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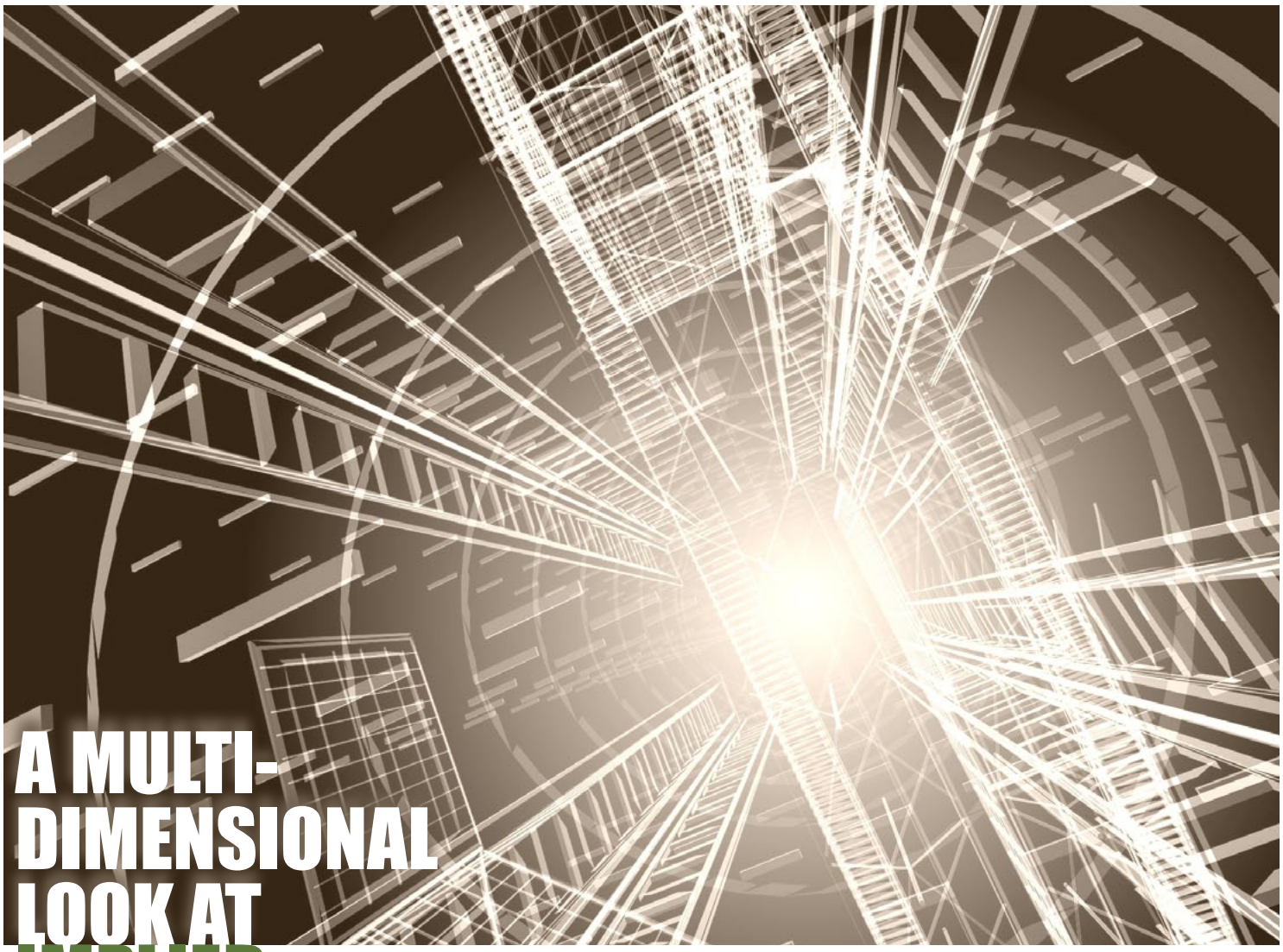
EXPIRING MONTHLY

THE OPTION TRADERS JOURNAL



A MULTI-DIMENSIONAL LOOK AT IMPLIED VOLATILITY

AN INTERVIEW WITH
Jeff Augen

Evaluating Volatility Across Asset Classes

EXPIRING MONTHLY
THE OPTION TRADERS JOURNAL

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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.

His first book, *Trading with the VIX*, is scheduled to be published by John Wiley & Sons in 2011.

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.

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.

Mark Wolfinger

Mark grew up in Brooklyn and holds a BS degree from Brooklyn College and a PhD (chemistry) from Northwestern University. After working as a research chemist for Monsanto Company, in December 1976 he packed his belongings, left a career as a research chemist behind, and headed to Chicago to become a market maker on the trading floor of the Chicago Board Options Exchange (CBOE).

Over the next 23 years, he worked primarily as a market maker, and also held a variety of positions in the industry.

After leaving the CBOE (2000), he became an options educator and stresses conservative methods, as detailed in his newest book, *The Rookie's Guide to Options*.

He currently resides in Evanston IL with his life-partner, Penny.

Editor's Notes

Bill Luby

This month's options expiration cycle was a reminder that big moves in volatility most often come from what Donald Rumsfeld memorably labeled the "unknown unknowns." At the beginning of the year, I can fairly safely say that very few of us were thinking about the implications of the spread of revolutionary zeal across the Middle East and North Africa, nor were we contemplating the threats posed by tsunamis and nuclear disasters in Japan. Yet here we are, less than one quarter into the new year and the investment landscape bears little resemblance to what it looked like just two options expiration cycles ago.

Not coincidentally, volatility plays a central role in this issue of *Expiring Monthly*. The feature article, penned by Michael McCarty, is a multi-dimensional analysis of implied volatility which draws upon the VIX Term Structure and SKEW indices recently launched by the CBOE. Also wearing his volatility hat, Jared Woodard looks at the predictive value of volatility skews, making use of the differences in the calculation methodologies for VIX and VXO as part of his analysis. This month's interview finds Mark Sebastian sitting down with Jeff Augen, whose books have shed new light on the idiosyncrasies of volatility around earnings and at expiration. My contribution this month is in the realm of evaluating volatility across multiple asset classes.

This issue, which also marks the beginning of the second year of publication for *Expiring Monthly*, includes a wide range of contributions from guest authors. In a return engagement, Brian Overby has the second installment of his series on early exercise, this time around delving into the math of carrying costs. Also, Dan Passarelli sheds some much needed light on the role of options as hedging instruments, while Tyler Craig debates Mark Wolfinger on the value of trading options with only one strategy.

Elsewhere, Mark Sebastian ruminates on the role of probabilities in trading; the EM team answers reader questions in Ask the Xperts; and Mark Wolfinger authors the Follow That Trade column, which combines an iron condor with a long strangle and turns out to be an excellent lesson in risk management.

Last but certainly not least, Jared wraps things up in the Back Page with an attempt to put the recent events in the Middle East and North Africa in a broader social and historical context.

As always, readers are encouraged to send questions and comments to editor@expiringmonthly.com.

Have a good expiration cycle,

Bill Luby
Contributing Editor

Ask the Xperts

The Expiring Monthly Editors

***Q:** I sold a put spread. Thus, I own one put option and am short another. If my short option is in the money when expiration arrives, would my neutral position keep the Options Clearing from assigning to me?*

—J

A: Hello J, No. This is one of the most basic concepts of the options world. You are short an ITM option and its owner is going to exercise and you will be assigned an exercise notice.

It does not matter whether you own any other positions. Think of it this way: Suppose you owned an option that is ITM by three points and know it will be automatically exercised at expiration.

What would you say if you were told, "Sorry, but you may not exercise. The person to whom we chose to assign an exercise notice owns an OTM put and is protected from being assigned. Your option, which was worth $300, is now worthless. Sorry, there is nothing we can do about this."

Would you accept that? The answer is obvious.

That's why each single option is treated as if it were in vacuum. If you own another put option that is ITM, there is still no cancellation. You exercise the long. You are assigned on the short. You may have no net position, but you still made two transactions.

—Mark W.

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***Q:** My broker tells me that my IRA account requires all positions to have "defined risk," which by their definition rules out short stock or synthetic combos that mimic short stock, as well as naked calls. So, my question is whether you have any recommendations for alternative methods to add negative delta for delta hedging purposes besides the usual combo?*

—K. B.

A: For short-term delta-hedging trades, inverse ETFs should be good candidates. If you have broad market exposure, vehicles like the ProShares Short S&P500 ETF (SH) and the double inverse version (SDS) can get you negative market exposure without violating retirement account restrictions. SH seeks to duplicate the inverse of the SPY return on a daily basis. Proshares has listed products on most other major asset classes as well.

Because these inverse products are rebalanced daily, they aren't really suitable for longer holding periods, but they are effective for short-term hedging purposes. And using products like these is certainly better than leaving unwanted exposure unhedged.

If you want to reduce the positive delta exposure of an option position that has a somewhat longer horizon, another idea is to sell OTM call vertical spreads with a matching duration. If the underlying reverses, making the hedge no longer necessary, you can buy the vertical spread to close just as you would close a short stock position.

—Jared

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***Q:** Mark, I have heard you on several occasions say that calendars do not do well when volatility is low. Yet I have also heard you say that calendars want IV to increase. Can you please clarify?*

—John

A: John, the two statements are not mutually exclusive; the key here is the term structure of the months involved in a calendar. I have stated that calendars do not perform well when vol is low because the term structure will get out of whack. When the term structure is out of whack, one can be selling and buying vols that do not correlate as well as one might expect. For instance

if I sell really cheap vol in the front month and then buy relatively expensive vol in the next month out, if IV increases, my calendar may not perform well. That said, if the term structure is pretty normal, when IV increases, generally long time spreads will perform okay, assuming they do not get beat by gamma.

—Mark S.

Q: Bill, I know that the March VXX calls expire Friday . . . but do they expire pre-market or at the close? I ask because I'm short some March 36 calls as of today and I want to roll into April if they're still in the money at expiration. I'd prefer to wait until Friday if that's an option . . . but I'm not sure if they will trade Friday (allowing me to roll near close if I want to) or whether Thursday is the last day of trading. Thanks!

—Ross

A: Hi Ross, VXX calls can be traded throughout the day on Friday, just like your typical equity options. Technically these expire on Saturday, but Friday is the last trading day and your last chance to roll them.

To help keep things straight, I like to think in terms of three different types of VIX options, each with different settlement and last trade characteristics:

1. the standard monthly VIX options expire on a Wednesday at the open with a special opening quotation and are last traded on Tuesdays

2. VXX (also VXZ, VIXY and VXM) options can be traded up to Friday's close and expire on Saturdays

3. VIX weekly options expire on Fridays and can be traded up through Friday's close. These options settle into VIX futures and are therefore also known as VIX futures weekly options

If you have any expiration questions, you may wish to consult the OIC expiration calendar, the contract specifications as posted on the appropriate exchange (VIX options, VXX options, VIX futures weekly options, etc.) or consult with your broker.

Getting back to your current position, depending on who your broker is, the size of your position, available margin, etc. you might be forced by your broker to close out or roll that position one or two hours prior to the end of the session. For this reason, it is always a good idea to check with your broker to make sure you understand any internal deadlines they have relative to position risk management and how that might affect your positions. The last thing you want is to be forced to take action on short notice according to a broker's deadline you were unaware of—or have the broker close out the position without your knowledge.

Good trading,

—Bill

Looking Over the Hedges

Dan Passarelli, guest contributor

Options are not just for gambling (though, sadly, that is all some people use them for). Options have an economic purpose in the grand scheme of things: *hedging*. They can be used to protect a stock, ETF, index or other tradable asset as a veritable insurance policy. The problem is that investors often don't use options correctly and the options end up being more trouble than they are worth.

When in the right hands, options can be a powerful tool to hedge risk. But when in the wrong hands, they can be a sure-fire recipe for disaster. Let's review how options are best applied for hedging investment risk.

Throw Away Your Hockey Stick

In basic options education classes or books, traders learn to use at-expiration profit and loss diagrams, often called simply *P&(L) diagrams*. These diagrams outline the potential risk and reward of an option position if it is held until expiration. For example, if a trader owns 100 shares of a stock at $50 and buys one at-the-money put at $4 he could create the P&(L) diagram below (Figure 1).

This strategy is called a protective put. The premise behind the protective put is that the investor is guaranteed to sell at a fixed price (the strike price). For example, here the investor bought a 50-strike put. If the stock falls below $50, the investor has the right to sell the stock at $50 a share—*no matter what*. Therefore, the maximum loss is the $4 spent on the put—the cost of insurance.

As indicated by this diagram, the protective put effectively allows an investor to continue on with upside potential if the stock rallies above $50. But it puts a floor on potential losses below that point. This risk can be clearly understood in this easy to interpret graph. Traders have coined the term "hockey stick" to describe P&(L) diagrams like this as a result of the shape of the risk profile line.

But the problem is with what is not shown here. This hockey stick can easily mislead novice traders into thinking protective puts are great protection that should be used frequently to guard against adverse moves. What the hockey stick doesn't do a good job of explaining are the cost implications, in terms of long-run absolute cost and short-term incremental costs.

