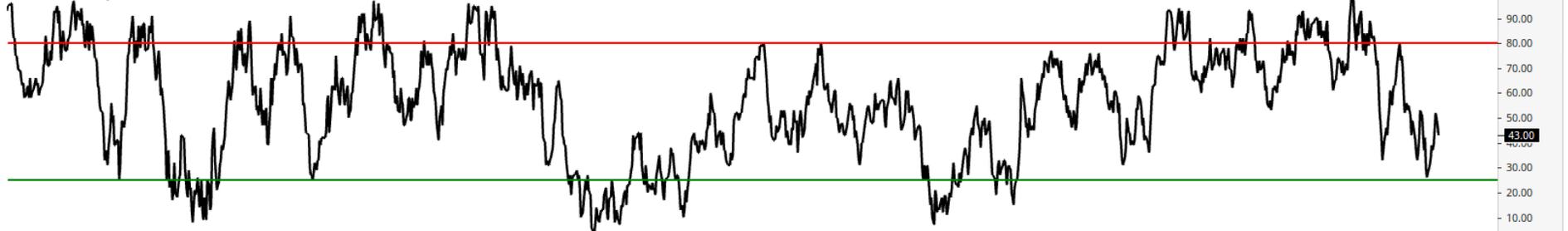
Above is the DSI score for each of the futures markets. The VIX, Swiss Franc, Euro, and Corn all have scores below 25% bullish. Nasdaq, Natural Gas, and S&P 500 have the highest DSI scores but all three have moved just under 80% bullish.



10 Year U.S. Treasury Notes - TYSpot (CBOT) - 1 Day Line Chart - USD - No Layout



10Y DSI (DSI) - 1 Day - USD

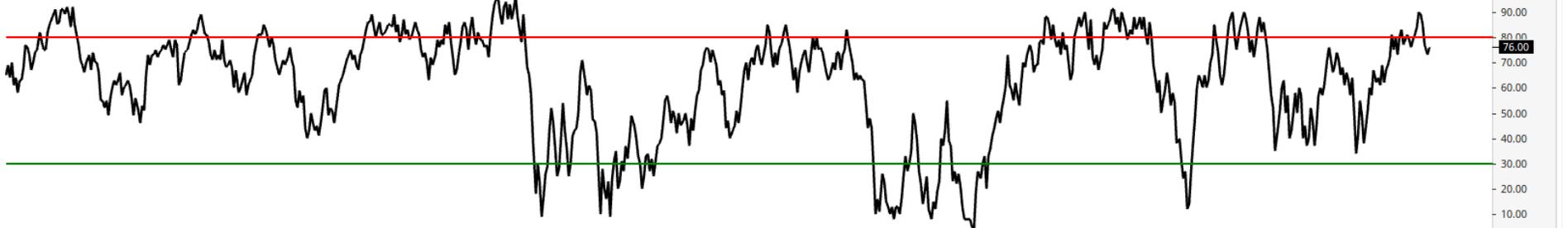




S&P 500 INDEX - SPX (WI) - 1 Day Line Chart - USD - No Layout



SPX DSI (DSI) - 1 Day - USD





NASDAQ 100 Index - NDY (WJ) - 1 Day Line Chart - USD - No Layout



Gold Futures - GCSpot (NYMEX) - 1 Day Line Chart - USD - No Layout

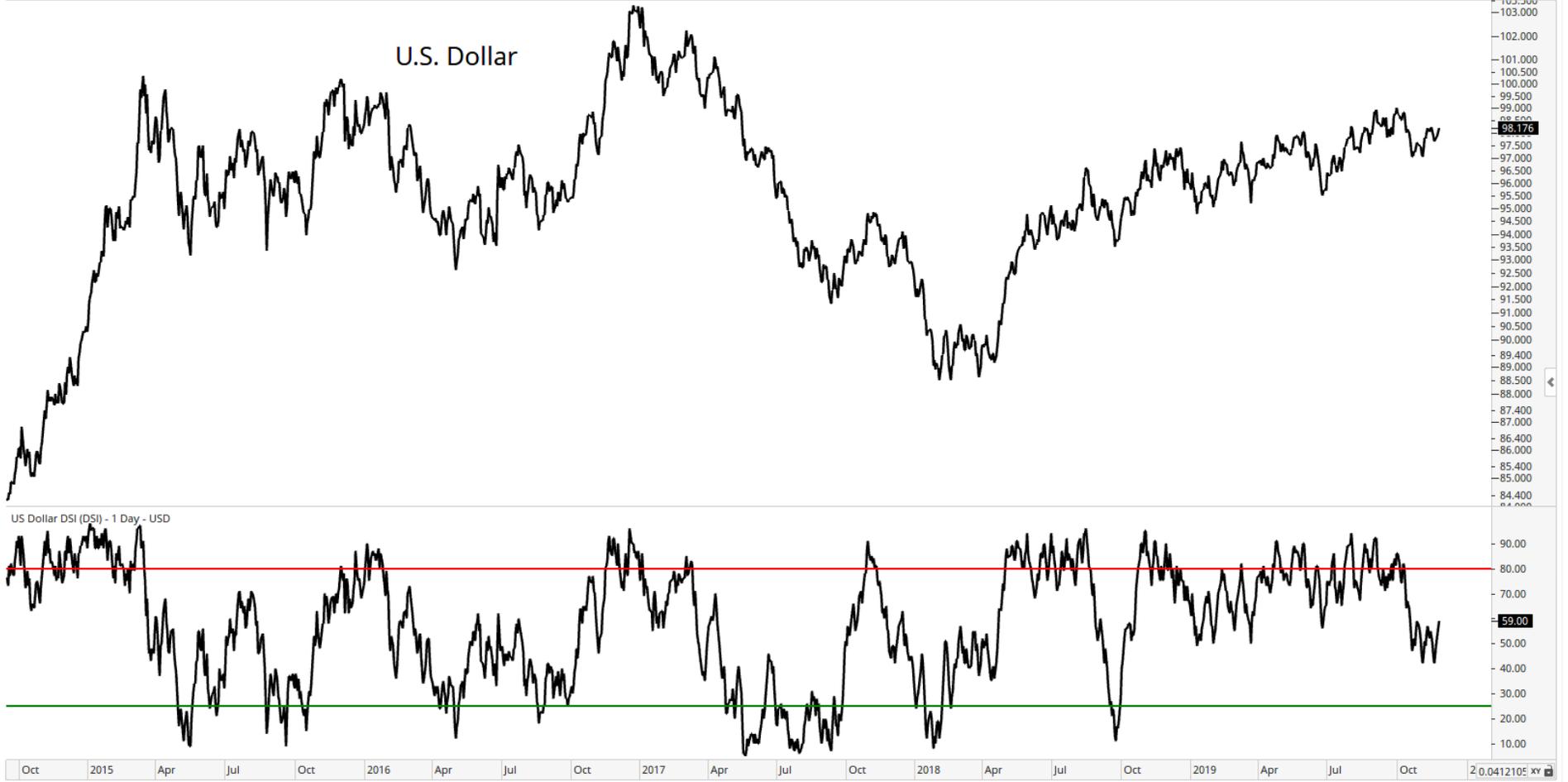


Gold DSI (DSI) - 1 Day - USD



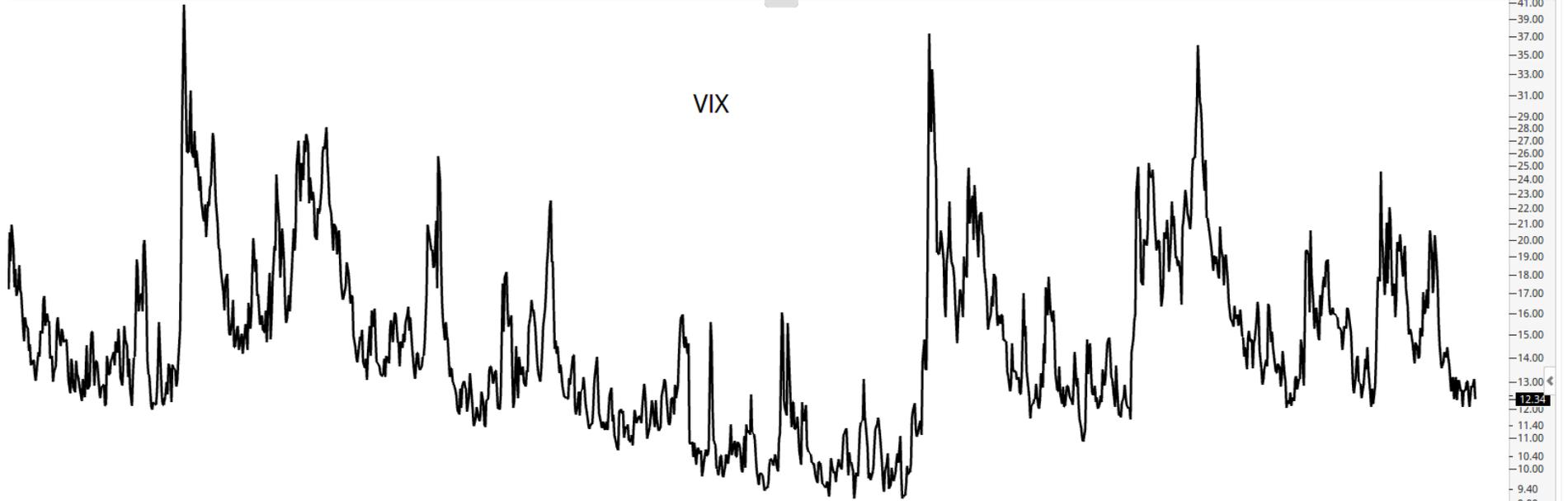


U.S. Dollar Index - DXSpot (AFUT) - 1 Day Line Chart - USD - No Layout





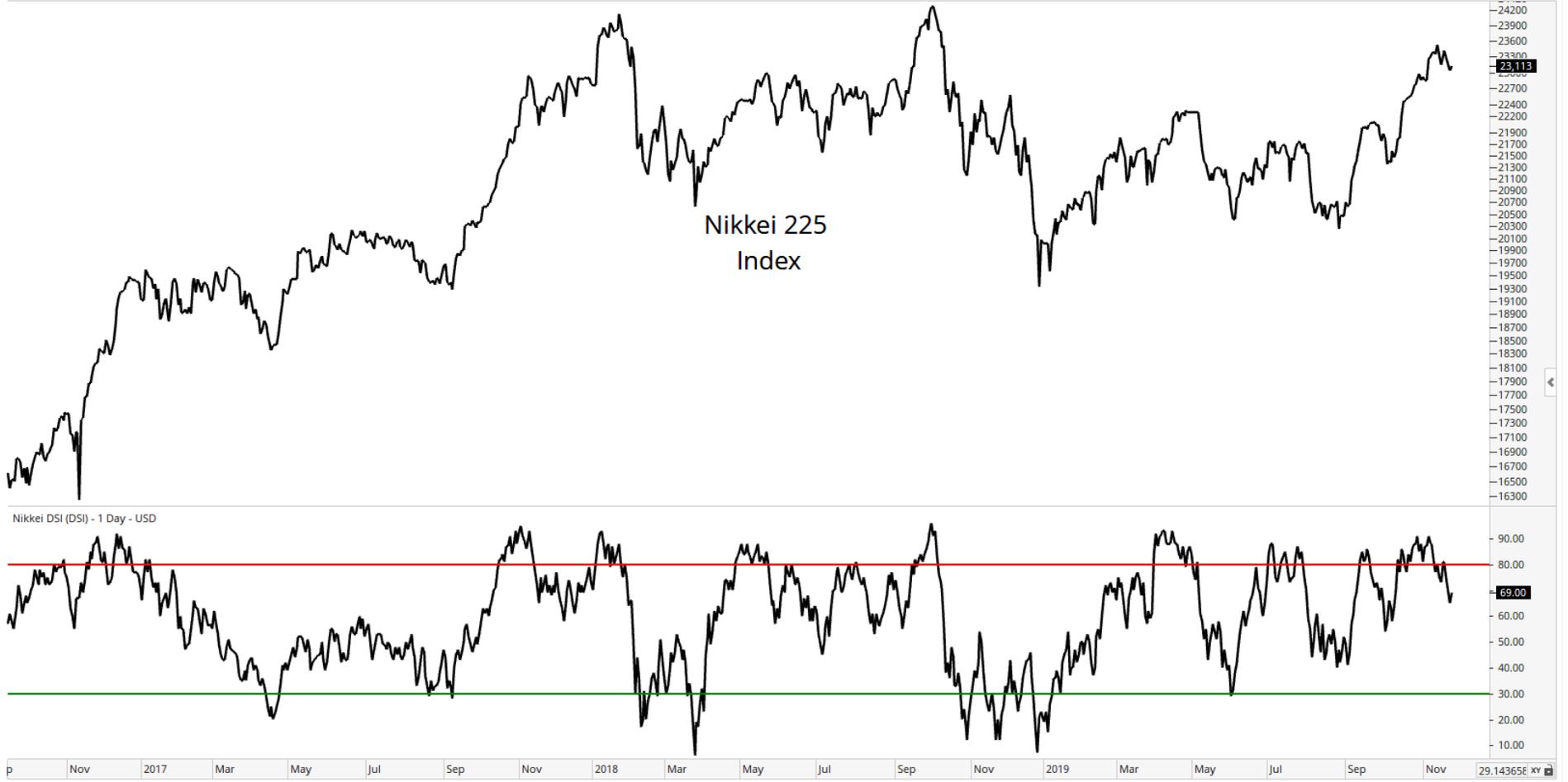
CBOE S&P 500 Volatility Index - VIX (CBOEI) - 1 Day Line Chart - USD - No Layout

