

February 2017 Newsletter

Dear Investor,

The Global Volatility Summit (“GVS”) brings together volatility and tail hedge managers, institutional investors, thought-provoking speakers, and other industry experts to discuss the volatility markets and the roles volatility strategies can play in institutional investment portfolios. The GVS aims to keep investors updated on the volatility markets throughout the year, and educated on innovations within the space.

Marco Risk Advisors has provided the latest piece in the GVS newsletter series.

Cheers,
Global Volatility Summit

Event

The eighth annual Global Volatility Summit (“GVS”) is scheduled for Wednesday, March 15th, 2017 at Chelsea Piers in New York City. Alongside our featured volatility managers, we are excited to announce the addition of a Quantitative and CTA manager panel, featuring prominent portfolio managers in the space to share their views on the volatility markets and resulting impact on these strategies.

2017 MANAGER PARTICIPANTS

Allianz Global Investors
Argentière Capital
Capstone Investment Advisors
BlueMountain Capital
Capula Investment Management
Dominicé & Co
Fort LP
Graham Capital Management
Ill Capital Management
Ionic Capital Management
Man AHL
Parallax Investment Advisors
Pine River Capital Management
R.G. Niederhoffer Capital
True Partner

2016 Event Recap

The 7th annual GVS featured ten volatility and tail hedge managers hosted a crowd of 350 attendees including senior investment representatives from the largest global pensions, sovereign wealth funds, endowments, foundations, and insurance companies. The 2016 keynote speakers were former US Congressman Barney Frank and decorated Navy Seal Marcus Luttrell, who received a Purple Heart and Navy Cross for his courage against Taliban fighters in Afghanistan in 2005.

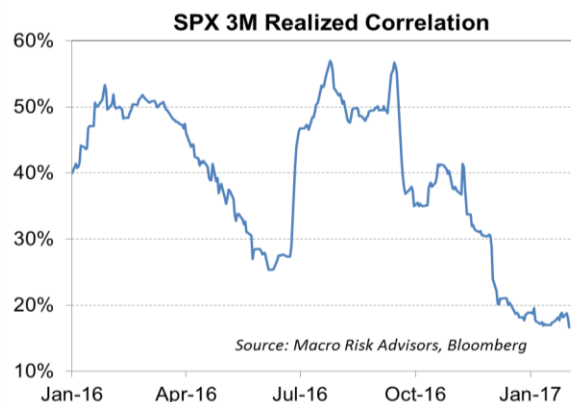
Introduction

“Elections have consequences”. So said Barack Obama to congressional Republicans shortly after his 2009 inauguration. Perhaps Donald Trump should be saying the same to option traders post his own recent commencement ceremony. To be sure, the 2016 US election upset has had profound impact on the pricing of volatility across strike, time and asset classes. Each of these figures carefully in how investors should contemplate derivative trade construction in light of the unique option pricing environment that has emerged as a result of the Trump effect. In this note, we explore what has occurred and why and provide some insight on how investors judge the importance of different risks on a forward looking basis.

There have been five prominent changes in market risk dynamics post the election, all of which are interrelated.

- **Substantially low realized correlations.** Since the election, the correlation among stocks in the S&P 500 has registered as low as 5%. The effect of this is to dampen the day to day fluctuations in the index as a whole as the movements up and down in various stocks tend to cancel each other out.
- **Significant flattening of volatility skew.** Before November 8th, a prominent characteristic of the S&P 500 volatility surface had been a very steep skew, where out of the money puts had relatively rich premium to out of the money calls. This volatility differential has since narrowed considerably.
- **Steep Implied volatility termstructure.** While implied volatility in general has declined post the election, it is the pricing of shorter dated options that has been impacted most. This has left the termstructure of implied volatility steep.
- **Less equity volatility relative to that in FX and rates.** As we show below, while equity implied volatility sits at nearly the low over the past two years, FX and interest rate implied volatility metrics screen on the relatively high side. Many have attributed this to the way in which low equity correlation mutes volatility at the index level.
- **A bid to reflation.** A sharp move higher in Treasury bond yields, break-even inflation rates and the performance of sectors (like the XLF) associated with reflation has resulted from the Trump upset.

