



# Are Bonds Telling the **VIX Next Move?**

An Interview with Mark Sebastian

**Managing the Short Time Spread** 

## EXPIRING MONTHLY THE OPTION TRADERS JOURNAL

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## About the Expiring Monthly Team

#### **Bill Luby**



Bill is a private investor whose research and trading interests focus on volatility, market sentiment, technical analysis, and ETFs. His work has been has been quoted in the Wall Street Journal, Financial Times, Barron's and other publications. A contributor to Barron's and Minyanville, Bill also authors the VIX and More blog and an investment newsletter from just north of San

Francisco. He has been trading options since 1998.

Prior to becoming a full-time investor, Bill was a business strategy consultant for two decades and advised clients across a broad range of industries on issues such as strategy formulation, strategy implementation, and metrics. When not trading or blogging, he can often be found running, hiking, and kayaking in Northern California.

Bill has a BA from Stanford University and an MBA from Carnegie-Mellon University.

#### **Jared Woodard**



Jared is the principal of Condor Options. With over a decade of experience trading options, equities, and futures, he publishes the Condor Options newsletter (iron condors) and associated blog.

Jared has been quoted in various media outlets including The Wall Street Journal, Bloomberg, Financial

Times Alphaville, and The Chicago Sun-Times. He is also a contributor to TheStreet's Options Profits service.

In 2008, he was profiled as a top options mentor in Stocks, Futures, and Options Magazine. He is also an associate member of the National Futures Association and registered principal of Clinamen Financial Group LLC, a commodity trading advisor.

Jared has master's degrees from Fordham University and the University of Edinburgh.

#### Mark Sebastian



Mark is a professional option trader and option mentor. He graduated from Villanova University in 2001 with a degree in finance. He was hired into an option trader training program by Group 1 Trading. He spent two years in New York trading options on the American Stock Exchange before moving back to Chicago to trade SPX and DJX options For the next five

years, he traded a variety of option products successfully, both on and off the CBOE floor.

In December 2008 he started working as a mentor at Sheridan Option Mentoring. Currently, Mark writes a daily blog on all things option trading at Option911.com and works part time as risk manager for a hedge fund. In March 2010 he became Director of Education for a new education firm OptionPit.com.

#### Andrew Giovinazzi



Andrew Giovinazzi started his career in the financial markets after graduating from the University of California, Santa Cruz with a B.A. in Economics in 1989. He joined Group One, Ltd. and quickly became a member of the Pacific Stock Exchange (and later the CBOE), where he traded both equity and index options over a 15 year span. During that period he never had a down year.

At the same time, Andrew started and ran the Designated Primary Market Marker post for GroupOne on the floor of the CBOE. It became one of the highest-grossing posts for the company in 1992 and 1993. While actively trading, Andrew was instrumental in creating and managing an option trader training program for Group One.

He left Group One, Ltd. to co-found Henry Capital Management in 2001. Andrew then joined Aqumin LLC (2008–2011) to help bring 3D quoting and analysis to financial data. He is Chief Options Strategist at Option Pit.





## **Editor's Notes**

Bill Luby

The May options expiration cycle saw a stretch in which the VIX rose in eleven out of thirteen days, as the markets fretted over the outcome of the next election in Greece and the implications for the euro zone and across the globe. While the volatility indices have risen, there seems to be a big disconnect between the market's current expectations for future volatility and some of the dire predictions about the future of the euro zone. The May edition of Expiring Monthly attempts to address some of the issues related the current situation from a number of perspectives.

Andrew Giovinazzi examines short time spreads such as the recent London Whale trade at JP Morgan, where losses are now likely to top \$7 billion. Andrew focuses on how to understand and manage the risks inherent in these short time spreads. In a separate article, Andrew examines the evolution of how liquidity providers have priced options, with an emphasis on how trading implied volatility has come to dominate current thinking.

Mark Sebastian has a thought-provoking piece which looks at the spread between TLT (the 20+ Year Treasury Bond ETF) and the VIX. This article has some interesting implications for risk management as well as trading strategies.

In Risk or Uncertainty: Explaining the Variance Risk Premium (Part 2), Jared Woodard extends his analysis of "Ambiguity Aversion and Variance Premium," a recent paper by Jianjun Miao, Bin Wei, and Hao Zhou that offers an ambiguity-based explanation for variance premium.

Jared also has a chance to turn the tables a little, making Mark Sebastian the subject of this month's feature interview. Jared talks with Mark about a wide range of topics from consulting to hedge funds on risk management to order flow to mentoring options traders.

I am responsible for this month's feature article: The Expanding Volatility Megaplex. In this article I trace the evolution of volatility indices and analyze where they are going as well as some of the critical success factors.

Jared Woodard takes the Follow That Trade segment in an intriguing direction, running with a Jeff Gundlach notion of a mean reversion pairs trade that pits Apple against natural gas.

Once again, the EM team is back to answer reader questions in the Ask the Xperts segment. Last but not least, Mark Sebastian mans the Back Page, where he opines about big losing trades, realistic expectations and the lure of some get-rich-guick options trading schemes.

As always, readers are encouraged to send questions, comments or guest article contribution ideas to editor@ expiringmonthly.com.

Have a good expiration cycle,

Bill Luby Contributing Editor









The Expiring Monthly Editors

Q: I am just starting to do some international business, and a customer needs to pay me in euros. This is for a large transaction, and I know that I will receive a specific number of euros in about a month. Normally, I wouldn't care, but given everything going on in Greece, I think I should hedge that currency exposure, since I do everything else in U.S. dollars. I thought about buying puts on FXE, but with implied volatility being where it is, I wonder if there is a better approach here?

#### -James D.

A: I've actually received this question from a few people over the last several weeks, and it's an important thing to be aware of if you do business in multiple countries.

Remember that any time you buy an option, you're always paying more than the intrinsic value of the underlying asset. Since you're not trying to express a particular view about volatility here, this is a situation where I would suggest using the underlying instead of using options,

either via the 6E futures or the FXE ETF.

Right now, one euro is worth about 1.27 U.S. dollars. If you're going to receive a fixed amount of euros in the future and you want to lock in the current exchange rate vs. dollars, you could sell short the futures in the appropriate size: one contract at the CME equals 125,000 euros. or there is a mini contract sized at 62,500 EUR. If your transaction is smaller than that, you can use the FXE ETF.

As a side note, in all the breathless commentary in the financial media about the derivatives losses of J.P. Morgan and other banks and funds, it's easy to forget that futures and options have been around since ancient times, and serve a very valuable economic function when properly regulated.

—lared

Q: I am writing to you because if you attempt to download daily closing VIX data from the CBOE you get two different data

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series! You get one if you download it from here (http://www.cboe.com/ publish/ScheduledTask/ MktData/datahouse/vixarchive.xls and http:// www.cboe.com/publish/ ScheduledTask/MktData/ datahouse/vixcurrent.csv) and another different one if you download it from here (http://www.cboe.com/ micro/buywrite/dailypricehistory.xls)!