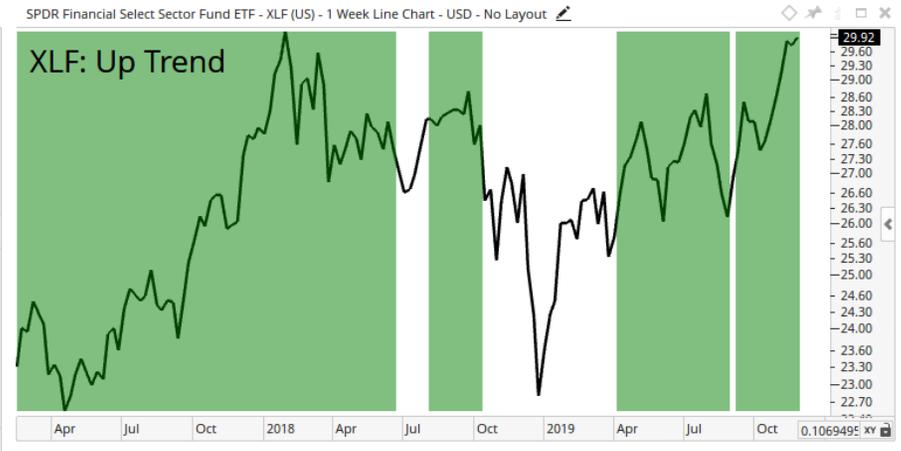
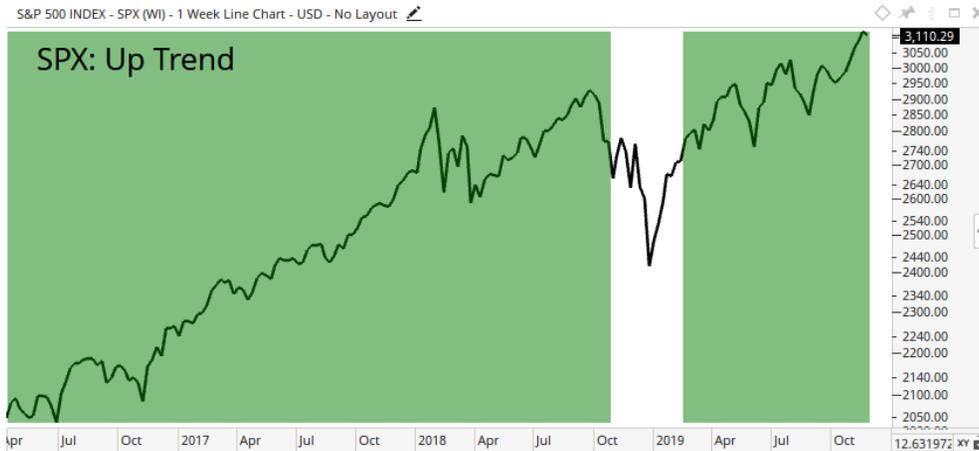


VIX DSI (DSI) - 1 Day - USD

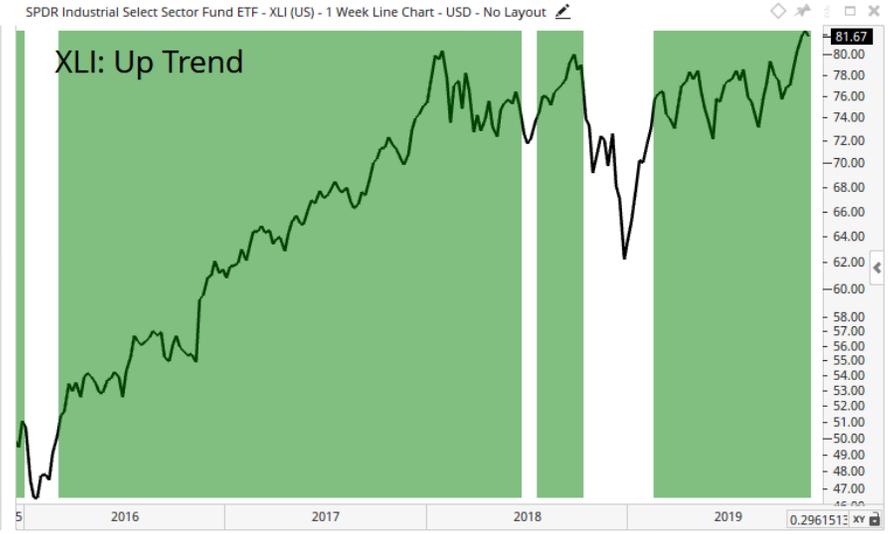
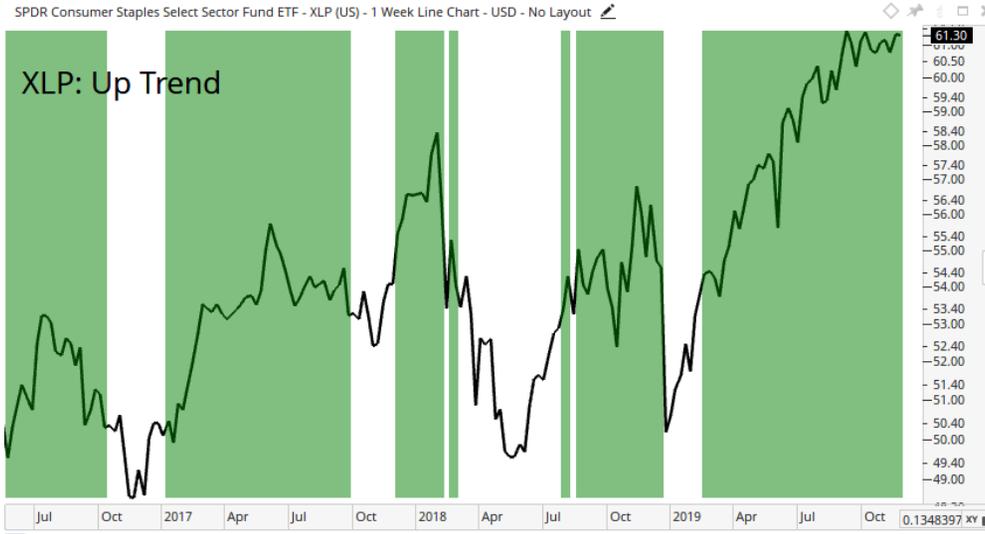


NIKKEI 225 INDEX - NYCash (CME) - 1 Day Line Chart - USD - No Layout

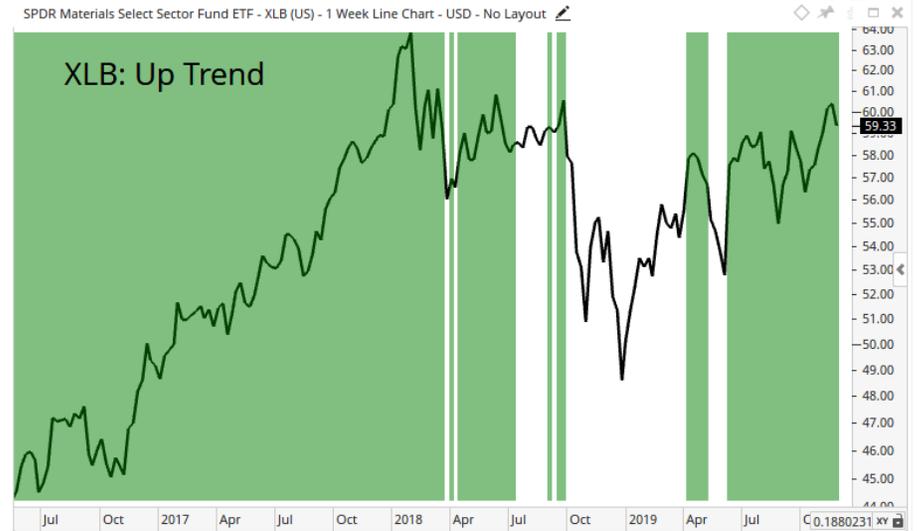
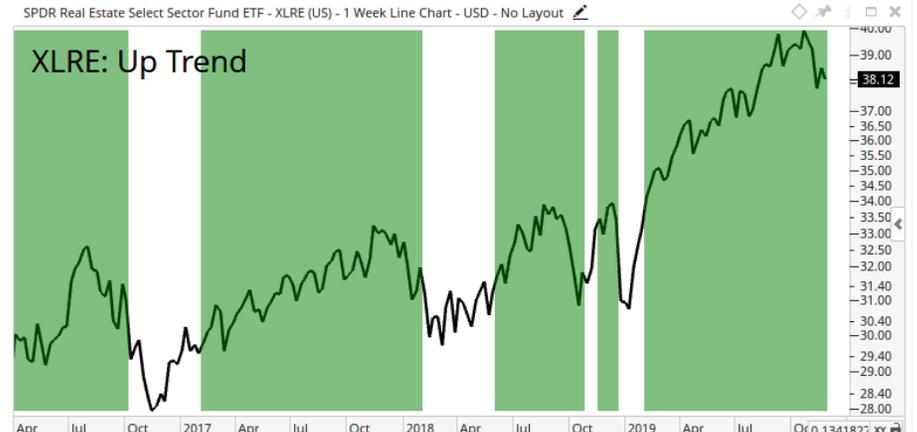
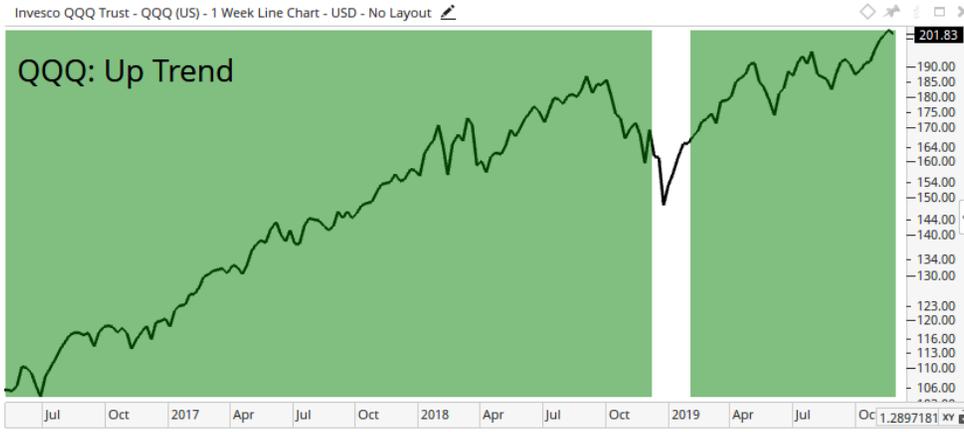




SPX, XLF, XLY, and XLK are all in up trends.



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

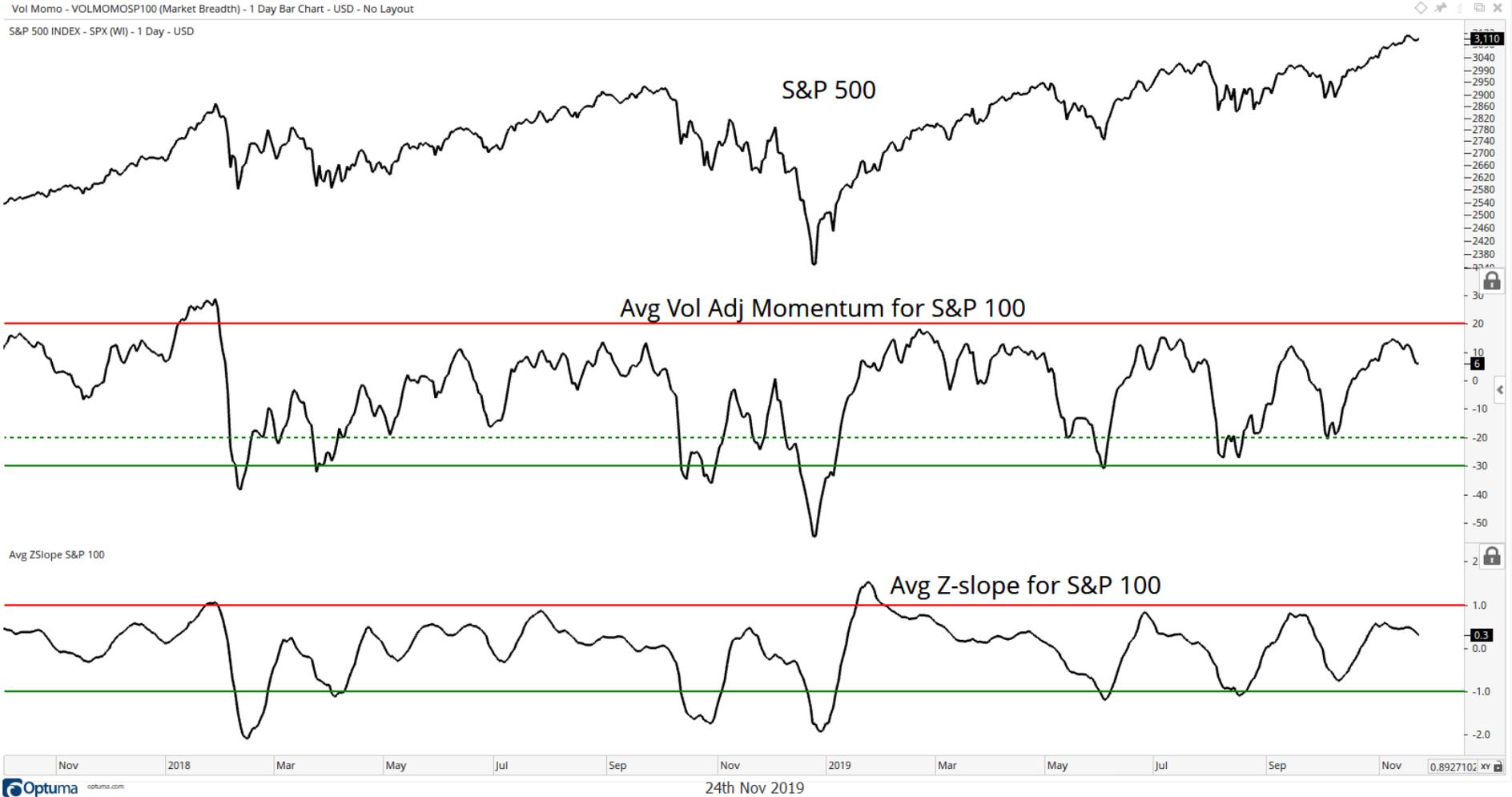


QQQ, XLRE, and XLB are in up trends. XLE is in a down trend.