The Cost of Protection

At the time that this article is being written, BIDU is at about $120 a share and a one-month, at-the-money put goes for around $5. Imagine that a trader who thinks of option risk in terms of these simplistic diagrams decides he'll buy a protective put month after month to protect against possible losses in BIDU. The problem is that in just 24 months, the trader will have spent so much on puts that it would cost him $120 ($5 times 24 months)! That represents 100 percent of the current stock value that the investor

Market Taker Mentoring

FIGURE 1 *Protective Put P&(L) Diagram*

is supposedly protecting. Surely, this is not protection; it is a slow death.

Timing is Everything

Another problem (and another factor not shown on the P&(L) diagram) is timing. If a trader owns 100 shares of stock and one put, the trader is only perfectly hedged at expiration, at which point the put will either become short stock or will expire. Before expiration, the put will only increase in value a fraction of what the stock loses in the event of falling prices. Options change in value according to their *delta*. Delta is the rate of change of an option's value relative to a change in the underlying asset. So if a put has a 0.50 delta, it will gain 50 cents if the stock falls $1.

The BIDU puts in this example have a delta of 0.47. That means that for each dollar BIDU falls, the put only gains $0.47. Thus, for small moves in the short-term the married put is only a partial hedge. Only at expiration, or if there is a very big drop in the underlying, will the delta change to 1.00, becoming a perfect one-to-one hedge.

So, what is an investor to do? For one, be selective. Certainly there are times when investors perceive the market to be of greater risk than other times. It is then, when traders should consider buying temporary protection—*just until they feel like they are out of the woods*. Secondly, use delta to create a more accurate hedge.

Delta-Ratio Hedging

In the case of the BIDU example, if a single put hedges about half the stock (i.e., 47 cents on the dollar), a more exact hedge would be to buy two puts. In that case, the hedge is 94 cents on the dollar (47 times two). On the one hand, it appears that the cost of the trade is double, because there are two puts. But I would argue that it will likely end up being much less.

Why? Because this is intended to be a short-term trade. The puts should be held only until the feared risk event has passed. Then, the investor can sell the puts for residual value instead of writing off the entire value as a "cost of insurance."

Delta-ratioed hedging is much more precise, and provides much more protection. But investors using this technique should be aware that delta works both ways. If the stock gains, say, a dollar, the two-put hedge will *lose* 94 cents, offsetting the gain on the stock. In that sense, it is a true hedge as opposed to a rather expensive insurance policy like the protective put play. EM

Dan Passarelli is the author of the book Trading Option Greeks *and founder of Market Taker Mentoring LLC™. Market Taker Mentoring provides personalized, one-on-one options education for traders. The company website is www.markettaker.com.*

Dan started his trading career on the floor of the Chicago Board Options Exchange (CBOE) as an equity options market maker. He also traded agricultural options and futures on the floor of the Chicago Board of Trade (CBOT). In 2005, Dan joined CBOE's Options Institute and began teaching both basic and advanced trading concepts to retail traders, brokers, institutional traders, financial planners and advisors, money managers, employees of the SEC and Federal Reserve bank, and market makers. In addition to his work with the CBOE, he taught options strategies at the Options Industry Council (OIC). Dan has been featured on television and radio and has written numerous articles in the financial press. Dan can be reached at dan@markettaker.com. He can be followed on Twitter at twitter.com/Dan_Passarelli.

Evaluating Volatility

Across Asset Classes

Bill Luby

It goes without saying that all volatility events are not created equal. Each volatility event has a different magnitude and duration, is the result of a unique combination of causal factors and leaves its own signature imprint on the volatility landscape.

Anyone who is interested in creating a taxonomy of volatility events need only look back over the last three years of raw material to get a sense of the wide variety of causes and effects associated with various volatility storms. Consider the following recent volatility spikes:

1. In October and November 2008, a series of events threatened the health of the global financial system and pushed the CBOE Volatility Index (VIX) over 80 on two separate occasions. At the time, extreme volatility was evident across all asset classes, though extreme volatility hit gold first, then equities, followed later by other asset classes.
2. The European sovereign debt crisis was another story entirely from a volatility perspective. Here currency volatility spiked first, followed by a VIX spike. At the height of the sovereign debt crisis volatility spike in May 2010, volatility in commodities remained relatively muted.
3. Recent unrest in North Africa and the Middle East shows a different volatility pattern. In this instance, the spike in volatility has been largely confined to oil, with gold and VIX volatility near historic lows and currency volatility well below average. During the first week in March, volatility correlations across asset classes were at a historically low level.
4. The May 6, 2010 'flash crash' was another unusual event in terms of volatility. Intra-day volatility spiked wildly, but receded rapidly. While the spike was over quickly, the causes and likelihood of a potential recurrence are still being debated almost one year later.

Each of the four events described above experienced a different volatility impact across asset classes. It is my belief that a better understanding of the volatility picture across asset classes will yield a better grasp of volatility events and help to identify a number of favorable trading setups.

The Volatility Compass

One of the tools I use to analyze volatility across asset classes is something I call a volatility compass. The volatility compass draws upon four indices of implied volatility developed by the CBOE:

> . . . the **crude oil spike** is a clear high volatility outlier in the **current Libyan crisis.**

- CBOE Volatility Index (VIX)
- CBOE Crude Oil Volatility Index, sometimes known as the Oil VIX (OVX)
- CBOE Gold Volatility Index (GVZ)
- CBOE EuroCurrency Volatility Index (EVZ)

Because each of these volatility indices measures asset classes with very different normal and peak volatilities, I normalize the data using percentiles for the common historical data set, which dates back to June 2008. The resulting normalized data makes it possible to plot the implied volatility index for all four asset classes noted above relative to their own historical movements and also allows me to compare the relative volatility of the euro with crude oil, which is typically more than three times as volatile as the currency.

Finding a manner in which to display the comparative volatility data for easy visual consumption was no easy task. In addition to the usual line and bar charts, I also employ radar charts (their Excel name) to compare relative volatility across multiple events. The radar chart below (Figure 1) shows a snapshot of the VIX, GVZ, OVX and EVZ at the peak of volatility during the 2008 financial crisis, the May 6, 2010 'flash crash,' the European sovereign debt crisis (5/20/2010) and at elevated levels during the Libyan uprising (3/4/2011).

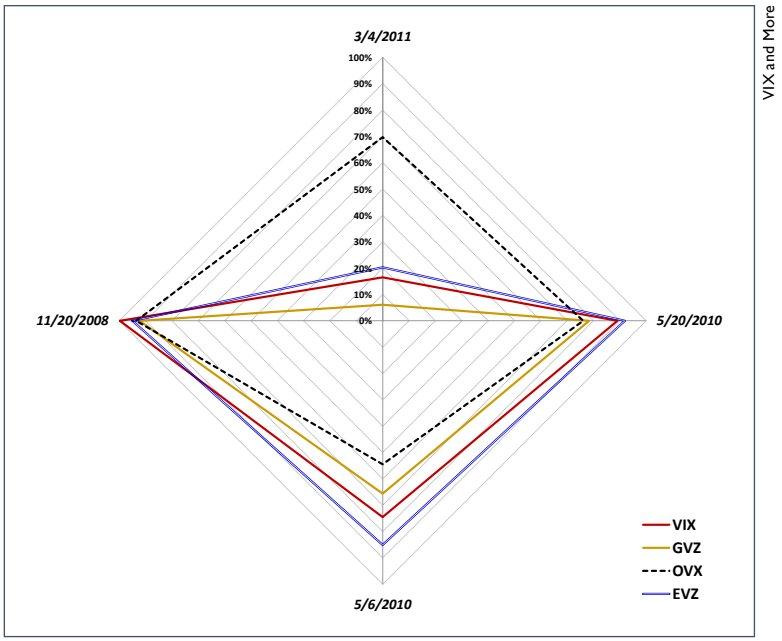


FIGURE 1 *Relative Asset Class Volatility at the Height of Four Recent Volatility Events*

A comparison of cross asset class volatility spikes during the volatility events in the graphic above shows some of the many different characteristics of a volatility spike. Note the differences across asset classes during these events. While the VIX dominates the 2008 volatility spike, the euro leads the way in May 2010 and the crude oil spike is a clear high volatility outlier in the current Libyan crisis.

Putting the Volatility Compass Into Action

One can also use the percentile data and volatility compass charts to analyze which asset class peaks first during a volatility spike, how volatility spreads across asset classes, where the relative volatility is highest, what happens to volatility outliers, how highly correlated spikes are unwound, etc. Answers to these types of questions will help to determine to what extent volatility spikes are tradable across asset classes, what type of trading opportunities are available and what some of the winning setups are.

For those who have studied sector rotation strategies and methods for trading geography-based ETFs, some of the analytical techniques used in those two disciplines can be carried over to an analysis of cross asset class volatility.

Ultimately, the study of volatility has both a science and art component to it, but a cross asset class approach provides a more broad-based holistic view of the volatility landscape and adds a little more science to the mix.

At some point, volatility becomes the study largely of contagion and falling dominoes. I can say without hesitation that a multi-disciplinary approach is essential to understanding contagion and dominoes and that a cross asset class analytical framework supplemented by tools such as the volatility compass is an effective way to approach that subject. EM

Early Exercise: Knowing When You Are About To Be Assigned

Brian Overby, guest contributor

Some Early Exercise Math (But Not Too Much)

As mentioned in part one of this article, sometimes there is no rational reason for you be assigned on your call or put—it just happens. But some times there is a rational reason and some simple math will help us determine if it is rational or not to exercise an option. Many option buyers use certain synthetic relationships and the cost-to-carry to decide when conditions are right to exercise. I'll show you a few calculations to make that decision clearer from the buyer's perspective—which makes you that much more ready to act as a seller if you're assigned.

One of the key factors in those calculations is the cost-to-carry. The other big factor is synthetic relationships, or how one pair of option positions can have very similar risks and rewards to an entirely different pair, making them essentially synthetic versions of each other. Let's start by explaining the latter concept, the relationship between the price of a put and the price of a call when both contracts have the same strike price and expiration date.

Can X Actually Equal Y?

Consider the risk, rewards and market outlook of the following pair: long stock plus a long put. In many ways, this resembles holding just a long call: you benefit if the market rises, and you have limited and known risk if the market falls.

Profit and loss graphs make this similarity a little clearer. In figures 2 and 3, the X-axis refers to the stock price at expiration, and the y-axis refers to the profit or loss for each position. Let's assume the stock is at 80, the interest rate is 5.36%, volatility is 27.95% and expiration is 61 days away, with no dividend upcoming. Let's also assume we're using the ATM put and call in this example, with a strike price for each of 80.

Figure 2 shows the P&L of a long stock position (gray), the P&L for a long put (green), and the P&L for the combined position (red). Compare this red line with the second graph, which depicts the simple P&L of the long call (blue). It's easy to see that buying stock and the protective put and buying the call results in a very similar P&L at expiration.

Before we hasten to say that they're not just similar but are actually identical position, let's plot both on the same graph and see if there are any subtle differences.

In figure 3, when we graph one position on top of the other (protective put in red and long call in blue), the point where each

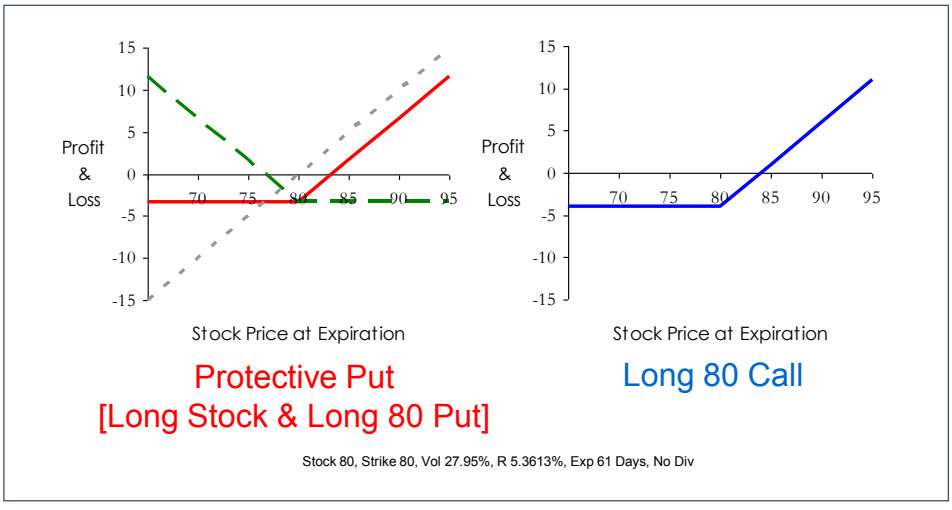


FIGURE 2 *Profit and loss of a long stock, long put, combined stock and put, and long call positions.*

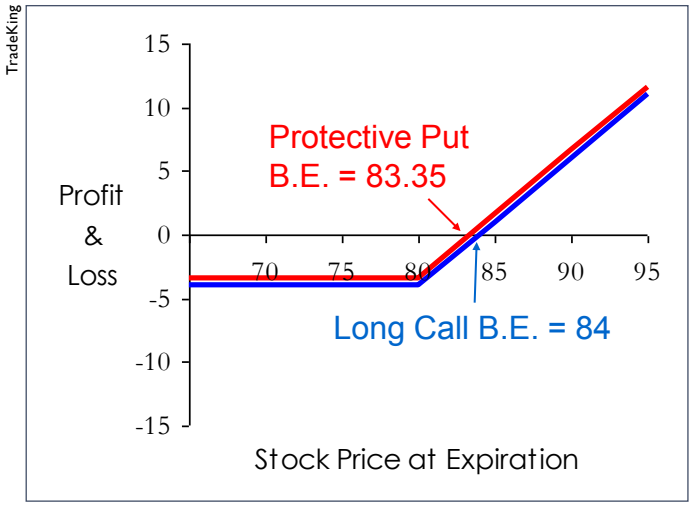


FIGURE 3 *Profit and loss of combined stock and put and long call positions.*

strategy crosses the X-axis is called the break-even point at expiration. Notice the small difference in the break-even number of these two positions (83.35 vs. 84). The difference exists because the put is trading for a little less than the call. Why? If it didn't, there would be an arbitrage situation.

