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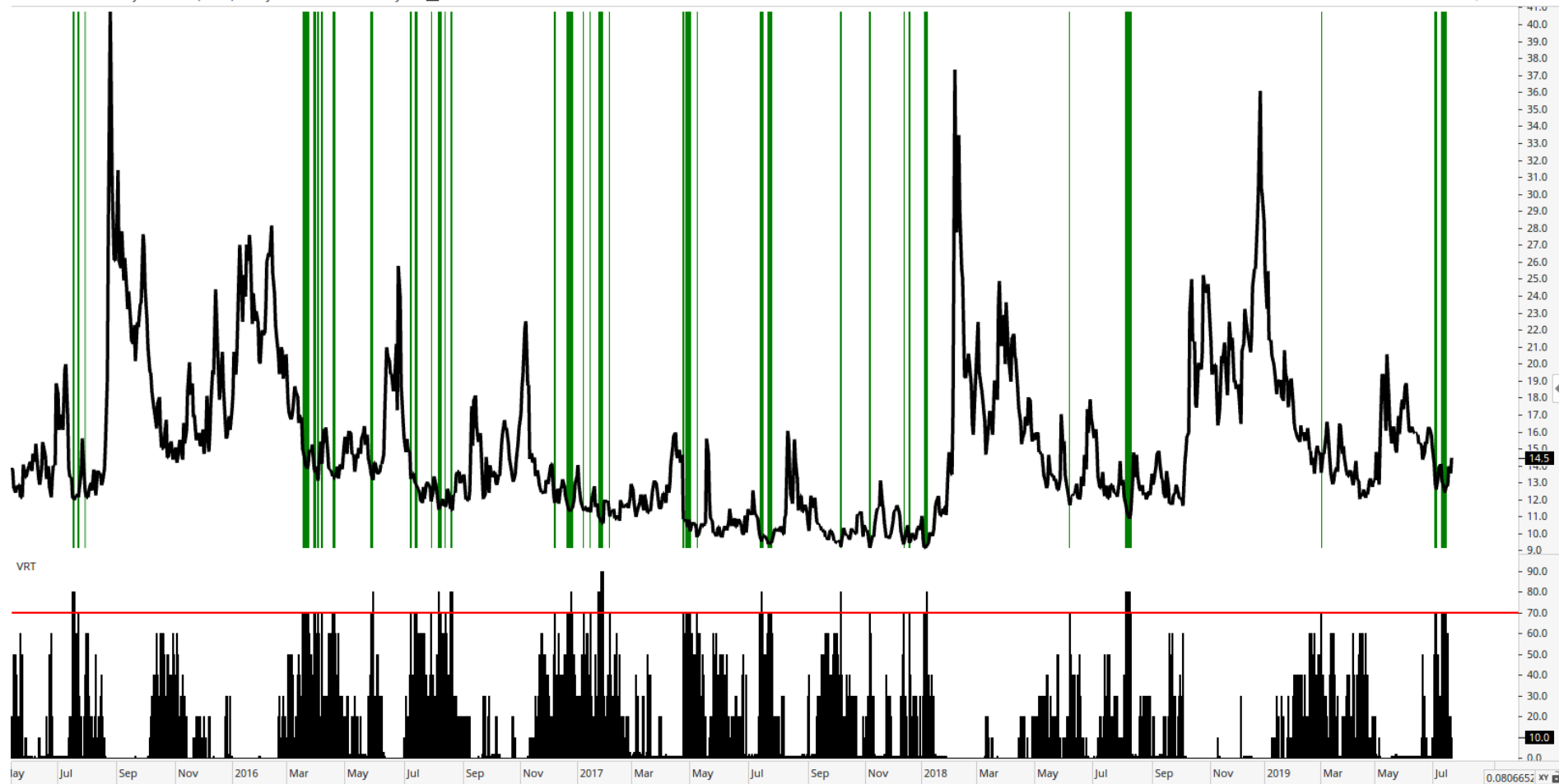
BI-WEEKLY RESEARCH & ANALYSIS

1 Day - Watch List - No Layout

■	Sector	> 50MA	> 200MA	1wk Perf ▼	1mo Perf	3mo Perf	12mo Perf
✓	SPDR Consumer Staples Select Sector Fund ETF	True	True	0.18%	1.87%	5.4%	14.08%
✓	SPDR Materials Select Sector Fund ETF	True	True	0.07%	1.64%	1.02%	-0.21%
✓	SPDR Utilities Select Sector Fund ETF	True	True	-0.4%	-0.79%	5.38%	14.64%
✓	SPDR Technology Select Sector Fund ETF	True	True	-0.55%	3.69%	3.69%	11.25%
✓	SPDR Health Care Select Sector Fund ETF	True	True	-0.74%	-1.62%	6.8%	5.56%
✓	SPDR Industrial Select Sector Fund ETF	True	True	-1.2%	1.18%	-1.1%	3.93%
✓	SPDR Financial Select Sector Fund ETF	True	True	-1.34%	2.34%	2.19%	1.56%
✓	SPDR Consumer Discretionary Select Sector Fund ETF	True	True	-1.55%	2.09%	2.42%	8.44%
✓	SPDR Real Estate Select Sector Fund ETF	False	True	-2.18%	-3.84%	3.57%	12.23%
✓	SPDR Energy Select Sector Fund ETF	True	False	-2.61%	0.74%	-6.59%	-16.49%
✓	SPDR Communication Services Select Sector ETF	True	True	-3.22%	1.20%	0.9%	-2.84%

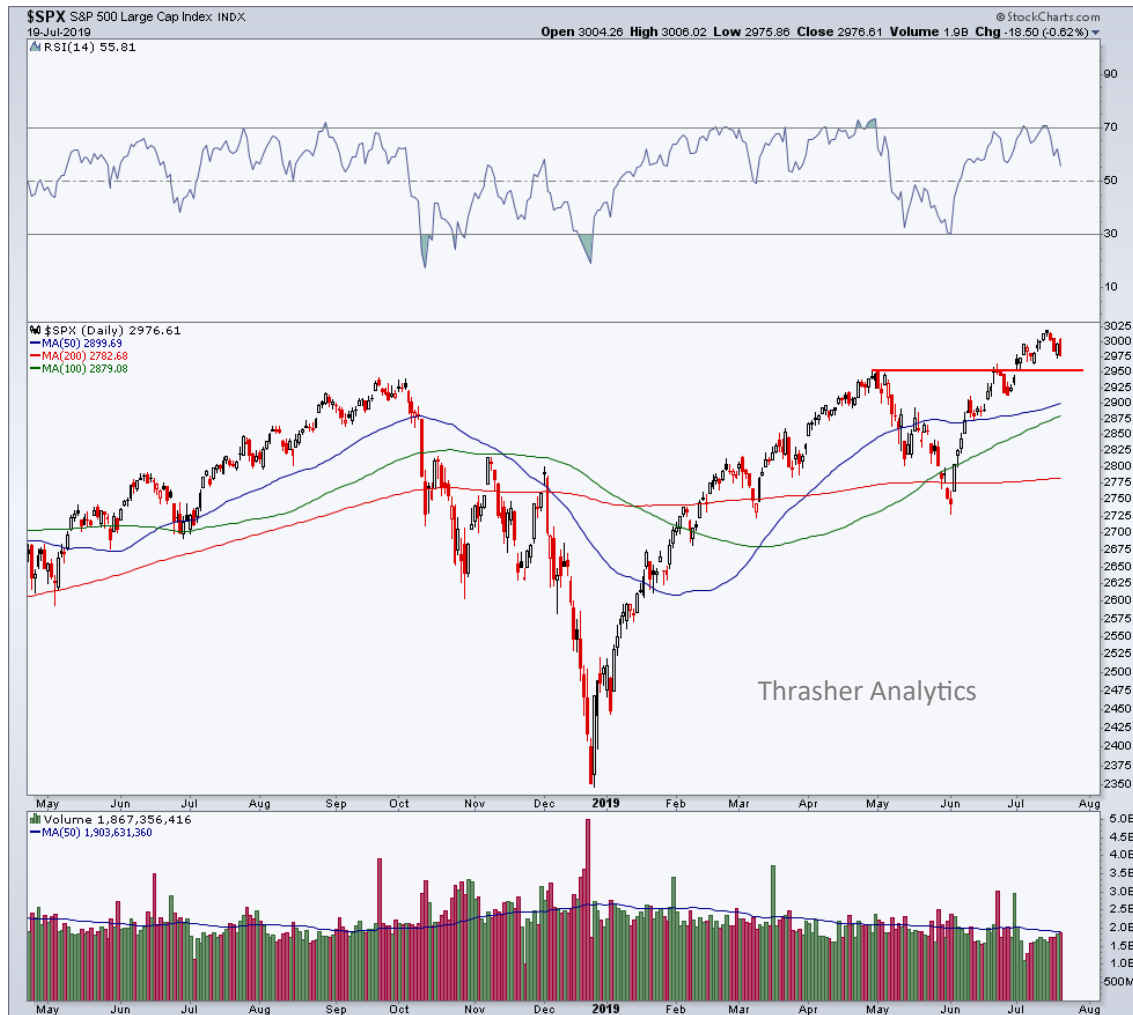
Only two sectors finished in the green last week, with the rest falling between -0.4% and -3.22%. All but Energy still remain above their respective 200-day moving average.

