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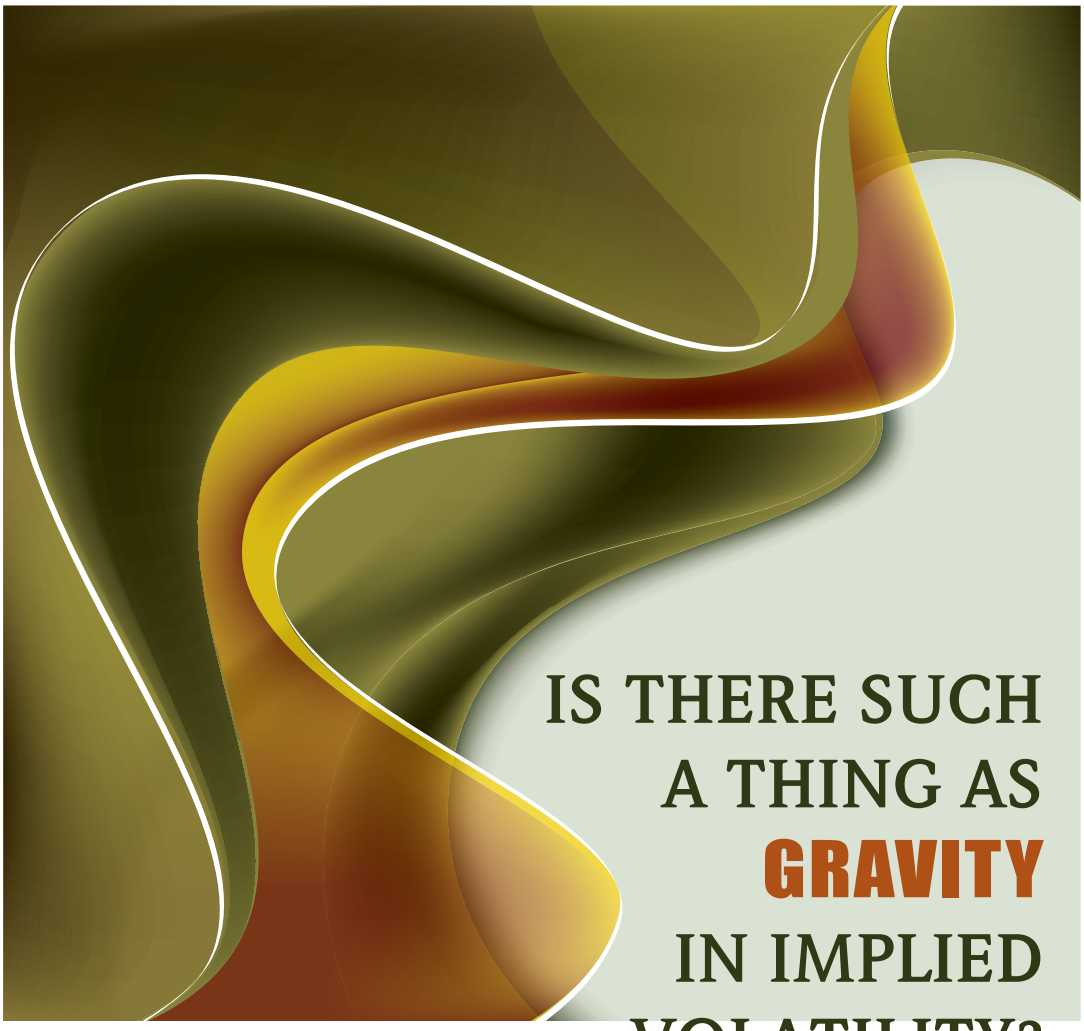

IS THERE SUCH A THING AS GRAVITY IN IMPLIED VOLATILITY?

AN INTERVIEW WITH
Jared Woodard

Up, Down, and Historical Volatility

Four Revolving Volatility Themes

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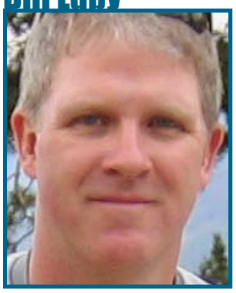
Bill Luby



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.

Editor's Notes

Bill Luby

Another options expiration cycle is in the books, yet gale force winds continue to blow off the southern coast of Europe, while a persistent ill wind emanates from Washington, D.C. In keeping with recent market developments, the November issue of Expiring Monthly is once again steeped in volatility, considering the subject from a variety of perspectives.

This month we welcome Andrew Giovinazzi as a regular contributor to this magazine. Andrew kicks off his new role with a feature article which analyzes the relationship between implied and historical volatility, as well as some broad indicators to flag when one is pulling the other down.

In *Up, Down, and Historical Volatility,* Jared Woodard looks at upward and downward directional volatility, as well as the predictive value of each variation in terms of future implied volatility.

In this month's *Follow That Trade*, Jared also tracks the life of a delta-hedged short call in SINA, which raises some issues regarding path dependency and how to calculate historical volatility.

Mark Sebastian wraps up last month's *Follow That Trade*, explaining why his short S&P 500 futures options trade was successful.

Guest contributor Steve LeCompte has a provocative piece in which he asks and answers the question, *Huge Premium for Equity Market Variance Swaps?*

This time around I examine four evolving volatility themes and discuss how the volatility landscape has changed since the 2009 bottom in stocks.

Once again, the EM team is back to answer reader questions in the Ask the Xperts segment.

Last but never least, Mark Sebastian makes use of the Back Page as a platform to talk about paper flow and new exchanges.

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

Happy Thanksgiving,

Bill Luby
Contributing Editor

Ask the Xperts

The Expiring Monthly Editors

***Q:** Do you have any opinion on the S&P 500 VIX futures Long/Short Strategy Index Series?*

—Brian

A: First of all, there are no tradable products associated with any of these indices—yet. I can only assume that since VelocityShares apparently had a hand in developing these products, they and perhaps some of their competitors will have some ETPs that match up to each of the six indices soon. Due to regulatory restrictions, issuers are unable to discuss products that are in the pipeline.

If you study the indices and translate them into equivalent positions with current VelocityShares products, you will find that all six (three short-term and three mid-term) have two legs, an inverse leg and a long leg. In all six cases the inverse leg is XIV. The long leg is either TVIX or TVIZ, depending upon the duration. The weightings are such that the Tail Risk series has the lowest amount of XIV and highest amount of TVIX/TVIX, the Variable Long/Short series is in the middle and the Short Volatility Hedged series has the highest amount of XIV and lowest weighting of TVIX/TVIZ.

From a strategy perspective, the biggest challenge is matching the best strategy to the current and anticipated volatility regime, as well as the term structure, but in a vacuum or over the long-term time horizon, I am likely to be partial to the Short-Term version of the Short Volatility Hedged series.

—Bill

***Q:** Do I need to be worried if I am trading an ETN instead of an ETF?*

—Bruce

A: Maybe, unlike an ETF, where the institution actually holds a hard asset, an ETN is an exchange-traded 'NOTE.' *Note* being the important word. While most of the issuers are very credit worthy institutions, the ETN, in the end does depend on the ability of the issuer to pay the note back. In theory, if a firm really went bust, it is plausible that a note with value could become worthless. I would say this is a small risk, but I think in light of what is going on at MF Global it is a risk that should not be ignored. That said, this risk is quite remote, the greater risk to most ETNs is that they are poorly structured, have funky rules, or high management fees.

—Mark

***Q:** What software do you use to analyze your options trades?*

—Bill G.

A: I use a hodge-podge of various platforms and tools. Right now, that mix includes Livevol Pro, thinkorswim, Interactive Brokers, and Excel with options and price data from a number of different sources. I discussed these providers in some more detail in a recent post at Condor Options, "Software and Brokers for Options Trading".

One thing I have noticed when comparing institutional-level platforms (many with licenses that cost $2k/month or more) is how, over time, less expensive or free platforms steadily incorporate some of the same features. I expect that the commoditization of data and analysis will, in the long run, mean that traders will pay a premium for super-fast execution and market-making capabilities and that the rest of the functions that software provides will gradually filter out toward the individual investor.

—Jared

Four Evolving Volatility Themes

Bill Luby

THREE YEARS AGO this week, the CBOE Volatility Index (VIX) posted its all-time closing high of 80.86 in the midst of what looked at the time like a once-in-a-lifetime volatility event. While the financial markets have gone through some semblance of a healing process since that record VIX spike, the volatility landscape of the past three years looks unlike anything since perhaps the Great Depression. Three years later, it is now apparent that several important new themes have combined to give volatility a character that does not resemble anything VIX aficionados have been accustomed to in the past. This article discusses four of these evolving volatility themes and touches on some of the implications for investors.