All told there are 45 data points that are different.

Could you tell me which data series is the right one? -Alberto

**A:** Part of the reason there are multiple sets of data is that the methodology used to calculate the VIX was changed in September 2003. Data set #1 below included data that was historically reconstructed for the "new VIX" calculation methodology that went into effect in 2003 and includes all VIX data from 1990-2003. Data set #2 picks up with the "new VIX" from 2004 to the present with actual real-time market data for which there



was no need to historically reconstruct anything.

The stranger in the group is data set #3. This includes VIX data (closing prices only) that is a subset of the VIX data in data set #1 and data set #2. It also includes data for eight other indices. One of these eight is the "original VIX" (ticker VXO) data that was used to calculate the VIX from its launch in 1993 to the change in calculation methodology in 2003.

[This post on the History of the VIX and VXO might help with some background information.1

These are three data sets you referenced:

- 1. VIX: 1990-2003
- 2. VIX: 2004-present
- 3. Nine tickers, including VIX and: 1986-2011

For your circumstances, my suggestion would be to append data set #2 to data set #1 to get the most complete record of VIX historical data. Going forward, the only data set you need to concern yourself for future data points is #2.

—Bill



#### Q: What is the best set-up for a trading office?

-Jon

A: While every trader is different, I would personally set up the following things: a super fast computer and internet line. If one wants to really be a pro, get business class cable and spend a lot of money on a fast CPU. In the long run, it will save you a lot

of money. Get a comfortable chair, you will be in it a lot, so don't skimp here. Do not get a desk with a lot of drawers, this is not your home office, this is a trading space—the area you trade in should have little to no non-trading things around it. Get several screens, one for every piece of trading software you use, and then at least one extra for the miscellaneous work one might

do like surfing the web for information, or typing. Finally, get a TV, but do not watch the financial news networks during trading hours; I don't care if it's the Price is Right or ESPN, but do not have the financial networks running, they will serve to fill your head with bad ideas. Finally, think about having a small weight lying around the office, even if it's only 2-3 pounds. When you are thinking,

bored, or basically anything, grab the weight and do arm curls or triceps curls ... your mate will thank you later because your arms will look awesome surprisingly quickly. Notice, no fridge, no keggerator, no snack shop. If you must have a beverage machine in the office make it a coffee maker.

-Mark



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## Managing the Short Time Spread

Andrew Giovinazzi

THE MARKETS GOT a double whammy in the middle of May. First, the debt reduction agreement for Greece was promptly thrown out the window when the Greeks could not form a government to abide by the agreement already in place. Actually, I thought to myself, "Does that mean they owe the bond holders the full amount again?" Second, JP Morgan lost some money on a trade, a big trade. The events together drove the SPX down around 60 handles and the VIX up to 25 on the close Friday the 18th. It looks like no rally into the summer and a rosy equity market prior to the elections. What looks likely is that the Greek voters will have new elections after June Expiration and JP Morgan will have to sweat out their big positions until mid-December where they will have to trade the roll of the century. That brings me to the trade question for this column. Is the short time spread right for what is going on in the macro world?

### Is the short time spread right for what is going on in the macro world?

Let's take some of the coverage on JPM. It was reported in *The Wall Street Journal* that JPM had a variation of a short time spread on. Essentially the bank is long earlier-dated CDS index contracts in December 2012 and short farther-dated contracts in 2015. For our column here the exact trades are not that important (not my p/l after all) but it is the structure of the trades that are important.

#### Measuring Short Time Spread Risk

The short time spread is just a long contract in the front month and a short contract in the back month. The thing most retail traders will notice is that it takes up lots of buying power. So much so, that the front month contract is almost ignored in the BP calculation when traders have to go margin the position. That is the problem, if the reported news about JPM is to be believed. The mark-to-market can get ugly. Risk-wise, here is what traders face:

• The short time spread is short vega. Implied volatility can go up for a very long time before it comes in again. This directly affects the vega component of the trade. Generally speaking the longer the term, the greater the risk involved. JPM looks to have contracts out quite a ways so the daily marks are ugly. But just as easily is the risk premiums melt in the securities due to a reduced perception in risk, all the money comes back.

Weighted vega is the other sneaky component here. The total risk vega shows up fine but as the terms distance expands both vegas can move in opposite direc-



tions. This is the equivalent of having the trader's head in a vise like in *Casino* and hoping Joe Pesci will have some mercy.

- The short time spread is long gamma. As the underlying security for the trade whips around and moves, the short time spread actually starts to perform. The farther the underlying goes from the initial entry point the better. Short time spreads are perfect for underlying movement that is *about to happen* in a high volatility environment. The trade is generally a bad fit for movement that has already happened.
- The short time spread is short theta. The daily chew from theta erosion makes underlying movement a big part of this position. If the underlying does not move and all is still, or keeps to a tight range, the theta could swallow up the dollars from the back month IV implosion.
- The short time spread is net flat contracts. Risk managers like this part because the trade cannot blow up on a size underlying move. This is also the reason the trade can slip under the risk radar.

(continued on page 24)



# Are Bonds Telling the **VIX Next Move?**

Mark Sebastian

**INSURANCE**, **EVERY** trader wants it, but only a few products actually provide it. Insurance products don't exactly offer the best returns, but what they do offer is safety. Say what you will about the state of U.S. debt; regardless, the owner of a bond or note will receive the full value of the bond or note when the treasury expires. It is for this reason that, in times of panic, we see bonds rally to extreme levels. Another 'insurance product' is S&P volatility. When the market is exploding, be it puts on the physical SPX or options on VIX, the prices of these products skyrocket.

Because of this, there is generally a correlation of prices between the price of the 30-year future and the VIX, which keeps the spread between the two at a somewhat consistent level. Similarly, that relationship holds true in TLT. While the bond future is the preferred method for trading U.S. debt for institutional traders, we are going to study the relationship of TLT to VIX, because of the continuity of price that doesn't exactly exist between the futures. The basis of futures from contract to futures contract throws off pricing just enough that this doesn't graph as neatly. That said, I think it would behoove any serious trader to

follow up the results of our study with a look at the relationship between the ZB futures contract and the VX futures contract. That would produce a potentially tradable approach to swapping ZB futures or options against VX futures or options.

Since TLT was first listed, the Bond ETF has had an all time low price of just over \$81.00 a share and had a high price of just over \$124.00 a share. The ETF pays a dividend based on the yield of its bonds rather than storing the returns; thus the price is almost exclusively based on where the current long term yields are priced. At the \$124 price, long term yields are below 4. At its price of \$81 in 2003, long term yields were MUCH greater. As we stated above, generally speaking, the price of this product moves up with fear and down with calm (at least since the Fed began using rates to try to fix the economy).