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

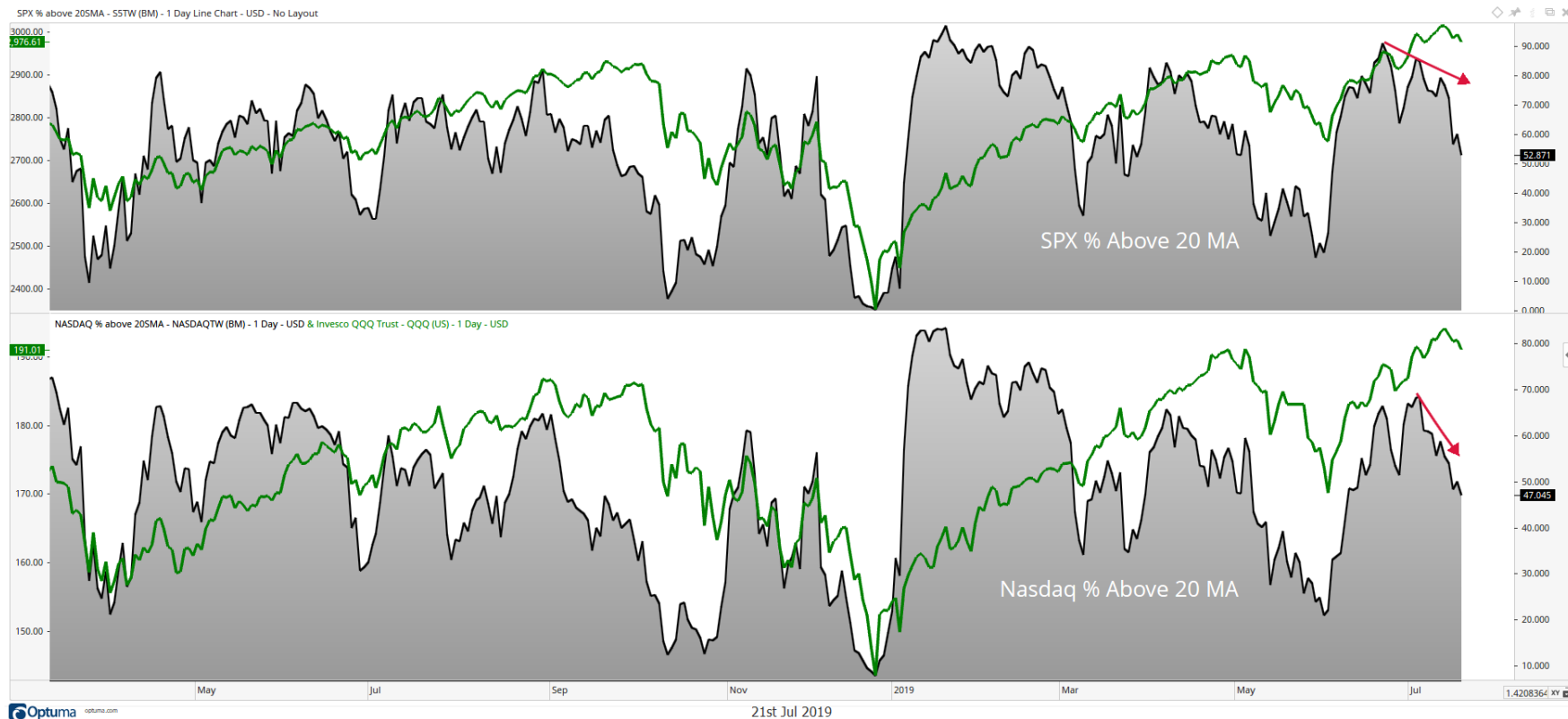


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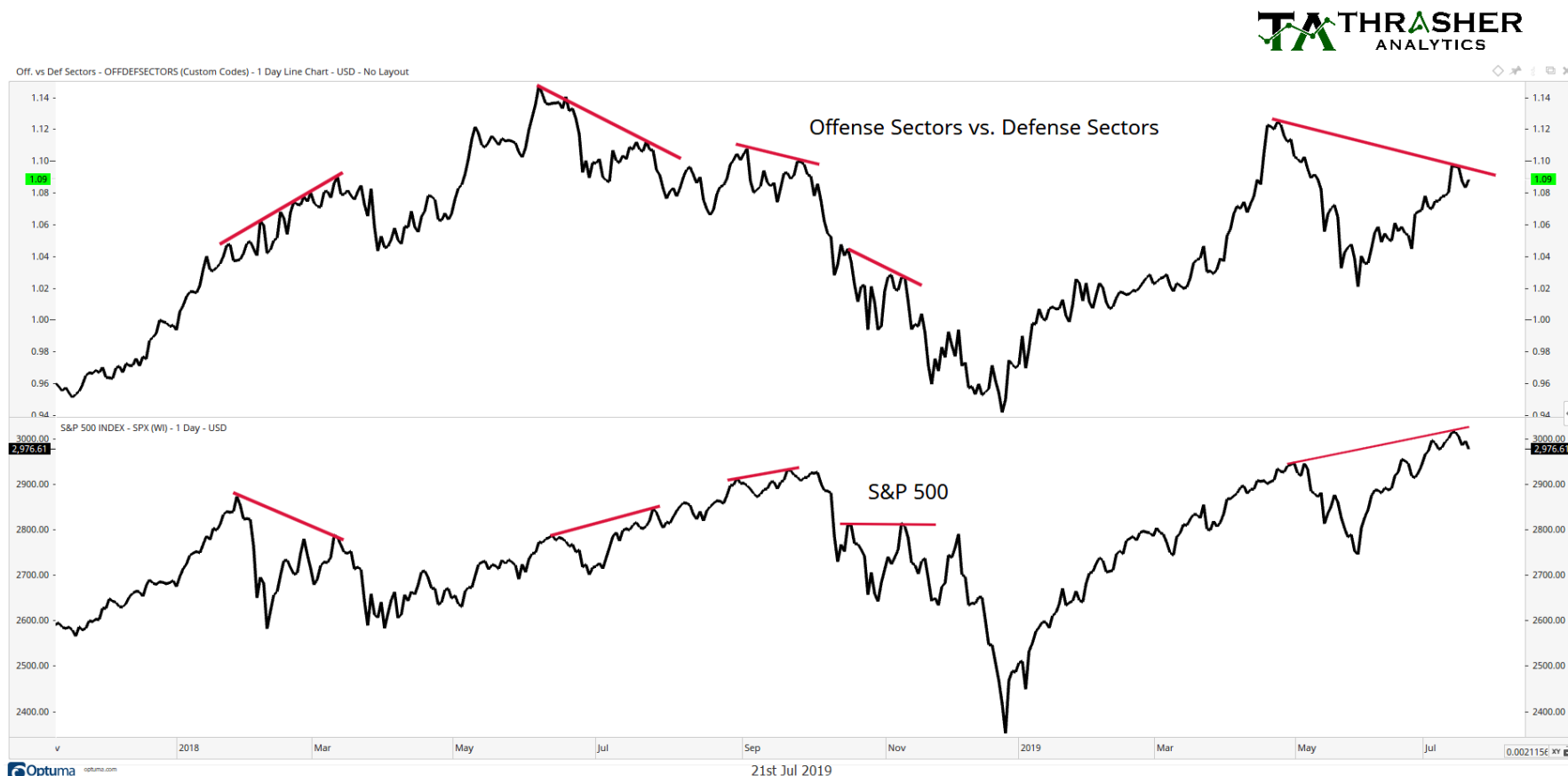
The Volatility Index began moving higher at the end of last week, finishing Friday above the level that marked the VRT signal discussed in the prior letter. There are a whole host of potential catalysts that could move volatility in the coming week. Between the Mueller congressional testimony, continued trade talks with China and Mexico, ECB rate decisions, tensions with Iran, earnings from chunks of FAANG (Amazon, Facebook, and Alphabet) following the disappointing numbers out Netflix, and 2Q GDP and retail sales economic numbers.



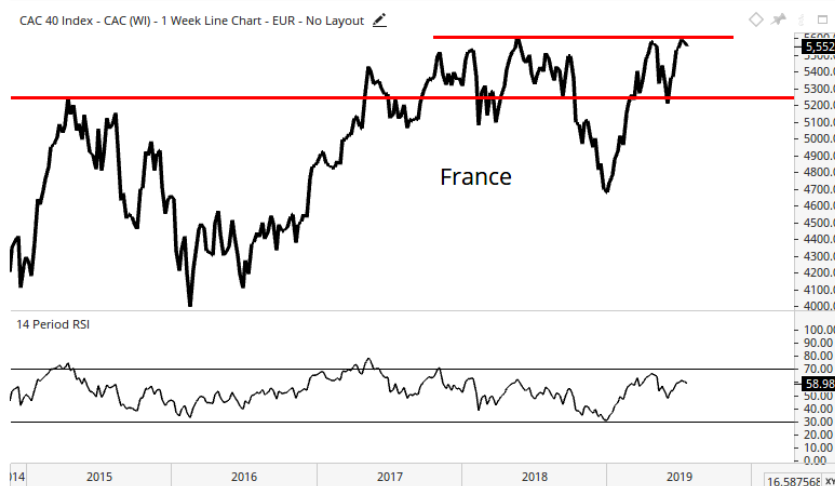
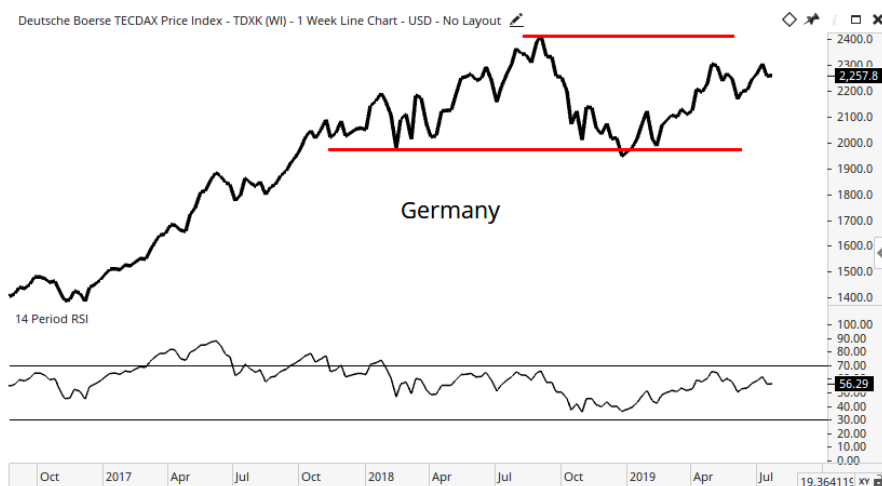
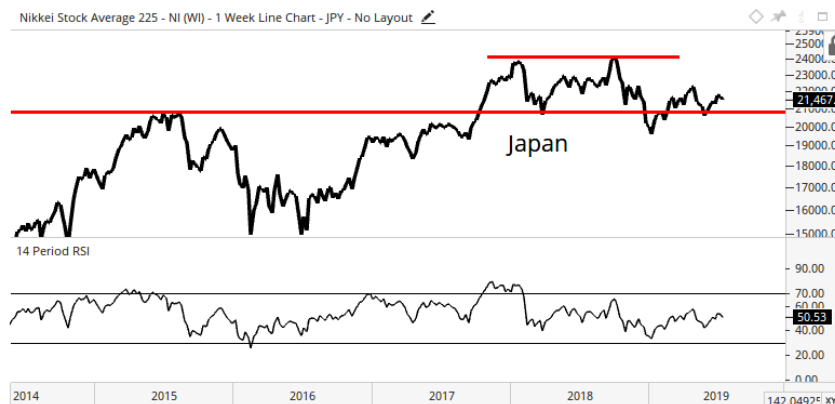
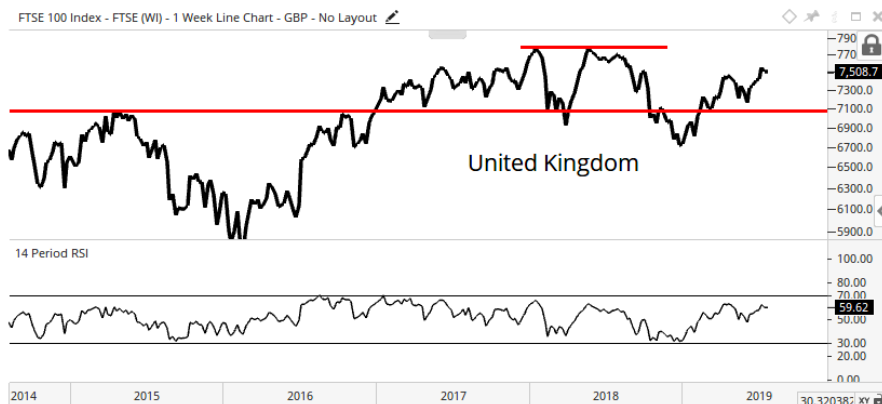
The S&P 500 finished last week with its worst performance since May, declining 1.2%. After falling below the psychologically important 3,000 level, the SPX still remains above the prior April high. Volume was slightly elevated for the week, a change after several weeks of below-average trading. Some traders point to the higher volume as a sign of distribution, which I can understand but it was not above the 50-day average of volume, so the degree of distribution wasn't overly significant.



The above chart shows the S&P 500 and Nasdaq along with their respective breadth indicators of % of stocks above their 20-day moving average. These two breadth indicators peaked ahead of price back in June and have been trending lower ever sense. As I mentioned in my last letter, the 50-day MA breadth was positive and still is supportive, but on a shorter-term look, things are starting to weaken internally for the two main indices.



With the S&P made its higher high earlier this month, the same can not be said for the ratio of offensive vs. defensive sectors. This indicates that the leadership from a sector viewpoint has been on the lower beta, more defensive areas of the market - not something you typically want to see as the index breaks to new highs. Traders seem to want to own stocks but are doing so in a defensive manner, holding the least volatile components of the market.

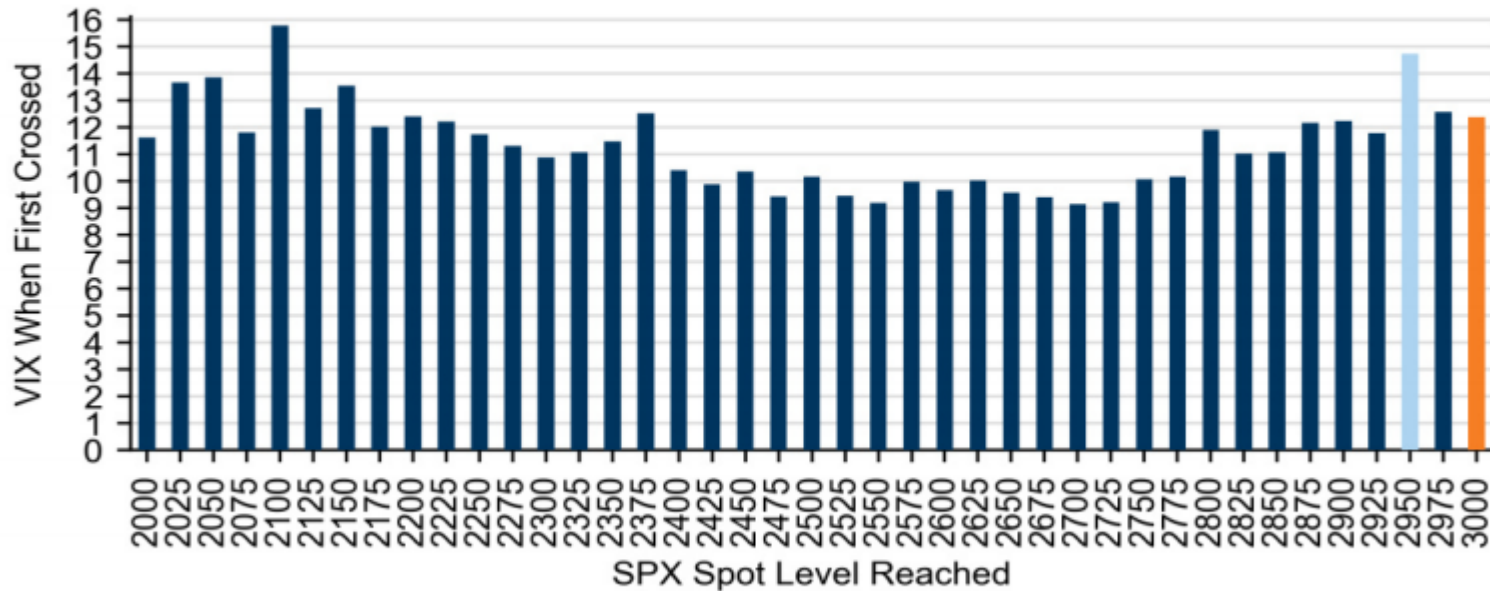


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Besides the U.S. equity market, the United Kingdom, Germany, Japan, and France make up the bulk of the MSCI ACWI index. While we've seen a breakout in stocks here in the U.S., the same can't be said for the other four major equity markets. None of them have put in a higher high yet, although France has gotten close until it dipped slightly lower last week. At this point, The U.S. equity market stands alone among the major developed financial markets by setting a new high.