The Globalization of Volatility

In the midst of the European sovereign debt crisis, it seems almost superfluous to mention that volatility has become a salient feature of the globally interconnected economy. While Europe is certainly the focus of investor attention and market-moving news at the moment, it is easy to overlook how important events in China have become for investors. Events in Europe are the critical drivers of the bond market and financial institutions, yet production data and inflation data in China—suspect as they are—are powerful barometers of global economic activity. Further, the markets continue to react strongly to changes in Chinese monetary policy, as these greatly influence expectations for how fast the world's second largest economy will grow and what that will translate to in terms of incremental demand across a variety of sectors. Not to be outdone, the Middle East and oil politics are always capable of injecting new volatility into the markets on a moment's notice. Potential flash points range from Israel and Iran to Libya, Egypt and beyond.

Political Volatility

The events of the past year or so have also highlighted the rise of political volatility. Unlike financial volatility, which can usually be stemmed by policy actions such as increasing liquidity, arranging for bailout loans, nationalization of failing corporations, etc., political volatility has no easy cure. In the United States, political volatility is to some extent an outgrowth of the increasingly bipartisan and bipolar political philosophies. In the euro zone, the sovereign debt crisis has had a destabilizing effect across all ruling political parties and governments, several of which have been swept out of office during the past year. The Arab Spring movement has brought revolution and increased civil unrest across North Africa and the Middle East. Demonstrations and riots have also been on the rise in Europe and the United States as well. In some respects, globalization has contributed to political volatility, but political volatility has also led to increased global volatility in a more interconnected world.

Fully half of all overnight VIX moves of 15% or more from the last dozen years have come during the first eleven months of 2011.

Increasing Correlation and All or Nothing Volatility

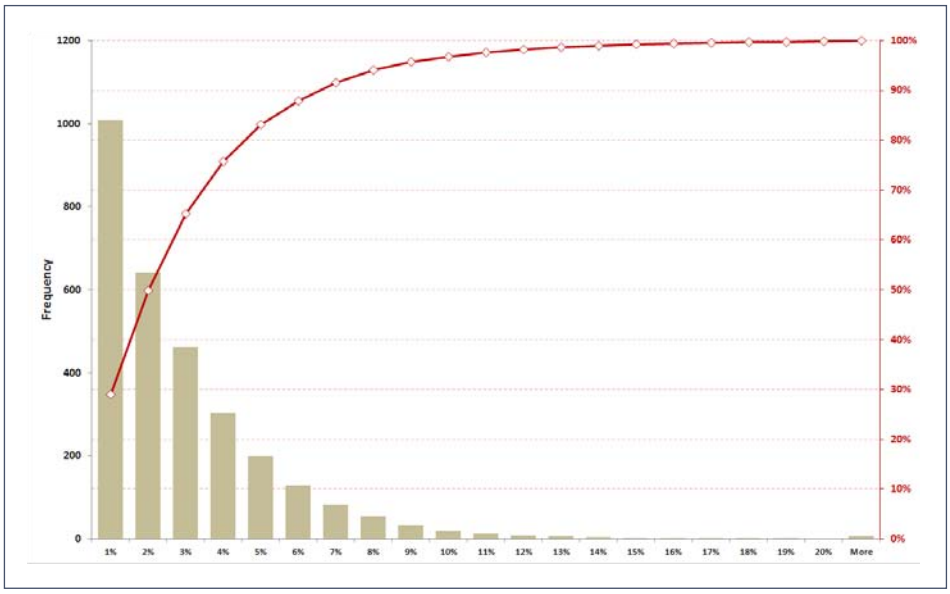
Over the course of the past four years, stocks have witnessed a phenomenon of increasing correlations. The rise of correlations across components of the S&P 500 Index has been captured by the CBOE S&P 500 Implied Correlation Index and also in such measures as the Bespoke Investment Group's measure of "all or nothing days," which they define as days where the net daily advances

minus declines in the S&P 500 Index exceeds plus or minus 400. From 1990 through 2007, all or nothing days ranged anywhere from zero to a maximum of twenty per year. During the last four years, however, there have been at least 47 such days each year, with 2011 setting a record of 59 all or nothing days and counting.[1] A number of reasons have been offered up to explain this development, but certainly the rise of exchange-traded products, hedge funds and high frequency trading have contributed to this change.

Overnight Volatility

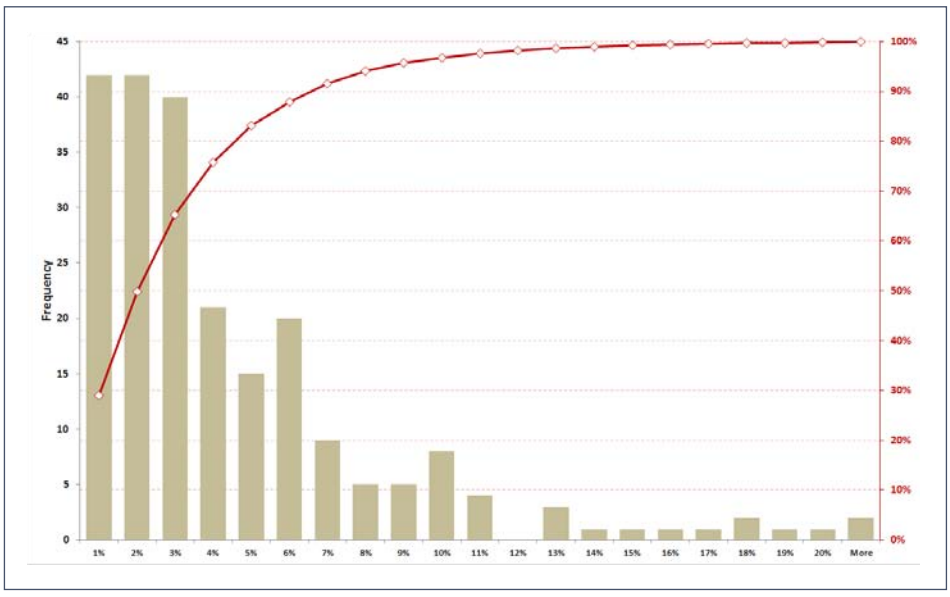
The fourth and final evolving volatility theme is that of overnight volatility. In a globally connected world, the events that drive the news cycle often originate and reach their climax outside of standard trading hours in the United States. While globalization has been ongoing for many years, the increase in overnight volatility has only come to the forefront in the past two years.

Using the overnight change in the VIX as a proxy for overnight volatility, one can see in Figure 1 below that from 2000–2011 the overnight changes in the VIX were 2% or less approximately 50% of the time. During the same period, approximately 90% of the time the overnight change in the VIX was 6% or less and 99% of the time the overnight change was 13% or less. It turns out that in spite of the dotcom crash, the events of 9/11 and the 2008 financial crisis, it is the events of 2011 that has had by far the greatest influence on overnight volatility. Figure 2 below details the



CBOE, VIX and More

FIGURE 1 *A History of Overnight Changes in the VIX, 2000–2011*



CBOE, VIX and More

FIGURE 2 *A History of Overnight Changes in the VIX, 2011*

data for 2011 year-to-date. Note that the 50% frequency distribution moves from 2% (2000–2011) to 3% (2011 only), but the 90% level climbs from 6% to 10% and the 99% level jumps from 13% to 20%. Fully half of all overnight VIX moves of 15% or more from the last dozen years have come during the first eleven months of 2011.

Conclusion

Investors who have studied extensively the fossil record of volatility for clues about the future were likely blindsided by much of what unfolded in late 2008. After stocks bottomed in March 2009, there was a gradual return to more traditional volatility patterns during the course of the next year. With the rise of the European sovereign debt crisis—and to some extent its American cousin—the last two years have seen the rise a new volatility regime, with a new set of rules. Globalization is a critical component of the new volatility regime. Beyond the obvious flash points like southern Europe, China and the Middle East, investors are also learning how to price in risk that comes in the form of a tsunami in Japan, a flood in Thailand, periodic North Korean military aggression, ongoing fallout from the Arab Spring uprisings, etc. The proliferation of risk is not just one of geography, but also credit risk owing to interconnected corporations, institutions national economies.

In this new volatility world, a VIX of 40 might not bear much resemblance to the VIX of 40 from a decade ago. Nowadays, a 15% overnight move in the VIX is more likely to arise from events across the globe, have its roots in a more volatile political environment, move the markets while U.S. investors are still asleep, and wreak havoc across the full spectrum of equities and other asset classes. Even if the ultimate magnitude of the risk is unchanged—and this is certainly debatable—much of what is factored into implied volatility is more difficult for investors to identify, monitor, evaluate and manage on the fly. Indeed the new volatility landscape calls for preemptive analysis and action, as well as new approaches for risk management. EM

[1] Bespoke Investment Group, *Another All or Nothing Day!* http://www.bespokeinvest.com/thinkbig/2011/11/16/another-all-or-nothing-day.html (November 2011)

Up, Down, and Historical Volatility

Jared Woodard

GENERALLY SPEAKING, nobody cares about stock volatility to the upside. The average investor is net long stock, and that average investor doesn't buy a lot of puts on days when the market is rallying—he buys them when stock prices are falling. It is investor behavior alone, rather than any intrinsic feature of options themselves, that grounds the fact that option implied volatility tends to be negatively correlated with stock price returns. Given these behavioral facts about the markets, is there anything we can learn by looking at volatility in relation to up and down days?