The VIX, or fear index, represents the cost of insuring a portfolio at any given time using SPX options. In times when the market is in turmoil, the VIX will typically be hitting its peak. Over

On their own, the VIX and TLT each point toward what is happening in the marketplace at any given time.



the last 10 years, that time came during the 2008 financial crisis. The VIX touched a high of almost 80; it hit its low in times where many thought all was well. The index traded below 10 intraday in February 2007 before settling at a low just above 10.00.

On their own, the VIX and TLT each point toward what is happening in the marketplace at any given time. It would make sense that the spread between VIX and TLT is somewhat mean reverting. Upon an optical scan, I noticed that there was a direct relationship. A student of mine, Sam Harris, took my optical observation and sent me a 10-year chart of the price of TLT minus the price of VIX. The results produced a very clear pattern and distribution.

In Figure 1, we can clearly see that there has been a natural mean in the relationship of TLT to VIX at around 70–80. This makes sense, as when TLT





is at a low price, so is VIX, for instance in 2007. In Feb 2007, when the VIX hit its all time low, TLT was also trading near its all time low. This produced a price right around 70. Even in 2008, as the financial crisis unfolded, we do not see a major straying of the relationship of TLT to VIX. While the VIX exploded to over 50 and stayed there for some time, TLT traded into the low 120s, keeping the spread close to 70.

In fact, the relationship is almost always around 70 to 80. Sam put together another chart showing where the distribution of prices land.

In Figure 2, one can see that the overwhelming majority of the time, the price landed in between 70 and 80. Figure 3 shows a 3D version of Figure 2 with some dates.

Interestingly, usually when there was a panic, the spread between the two drops to near 60 before moving back into the 70s. We saw this when the 2008 crisis happened. We also saw the spread drop in the 2010 flash crash, and the spread also fell in August ahead of Greece.

More subtly though, if one studies the graph one might notice that, while initially on a VIX pop the spread drops in a crisis, leading into the VIX pop, there is a subtle increase in the spread. This is usually from the low 70s out to the upper 70s.

This is what makes what the market is currently experiencing so stunning and hard to trade. The current TLT is priced at complete panic levels, while VIX is only priced at







FIGURE 3 VIX vs. TLT Price Frequency

elevated levels. This is producing a pricing spread that is trading over 100 rights as I write this article. 100 is a level that was completely unheard of, a level that had never legitimately traded until the last few months of 2011 and into 2012. Essentially, while the VIX came off from its August of 2011 levels, bonds never eased very much. Even as the TLT hit its recent lows a few weeks ago, the spread was in the 90s. Things have gotten a little more dramatic over the last few weeks, while the VIX has rallied from 17-ish to touching 25; the rally in TLT has pushed the spread between VIX and TLT to all time highs.

Why?

While one might point to the culprit being operation twist, and I am certain that TWIST has not helped, I would point to another culprit out here: Fixed income still believes that there is a major event about to happen, even

> if the equity markets do not. Here is the scary part. If the spread is now over 100, what type of VIX spike is it going to take to bring this spread back to normal?

My thoughts: I have a hard time seeing rates go to 3%. I think there is an easy trade for the pickings right now, and I would/am selling call spreads on TLT, and at the same time, I am buying VIX call spreads. If one was so inclined, one could also consider selling TLT, buying VIX, and buying S&P

futures. I would obviously dollar-weight it, but I would end up owning twice as much VIX. Basically, I would sell the expensive insurance and buy the cheap insurance.

# Risk or Uncertainty: Explaining the Variance Premium

Jared Woodard

IN LAST MONTH'S column. I explained some of the background thinking behind the paper, "Ambiguity Aversion and Variance Premium," which argues that the variance premium in options prices can be better explained in terms of ambiguity rather than risk. I explained the difference between risk and uncertainty in terms of the known range of possible outcomes: a risky situation is one in which the range of possible outcomes is known to be finite, while uncertainty confronts us with an unknown set of possibilities.

The authors of this paper developed a model designed to test whether investor aversion to ambiguity (i.e. uncertainty) provides a better explanation of the variance risk premium than conventional stochastic volatility-based models.

The results are promising. Recall that the existence and especially the size of the variance risk premium is not something that can be explained by traditional, consumption-based economic models. By contrast, the authors find that the ambiguity aversion model explains about 96 percent of the market-implied variance premium. Risk, i.e. stochastic volatility, explains only about 4 percent of the premium. Another interesting result is that the ambiguity aversion model reproduces changes in expectations coinciding with major economic



swings, recessions, etc. Finally, the model is also tested for its relevance to the equity risk premium, that is, the return achieved above the "riskfree" rate (usually, U.S. Treasuries) in exchange for holding risky stocks. Over the period 1890–2009, the equity risk premium was observed at 5.74%; the ambiguity model produced almost exactly that figure, while also producing a close estimate of the volatility of the equity premium (17% vs. 18.8% observed), something the standard model was not able to do.

One reason I appreciate the contribution of this paper is that it accords so well with our intuitions about economic cycles and investor behavior. Previous models have accounted for observed variance premia by relying, not just on the assumption that volatility is stochastic (random), but that the volatility of volatility is also stochastic. This rubs against the grain of what we see in the markets: while the causes of volatility (and of volatile volatility) are not always easily discerned and are never easily anticipated, they are nevertheless causes. Volatility is not created ex nihilo.

One of the implications of this model that may be of interest to traders is that changes in investor expectations after a shift in regimes, e.g. from a booming to a busted economy, are likely to persist for some time. Because people hate real uncertainty, the

best time for traders to take advantage of the variance risk premium is likely after the onset of a recession or depression. This will not be shocking news to experienced traders; however, being an option seller after the onset of a recession is not, psychologically, always so easy.

The results of the paper are striking, but I want to raise one cautionary flag about the model in light of the risk/uncertainty distinction. The distinctive feature of genuine uncertainty as discussed by Knight, Keynes (and before them, Hume on the problem of induction), is that in many situations it is just impossible to know what the *(continued on page 24)* 

### EXPIRING MONTHLY FEATURE

## THE EXPANDING VOLATILITY MEGAPLEX

by Bill Luby

ack in 1987, when the Dow Jones Industrial Average fell 22.6% on Black Monday, it might have been instructive to have a volatility index like the VIX available to serve as a barometer of fear and anxiety in the markets. Alas, it would be six years before such an index would be developed.

Launched in January 1993 by the Chicago Board Options Exchange (CBOE), the broad-based measure of implied volatility that is now known colloquially as the VIX was officially named the CBOE Volatility Index. Looking the name alone, one could reasonably conclude that the CBOE did not anticipate investors would ever have to grapple with more than one volatility index, as the creators of the index did not see the need for the volatility index to reference a specific underlying equity index. In fact, the investing landscape has changed dramatically over the course of the past two decades and so has interest in options, implied volatility and volatility indices.