Exhibit 1: While lower than the VIX was when the SPX crossed 2950, the mid 12's VIX when the SPX reached 3000 exceeded the VIX at most recent new highs
VIX level when the SPX reached new highs for the first time

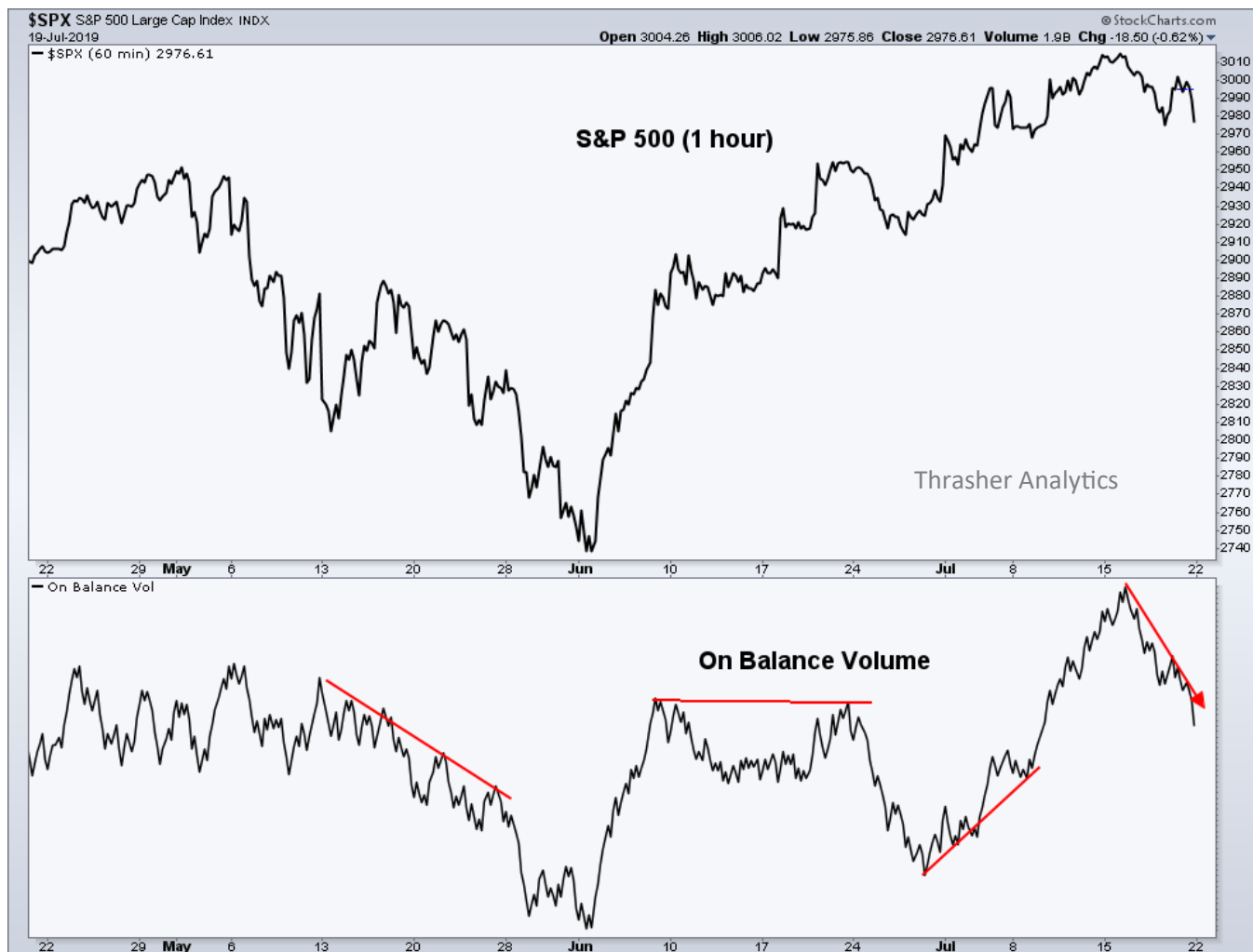


Source: Goldman Sachs Group Inc., Goldman Sachs Global Investment Research

In a recent note by Goldman Sachs, Rocky Fishman (an Equity Derivatives Strategist) shared the above chart of VIX levels when the S&P 500 hits a new high. In the note, Fishman highlights that “It is normal for the SPX to see low vol as the index deliberately tests new highs, and the mid-12’s VIX when the SPX first closed above 3000 was actually higher than the VIX was when most levels above 2400 were first reached.”



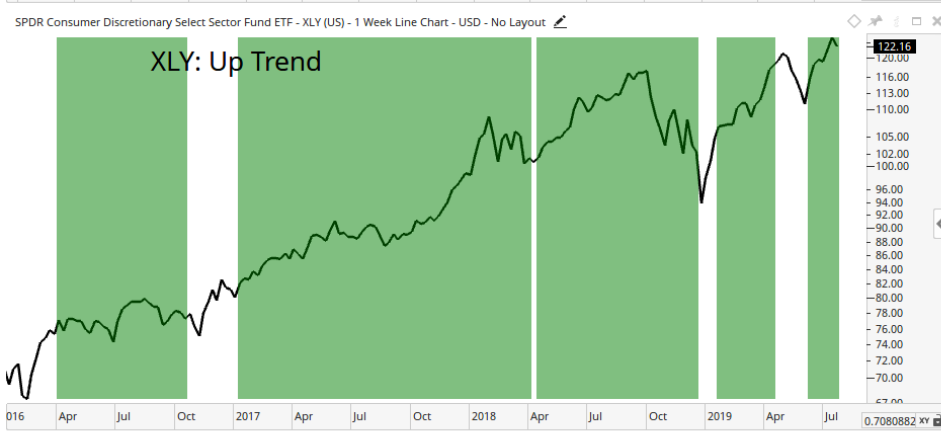
Last week I was invited to Chicago to present to the CMT Association Chicago Chapter. It's always great getting to spend time with other traders and see several CMT friends up in the windy city. While in town I went to TD Ameritrade network on Friday for an in-studio interview during their Morning Trade Live show. I thought I'd share the video link with you, as I share my latest thoughts on the market regarding volatility, equities, and the one area of the market I think still looks promising. The full interview can be viewed here: https://tdameritradenetwork.com/video/rB4AoWwDE_OBbAqAwilBEw



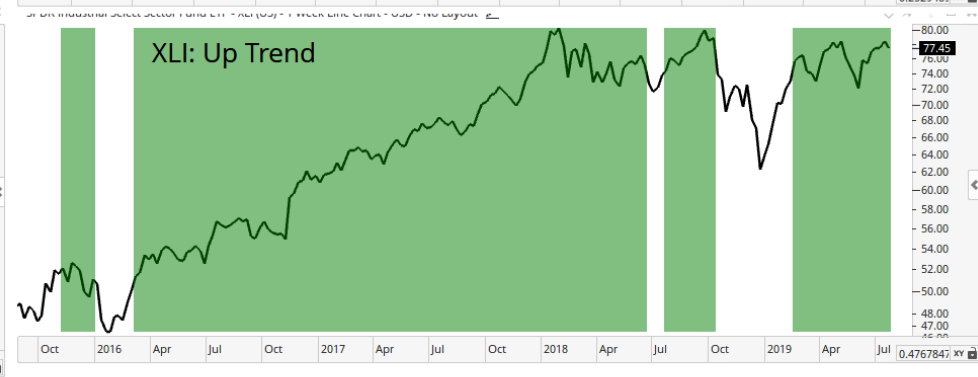
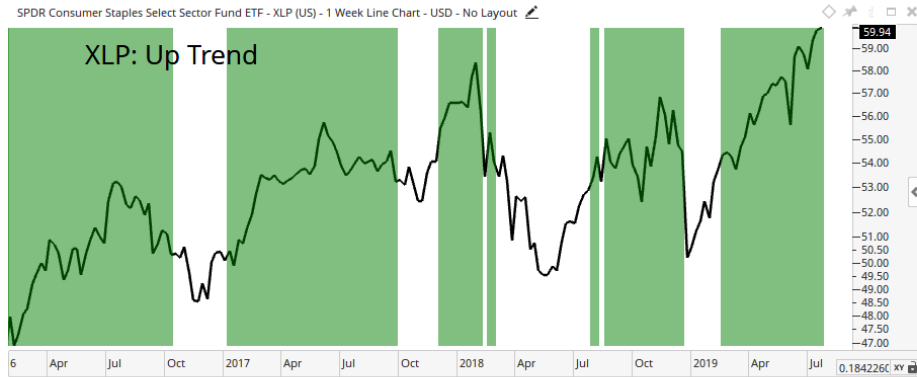
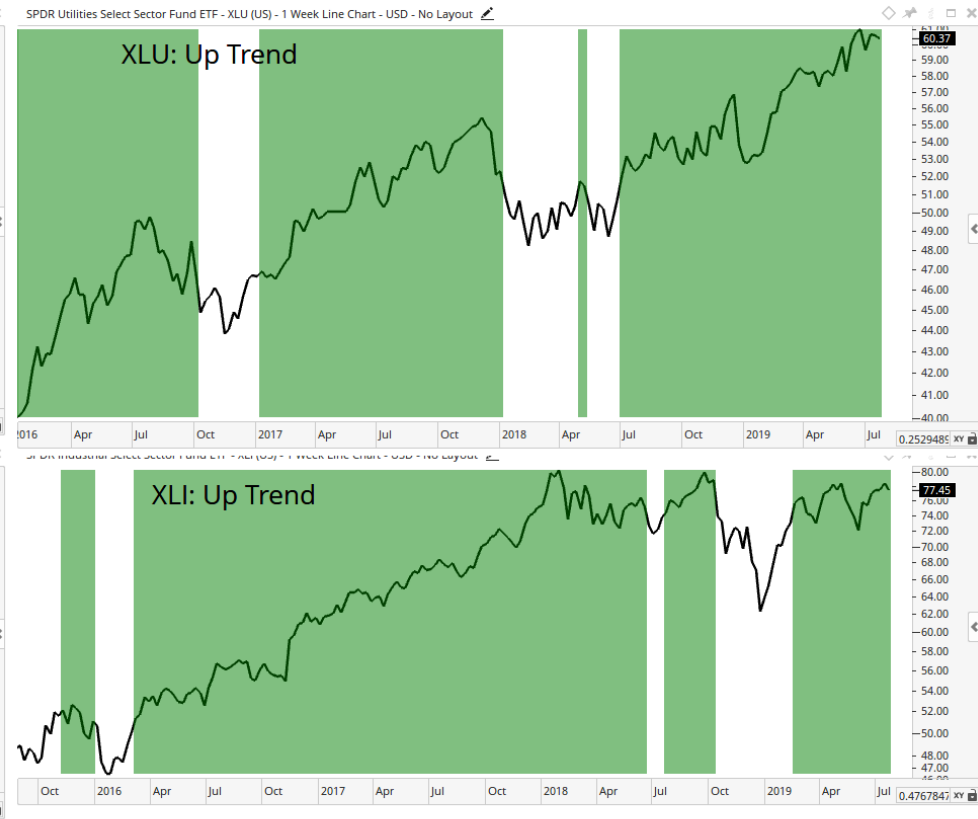
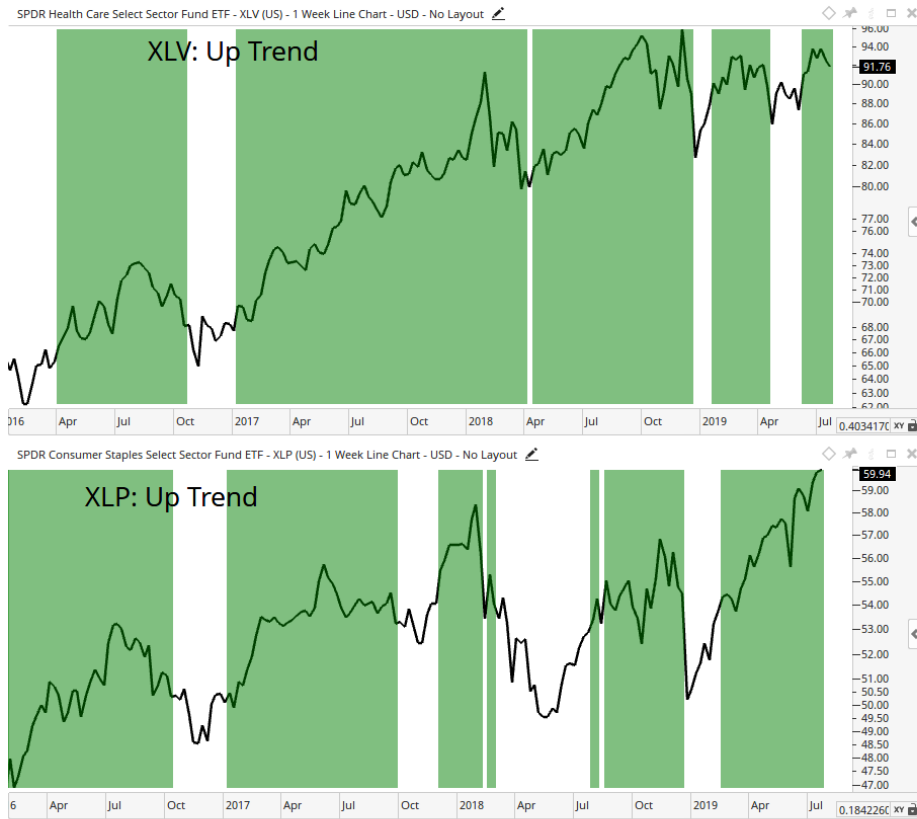
The volume profile for the S&P 500 was seeing bullish confirmation in volume through most of June until price began trending lower. Since the July 16th high, net-volume has picked up fairly substantially on the downside from an intraday perspective. On Balance Volume has already moved below the July 18th low ahead of price.