In their 2011 paper, Andrew J. Patton and Kevin Sheppard analyze the relationship between the price volatility of the S&P 500 and 105 individual stocks to see how that volatility is related to whether recent price returns were higher or lower. They note three results:

> First, future volatility is much more strongly related to the volatility of past negative returns (negative realized semivariance) than to that of positive returns, and this effect is stronger than that implied by standard asymmetric GARCH models. Second, we show that past negative returns are more useful than past positive returns for predicting total variation, negative variation, and positive variation, and that this result holds across horizons from 1 day to 3 months. Finally, we find that the impact of a jump on future volatility critically depends on the sign of the jump, with negative (positive) jumps in prices leading to significantly higher (lower) future volatility.

As traders already know in a pragmatic way, the sign of market returns is just as important as their size.

I'm not sure how surprising these results are, but they are certainly important. The fact that negative returns predict variation of all kinds better than positive returns means that not all price volatility is created equal, and the result about the impact of jumps makes me wonder whether a trading strategy could be designed to exploit that information content, perhaps in a switching strategy that trades trend-following or mean reversion based on the sign of recent jumps; the authors provide accuracy data for a volatility forecasting model based on their findings, but I am more interested in "returns you can eat."

Next, I want to look at whether the sign of price returns is also related to changes in implied volatility. I constructed a sort of a toy model of what we can call UpVol and DownVol that looks only at up and down price returns, respectively, and takes the annualized standard deviation of those returns (with the mean set to zero). There are more sophisticated ways of looking at returns based on sign, and sophisticated readers are welcome to suggest practical variations and alternatives, but this method has the virtues of simplicity and speed. Figures 1 and 2 show three-month volatility estimates for SPX price returns using the traditional historical method along with UpVol and DownVol methods.

A few things stand out from this comparison. First, DownVol runs persistently higher than UpVol nearly all of the time, with the exception of markets marked by strong bullish price trends. The closer detail in Fig. 2 shows UpVol running slightly higher in 2009 and 2010 when the

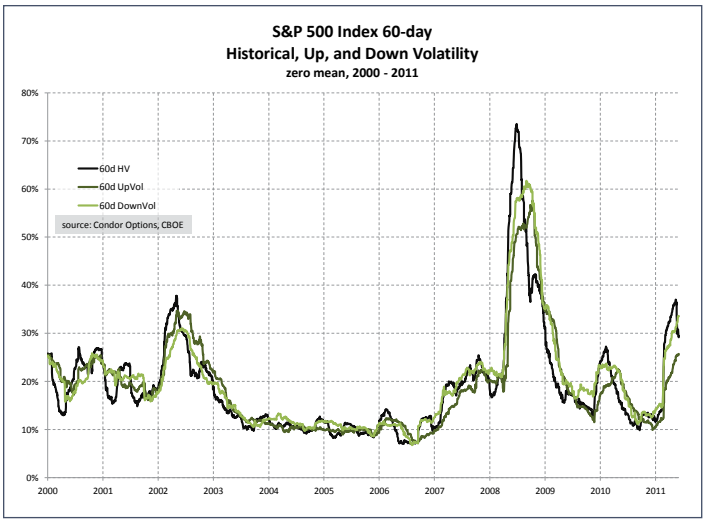


FIGURE 1 *S&P 500 Index 60-day Historical, Up, and Down Volatility, mean=zero, 2000–2011*

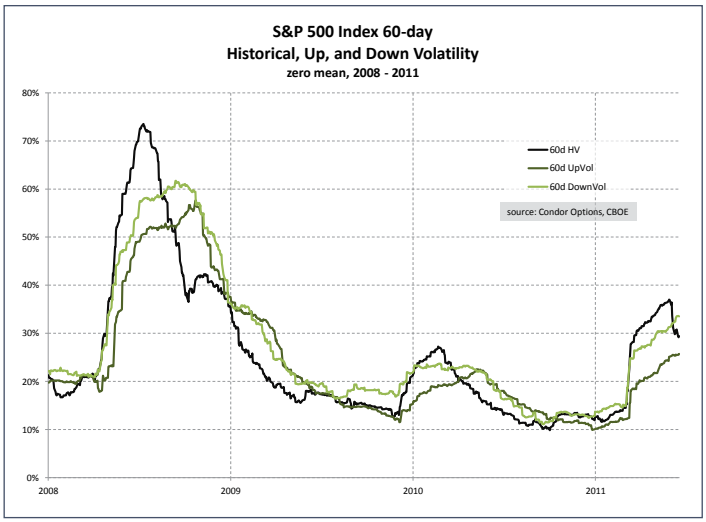


FIGURE 2 *S&P 500 Index 60-day Historical, Up, and Down Volatility, mean=zero, 2008–2011*

S&P 500 seemed to be going up practically every day. Another notable result is that there are periods when DownVol uniquely drives the standard three-month HV calculation, such as the beginning of the 2008 financial crisis and the beginning of the decline in late July and early August of 2011.

Finally, how do these toy estimates of mine compare to implied volatility? Fig. 3 shows 30-day UpVol and DownVol estimates compared to VIX. The same intuitive results are apparent—spikes in DownVol seem to lead VIX higher, and situations in which VIX remains high in contrast to a low UpVol reading (e.g. December 2009–May 2010) are potentially explained by the high DownVol estimate. As expected, the squared correlation coefficient for DownVol and VIX was higher (0.812) than for UpVol and VIX (0.718).

The lesson I take from this quick study is that, as traders already know in a pragmatic way, the sign of market returns is just as important as their size. EM

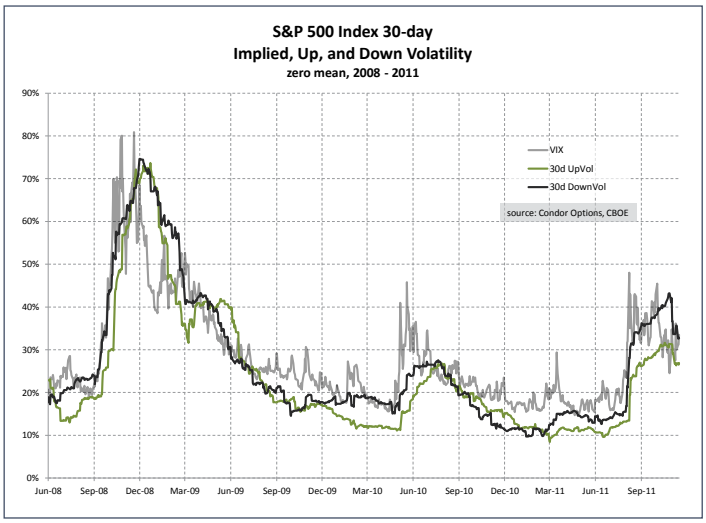
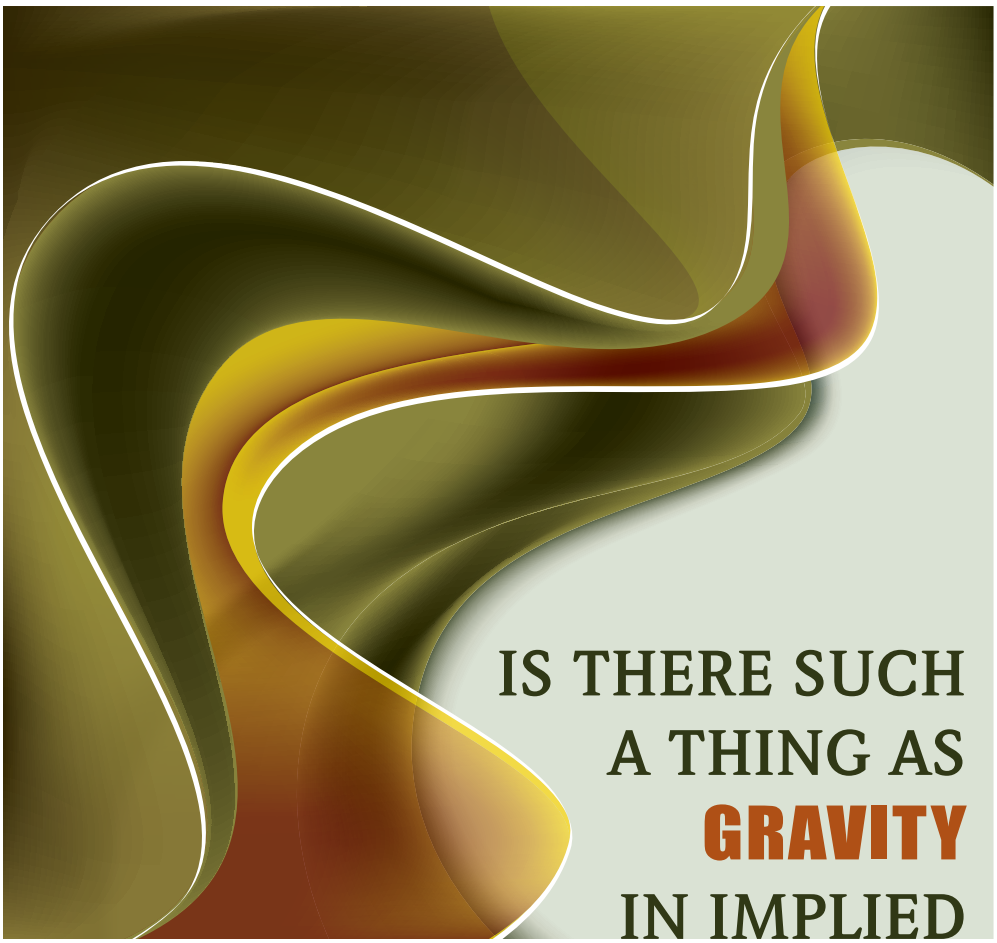


FIGURE 3 *S&P 500 Index 30-day Implied, Up, and Down Volatility, mean=zero, 2008–2011*



IS THERE SUCH A THING AS GRAVITY IN IMPLIED VOLATILITY?