This article chronicles the evolution of the various volatility indices and the product platforms they have spawned, from futures to options to exchange-traded products (ETPs). Not only do I discuss the roots and development of the expanding volatility megaplex, but I also offer some predictions about the future of volatility indices and the products that are associated with them.

## The Early Years: Expansion by Geography and Underlying Index

In the beginning, there was the VIX—and for the most part investors were oblivious or indifferent to an index that measured the market's expectations of future implied volatility. When the VIX was launched, CNBC was still in its infancy, the Mosaic browser had not been released, and the general public's infatuation with the stock market was still several years away. For the most part, investors only checked their portfolios when they received a brokerage statement in the mail at the end of each month.

Of course, the financial markets looked a lot different in 1993 than they do now. At the time the VIX was created, the S&P 100 Index (OEX) accounted for about 75% of all index options trades (compared to just 16% for the S&P 500 index), so it was natural that the VIX was linked to the OEX. Over time, the OEX began to be displaced by the S&P 500 index (SPX) and the VIX broke from its moorings and slowly drifted away from the center of the equity index universe.

While the VIX had no domestic competitors, it was not long before its first international peer appeared on the scene. In December 1994, the German Futures and Options exchange launched the VDAX, based on the German equity index, DAX, which consists of 30 large capitalization German companies trading on the Frankfurt Stock Exchange. Interestingly, the VDAX did not follow the CBOE's VIX calculation methodology. In fact, in its original form, the VDAX used the Black-Scholes model and focused on at-the-money options to generate a 45-day estimate of implied volatility for the DAX.

Competition in the domestic volatility index space did not arise until 2001—and once again it was the CBOE that was behind the new index. When it was launched in January 2001, the CBOE NASDAQ-100 Volatility Index (VXN) was arguably a better measure of market volatility than the VIX. The "Vixen" was born in the middle of the tech meltdown, at a time when small cap and technology stocks were leading the market down and the S&P 100 was relatively stable by comparison. For the first four months of 2002, the VXN averaged about double the volatility recorded by the VXO. Even as the two indices started to converge, in June 2002, the VXN was as high as 66.19, while the VXO never made it any higher than 35.99. As technology stocks continued to fall and drag the broader markets down with them, the VXN provided a more pointed barometer of the volatility that was ravaging the markets during the dot com bust.

Launched within 24 hours of each other, the CBOE'S VXN and the American Stock Exchange's QQV (which was based on QQQ, the popular ETF for the NASDAQ-100) hinted at the possibility of volatility products arms race between the CBOE and the AMEX. This never came to fruition, as the CBOE outflanked the AMEX and soon came to dominate the volatility index market. That domination began when the CBOE revolutionized the concept of volatility indices in 2003.

#### **Rebuilding the Foundation in 2003**

The two issues that most hampered the growth and development of the VIX were:

- the link to an underlying index that was declining in importance; and
- a calculation methodology that focused only on nearthe-money strikes

The CBOE remedied these shortcomings in September 2003, when they made two critical changes to the VIX, substituting the SPX for the OEX, and expanding the range of strikes involved in the calculation to include all SPX options quoted with non-zero bid prices. The net result of these modifications was to tie the VIX back into the most important benchmark equity index and to make the VIX calculation reflect the full range of tradable SPX options in such a manner that the skew of the out-of-the money SPX strikes was included in VIX calculation.

The reformulation of the VIX calculation methodology was a joint effort between the CBOE and Goldman Sachs. Not surprisingly, one of the outcomes of the reformulation of the VIX was that it became more useful to institutional investors, as the new VIX calculation methodology made the VIX conform more closely to institutional practices and specifically made the VIX an approximation for the variance swap rate that is included in many institutional derivatives products.

The CBOE indicated that not only were they interested in modifying the VIX to provide a more precise and robust measure of expected market volatility, but they were also explicit in stating that one of the goals of reformulating the VIX was to create a viable underlying index for tradable volatility products. Following that line of thinking, the CBOE launched VIX futures in March 2004 and added VIX options in February 2006.

#### Expanding the Volatility Universe: 2005–2008

Following the launch of VIX futures, the CBOE embarked upon an aggressive campaign to expand their volatility index franchise, first by expanding the base of the underlying equity indices, then by expanding the time horizon for the volatility calculation and finally by moving beyond equities into commodities and currency.

The first step in this expansion was to roll out volatility indices for some of the major market indices. In May 2005, the CBOE launched VXD, based on the Dow Jones Industrial Average and in May 2006, RVX—which is based on the Russell 2000 index—was added to the mix.

The CBOE then charged off in a completely different direction and in November 2007 launched the CBOE S&P 500 3-Month Volatility Index (VXV). VXV is identical to the VIX in every respect except that it looks forward 93 days, compared to the 30-day window for the VIX.

The following year, however, marked the biggest leap for the CBOE's volatility index expansion strategy. In July 2008, with West Texas Intermediate crude oil trading in the \$140 per barrel range, the CBOE launched the CBOE Crude Oil ETF Volatility Index (OVX). This volatility index is based on the United States Oil Fund ETF (USO) and was dubbed the "Oil VIX" by the CBOE right from the initial press releases. The following month, the CBOE added the "Gold VIX" and the "Euro VIX" to the stable. The former, which goes under the ticker GVZ, is based on the popular gold SPDR Gold Shares ETF, GLD; the latter, whose ticker is EVZ, is based upon the CurrencyShares Euro Trust ETF, FXE. Whether by luck or design, these new volatility indices just managed to get out of the gate before the financial crisis of 2008 struck in all its fury, leaving dozens of new volatility records in its wake.

## VIX Goes Mainstream During the Financial Crisis of 2008

While volatility was growing in importance and notoriety prior to the 2008 financial crisis, it was the crisis that catapulted the VIX onto the center stage. As stocks plummeted and investor anxiety spiked across the globe, the VIX cemented its reputation as Wall Street's "fear gauge." The VIX quote became a fixture on CNBC and fodder for analysts from all corners of the media who were seeking a means by which to evaluate the degree of uncertainty and panic in the financial markets.

With the increased attention being paid to the VIX, the trading volumes for VIX futures and options surged, as hedgers and speculators flocked to products that demonstrated "convexity" by being showing more dynamic upside moves and muted downside moves. This convexity was particularly attractive to institutional investors who sought investments with a strong risk management profile.

For the most part, retail investors continued to see the VIX as more of a market indicator during the financial crisis than a suite of products which could easily be traded. That all changed in early 2009 with the first VIX exchange-traded products.

## The VIX Exchange-Traded Products Revolution: 2009–Present

Barclays introduced the first VIX two exchange-traded notes (VXX and VXZ) to very little fanfare in January 2009. These products were made possible by the creation of two volatility strategy indices by S&P Indices that were developed with an eye toward VIX futures strategies that could be translated into exchange-traded products: the S&P 500 VIX Short-Term Futures Index; and the S&P 500 VIX Mid-Term Futures Index.

