

thinkMoney/05

• random musings
for thinkorswimmers
Spring 2009

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EVERYTHING YOU
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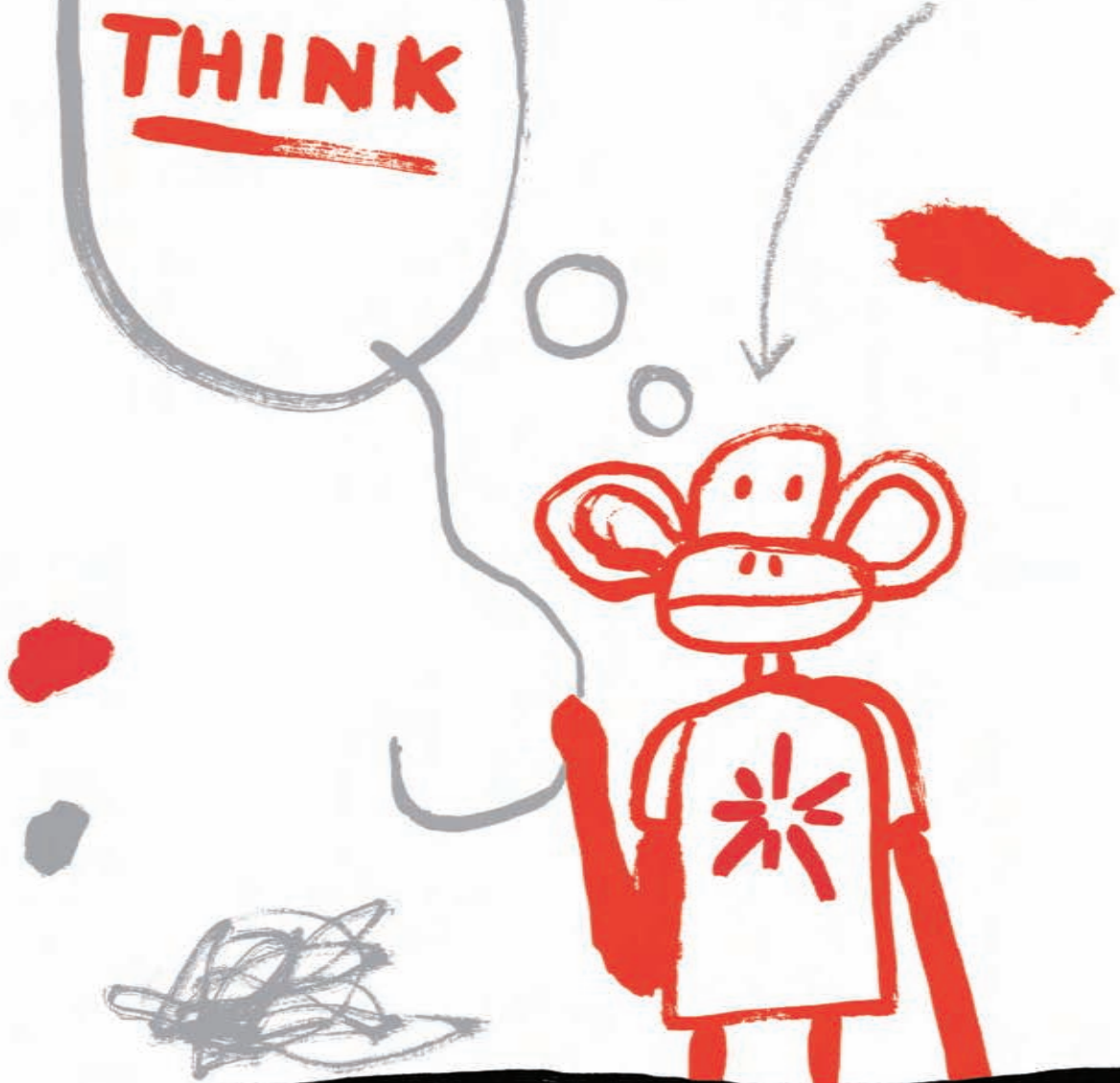
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04

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Fredrik Broden

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Shut up and Trade!

While buy and holders bicker about where the bottom of the market is, volatility traders are swimming in opportunity. Sure, the markets have changed—But for us, the rules are the same.



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To be able to trade these brilliant new products, best to understand them first.

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A Quick Howdy

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edit.

A Note from the Prez

You've probably already heard the news that TD Ameritrade is in the process of buying thinkorswim. So, let me take this opportunity to answer some questions that I get asked frequently.

The main thing people want to know is whether we'll still be sending out the monkeys. That's a board decision. As of this writing, it's about 40% for and 40% against. We're working hard to get the majority of the remaining 20% to the pro-monkey side by the next meeting. We think we'll be able to pull it off.

Then, what about commissions? There has been a lot of thought about that, and although we can't make any guarantees, we believe that TD Ameritrade will treat this as it has its other acquisitions and grandfather in everybody's existing TOS rate. Also, there are no plans whatsoever to charge any fees for

the products and services you get for free, such as live data, news, the trading platform, service, etc. In fact, TD Ameritrade does not currently charge for any of its platforms, either. You'll always be able to call our trade desk for help. We'll going to be adding a number of experienced traders to our desk to handle the increasing trading volume and support requests.

The product development schedule will also proceed full-steam ahead. Our development team is going to remain intact, and we'll continue to hammer out new releases, with enhancements and trading toys, every month as we always have. And yes, you'll still be able to trade complex option spreads, futures, and FX on the platform. We'll even continue to expand the list of products you can trade. As for the option margins and ability to trade in IRAs, that will stay the same.

We'll also be expanding our educational products and classes to a much wider audience, as well as the number of advisors that we will support for auto-trading.

The bottom line—this monkey ain't going anywhere. Now, I have to get back to answering emails.

Yours truly,
Tom Sosnoff
President, thinkorswim



Now, more than ever, we want to hear from you! Please send your thoughts and opinions to editor@thinkmoneymag.com



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JUMP
UP
AND
TRADE!

TO SAY THE WORLD HAS CHANGED
IS AN UNDERSTATEMENT.
TO SAY THAT YOU'RE AFRAID TO
DIVE BACK IN THE COLD WATERS, UNDERSTANDABLE.
BUT HAVE THINGS REALLY CHANGED
MUCH FOR VOLATILITY TRADERS?
IT'S TIMES LIKE THESE
WHERE YOU MAY JUST
HAVE TO EMBRACE YOUR FEAR,
PLUG YOUR EARS
AND JUMP ON IN.