We have two strategies that are mostly the same as far as risk and reward are concerned, but not with regard to carrying costs. Imagine you had no money and wanted to place this trade, and your broker was willing to lend you the money required. If this all came together, and the put and call were trading for the same amount, which trade would you use your funds on: a protective put or a long call? I hope you chose the long call, because if the put and call are exactly the same price, it makes sense to choose the call. With the call, you won't have to borrow additional money to buy the stock (remember, a protective put is a long put plus long stock), and your break-even would be same. Since both trades have basically the same risk and reward, to make them truly comparable we have to even things out. How? If we take the carry-cost of the stock out of the price of the put, then everything comes into equal balance. Here is the quick and dirty math involved:

Cost of stock = 100 x 80 = 8000

Carry-cost of stock = 8000 x .053613 = 428.90

If we could put 8000 dollars into an interest-bearing cash account (earning about 5.3%), $428.90 is how much money we would earn annually in interest. By holding long stock, we're forgoing that interest income: that's what "cost-to-carry" actually means.

Translate to days = 428.90/365 = 1.17 of interest income lost per day

Carry-costs over life of position = 1.17 x 61 days to expiration = 71.37/100 = 0.71

Compare this number, 0.71, to the difference between the break-even points in our graph above, which is .75 (84 – 83.35 = .75). That's pretty much identical just using quick and dirty arithmetic estimates. Even though 75 cents might seem like a small difference, it's an important one and not a rounding error. In fact, this relationship has to hold true or institutional traders would buy the cheap strategy and sell the expensive strategy and collect money above and beyond the carry-cost with no additional risk. That's the arbitrage opportunity I referred to before.

The big question a market marker is asking himself is: when does it make more sense for me to convert my long ITM call into its synthetic equivalent?

Time to Play Market Maker

To understand why all of this matters, put on your mesh jacket and imagine you're a market maker for a second. An apparently tiny difference like this matters more to market makers than retail customers because of the former's responsibility to provide liquidity to the marketplace. That role often boxes them into positions they didn't plan on holding, so that they're always considering alternative "ways out" of various trades.

Market makers are also looking for any edge they can get. Given their huge size and very low transactional costs, it can make financial sense for them to find a trade that makes them a penny and try to make that penny 30,000 times in a single day.

From our prior discussion, you know being long an ITM call has pretty much the same risks and rewards as being long stock and long a put. The big question a market marker is asking himself or herself is: when does it make more sense for me to convert my long ITM call into its synthetic equivalent (long stock + long put)? The decisions they make on that point impact early assignment risk for individual investors like you and me, so it pays to be aware of those issues.

Cost-to-Carry

That question brings us back to the cost-to-carry, because the decision hangs on whether it's cheaper to hold the long call or the long-stock-plus-long-put—"cheaper" in terms of the interest costs.

Let's evaluate each choice and weigh them against each other. Let's say you exercise that long call: you'll capture the ITM value, but you'll also lose any time-value the calls had left and the limited risk of holding a call. After you've exercised, you're long stock. To limit the risk on that position, you'd add a long put at the same strike price so that you are protected on the downside again.

But there's a new problem: buying stock costs money. To pay for long stock, you had to either borrow money or use your cash, and either way, it's costing you money in interest. You can figure out exactly how much interest costs you with the following formula:

$$\frac{\text{Strike price} \times \text{interest rate} \times \text{days to expiration}}{365}$$

Let's apply this to a concrete example. You bought December 80 calls on stock XYZ, and they had 44 days left until expiration. Let's say the current interest rate is 5.3%. That's:

$$\frac{80 \times 0.053 \times 44 = 0.51}{365}$$

In other words, you're paying about 51 cents in interest for every share of XYZ you're holding, from now until expiration. If you're long 100 shares, that's 51 dollars in interest costs. If you're a large market maker, you might be multiplying that figure by a lot more than 100 shares, so this cost can add up.

Dividends' Effect on Cost-to-Carry

Let's throw another tempting factor into the mix: maybe you're motivated to capture an upcoming dividend. Certainly, receiving a dividend could offset the cost of buying the put and your interest costs. To get the dividend, you have to own the stock before the ex-dividend date, which explains the spike in early exercise you'll usually see for calls on stocks with upcoming large dividends. If you were asking yourself above: "How do I know if 51 dollars is a lot or a little in terms of cost-to-carry," the answer is that, as the owner of the 80 strike call, you're weighing the dividend versus buying the 80 strike put plus the lost interest.

So let's do the math for this example. Let's say the December 80 put costs 0.50, and the upcoming dividend is 0.20. Scoring that 0.20 dividend doesn't seem as attractive

as saving 1.01 (0.50 cost of buying put + 0.51 in lost interest = 1.01), right? When you compare the 0.20 dividend to the combined cost of buying the put plus interest, as the option owner you'd probably decide not to exercise.

That math might change if we were closer to expiration when the ex-dividend date arrives. If you were only 10 days from expiration, and still anticipating a dividend, the above calculation for interest costs comes out differently:

$$\frac{80 \times 0.053 \times 10 = 0.12}{365}$$

Now you're comparing the same 0.20 dividend to interest costs (0.12) plus the cost of buying the put (0.05)—0.20 versus 0.17. (Here's how I got that 0.05 estimated price for the put. If expiration is really close and the call is way ITM, the put will be way OTM, making the December 80 put pretty cheap—only 0.05.) That 0.20 dividend, in other words, starts to look a lot more attractive when it costs you only 0.17 to get it. Again, it could be MUCH more attractive if you're a market maker dealer who can multiply that 3-cent gain over tens of thousands of shares.

A Few Caveats

If you're a put owner considering early exercise on a dividend-paying stock, the situation is reversed. If you were to exercise, you'd get short stock, which generates cash (plus the interest on that cash) in your account.

As a short stock holder, though, you'd be obligated to pay the dividend to the actual owner of the shares you shorted. That's why most put owners don't exercise a put around an ex-dividend date, because the interest received from selling the shares usually isn't enough to offset the cost of paying out the dividend. These facts notwithstanding, keep in mind that puts generally seem to get exercised more often the calls, as outlined previously.

Another caveat is the interest rate you use in your calculation. Market makers can get very different interest rates from what you or I can get. If you were only paying a 4% borrowing rate in the above example, the decision to exercise at 44 days until expiration might look a lot more attractive than it does at 5.3%. Your best bet is to use the current broker call rate to make your calculations.

Now, let's leave the fantasy world of market makers behind, with their ultra-low commissions and unlimited margin, and return to the realm of regular investors. As a long call owner and individual investor, does it usually make sense to exercise a call to capture a dividend? Usually, it doesn't, so don't try to get too fancy in your strategy. If you're long a call and you want out, for individual investors it usually makes the most sense to sell the call. What we've covered today is useful information for the call seller who is trying to assess his or her risk of early assignment. Many times a market marker will be on the other side of that trade, and as the seller you are not in control of what happens next.

Getting a Leg Pulled Out from Under You

By now, you may be duly alarmed about the possible early assignment notice, so let me put this danger back into perspective. Early assignment can affect all options sellers, but it's more of a concern for advanced option traders using multi-leg strategies like long and short spreads, butterflies, long calendars and diagonals. The latter two strategies are probably most vulnerable to early exercise risk because of the multiple expirations.

For now, just imagine carefully setting up a multi-leg trade with a specific outlook in mind, then waking up one morning to an assignment that suddenly throws long or short stock into the mix, where once an option stood. Suffice to say, getting a leg pulled out from under you can change the entire outlook of your trade. It's useful in those moments to have some sense of how you might switch gears if this happens, or how you might avoid it completely. If you have a short option in a complex strategy that may be an early exercise candidate, it may be best to close out everything and move on to the next trade so you don't have to deal with the aftermath if you are assigned. EM

Brian Overby, Senior Options Analyst at TradeKing, has worked in the financial industry since 1992. He has served as an option trading specialist for Charles Schwab, a senior staff instructor for the Chicago Board Options Exchange (CBOE), and managed the training department for one of the world's largest market makers, Knight Trading Group. Brian has given over 1,000 seminars worldwide, written numerous articles on option trading and appeared on Bloomberg, CNBC and other financial media. He is also author of the TradeKing Options Playbook.

Options involve risks and are not suitable for all investors. Prior to buying or selling options, an investor must receive a copy of Characteristics and Risks of Standardized Options, sent to you in previous communication. Additional copies may be obtained by calling TRADEKING at (877)495-KING or visiting www.tradeking.com/ODD.

Any strategies discussed and examples using actual securities and price data are strictly for illustrative and educational purposes only and are not to be construed as an endorsement, recommendation, or solicitation to buy or sell securities. Consider the following when making an investment decision: your financial situation, your risk profile and transaction costs. Multiple leg options strategies involve additional risks and multiple commissions, and may result in complex tax treatments. Please consult a tax advisor.

Expiring Monthly Interview with Jeff Augen

Mark Sebastian

Jeff Augen, currently a private investor and writer, has spent more than a decade building a unique intellectual property portfolio of databases, algorithms, and associated software for technical analysis of derivatives prices. Augen has a 25-year history in information technology, and has held senior positions at IBM and Turboworx, Inc. His books include Trading Realities, Day Trading Options, Trading Options at Expiration, The Option Trader's Workbook, *and* The Volatility Edge in Options Trading. *He currently teaches option trading classes at the New York Institute of Finance and writes a weekly column for* Stocks, Futures and Options Magazine.

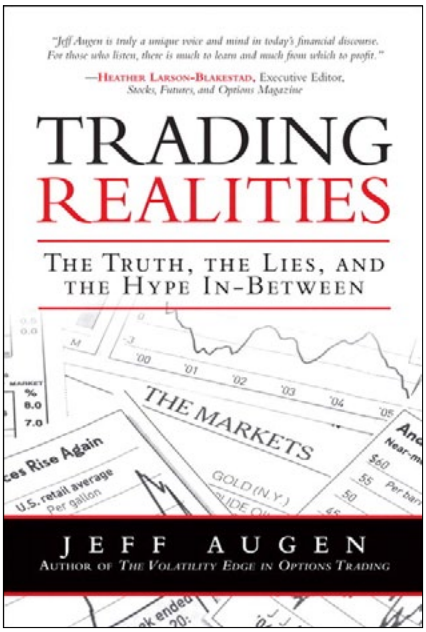
Expiring Monthly: *How did you get interested in studying and writing about options?*

Jeff Augen: I began my career many years ago as a research scientist—a molecular biologist, to be specific. My graduate thesis research involved writing pattern discovery programs to predict 3-dimensional protein structures. Much of that work has formed the basis of the software that I use today to study subtle distortions in derivative prices.

I spent the late '90s and early 2000's as an executive at IBM focused on life sciences computing. I used to sit in the back of meetings trading options on my laptop. I've been trading options for many years. I ultimately left to run a small startup company spun off from the Computer Science department at Yale University. In 2005, I got into a tremendous car accident on the way home from a business meeting—broken ribs, broken neck, punctured lung, fractured hip, torn ligaments, and hundreds of stitches. I needed lots of time to get back into shape. My wife encouraged me to leave the business world and focus my attention on the things I really enjoy—trading options and writing software. Since then I've written hundreds of thousands of lines of code, executed thousands of trades, and published six books.

EM: *What do you find so fascinating about options?*

JA: Options allow you to structure statistically-advantaged trades that can make money regardless of the direction of the market. In today's market, predicting the direction of anything is almost always a waste of time. But option traders can take advantage of the underlying math to create structures that generate profit from distortions in skew or term structure. They can leverage differences between real and implied volatility or



build more complex positions that combine futures, stock, and options. Conversely, if you are a stock picker, your days are over in terms of being able to make significant amounts of money. Let me give an example. Look at Apple Computer: I have no idea whether it is going to go up or down in the long term or short term. But a large number of private investors think they do. Most claim to be "long term buy and hold" investors. But that statement is full of contradictions. It assumes that predicting where Apple will be one year from now is easier than predicting where it will be next week. Popular as this view might be, it is logically incorrect because uncertainty always rises over time. Yet the financial markets are built on this mathematically invalid "buy and hold" view.