Over time, VXX and VXZ gradually captured the imagination of retail investors and spawned a grand total of more than thirty volatility-based exchange-traded products in the United States alone. The beauty of these products is that the market makers who sold them typically hedged these sales with offsetting positions in the VIX futures market. With VIX-based ETPs frequently trading in excess of 100 million shares per day, the direct impact on VIX futures volumes can be substantial. Through the end of April, for instance, trading volumes in VIX futures contracts were up 68% over the previous year.

#### The Expanding Volatility Megaplex

In 2011, the CBOE took perhaps its biggest gamble in expanding the scope of volatility indices, electing to list volatility indices on five individual equity options in January and six popular ETPs in March, all of which utilize the VIX calculation methodology. These VIX-style indices targeted some of the most active and systemically important individual stocks, while the ETP indices focused on the dual themes of emerging markets and commodities. (See Figure 1 below for the full list of single stock and ETP-based volatility indices.)

It appears that after an approach to blanketing the equity, commodity and currency universe in search of a broad line



FIGURE 1 The Evolution Volatility Indices

of diversified volatility index products, the CBOE has recently shifted to a strategy in which trading volumes and liquidity are the main focus. In fact, in the case of individual stocks and particularly ETPs, the list of new volatility indices coincides almost perfectly with a list of most active options. With volume and liquidity goals the driving force behind volatility index expansion, this makes it easier for the CBOE to focus on the top volume issues and pursue alternative approaches for areas where demand is still unproven, as was the case with the National Stock Exchange of India, which licensed the VIX methodology for the "India VIX" in 2008.

Based on recent success stories, the magic formula for volatility indices seems to be centered upon creating a product platform on which futures can be built that will attract exchange-traded products which include volatility futures in their portfolio. Here transactions in the ETP market are hedged in the underlying futures market, driving up volumes and tightening spreads in the futures market as part of a virtuous cycle. In order to make this happen, a critical link in the process has been for the S&P Index group to create

> futures-based indices that target a fixed maturity and utilize static and sometimes dynamic allocations among the holdings of the index.

To some extent, one can look at where futures (and options) have been launched to get a sense of which areas the CBOE believes is most promising. At present, VIX futures account for approximately 99% of all volume on the CBOE Futures Exchange (CFE), where the volatility index futures contracts are traded. The second most actively traded futures contract at the CFE is based on the CBOE Emerging Market Volatility Index, VXEEM. The CBOE Brazil ETF Volatility Index (VXEWZ) and the CBOE Crude Oil ETF Volatility Index (OVX) have also seen some investor interest as of late, but adoption has been slow in both instances.

In recent news, the CFE announced on May 17 that it plans to launch trading on the CBOE NASDAQ-100 Volatility Index futures contract beginning on Wednesday, May 23, pending regulatory approval. Based on VXN, these futures give the CBOE the more exposure to the volatility component of the red-hot technology sector, where the likes of Apple, Facebook and Google have been attracting a great deal of investor attention as of late.

#### Conclusion

From its humble origins, the VIX has grown to become a dominant force in the futures and options space. Recently, the addition of VIX-based ETPs has extended the VIX product platform and channeled a new source of volume into the VIX futures markets.

Up to this point, the CBOE has had difficulty replicating the success of the VIX in other volatility indices, though efforts have been made to extend the volatility platform across other major market equity indices, commodities, currency, individual stocks and a variety of exchange-traded products. I think it is safe to say that the CBOE is intent on trying to create a multi-dimensional volatility platform, ideally one that spans asset classes and includes broad-based indices, ETP sector and geographical groupings, as well as individual stocks.

The reality is that any product that has options associated with it has implied volatilities that can be easily calculated. Provided there is sufficient liquidity, any optionable security could easily have multiple data streams associated with it. The obvious ones, of course, are the price and volume of the underlying. With options comes an additional set of prices and volumes, as well as open interest. There is no reason why some sort of mean implied volatility calculation cannot be associated with the underlying too, so that every optionable asset also has its own VIX-style volatility calculation.

The real question revolves around what type of demand there is for futures and exchange-traded products based on volatility indices other than the VIX.

While the new volatility indices may be a boon to options traders who like to trade volatility, the demand for volatility indices on each and every optionable stock, ETP, index, commodity, etc. is largely unproven.

The big wild card in this scenario is the emergence of ETPs and the ability of the volatility index futures and related ETPs to reinforce each other in a virtuous cycle that increases volumes and keeps bid-ask spreads to a minimum. The VIX ETP space has proven to be irresistible to hedge funds and individual investors using short-term trading strategies. With even greater exposure to volatility, the emerging markets volatility index VXEEM and the VXEM futures should be an excellent test of the expansion potential of the volatility index product platform.

Looking past VXEEM, there is also the potential for success with VXAPL, the Apple "StockVIX." The other area where potential interest in volatility indices remains untapped is the financial sector. Here it is easy to imagine volatility indices based on XLF, the popular ETP. Volatility indices are also possible on individual stocks such as JPMorgan Chase, Bank of America and Citigroup.

Volatility indices have been an unqualified success as market indicators and to a lesser extent as product platforms. The recent explosion in volatility indices marks a critical new stage in the development of these indices and a renewed effort to replicate the VIX product platform across other volatility indices. So far investors have shown a limited appetite for the new products, but if exchange-traded products linked to volatility index futures can attract the interest of investors, it may usher in an even larger volatility megaplex in which the VIX is but one of many product platforms.

#### **Further Reading**

- "Comparative Implied and Realized Index Volatility," *Expiring Monthly*, April 2012.
- "Trading the Expanding VIX Products Space," *Expiring Monthly*, September 2011.
- "VIX Convexity," Expiring Monthly, June 2011.
- "Evaluating Volatility Across Asset Classes," *Expiring Monthly*, March 2011.



## PTION **P**

## **Expiring Monthly Interview with Mark Sebastian**

lared Woodard

You know Mark Sebastian as one of the co-founders and editors of Expiring Monthly, but he wears many other hats, too. He runs a successful mentoring and education company called Option Pit, consults as a risk manager for a hedge fund, writes for The Street's Options Profits team, and has become a sought-after media commentator as well. I got the chance to ask Mark about his own trading, his new book, and some other topics that I hope you will enjoy.

#### Jared Woodard for Expiring Monthly: How did you get started in trading? Why options?

Mark Sebastian: In my junior year of college, I was intent on getting into investment banking and was interviewing with Goldman Sachs, Bear Stearns, etc. At the end of that year, a professor pulled me aside and asked me to take a new class he was starting: Financial Derivatives. While this may be a semi-common course now at colleges, it really didn't exist on any campus 11 years ago. The moment we began digging into options, I was hooked, and I decided I wanted to be a trader. I was hired by Group 1 Trading into their Market Maker training program and a year later, I was "on a badge" trading options in the GE pit on the American Stock Exchange.