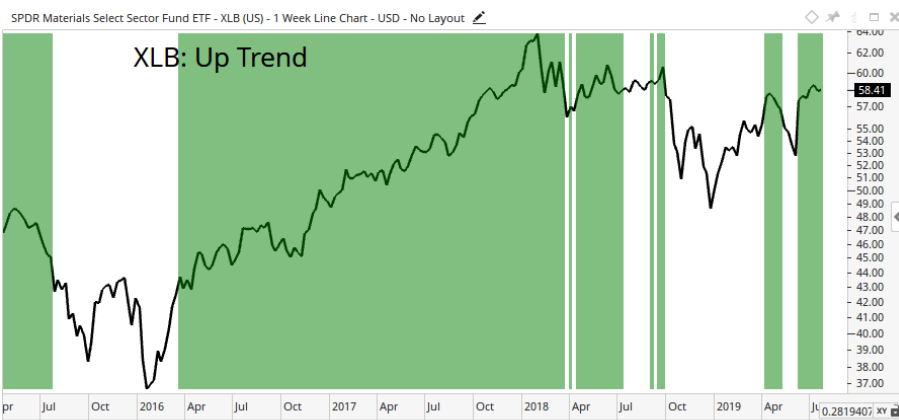
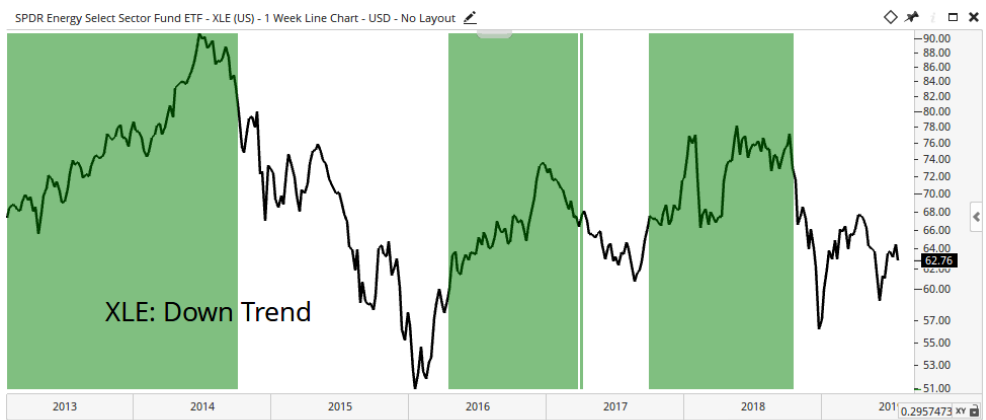
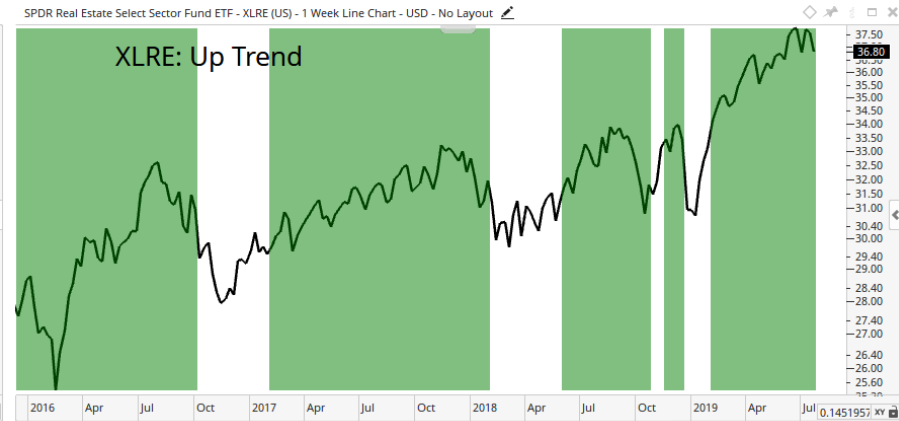
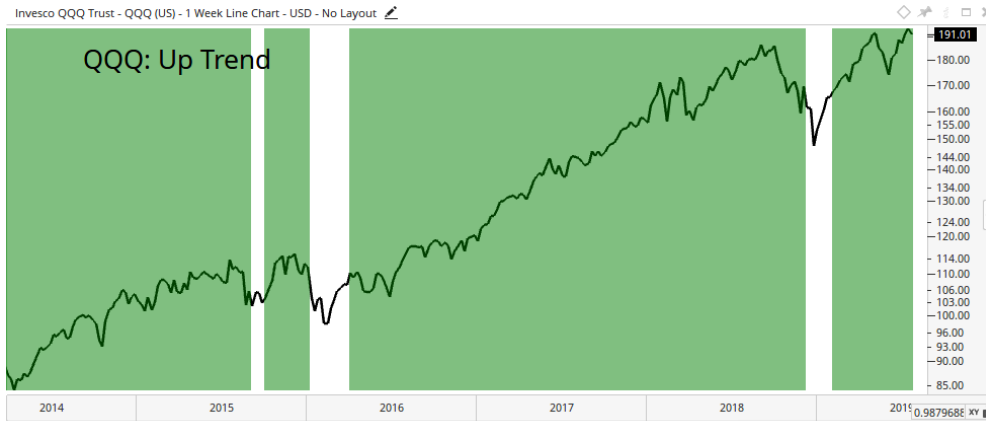
I last showed this chart when calling a bottom in gold prices back in May as a bullish divergence between gold and yen developed. Since then, gold prices have rallied and moved to a new five year high. In recent weeks the yen has begun to not confirm the latest advance in gold, a bearish sign for the latest leg higher in the precious metal. While the yen hasn't moved materially lower, it just hasn't been making higher highs lately. This is a neutral sign, we'll want to see a more defined move lower in the yen to get overly negative on the prospects for gold, something that hasn't happened yet, leaving gold's trend still intact.



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



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



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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.

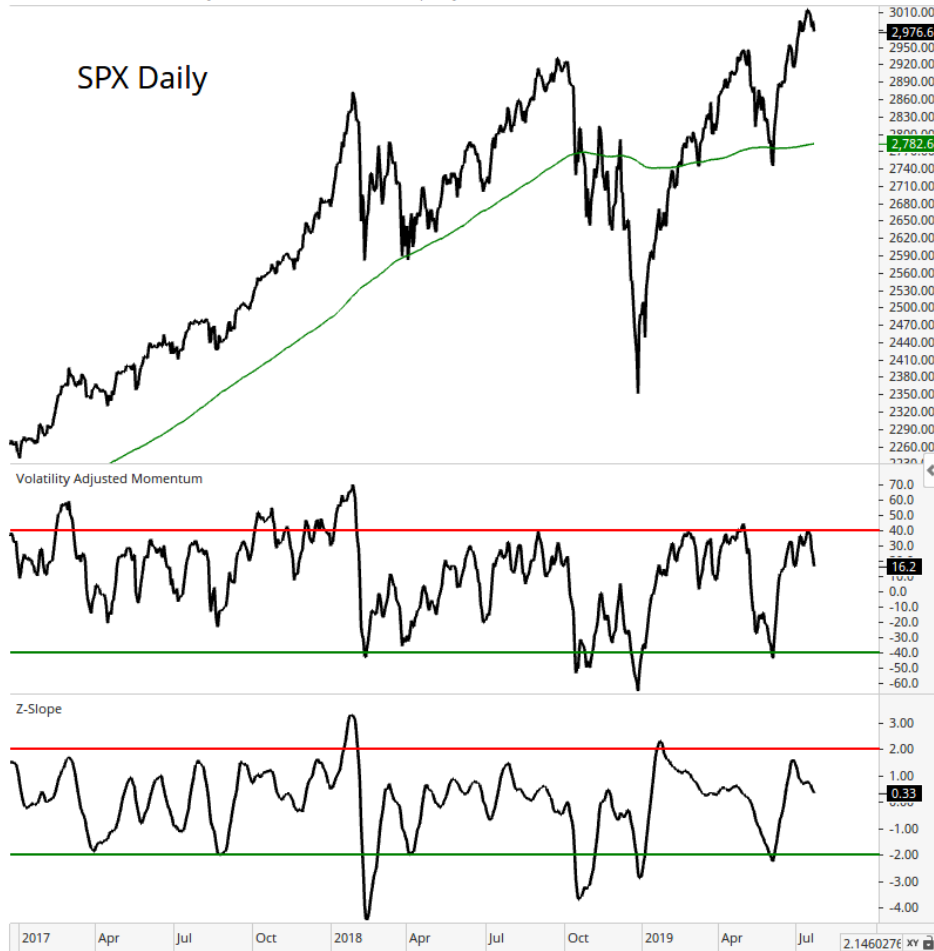
Volatility-Adjusted Momentum (VaM): This is a spin on the traditional measures of momentum, taking into account the volatility of the underlying asset into the calculation. By adjusting for volatility we can get a better look at potential mean-reversion signals when risk/reward becomes unbalanced towards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



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

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



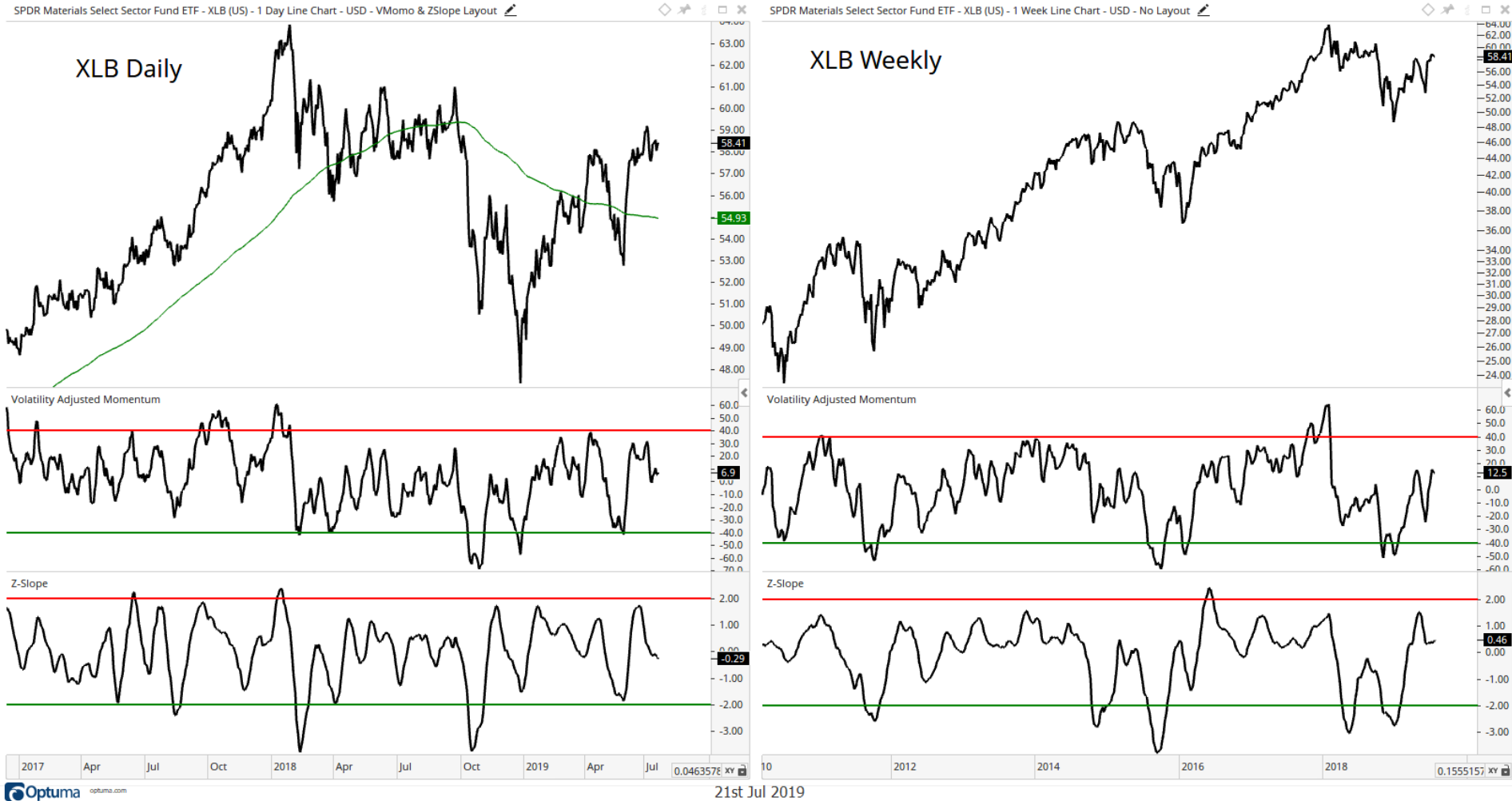
Daily VaM is moving away from 'overbought level'



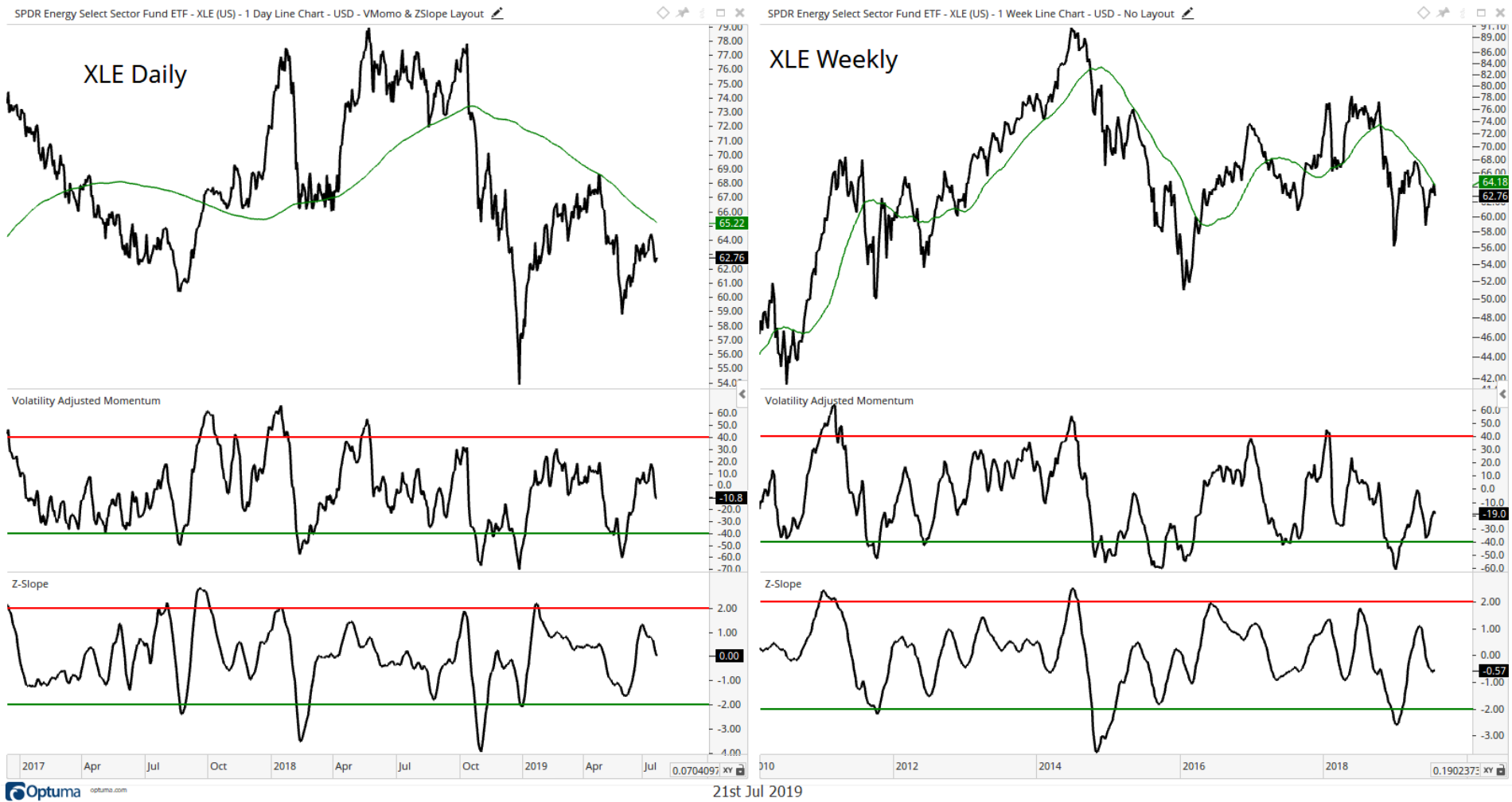
Neutral readings for both VaM and Z-slope.