Andrew Giovinazzi

When the Market whips up in a frenzy the first thing the pundits start to talk about is volatility. The VIX becomes the hot topic because it is a broad market indicator that tries to predict the 30-day forward level of implied volatility in the SPX. What the newly enamored followers of volatility fail to address is the level of the VIX relative to what? Is the SPX at a recent low or high? What part of the skew curve are we sitting at? Where were we last week? In short they talk about the level but never the relative level. The same thing can be said of equities. Right now equity implied volatilities are pretty high and on the high side for the year. Sometimes those implied volatilities are justified by underlying movement and sometimes not. Is there a way to use a broad market indicator besides the VIX to understand how things are really moving and how the market thinks they will move? Are there times when the gravity in option pricing starts to show?

What is doing the pushing and pulling of option pricing?

The idea here is to describe when we think options will try to pull themselves one way or another with help from perceptions about the underlying. Or does the market think that future underlying volatility will decline? It is a question of putting the cart before the horse. In option price gravity the implied volatilities far outweigh (are larger than) their underlying realized volatilities or the other way around. The movement cannot support the price levels. There is an inexorable pull toward those underlying movements.

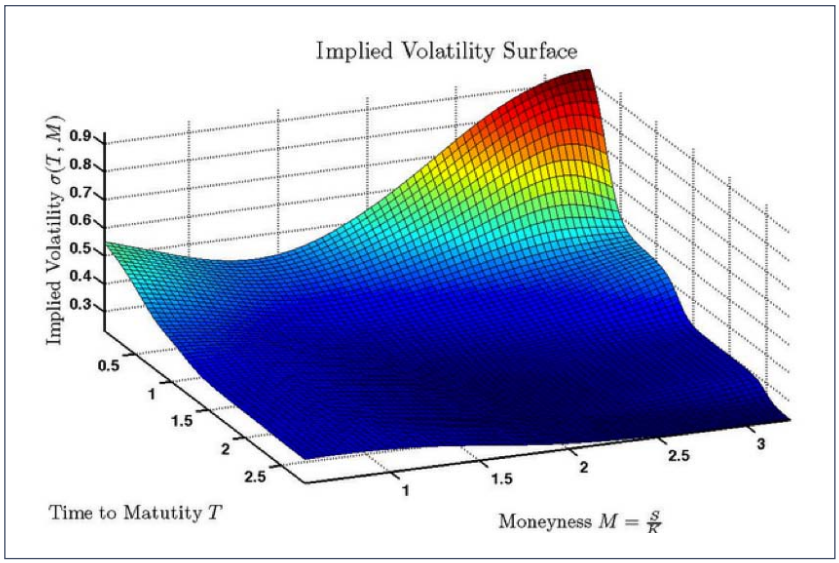


FIGURE 1 *Implied Volatility Surface*

To understand the movement in pricing volatility, the go-to picture to form a mind map has been the volatility surface. By drawing a surface with continuous relationships between strikes volatility per option class is connected. For a review here is a quick description of the volatility surface.

X-axis: Moneyness is the degree to which the option is in the money. As you move to the right on the graph the calls get more in the money. "1" represents at the money.

Y-axis: Time to maturity is the expiration cycle with the very near term options in the upper left hand side at ".5" and the most far term options in the foreground at "2.5".

Z-axis: Implied volatility for the option class increases in the upward direction and shows an individual value for each series.

Some observations on the volatility surface stand out that are applicable to most equity, ETF, and index classes.

First: Note the near term options show the greatest variation in implied volatility. The main reason for this is that vega (measure of a 1-point move in volatility for an option) is much smaller near term than far term.

Second: Volatility tends to decrease over time for the same strikes with the farther term options priced somewhere around 6–9 month average volatilities.

Think of this as holding the options class by the tail and the movement shifts up and down from the "average" you are holding on to.

Third: The difference in the implied volatility of strikes tends to decrease as time to expiration increases. This makes sense since as time to expiration increases, deltas of options tend toward 50.

You can say that all of these strikes and months are connected by the volatility surface that the market projects on each strike at any point in time. Since each strike is connected to one another, all the strikes move

together to a degree. My favorite way to describe this action is by unfolding a napkin and laying it flat on a table. In that case all of the strikes have the same volatility. Now pick up a part of the napkin and you build "skew" into the volatility surface and the relationships of the strikes start to take shape and are measurable. Market participants can bet on these relationships. Keep pulling up on one part of the napkin and the skew can change. Now keep the skew constant and lift up the surface that the napkin is on. That is now the implied volatility for the option class increasing together. When the whole surface moves down, the implied volatility of the option class decreases.

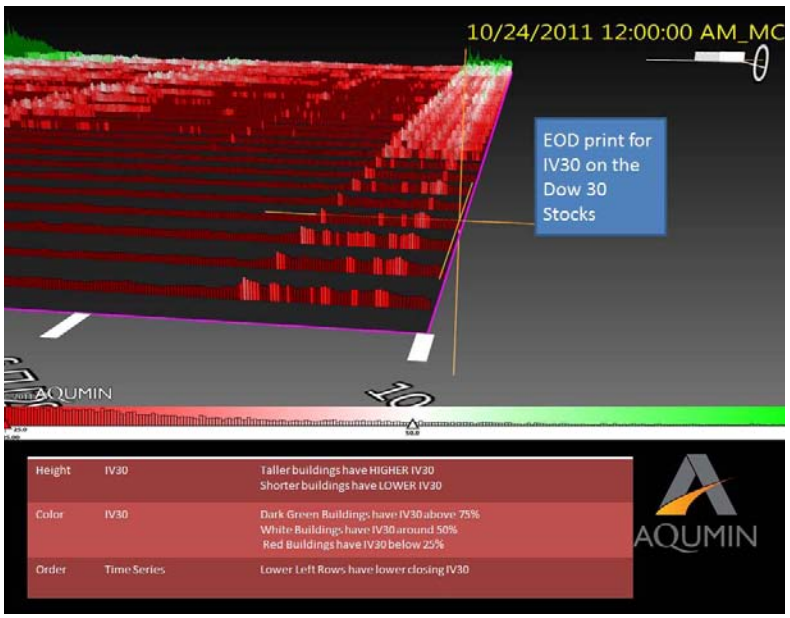


FIGURE 2

What you have now is two ways for implied volatility to move. The skew can change or the entire curve can move up or down. For the most part changes in skew measure more short term risks by changing the values of the out of the money options relative to the at the money options. More medium to long term risks shift the whole surface up and down as the market divines the future underlying movements. The concept of gravity in implied volatility is either future underlying movement pulling the market up or is the future expectation of diminished movement pulling the implied volatilities lower. This is betting on the "napkin" moving up or down.

Below is a selection of implied volatilities for the last 3 years. These multiple-time series charts show the 30-day implied volatility for each stock in the Dow Jones Industrial Average until late October this year. The colors and heights indicate different volatilities. The far left of the chart was the Financial Crisis of 2008 and we move across time to the right until today. Every time the charts change color from dark red and get taller, IV30 is going up.

Taller buildings have higher IV30.

Note the color bar for this multi-time series chart where dark red buildings show IV30 below 25%, white buildings are around 50%, and dark green buildings are greater than 75%.

The sample selected here is MCD where there was a short burst (less dark red) of elevated IV30 and then it came quickly down to more normal levels. You can see right up until the current crisis, IV30 was priced like not much was happening.