**JW:** One of things I like about Option Pit is that you offer mentoring services for traders at several different levelsnot just the standard "introduction to

#### options" for novices. What kinds of things can an experienced trader learn at Option Pit?

MS: At Option Pit, we concentrate on being able to service any client that sees us. For the low end trader, that means really learning to understand the mechanics of options. For a high end trader, the biggest and most common failing is the inefficient use of capital. Many traders that have portfolio margin don't know how to use it properly. The use of "PM" should actually reduce risk for a trader—not increase risk—because it allows the trader to fully trade three-dimensionally: not just vertically across months, but the ability to trade the months back and forth against each other. We also offer risk consulting services; in this service we basically are hired to poke holes in a money manager, hedge fund, or high net worth individual's trading approach. Our institutional customers love this service.

**IW:** A lot of options traders are just leveraged technical analysts in disguise, or long-term fundamental investors using options to control risk. What sorts of research or analysis do you rely on to create an edge in your own trading?

MS: While traders need to have at least mild knowledge of technical analysis, we only really look at it because other traders are looking at it. The technicals we look at for our option trades are almost exclusive volatility analysis. We study where implied vola-



tilities are relative to realized volatilities. We study where IVs are relative to historical IVs and where HVs are relative to historical HVs. Back to our three dimensional discussion: studying volatility, we also look at the term structure and the relationships of volatilities across months.

## **JW:** What are your favorite products to trade? Are there any products you think traders should avoid?

**MS:** I love trading SPX, SPXPM; I like the VIX ETNs and VIX options and futures themselves. I do not think there is any product that retail traders should avoid. In fact, I have found that if there are people out there telling retail traders to avoid a product, it is worth researching; figuring out what is causing problems

for retail traders and then trading the product. A misunderstood product is a profitable product.

**JW:** What is it like being the risk manager at a hedge fund—what is an average day like in that role? Does that mean checking in periodically to flatten deltas, monitor position sizes, check asset correlations, or what? How do you manage the risk of an openended position: say a trader has sold a bunch of at the money straddles? How



# THE OPTION TRADER'S HEDGE FUND

A BUSINESS FRAMEWORK FOR Trading Equity and Index options

#### DENNIS A. CHEN | MARK SEBASTIAN

#### do you estimate the risk in that situation: a VaR model, a hard dollar P/L stop, or something else?

**MS:** Working risk for a hedge fund can be fun and can also be frustrating. One of the issues I have had on the risk consulting side is that I don't have "hard" control over risk in the way that many hedge fund risk managers do. If I were to officially work for a hedge fund I would need to be empowered at a level that I could force trades, something I have been unable to do on the consulting side. That said, when I am consulting I have found that each client is different. Some need hard dollar or percent levels, some need to have a price point stop—it varies. I like to combine a combination of vega risk, gap risk, and run risk when I am evaluating the risk of a position. The key to any position, in a fund or in a personal account is to never let a position get out of hand and—this is even more important—always be able to keep trading.

**JW:** Drawing on your experience mentoring other investors, what are some topics or concepts that tend to be harder to grasp? Are there any areas where people are more likely to make mistakes?

**MS:** The hardest thing new traders find to grasp is the pricing model, synthetics, and the Greeks. Synthetics are hard because no one seems to want to teach it. Despite the fact that

it goes mostly ignored, an understanding of option synthetics remains the key to understanding options as a whole. One reason, I think, that many traders lose so badly in options is that they are never taught a foundational understanding of how options actually price: bad foundation, bad everything else. To make matters worse, there are many programs that teach how the Greeks work without teaching how the pricing model works. Without a firm understanding of the option pricing model, there is really no way to understand or evaluate risk. This is because the Greeks, the tools option traders use, actually come from the pricing model. Too often retail traders rely on a graph that is an output of a pricing model, without understanding that the risk graph can change on them. Without understanding synthetics and the model, risk graphs really are a dangerous tool because traders think they are a fair evaluation of risk, which they are not.

**IW:** We see a lot of news these days about changes at the options exchanges: new exchanges opening and being proposed, lawsuits over products, the payment for order flow controversy, etc. Why should an average investor care about any of that? MS: The key issue there is order flow. In an article called "The Future of Options Exchanges" and also something that I briefly discuss in my new book, The Option Trader's Hedge Fund, I point out why order routing matters. It all stems from Payment for Order Flow, the practice of paying brokers to route orders to one exchange or another. Generally speaking, there are two types of exchange models, the "take" model and the "make" model. Take model exchanges pay for orders that take liquidity. Make model exchanges pay for orders that make liquidity. Needless to say, that puts order routing in a position to be in conflict with best execution practices in their truest sense of the word. Take exchanges

The key to any position, in a fund or in a personal account is to **Never let a position get out of hand** and—this is even more important **always be able to keep trading.** 

typically have all of the liquidity while make exchanges have very little liquidity. Yet, time and time again, because of the contradicting models we see orders routed to exchanges with little to no liquidity as brokers tried to get paid on the "make."

#### **JW:** Tell us more about your forthcoming book. How is this book different from previous books on options?

**MS:** The book is different in that it has little to nothing to do with the "what" of options and a lot to say about the "how" in options trading. Dennis and I spend a lot of time talking about how one needs to manage their money, evaluate risk, and execute and structure trades. Our book is almost like a hedge fund's cookbook. It will give traders all the knowledge they need in order to build a serviceable option trading business, along with the necessary knowledge not to blow up their account in the process. While no book can truthfully say that it teaches traders how to make money, our intent is to come as close as humanly possible to achieving this goal. Consider this the first handbook for the option-intensive hedge fund.

#### JW: Who is the intended audience?

**MS:** Our intended audience is traders that want to learn to think and trade like professionals. It is not a beginner's book on any level and is probably almost an advanced book. It is meant to be a follow up book to the Option Volatility and Pricing books from Natenberg or McMillan. What I like about it, and why I think it has broad appeal, is that almost every trader retail, prop, or money manager should learn to think about options the way a professional does.

## **JW:** What are your favorite parts of the book?

**MS:** The sections I really like are the parts that involve money management. We go into great detail on how to manage money at the portfolio level, and the individual trade level. I also love the "lessons from the pit" sections. We took some of my old blogs from Option Pit and rewrote, updated, and applied them to the framework of the book. Many chapters lead from lesson to a real life experience that happened as I was trading or teaching that I wrote about.

JW: Thanks, Mark.

#### FLOOR STORIES

# How Liquidity Providers **Price Options**

Andrew Giovinazzi

LAST MONTH I covered the technology changes that have occurred on the trading floors over the last 20 years or so (at least as long as I have been around in the option business). Most of that discussion revolved around the pipes and changes going into the delivery of information and quotes. I think it makes sense to follow up that piece this month on how liquidity providers price the options in the first place.