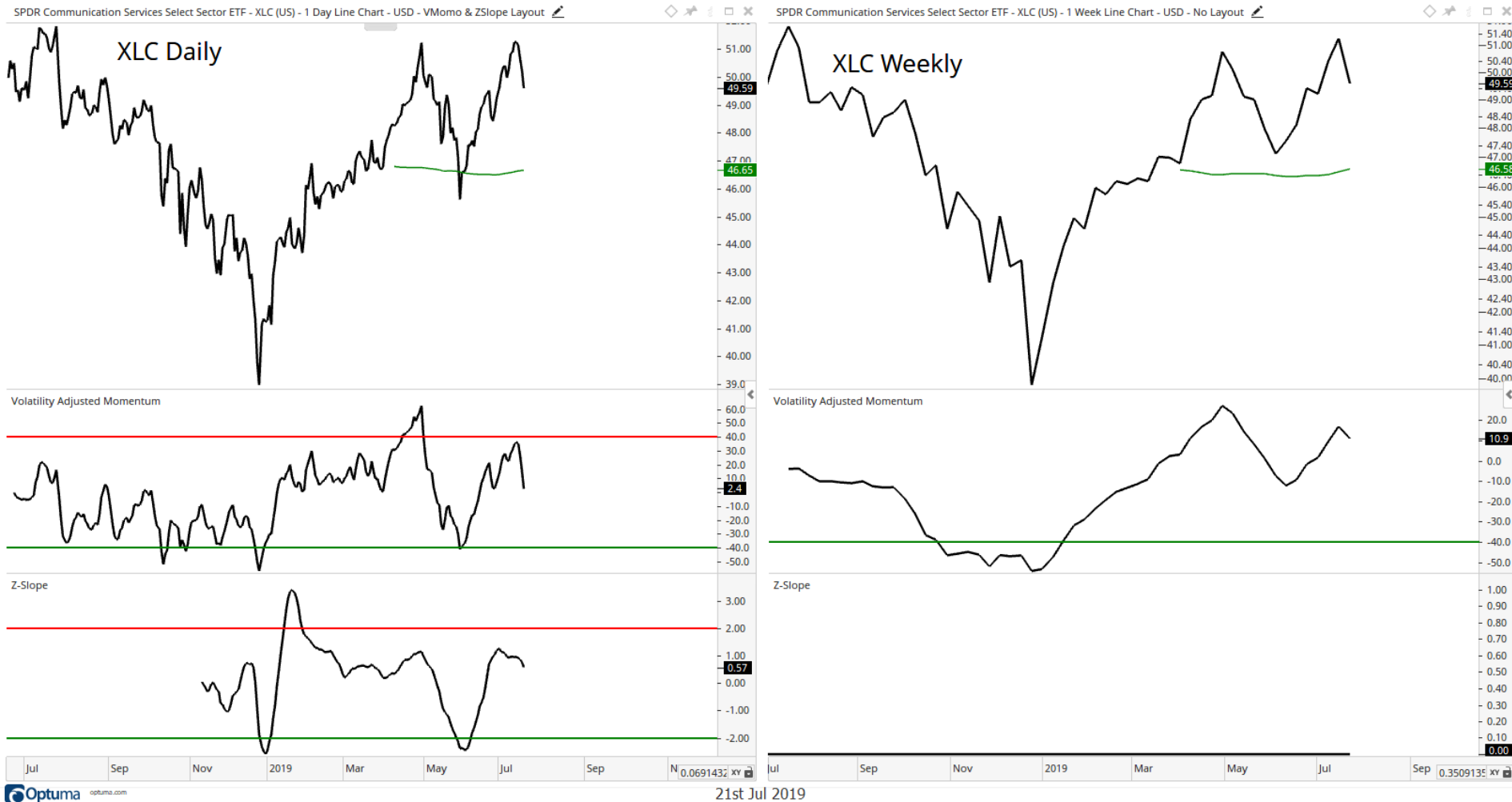
Neutral readings for both VaM and Z-slope.



Neutral readings for both VaM and Z-slope.



Neutral readings for both VaM and Z-slope.



Neutral readings for both VaM and Z-Score.



Neutral readings for both VaM and Z-Score.

SPDR Technology Select Sector Fund ETF - XLK (US) - 1 Day Line Chart - USD - VMomo & ZSlope Layout

SPDR Technology Select Sector Fund ETF - XLK (US) - 1 Week Line Chart - USD - No Layout



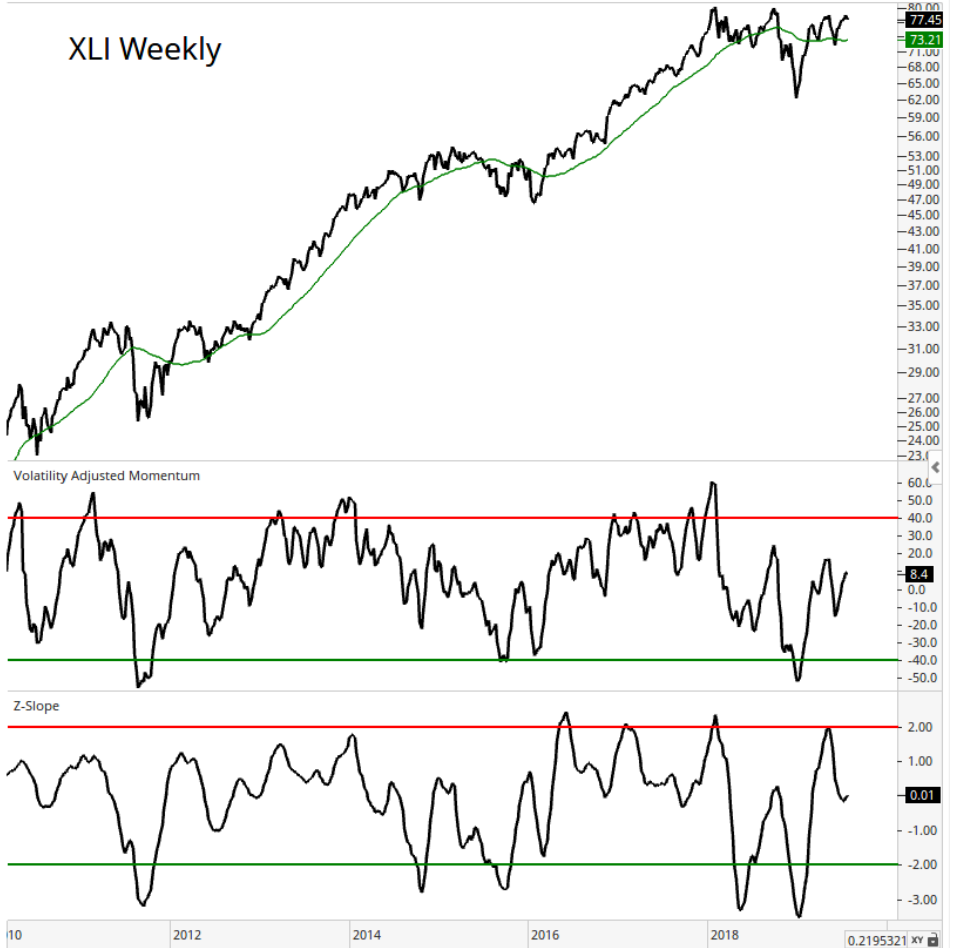
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Daily VaM is approaching 'overbought' status.

SPDR Industrial Select Sector Fund ETF - XLI (US) - 1 Day Line Chart - USD - VMomo & ZSlope Layout



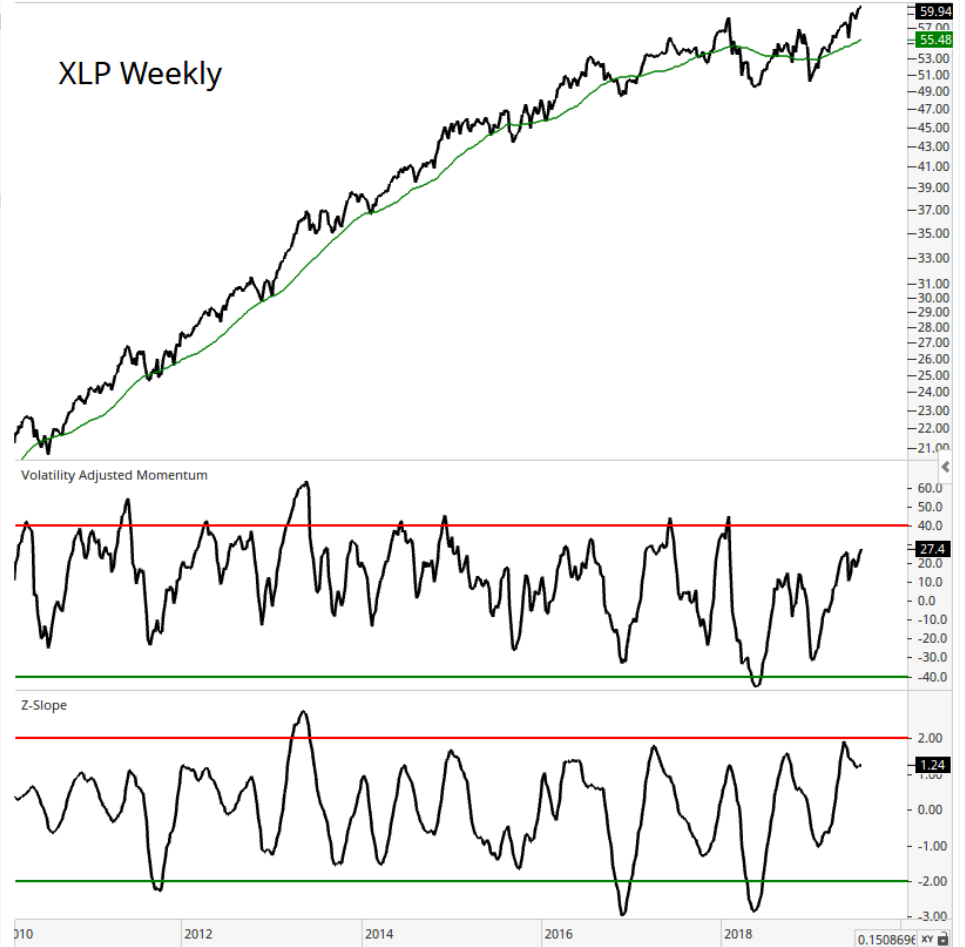
SPDR Industrial Select Sector Fund ETF - XLI (US) - 1 Week Line Chart - USD - No Layout



Neutral readings for both VaM and Z-slope.