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.

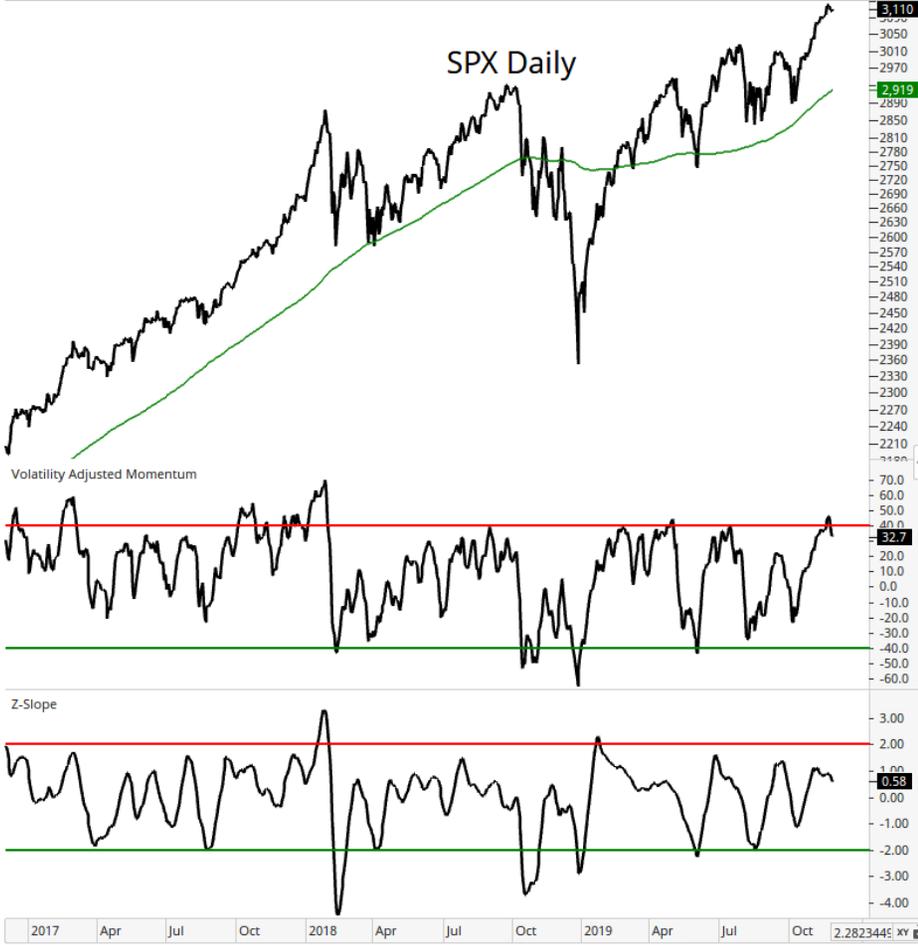
Volatility-Adjusted Momentum (VaM): This is a spin on the traditional measures of momentum, taking into account the volatility of the underlying asset into the calculation. By adjusting for volatility we can get a better look at potential mean-reversion signals when risk/reward becomes unbalanced towards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

S&P 500 INDEX - SPX (W1) - 1 Day Line Chart - USD - VMomo & ZSlope Layout



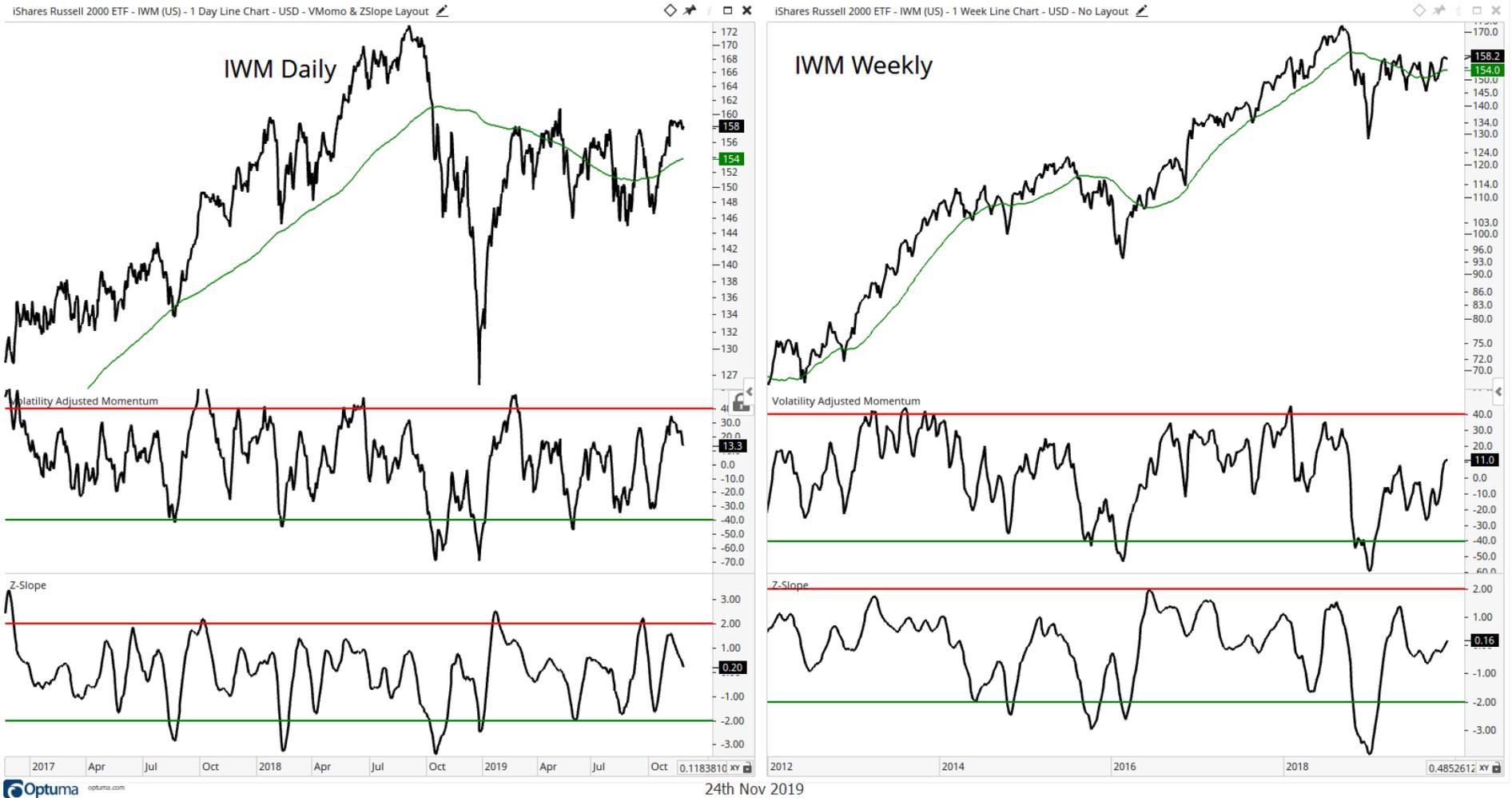
Optuma optuma.com

S&P 500 INDEX - SPX (W1) - 1 Week Line Chart - USD - No Layout



24th Nov 2019

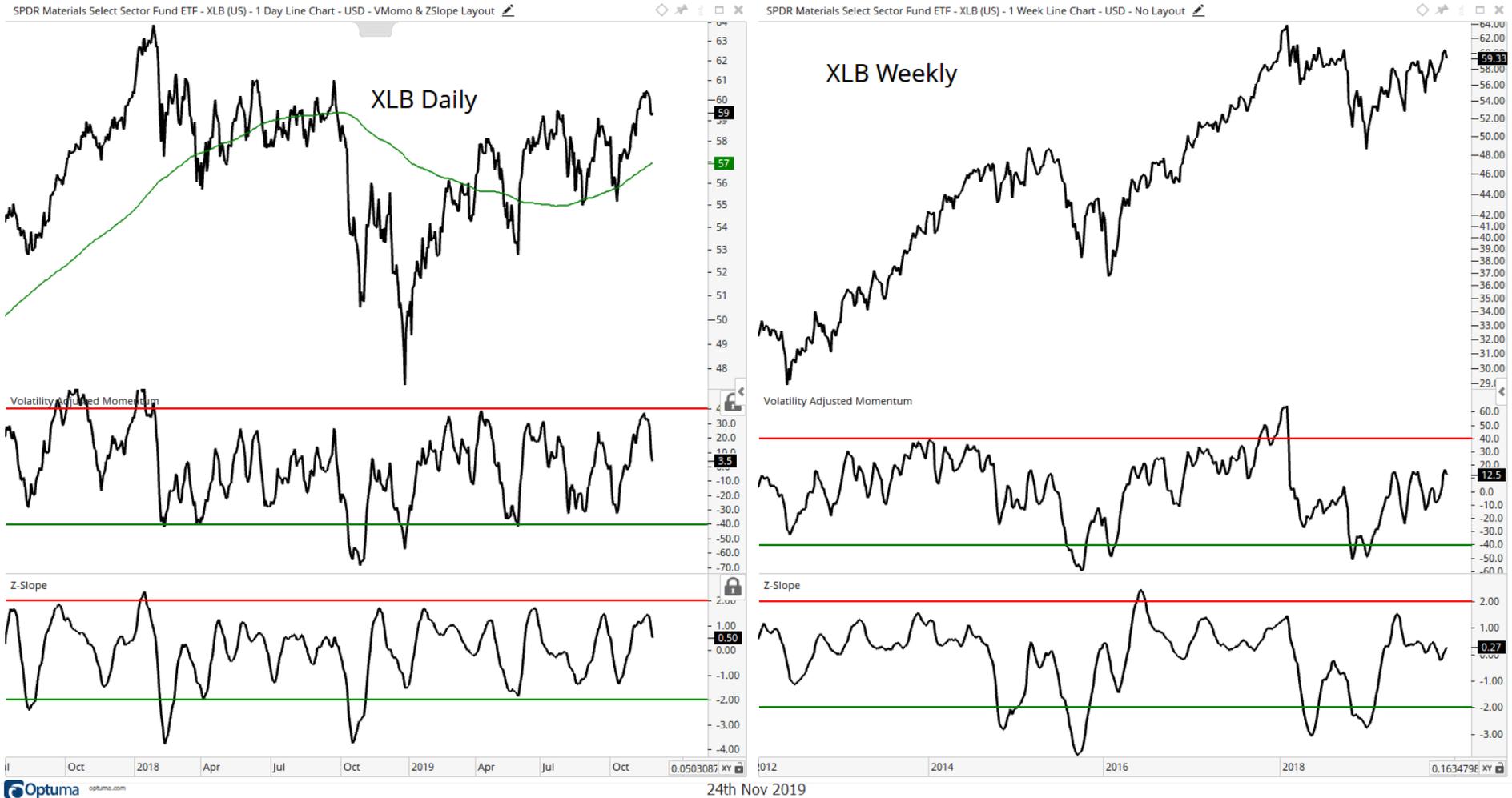
Daily Z-Slope and VaM both are neutral as VaM comes off 'overbought'



Neutral readings for both VaM and Z-slope.