Words by **Mark Ambrose**

Photograph by **Fredrik Brodén**

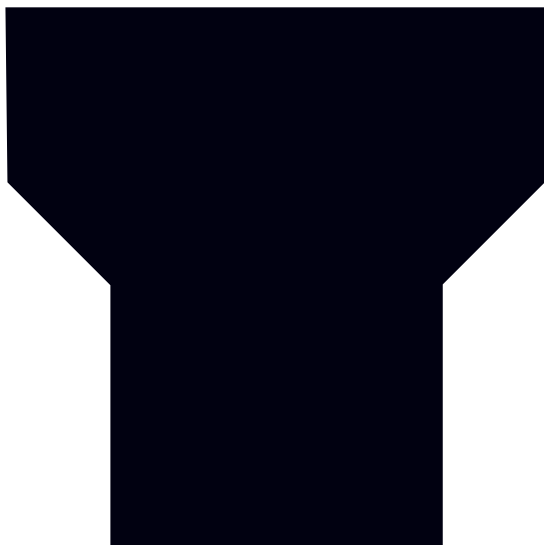


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Feature #1

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STRATEGY BOX:

Short Vertical A defined-risk, directional spread strategy, composed of an equal number of short (sold) and long (bought) calls or puts in which the credit from the short strike is greater than the debit of the long strike, resulting in a net credit taken into the trader's account at the onset. Short call verticals are bearish while short put verticals are bullish. The risk in this strategy is typically limited to the difference between the strikes less the credit taken in. The trade is profitable when it can be closed as a debit for less than the credit received. Breakeven is calculated in a short put vertical by subtracting the credit received from the higher (short) put strike, or in the case of a short call vertical, adding the credit received to the lower (short) call strike.

Iron Condor A market-neutral, limited risk strategy, composed of a short put vertical spread and a short call vertical spread. The strategy assumes the underlying will stay within a certain range (between the strikes of the short options), in which case, as time passes and/or volatility drops, the spreads can be bought back cheaper than the credit taken in or expire worthless, resulting in a profit. The two breakeven points at expiration are calculated by adding the total credit received to the call strike and subtracting the credit from the short put strike.

THERE'S A REASON THEY CALL THEM "CRASHES". Whether they happen in the market or in your car, no one ever sees them coming. In retrospect, you start to convince yourself that there was some sign. The road was icy. Or it was foggy. Or maybe it was just that the guy in the other car was an idiot. But the second-guessing doesn't really do you much good when you have to get to work on Monday morning. You have to get back in the car (or loaner) and drive. Sure, you're jittery, and you realize how bad things can get when you or someone else makes a mistake. You also realize that if you succumb to the fear, you'll never get out of bed in the morning; and in all likelihood, others in your household just aren't that into you (pets included). So instead of putting a moratorium on driving ever again, you use the fear to become a little smarter, a little more aware, and start driving again....And be glad that you have insurance.

LESSONS LEARNED

The Crash of 2008 wiped out a lot of market value. You can think back to last summer and see the things that might have triggered it. The continued failures in the banking and mortgage sectors...the specter of deflation. Forget it. Leave the "whys" to the academics and the economists. They get paid to fill blank pieces of paper with text. Traders don't have that luxury. We have to get up in the morning, fire up the TOS platform, stare at the flashing numbers, and try to find a way to make a profitable trade. You might be more scared now, more jittery, about putting on positions. Losing money stinks, no matter how long you've been doing this. But it's a part of the business. So, post-Crash of 2008, what have we learned that we can use in the future?

The first thing to realize is that nothing can predict a crash. Nothing. So, you always have to be insured. No naked risk positions (if you must, refer to "Swimming Naked", *thinkMoney/04*). Use defined risk spreads where you know what the max possible loss is before you do the trade. No matter what the probability models say, no matter how much homework you've done, no matter that the market has never moved so big, so fast, it can happen. Individual stocks, commodities, currencies, indices – you name it – can all do brand new, unexpected, unpredictable things in the future. The vast majority of the time, they don't,

which is why some traders decide that they don't need insurance in the form of defined risk trades, and they put on trades whose maximum loss can't be known with certainty. The loss on those types of positions can be enormous. You don't need that. You can read about those types of losses in the newspaper. Use defined risk trades where you know the maximum loss you might incur if the market does something you pray it won't.

The second point, which is an extension of the first, is that you have to make sure that if all your positions lose their maximum amount, you can absorb that loss and continue to trade. In other words, the crash taught us the importance of risk management (see "Risk Management: A Trader's Least Fun Job", *thinkMoney/03*). Hey, even mortgage derivatives probably looked attractive at one point. For a bank, maybe \$1 million of exposure was ok. Maybe even \$10 million. But \$10 billion? You know how that story ended. Defining the max loss for one short spread is straightforward. Deciding how many spreads to sell is another question. Multiply the max loss by the quantity of spreads you're considering, and think about that number. If you lose that much, can you continue trading, or do you have to go back to saving up for another stake?

The third point is that the increased volatility can actually create trading opportunities. Now, that may sound like a dorky business motivational poster, but when it comes to option trading, it's fairly easy to see why.

SAME TRADE, DIFFERENT DAY

Look at three different volatility environments: one with VIX, the CBOE volatility index, in the low teens, one with VIX in the mid 20s, and one with VIX above 50. Back in early 2007, when the VIX was barely above 10% and the SPY was 143, you could sell a one point put vertical (on SPY) with thirty days to expiration with a short strike 5% out of the money for .05. Thirty days later, the SPY was 1.89% higher and the short put vertical expired worthless. In August of 2007, with the VIX in the mid 20s and the SPY at 145, a one point put vertical with thirty days to go and with a short strike 5% out of the money was worth .15. 30 days later, the SPY was 4.7% higher and the short put vertical expired worthless. This last November, with the VIX in the 60s and the SPY at 87, that put vertical, with thirty days to go and 5% out of the money, was .35. Thirty days later, the SPY was 1.1% higher and the short put vertical expired worthless.

When vol was low, the short verticals a certain percentage away from the current index price were dramatically cheaper than they were when volatility was high. Another way of looking at it is that you could get the same credit for a short vertical much further out of the money when vol was high than when it was low. The market is rewarding you for taking on risk when volatility is high.

