GLOBAL VOLATILITY SUMMIT 2014

February 2014 Newsletter

2014 Event Details

Date. April 3rd, 2014

Location. 82 Mercer, SoHo, New York City

Keynote Speaker: Malcolm Gladwell, Bestselling Author and Staff Writer, *The New Yorker*

Managers. The following managers will be participating in 2014:

BlueMountain Capital
Capstone Investment Advisors
Capula Investment Management
Fortress Investment Group
Forty4 Asset Management
Ionic Capital Management
JD Capital Management
Parallax Volatility Advisors
Pine River Capital Management
Saiers Capital

Registration for institutional investors can be found on our website: www.globalvolatilitysummit.com

2013 Event Recap

The fourth annual Global Volatility Summit ("GVS") took place on February 25th in New York City. Ten volatility and tail hedge managers hosted an audience of over 350 people.

Keynote speaker. Sal Khan, founder of The Khan Academy and author of *The One World Schoolhouse* gave an insightful presentation on using technology to innovate the way education is provided across the globe.

Questions?
Please contact info@globalvolatilitysummit.com

2014 February research piece

The Global Volatility Summit is a dynamic community of managers, investors, and industry experts, with the focused goal of educating the investment community about volatility strategies and the roles they can play in institutional investment portfolios.

We are putting the final touches on a comprehensive agenda for the 2014 Global Volatility Summit, which will be available soon on the website. Currently, registration is open for institutional investors on the website (www.globalvolatilitysummit.com). Please register early as space is limited!

Tail hedge interest peaked following the crisis in 2008 and waned shortly after, as investors became complacent again with global market risks. Recently, the volatility community has once again seen a massive uptick in tail hedging interest since the end of 2013. Institutional investors, especially endowments, are seeking to protect their portfolio exposures.

Capstone Investment Advisors has shared a piece on tail hedging, which also highlights some noteworthy recent developments in investors' appetite for portfolio protection.

Cheers,

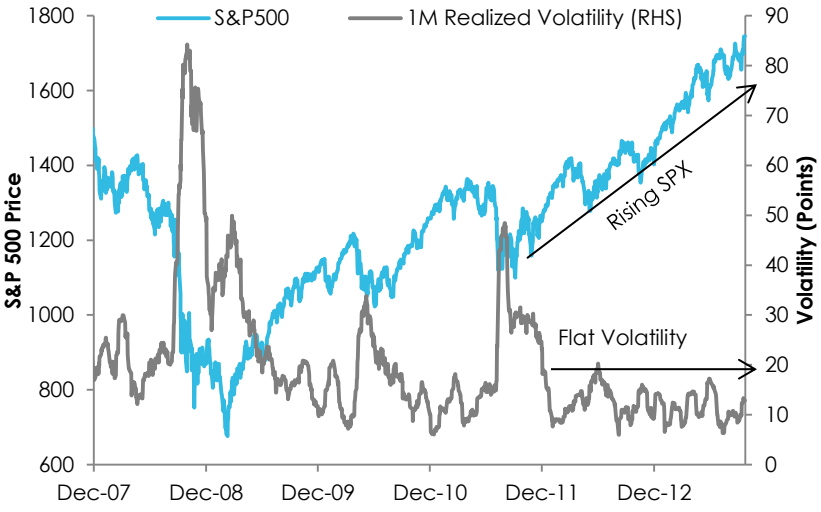
Global Volatility Summit

TAIL HEDGING BACKGROUND

The objective of a tail hedging program is to limit losses from an outsized market stress event. Such a program can be added to a portfolio constituted by numerous asset classes (e.g., equities, fixed income, commodities, and currencies). Historically, the event has been defined as a greater than three standard deviation move in markets[1].

RECENT DEVELOPMENTS

CHART 1: RECENT DEVELOPMENTS IN VOLATILITY



Source: Bloomberg, Capstone

While a tail hedging program would have added substantial value during the 2008 financial crisis and the 2011 European debt crisis, Chart 1 shows that as equities grinded higher, realized equity volatility has moderated and remained low for nearly all of 2012 and 2013.

Such an environment has resulted in high costs to allocating capital to a tail hedging program, which is often long volatility and/or short delta.