Now for the same chart from a different angle below you get a better sense of the movement in IV30. This is the "napkin" moving up and down with some velocity as the

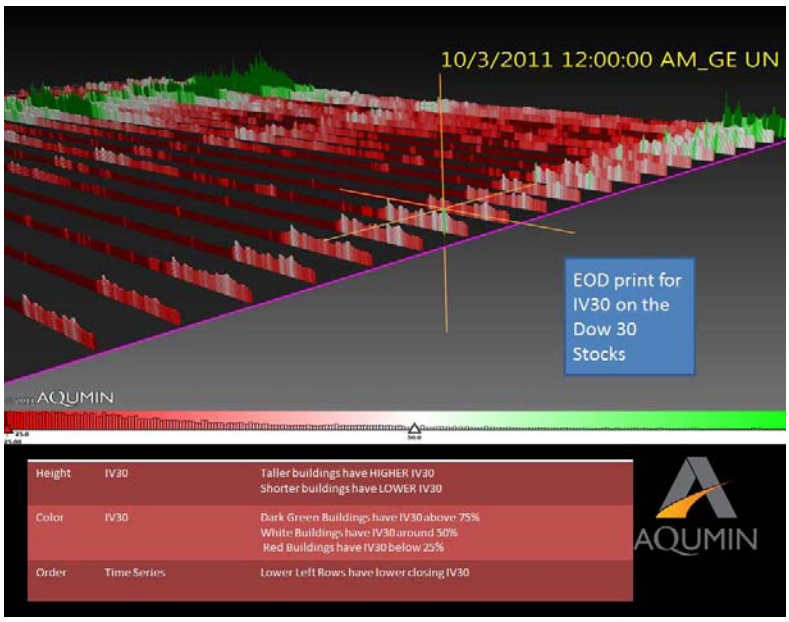


FIGURE 3

current upheaval is shown in color. The green stocks in the upper right hand corner are the financials. I highlighted GE here because it has a financial component and was acting more like a financial company than an industrial one in terms of IV30 for a bit. It has since settled down.

The point of these two multi-time series charts is that IV30 really did not do a great job of looking forward. IV30 can be wrong and that is what many professional volatility traders depend on. If it is fair to say that IV30 was a bit short leading into the crisis, it most likely will overshoot coming out of the crisis. Gravity quickly pulled it up and now here are some examples where I think option gravity pulled (or will pull) it back down.

As you can see from the charts above there has to be a reason for IV30 to stay at a particularly elevated level. For the past 3.5 months that reason has been the close and imminent collapse of the Euro, Euro Debt, and the removal of certain rouge Euro states from the Union. At times that movement has been more than justified. The constant worry created by the Euro issues pulls the implied volatility up, up, and away as the contracts re-price for the next event even if that is coming off of very high relative levels. No matter that the forces of underlying "gravity" are always pulling them back down. Now let's try to explain this with a larger view of the data.

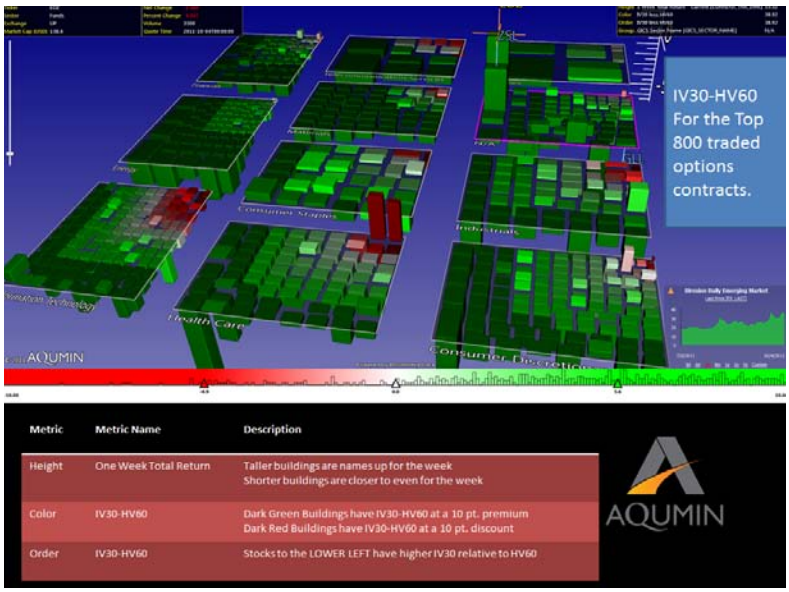
Take a look back to October 4, 2011. First let me describe the scene below. I am using the Aqumin 3D Landscape to organize data from the most active 800 issues to show 30-day implied volatility (IV30), 60-day historical volatility (HV60), and 1-week total return.

To describe the Aqumin 3D Landscape you need to understand what that represents. Obviously you notice the "city blocks" with the "buildings" in each block. Each block is a user defined grouping like a GICS Sector and each building is a security which in this case is an equity or ETF. The next landscape features are building colors, heights, sizes, and positions.

Height: (1-Week Total Return) This means a name that is sticking up is up for the week and a name that is down (under the Landscape Horizon) is down for the week.

Color: 30-day implied volatility less 60-day historical volatility shows that dark green buildings are at least a 10-point premium with IV30–HV60. Dark red buildings have the IV30 less HV60 at a discount.

Order: 30-day implied volatility less 60-day historical volatility has the buildings arranged so the names with the biggest volatility premium (dark green) is in the



FIGURES 4 & 5

lower left hand corner and the biggest discount is in the upper right hand corner (dark red).

As you can see from all the "green" in this picture on October 4, 2011, the market had built in a huge slice of forward movement. There was sufficient worry about the Euro Zone deal to price movement above what at the time was very high underlying volatility numbers. Once the deal was announced the pull of "gravity" drew the implied volatilities down to the HV60 and there was a general implosion of volatility from this high level.

What happens in a situation we had last week when things were actually the opposite even though the market is sitting on the decision of the Super Committee? We use the same setup for sector plates but now we want to look at the pricing action of last week. To review: Height, Color, and Order.

Note how most of the classes shown were trading under their HV60 (read red). In this case of about one week ago the market was signaling lower volatilities moving forward based on IV30. In the first screenshot before for October 4th there seemed to be serious doubt about the outcome of the negotiations in the Euro Zone. The almost all red (and therefore opposite) landscape here means there is less worry about the Super Committee's decision. Since November 14th the broader indicators have ticked up much less than the surrounding sentiment (SPX dropping) would indicate.

Gravity seems to want to pull up implied volatility for the week of the November 21st. At least that is what I see at first glance. Do you sell that on the heels of the Super Committee vote or is the market saying it already knows the result? It would appear the Euro Zone decision to do something was much more uncertain than the idea that Congress might actually do anything. In that case then we should expect lower HV60 in the near future and IV30 is showing the right way. Maybe the idea is that the spending cuts are now automatic and the election in 2012 will decide the how deep the cuts really go. At least until the bond market decides for us. **EM**

Visual Interface is AlphaVision for Excel by Aqumin LLC and is compatible with all data types. Data by Bloomberg.

Condor Options
EFFECTIVE STRATEGIES

Expiring Monthly Interview with Jared Woodard

Mark Sebastian

You may know Jared Woodard as a great writer and editor for Expiring Monthly. You may not know him for all of his other contributions. Between Condor Options, his books, and the new VXH strategy, Jared has more to offer than just being a great writer, as you will learn in the following pages.

Mark Sebastian for Expiring Monthly (EM): *Jared, for starters, how did you become interested in options?*

Jared Woodard (JW): I became interested in options for two reasons. When you are a young, naive trader looking for unrealistically large returns, the leverage in options gives you a great return on your money. Let's be honest. You can see dramatic swings in profit and loss by using that leverage. But that leverage quickly taught me some very worthwhile lessons about risk and reward.

The second reason, and the lasting one, is that the complexity of the product also allows you to express more precise views than you could by using stock or futures alone.

When I was starting out, I didn't have enough capital to take on massive stock positions that I was going to hold for perhaps ten or twenty years. Being able to sell options and express more carefully constructed views meant that I could exploit an edge—the same way that a value investor might gain an edge by analyzing a company. By exploiting that edge in a more precise way, I found that I could increase the returns available. That's what really attracted me to options—using capital more efficiently.

EM: *Talk about the transition from being an individual investor to becoming one of the top-rated bloggers on the Internet to one of the premier newsletter and trading services out there—Condor Options. Tell us about the creation of Condor Options.*

JW: I started Condor Options in 2007 because I was not satisfied with the level of options coverage that was available at the time, especially when it involved anything more complex than buying puts or calls and maybe buying a call spread or a put spread.

This was also about the time when it was really becoming more viable for individual traders to put on complex option spreads in economical ways. The cost of commissions had dropped a lot, the trading technology had improved a lot, and I thought

it would be a good time to start writing and talking about some of these more advanced option spreads and ways of analyzing volatility.

So that was really the idea behind the blog. There was a lack of really advanced coverage of options online, and I started the blog to meet that demand. That's also what led to the creation of the newsletter. People wanted information about options and especially about options strategies that are more advanced than conventional buying and selling of put and call options.

EM: *Condor Options has several services—Condor Options, Calendar Options, and the VIX Portfolio Hedging (VXH) strategy. Can you give just a brief explanation of Condor Options and Calendar Options, and then I want to ask you about the strategy for VXH.*

JW: The newsletters are a mix of education and strategy access. We're trying to teach members how to put on these kinds of trades and how to manage them. We also want to provide access at the same time to an independently profitable, valuable strategy. In the Condor Options letter, we do that by publishing mostly iron condor spreads along with some other trade ideas each month. We usually enter three or four positions in a given expiration cycle. One of the things we do that I haven't seen from any other service is that we also hedge the net portfolio delta of our positions over time in order to better control our risk and smooth out our profit/loss profile over time.