I always take the opposite approach by assuming that it is easier determine what will happen in the next few hours. I don't believe that I can out-think the sum intelligence of millions of investors and institutions about the price, but I do believe that Apple is unlikely to rise $25 in the next few days. So my answer is to structure an option trade with long and short components and a small credit. The trade will make money if the stock rises a reasonable amount, and I'll simply keep the credit if the stock falls or goes nowhere. My only bet is that the stock price will not skyrocket—a reasonable gamble at the top of an unprecedented rally. It's a purely mathematical game that doesn't depend on predicting the direction of anything. I always select different mathematical constructs to fit different market conditions. But I never try to guess the direction—even in a crash.

If you are a stock picker, **your days are over** in terms of being able to make significant amounts of money.

EM: *How efficiently priced is volatility?*

JA: There are inefficiencies in the pricing because there isn't one volatility. There is a complex 3d surface across price strikes and expirations. Each expiration and strike is associated with a different implied volatility and those differences are reflective of the market's view of the likely behavior of the stock. Embodied in the 3-dimensional map are all sorts of inefficiencies; each one represents a different trading opportunity.

EM: *I heard a professor argue that a skew shouldn't exist. Intra-month, do you think there are reasons for skew to exist? Are there other reasons beyond supply and demand?*

JA: To say there should be no term structure from one expiration to another is to say that price movement and risk are equal across all time frames. These distortions also exist within the month. If, for example, there were to be a catastrophic event, put sellers would suddenly realize the risk they had been taking. Further out-of-the-money puts would experience much higher percentage gains. The implied volatility skew is their only defense. Today's markets are very efficient and implied volatility skews and term structures are valid corrections to traditional options pricing theory. Removing them would turn options into more primitive derivatives. It would be a move in the wrong direction.

EM: *How important is it to the individual investor to get into the nuts and bolts of options? What are they learning that they should or what are they not?*

JA: It is wrong to tell someone that they don't need to learn the fine details and the math. You are telling them to compete in a complex zero sum game where the winners take

money from the losers, and to play that game against more knowledgeable players with more powerful tools. I would stress the opposite approach: Learn everything you can. Become proficient at the underlying math, understand everything about the greeks, skews, term structure, and master the management of a variety of trade structures—then go compete against the other traders who already have those skills and background. There's no shortcut and there's no easy path.

EM: *What do you think of all the new volatility products coming out?*

JA: I think they create opportunity for people who really understand them, and they are dangerous for people who don't. The gap between real and implied volatility is a great game for people who are knowledgeable and understand the mathematics. It takes the game to a new level of complexity. When these products were announced, they were advertised as a new opportunity for the average investor, which will allow you to invest in the difference between real and implied volatility . . . to lure people in who don't understand complexity, which is very dangerous. Average traders end up trading against sophisticated institutional investors and teams of quants who structure custom blends of options and futures contracts.

EM: *What do you think about the technology available to retail traders?*

JA: The trading platforms have gotten more sophisticated, which gives retail customers a false sense of security. They think are playing on a level playing field with institutions. As fancy as these systems seem, they are nowhere near the level of sophistication of the pros. For example, I often use TradeStation. It is a great product, but I sometimes re-check the volatility models, and I'm reminded that fundamentally they are not very different than what they were 5 years ago. You can add a lot of convenient graphics and model building tools and things that look flashy to help traders see the market, but underneath the hood is the same old black-scholes or binomial model. Institutions are building more and more complex models over time in very large databases that they use to compare relevant 3-dimensional volatility surfaces. None of these platforms provide any of these capabilities. They are easier to use and flashier but not really more functional than before. It is important to note, however, that today's platforms allow you to trade products that you couldn't trade a few years ago. They also provide programming capabilities that never existed before. TradeStation is especially strong in this area. But overall, the gap is widening between what you can do as a private investor and what an institutional trader can do.

I also believe that some of the flashy tools are dangerous. Telling a retail customer that he has a platform with unique advantages because it contains a tool that will guide him to "hot spots" in the market is misleading. Millions of other investors have the same tool and if a real opportunity existed, institutional systems would extinguish it in a split second.

EM: *Do retail investors have any advantage, or is it hopeless?*

JA: I am a private investor, so I hope not. I think it is hopeless to be a private investor who tries to make money picking stocks. Although I have written several technical books, I recently decided to publish a more accessible work called *Trading Realities*. That decision was driven by a single conversation. A friend of mine said that he was going to buy Apple stock. I asked him why? He mentioned the new iPad and a variety of other well-known products and news items. I asked him

to tell me something that the market didn't already know. He couldn't, he only knew what everyone else knew. I asked him "Who are Apple's 5 largest customers? Do you understand their distribution channels, or underlying costs? Who are their major suppliers? What is their worldwide tax model? What are their major sales pipelines and how full are they? What does their technology roadmap look like? What is their segmentation model and are there new emerging opportunities? I rattled off 10 questions in a few seconds, and he didn't know the answer to a single one. So the reality is, he knew absolutely nothing about AAPL and he was ready to click his mouse and spend $30,000 on stock. Based on this friend, one of many that made similar proclamations, I decided that the overwhelming problem is that people really believe they have more information than they really do. They often become arrogant, when they really know nothing. I sort of decided it would be good to write a book that laid out the problem and some answers.

EM: *So this is almost like a prequel to your other books? Trying to inform people on what they don't know?*

JA: I think it is. It is a complex game. How many investors can simply rank the relative risks of standard basic trade structures? How many know that buying a stock is more dangerous than a covered call, and that buying a collar—long stock, long put, short call—is even safer? Moreover, how many understand that selling an at-the-money put is mathematically identical to buying an at-the-money covered call? These are all very basic issues that every investor should understand. While institutions have moved from hedging risk to more complex models that distribute risk, the average investor is still focused on picking stocks. They understand little about the global forces and money flows that drive their results. When they make money they think they picked the right stock and when they lose money they blame the market. Few investors believe the opposite—when they make money it's because they are lucky and when they lose money it's because they didn't really know what they were doing. This book is designed to provide that reality check.

The markets are **fundamentally different** than they were just a few years ago.

EM: *Can the average retail trader take advantage of mis-priced volatility instead of maybe a stock price?*

JA: I do believe they can do that, but it takes work. It is dangerous to say that is easier to trade volatility than to buy stock. Conversely, trading volatility is a huge opportunity while owning stocks is pure gambling. The difference is that owning stocks is simple and when the market rises it gives a false sense of security. Over the past decade, volatility traders have done very well and stock investors have lost money.

EM: *What would you say differentiates your newest book from what is out there?*

JA: Most people write books to tell you how to make you money. I wrote a book to tell you how not to lose money.

EM: *Any closing thoughts?*

JA: The most interesting thing for me is that the markets are fundamentally different than they were just a few years ago. It can be mathematically demonstrated that today's supercomputer-driven market will extinguish any trend in just a few moments.

For the first time in history, the direction that the market takes over time is nothing more than the sum total of individual small events and momentary trends that appear and vanish. A few years ago everything was different. There were long term trends to invest in; they don't exist anymore. A simple statistical test demonstrates this point very convincingly. A few years ago, the chance that a 1% up day in the S&P 500 would be followed by a second up day was 71%. Today it is completely random. Intraday volatility has also increased dramatically. Between 1990 and 2008 there were just 10 days with high-to-low transitions larger than 5%. If we extend this analysis 2 more years to the end of 2010 the number climbs to 64. Yet the behavior of the market on the day following a move this large is completely random. These are shocking discoveries that should rattle the confidence of anyone who believes that they can identify trends. Yet the financial media still talks about the 50 day moving average crossing the 200 day moving average. In reality, those kinds of simple analyses are meaningless because they are statistically insignificant. The fact that the market is down today has no bearing on tomorrow. So for the first time in history, like it or not, a relevant stock chart should only have today's up and down ticks. When the bell rings tomorrow everything will start all over again because the stocks don't remember what their prices were yesterday EM

A MULTI-DIMENSIONAL LOOK AT IMPLIED VOLATILITY

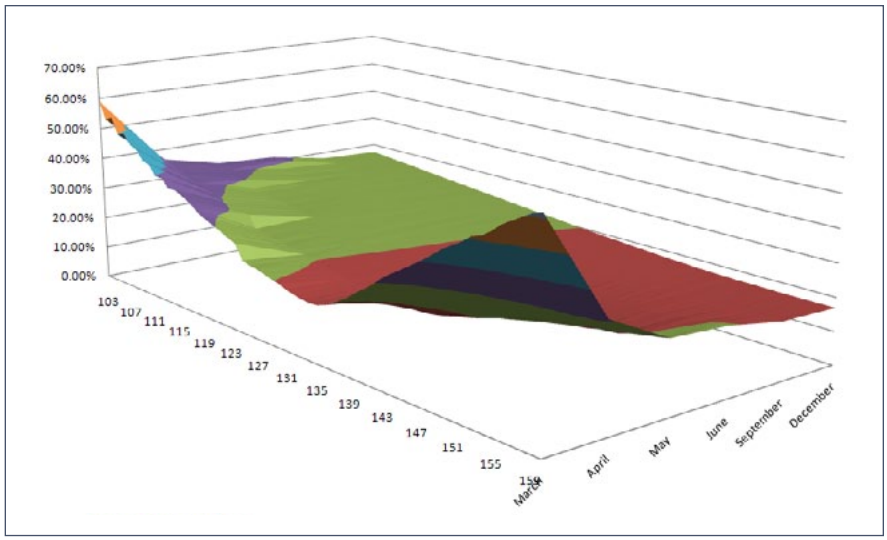
SEVERAL NEW RELEASES FROM THE CBOE

by Michael McCarty, guest contributor

Implied volatility—and especially the CBOE Volatility Index® (VIX)®—has become a very popular topic, yet some of the basic characteristics of volatility are frequently misunderstood and, as a result, are potentially misused or misapplied. However, several recent releases from the CBOE promise to provide tools to allow greater insight and clarity for investors interested in this emerging topic and at the same time suggest that the growth in volatility products and volatility trading is unlikely to slow soon.

Implied Volatility

First, while all trade-able assets that experience price changes have real or historical volatility—which can be found using any basic spreadsheet such as Excel or Calc by calculating the standard deviation for the asset's constantly compounded returns—only options have actual implied volatility. Ultimately, it is the implied volatilities of a security's options which are used to arrive at what is deemed the implied volatility of the underlying security, the market's derived prediction of yet to be experienced future volatility for the underlying. How the options prices are used to arrive at that calculation is the principal focus of these new developments.



Condor Options, Differential Research, LLC

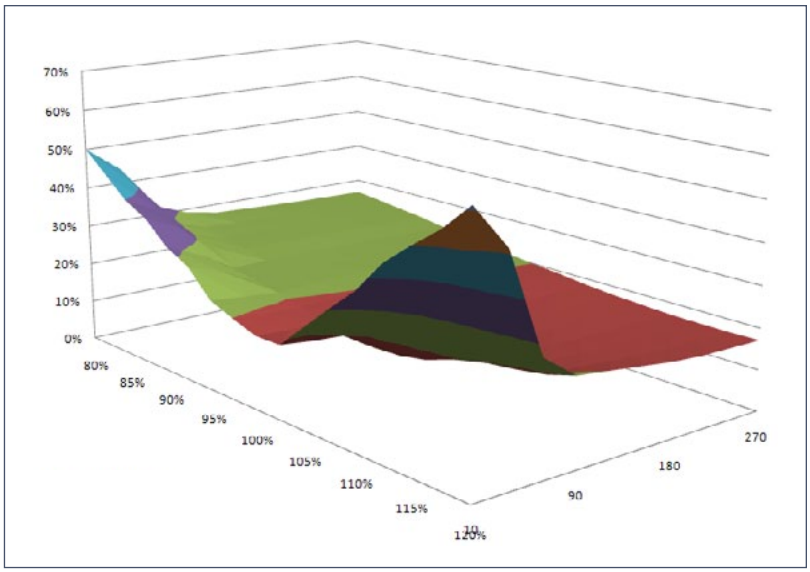
FIGURE 1 *3-D Implied Volatility Surface*

The price of an option essentially reflects the summed weighted probabilities of potential values at expiration and is therefore a function of the current price of the underlying security, the strike price of the option, the time until expiration, cash flows including dividends and interest associated with maintaining a position in the underlying and the options, and the probability factor-implied volatility. With all of the inputs fixed or known at a specific moment in time, the price of the option is directly related to the implied volatility—the greater the expected volatility, the more numerous the outcomes and the higher the price of the option. Most services that provide implied volatility statistics for options employ one of several option pricing models, the most popular being the Black-Scholes options pricing model. Most models including Black-Scholes, in addition to the inputs, also include two assumptions: (1) that returns and expenses are constantly compounded and, (2) that the constantly compounded returns are normally distributed (bell-curve shaped). Securities with traded options typically have several series of monthly expirations and many strike prices, each option yielding a unique implied volatility calculation. If we graph these implied volatilities in three dimensional space with strike prices on the x-axis or length, expirations across the y-axis or width, and implied volatility on the z-axis or height we have the skeletal framework for a three dimensional implied volatility surface. It is from this surface chart that we determine the "implied volatility" of an underlying security.

Now imagine if we could cover the surface of the skeleton with a sheet, like a Cristo artwork; we would be effectively interpolating implied volatilities for theoretical options with continuous strikes and expirations.