The point is not that selling put spreads with 30 days to go and 5% out of the money is a great trading strategy.

YOU JUST WON'T GET AS MUCH POTENTIAL REWARD FOR THE RISK YOU'RE TAKING AS WHEN VOLATILITY IS HIGH. THE CRASH USHERED IN A TIME OF GREAT OPPORTUNITY TO CAPTURE LOTS OF POSITIVE TIME DECAY.



back to back crashes. But the option premiums have. They're bigger now. And the reality is, they might not stay big. That's not to say that you can't sell iron condors or verticals when the VIX is lower, but you just won't get as much potential reward (credit) for the risk you're taking as when the volatility is high. When you look at it like that, the crash ushered in a time of great opportunity to capture lots of positive time decay. That time might not, and probably will not, last forever.

ONE MORE THOUGHT

The fourth point is something most people don't think about, but savvy traders use to their advantage. When stocks and indices are moving around, the prices of individual options and option spreads move around, too. That means that sometimes you can get much better fills than when the market is slow. For a spread, forget the "natural" price based on the bid of one option minus the ask of the other option. Think about an "inside" price where the market makers will trade a spread. You can't see what that price is. But you can enter an order at the "mid" price, which represents fair value for a spread, and as the underlying stock or index moves around, that mid price might suddenly be a price that another trader is willing to buy or sell at. Put another way, when you're working a big order, say 2,000 spreads, and call down to the exchange floor to see what the market is, a market maker might say, "I'll pay 0.40 for them with SPY at \$88.50". The bid/ask for the spread might be 0.38 - 0.42 based on the N.B.B.O. (National Best Bid and Offer) and the SPY might be trading at \$88.48. If the SPY ticks up 0.02, the market maker will accommodate the large order, even though the 0.38 - 0.42 doesn't change on the screen. Now, let's say you're wanting to sell a 20 lot of spreads. Do you just sell them at the bid of 0.38? No! Put them in at 0.40. Maybe you'll get filled. But here's the key: when the market is sluggish and not moving around very much, maybe some other trader won't see the SPY trade at a price that makes 0.40 an attractive buy for her. When the market's volatile, the SPY might be bouncing around so much that it hits that critical number, and she lifts your offer.

Traders who want to sound cool sometimes use the phrase "the quick and the dead", thinking that it refers to gunslingers. But it's a Biblical phrase that uses an old meaning of the word "quick", which meant "alive". When markets are volatile, they're alive and ripe with opportunities for good fill prices, good credits, and yes, even reduced risk. The game hasn't necessarily changed—it's just that the goal posts have moved. It's a time to trade. It's when the market's "dead" that it's time to pull out the crossword puzzle.

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That position would have gotten creamed in October 2008. But in those three scenarios, the SPY moved less in 30 days when the VIX was highest. If you had been bullish at those three times, you would have profited because your speculation was correct, and you would have profited significantly more when volatility was highest. You would have also had a smaller maximum risk when the volatility was higher because you would have received a larger credit. This tells you that you shouldn't necessarily shy away from trading when volatility is high. That fear might be causing you to give up opportunity by not trading during such times. True, staying out of positions will allow you to avoid loss. But the larger profits you might make when vol is higher could make up for losses that can happen otherwise.

So, the strategies really don't change, but the way you apply them might. That is, you might sell fewer iron condors with the short strikes the same percentage away at a higher price, and generate the same credit for the fewer **iron condors** that you would get with more iron condors at a lower vol.

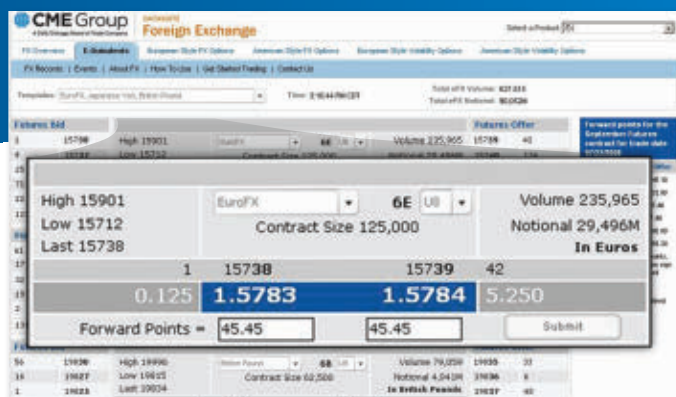
The market hasn't necessarily changed. The possibility of another crash is still there. Then again, we've never seen

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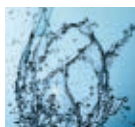


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Dear Swim

A collection of our best love notes from Swimmers to the Trading Desk.

Photograph by
Fredrik Broden

lttrs.

• [Excerpt from a live customer service chat]

handodd: Can I trade FX in my IRA?

hja: you may not

handodd: Tom S. said in August that TOS was "working on it." Do you know if this may be a possibility in the future?

hja: Tom WHO?

handodd: Tom Sosnoff

hja: that Monkey?

handodd: I guess; haven't known him as a monkey but I can see the similarity!

• Here we go again. I can't get access to your end-of-week discussion. Why don't you use the thinkorswim traders' lounge? At least it works. This never does. Don't you guys get it? Use something that works. Tech wise you suck. Can't you get it right?

Anonymous Angry Guy

• I just want you guys to know that thinkorswim is providing me with more financial independence and security than any of my college degrees.

Laurel

• I appreciate your financial insight and lighthearted nature when it comes to discussing the vast world of trading. What I did not appreciate in your last issue was finding nudity in your magazine. I am utterly disappointed knowing that my fees not only helped pay for this magazine but were also used to distribute this garbage. I have a family of three kids that I actively discuss trading with (we even dressed up our cat with the thinkorswim monkey T-shirt and took pictures)...Clearly I cannot trust your company to make good moral decisions and stay focused on trading and education.

Joe

• I am 76 years old, so you can imagine my horror at opening your magazine and seeing this naked butt. I do not subscribe to porn and shame on you for such pitiful standards.

Sharon

• [Our sincerest apologies if the artwork in the article referred to here ("Swimming Naked," thinkMoney/04), was taken out of context or offended our readers. Going forward we've implemented a "no butts" policy and promise only full frontals - Ed.]