Daily Z-Slope and VaM both are neutral as VaM comes off 'overbought'



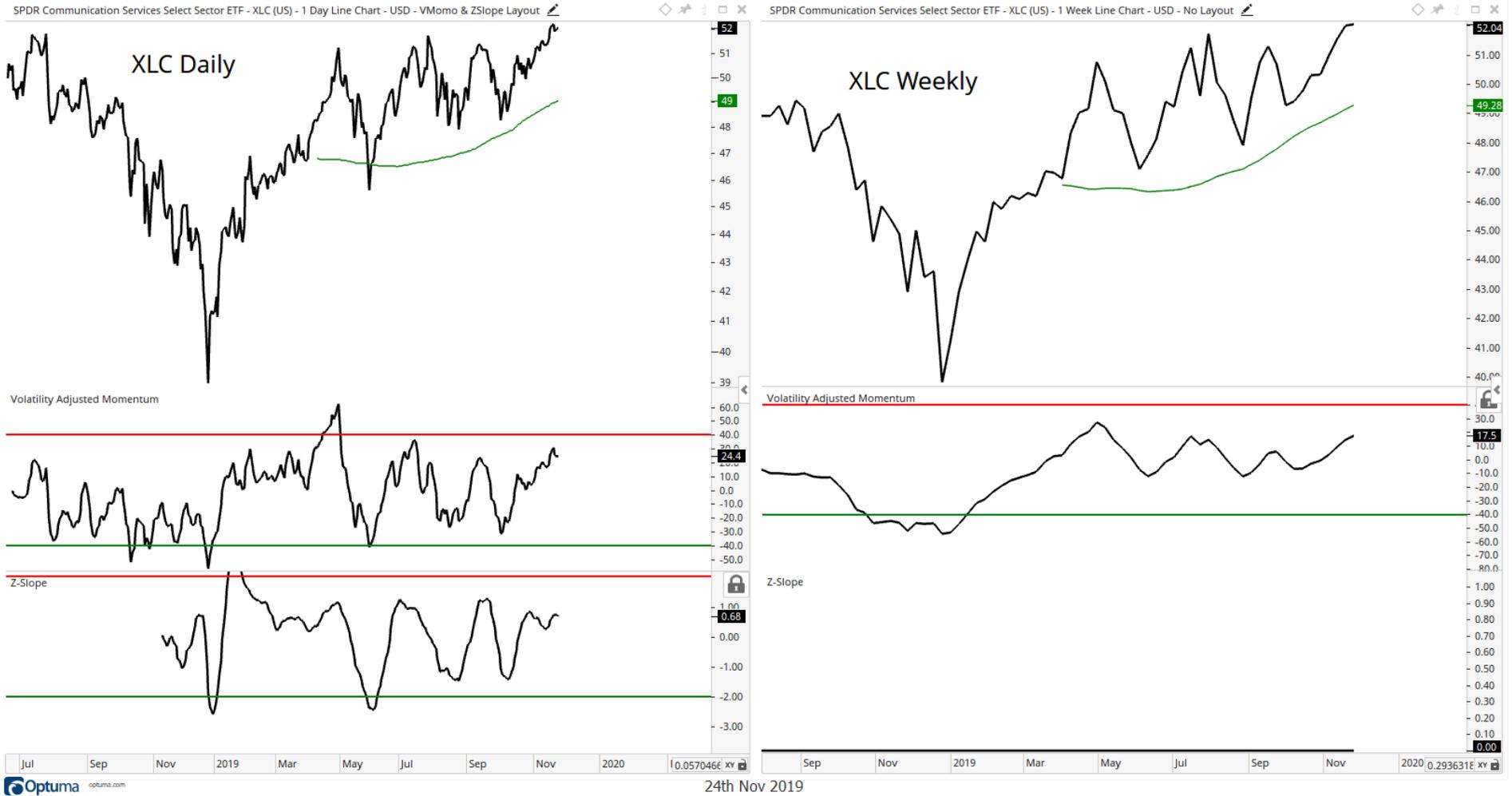
Neutral readings for both VaM and Z-slope.



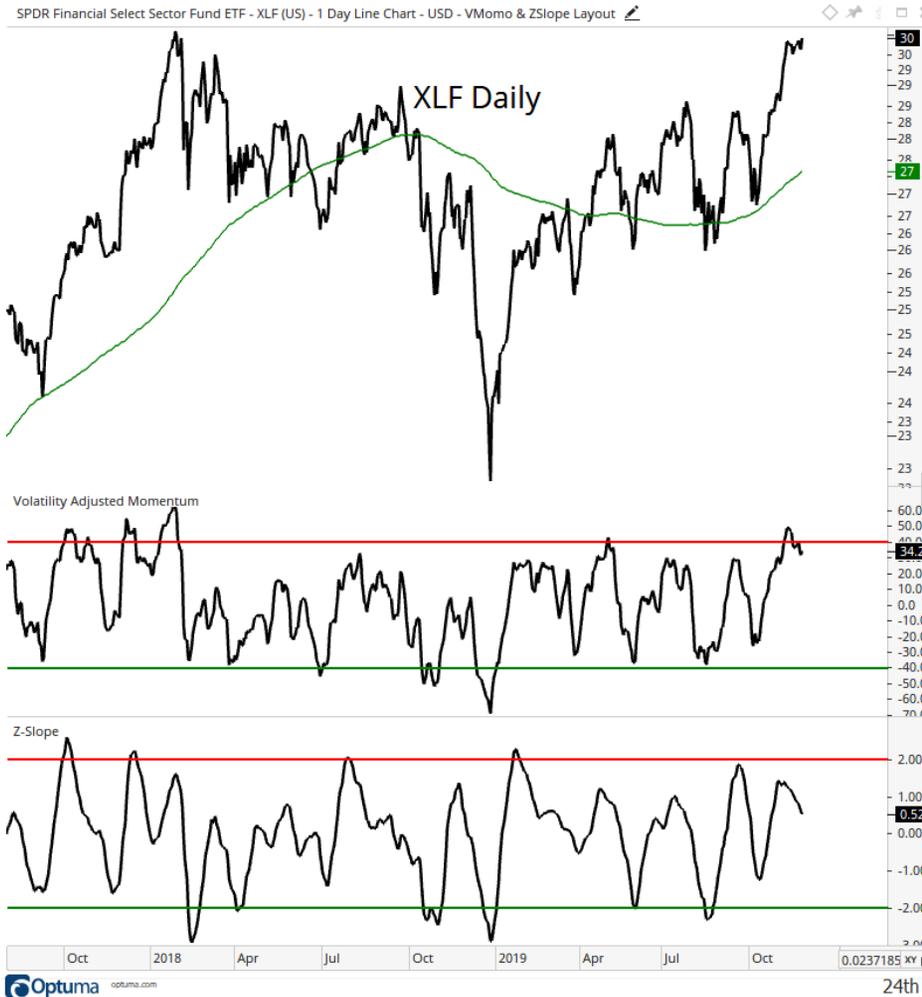
24th Nov 2019



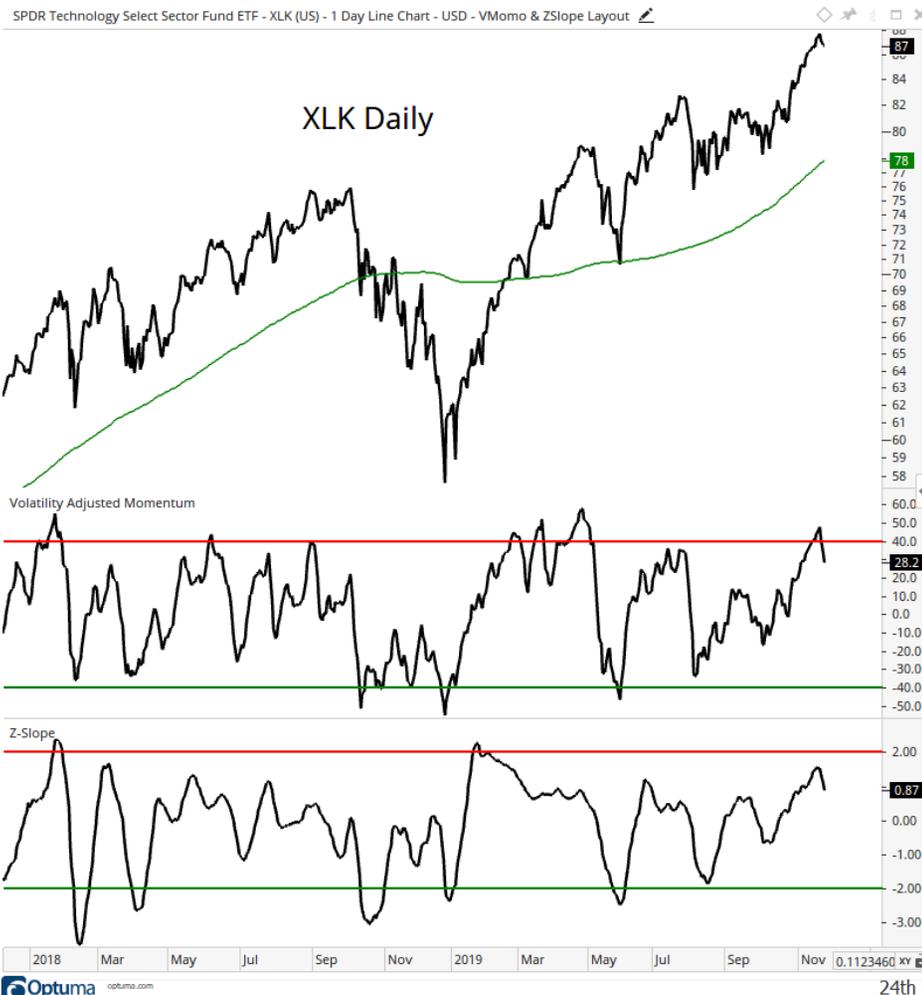
Neutral readings for both VaM and Z-slope.



Neutral readings for both VaM and Z-Score.

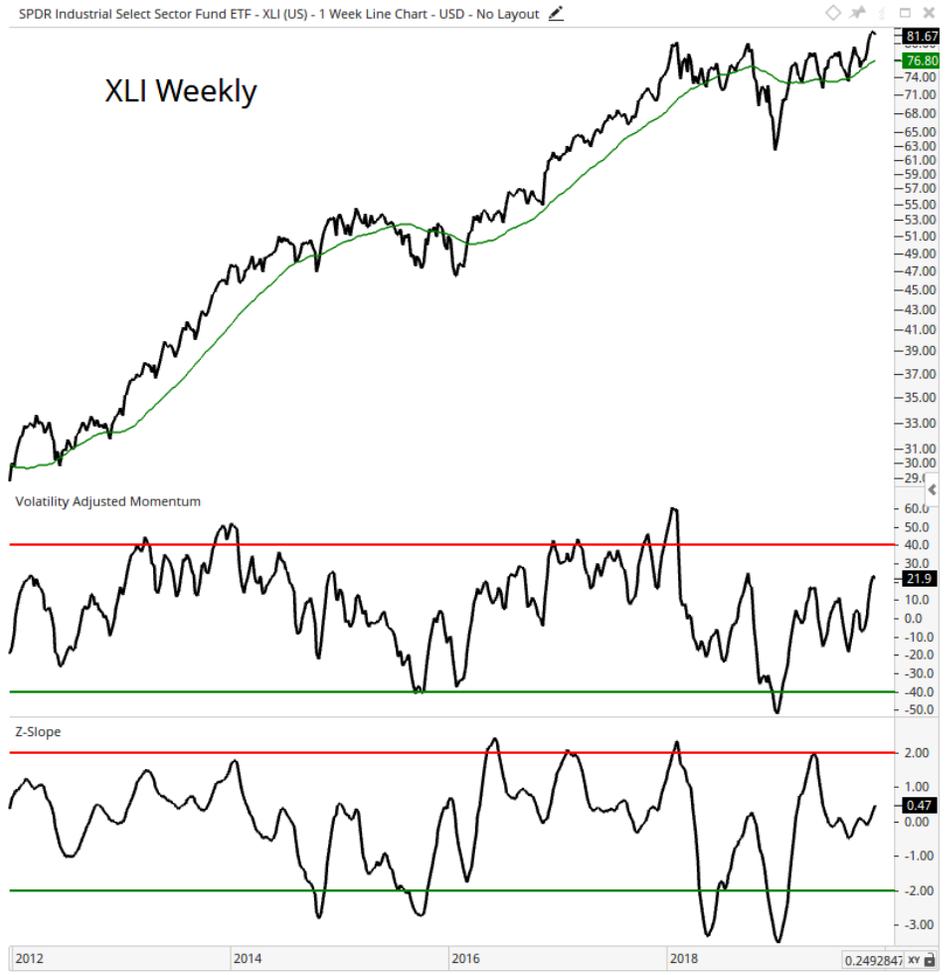
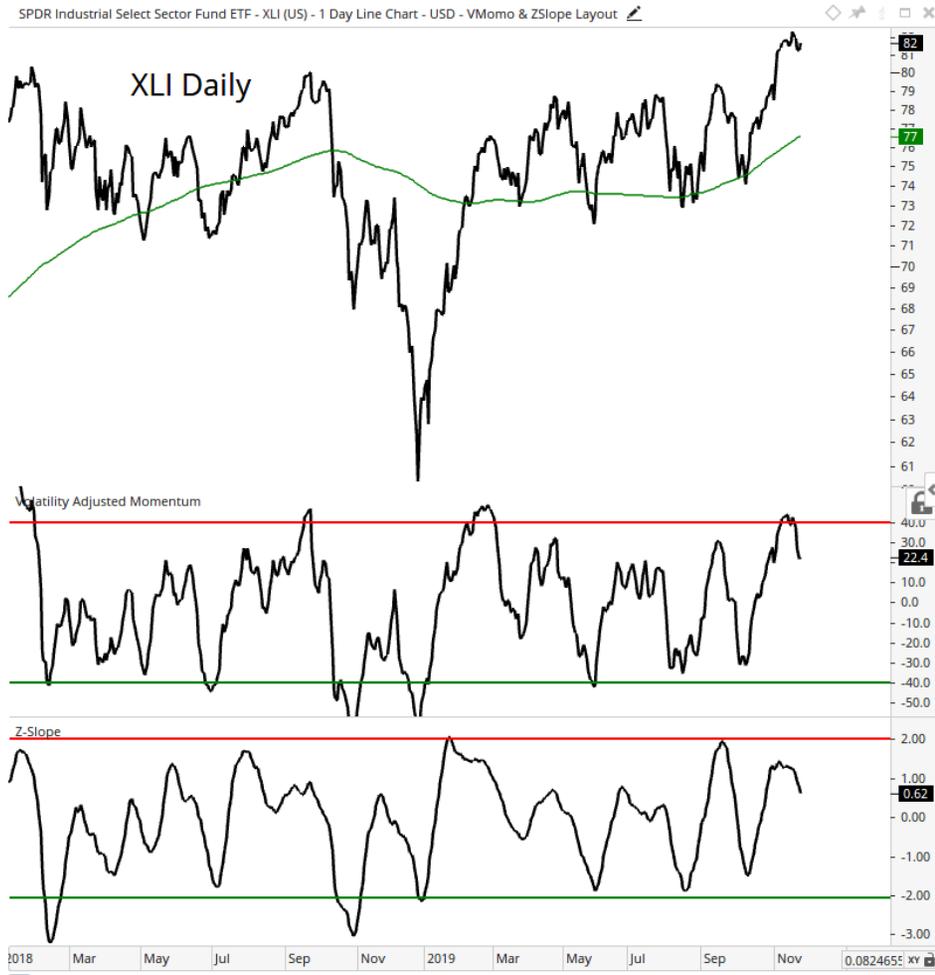