There are a few conventions commonly used when looking at implied volatility. For comparison purposes, implied volatility is quoted as an annualized figure. Second, once the 3D surface chart is created it is typically redrawn with a new skeletal framework, a grid where existing strikes are replaced with theoretical

strikes centered at-the-money and spreading out in increments of percent moneyness on the x-axis and existing calendar expirations replaced with 10 and/or 30 day demarcations on the y-axis. Finally, at-the-money is not equivalent to the current security price of the underlying security, but is equivalent to the forward price, which is the current price adjusted for the cash flows incurred over the period for which the security and options are held (including a risk less the opportunity cost.)



Condor Options, Differential Research, LLC

FIGURE 2 *Normalized 3-D Implied Volatility Surface*

When we speak of an underlying security's implied volatility, we are attempting to represent this three-dimensional surface chart with a single number. Traditionally, a single point lying on this 3-D surface chart was used, specifically the implied volatility for a theoretical 30-day at-the-money option. To arrive at this calculation 8 options are used: 4 sets of puts and calls comprised of 2 sets for 2 months' expirations, with one above and one below each expiration's (unique) forward price.

The weakness of this approach, of course, is that the three-dimensional surface chart is not flat; every option has a unique implied volatility. It also does not reflect how volatility is actually traded in the marketplace. For example, "volatility arbitrage" traders who attempt to capitalize on differences between the implied volatility of individual options and the realized volatility of the underlying security will typically use the actual options' implied volatilities. Moreover, as the options pricing models assume continuous uninterrupted markets with small incremental price movement, traders who hedge the underlying's volatility directly through variance or volatility swaps typically hedge with an entire series of options: at-the-money options, out-of-the-money options and even way out-of-the-money options to allow for price gaps and periods of time, like weekends and holidays, when trading does not take place.

The VIX Index

When the VIX Index was first introduced in 1993, it was designed to serve as the implied volatility estimate for the broad US equity market. Initially, it followed the established convention and used the calculation for a 30-day at-the-money option using S&P 100® (OEX) Index options—once again, a single point, 1-dimensional implied volatility statistic lying on the normalized theoretical surface. Recognizing the weakness of this approach, in 2003 the CBOE introduced a new methodology for calculating the VIX, the details of which can be found in "The VIX White Paper" available on the CBOE website. The new method replaced OEX options with S&P 500® (SPX) Index options and now incorporates both at-the-money and out-of-the-money options to arrive at an implied volatility estimate that is essentially a single number designed to reflect two dimensions of

implied volatility: an entire slice from the 3-dimensional surface fixed at a specific point in time parallel to the 3-D surface's x-axis. Options traders refer to this slice as the "volatility smile" due to its concave shape. The new method uses two series of S&P 500® (SPX) options weighted to arrive at a theoretical 30-day maturity.

There are several advantages to the new calculation. First, the SPX is much broader and therefore represents significantly more of the US equity market than the OEX. The options are also more liquid. Using the entire strip of options incorporates significantly more information across a broader range of potential price moves and therefore provides a more accurate estimate for 30-day implied volatility. Moreover, incorporating nearly the entire strip of quotable options allows for a calculation that is model independent, free from the assumption of a normal distribution of returns. Finally, mimicking the portfolio of options that are actually used in the swaps market to hedge SPX Index volatility paved the way for trade-able VIX-based products. With expirations set exactly 30 days prior to the subsequent SPX Index expiration, a unique point in time when a single series of SPX options can be used to calculate the VIX Index, an arbitrage-able cash market existed. With an arbitrage-able cash market, the stage was set for products based on the VIX Index calculation. In two of the most successful product launches in history, VIX Index futures were launched in 2004 and VIX Index options in 2006. Recently, VIX Index options daily volume surpassed the 1 million contract mark while VIX futures contracts (which have a contract size 10 times larger than the VIX options contract) daily volume approached the 100,000 contract volume level.

With VIX futures now trading for several months into the future, we can line the VIX futures prices up across time and create a VIX Index futures forward curve or time-series which reflects the market's expectations for the final 30-days implied volatility for the subsequent month's SPX Index options. (For example, the November VIX future reflects the market's price for the final 30-days implied volatility for the December SPX Index options series.) This VIX Futures forward curve provides a glimpse at how implied volatility expectations are priced over time.

However, while the VIX Futures forward curve does provide a significant amount of information about

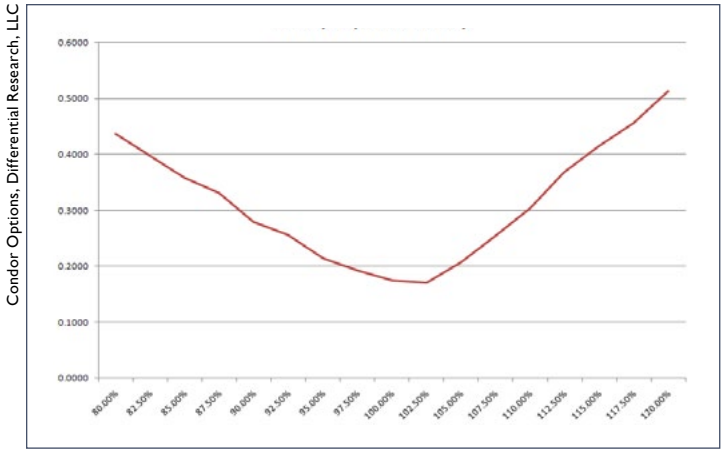


FIGURE 3 *30-Day Implied Volatility*

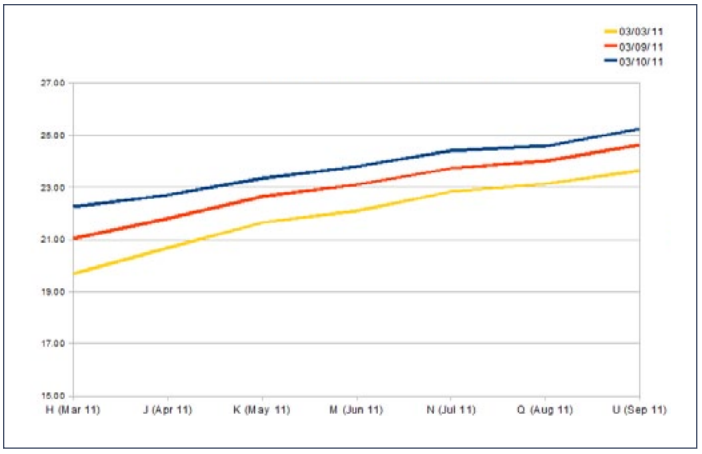


FIGURE 4 *VIX Futures Forward Curve*

volatility expectations over time, it can be confusing, since it reflects the market's expectations for volatility for only the final 30 days of the subsequent SPX options (even sometimes before that series of SPX options is traded) and does not directly provide the expectation for implied volatility for the entire period.

The VIX Term Structure – New from the CBOE

To allow investors to view directly how implied volatility expectations are priced over time, in January of this year the CBOE launched the VIX Term Structure. Not to be confused with the VIX Futures forward curve, the VIX Term Structure applies the VIX methodology using both at-the-money and out-of-the money options to calculate a model-independent implied volatility statistic for each series of SPX options trading at any given time, for the entire term. Unlike the VIX Index, the VIX Term Structure does not limit the calculation to a 30-day term but calculates implied volatility for the life of the SPX options. Each point on the term structure, once again, provides what we have characterized as a single statistic providing implied volatility across two dimensions.

Combing each point on the line to arrive at the VIX Term Structure essentially provides a two-dimensional view of the SPX Index 3-D surface chart. Notably, The VIX term structure does not lie on the 3-D surface chart but will lie somewhere above the at-the-money level. Conceptually, if we were to visualize the VIX Term Structure somewhere in the 3-D implied volatility space, it might appear as a magnetic pool, or a Van Allen belt from which the surface map is hung. While access to the VIX Term Structure is free, it requires one to register on the CBOE web site. Historical data is also available.

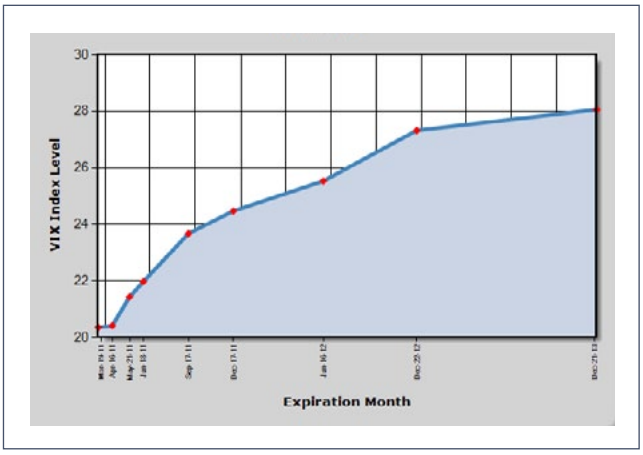


FIGURE 5 VIX Term Structure

The SKEW Index

While the VIX calculation provides a better estimate of implied volatility by summing information about two dimensions of implied volatility into a single number, the recent launch of the CBOE Skew Index promises to supplement the VIX by providing another significant source of information about the distribution of implied volatility expectations for the US equity market in a single statistic.

Unfortunately, to appreciate the subtlety requires a little more math; we have to look at probability distributions in more detail. If the distribution of a security's constantly compounded returns was normally distributed, or more importantly for our analysis, if the market assumed that these returns would be normally distributed in the future, we would have no need for the VIX; all implied volatility would be the same, the 3-D surface chart would be flat, and there would be no skew. Fortunately, that is not the case, and what we are doing with the VIX Index and SKEW Index is looking at ways to describe the (non-flat) anticipated distribution of future returns by looking at differences in implied volatility. Mathematically, distributions are defined by "moments," and the more complicated the distribution the more moments are required to describe the

distribution. Anything constant would only have one moment—for example, its average or mean—which would always be the same. The popular bell-shaped curve distribution used by most options pricing models has two moments, the mean and the standard deviation (the distance the statistic evaluated can be likely found from the mean, or how fat- or thin-shaped the bell is). In our analysis, the mean forward-adjusted return is the first moment, the mean; and volatility is the second moment, the standard deviation. This is where most options pricing models stop, before the math gets too complicated. But in the real world returns are not normally distributed, nor are they expected to be (human behavior trumps efficient markets). So we require more moments to accurately describe the distribution. Securities returns are actually leptokurtic, meaning the distributions are "pinched" in the middle and have "fat tails," requiring at least a third and fourth moment to describe their shape. Comparing the VIX calculation to the at-the-money calculation gives us an idea of how much kurtosis exists in the distribution, how pinched/fat-tailed the distribution. The more kurtosis—the more extreme the smile, and as a result, the bigger the difference between the at-the-money calculation and the VIX Index.

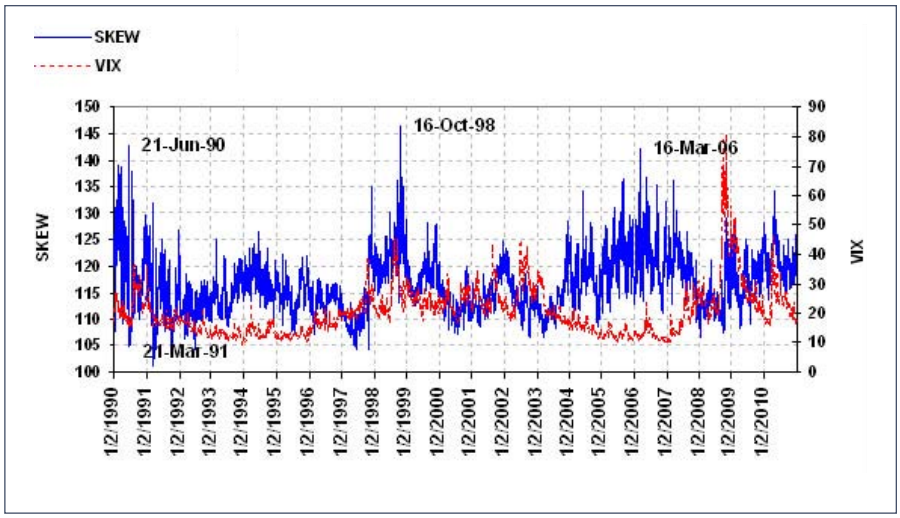


FIGURE 6 *CBOE SKEW Index, Jan 1990–Dec 2010*

The distributions of securities returns are also lopsided, or "skewed" in one direction. Since the crash of 1987, SPX implied volatility has been decidedly biased to the negative. Big moves for the SPX are more oriented to the downside than to the upside. The smile became more crooked (I call it the Ellen Barkin smile) to the downside, or to the left (Ellen's right) on the picture of our smile.

The new SKEW Index measures the lopsidedness of the return distribution. The calculation of the SKEW index can be found in the "SKEW White Paper" found on the CBOE website. The new SKEW Index transforms the mathematical calculation of skew such that zero mathematical skew (no bias) would equal an index value of 100 and negative skew would yield an index value greater than 100. The greater the value for the Skew Index the more negative the mathematical skew. Characterizing extreme moves as "swans" and recognizing the tendency for large moves for the SPX to be to the downside, the SKEW Index is a measure of perceived (negative) "tail risk" or the option markets' expectation of "black swan" events for the US equity market.

