

Convexity Maven

A Commentary by Harley Bassman

February 6, 2019

“Wall Street Jenga”



A Game of Skill - 1983

I suppose we should be relieved that the late December SPX drawdown stopped mere pennies short of an official Bear Market (down 20% on a close-to-close basis), which once again gave comfort to those who continue to “buy the dip”.

In fact, with nearly one third of Western-alliance debt still trading below zero, one might view the significant widening of most risk assets as a Holiday season stocking-stuffer for yield-starved investors.

On the macro-landscape, I think we will not be visited by a material economic slowdown (pre-recession) until at least mid-2020, or eighteen months after the first Yield Curve inversion. Moreover, as detailed in prior Commentaries, the US Treasury ten-year will not exceed 3.50% until at least 2023 as the receding Baby Boom demographic is still overwhelming Millennial and immigrant sourced Labor Force Growth.

And despite mother imploring me never to discuss politics or religion in polite company, I do want to be on the record early with the near certain prediction that President Trump will not run in the 2020 election. I think his tweet will have the flavor of: “I have accomplished more in a single term than FDR did in four.”

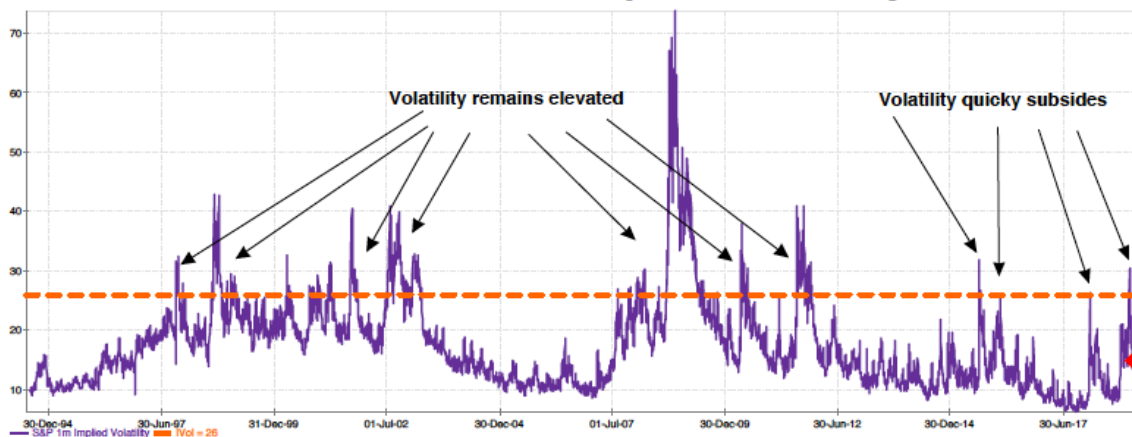
The S&P 500 has now retraced over 60% of its decline from a September high of 2931 to its December low of 2351. In fact, it is comfortably back into the middle of its 2018 range near the 2746 average. I suppose a reasonable analyst could opine that we had a nice “blow off” that cleared the decks of the greedy and made room for the stronger hands to profit. So why am I not sporting a Cheshire grin ?



The trouble is that a gut-check pull back is supposed to infuse investors with caution such that the wheat will be separated from the chaff. Private company “unicorns” with no earnings will be sent back to the barn, instead of being trotted out for an IPO.

What has continued to keep my focus is simply the speed at which risk takers return to the market. If I saw a shark at the beach, I would keep my distance; instead a few days pass and soon everyone is again skimming the waves on their boogie-boards. (Of course, it does help if the FED chief is the life guard.)