SPDR Consumer Staples Select Sector Fund ETF - XLP (US) - 1 Day Line Chart - USD - VMomo & ZSlope Layout

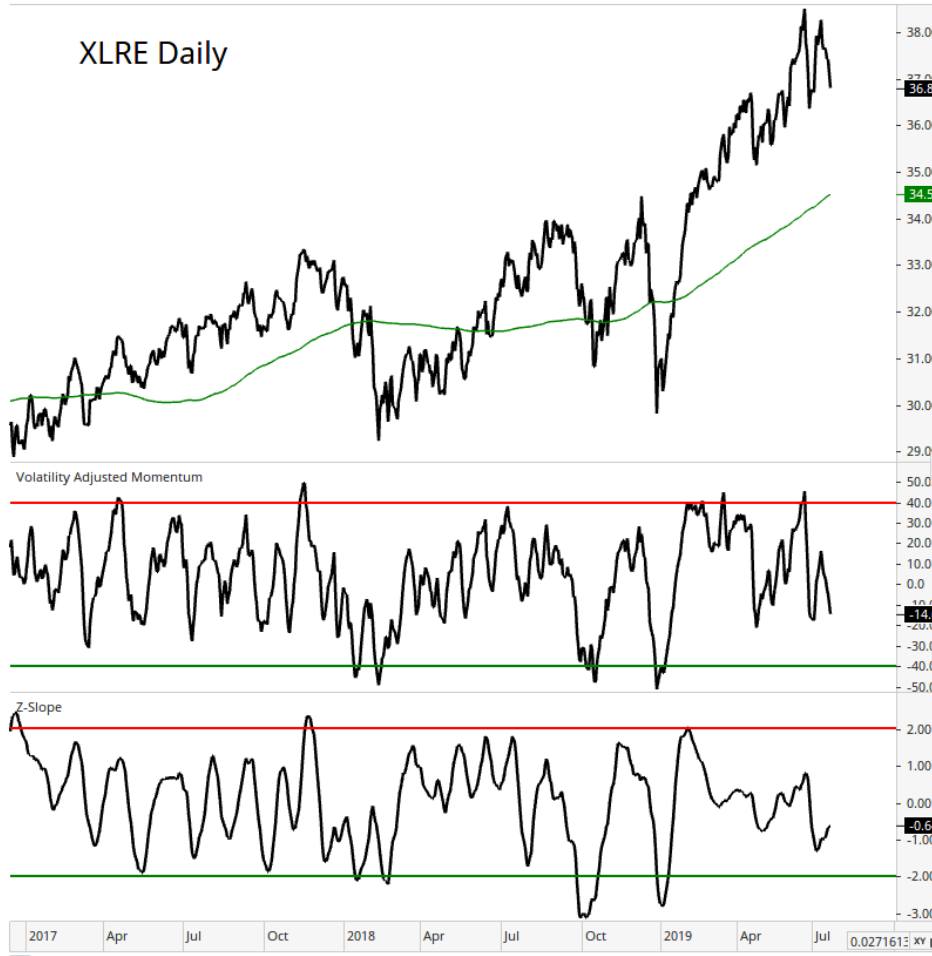
SPDR Consumer Staples Select Sector Fund ETF - XLP (US) - 1 Week Line Chart - USD - No Layout



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

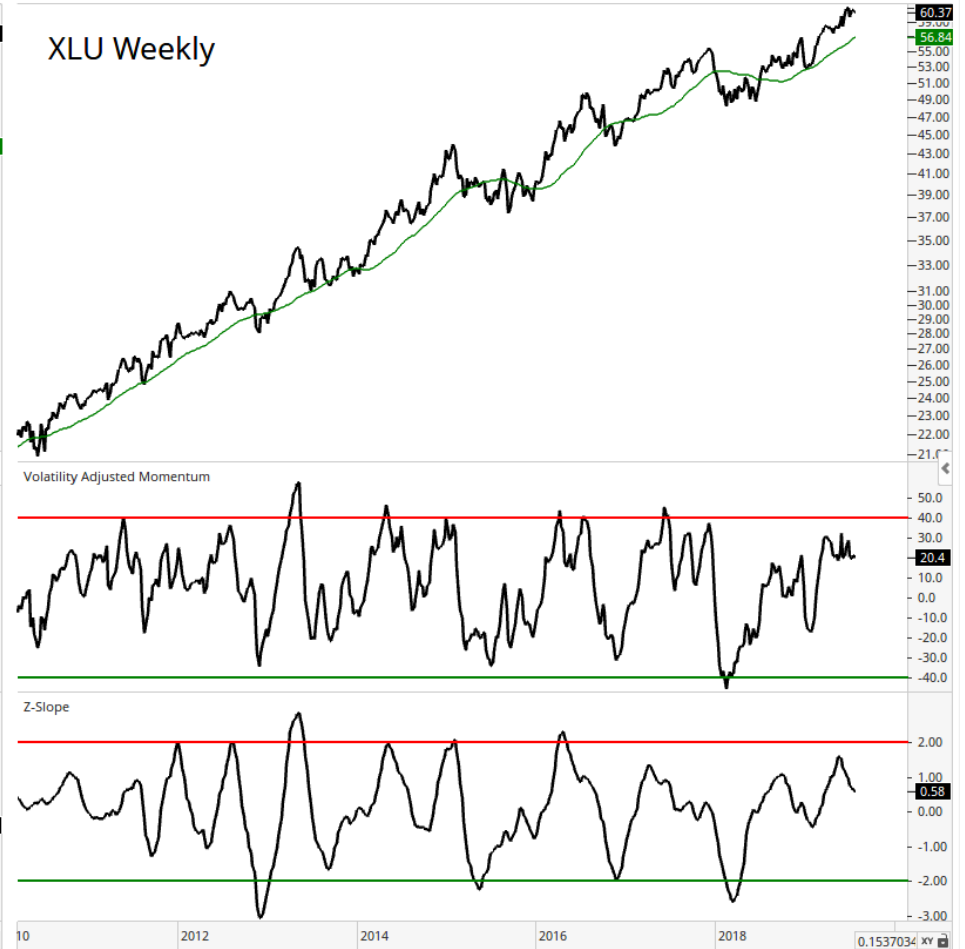


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Neutral readings for both VaM and Z-slope.

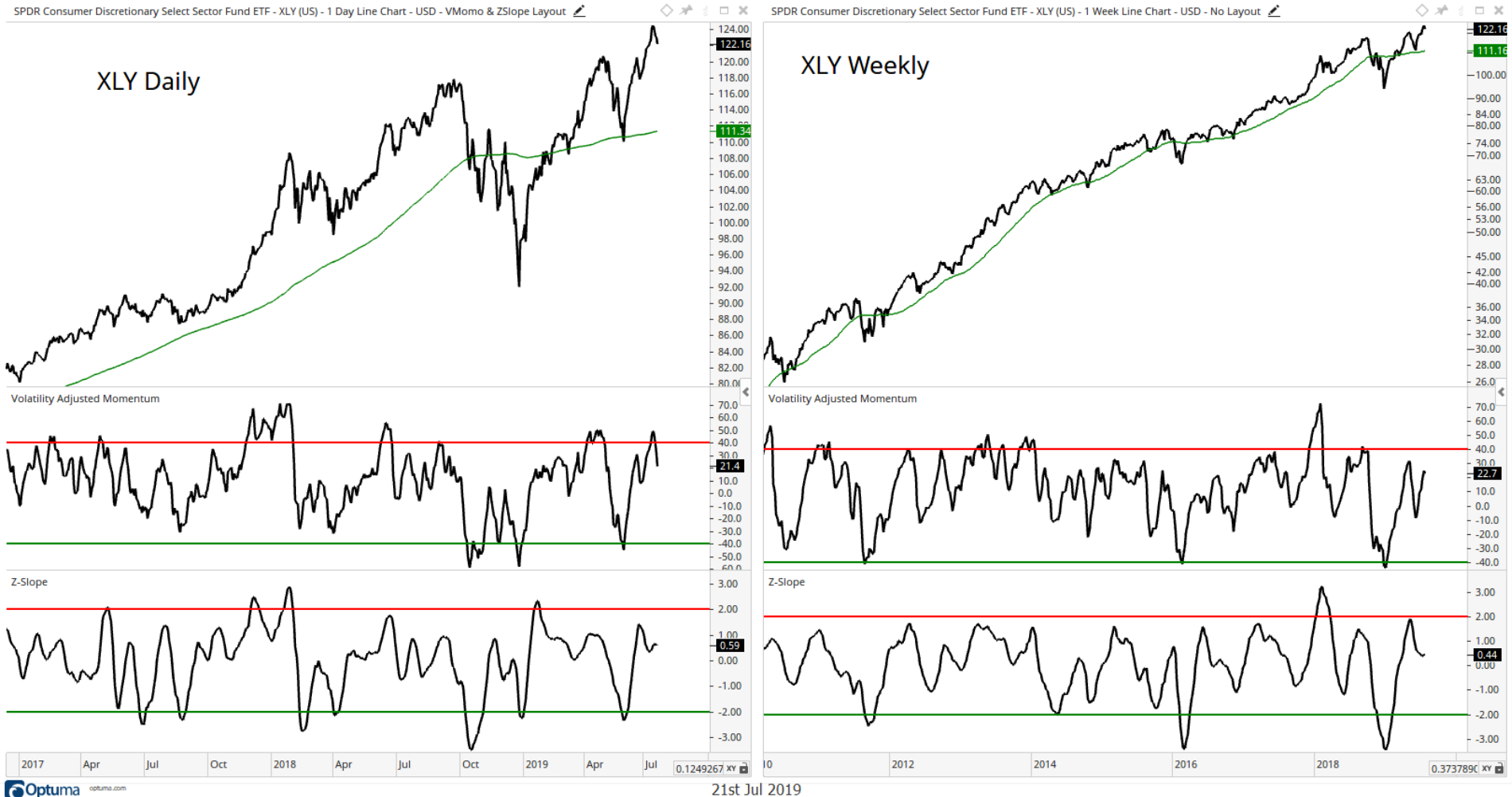
SPDR Utilities Select Sector Fund ETF - XLU (US) - 1 Day Line Chart - USD - VMomo & ZSlope Layout

SPDR Utilities Select Sector Fund ETF - XLU (US) - 1 Week Line Chart - USD - No Layout



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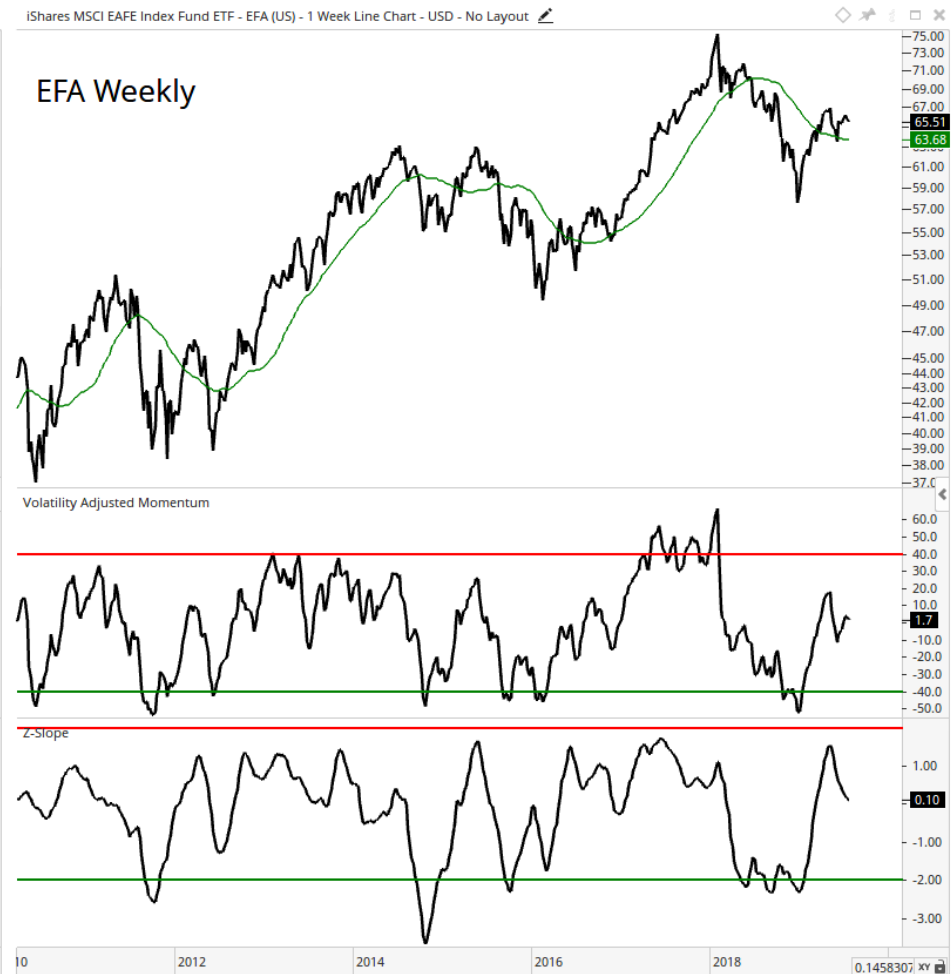
Neutral readings for both VaM and Z-slope.