Investor interest in tail hedging waned in 2012 and 2013 and the space contracted substantially.

RISE IN INTEREST FROM ENDOWMENTS

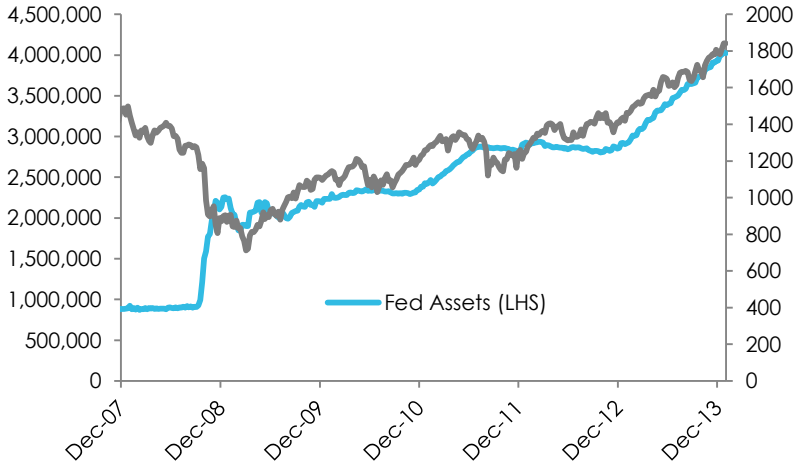
We believe the re-emergence of interest in tail hedging has been caused by concerns over the macro-economic environment and elevated market valuations. After broad-based appreciation in assets (e.g. S&P 500 Total Return gained 32.4% in 2013, following a 16% 2012 return), endowments are interested in protecting some of their gains. Also a contributing factor is the cheaper cost of hedges, which is outlined in the following sections.

Additionally, adding a convex tail hedging allocation gives endowments more comfort to add riskier assets to their portfolios, creating a "barbell" approach. This especially makes sense given recent receipts of cash proceeds from private equity investments and the desire to put that cash to work in the market.

MARKET BACKDROP

Despite tentative growth and a lack of immediate signs of the moderate inflation necessary to support a healthy economy, US equities (as measured by the S&P 500 index) are trading around all-time highs.

CHART 2: FEDERAL RESERVE BALANCE SHEET



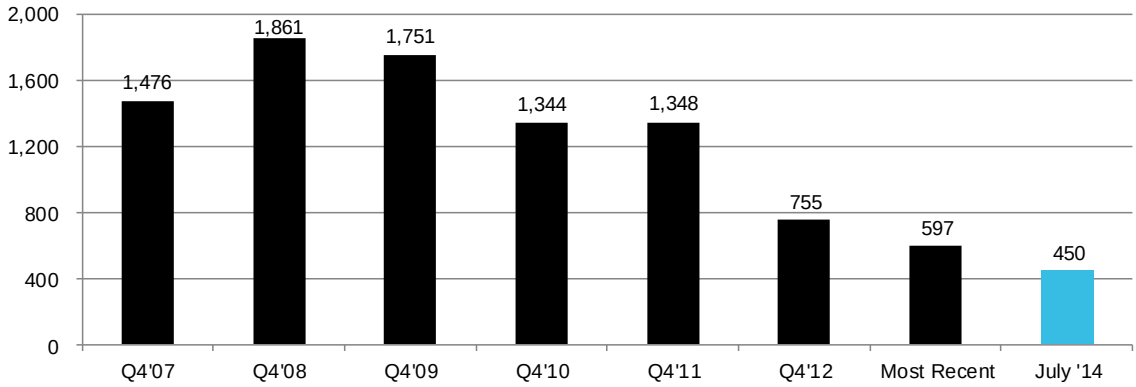
Source: FRB, Bloomberg, Capstone

Chart 2 shows the growth of the Fed balance sheet versus the S&P 500, showing that they have moved in lock-step. However, with the official announcement of tapering in December, the liquidity from QE is slowing down. QE should eventually halt and the Fed's balance sheet should shrink. The repercussions of this activity in the fledgling economy are unknown.