S&P One-month Implied Volatility



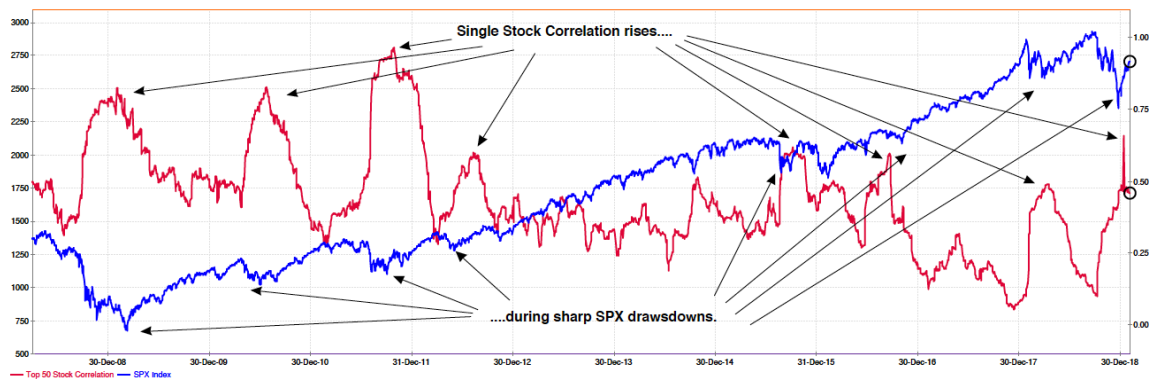
Source for all charts unless otherwise noted: Credit Suisse LOCUS

The prior chart neatly captures my concern. For a few technical reasons, I am using the **-aster line-** Implied Volatility for a one-month expiry at-the-money option on the S&P 500 (SPX) instead of the VIX. The **-gerbera line-** is set at 26%, which approximates a VIX of 30.

Do not focus upon the fact that Implied Volatility reached higher peaks in the past, but rather how quickly these peaks above 26% now revert back toward the long-term average of 17%.

Despite a three-week peak-to-trough drawdown of nearly 16% that contributed to the worst December since 1931, option prices retraced to near normal in barely seven trading days. This pattern has repeated over the past five years, which is in contrast to prior times where it could take a few months for risk aversion to dissipate.

Despite my proclivity for offering an opinion, I am not prepared to reach a conclusion that is actionable. That said, I suspect these swift risk reversions dovetail in some manner with the ever growing move to passive index investing.



The **-anemone line-** is the rolling 90-day realized correlation of the Top 50 components of the **-larkspur line-** SPX. If all 50 stocks decline by 2% on a given day, the correlation would be 1.00; and if half rise while the other half decline, that would be a correlation of zero.

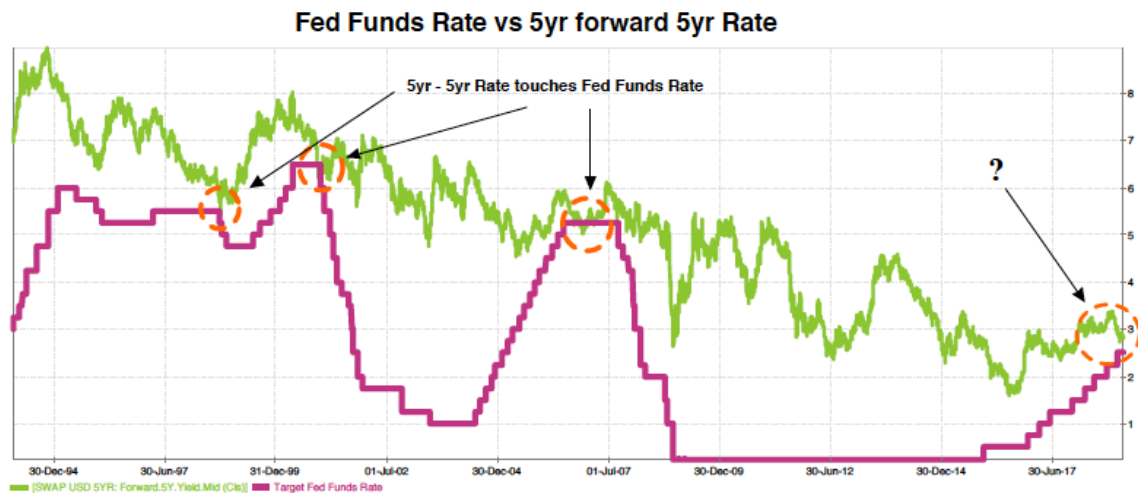
Notice how there tends to be a low correlation when the SPX is rising, while in contrast correlation peaks during market declines. It seems that in market drawdowns, investors toss the baby out with the bath water as they redeem their passive Index funds which creates a “sell order” for the entire basket.