• My 2 1/2 year old in my lap, playing online toddler games, looks down at the TOS mouse pad, points his little finger at the red logo and says, "stock market Daddy, stock market." Made me forget about all that Tribune (toilet) paper I have... thank goodness I never heard of Madoff ...

Charles

I find incredible irony in the articles "Do Adjustments Really Work?" and "Why Commissions Don't Matter." Not many months ago I had an account that was completely managed by RedOption. The heroic multitude of adjustments burned through commissions like a California wildfire driven by the Santa Ana winds. I now think of RedOption as part of TOS the same way I think of the Mafia as part of the construction business.

Larry

CNBC is a bunch of crooked journalists who parade out naked short sellers who have ruined our country...Good luck and call Jim Chanos or Stevie Cohen on how to rob the country with CNBC's help...Take me off your email list...

Anonymous Angry Guy #2

Got a quip? Send us your best at editor@thinkmoney-mag.com.

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Volatility Watch

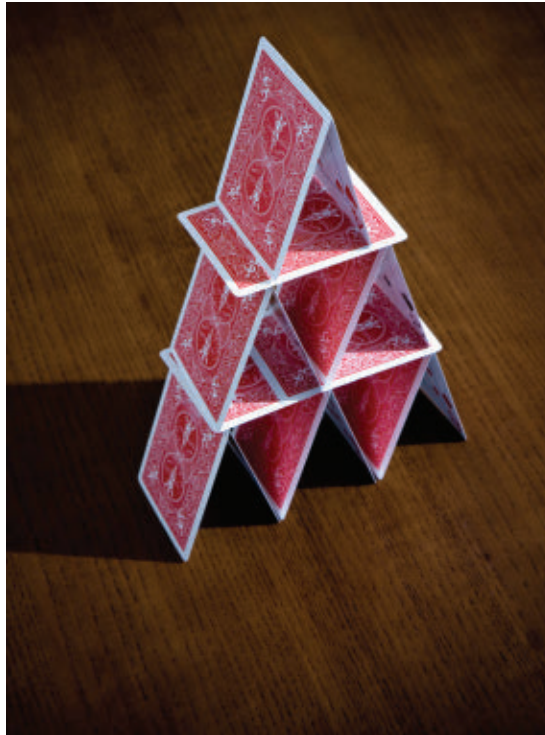
Analyzing the markets through the eyes of volatility—sans charts.

vol.

• How many times do you see a black swan in your lifetime? In 2008, I could count two: the S&P 500 crashing down and the VIX, the CBOE's volatility index, crashing up. Both of those moves were bigger than anything I've seen in 20 years of trading. I suppose I knew theoretically that they were possible, but I always thought they were unlikely. Did the VIX provide any hint of the coming *rara avis*? Not that I saw. The VIX was rising from the 20s to the 30s in late summer, and was hovering around 35% or so when the market started to collapse after September expiration. Sure, the VIX rallied when the market was crashing, but it hit a high in late October as the fear was greatest and just before a bounce in the market. Then it dropped below 50% right before the market crapped out again in the middle of November. When that happened, the VIX dutifully rose back to the 70s, expecting more huge price swings in the S&P 500. Did it happen? Not really. The period between November and January expirations has seen a relatively range-bound market.

Harumph...is the VIX useless at forecasting market volatility? Well, don't blame the VIX itself, which is simply a calculation based on the prices of out-of-the-money SPX options (see page 39 for more on this). The VXO, which is the symbol for the "old" VIX that was a weighted average of the implied vols of at-the-money OEX options, didn't do any better at forecasting what might happen. Blame the traders instead, who seemed to be betting that things would cool down right before they

Words by **Thomas Preston**
Photograph by **Fredrik Broden**



Frequently is the New Never

• Anything that couldn't happen did happen in 2008. So what did we learn? Don't put your faith into any one indicator, but don't dismiss it entirely either.

heated up. Rather than being predictive, the VIX seemed to be much more reactive. It didn't rise ahead of the big moves down. It rose while the big moves were occurring. So, what do we watch the VIX for?

Using the VIX as a contrary directional indicator is, to put it technically, iffy. If the market goes down and the VIX rallies, the thinking goes that the market is due to rally because it has dropped so far. But anyone who bought stocks in September of 2008 when the VIX rose from 20% to 35% and expected that the jump in the VIX would signal a rally in the market got whacked. How is it for forecasting the big moves?

If you look at a scatter plot of the price of the VIX on a particular date and the percentage change in the S&P 500 thirty days after



Everything you wanted to ask about the VIX but were afraid to know begins on page 35.

that date, you'll notice that the huge moves in the index can happen when the VIX is high or low. You can even look at different time frames in the index. The VIX doesn't do a great job at predicting black swan events.

So, can we safely ignore the VIX? Not likely. It does a respectable job at forecasting the volatility of the market for the next 30 to 45 days or so, most of the time. Once in a while, a colossal event occurs because of some unforeseen set of circumstances (i.e., the collapse of the of US financial system), that the VIX can't predict, then things go back to normal. That kind of fits in with the oscillating behavior of the VIX itself. It tends to go up and down in a range, sometimes wider, sometimes narrower, around some average level. Then, the world changes, and the VIX ratchets up or down to a new average and oscillates around that for a while. What's the new range that the VIX is trading in now? It seems that we've seen the highs of 80 or so when fear

was at its worst last fall, then lows in the 40s when everyone became a little more confident in the economy. Now, the VIX seems like it might trade in a range between 40 and 60 or so. That is pure speculation, of course, and another shock to the market could send it back to 80, or an improving economy could send it back to the 20s.

• The views in the section above are those of a thinkorswim employee, but are not necessarily the views of thinkorswim, Inc. and is not intended to be specific investment advice.