Extending the VIX Calculation

The CBOE has extended the VIX calculation to other indices including the NASDAQ-100, S&P-100, and to other commodities including Gold and Crude Oil and the Euro. Additionally, the CBOE has launched VIX indexes for individual stocks including Google, Apple Inc., Amazon, Goldman Sacks and IBM. The entire list of

CBOE

CBOE Volatility Indexes		
CBOE Volatility Index	VIX	www.cboe.com/VIX
CBOE NASDAQ-100 Volatility Index	VXN	www.cboe.com/VXN
CBOE S&P 100 Volatility Index	VXO	www.cboe.com/VXO
CBOE S&P 500 3-Month Volatility Index	VXV	www.cboe.com/VXV
CBOE VIX Premium Strategy Index	VPD	www.cboe.com/VPD
CBOE Capped VIX Premium Strategy Index	VPN	www.cboe.com/VPN
CBOE S&P 500®VARB-XTMStrategy Benchmark	VTY	www.cboe.com/VTY
CBOE Crude Oil Volatility Index	OVX	www.cboe.com/OilVIX
CBOE Gold ETF Volatility Index	GVZ	www.cboe.com/GVZ
CBOE EuroCurrency Volatility Index	EVZ	www.cboe.com/EVZ
CBOE Equity Volatility Indexes	VXAZN, VXAPL, VXGS,VXGOG,VXIBM	www.cboe.com/equityVIX

FIGURE 7 *CBOE Volatility Indexes*

VIX Indexes can be found on the CBOE web site on the Volatility Index Site Introduction Page.

Going one step forward, in February the CBOE and the CFE announced they will begin trading futures and options based upon the CBOE Gold ETF Volatility Index (GVX).

Given the phenomenal success since the launch of the VIX Index and the tremendous growth in trading of products based upon the VIX Index, it is likely we will see continued growth of products based upon the VIX calculation.

Using the Tools

So what do we do with these new tools? First, my version of *caveat emptor:* The history of trading of volatility products is very limited and includes a period of time, the 2008–2009 financial crises, that will likely prove to be historically unique. As markets continue to develop and participants' knowledge and experience grows, historical relationships are likely to change. Moreover, leptokurtic distributions naturally describe markets that behave similarly most of the time, but when they behave dramatically those markets sometimes act extremely differently. For the past 18 months, for example, we have witnessed equity markets that rose slightly almost every day. However, the occasional declines were rapid. Implied volatility as represented by the VIX Index is described as a market that "melts down and explodes up." Consequently, I am reluctant to suggest any hard or fast trading rules based upon the subjects discussed. However, I believe the informational content is priceless and I do believe that this information can be effective in efficiently structuring and executing investment and trading strategies.

First, what is the market telling us? What is the market expecting? A low VIX Index, a low SKEW Index and a flat VIX Futures forward curve or VIX Term Structure might indicate overconfidence. While such a market may continue to rise, such a market is extremely vulnerable to any sudden shocks, and while insurance in the form of SPX Index puts or VIX calls or long VIX futures may prove an unnecessary expense, at a minimum it may provide enough comfort to stay in a rising market and at a maximum prevent losses.

A low VIX but a rising term structure likely reflects investor concern for some event in the future. If that event is perceived to be a negative event—large-scale equity liquidation, for example—a preference for downside SPX Index puts will likely yield a rising SKEW Index in conjunction with the rising VIX Index. If the negative event is perceived to be immediate but passing, the VIX Index and the shortest term futures may yield values greater than longer dated futures.

Occasionally, the potential move, while potentially large may be directionally ambiguous. For example, the last mid-term election created a bump in the VIX futures forward curve while not dramatically changing SKEW.

Any resolution was priced as reducing volatility once the initial move by the market was made.

Uniquely, the mathematical skew for gold is positive. That is, extreme moves for the price of gold are priced as being more likely to be upward for the price of the commodity than to the downside. This difference, which now can be viewed as the difference between the Gold VIX value and the at-the-money implied volatility calculation, could also suggest investor concern for the US currency.

With the information now at our fingertips, and accepting that options are typically priced expensively or cheaply for a reason, most investors are now in a position to use this information by taking advantage of one trait not available to "big money" desks: specifically, greater flexibility. Very large investors seeking to build a position in equity will now routinely buy calls ahead of their purchases and even more frequently ahead of their anticipated requisite 13-F filings. More nimble investors, instead of buying expensive calls, can buy synthetic calls—long stock with a long put. Over the past two years we have witnessed VIX futures prices elevated ahead of potential investor withdrawal dates. Nimble investors faced with an elevated SKEW Index should consider stock-replacement strategies—selling stock and buying calls to maintain upside exposure while reducing downside exposure.

Another strategy gaining acceptance is hedging long equity exposure with a pairing of SPX puts and VIX puts. With the negative correlation between the SPX Index and the VIX Index well understood, the loss of the "insurance premium" paid for the SPX puts in a market that continues to rise can be substantially reduced by potential profits on the VIX puts.

Given the likelihood that relationships will change as volatility markets continue to grow, for the moment it is safest to say that a more informed investor is likely to be a more successful investor. EM

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The Predictive Value of Volatility Skew:
VIX, VXO, and the SKEW Index

Jared Woodard

The purpose of this article is to determine whether two estimates of implied volatility skew, the CBOE SKEW Index and the ratio of VIX to VXO are significantly correlated with subsequent S&P 500 returns. I review the two estimates under consideration, explain the tests for correlation used, and present and discuss the results.

Volatility Skew Estimates

Skewness measures the degree of asymmetry of a probability distribution. Because the implied volatilities of observed equity option prices consistently reflect an asymmetric distribution of outcomes, it is helpful to note the extent of asymmetry expected by the market.

The CBOE SKEW Index, introduced in February 2011, uses a VIX-style calculation to achieve a weighted estimate of statistical skewness based on out-of-the-money (OTM) S&P 500 options with an average 30-day duration. The skew calculation is reflected in an index that has ranged historically from 100–150.

Because VXO calculates implied volatility using only near-the-money S&P 100 options, it does not reflect volatility skew; VIX does, since it uses a much wider range of strikes prices. Taking the ratio of VIX to VXO should, therefore, provide an estimate of the extent to which volatility skew is present in OTM SPX options.

Regression Tests

I was curious whether absolute levels in these two skew estimates had any correlation with subsequent stock returns.

Daily data for the SKEW, VIX, and VXO indexes was obtained for January 1990 to the present from CBOE. Table 1 provides R-squared values for both skew estimates compared with S&P 500 returns 1, 5, 20, and 60 days later.

These results are not encouraging for anyone hoping to find a trading indicator in volatility skew data. The strength of the relationship increased at longer durations, but this is consistent with the common understanding that periods of high implied volatility (market shocks) are often followed by lower-volatility price appreciation. In other words, nothing about these results suggests that volatility skew explains subsequent stock returns better than volatility or price history alone.

We have been looking at the relationship between absolute estimate levels and subsequent returns, but what about daily changes in skew estimates? The R-squared values for comparison of daily SKEW logarithmic changes and 1-, 5-, 20-, and 60-day SPX returns were not significant. Focusing on extreme daily changes since 1990, there were 22 days on which SKEW changed by more than 10%. The SPX average return 1 and 5 days later was insignificant, and was about -2% 60 days later. Again, this is consistent with the supposition that large swings in investor sentiment (as indicated by elevated put premiums relative to calls) are not necessarily of added value beyond simpler common indicators.

To get another look at the relationship between volatility skew and equity returns, I looked at the average next-day returns for each

Skew Estimate R^2	SPX returns *n* days later			
	1	5	20	60
CBOE SKEW	0.0003	0.0009	0.0016	0.0029
VIX:VXO	0.0000	0.0006	0.0036	0.0244

Condor Options, CBOE

TABLE 1 *R-squared values for linear regressions of skew estimate values and subsequent SPX returns.*

Condor Options, CBOE

	SKEW Quartile			
	<112.75	<116	<119.85	>119.85
Average daily return	0.01%	0.04%	0.08%	-0.02%

TABLE 2 *Average following SPX daily returns by quartile of SKEW Index values.*

quartile of the SKEW Index data, as shown in Table 2.

The lesson here seems to be that excessive pessimism in the form of heavy IV skew is less favorable for next-day returns, at least when compared with lower readings. It is interesting that estimates that were somewhat higher than average coincided with the best next-day average returns. It still remains to be demonstrated whether skew information is of unique value over and above historical or implied volatility when it comes to forming expectations of future returns.

The conclusion to draw is not that volatility skew is of no value to traders. Quite the opposite, in fact: skew information is very helpful for selecting option spread types and for targeting option strikes that are cheaply or richly priced. Furthermore, some research suggests that volatility skew may be valuable in the construction of portfolio hedges.[1] But based on the analysis given above, it does not appear that short-term changes in volatility skew provide any discernible edge for directional price forecasts. EM

[1] Doran, James S., Carson, James M. and Peterson, David R., *Market Crash Risk and Implied Volatility Skewness: Evidence and Implications for Insurer Investments* (April 21, 2006). Available at SSRN: http://ssrn.com/abstract=897401

Can a Trader Find Success with a Single Strategy?

Mark D Wolfinger and Tyler Craig

Given: *It is more advantageous for an options trader to settle on one strategy than branch out and use multiple strategies.*

PRO

By Mark D Wolfinger

Using a single strategy makes trading easier. Knowing the monthly guidelines for the strategy, the trader can select strike prices and position size. That allows for a rapid decision-making process.

Does anyone believe that's a good idea? I hope not. Sure, it's nice when life is less complex, but trading requires careful preparation. For professional traders, it's even more important. Taking shortcuts or searching for time-saving ideas is not the winning approach. Trading is a job and must be treated as such.

That said, I believe it's a good idea for a trader to utilize a single strategy most of the time, and occasionally to do something different when it feels wrong to go with the old standby.

I am not suggesting that the rookie trader make a career decision and choose a lifelong strategy as soon as possible. However, when the trader has years of trading experience and used a variety of trade strategies, it is fair to say that he/she becomes much more comfortable with some methods than others. That comfort comes from confidence in being able to handle all aspects of the trade—from entry through exit. For those traders, trading that single strategy is a reasonable choice.

We obviously understand that being bullish in a down-trending market is not the best plan, but bullish methods can be slightly altered to become bearish. There is no reason why the investor who prefers to sell put spreads cannot occasionally sell call spreads when he/she believes that switch has a better chance of success. After all the *true strategy* for this trader is 'credit spreads' and not 'put spreads.'

Iron condor traders don't have to initiate balanced positions if they have a market bias. There is nothing that forces this trader to sell an equal quantity of call and put spreads. Nor it is necessary for the position to start life as delta neutral. The portfolio may not fit the requirements to receive iron condor margin, but if the trader sells put spreads and call spreads in the same underlying, and if they expire on the same day—that's good enough for me to refer to that position as an iron condor.

A little imagination allows the trader of a single strategy to make minor modifications to the trade plan. To me that suggests that a single-strategy trader can be successful.

CON

By Tyler Craig

This month's topic of discussion is an interesting one, to be sure. It's a dilemma faced by virtually all who decide to take a dive into the enticing pool of option trading; and, like most things in the financial markets there isn't one right answer for all participants. While the simple approach of using one strategy over and over has its strengths, there are some alluring advantages to possessing multiple strategies in your arsenal.

Consider for a moment the reality facing traders. First, each strategy performs best in a certain environment. For example, short puts thrive in bullish, declining volatility environments; iron condors thrive in neutral, declining volatility environments; and straddles thrive in explosive, increasing volatility environments. Second, as market guru Katy Perry put it, "the financial market changes its mind like a girl changes clothes." Yep, I'm pretty sure I heard that somewhere.

Anyway, change is a constant in the markets. In theory, one would only want to enter a particular strategy if the market conditions are deemed favorable. If the conditions are perceived as unfavorable, then the prudent action would be to sit on the sidelines. Remember, cash is a position. The potential problem that arises for traders with only one strategy in their bag of tricks is the inability to participate for extended periods of time if the unfavorable conditions persist.

I would argue this is likely something that plagues directional traders more than non-directional. Consider the plight of those continually selling bear call spreads in a three year bull market, or those selling puts month after month in a two year bear market. Whether it's due to a lack of other strategies in their toolbox or stubbornness, you can see how getting caught in the trap of using one strategy in perpetuity could do some damage. Perhaps another distinction worth mentioning is that certain strategies are better equipped to be used month after month than others. Someone bent on selling condors will likely fare better than one simply buying straddles.

Traders electing to traverse the one trick pony route must realize their approach will likely result in sitting on the sidelines more than the trader with the ability to wield multiple strategies. Admittedly, this may not be a bad thing. There is something to be said about the trap of overtrading. Those using too many strategies in an attempt to *always* have skin in the game could benefit from the calm serenity that often results when moving from emotional participant to objective spectator. Some traders may even like the idea of being out of the market more than they are in since it's less taxing on their emotional capital. EM

Tyler Craig is president of TC Trading, Inc. He has personally coached hundreds of traders over the years through his contract work with one of the nation's leading educational firms. He is an avid writer and current monthly contributor to the Wealth Intelligence Magazine. In 2009 he began his venture into the blogosphere by starting Tyler's Trading, www.tyler-strading.com, where he can be found giving daily market commentary for stocks and options.