What is noteworthy here, as offered in prior Commentaries, is that passive investing has certain negatively convex properties. So, the convergence of negative convexity with a transient risk function may contribute to instability. In fact, this may explain why the December decline and retracement was so sharp; despite the fact that the underlying economic fundamentals were little changed.

A Few Macro Thoughts

Of all the economic indicators, it is well noted that the Yield Curve has been the best predictor of a recession. To be clear, it is NOT because the Yield Curve causes a recession. Rather the compression of the Fed controlled overnight financing rate with a market priced longer-term interest rate indicates that investors believe the Fed's financial brakes have finally started to squeal.

There are many ways to paint this picture, and the one below is interesting. Here, the **-agaric line-** is the Fed Funds target rate while the **-kratom line-** is the five-year swap rate, five years forward (5yr-5yr). It's effectively the value of the second half of a full ten-year bond investment. The 5yr-5yr is informationally well-infused as it offers the market's view about the future that has been stripped of the vagaries of the spot (current) market.



Over the past two decades, each time these two rates have touched, the Fed has soon changed course and begun to cut rates. The 5yr-5yr rates is presently near 2.85%; as such, the current Fed Funds rate of 2.50% is merely one hike away from a kiss. Perhaps it is no coincidence that Fed Chairman Powell offered a pause after the last meeting.

In contrast to the preceding dour tone, let's switch to an upbeat note. In prior Commentaries I have suggested that the ultimate 'canary in the coalmine' for investors should be a reversal in the correlation between Equities and Interest Rates.

Since the start of the Great Financial Crisis (GFC), stocks and bonds have moved in opposite directions; when stocks traded down, bond prices rose (lower interest rates), effectively offering hedge value for a diversified portfolio.

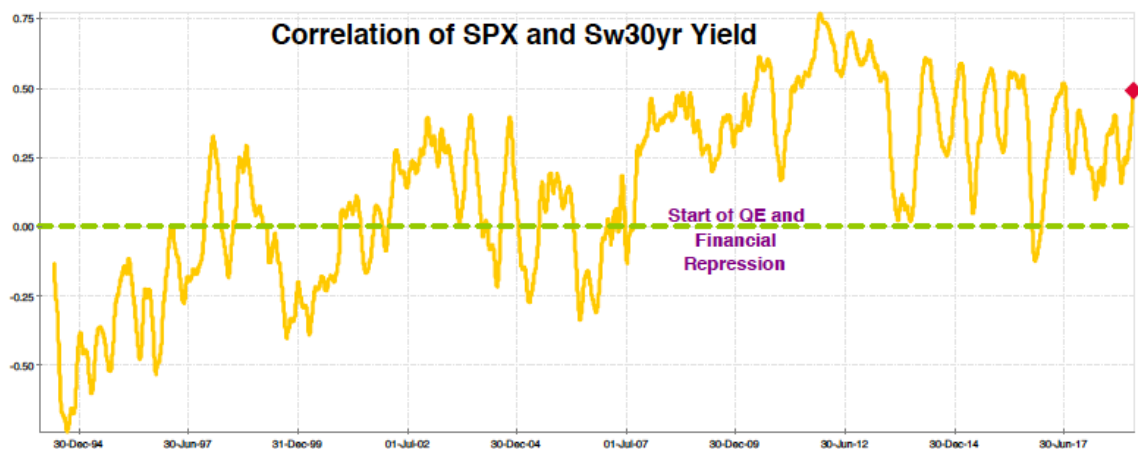
It has been well noted that this correlation has underpinned the Risk Parity investment strategy; here, one employs leverage to buy both stocks and bonds in such a ratio that the gains in one asset class offsets the losses in the other. If executed in the proper ratio, one can own a portfolio that offers a superior return with a lower risk profile.

In a common Risk Parity portfolio, one might use \$100 of capital to buy \$130 of bonds and \$70 of stocks. Both of these asset classes tend to offer a positive return, and if their prices move in opposite directions over the short-term, the portfolio is somewhat insulated from mark-to-market volatility (lower risk).

Of course, if this correlation flips back to its pre-GFC levels, this leverage could be devastating as both stock and bonds could decline at the same time. Such portfolios would experience large losses and perhaps contribute to a cascading liquidation.