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INDUSTRY SPOTLIGHT

Disco Déjà Vu

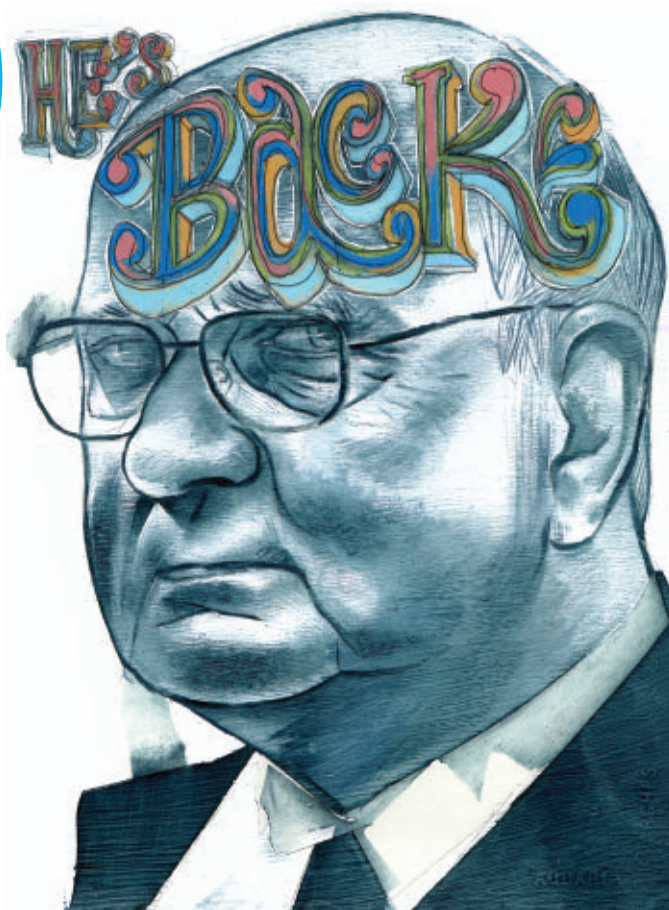
- **1979:** It was a story of questionable music, a bleak wasteland, and hard-working innocents mowed down by undisciplined evil.

Then a lone ranger came to the rescue—Paul Volcker. Fed Chairman from 1979 to 1987. The tough love killer of “stagflation” who pushed interest rates from 11% to 20% between ’79-’81, resulting in the inflation swan dive and arguably one of the greatest economic expansions, and a bull market that ran for over 15 years.

When President Carter appointed Volcker as Fed Chair, you could argue that it put the market’s interest ahead of labor, consumers, borrowers, etc. Carter knew that Volckernomics would be tough medicine for a desperate economy. But he had the courage to do it anyway.

Fast forward to

2009: The economic difficulties today are just as bad, if not more so; making President Obama’s selection of Volcker as an economic advisor more interesting than simply Obama trying to bolster his youthful ranks with an octogenarian. It’s a signal to the markets that Obama won’t be their natural enemy. But it could also indicate that the new President will not shy away from making difficult and



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painful choices to get the economy growing again.

Will the new administration do the things, or maybe more importantly, NOT do the wrong things, to turn the economy around? Already, at the time of this writing, Democratic House and Senate leaders are urging him to roll back immediately the Bush tax cuts for people with income over \$250K. Obama isn’t so sure that a de facto increase in taxes is the right thing to do in a weak economy.

And the market?

2009 might be a range-bound year, without enough fear to resume the bear market, but not enough gumption to start a new bull. 2009 could also be the year when investors start to get long. If the President and Congress are tough enough to give the American economy the bitter medicine it needs, the next round of expansion could be impressive. And the market may just go along for the ride.

TRADER TRIVIA THE NYSE WAS ESTABLISHED IN 1792 THROUGH THE BUTTONWOOD AGREEMENT—A DOCUMENT SIGNED BY 24 BANKERS AND MERCHANTS ON WALL STREET. THE FIRST LISTED STOCK WAS THAT OF THE BANK OF NEW YORK, AND LITERALLY TRADED UNDER A BUTTONWOOD TREE.

fyi.

Traders' Misguided Valentine's Day Gifts

1. Letting her take the other side of your trades
2. Candlelit tutorial on TOS Analyze page
3. Promise that this month, really, you'll move out of your mother's house
4. Offer to monitor positions if she goes back to the gym
5. Love poems using bad option metaphors like "deep in the money", "long", and "slippage".

TOS TOYS COMING SOON

Drag and drop bracket and OCO group orders • New chart interface with drag and drop studies and drawings • Customizable p/l tracking • Enhanced account statement with user-defined report generator.

Pot Shots

Obama's Top 5 Stimulators

KEY:

2 Buy Tickets =

1 Buy Ticket =

1 Sell Ticket =

2 Sell Tickets =

Go Green



Yup, a solar panel on every roof sounds great, but does that also mean a tofu chicken in every pot?

Tax Cuts



Sounds great! And the investment bankers could pay less in taxes on the ginormous bonuses they don't deserve!

Infrastructure



Nothing beats a freshly paved stretch of highway, and think of all the new working-class ballads that Bob Seger could write.

Regulation



Obama as the nation's "scold"—who's to say he won't stop at banks, and cast a disapproving eye at your industry?

R&D



When capitalists turn out to be sissies, it's Uncle Sam the rescue. Hey, who do you think paid to build the Internet?



Education always pays dividends

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Gear Head

Cool things to do with what we've got.

Crystal Balls & iSwimming

Forecast the future and trade with TOS from your iPhone? No, you're not dreaming—Go on, pinch yourself.

tech.

thinkAI

One of the most unique things in the industry that TOS has added to the trading platform is what we call thinkAI, where "AI" stands for "artificial intelligence". The idea is that the tool "learns" as new market data develops. It uses that new data to try to make more accurate forecasts of short-term market direction. You use thinkAI to assist in short-term entry or exit decisions for stocks or futures, as a tool to back up other technical indicators, or on its own as a speculative tool.

thinkAI uses proprietary pattern matching algorithms and artificial intelligence technology to project a possible intraday price path for a stock or index. The model attempts to identify predictable intraday



HOW TO thinkAI: For intraday price forecasts, go to the top Trade tab (1), select "Active Trader" in the right drop-down (2), type in the symbol, and view the blue shaded area in the chart (3) for a forecast of the next 15 minutes to 2 hours.

patterns from historical price data, and match the current day's price action to one of the historical patterns. Think of it like this: thinkAI looks at the current intraday price chart, then looks at the universe of charts with the same intraday time frame (1 minute, 5 minute, etc.) that have occurred in the past. The past chart that comes closest to the pattern of the current chart is used as the forecast for the rest of the day. As the current trading day passes and more information becomes available, thinkAI keeps looking for the past chart that comes closest to matching the current day's pattern. thinkAI is available on intraday charts and generates price estimates for the next 15 minutes to 2 hours into the future. It waits until the first 5 minutes of data are collected for the day, then begins with a 15-minute projection. As the trading day passes and more data is collected, thinkAI extends its projection up to 2 hours.

thinkAI also generates upper and lower confidence bounds for the day's price action by comparing the current price pattern with other previous charts that are close (but not

fewer close matches, the confidence interval widens out.

iSwim

If you have an iPhone, go to the App store and search for iSwim. iSwim, our new trading application designed specifically for the iPhone. Get quotes, set and receive alerts, build and view watch lists, check positions and P&L, create and send stock and complex option orders from anywhere you can get a phone signal. Using the native technology of the Apple iPhone software, iSwim lets you change fields by dragging your finger on the screen, tap the screen to switch between functions, and has an overall "cool" look and feel that will make you the envy of the mobile trading set. It's still in its demo phase, but we'll be making it live soon and adding functionality quickly. So, tune in and tap on.