RISK MEASURES		2 Year Analysis			
(Source: Macro Risk Advisors, Bloomberg)					
			■ - Mean	■ - Current	- Median
	Close	1m chg	Min	Max	%-tile
SPX 3m IV	11.4	(1.2)	10.8	25.4	1%
SPX 3m skew (25d p-c)	5.1	(0.4)	4.5	11.5	4%
VIX 3rd - 1st fut spread	2.6	(0.5)	(5.1)	5.4	69%
SPX 3M R-Corr	16.6	(0.0)	16.6	61.2	0%
SPX 3M I-Corr	38.3	(2.5)	31.7	71.0	10%
CNH 3m IV	6.5	(0.9)	1.9	10.5	72%
JPY 3m IV	12.2	(0.8)	7.4	14.1	80%
1Y/5Y Swaption Vol	84	(2.8)	68	92	56%
US 10y B/E	2.05	0.08	1.2	2.1	99%



Correlation...The Driving Factor

To understand the current low level of equity index volatility is to appreciate the impact of the degree to which stocks move together. The break-down in realized correlation of daily returns among the stocks that constitute the S&P 500 has meaningfully compressed the volatility experienced by the index as a whole. As of this writing, seventy seven days have passed without a single 1% close to close down move in the S&P 500. The contribution of correlation to the recent low volatility outcome cannot be understated. Three month realized correlation in the S&P 500, averaging 39% over the past 5 years, has

registered just 17% most recently. To gain an appreciation for the impact, consider a good rule of thumb, that a 5 point reduction in correlation of the stocks in an index translates, all else equal, into a one point decline in the volatility of the index. The 20 point plunge in realized correlation, thus, has removed more than 4 points from the realized volatility of the S&P 500, figuring largely in the most recent one-month reading of just 5.8%.

The conditions that give rise to volatility in one asset class are typically similar to those that drive uncertainty in others. With respect to equities, FX and rates, one common factor is the Fed. The speed with which the Fed may shift its policy stance stands to potentially sponsor market volatility globally. After an enduring period of “lower for longer” in which interest rate implied volatility was exceedingly low, markets have repriced the potential that some combination of economic momentum, better inflation readings and anticipated boost from fiscal policy may incent the Fed to move more quickly. Will Janet Yellen be forced to act earlier and more forcefully than markets currently handicap as she seeks to counterbalance a fiscal program implemented when the business cycle is very late stage and full employment has already been reached?

Investors bullish on market volatility argue that Yellen’s ability to see the future is now compromised. In place of confidence that “lowflation” will characterize the future distribution of price readings, the post-Trump Fed is forced to anticipate the impact of fiscal initiatives that could be sizable. So too could be the market’s repricing of forward looking inflation should protectionist policies like a border tax be pursued. While the long duration of the global disinflation cycle has left many advocating for the Fed to “tighten from above”, we find it important to consider that turning points in the speed of monetary policy tightening cycles are very difficult to evaluate. We note that the Citi Global Inflation Surprise Index (CSIIGL Index on Bloomberg) has recently turned positive for the first time since 2012. How does the Fed react to incoming data in the context of the potential for large scale, late cycle fiscal stimulus?

With shared macro considerations like the Fed in mind, how do we explain the disparate pricing of equity index options relative to counterparts in both FX and rates? Again, answers can be found in correlation. The previously discussed drop off in realized correlation has impacted how option traders price correlation on a forward looking basis. Referring back to the risk dashboard, we see that the 3 month implied correlation of S&P 500 index options is in just the 10th percentile. For one month options, this metric is even lower, hovering around 20%. The expectation is that the low level of correlation recently experienced will continue, at least over the short term.

We might interpret this as the Trump effect as one of picking winners and losers, but not as imparting risk to equity markets as a whole. To the extent that the initial asset repricing post the election can serve as a barometer of what is still to come, it is worth understanding the significant differences in how different sectors experienced vastly different correlations to interest rates in the aftermath of November 8th. Remarkably, for example, the XLF and EEM, both with roughly 1.3 beta to the SPX, had correlations of -80% and +66%, respectively, to the TLT in the first month after the election upset. There's never been a divergence so extreme, driven by the view that higher rates were a positive for banks but a stronger dollar (linked to higher rates) was bad for emerging market equities. Similarly, return outcomes for equities that had reflationary versus defensive characteristics were also dramatically different, leading to one of the least correlated periods of returns among stocks in the SPX. The correlation between the XLF and the XLP (the consumer staples ETF) reached -62% over the first month past November 8th.