Should You Always Play the Odds?

Mark Sebastian

I still remember my first interview with Group One Trading. I was asked a whole host of probability questions. "Would you rather have a million dollars, or a 1 in 2 chance of winning 2.5 million" was one of the questions I specifically remember. Later on, I made up one of my own involving the probability of getting four aces in a game of Texas hold 'em. The reason behind the questions was that we wanted our potential traders to have a strong understanding of probabilities. When one considered that as a market maker I was trading probabilities several hundred times a day, much like a casino, it made total sense. All we could do was try to play the odds that were available to us on a given trade. Thankfully, we had two things working in our favor (the number of trades and the bid/ask spread) because in many ways probabilities are a total load of junk . . . especially for most retail traders.

Going back to my first interview question (would I rather have a million dollars or a 1 in 2 chance at 2.5 million), a computer would without a doubt take the coin flip over the million dollars. That makes total sense if one gets to play this probability many many times. However, what if the computer only got to play this game once? What about the average trader? Would a trader turn down 1 million to make 2.5 million? If they had a billion dollars in the bank, maybe, but for the rest of us the answer is that we would take the sure thing. Why?

The answer lies in the absolute. *I do not know anyone who is willing to give up a million dollars for a 50/50 chance at 2.5 million.* The risk/reward in the absolute trumps the true risk/reward in the trade. It would probably take something in excess of 20 million dollars to start to move a few people toward taking the 50/50 bet. To the average person the absolute loss outweighs probabilities because they don't get to play this statistical game with regularity. In the end, a million dollars is a million dollars, and the loss of those 7 figures would be catastrophic to almost every trader out there.

So what does this have to do with traders like us? A lot! For a trader that is executing a few trades a day, or a few trades a month, probabilities do not matter as much for several reasons:

1. If you are playing the odds on a few trades as opposed to many trades then the odds had better be well-aligned on your side, or in the end the odds are really not in your favor at all.
2. Many traders cannot survive the battle to win the war: the loss of capital from losing on a high-probability bet can often completely wipe out the retail trader.
3. The software much of the retail public uses to evaluate odds is flawed at best. For instance, many of the better-regarded trading platforms have many flaws that would never be tolerated by a true probability trading firm. Basically, if one is unsure of the true odds, playing them is nearly impossible.
4. The bet can change: this is probably the biggest of the reasons, as explained below.

When I enter an iron condor, butterfly, straddle . . . you name it, I have a set of calculated odds. The problem is that those odds are based on the model in its current form, and are not set in stone. Thus, when we see an increase in implied volatility, the odds on our bet change. That is the equivalent of betting on a horse with 5 to 2 odds and then having the odds change mid-race to 3 to 2 once the horse is ahead. If that took place in horses, there would be no one betting on the ponies (thankfully, it doesn't).

(continued on page 40)

Iron Condors with a Long Strangle

Mark D Wolfinger

Trade entry – December 27, 2010

Trade: Buying vega at what appears to be a low level. That gives us a position with positive gamma and negative theta. To offset a portion of the cost of owning an index strangle, a set of three iron condors per strangle is added to the position.

The big moves still provide unlimited profits, but the iron condors offset a portion of the large time decay.

With RUT near 789:

Put portion:
Buy 10 RUT Mar 11 710 puts
Sell 30 RUT Mar 11 680/690 put spreads
Paper trading account: Midpoints = $10,000 debit.
Trade execution estimated to be $10,500 debit.

Call portion:
Buy 10 RUT Mar 11 840 calls
Sell 30 RUT Mar 11 860/870 call spreads
Paper trading account: Midpoints = $6,650 debit. Trade execution estimated to be $6,800 debit.

Total position cost: $17,300

Trade Plan: Earn profit from a significant market move or an increase in implied volatility.

Trade Plan: Earn profit from a significant market move or an increase in implied volatility. And that must occur before too much time lapses. [Afterword, added when trade has been closed:] This is a very loose plan and should contain more detail, especially target profit and maximum acceptable loss.

Position:
In figure 1, we see the risk graph for the original position plus those in which implied volatility moves higher or lower by 15%.

Vega exposure is indicated by the upper (IV +15%) and lower (IV -15%) lines. As with all positions that hold net long options, there is the possibility of a good-sized gain. However time is limited.

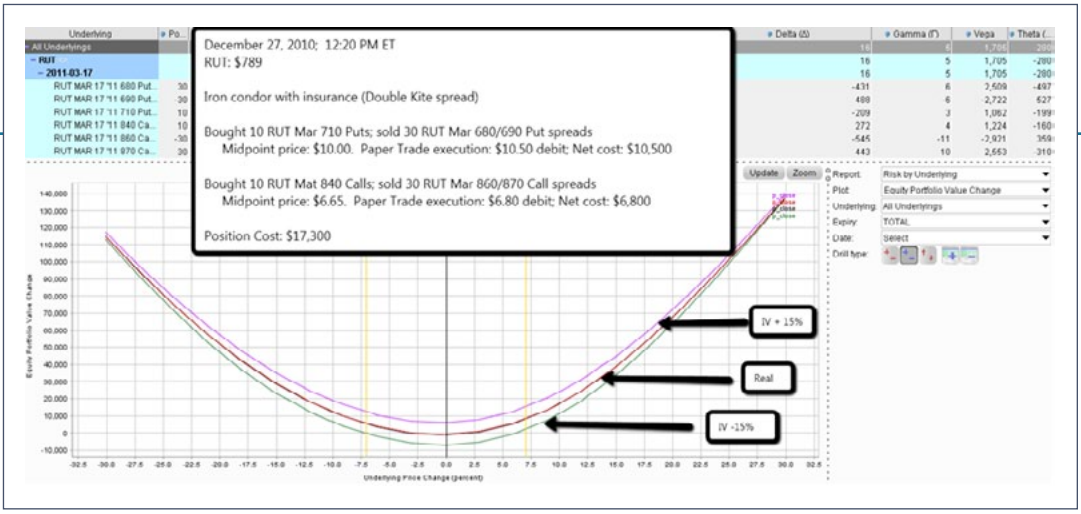


FIGURE 1

The greeks can be seen in the upper right of the chart:

Delta: +16
Gamma: +5
Vega: +1,705
Theta: -280

Update 1 – Jan 12, 2011

The market has not been going anywhere for a couple of weeks and the effect of time is already obvious in figure 2.

There is no reason to change the game plan, unless we prefer to neutralize some of the greeks.
For now, decision: Hold.

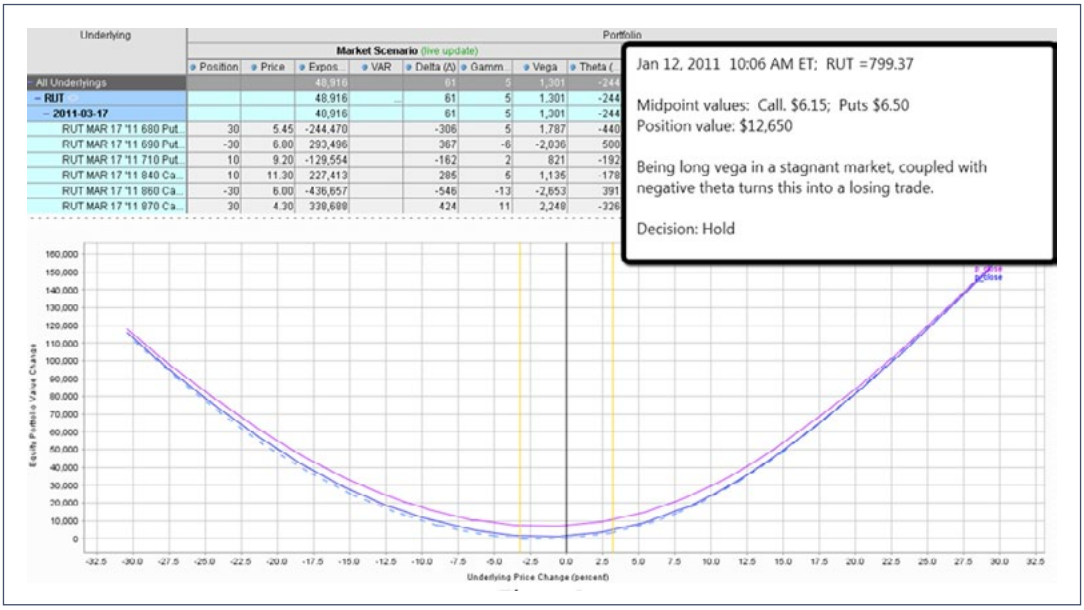


FIGURE 2

Update 2 – Jan 25, 2011

Our plight represents the typical problem faced by option buyers: Another two weeks have passed. Our position is decaying and the big decision of whether to recognize this as a trade that is much less likely to be successful in the future than we had originally thought, or to hold. I know there is no point holding a trade when you don't like the risk/reward prospects for the position. I am not yet convinced that the position will continue to falter.

The clock has been ticking and nothing good has happened. The loss (now $8,350) is beyond worrisome. There is no doubt that this trade plan was incomplete because there was no mental stop loss, or the setting of a maximum loss. Still, it's not too late to exit. The question is should we hold or fold.

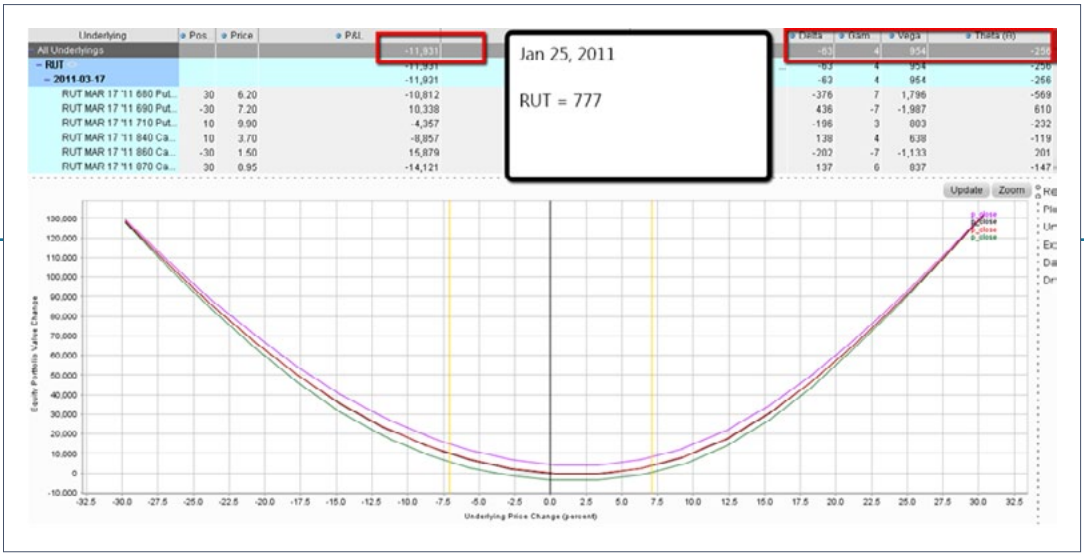


FIGURE 3

Owning lots of vega in a dull market has cost. Negative theta has also hurt, and this position is all pain (figure 3). However, still holding.

Update 3 – February 7, 2011

Less than one week later, I now understand why I prefer not to own negative theta, positive gamma positions. We reached the point at which it has become unlikely that this position can become profitable. However, that's not my target. Today, the goal is to make money from where we stand right now.

In other words: Exit now or do I see profit (from here) potential in the trade?

FIGURE 4

It's a good sign that we turned the corner and are at a point from which money can be made—if the market continues higher. I hate to take a market stance, but this trade was opened with the hope of a big move. We've been hit hard so far, but today I see a good reason to hold.

Selling additional call spreads, or adding iron condors to the portfolio, would increase risk on a big move, but that is one way to cut theta and vega risk.

Decision: Hold for now, looking for a chance to do some good over the short term.