I warned about this risk in "*How will I know...*" - March 19, 2018; at that time the correlation had declined with rising rates accompanied by a declining SPX.

Happily for leveraged investors, and particularly for Risk Parity managers, this correlation reduction was short-lived. The **-aglaonema line-** is the three-month moving average of the three-month correlation between the SPX price change and the Sw30yr yield change. Notice that it is presently nearing a two-year high.



The most important take away is that the stock-to-bond correlation has been observed to be well associated with the level of inflation. To the extent that this correlation has returned to an elevated level, one can infer that the market is not expecting a significant increase in inflation. Moreover, it would not be unreasonable to believe that a data-dependent Fed took this into consideration at their last meeting and it contributed to their suggested interest rate pause.

Investment update

For longer-horizon seasoned investors I have been a strong proponent for Closed-End Funds (CEFs) and other similar income-oriented vehicles. Last year I started to reduce my expose to high-yield credit-oriented products in anticipation of an economic slowdown combined with a well-reasoned concern about excessive leveraged for BBB-rated corporate borrowers. See "*A Guide for the Perplexed*" - November 5, 2018.

At that time, I took a particular interest in CEFs that invested in mid-stream energy Master Limited Partnerships (MLPs). Let me simply say: "Mea Culpa !"

I took comfort in the belief that a 45% decline in the MLP Index (AMZ) from its 2014 high to the close of 2017 might have priced them as "cheap". Instead, MLPs were only "less rich" as they ended 2018 down another 19%. Ouch.

Shamed but undaunted, this year I am quite optimistic about Mortgage REITs.

A Real Estate Investment Trust (REIT) is a specialty investment vehicle (usually listed on an exchange) that is not subject to corporate taxes if they distribute 90% of their income (dividends) to investors. The largest REITS invest directly in real estate assets (malls, hotels, houses, etc.); this is in contrast to a Mortgage REIT that invests mostly in the bonds backing such assets.

Mortgage REITs tend to be levered three to seven times and use a variety of financial instruments to hedge out a portion of the interest rate risk. Some Mortgage REITs invest primarily in high-grade bonds (GNMA and FNMA), while others will include non-agency bonds, as well as mortgage servicing rights. I prefer the latter, especially if the manager is well-versed in mortgage risk.

But no matter, the entire sector will walk in sunshine over the next few years.

As noted, Mortgage REITs employ leverage; similar to a bank they borrow short-term and lend (invest) long-term to earn a spread. The Fed has hiked its rate nine times over the past three years, which has flattened the Yield Curve such that the spread between the borrowing and investing rates is narrow. This has reduced top-line income and led many REITs to cut their dividends; and of course, the prices of these REITs have also declined in unison.

Presently, the Yield Curve is almost flat; as such, this is the bottom of the cycle. Eventually the cycle will turn, and the curve will steepen. And as it does, the investment spread will widen, income will increase, and dividends should eventually ramp up. I suspect I am a tad early, but I have never been a "bottom picker". We are in the right zip code; so size it properly to survive a few bumps.

My best idea for investment professionals

I will not claim to be an Emerging Markets expert who is well-versed in a country's current account and medium-term expectations for inflation. That said, I am confident that Turkey will not follow the path of Argentina or Venezuela.

Despite bloviating on both sides, President Erdogan is not going to pull Turkey out of NATO; moreover, his desire to displace Egypt as the nation that leads the Muslim world greatly mitigates the risk of a sovereign debt default.

Supporting this notion is Erdogan's reluctant accent to allow the Central Bank to raise their short-term interest rate to 24%; a policy he could have suspended.

One could capture these high rates via a direct investment in TRY (Turkish) local currency bonds; however, not only does this tie up cash, but also it creates a back-end currency risk when the principle is converted back to USD at maturity.