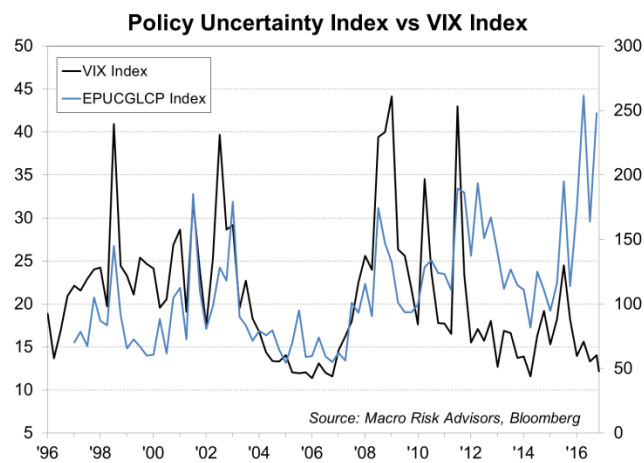
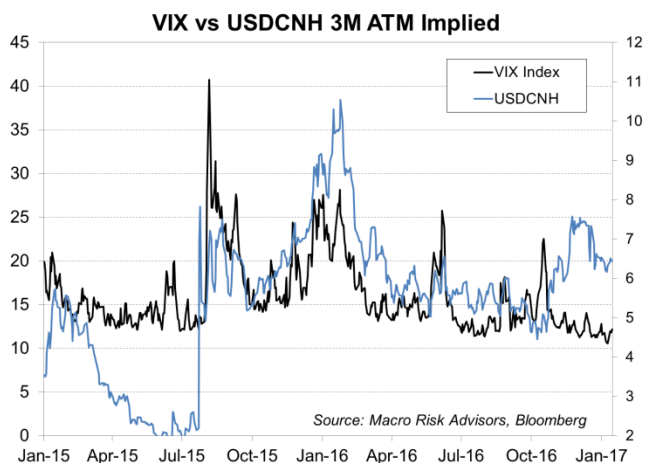
For those considering utilizing equity index option trades for both offensive and defensive purposes, the impact of correlation is exceptionally important. The recent plunge in realized correlation has made its way into how the market prices correlation in setting equity index option prices. If stocks and sectors continue to go their own way, volatility in the S&P 500 will be muted. A more correlated move in

equities – whether stocks go higher or lower – will make the currently low level of short dated implied volatility a true bargain.

How Do Investors Gauge Risks on a Forward Looking Basis?

When considering the price of optionality, an important exercise is to gauge consensus and the extent to which investors feel over or under-prepared for certain risks. In a recent survey, we posed the following question to 100 investors: “Supposed the VIX has reached 30 and remained in that region for a month. What do you think was the proximate cause?”

The two best sponsored answers were a China FX melt-down and an unwelcome policy/regulatory change. These answers appear especially interesting in light of two prominent risk disconnects relative to the VIX. In the chart below left, we plot the co-movements of the VIX and 3 month CNH implied volatility. The risk that US rates and the USD march higher threaten to destabilize the quasi-peg with CNH as capital flight accelerates. In light of the VIX surge in August 2015 and its big increase in early 2016, this relationship bears attention. Second, the sagging VIX is incongruous with the significant level of policy uncertainty. Academic research from Baker, Bloom and Davis ([LINK](#), [LINK](#)), has sought to quantify the level of economic uncertainty resulting from policy change. The connection with the VIX during previous tumultuous periods like the debt ceiling crisis can be easily spotted. More recently, post Brexit and the US election, and with a heavy calendar of European elections in 2017, this measure has reached all-time highs even as the VIX has dropped.



Conclusion

A feature common to nearly every episode of market stress is a dramatic increase in volatility and correlation across and within asset classes. From “Asian Contagion” to the “Great Financial Crisis” to the “Taper Tantrum”, the last 20 years alone have consisted of meaningful risk-off events, each with unique sponsorship. Investors are challenged to understand the characteristics inherent in the current financial system, appreciating the complex uncertainties arising from monetary policy, investor risk taking and leverage, and, increasingly, political risk. While hedging has generally been a costly pursuit over the past several years, prudent risk management argues both for ongoing evaluation of areas of global market fragility along with a tool kit consisting of option trade structures that can quickly be implemented should a risk event materialize.

Dean Curnutt is CEO of Macro Risk Advisors