Daily VaM is moving away from 'overbought' after breaking above



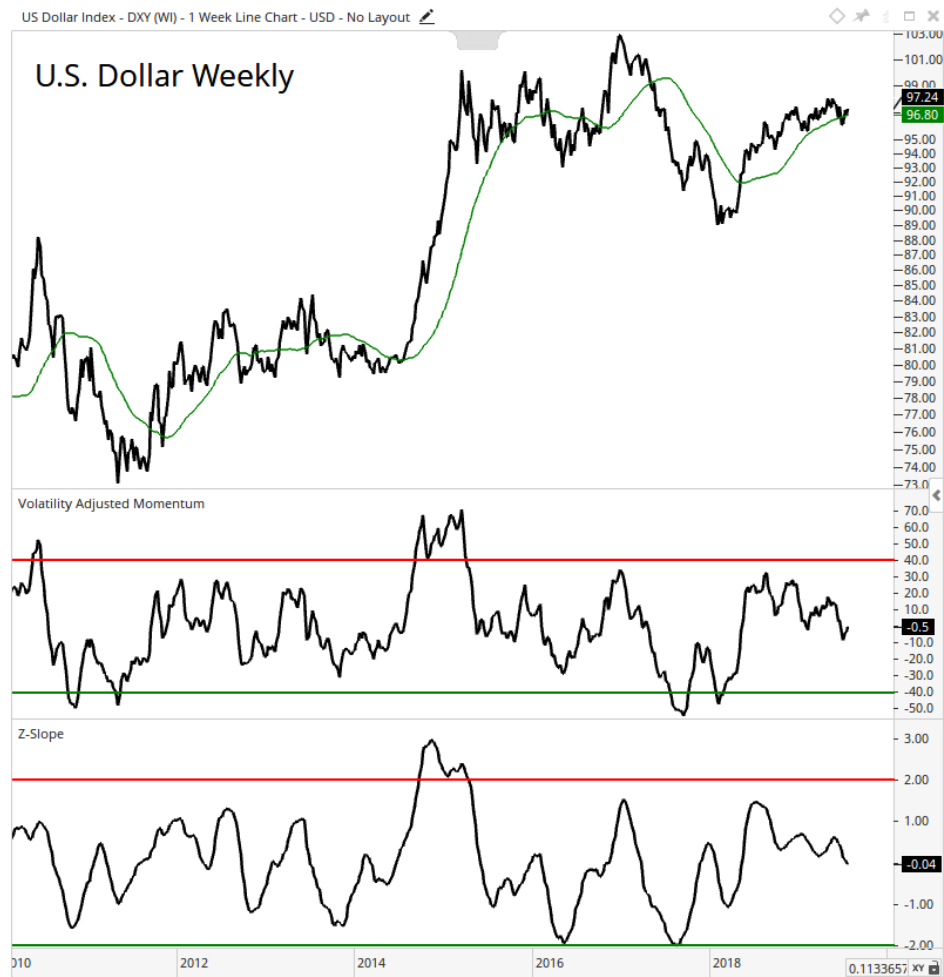
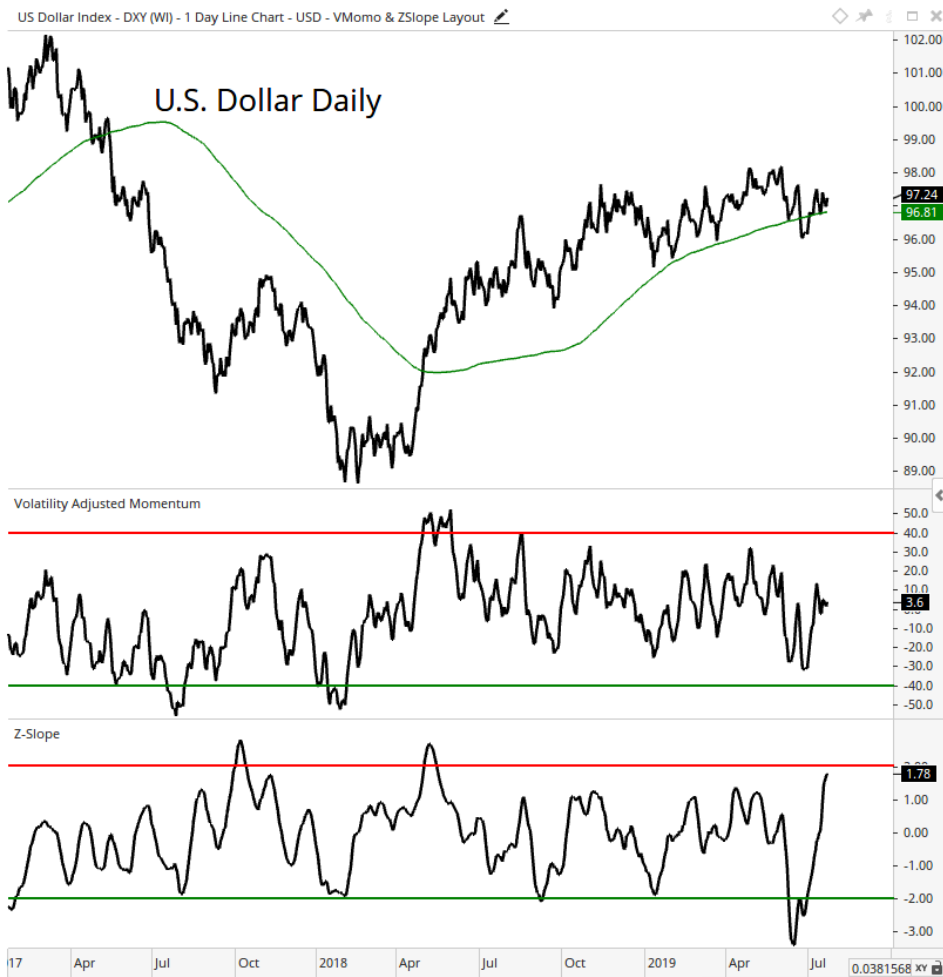
Neutral readings for both VaM and Z-slope.



Neutral readings for both VaM and Z-slope.

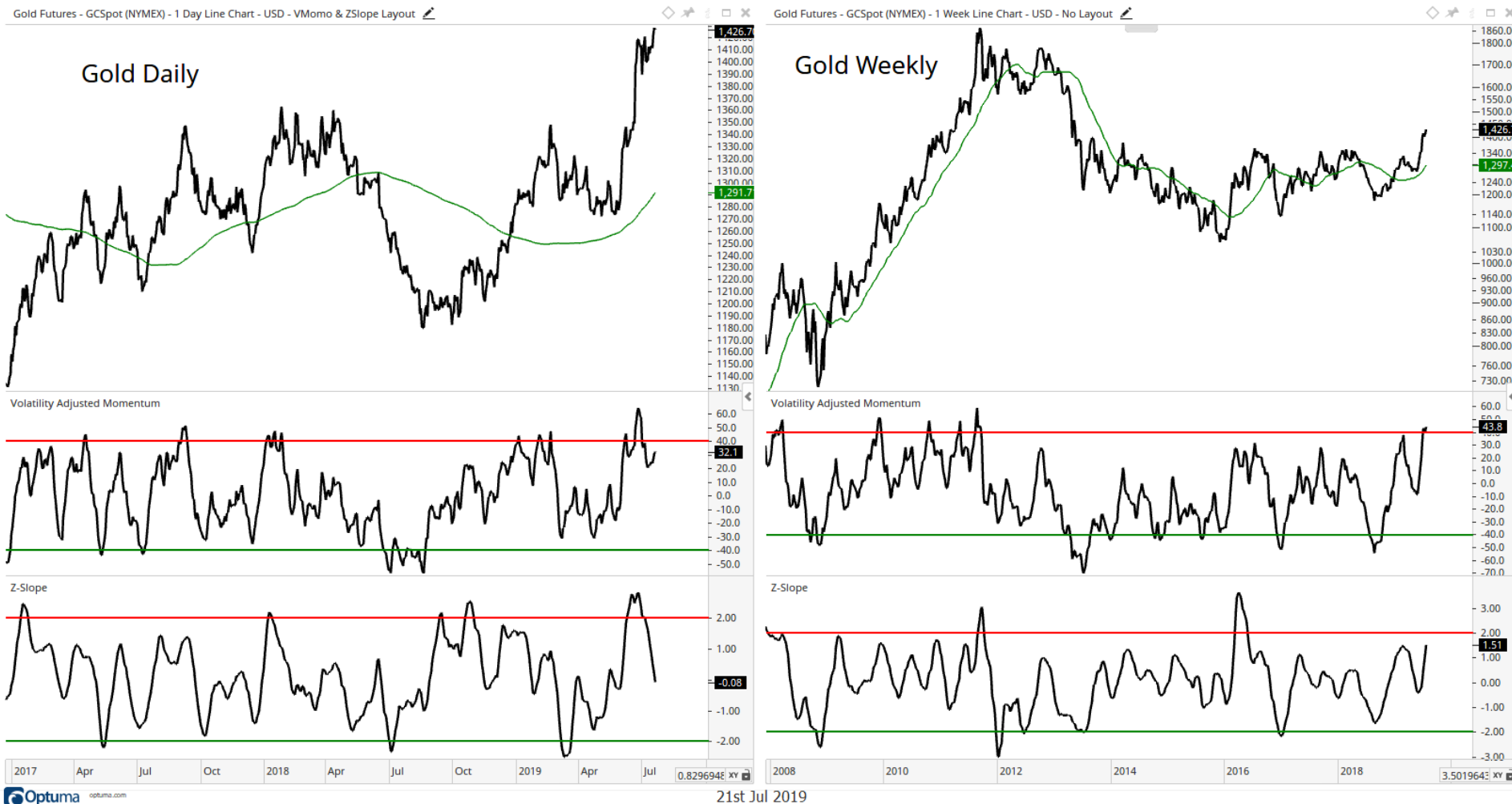


Neutral readings for both VaM and Z-slope.

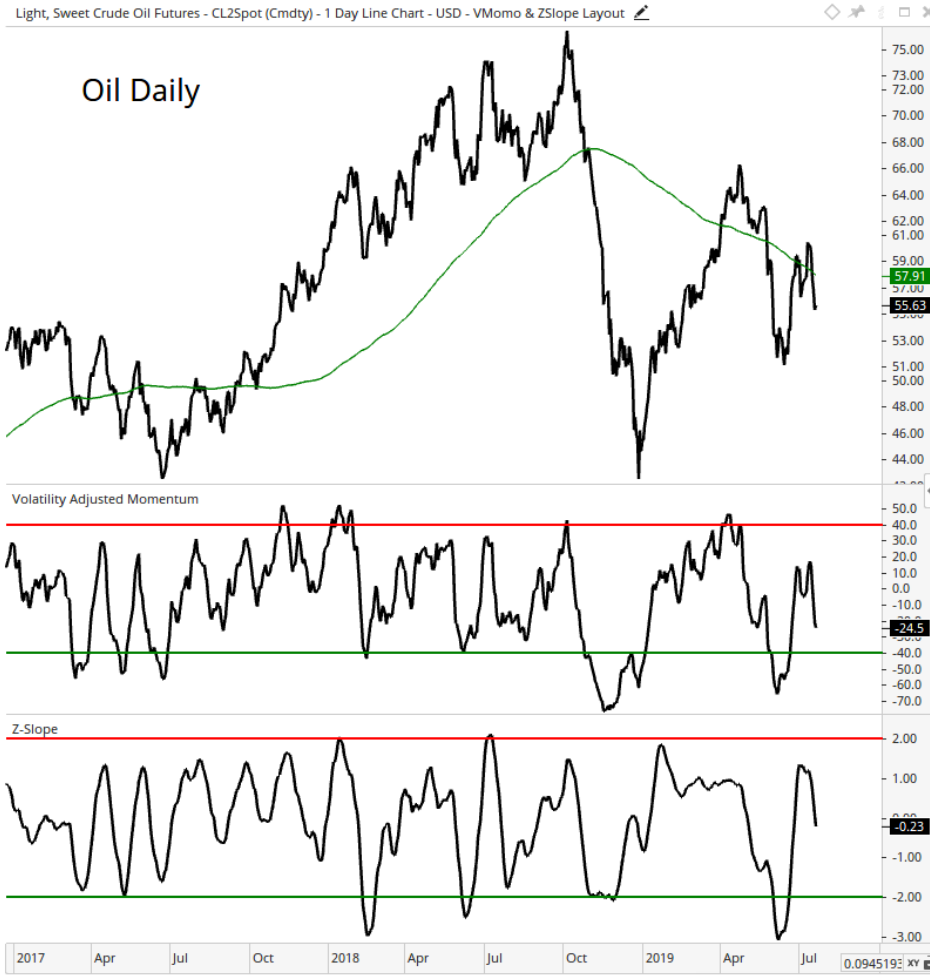


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Neutral readings for VaM and daily Z-slope moving to 'overbought' level

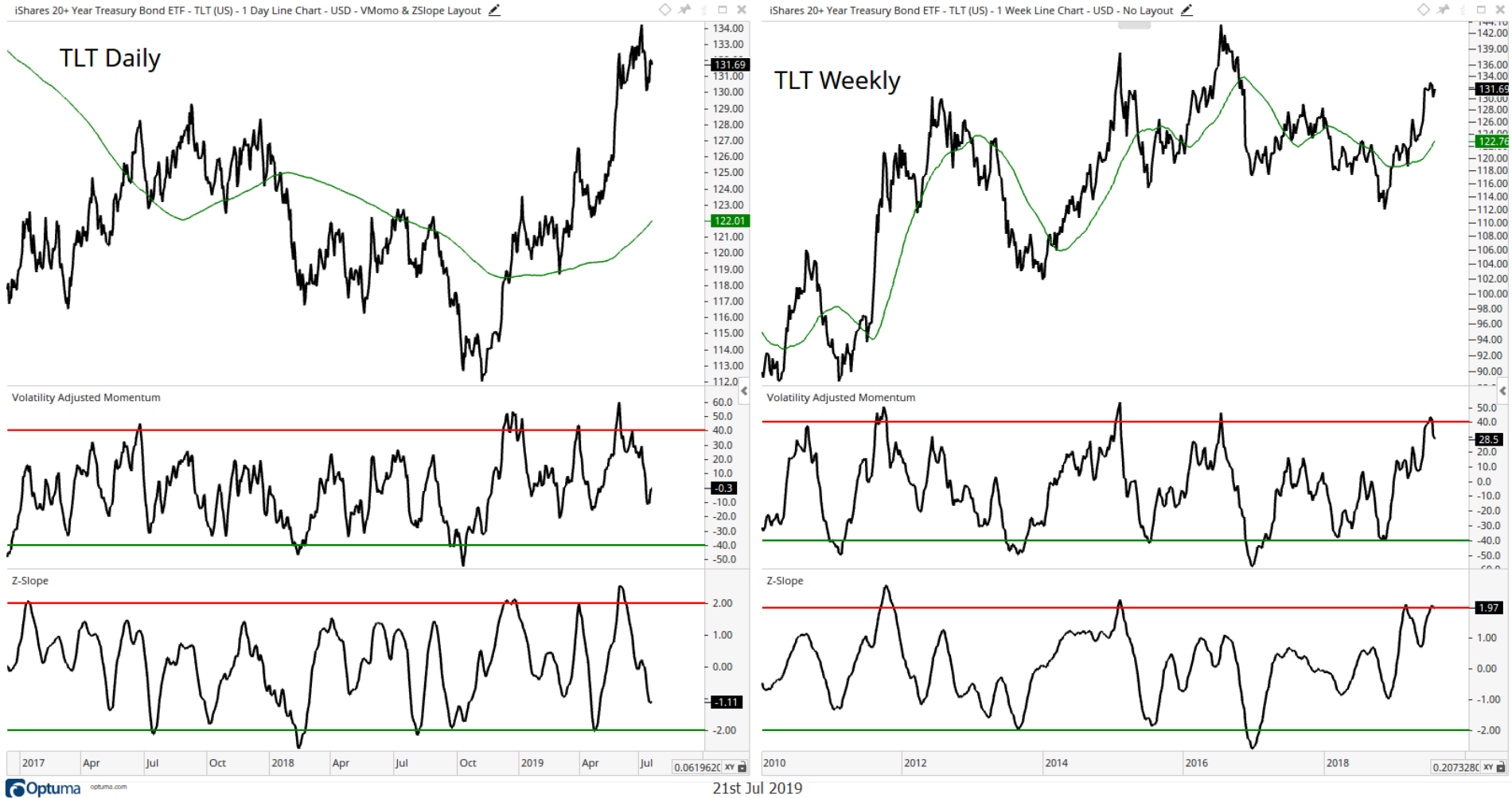


Daily VaM and z-slope are both coming off 'overbought' readings and the weekly VaM is 'overbought'. Gold is at risk of reverting lower.