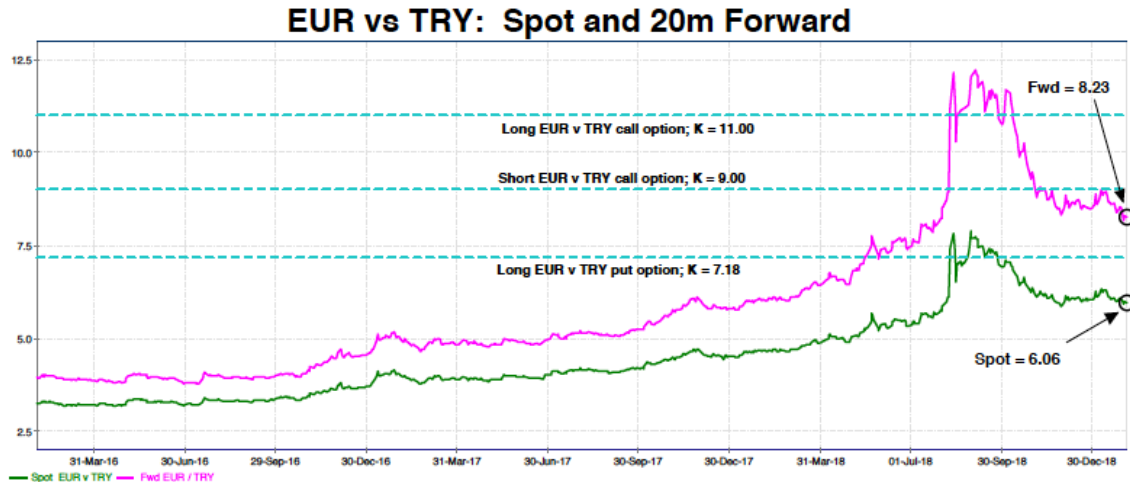
The better execution (for those with an ISDA) is to use long-dated options to create a positively convex (limited loss) high carry structure.

January 28th indicatives for a 20-month expiry:

Spot - USD/TRY = 5.30; EUR/USD = 1.143; EUR/TRY = 6.06 [-khat line-]

September 28, 2020: TRY funding rate = 20.9%; EUR funding rate = -0.375%

Forward EUR/TRY = 8.256 [-transvaal line-] This is a 36% discount to Spot.



The Trade:

Buy one unit: EUR/TRY put, K = 7.18 IVol ~ 17.5%

Sell one unit: EUR/TRY call, K = 9.00 IVol ~ 20.7%

Buy one unit: EUR/TRY call, K = 11.00 IVol ~ 24.8%

Costless entry

Highlights:

- 1) Using EUR as the funding currency not only insulates against USD risk, it also offers a 280bp advantage since the EUR borrow rate is negative;
- 2) These options expire before the 2020 US election;
- 3) The long put is struck at 7.18, 18.5% in-the-money to the Spot rate;
- 4) The short call struck at 9.00 is well above the attempted coup induced blow-out high of 8.12;
- 5) The long call struck at 11.00 limits the loss to 17.6% of notional;
- 6) Crazy as it sounds, the maximum loss occurs only if EUR/TRY settles exactly at 11.00 upon expiry; any further decline actually reduces the loss. This is because currencies pay-off on a relative basis as opposed to an absolute basis.
- 7) This structure offers an unlimited gain versus a limited loss, it is positively convex; this is because you are long two options versus short only one.

If the EUR/TRY currency pair is unchanged to the Spot level of 6.06 at expiry, the profit will be 18.3% of notional. If this pair settles at the maximum loss level of 11.00 at expiry, the loss will be 17.6%. While it seems like the win/loss is evenly matched, this is not a "coin flip" trade. The current spot level is still quite elevated from its July 2018 pre-coup level of about 5.50. Inflation adjusted, it is more likely that this currency pair expires in-the-money with a 6-handle rather than an 11-handle.

The bottom line: A bet that the Turkish Central Bank rate of 24% is too high.

This is my favorite type of trade – *Positive convexity funded by Positive carry.*

To repeat the usual disclaimers, this is not investment advice, nor is it a solicitation. That said, I will confirm that I have transacted in a similar manner to the described CEFs, REITs, and currencies.

Finally, I often receive requests for reference literature on the financial markets, particularly about options and derivatives. I will immodestly direct you to my educational archive at: The Maven's Classroom

<http://www.convexitymaven.com/themavensclassroom.html>

You are welcome to be added to my distribution, just ping me.

Your comments are always welcome at: harley@bassman.net

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