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the closest) to see how much they diverge. When there are a lot of charts that are very close to the current chart, the confidence bound is narrower, indicating that thinkAI sees the projected price path is more likely to happen. If there are

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Time Killer

Illustrations by
Randall Watson

thinkorswim.com

SYMBOL KEY

Bull's-eye: Player's choice—fistful of wings or two swigs.

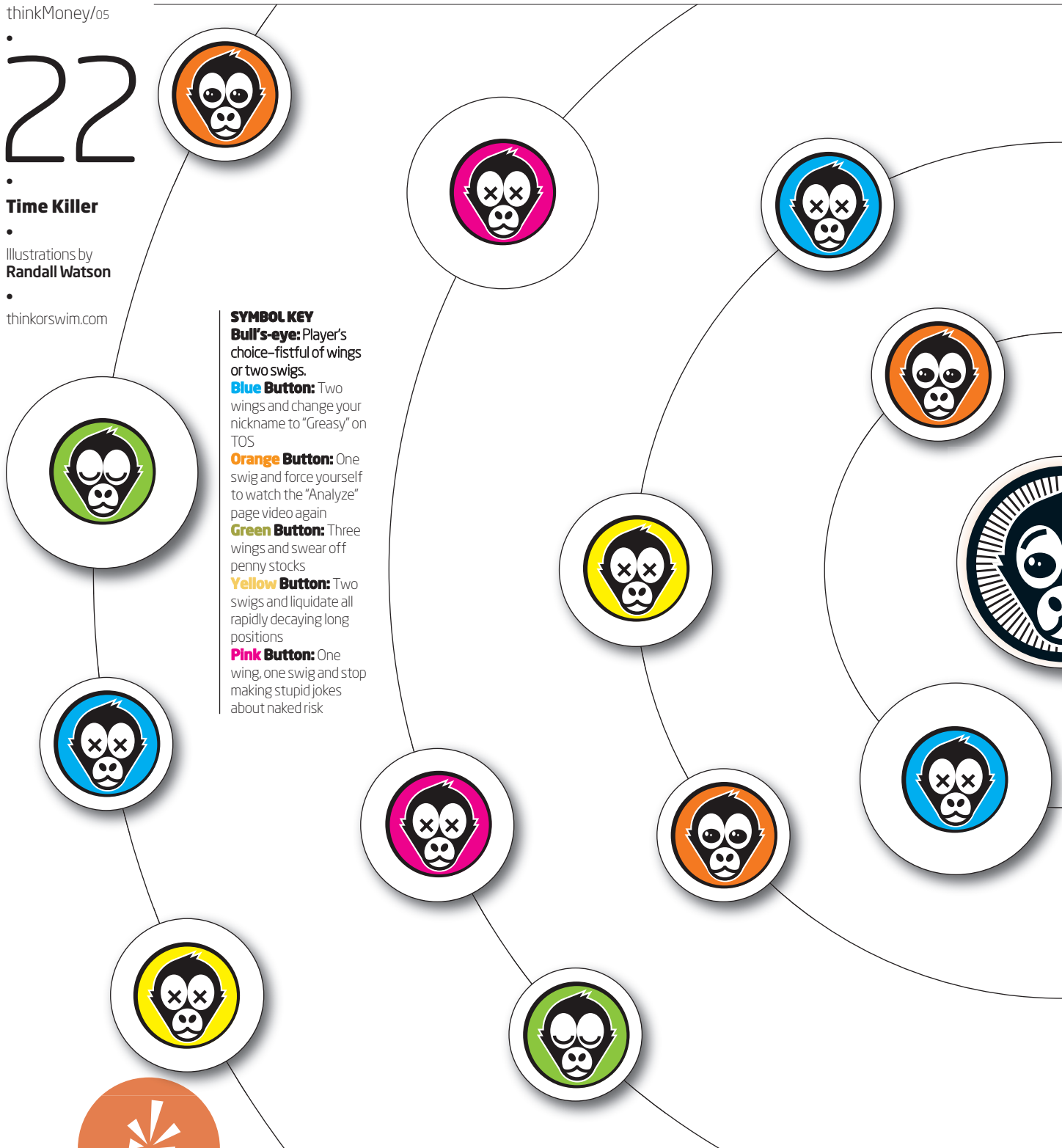
Blue Button: Two wings and change your nickname to "Greasy" on TOS

Orange Button: One swig and force yourself to watch the "Analyze" page video again

Green Button: Three wings and swear off penny stocks

Yellow Button: Two swigs and liquidate all rapidly decaying long positions

Pink Button: One wing, one swig and stop making stupid jokes about naked risk



LET'S PLAY
MAGIC
MONKEY!

Instructions: This is what pit traders do when they're not trading: eat wings and (ahem) take on fluids. When the trading day is over, lay this game board on a flat surface. Aim for the center monkey (it's the big one winking at you) and bounce a game piece on the surface of the table outside of the board. The game piece will likely land on or near a "magic monkey spot." If you nail one, follow the directions using the key above. For multiple players, begin with the player who come closest to either buying on the day's high or selling on the low. Play then moves clockwise.

Objective: To celebrate the winners and drown out the losers for as long as you can suppress the gag reflex.



Supplies (not included): Chicken Wings – Can be fried, baked, BBQ, spicy, or mild. Quality doesn't matter nearly as much as quantity. Figure at least 100 wings per player.

Fluids – Can be either the "happy" kind or not; but typically whatever is close at hand. If you need to make a "run," may we suggest something on the order of 80-proof minimum and costing no more than about \$5 per bottle. While best left to your own discretion, quantity is typically correlated to the players' total aggregate years of trading experience.