Daily Z-Slope and VaM both are neutral as VaM comes off 'overbought'



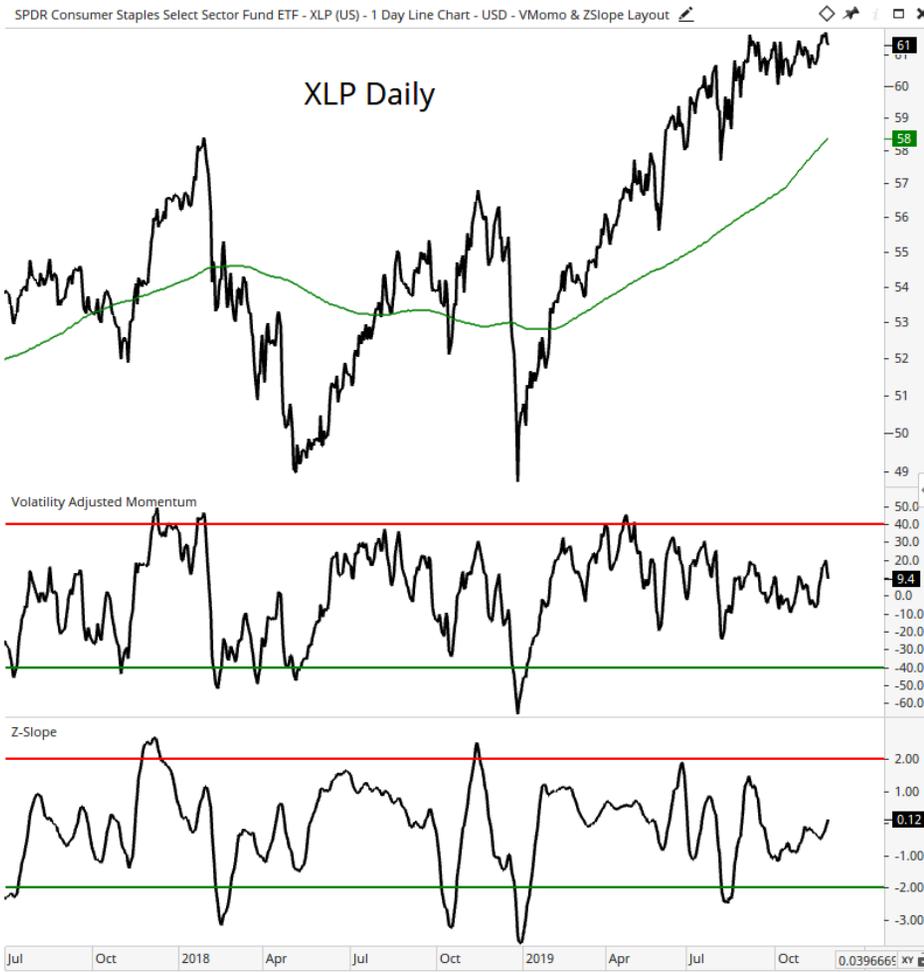
24th Nov 2019

Daily Z-Slope and VaM both are neutral as VaM comes off 'overbought'



24th Nov 2019

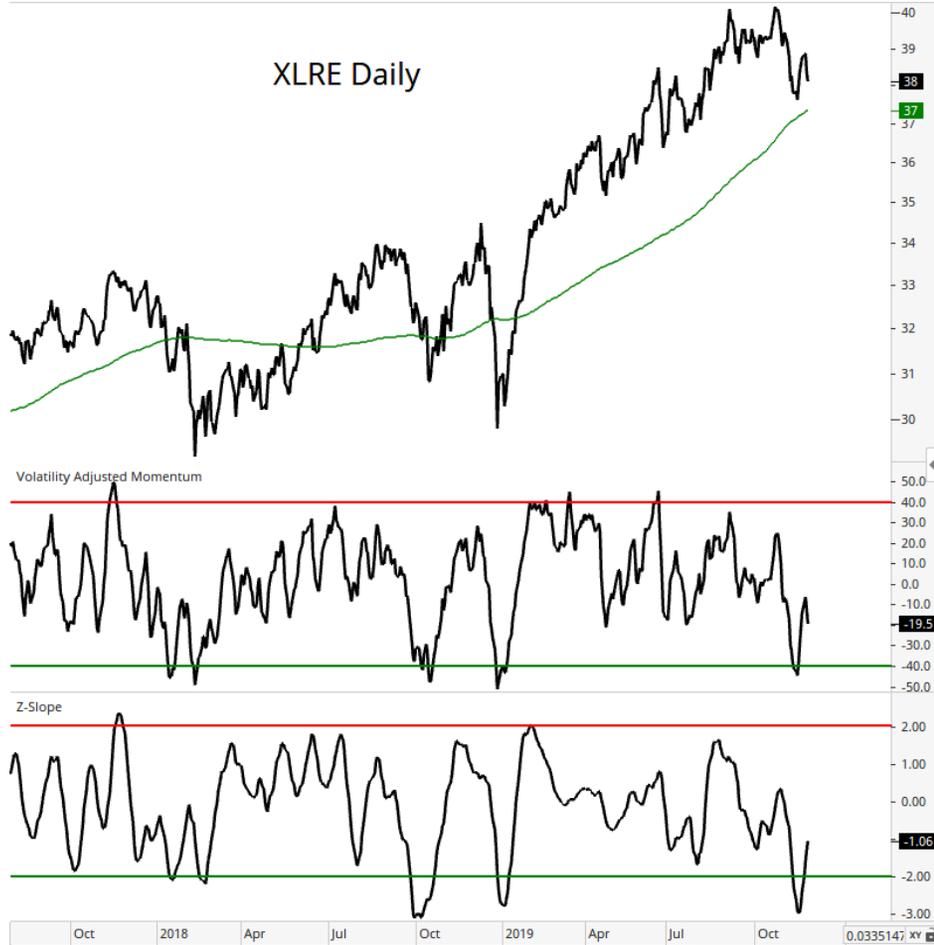
Daily Z-Slope and VaM both are neutral as VaM comes off 'overbought'



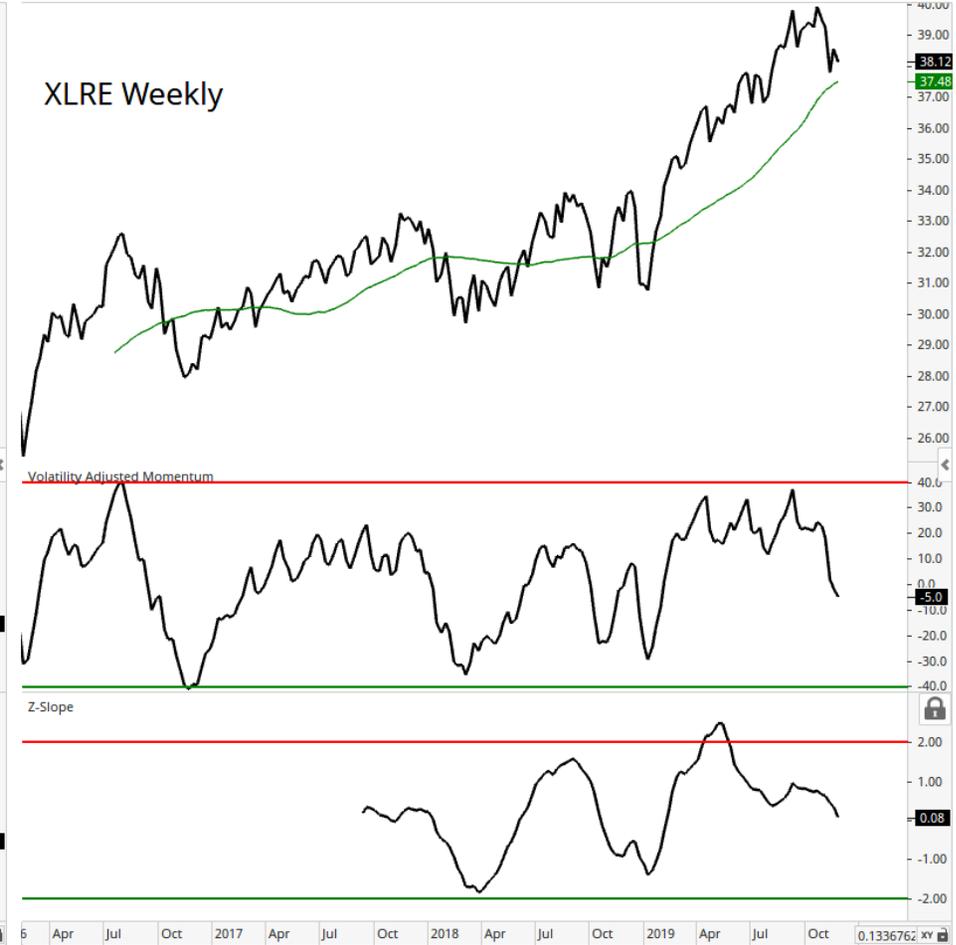
24th Nov 2019

Neutral readings for both VaM and Z-slope.

SPDR Real Estate Select Sector Fund ETF - XLRE (US) - 1 Day Line Chart - USD - VMomo & ZSlope Layout



SPDR Real Estate Select Sector Fund ETF - XLRE (US) - 1 Week Line Chart - USD - No Layout

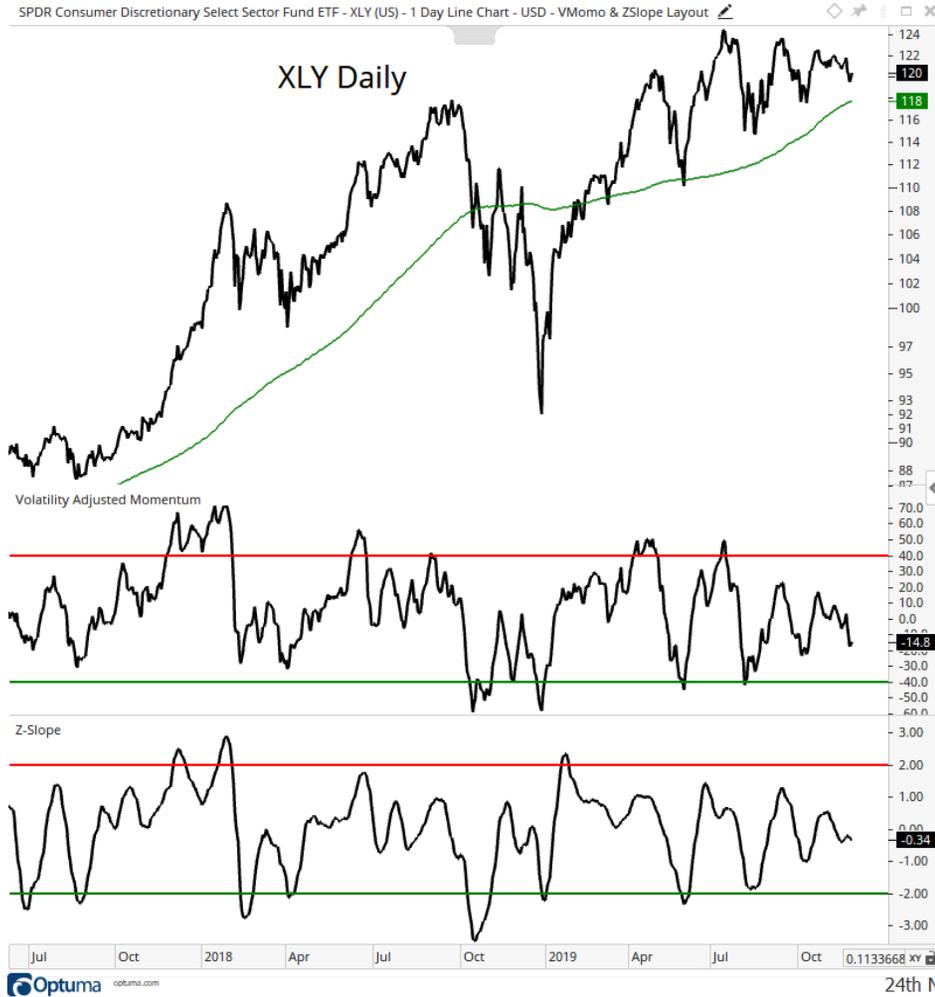


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Both Z-slope and VaM are oversold.