The Calendar Options service is similar in that the focus is on both education and strategy access. My colleague, Frank Caruthers, publishes this newsletter, which consists of calendar spreads, double calendars, and sometimes double diagonals. The core spreads are also used to capture the volatility premium, which is something both newsletters really focus on. Frank also publishes interesting butterfly hedging positions along with those calendar spreads.

The best way to approach market uncertainty is to have a mechanical, rules-based strategy in place that will protect you when you need it and will get out of the way when you don't.

EM: *So, are those two strategies basically based on a kind of volatility? Are they based on technical indicators? Just what is the foundation of those two strategies?*

JW: The Condor Options newsletter is purely based on the volatility environment. The core idea is the concept of the volatility risk premium, which I've written quite a lot about, and we are really trying to capture that premium in such a way that we can maximize our returns. It's one thing to say, "Here's a premium in the market, and I'm going to put on a trade month after month doing the same thing every single time." That approach is very inefficient. The real value of the strategy is that we try to capture that volatility risk premium in a much smarter way. The Calendar Options service is also focused on volatility, but Frank does a bit of technical analysis as well.

EM: *Let's talk about VXH hedging, which is one of the more unique strategies used today. There aren't many newsletter services that are designed around the concept of using part of your portfolio as a volatility hedge. Talk about how you created the VXH strategy—how you came up with*

the concept, how you constructed the portfolio, and then discuss some of the net returns and how effective the strategy has been.

JW: The genesis of this strategy was the financial crisis in 2008. As I was researching hedging strategies and diversification strategies in 2008 and 2009, I was really struck by the ineffectiveness of some of the most popular strategies, and I thought that there must be a better way. That's what really led me to put time into developing this approach. The core idea is that we take long positions in short-term volatility instruments—either VIX futures or the VXX ETN—positions that will profit when volatility increases. As many traders have learned in the past three years, if you put on a large long position in a volatility product, you can lose a lot of money fairly quickly—i.e. from the negative roll that is associated with VIX futures. What's important about what we are doing is that we vary our level of exposure to these products based upon several different input factors, with the net result that most of the time we'll have a small position in a normal market environment. The notional exposure might be as little as 1 or 2 percent of the overall value of the portfolio to be hedged. As markets become more volatile, as things get dicey, or there's some kind of crisis that emerges, we will be gradually scaling into larger and larger positions as time goes on. Then, as volatility explodes, we are getting longer and longer to capture that trend. It's been a really effective strategy so far. We offer the strategy both as a subscription service and also in managed accounts. The strategy has returned about 90 percent year to date.

EM: *Let's take July and August. As the July and August period started to develop, how did your strategy grow in percentage—just, for example, between July 9 and August 9?*

JW: We realized a lot of our gains in August. I think the July return was nominal.

EM: *What I'm interested in is that from July 9 to August 9 is really when it seems like a position allocation would have grown. So, for example, what kind of allocation percentage changes did you see in the June, July, and August period in your VXH strategy?*

JW: Good question. When there's a steady bull market and everything seems to be fine, we might have an allocation of almost nothing. At the turn of the year, our allocation on a scale of 0%–100% was at 2%, basically a minimal position. There was a little bit of volatility in late February and early March. By the middle of March, we were at a 15% level. Then the markets recovered somewhat and pulled that back down. The end of July and into August is when things really started to ramp up. By the turn of August, we were at a 20% allocation, which means the nominal value of our VXH position would be worth 20% of the portfolio we're hedging.

EM: *Oh, wow! OK, so that's a huge position.*

JW: Exactly, which means if I have a million dollar portfolio that means . . .

EM: *You've got $200,000 in . . .*

JW: Nominal VXH exposure. That doesn't mean that I have $200,000 in margin tied up in hedging, it means that the nominal value of the VIX futures I'm buying would be $200,000.

EM: *Who should be using this service?*

JW: Anybody who invests in financial markets—anybody with substantial long stock positions is really suited to this. If you have a lot of fixed income or maybe a lot of gold, then the best thing to do, at least the way I would use the VXH strategy, would be to just hedge the portion of the portfolio that is long stock.

EM: *Is the VXH position ramping down, ramping up, or holding steady?*

It's one thing to say, "Here's a **premium** in the market, and I'm going to put on a trade month after month doing the same thing **every single time**." That approach is very **inefficient**.

It's an interesting insight into the market right now.

JW: Sure. Our allocation got above 30% back in August. And then through September, the algorithm pulled back on the size of our position pretty quickly, so now we're actually down at 3%.

EM: *You're back down at 3%?*

JW: Yes. It illustrates the responsiveness of the sizing algorithm. When the market really gives a . . . I don't want to call it an all-clear signal in price terms, but in the sense that the turmoil has abated, the volatility is falling, it's not exploding anymore, we pull back relatively quickly. One way to think about it is that it allows us to take profits on the profitable hedging trades that we've made. If you want to take those profits and reallocate that cash back to your core portfolio to offset some of those losses on long stock positions or whatever you want to do with it, you can. That's really one of the nice features. If the market breaks down again from here, that allocation, that position size, could turn back around. But, right now, we're back at a really small position size.

If you think about the very long term volatility cycle, you know the VIX might be at 15% for years, maybe bouncing up to 20% at times. We can also have times when it explodes to 30% or 40% or even higher. And what happens after that? Historically, the explosions will go through a process of winding back down, when volatility reverts back to a range of 10%–20%. So you don't want to have a massive long position during that quieting down period or you're going to take on some heavy costs. I really think that's one of the valuable things about this strategy. It makes a profit when volatility explodes, but pulls back during the recovery in order to avoid high hedging costs.

EM: *What inspired you to write the two e-books, and why should somebody read them?*

JW: *Options and the Volatility Risk Premium* is an effort to collect and summarize some of the best academic research on options volatility over the last decade or so. Many professors and people involved in the academic aspect of finance have noticed what options traders have known for a long time—that much of the time options tend to be just a little bit overpriced with respect to the actual volatility in the underlying assets. This concept of the volatility risk premium is capturing the idea that people who are buying options are paying a little bit of an extra premium on top of whatever they would pay under a really perfect implementation of a pricing model. In the essay that I wrote, I really just wanted to collect and synthesize the results of a lot of this academic research to explain what the volatility risk premium is and that it's present not just in options on stocks but in just about every asset you can think of. If you're an options trader and you're selling options and you sit and think about why these selling strategies are profitable, my essay explains why this is the case.

EM: *What about* Iron Condor Spread Strategies*?*

JW: In that e-book, I tried to explain how I look at iron condors and how I trade them in terms of time frame and underlying assets. Then I do a little bit of historical back testing on a few different variations of iron condor spreads. For each spread variation, we assume that we're putting on the same spread month after month or quarter after quarter, and we look at what the historical returns have looked like as a kind of baseline approach for thinking about when iron condors are profitable and when they aren't. It's not a suggestion for somebody to "put on this strategy and you are set for life." It's more of a way of thinking about how you would structure these spreads and when you would put them on. I don't know of anyone who has actually done any extensive back testing on iron condors before.

EM: *Are these e-books intended for beginner, intermediate, or high-end traders?*

JW: I think both books are suitable for somebody who is intermediate or advanced. You need to have a little bit of experience trading options to follow them.

EM: *OK, well what's next for Jared Woodard, Condor Options, and the VXH?*

JW: I'm trying to get the word out about VXH. I know many people are sick and tired of hearing about black swans, crises, and pessimism. I totally sympathize with their feelings, and I think the best way to hedge is not to follow, you know, every zig and zag of the market. I think the best way to approach market uncertainty is to have a mechanical, rules-based strategy in place that will protect you when you need it and will get out of the way when you don't. That's really what I've tried to put together.

We're also launching a new strategy in the next few months that trades vertical spreads on ETFs. It's the most directionally-oriented, speculative thing I've done. But I've actually been publishing that strategy for free for a while now for our members, and it's done phenomenally well, so we're going to launch that. And then I think in 2012, I'll probably be writing another e-book about different approaches to delta hedging. There are many different strategies for delta hedging out there, and I'm going to look at which ones have provided the best protection.

EM: *Thanks, Jared.* EM

Huge Premium for Equity Market
Variance Swaps?

Steve LeCompte, Guest Contributor

IS SELLING INSURANCE against stock market volatility reliably profitable? In the December 2010 version of his paper entitled "Variance Trading and Market Price of Variance Risk," Oleg Bondarenko examines payoffs from synthesized variance swap contracts, derived from the difference between realized and contract-specified variances over a given interval, during a 20-years period. He constructs the hypothetical swap contracts from observed prices of S&P 500 Index futures and options on these futures. Using daily prices for these futures and options from January 1990 through December 2009, he finds that:

- Over the entire sample period, the U.S. stock market gross variance risk premium (average variance swap contract payoff) is -26.3% per month, economically very large compared to the market risk premium of 0.38% per month.
- Systematically selling hypothetical S&P 500 Index variance swap contracts produces a gross monthly Sharpe ratio of 0.42, about five (1.75) times larger than the gross Sharpe ratio for the index (for systematically selling at-the-money put options on S&P 500 Index futures). Hedging and optimization strategies boost this Sharpe ratio to 0.44-0.45.
- The distribution of the variance swap contract returns is highly non-normal, exhibiting substantial positive skewness (a few very large positive payoffs, as shown in the chart below).
- Neither the commonly used market, size and book-to-market risk factors nor S&P 500 Index futures option returns completely explain the variance risk premium. There is evidence that variance risk is related to proxies for credit, liquidity and correlation risks.