Update 4 – Feb 11, 2011

Eight days later and the market continues to rally. RUT has passed 820 and the position continues to bleed. We are now long 125 delta, but it's not helping. RVX [RVX:RUT as VIX:

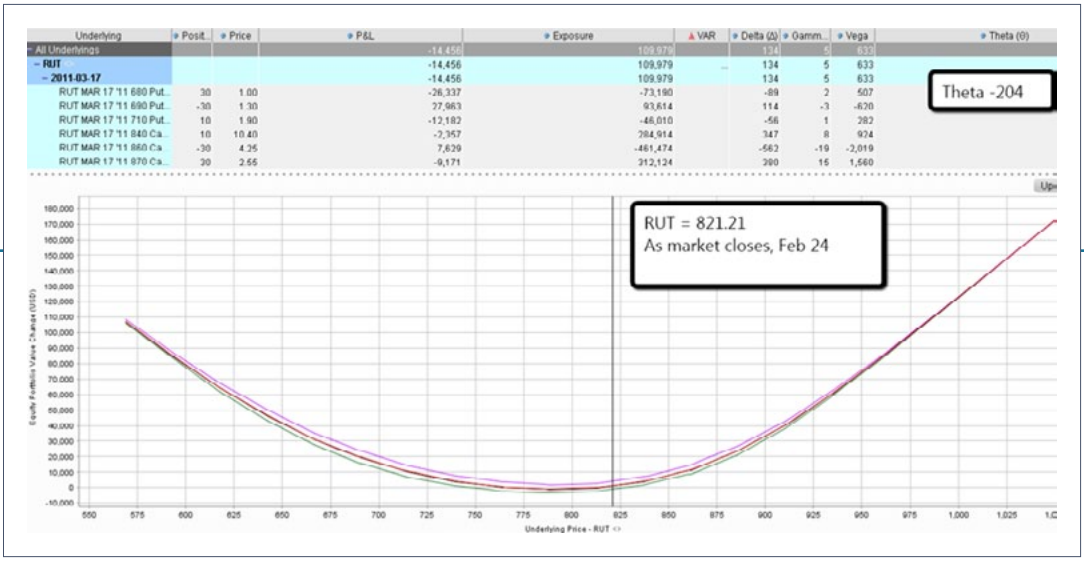


FIGURE 5

SPX] is currently 22.06 and RUT is 820.60, the graph allows us to be hopeful, but we don't trade risk graphs, we don't trade on hope, and we trade dollars.

The only question here is whether to sell more call spreads, sell a few long calls, exit, or hold.

I'd love to sell some call spreads, but the premium is too low. Can collect approximately $1.70 for more 860/870 spreads. I feel we need a better price.

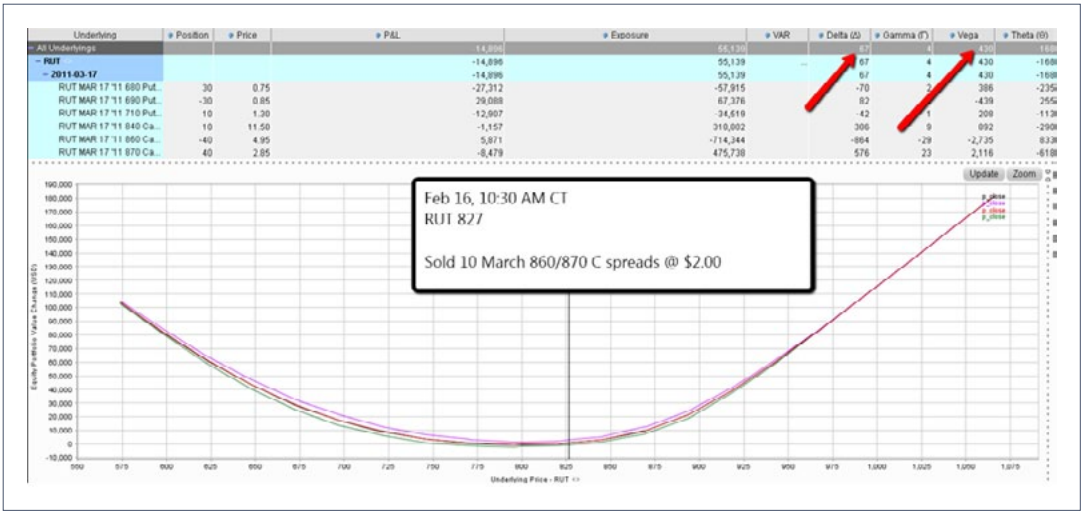


FIGURE 6

Update 5 – Feb 16

The rally continues. I made a delta adjustment by selling 10 more of the March 860/870 call spreads @$2.00. Working in a virtual account has its drawbacks. The market was $1.80 to $2.30, and the best fill I could get (from the software) was $1.85. I am recording the trade as a $2.00 fill.

The red arrows point to the still positive delta (67) and vega (430). Of course, theta is still negative (168).

Taking in $2,000 helps, but this position is very much under water as we have not had much in the way of adjustment opportunities. That is the life of a stubborn premium owner in dull or slowly trending markets. The good news is that all my exit rules (which were not prudently followed) would have provided a better outcome.

Update 6 – March 3, late in the trading day

Note: We could exit the put spread at a very low price, but the long puts provide more than adequate protection and it's too late in the game to make this trade.

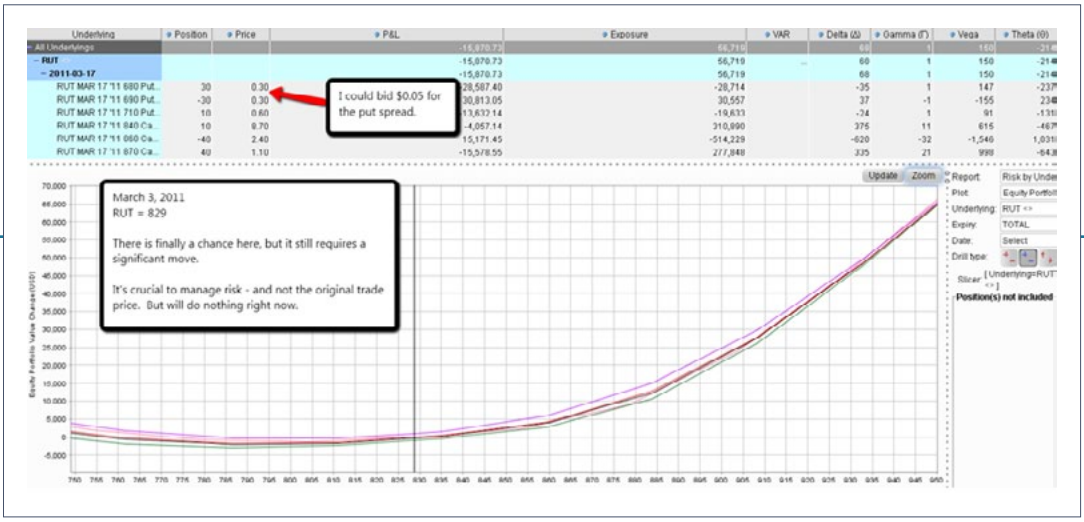


FIGURE 7

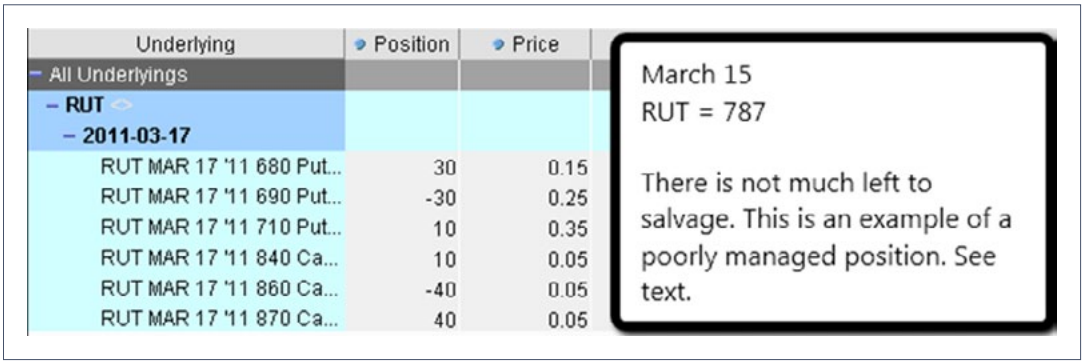


FIGURE 8

With RUT trading near 829, the long calls are only 11 points OTM. When I write these words in the diary, I feel the desperation of someone who *needs* the market to perform as hoped. That is not a good way to trade. The position has a sizable loss—but because we are beyond any reasonable stop loss point, that is no longer part of the decision-making process for me.

Exiting here could salvage ~$3,500 in cash. That's the real decision. At this point I am emotionally trapped into this trade—something that almost never happens to the successful trader. It's difficult to admit this shortcoming in writing, but the evidence is directly in front of each of us. This trade has reached the emotional phase, and that does not bode well.

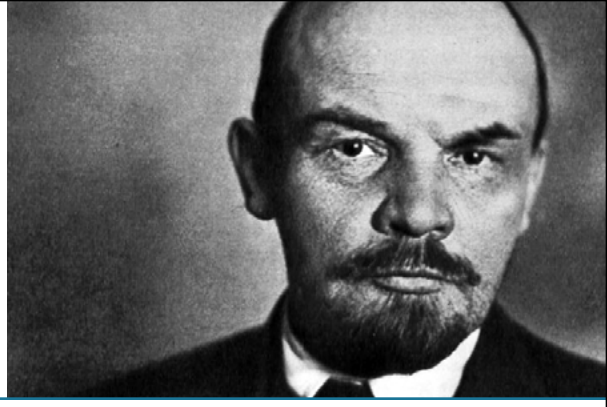
Update 7 – March 15, Tuesday of expiration week

The market has reversed, and even the long options have little value. All that's left is a prayer.

March 18: It's not news that each of the options expired worthless. Except for the $2,000 adjustment, we lost every penny plied into the position. Net loss: $15,300.

This is a bad result. There's not much to be said that has not already been said. Proper risk management would have forced a much earlier exit. Good judgment would have shown that IV was not reversing direction right after the trade was initiated. There was no need to take such a large vega risk with no indication that the play would be a winner.

Risk management remains the name of the game. EM



It's About Food, Not Facebook

Jared Woodard

We probably have a false understanding of why events in North Africa and the Middle East are happening.

At the dawn of the 20th century, the sorts of people who were inclined to look for revolution were betting on an uprising led by the well-organized and politically experienced leftist parties in developed Europe. In fact, the first major political challenge to capitalism in the 20th century started not among German Social Democrats, but among the industrial workers (and later, agrarian peasants) of a relatively backwards Russia. When, in 1914, nearly all of the social democratic and socialist parties of Europe voted for nationalistic military agendas, Lenin and other revolutionaries were shocked; and to their continued surprise, by the spring of 1917, Russia was the most democratic country in Europe. The October revolution is justly more famous, but it was the March overthrow of the tsar that made the latter uprising possible. And what was the short-term catalyst for the workerist strikes and demonstrations early that year? Among other things, famine and commodity shortages.

Coverage of the Middle Eastern and North African revolts in the U.S. media has been predictably shallow. Instead of analyzing the structural economic, social, and political conditions that made this year's revolutions possible, news organizations have focused on trivialities like social media, celebrity dictators, and sassy youths. Twitter, tyrants, and tempestuous teens are not often the stuff of real history, but they attract and keep viewers, which

> In the **struggle** between capital and labor, the latter can only be **squeezed, trampled, and starved** so much.

helps attract and keep advertisers. And so our collective understanding of current events is determined not by reports on the events that are occurring, but by the preferences of the companies that fund that reporting. You will never see commercials for cars and banks following a report on the effects of income inequality and top-down class warfare.

The temptation toward trite slogans is strong: "they just want freedom!" And even the demand for deeper analysis can be co-opted by a misplaced focus on formal legal and political institutions. Workers in Egypt revolted, we are told, against the non-democratic nature of their government. People want freedom of the press. YouTube shall not be censored. Where genuine legal protections and political liberties are concerned, this analysis must be partly right. But it is only part of the story. Instead, we should be reading analysis of economic inequality, commodity prices, and *realpolitik* decision-making by Western governments.

Democratic empowerment without economic empowerment is meaningless, after all. As Richard Haass (president of the Council on Foreign Relations—so, hardly a Marxian pamphleteer) wrote in the *FT* on March 8:

> A fuller form of democracy may be the desired alternative, but it is also the most difficult to bring about. The region's nations lack the traditional prerequisites—including a large and growing middle class, a real (and not oil-inflated) per capita gross domestic product above $3,000, and a developed civil society of truly independent institutions.

Western governments have used this state of affairs as a pretext for tolerating repressive regimes: economic liberalization should precede political liberalization, on their view. But the unemployed and unrepresented people of these countries appear to be demanding both, and now.

I won't deny that social media have had a role in recent events any more than anyone would deny that the printing press and telephone were, for a time, destabilizing. But the catalyst of any event can never be the medium by which the event is transmitted. The catalyst, in this case, is likely the same as in nearly every other revolution in history: in the struggle between capital and labor, the latter can only be squeezed and trampled and starved so much. When the former overplays its hand for too long, people sometimes take to the streets. EM

Should You Always PLay the Odds? *(continued from page 33)*

Option trading, on the other hand, sees the odds change all the time as volatility moves one way or another and probabilities change as well. *A condor that has odds of success of 80% can see its odds fall to 70% or worse; a calendar can see its odds move from 20% to 30% and back to 20%.* If one was trading in and out of these all the time that would not be a big deal, but the fact that many traders are entering 1 trade with a plan to hold it for more than a few days completely throws the probability assumption out the window. The point is that probabilities only work in a game where one can play a lot of times!

So where does this leave the trader? The key to picking a favorable trade has less to do with the odds one might see on their trading software and more to do with the conditions in which they enter. If a trader buys a straddle when IV is really low, it doesn't take much of a change in vol to make the probabilities on that straddle begin to work in that trader's favor. Paying attention to conditions and price will trump probabilities, because where probabilities fail, price and cheap vol or expensive vol do not. By picking the right conditions, the trader can (probably) make the probabilities work in his or her favor. EM