#### **Pricing In the Old Days**

Option pricing prior to the advent of Black-Scholes was a bit more hurly burly. The old timers I talked to when I started in the late 80s called it, of course, the good old days. Things like OTM options staying bid long past their chance of finishing in the money were relatively common. Valuing options by pure feel and arithmetic was a great exercise in synthetic relationships. The reversal/conversion, butterfly and box pretty much ruled in the 70s and 80s as the main position management vehicles. From the beginning, even prior to Black Scholes, the one thing that has remained constant was the need to establish some type of *relative relationship for liquidity providers*. The advent of the R/C, butterfly and box helped traders get a grasp on the pricing of one option relative to the price of another. After all, at expiration those relationships will move to either parity or expire worthless. By using synthetic techniques traders could sell what they thought was the expensive option and bid for the relatively cheaper

option and be left with a position with relatively little risk. This allowed some liquidity to form in a particular option class.

The market for a class of options, let's say IBM (since there is some nostalgia there) looks like this:

3-3 1/4	IBM Jul 205c
1-1 1/2	IBM Jul 210c
3⁄4-1	IBM Jul 215c with IBM trading around \$197 ¾ in mid-May

The current bid on the IBM Jul 205/210/215 Call Butterfly is <sup>3</sup>/<sub>4</sub> bid the liquidity providers way (buying on the bid and selling on the offer). The idea for a butterfly (back then or today) is to buy the position for the smallest debit possible (a credit is ideal since the position is virtually assured of making money). With earnings coming out the IBM July 210c go bid to \$2 leaving the new markets this way:

3-3 1/4	IBM Jul 205c
2-2 3⁄8	IBM Jul 210c
3⁄4-1	IBM Jul 215c

Note how that changes the price of the IBM Jul 205/210/215 Call Butterfly to a 5% credit the liquidity providers way. That is what traders call *edge*. Buying options in one place and selling them for a quantifiable advantage is *edge* and it is what all good traders look for. The market maker or specialist can now bid up the other call markets to keep putting on the position. With this much edge and willing buyers of the 210s, the LPs could step



up and build large positions, provide liquidity to other series and create an orderly market. This whole process would take a couple of seconds. A key part for all this working is pricing around the current order flow. That is the lever on which the markets move. This leads to one of my trading rules: *The active strike drives the pricing*.

## Pricing Options In the Advent of Auto Quote

With a couple of rules in place on relative value and activity, pricing options evolved to an exercise in managing the implied volatilities of the traded series. Auto Quote made it easy to just plug in a forward volatility number into the quote machine and out popped a whole class of markets based on Black-Scholes (or whichever model adaptation the trading pit was using). But the same problems of liquidity and price discovery remained. Traders were now posting markets on where they thought the fair value of implied volatility was trading at the time.

The new markets looked like this from the liquidity providers prospective:

3 (20%)-3 ¼ (23%)	IBM Jul 205c
2 (29%)-2 ¾ (33%)	IBM Jul 210c
3⁄4 (20%)-1 (23%)	IBM Jul 215c

Instead of the more arithmetic intensive activity of pricing synthetics, traders started just trading the volatility. The public (that means everyone who is not an exchange member) Traders now have different access. speed and pricing ability but are still looking for the same thing they always have, which is to find a relative edge in the market.

just saw the price quotes but traders looked at pricing in an evolving light. The same customer in the 1970s paying 2 3/8 for the IBM Jul 210 calls was now paying 33% Implied Volatility. Traders had a different tool to gauge customer interest since implied volatility is easier to track, remember and record relative to underlying moves in the underlying.

Trading positions got a bit more complex than the reversal/conversion cards of the old days since new exposures to risk were not necessarily flat contacts or volatility exposure. Market positions measured in exposure to Vega (the change in an option price for a 1-point change in volatility) began to take over as liquidity providers got more granular in their pricing. Trading for edge now meant selling a higher IV and buying a lower IV and spreading the risk off in the whole class by adding positions in the outlying months.

#### **Pricing Options Now with the Electronic Eye**

Establishing some relative value is the most important step in pricing options. The advent of fully automated market making that exists today takes all of this to a new degree and speed. Essentially think that option pricing is generated by computers that are managed by people. The rules for finding edge still apply. If no edge exists in the current pricing, the LPs move the implied volatilities until the supply and demand curve come into equilibrium. What happens now is that the shifts in volatility are very fast and very fierce in general. One of best ways to trade this from the prop side is simply just waiting until the markets get "pushed" in a particular direction and then position in an active name. Looking for edge now is more a function of keeping an eye out until paper has started to stretch the markets a bit.

Most professional trading systems are now "looking" for paper in the confab of the various exchanges. They are set up with an electronic eye to scour markets to lift smaller order flow that fits the theoretical value and volatility profile of that particular liquidity provider. Once a flash of liquidity hits, the systems still have to adjust as they recalibrate what "new" edge looks like. Traders now have different access. speed and pricing ability but are still looking for the same thing they always have, which is to find a relative edge in the market. Buying low and selling higher never goes out of style but wait to do it now is bit different.



# Gundlach on Apple and Natural Gas

Jared Woodard

**IN A SPEECH AT** the New York Yacht Club in late April 2012, wellknown fund manager Jeff Gundlach presented a slide comparing the price of Apple stock since 2009 with the price of Google since 2004.

The comparison is attention-grabbing, and the recent hysteria about Apple is familiar when we think about the sentiment toward Google in its early days. But what really caught everyone's attention was the comment Gundlach made next:

"If I were one of these crazy hedge fund guys, with the slick haircuts and fancy shoes and racing stripe shirts, the trade I'd put on is 100-times-leveraged natural gas long versus 100times short Apple."

The reason for the comment, as he explained in an interview several weeks later, was that at the same time sell-side analysts were trying to out-do each other with ever-higher Apple price targets, other analysts were also competing to see who would be the first to price natural gas at \$0.00. There is trend-following, and then there is blind faith. We can actually quantify the unusual nature of the natural gas/Apple relationship: Figure 2 plots the log ratio of UNG/AAPL shares since 2007.

Notice two things about this chart. First, the log ratio is so smooth that a linear regression gives us an R<sup>2</sup> value of 0.94. Second, at the time Gundlach called for this trade, the relationship had swung to an historical extreme—not just lower than at any





FIGURE 1 Google vs. Apple



FIGURE 2 Log Ratio of UNG/AAPL Daily Closing Prices, 2007–2012

time in history, but also far, far below the regression line. What sounded like a half-joking gamble turned out to be a very reasonable mean reversion play.

Not wanting to take on the risk or tie up the capital needed for a straightforward long UNG / short AAPL position, on May 9th I put together a version of the same position using options. We bought the AAPL July 565/505 put vertical at a net cost of \$20.15 and bought the UNG July 17 calls for \$1.82. 11 UNG calls were bought for every 1 AAPL put spread. At the time of entry, the Apple puts were priced around 31% implied volatility, which was about average compared to the last year's worth of observations. Natural gas implied volatility had already jumped up a fair amount, but since the trade thesis called for a bottom in gas prices, being long volatility was the only way to go.