The following charts, taken from the paper, relate the monthly hypothetical S&P 500 Index variance swap contract returns (upper chart) to realized and swap contract-implied index volatilities (lower chart) during 1990 through 2009.

The upper chart shows that monthly variance swap contract returns (blue columns) are predominantly negative, but punctuated by occasional very large positive returns. The dashed red line is the sample mean.

The lower chart shows that the swap contract-implied index volatility (red line) is generally higher than realized volatility (blue columns). When the reverse is true (such as August 1990, October 1997, August 1998, September 2001, July 2002, September 2008 and October 2008), swap contracts exhibit positive payoffs.

In other words, investors systematically selling S&P 500 Index variance swap contracts earn a fairly steady stream of moderate monthly returns with occasional large losses.

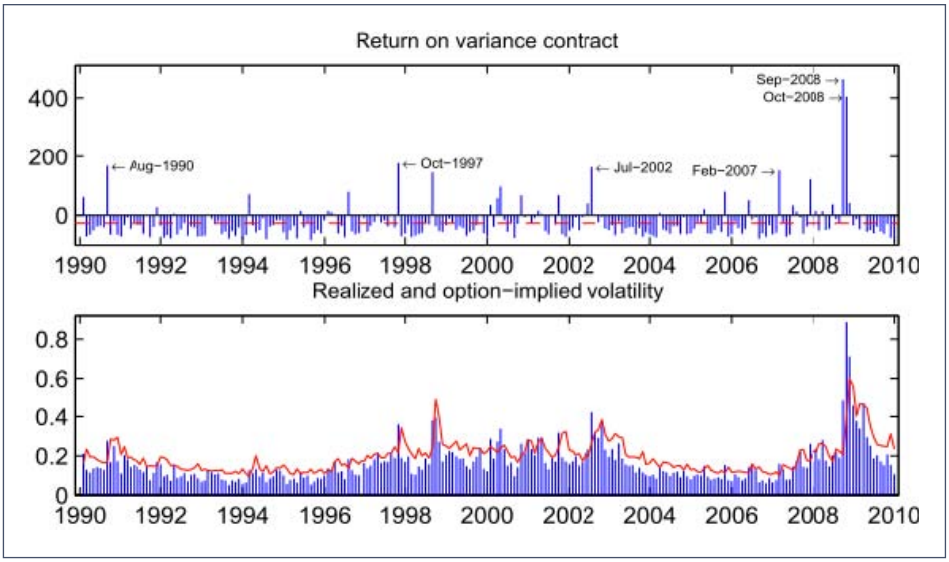


FIGURE 1

	PUTS		
	Mean	SD	*SR*
0.96	-60.21	129.27	-0.47
0.98	-44.29	130.56	-0.34
1.00	-28.67	120.72	-0.24
1.02	-18.83	99.45	-0.19
1.04	-12.06	78.82	-0.15

	CALLS		
	Mean	SD	*SR*
0.96	-0.97	66.77	-0.01
0.98	-3.22	84.82	-0.04
1.00	-6.33	111.02	-0.06
1.02	-17.80	147.31	-0.12
1.04	-48.84	170.44	-0.29

TABLES 1 & 2

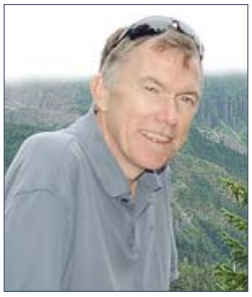
In summary, *evidence indicates that investors may be able to generate strong abnormal returns by systematically selling variance swap contracts because others are willing to pay a high premium for protection against variation in volatility.*

See "Is 40% Per Month Shorting Index Puts a Fair Return?" for a summary of the author's prior work on the premium from selling put options on S&P 500 Index futures. The current paper updates return calculations for various options on S&P 500 Index futures through 2009, as follows, where the first column indicates option moneyness, the second column is the average monthly return in percent, the third column is the standard deviation (SD) of monthly returns in percent and the fourth column is monthly Sharpe ratio (SR) for systematically buying puts and calls over the entire 1990–2009 sample period. See the discussion of the validity of profitability estimates in "Is 40% Per Month Shorting Index Puts a Fair Return?".

Cautions regarding findings include:

- Profitability calculations seem not to account for capital reserves necessary to account for varying margin requirements while holding (or shorting) synthetic variance swaps. These reserves are likely substantial, materially lowering reported returns. For example, investors allocating all capital to selling variance swap contracts would have gone bust in August 1990, October 1997, August 1998, September 2001, July 2002, September 2008 and October 2008. The last two events would have been especially traumatic. More prudent investors holding sufficient capital reserves to protect against such events would earn much lower than reported returns.
- Profitability calculations appear to be gross of trading frictions involved in constructing synthetic variance swap contracts. Including reasonable trading frictions would reduce reported returns.
- As described in the paper, the distribution of returns from selling variance swaps is non-normal, such that "normal" interpretations of statistics (mean monthly return, standard deviation of monthly returns and Sharpe ratio) lose meaning as future performance indicators. A few future events (like September and October 2008) might materially change these statistics for the entire distribution.

Hypothetical variance swap contracts convey no means for market adaptation. In other words, it seems plausible that trading of actual variance swap contracts (rather than an abstract, retrospective scenario) may have affected the variance risk premium and the behavior of variance itself. EM



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Follow Up:
Trading Weighted Vega

Mark Sebastian

WHILE WE HAVE a full Follow That Trade for this month, I thought it important that we keep our promise and carry forward the FTT from last month. In its result traders will see how weighted vega works to the traders advantage in how the trade performs and in how the trade itself changes on us. Recall that at the onset of the trade we had a trade that looked like this:

NOV <37>						DEC <64>					
MktPr	MIV	Trade	Ex.Pos	Vega	Delta	MktPr	MIV	Trade	Ex.Pos	Vega	Delta
40.75	26.9%		+10	76.1	44.6	54.50	27.2%		-10	100	45.2

OptionVue6

FIGURE 1

The month bought was cheaper than the next month out. This was one of the major reasons we entered the trade. Combined with a market that we believed to be bottoming out, we entered our time spread. We ended up exiting the trade on October 27th, which also happened to be the high near the high of the market since the market dive in August of 2011. There are few important things traders should notice in the result of this short time spread. First, notice the flip in volatilities:

MktPr	MIV	Trade	Ex.Pos	Vega	Delta	MktPr	MIV	Trade	Ex.Pos	Vega	Delta
89.75	28.2%		+10	40.1	85.6	100.00	26.8%		-10	74.0	79.9

OptionVue6

FIGURE 2

This is a result of two things; first, it is a function of the November 1200s being deeper out-of-the-money (and thus a further out-of-the-money put) than the December 1200s. Any time an option acts more like an OTM put vs. an ATM straddle the option see an incremental increase in implied volatility. Even in the case of falling option volatility (something we clearly saw during this period of time).

More importantly it is a function of how the volatility actually fell in December, and quite significantly. While one way to see this function is to look at implied volatility. Perhaps an easier way to see the volatility movement is to track the actual graph of the trade itself. At the beginning of our trade the Short spread had, according to the graph, a max loss of about 11,500.00. With implied volatility of December in so sharply, notice the maximum loss of the graph at the close of the trade.

Options	NOV <23>						DEC <50>					
1245 calls	MktPr	MIV	Trade	Ex.Pos	Vega	Delta	MktPr	MIV	Trade	Ex.Pos	Vega	Delta
1240 calls	56.00	24.9%			55.0	74.1	69.00	24.4%			87.2	70.6
1235 calls	60.00	25.2%			53.2	75.9	72.75	24.8%			85.7	72.0
1230 calls	64.25	25.6%			51.4	77.6	77.00	25.3%			84.2	73.3
1225 calls	67.75	25.5%			49.5	79.2	80.25	25.3%			82.6	74.5
1220 calls	72.75	26.8%			47.6	80.6	84.25	25.7%			81.0	75.7
1215 calls	76.50	26.7%			45.7	82.0	88.25	26.0%			79.3	76.9
1210 calls	80.75	27.1%			43.8	83.3	92.75	26.6%			77.5	78.0
1205 calls	84.75	27.1%			41.9	84.5	96.25	26.7%			75.8	79.0
1200 calls	89.75	28.2%		+10	40.1	85.6	100.00	26.8%		-10	74.0	80.0
1195 calls	93.75				38.3	86.6	104.25	27.2%			72.2	81.0
1190 calls	98.25				36.5	87.6	108.25	27.4%			70.4	81.9

OptionVue6

FIGURE 3

The maximum loss is now less than 10,000 dollars. The next return on our trade ends up being over 17% based on risk, or around 14% if we looked at our original graph. The trade ends up working out great. However, it also raises a very important point that many retail and even institutional traders fail to realize about trading one month against another. The relationship is sliding, on both ends of the trade.