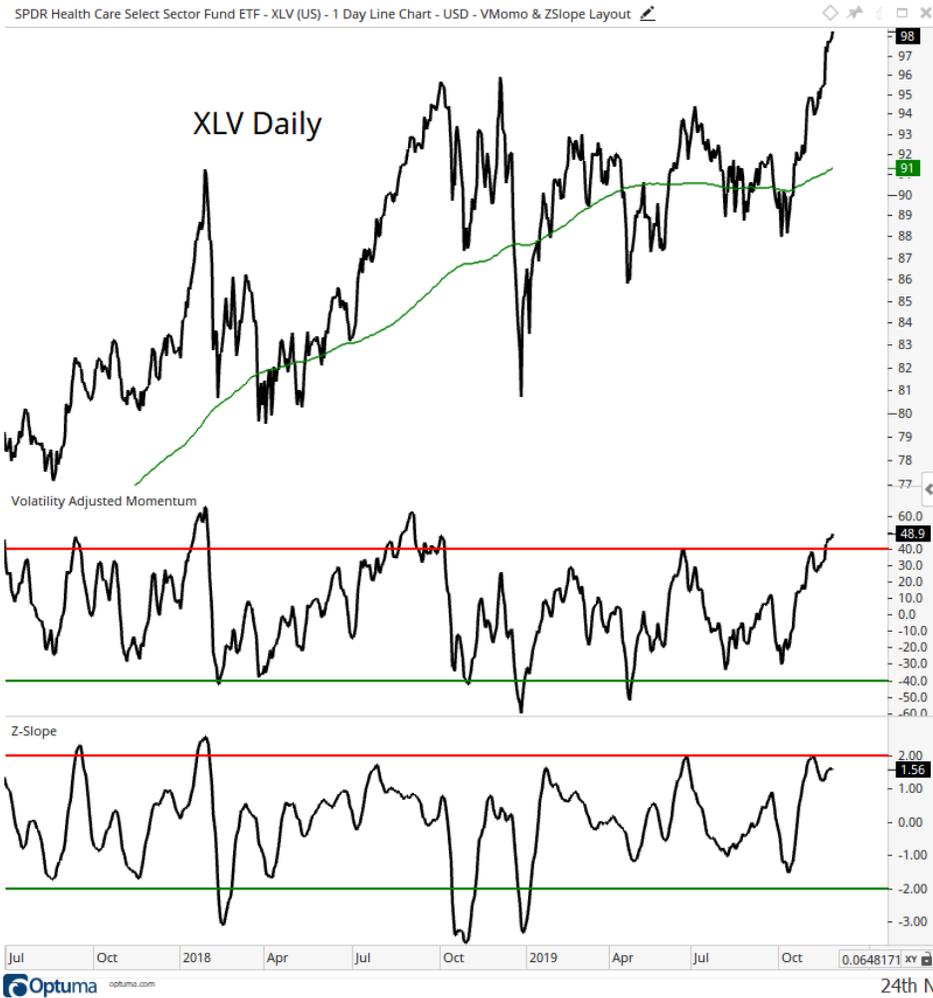


Neutral readings for both VaM and Z-slope.

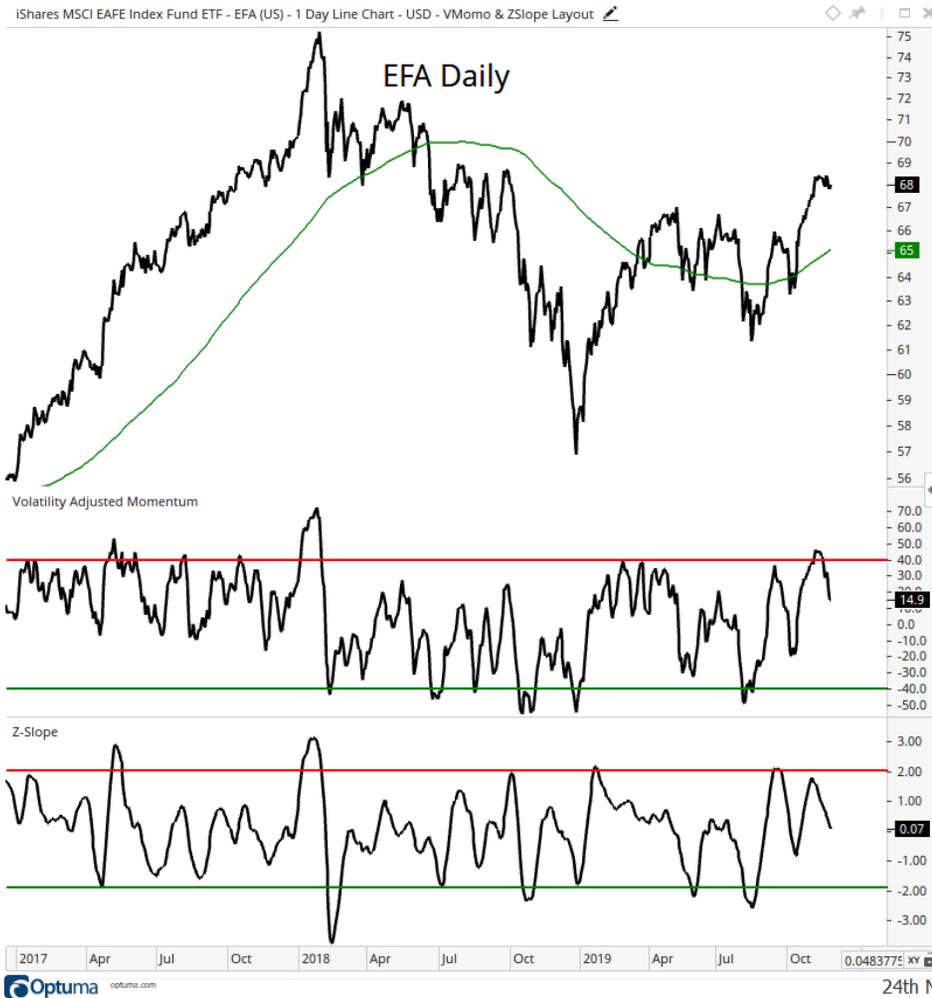


24th Nov 2019

Neutral readings for both VaM and Z-slope.



Neutral readings for Z-slope with VaM now 'overbought'.



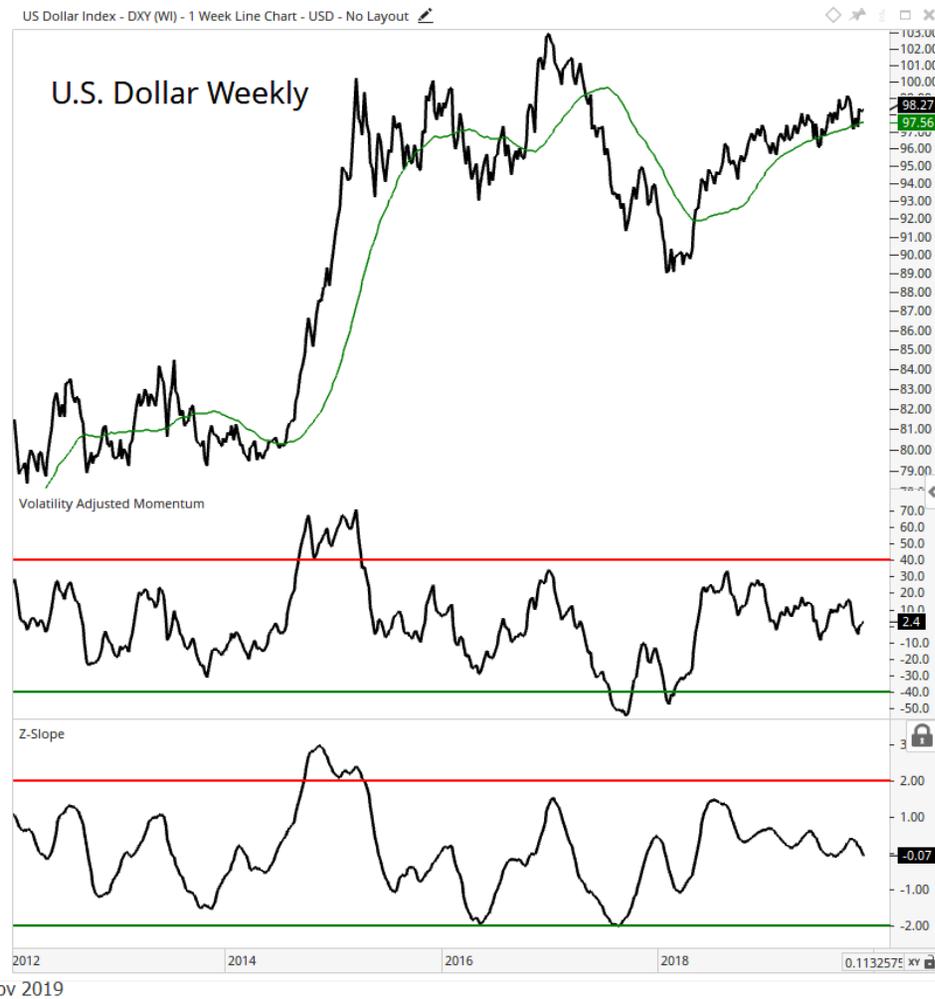
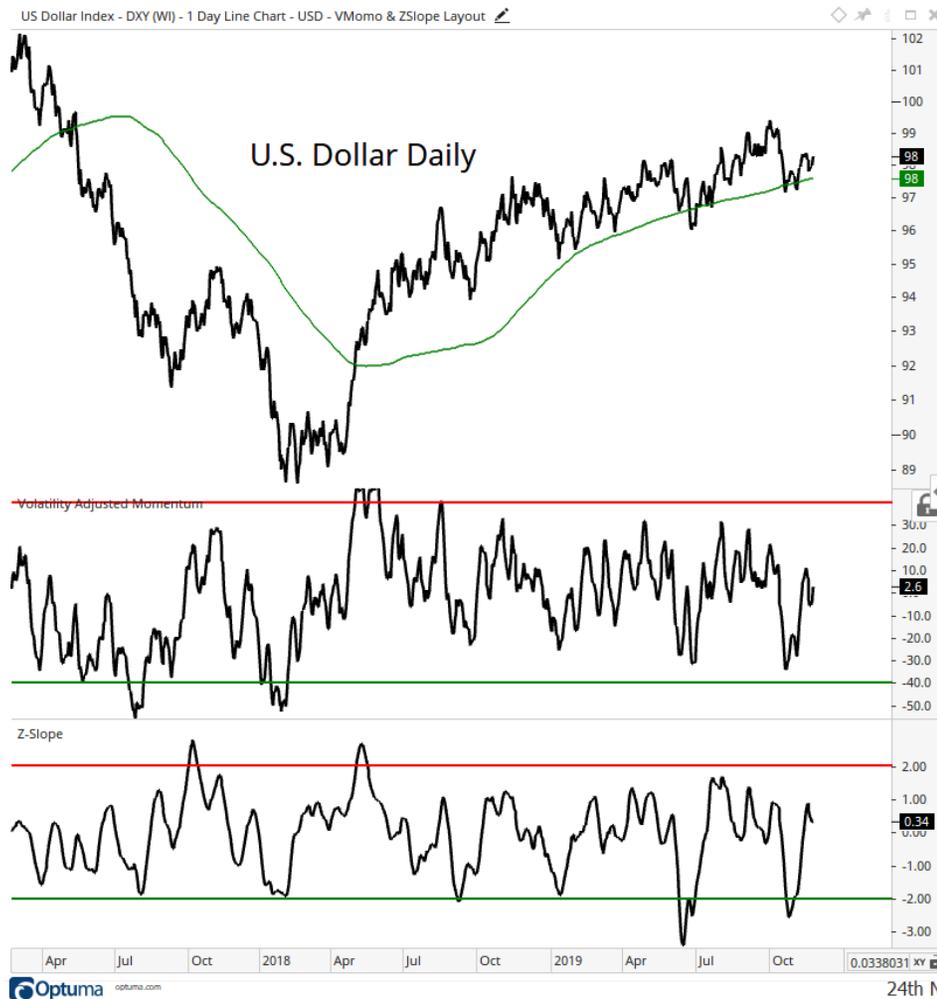
24th Nov 2019



Neutral reading for z-slope with VaM now overbought.



Neutral readings for both VaM and Z-slope.