The rapid rise of the stock market has endowments concerned over the valuation and how far the market could fall if it corrects. Additionally, corporate earnings and stock prices have been supported by high levels of corporate stock buybacks. It is unclear the extent to which this activity can or will continue.

The rise of regulation has resulted in a contraction of the bank balance sheet, shown in Chart 3. This means that banks are now less willing and able to take on market risk in the event of asset declines. This creates the potential for market moves to become amplified.

CHART 3: SHRINKING BANK BALANCE SHEET



Source: Aggregate VaR as reported by Goldman Sachs, Morgan Stanley, Citigroup, JP Morgan, Bank of America, Credit Suisse, UBS, Deutsche Bank and Barclays. Shown in USD millions, translated as of balance sheet date. Most Recent data available as of 9/30/13 for Bank of America, Citigroup, Credit Suisse, Goldman Sachs, Morgan Stanley and JP Morgan; 12/31/12 & 6/30/13 data presented for UBS & Deutsche Bank, respectively.

In the face of these overhangs, investors continue to add exposure to the market. The great rotation from bonds to equities continues as investors expect rates to continue to rise and do not want to miss out on equity performance. Partially enabled by upward revised consensus estimates for equities, investors are chasing returns and at the same time, hedging less, which could further fuel moves as these same investors need to quickly lessen their excess exposure during downside moves.

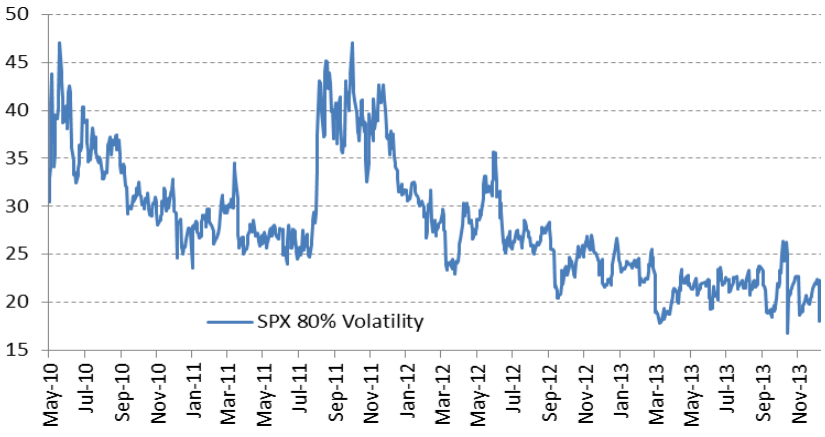
SHIFT IN INVESTOR BEHAVIOR

As realized volatility declined in 2012 and 2013, demand for hedges waned, especially amongst pension funds and insurance companies which were big users of hedges such as put options. Additionally, funds have looked to use volatility to generate positive carry for their portfolios. Examples include systematic monthly variance selling on major US and European indices, systematic strangle selling programs (selling both an OTM call and an OTM put), and call overwriting of long equity exposure. In the absence of decent realized volatility, selling these strangles and variance swaps will generate monthly carry from time decay.

EQUITY TAIL HEDGING OPPORTUNITIES

Decreased demand for hedging, coupled with increased demand for short volatility carry strategies has resulted in lower volatilities priced into derivatives and thus a better entry point for tail hedging.

CHART 4: DECREASE IN COST OF PROTECTION



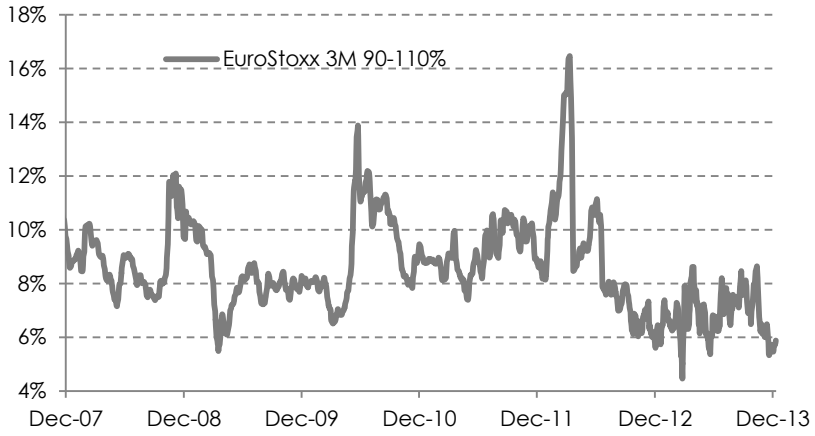
Source: Bloomberg, Capstone

The lower cost of tail hedging manifests itself in a number of ways, including lower cost of out-of–the-money (OTM) put volatility, cheaper variance, lower skew, and a lower cost of convexity.