Game Pieces – One for each player. If you're a profitable trader, use coins. If not, use something free and readily available, such as bottle caps, pebbles, bitten-off fingernails, etc.

WARNING:

You should avoid this game if you are nursing losing positions, trying to avoid pregnancy, suffer from irritable bowels, or are sitting on or near expensive furniture or rugs.



thinkMoney/05

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Feature #2

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W SCALPING EYES WIDE OPEN

OFTEN TALKED ABOUT, BUT RARELY UNDERSTOOD, GAMMA SCALPING IS A CLEVER LITTLE STRATEGY THAT CAN BE PRETTY USEFUL AT TIMES—THAT IS OF COURSE, IF YOU CAN MAKE IT WORK.

Words by **Thomas Preston**
Photograph by **Fredrik Brodén**

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Feature #2

Photograph by
Fredrik Broden

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that the coolest-sounding strategy name, or what? You whip that one out at a cocktail party and all the covered-call grannies will choke on their olives. There are different ways you can make—and lose—money gamma scalping. You can play it from the long side or the short side. You can keep it simple, or you can get creative. And if you like the idea of “adjustments,” you’ll love gamma scalping—it’s all about the adjustment. You want to try it? Get a comfortable seat in front of your trading monitor, because you won’t be going anywhere. And keep your eyes wide open. One blink and you could miss the best part.

STRATEGY BOX:

Long Straddle A market neutral, defined risk position, composed of an equal number of long calls and puts of the same strike price. The strategy assumes the market will break out one way or another, in which case, a profit occurs when one side of the trade gains more than the other side loses. Breakeven points are calculated by adding and subtracting the total debit to and from the strike price of the options.

Delta The value an option will move for each \$1 move in the underlying. Long calls and short puts have positive (+) deltas, while long puts and short calls have negative (-) deltas. The maximum deltas a single US option contract can have is 100. The total sum of all positions in a portfolio is the portfolio delta.

Gamma The measure of expected change in an option’s delta per \$1 move in the underlying. Long options have positive gamma, while short options have negative gamma.

Vega The measure of expected change in an option’s price per 1% change in implied volatility. Long options have positive vega, while short options have negative vega.

Broad Strokes

Very broadly, gamma scalping is a strategy of making short-term directional trades around a core option position. That option could be a [long straddle](#), or it could be a short iron condor. The directional trade could be long or short stock, futures, single options, or spreads. The idea is that you start out with a position that has a [delta](#) close to zero, but has a positive or negative [gamma](#). When the stock moves, the delta goes from zero to positive or negative because of gamma. You then get the position delta back to zero with one of the directional trades. Simple, right? Well...maybe not.

In my opinion, gamma scalping is primarily, but not always, a defensive tactic, where you are looking to recoup some losses on the core position with profits from gamma scalping. Let’s look at one of the most straightforward examples: a long straddle, where you buy an at-the-money call and put. A long straddle has a lot going on: it has a pretty small delta, but it has a large gamma, a large negative time decay, and a large positive [vega](#). When the stock moves, the positive gamma makes the delta go from close to zero to positive (when the stock goes up) or negative (when the stock goes down). For example, with the stock at \$85, you buy the 85 put and the 85 call for \$14.00. The max loss on that straddle is \$14.00, and the breakeven points at expiration are at \$71 and \$99. If you buy 10 of those straddles, the delta would be slightly positive at about 80. But the gamma is 45. That gamma means that theoretically, your delta changes by 45 when

the stock moves \$1.00. If the stock goes up to \$87, the gamma manufactures positive 90 deltas (45 times a \$2 move in the stock) and theoretically, the delta of the straddle will now be 170. If I sell 100 shares of stock at that point, the delta of my long straddle and short stock will be 70—roughly where it was when I initiated the trade. (Gamma scalping, like all trading, is rarely surgically precise.) Now, if the stock drops from \$87 back down to \$85, the gamma manufactures -90 deltas and the delta on my straddle goes back to 80. But remember, I sold 100 shares of stock, so the delta on my position is -20. If I buy 100 shares of stock back to get my position delta back to the original 80, what have I done? I have scalped 100 shares of stock for a \$200 profit. Look what’s happening—I’m selling stock into rallies and buying stock into selloffs.



YOU HAVE TO BE RIGHT ON THE DIRECTION OF THE STOCK, THE DIRECTION OF IMPLIED VOLATILITY, AND YOUR TIMING. IF YOU ARE WRONG ABOUT ANY OF THESE, THEN THE PROFITS DROP, BUT THE COMMISSIONS DON'T.



That's gamma scalping.

Looking at this position, you can make money in a couple of ways.

First, if the stock moves up and down enough, those moves will give you opportunities to sell stock high and buy it low when you hedge your deltas.

Second, you can make money from an increase in implied volatility, because that straddle has positive vega.

Third, you can make money with a very big, one-direction move that you don't hedge with a gamma scalp. That can happen if the stock gaps up or down overnight on some news event. If you find a stock that you think is going to exhibit that type of behavior, then you may have found a candidate for gamma scalping. I made some money gamma scalping yen futures straddles ahead of Bank of Japan announcements, when they surprised the market and the yen futures gapped sharply higher or lower on the open. In these cases, I was also speculating that the implied volatility of the options was low, and might not drop too much when the news came out; and I was defending my long straddle positions against negative time decay with profitable gamma scalps.

There's No Free Lunch

But as I said, gamma scalping is really a defensive tactic. The example we use assumes that the \$2.00 price swing in the stock happens in one day, but what if it happens in three days? You might be making \$200 on the gamma scalp, but your time decay is, say, \$160 per day on those 10 straddles. That means that you lose \$480 on your long straddle because of time decay, and only make \$200 on your gamma scalp. Now, in those three days, implied volatility may go up or down. The 10 straddles have a vega of, say, 200, and a 1.00 point increase or decrease in implied volatility will push the value of the straddle position up or down by \$200. That risk, combined with the negative time decay, may be only partially offset by the profit from the gamma scalp. Suddenly, gamma scalping doesn't look so easy.