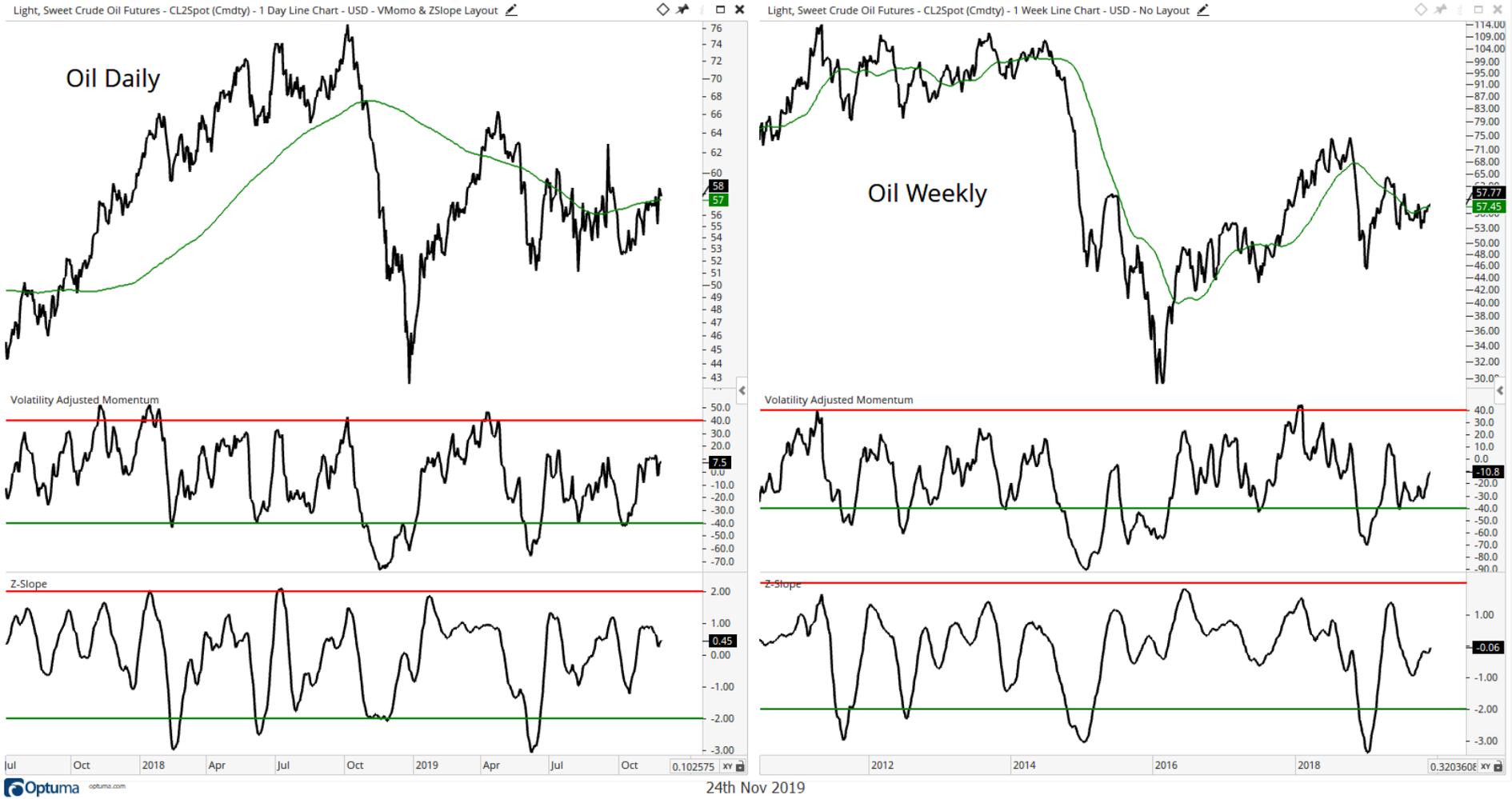


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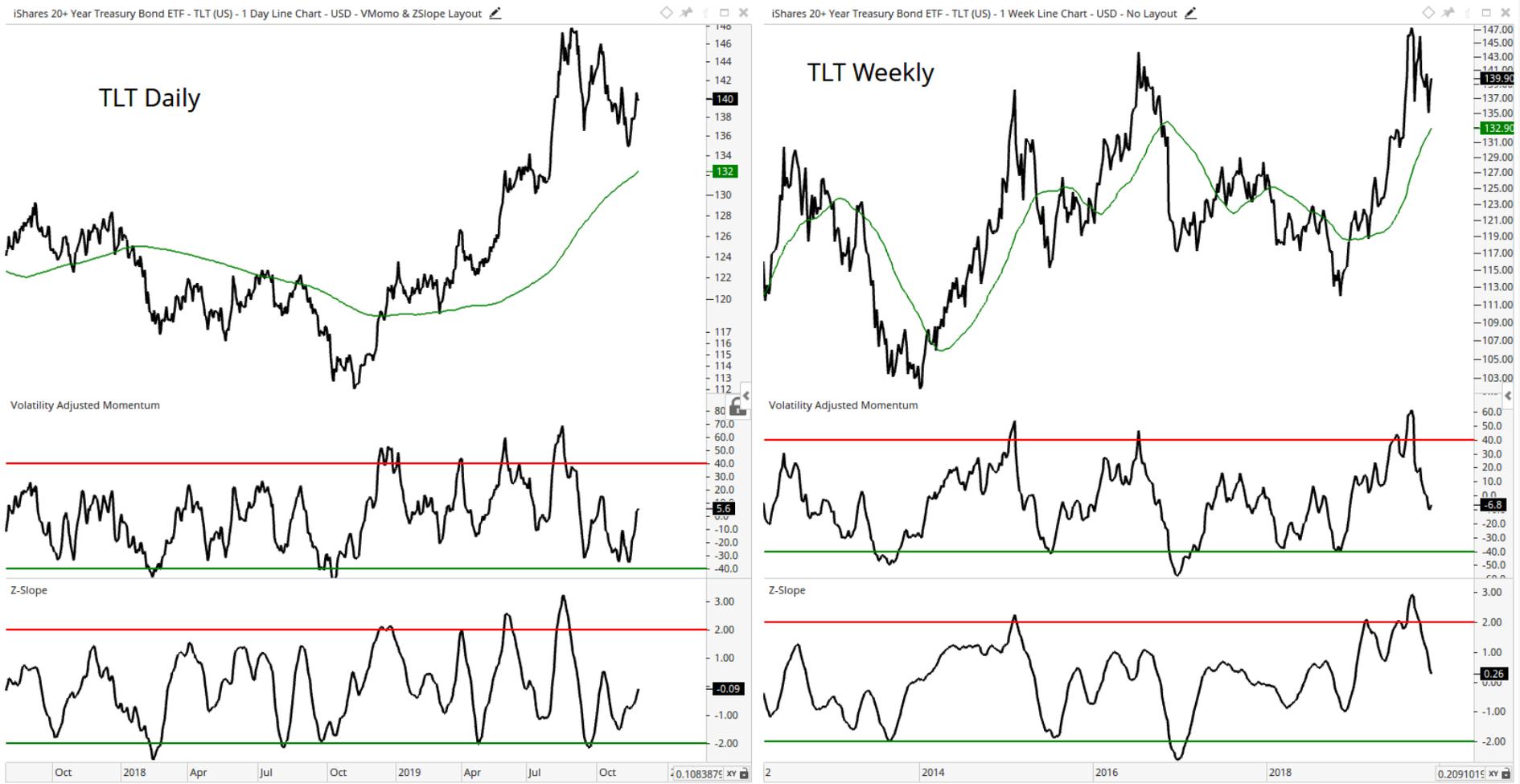
Neutral readings VaM and Z-slope.



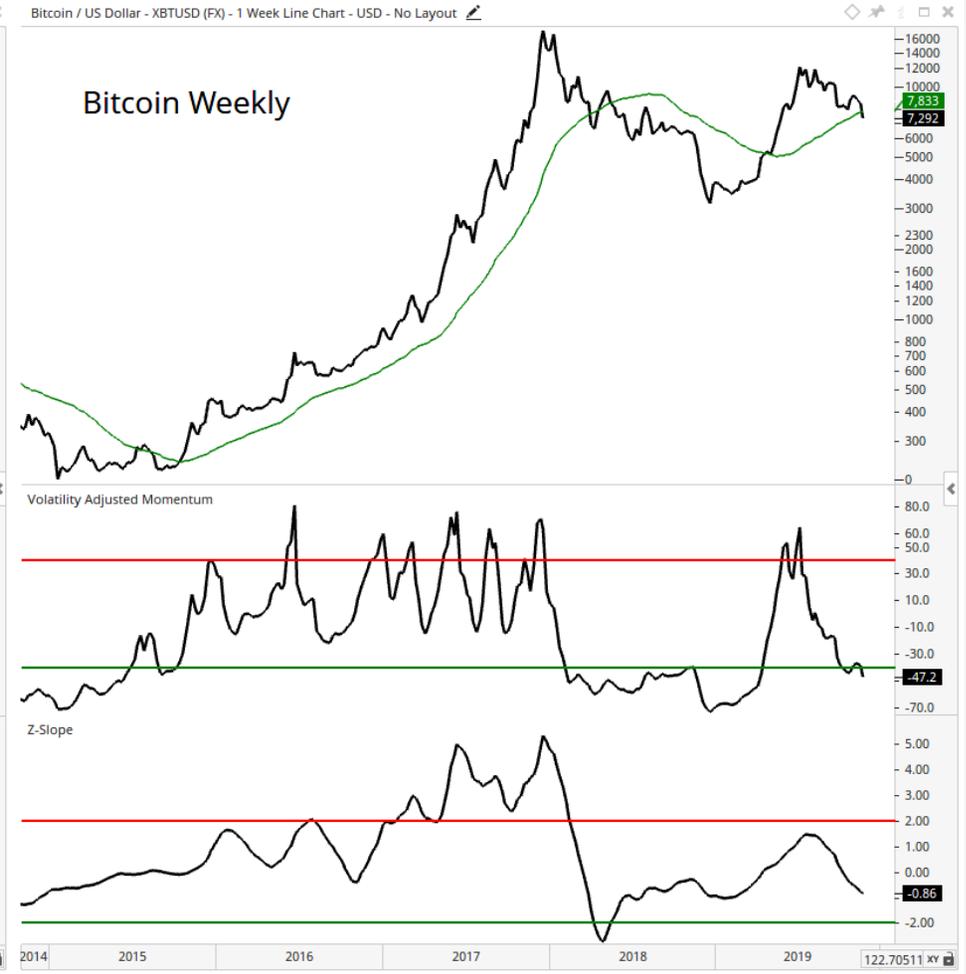
Neutral readings for both VaM and Z-slope.



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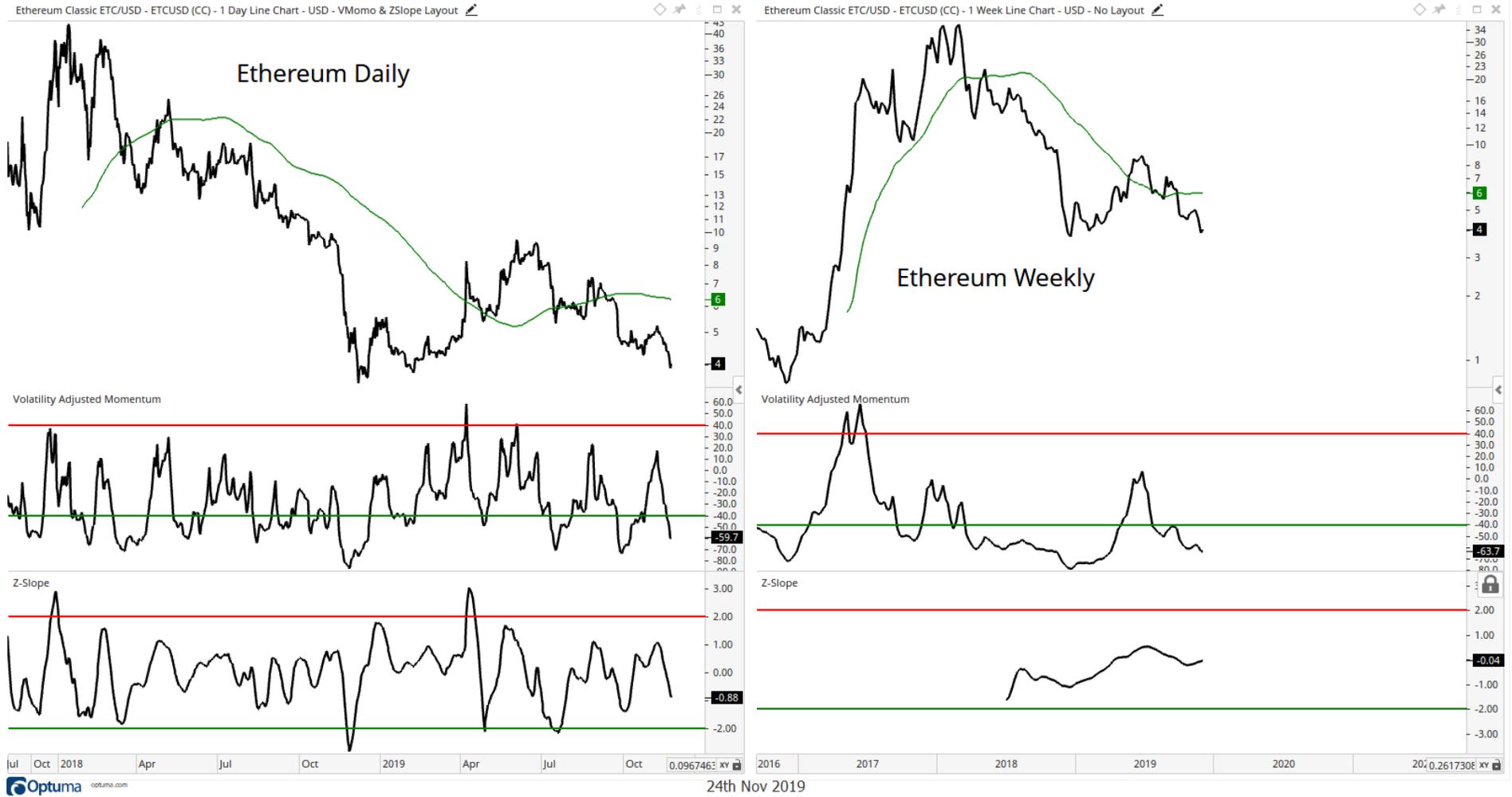


Neutral readings for both VaM and Z-slope.