Figure 3 shows our trade entry and how the relationship has fared since then. The position has obviously worked out well: the AAPL put spread is basically at break-even but the UNG calls have exploded higher along with natural gas prices. A 1×11 allocation to the position (the smallest possible) is up about \$775.

With about 60 days remaining until July expiration, I am comfortable holding onto the position a bit longer before rolling everything into a later cycle to avoid too much time decay. The UNG calls are now almost \$2 in the money and the long strike of our AAPL puts is at the money, so there



FIGURE 3 Log Ratio of UNG/AAPL Daily Closing Prices, 2011–2012

is still plenty of juice left in this trade, delta-wise.

I wanted to review this position because it's based more on a statistical relationship and on the fundamentals of the assets rather than the pure volatility analysis that we usually cover; I prefer the latter, but have spent more time in the last year looking at fundamental data before making trades. In the case of natural gas, the scandal at Chesapeake and the supply relief have avoided what could have been a disastrous summer for natural gas prices. I like Apple as much as the next guy (I think I was the only kid in my town growing up who had an Apple IIGS), but the revival-tent nature of the stock rally and attendant media coverage did warrant some skepticism.

The question that remains is what to do in three or four weeks when it comes time to roll the position. My first step will be to check in on the ratio and where it is in relation to the regression line. Based on the chart at Figure 2, a complete reversion higher would take the log ratio to -3.20 or -3, depending on time, which is where it was in late January. That's quite a bit more upside potential, even if we ignore or deny Gundlach's comment that this trade "has monster legs." Assuming the reversion higher continues, I will probably keep some long natural gas exposure but start trimming the short Apple position more heavily. **EM** 

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# The Education **Business**

Mark Sebastian

EARLIER THIS MONTH I was quoted in a piece for Bloomberg Businessweek titled: Americans Easy Marks with Options Inspired by Powell and Bush. While I was slightly misquoted in the piece (I stated that about 10% of all those who try to trade options will beat a bank account, not my own students), the misquote led me to thinking about how realistic we all are with our finances. Writing for this magazine we have at any given time four of the best traders in the business discussing options, yet I can promise you that each of us has had losing days, months, and in my case losing years (I had a terrible 2008). Yet, how often do we in the financial press talk about our big losers? I can tell you this much, it's rare . . . and we are the GOOD GUYS!! If the good guys are not talking about their losers, then how in the world is the newbie option trader supposed to be able to decipher the good guys from the bad guys?

This leads me to the next big idea I think could make a lot of sense for marketing to retail traders: pitch the truth. This doesn't mean that the honest guys have to walk around saying "Hey, everyone, I am an idiot," but maybe it might make sense for those of us good guys to write about the losers we have as often as the winners, even if there are fewer losers in the bunch. Why? Because it will be possible to do something that I have thus far had a big problem establishing with potential clients: realistic expectations. The retail public has a total lack of what is a realistic expected return for a portfolio managed by an individual investor. Much of the blame lies on the scumbags in the article above. They use a few tricks that make big returns seem easy.

- They will often lay out a \$10,000 portfolio and show some sort of phenomenal return. What they leave out is the risk involved in the trade. They don't let the retail traders know that there is a big difference between trading a \$10,000 portfolio and a \$1,000,000 portfolio on this approach.
- They also leave out interday and intermonth swings. It is easy to show a great theoretical return when the trader simply closes his or her eyes and comes back 30 days later. This leaves out the mental impact of watching a position.
- Often, the time period of the trade is selectively chosen. I can easily show anyone how to make a lot of money being short VXX or long XIV as long as the time period is November of last year through April of this year. If the time period is the month of May in 2012, I am going to have a lot more trouble showing a great return.
- But the biggest lie is probably in the degree of difficulty these firms pitch. I went through a year of training before getting on a badge. Jared and Bill spent years learning this



The truth is that trading is hard, and any sales pitch that says anything different is a lie.

business before they got really good at it. Andrew was trading before there were puts so I'm not sure what his story is (kidding). The point is that we are all very experienced at trading and we still lose sometimes, and certainly none of us are floating 250% returns annually, year after year (although I believe we all have probably had an amazing year here and there). The truth is that trading is hard, and any sales pitch that says anything different is a lie.

So why start posting our losers if all of the scumbags pitch how easy it is to win? We can't save everyone, let's face the facts, some people are stupid and meant to be had. It can easily happen to anyone (heck, I have a "Theater Innovation Stereo" laying around my storage area somewhere). However, I believe that most people aren't stupid; if the bulk of the "honest" ones start pointing out what it's really like out there, pretty soon the scumbags are going to be greatly weakened or straight up out of business . . . good.

#### Managing the Short Time Spread (continued from page 7)

If the risk manager looks at it from the underlying move perspective it shows up as a big positive.

#### Are the Conditions Right for a **Short Time Spread?**

Where does this leave us right now in the middle of May going into the June cycle in the big indexes? While there is some chop right now, IV is relatively

high, but most likely will not be able to finance the level through June expiration. No Greek election news for the June cycle means possible test to lows and some downside but not real collapse since the market is still short a reason. At the same time Greek elections are after the June cycle so those months will stay elevated until the Greeks decide their own fate. This

is not the recipe for the short time spread because there is not enough movement near term with a volatility collapse, at least not yet. There are other ways to fade this Greek Tragedy but I don't think on May 22nd that the short time spread is the right play. For now I think IPM might agree.

#### Risk or Uncertainty: Explaining the Variance Premium (continued from page 10)

range of outcomes might be. It's not just that we can't predict the future; it's that we can't even tell where possibility space ends and impossibility begins.

By developing a model to measure investor aversion to uncertainty, the authors may well have found a better way of explaining historical market prices. But, as with any quantitative model, its value in the future will only ever be a function of ever-changing investor attitudes. As a result, the model itself is only as stable as aggregate investor psychology. The ambiguity aversion model estimates the

variance risk premium based on a few factors, the most important being the difference between the expectations about a booming economy between an ambiguity-averse investor and an investor who exhibits classical expected-utility behaviors. Now, we know how to estimate the latter expectation-that's just the CAPM, efficient markets orthodoxy that has been taught in business schools for decades. How do we estimate the former, the expectations of ambiguity-averse investors? The authors rely on an existing model known as Epstein-Zin that incorporates elastic consumption prefer-

ences that vary over time. My worry is that, as the composition of the investing public changes, preferences about consumption and ambiguity are likely to change, too. What if the economic cycles of the next 30 years don't look anything like the last 30 years? How will the shift among Baby Boomers from equities to bonds affect the equity and variance risk premia? These sorts of long-term issues become more important when your pricing model makes explicit assumptions about investor preferences. In other words, there is some genuine uncertainty surrounding the ambiguity model.



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