A long calendar can see its 'tent' become deeper dug. This is a primary reason that buying a calendar every month with 30 days to expire is such a silly concept, it completely ignores the fact that these relationships are constantly in flux. It is important to not only be aware of global implied volatility, but as we discussed last month, the relationship between the months. When I enter a long calendar even though I am hoping overall IV increases, I have found that most of my luck with these trades has been dependent on the relationship. In a sinking market the tent might expand and work in my favor, but even that turns into problems as the front month short is so sensitive to realized volatility.

A short calendar, like the long calendar can also be in flux. While it is true that we sold this spread when the matrix were somewhat favorable, if the market had taken a true dive this trade would NOT have gone as predicted. Typically when I trade a short calendar I expect the trade to line up as follows: when I am right: If the market rallies, the short calendar is going to make a killing. The key is to ride the trade long enough and not over hedge my deltas. If I am trying to pick a top and the market follows my prediction, I am going to be in the trade for less

(continued on page 28)

Delta-Hedging and Path Dependency

Jared Woodard

ON SEPTEMBER 28, we sold a SINA November 85 call to capture what looked like an elevated volatility premium: the option was trading at about 93%, but historical volatility over the same period was just 80%, and there weren't any obvious upcoming news catalysts to justify that gap. In order to make it a pure volatility trade, we needed to remove the delta exposure of the position—that is, we didn't want to be making a bet about the future stock price in addition to our volatility forecast. So we followed a delta hedging regime calling for weekly rebalancing.

FIGURE 1 *SINA 60-Day IV and HV*

Two days later, the stock had fallen and was 20% lower than when the trade was initiated. The position delta (short call + long stock) was 21, so we sold 21 of our shares at the market price to rebalance. By the following Friday, the stock had recovered all of its losses and then some, trading at $90.10 on the morning of October 14th, so we bought 24 shares at that price to bring the net directional exposure to zero once again. Table 1 shows the full set of hedging trades taken, including the trade date, quantity, and stock price; I have marked those dates on the price chart at Figure 1.

On the morning of the Friday before November expiration, SINA was trading well below our short call strike, so we sold the remaining shares

FIGURE 2 *SINA Price Chart*

and allowed the call to expire worthless. The profit on the short call was $1,308, or the full premium received. On the share side, the total return was -$1,099. Returns are net of commissions and slippage. The net gain of $209 on the trade is small in comparison to the amount of capital and/or margin required to enter and maintain the position.

Date	Shares	Price
9/28/2011	60	87.13
9/30/2011	-21	69.41
10/14/2011	24	90.10
10/21/2011	-10	83.69
10/28/2011	10	89.30
11/11/2011	-39	79.30
11/18/2011	-24	74.91

Condor Options

TABLE 1 *SINA Delta Hedging Trades*

However, the most interesting question, to me, is whether we should have expected the trade to be profitable at all. The 85 call we sold was priced, at the time, at an implied volatility of 93%. By selling that call and eliminating directional price exposure via delta hedging, we were explicitly taking the position that the call was overpriced, i.e. that the annualized stock volatility between late September and November options expiration would be less than 93%. Was it?

The answer depends on how you measure volatility. The most widely-followed estimate of historical volatility looks at daily returns. If we take the daily closing prices of SINA for the period when the trade was open (37 trading days), we get an annualized rate of 87%. So it looks like our volatility forecast was correct, and that the profits we achieved were to be expected.

But that's not the only or even the best reflection of the volatility we care about—the volatility that drives profits and losses for the trade. What matters to the profitability of the position is not just the estimate based on daily prices, but also the change in the price of the stock at each moment of transaction: if I have committed in advance to hedge a position once each week, as far as the P/L of the hedging positions are concerned, it doesn't matter what happens to the price on days where no transaction takes place. If I know I'm going to hedge a position five days from now and the underlying is currently at $100, it doesn't matter whether the stock rises $1 each day or $5 on one day, because if the stock is $5 higher on the day when a transaction occurs, that's what generates a profit or loss. (The wrinkle here is that the delta of the option we're hedging will remain sensitive to changes in IV, not just to stock HV, which will affect the size of our hedging trades.)

If we look exclusively at stock prices on days when hedging trades occurred, the weekly historical volatility that determined the hedging P/L was more like 200%. While the number of data points for that estimate is obviously very low, the general point is that even though our volatility forecast was correct, the high HV of the underlying that occurred from the perspective of our hedging trades meant we saw smaller gains—in this case, delta hedging more frequently or with a level—rather than time-based regime would have generated better returns. The profitability of a delta-hedged volatility trade is determined not just by the overall accuracy of the volatility forecast, but also by the path that the underlying asset follows during the life of the trade: these trades are path-dependent. EM

A Review of the Changes in Exchanges in 2011

Mark Sebastian

LAST DECEMBER the feature column was a piece called 'Changes in Exchanges.' Interestingly, this was written just before so much changed among the options exchanges. In the last year we have seen announcements of new options exchanges, mergers between major exchanges, and massive product roll outs. Let's review what happened, talk about why, and I'll share a few of my thoughts along the way.

In the last year we have seen announcements of **new options exchanges,** mergers between major exchanges, and **massive product** roll outs.

Deutche Borse and NYSE EuroNext announced a merger. While many were lamenting that the NYSE, a symbol of American dominance, was going to be a majority owned foreign asset, the NYSE itself was likely not a major reason for the buyout. Stocks have become such a competitive game with the majority of the 'order flow' being done electronically, not via open outcry on the NYSE. The NYSE has seen its stock volume decrease on almost a linear downward path since the ECNs first started listing NYSE stocks.

What Deutche Borse was really after was as much the option exchanges that NYSE owned as the actual trading floor. While the AMEX appeared to be a thing of the past for a period of time, it has made an incredible turnaround and is now holding its own in the equity markets against the likes of the CBOE and PHLX. AMEX has been recapitalized with some major liquidity providing firms have a stake. At the same time the electronic trading system has been totally revamped. The NYSE ARCA exchange (interestingly located in San Francisco) has a successful maker-taker model and continues to thrive (this would be a huge surprise to those who traded options in 2002). Meanwhile DB's own holding the ISE appears to be floundering under the weight of an antiquated internal system and a sinking volume numbers.

I will be interested to see where the ISE ends up. It would be an interesting investment for either the CME or the ICE; however, I think it will likely end up being bought by a dark horse. Personally, I would be interested to see it get picked up by the CBOE (the big player in options, but a small player in the big picture). I would love it if CBOE did buy them; because it might signal further delay in the CBOE's impending buyout by one of the exchanges (I continue to believe it will be the CME).

To further prove the point, a 10th exchange is in the works and will likely be launched in earth 2012, right around the time that the NYSE-DB merger goes through. The Miami International Stock Exchange is going to follow ARCA, NASDAQ, and C2 into the maker-taker model. The reason for entry is the following: little investment, ease of entry, and lack of risk. I am surprised it took the folks in Miami this long to get into the maker-taker model. No risk while taking a vig from people who actually work seems like something that would come out of Miami (or Vegas for that matter . . . and well, Chicago and New York too, I guess). The maker-taker model just begs for liquidity provider abuse, the continued existence of these exchanges shows how little the SEC understands the brokerage business. The term 'smart router' or 'best router' simply points trades where the broker will get the best payment, not the best fill.

The one good thing that has happened over the last year has been the continued boon of new financial products. While many are terribly built, some of these vehicles are really well constructed. VIX products seem to be getting their act together. The NADEX exchange seems like it has some really great opportunities for traders, even the old cogs like CME and CBOE are trying to list products that are new and unique. The problem many exchanges are feeling is push back from brokers. Things like the exchange-listed variance swaps will never succeed while the major banks get paid so handsomely to put these things on OTC. However, it is nice for the general public to know where these things are actually trading.

In the end I think the last year has shown me two very important things. Given the chance to take its time, study something and defend the general public, or go with the status quo, federal regulators will always go with the later. I am not sure if they are incompetent, they don't care, or are in the pockets of major financial firms (all three, I would guess) but the regulators clearly have no idea what they are doing.

On the other end with the numbers of new financial products, ETFs and ETNs that are being listed there are tremendous opportunities for investors. They just need to take the time to do their research; done properly traders have more opportunity than they ever have in my opinion. EM

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than 3 days as I am only trying to catch the relationship between front and back month vols.

When I am wrong, if the market moves the opposite way I am expecting, I am probably going to have a very tough time getting out of the trade break even. Yes, the long gamma might feel nice, but if the market really takes a dive the 'credit' on the trade can really go in a trader's face. It will do better than a long calendar, but not by as much as many traders face.

Hopefully in watching the development of the short calendar above, traders can fully realize how powerful and complex implied volatility is. The vega of an option might be a raw number, but if a trader doesn't take the time to learn how trades move, it is likely his or her account will be cooked. EM