24th Nov 2019

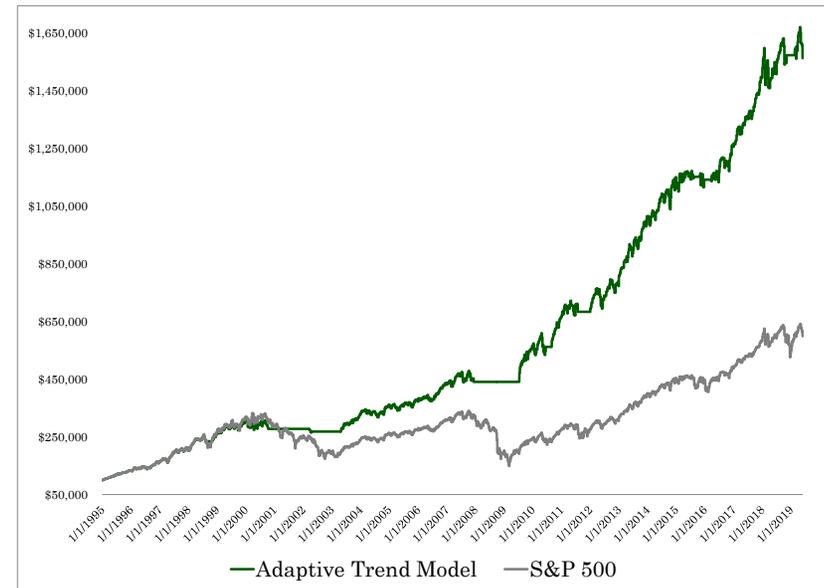
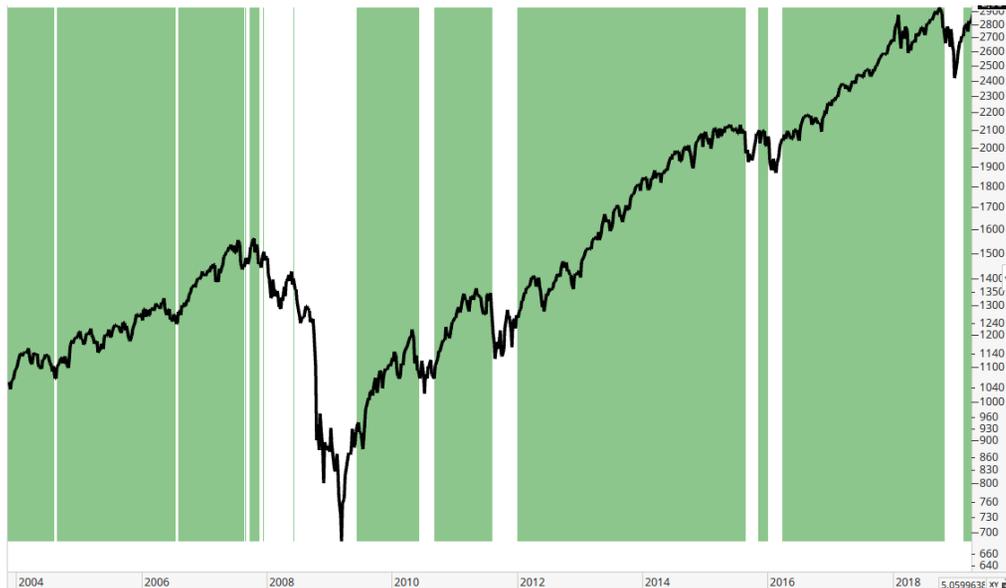
Neutral reading for z-slope and VaM is 'oversold.'



Neutral reading for z-slope and 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.

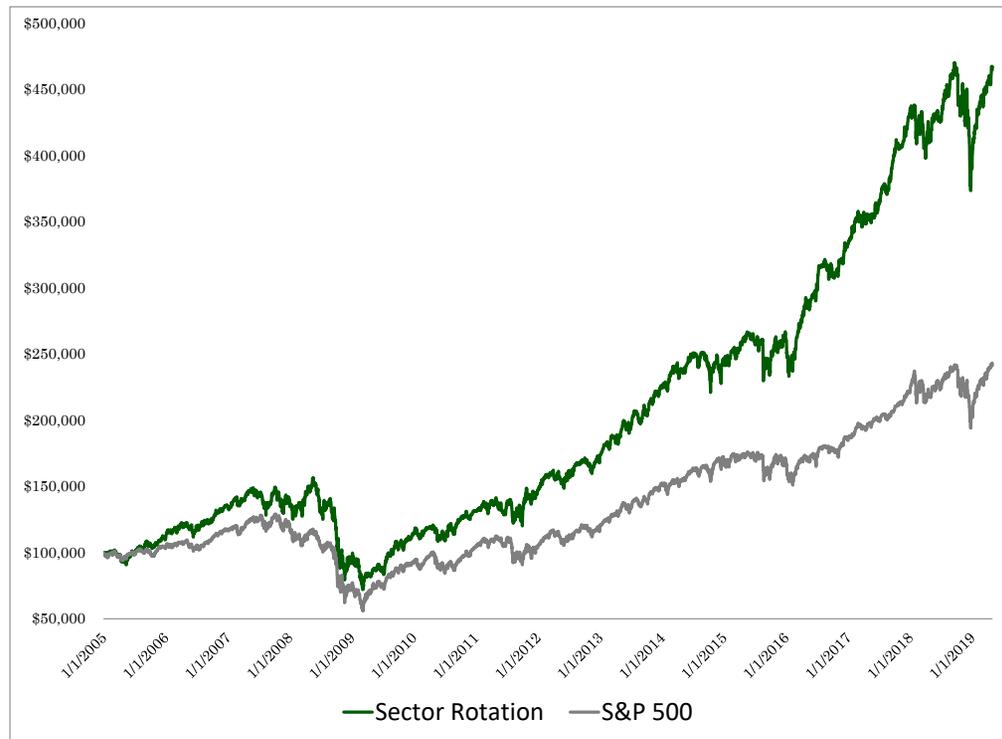


	Annualized Return	Annualized Volatility	Beta	Sharpe	Maximum Drawdown
Adaptive	12.5%	10.3%	0.47	0.97	14.1%
S&P 500	8.9%	15.3%	1	0.42	56.6%

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.

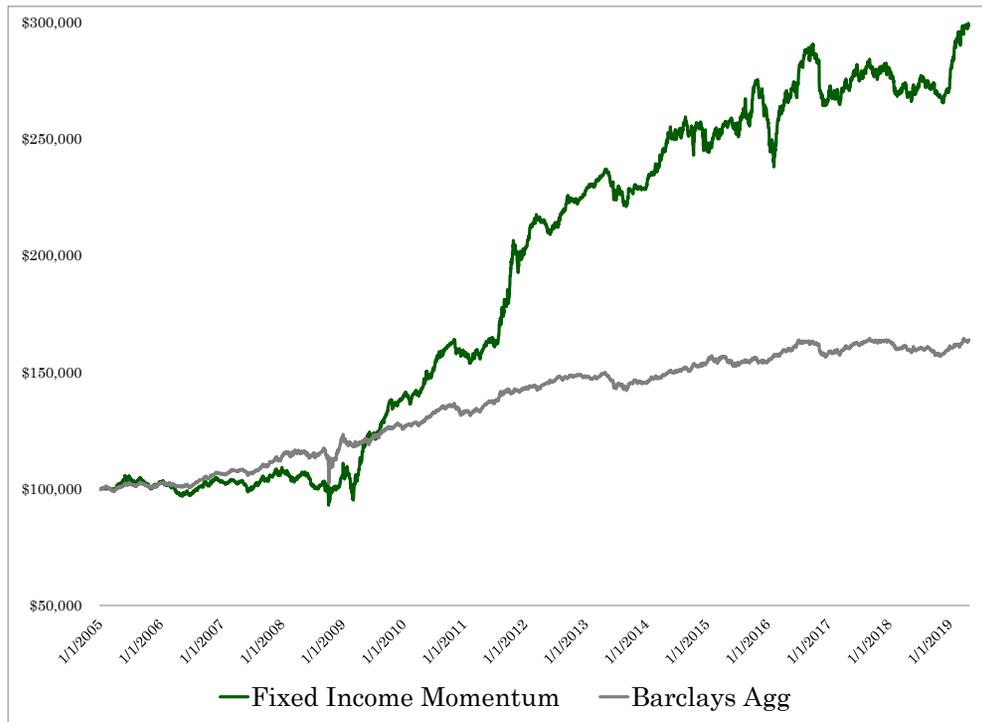


	Annualized Return	Annualized Volatility	Beta	Sharpe	Maximum Drawdown
Sector	12.7%	15.9%	0.96	0.64	53.9%
S&P 500	7.5%	14.8%	1	0.34	56.6%

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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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.

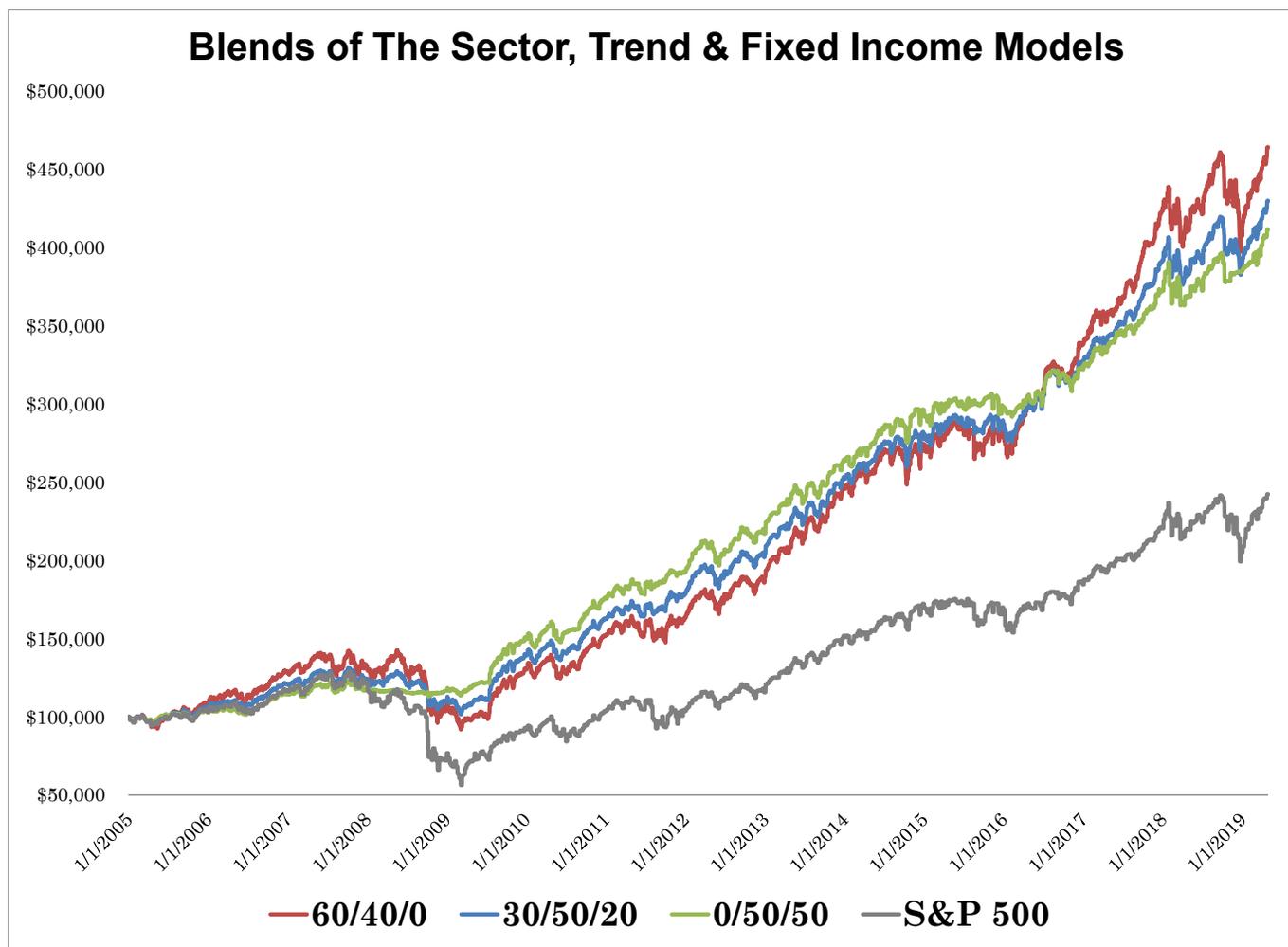


	Annualized Return	Annualized Volatility	Beta	Sharpe	Maximum Drawdown
Fixed Income	8.3%	8.2%	1.04	0.7	14.9%
Barclays Agg	3.6%	3.7%	1	0.29	11.0%

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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 XLU XLV	JNK AGG

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The models, results, and data shown assumes that the markets were sufficiently liquid to permit the types of trading used in the model. A \$6.95 per trade transaction fee was assumed during the back tested period but the results give no consideration to the effect of taxes of any kind. Because the trades assumed in Thrasher Analytics' presentations have not actually been executed, the results shown may have under- or over-compensated for the impact, if any, of certain market factors such as lack of liquidity or the ability to obtain the execution prices that have been assumed. The models developed and presented by Thrasher Analytics LLC require an historical period of data for parameter estimation prior to the actual commencement of the period shown in the model and in the back tested results. No representation is being made that any account will or is likely to achieve profit or loss similar to those shown in this or any other content produced by Thrasher Analytics LLC.

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