For example, one instrument tail hedgers use is the deep OTM put. Chart 4 shows the cost of 20% OTM S&P puts in terms of how much implied volatility the investor must pay. Of note is that the implied volatility priced into

such tail hedges has decreased substantially since 2010, making the cost of OTM puts less expensive.

CHART 5: DECREASE IN 90-110% EUROSTOXX SKEW



Source: Bloomberg, Capstone

This is relevant to tail hedgers because buying deep OTM "crash" puts is part of a tail hedging strategy and so their portfolio will often be long downside volatility.

The volatility priced into OTM puts is higher than that of OTM calls ("skew") and this has been the case since Black Monday of 1987. The market is generally long stocks, creating put buying demand to hedge, and the market also participates in call overwriting, depressing the price of upside volatility.

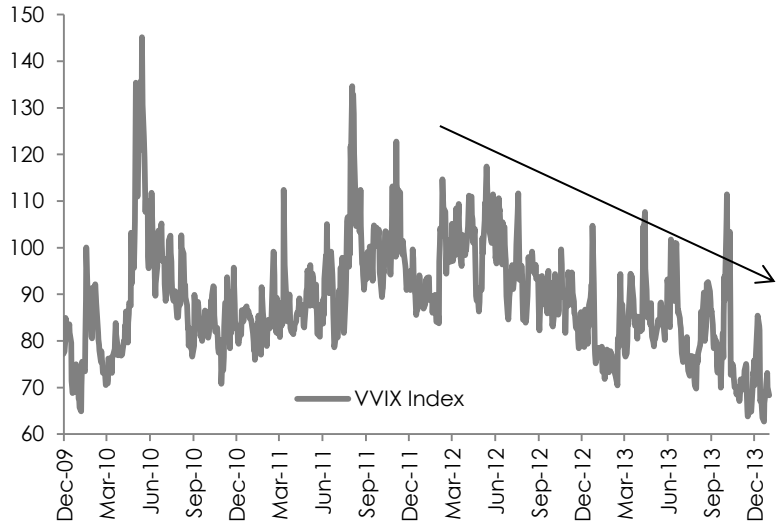
Often tail hedging strategies will be financed by the selling of ATM or OTM calls. The larger the skew spread, the less effective that strategy. This option skew in US/Europe has decreased in 2013, making the buying of OTM puts less expensive. Chart 5 shows the example of EuroStoxx. EuroStoxx skew has moved below its pre-crisis levels, causing Europe to become an interesting region to examine for the sourcing of tail hedges, such as through OTM puts.

CHART 6: COST OF 3-MONTH CONVEXITY

Source: BNP Paribas, Capstone

Tail hedging programs will often focus on convex payouts that accelerate as market declines increase. A representation of the cost of this convexity is the increased cost of a variance swap over volatility. Due to the change in investor behavior discussed previously, variance swaps have cheapened even more than options. Chart 6 shows that the cost of convexity has fallen closer to pre-crisis levels, creating a better entry point for tail hedges.

CHART 7: VVIX INDEX – IMPLIED VOLATILITY OF VIX



Source: Bloomberg, Capstone

More specifically in convexity trades, VIX call spread trades have become more attractive. Through the use of VIX calls, the investor can position with leverage for a spike of volatility but do so with a defined maximum loss (the premium outlay). As Chart 7, showing the VVIX index, demonstrates, the volatility of volatility priced into VIX options has declined, making those VIX calls less expensive. The VIX skew curve is steep as well, making further OTM VIX calls more expensive and thus opening up interesting opportunities in VIX call spreads.

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