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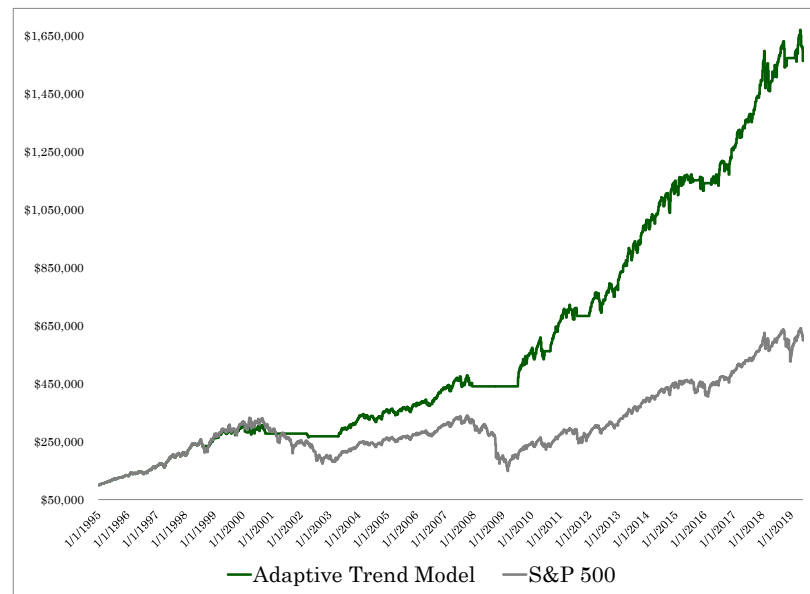
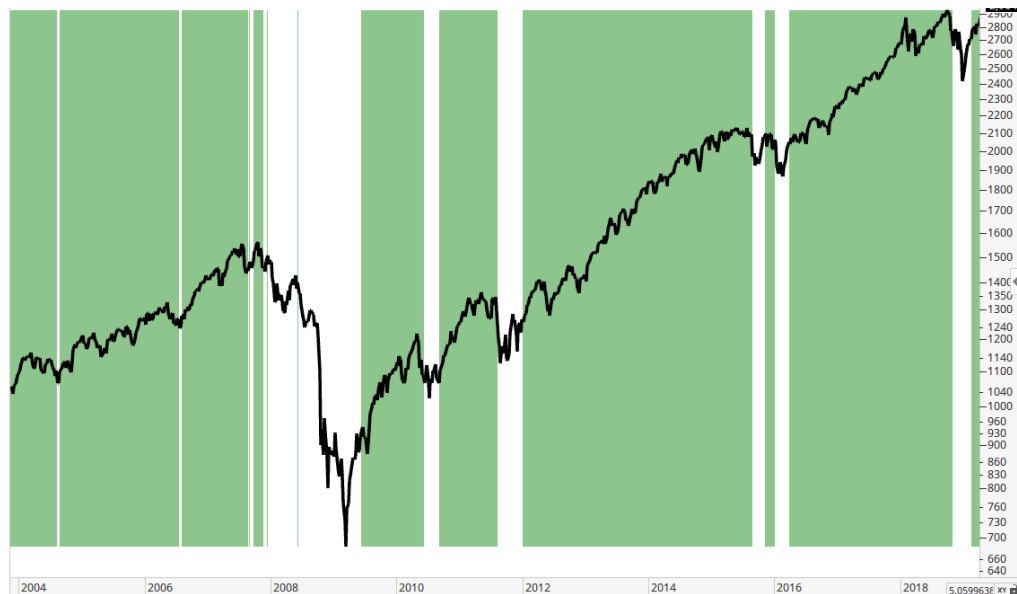
Neutral readings for both VaM and Z-slope.



Neutral readings for both daily VaM and Z-slope but weekly VaM and z-slope are both now 'overbought.'

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.

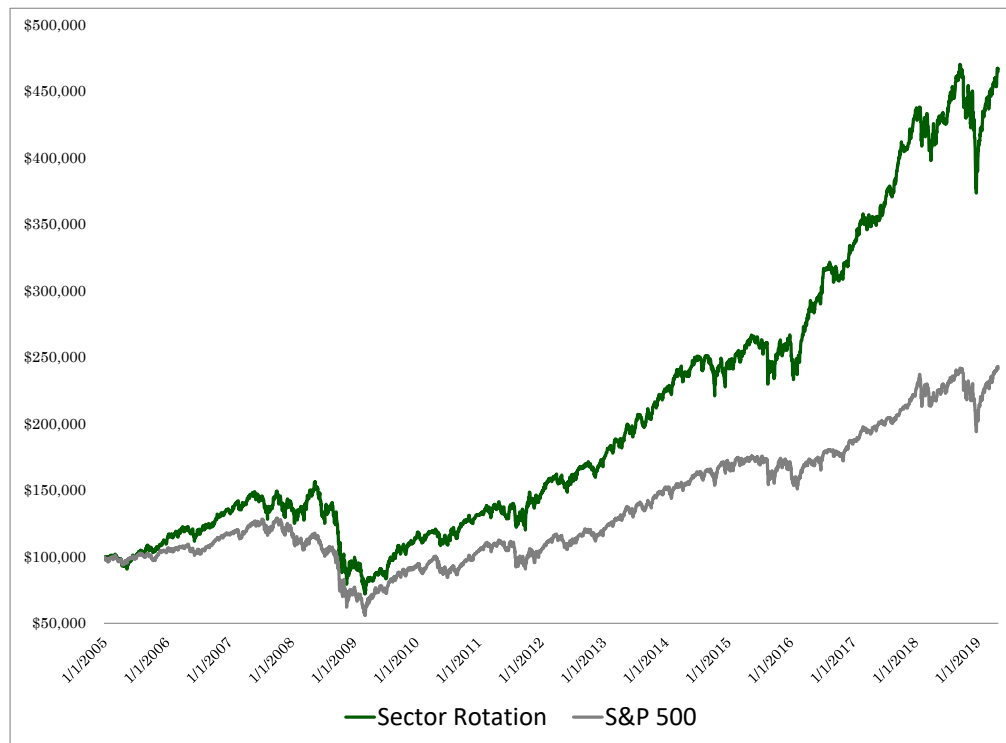


	Annualized Return	Annualized Volatility	Beta	Sharpe	Maximum Drawdown
Adaptive	12.5%	10.3%	0.47	0.97	14.1%
S&P 500	8.9%	15.3%	1	0.42	56.6%

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.

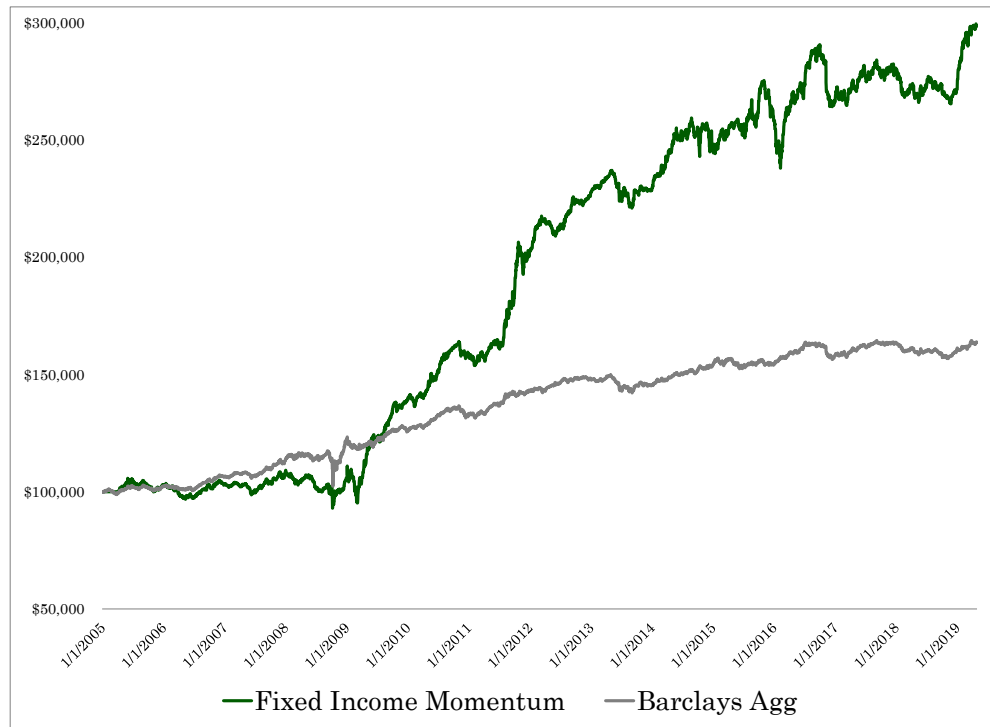


	Annualized Return	Annualized Volatility	Beta	Sharpe	Maximum Drawdown
Sector	12.7%	15.9%	0.96	0.64	53.9%
S&P 500	7.5%	14.8%	1	0.34	56.6%

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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.

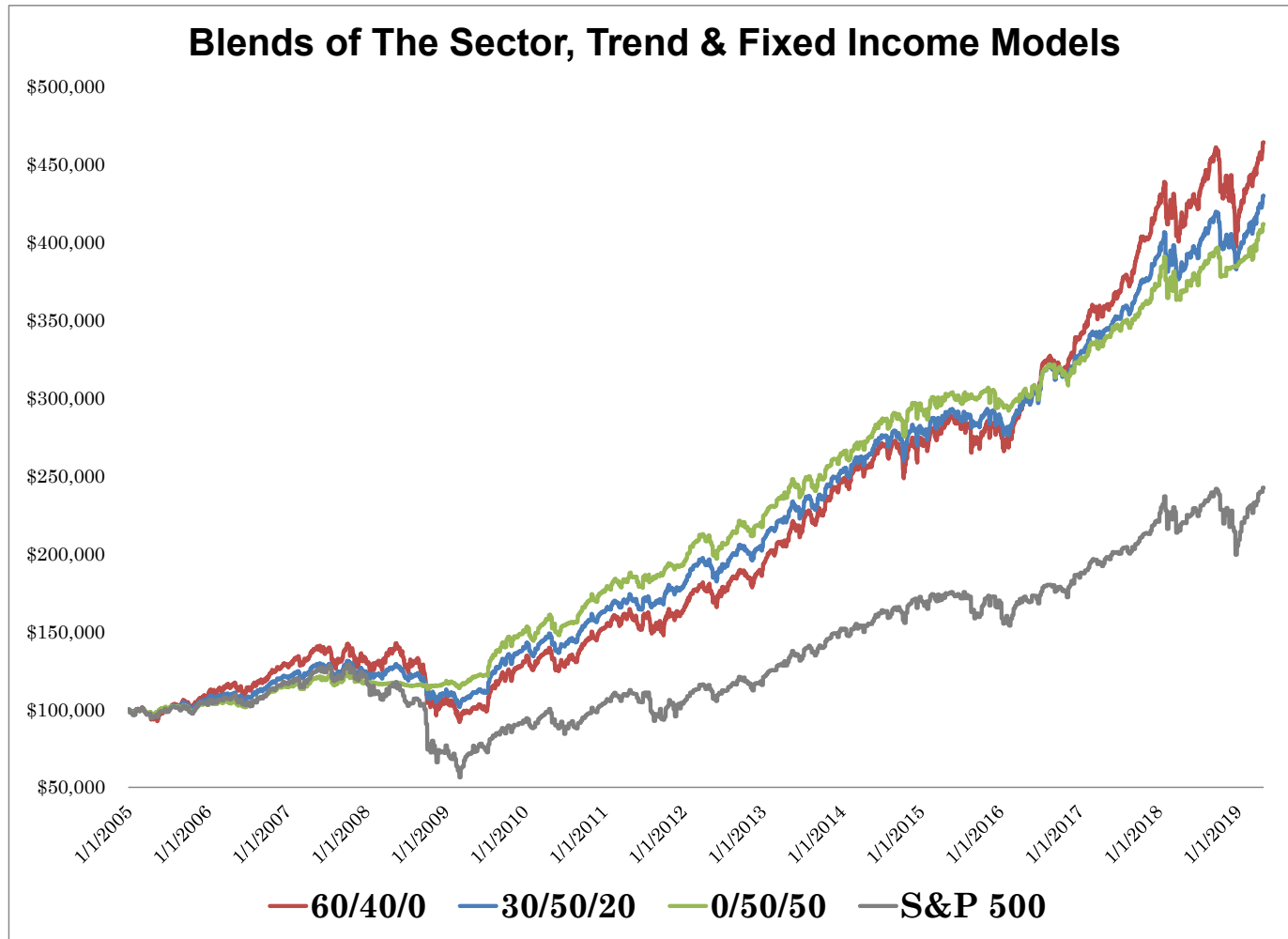


	Annualized Return	Annualized Volatility	Beta	Sharpe	Maximum Drawdown
Fixed Income	8.3%	8.2%	1.04	0.7	14.9%
Barclays Agg	3.6%	3.7%	1	0.29	11.0%

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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.



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Trend	Sector Rotation	Fixed Income Momentum
Positive	XLRE	JNK
	XLU	AGG
	XLP	

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Back tested performance is developed with the benefit of hindsight and has inherent limitations. Specifically, back tested results do not reflect actual trading or the effect of material economic and market factors on the decision-making process. Since trades have not actually been executed, results may have under- or over-compensated for the impact, if any, of certain market factors, such as lack of liquidity, and may not reflect the impact that certain economic or market factors may have had on the decision-making process. Further, back testing allows the security selection methodology to be adjusted until past returns are maximized. Actual performance may differ significantly from back tested performance.

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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