That example also assumes that you play that stock like a fiddle, selling it on a high and buying it on a low. In fact, the bigger the move the stock has before you hedge your deltas, the bigger the potential profit from the gamma scalp. But that entails risk, too. If you get too optimistic about the rally—say you want to wait until the stock is \$3.00 higher before you sell the stock to hedge, but the stock only goes up \$2.00 before it retreats back to where it started—you will miss your scalp, and you'll suffer the full loss from time decay and changes in implied vol. Remember what I said about "eyes wide open"? You always have to watch these positions. The sooner I hedge, the smaller my potential profits, and the lower my risk, but the higher my transaction costs. The longer I wait, the larger my potential profits, the larger my risk, and ... no, the transaction costs stay the same.

One of the main detractors of gamma scalping is its transaction-intensive nature—read "commissions." The strategy, like many trading strategies, sounds great on paper. But when executing the strategy, you have to be



Can't get enough on gamma scalping? Listen to author Tom Preston's extended discussion at www.thinkorswim.com/thinkmoney

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right on the direction of the stock, the direction of implied volatility, and your timing. If you are wrong about any of these, then the profits drop, but the commissions don't. With all those trades needed to get your delta back closer to zero, your commissions can be a significant cost to overcome.

Advanced Gamma Scalping

Now, to get a little more advanced. Instead of using stock as the hedge, I could use single options—say buy puts when the stock rallies and sell them again when the stock drops—or I could use verticals, which would "roll" one side of the straddle to a higher or lower strike. The advantage is that I can fine-tune the greeks of the position more precisely using options. The disadvantage is that the commissions are typically higher than for stocks, and the execution is more difficult.

If you're the type of person who likes to hedge positions like short iron condors, you might be gamma scalping also. An iron condor typically starts out as a low delta trade. But if the stock or index moves to one of the short strikes, the deltas can get very negative (if the stock hits the short call strike) or very positive (if the stock hits the short put strike). The "negative" gamma scalp tries to get the deltas back to a smaller number, though rarely to zero in practice. The hope is that the stock will rise back up to the profit zone of the iron condor, but if it doesn't, the negative gamma scalp offsets the loss.

If you're negative gamma scalping and using stocks or futures as the hedge, you really have to be on top of your trading. In this case, the hedge can be riskier than the core option position. If you have an iron condor, and the stock has dropped to the short put strike, you now have positive deltas to hedge. If you short stock and the stock keeps dropping, great, your short stock is making money to offset the loss on the short put vertical. But if the stock rallies, that short stock is losing point for point with the rising stock. And the loss may be much greater than the profit of the iron condor.

Final Note

Never heard of gamma scalping? If you have ever put on trades to reduce the deltas of your portfolio ahead of a Fed announcement—something a lot of retail investors are learning to do—you're applying some of the ideas of gamma scalping. Understanding a little more about this approach will make you more aware of the risks and potential rewards of your trading tactics, which might just make you a better trader.

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Customers must consider all relevant risk factors, including their own personal financial situations, before trading. Options involve risk and are not suitable for all investors. A copy of Characteristics and Risks of Standardized Options can be obtained by contacting Scott Garland at 773-435-3270 or 600 W. Chicago Ave. Suite 100, Chicago, IL 60610.

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An abstract graphic design featuring the word "NOW" in a bold, gold, sans-serif font at the top. Below it, the word "I'M" is partially visible in a dark blue, sans-serif font. The main body of the image is dominated by large, stylized letters "R", "B", and "K" in a dark blue, sans-serif font. The "R" is on the left, the "B" is in the center, and the "K" is on the right. The letters are composed of solid dark blue shapes, with some areas appearing to be cut out or layered. The overall composition is minimalist and modern, with a strong emphasis on typography and color contrast.

words by **Kendall Hamilton**



Feature #3

Photograph by
Fredrik Broden

thinkorswim.com



NOT THE MAN I USED TO BE.

The man I used to be was not an options trader. He was a writer—and trust me, nobody with any idea about making money would choose to work as a writer. The old me restricted his investments to a few mutual funds and the occasional long-term stock position. Options? Please. The only things I'd ever traded came with bubblegum. Three weeks ago, I knew absolutely nothing about trading options. Two weeks ago, I started trading them.

It began as an experiment, a lark: What would happen if a novice like me were unleashed on the options markets for two weeks, armed only with a \$5,000 bankroll, some rudimentary instruction in the form of a basic 65-page book and whatever else I could pick up along the way? Maybe I'd get lucky. I'd heard there were guys flying around in Gulfstreams who'd started trading with \$5,000. But really I wanted to see whether I, a total newbie, could figure out the basic mechanics of trading, what I'd learn from my mistakes, and how far I could progress. If I finished with my trading skills above their 10-day SMA, I'd consider the experiment a success. That's a metaphor I wouldn't have understood—let alone used—two weeks ago, so there's one thing I learned, but far from the only thing. The lessons didn't always come easily. I won some, and I lost some. I learned about trading and I learned about myself. But mostly, I learned that, hey, I think I could actually do this. Not as a day job just yet, but certainly as a way to leverage a small amount of risk capital into some very nice returns. And if I can do it, believe me, you can, too.

Day 1 / MONDAY

My first day as a trader, I'm nervous, but also fired up. I've read my overgrown pamphlet and practiced with the thinkorswim platform's PaperMoney function for a few hours, familiarizing myself with a key subset of its many, many different screens, functions, and order procedures. It's all fairly intuitive, even for me, but now that I'm going live, there's no ego-redeeming "reset all positions" button to erase my mistakes. I have \$5,000 in real money ready to rip, and a virginal \$0.00 annual P/L just waiting to get dirty.

Halliburton looks like a comer to me—I've heard of it, anyway—so I break the ice with some out-of-the-money February calls at .70 apiece. Since I've decided to risk no more than 10 percent of my stash on any one trade, I buy seven contracts for a total of \$490. I spend the next six hours staring at flickering prices. When HAL pops up over \$20, I'm thrilled. When it drops to \$19.99, I despair. It's amazing what a psychological difference a penny can make. At the close, I'm up \$100, but I've sweated every cent. Trading is exciting, no doubt about it—but, seriously, I need to calm down.

Day 2 / TUESDAY

The next morning, Halliburton pops at the open. It's my first trade and I want to protect it like a father. I sell, realizing a \$200 profit, which isn't going to put the kids through college on this continent, but it is a 40% return.

Can it really be this easy? Buoyed by talk of Obama's planned infrastructure investment, I buy more calls—this time XLB, the materials sector ETF. Again, I buy about \$500 worth, but this time, they don't move. It's an up day in the market, and I'm watching other stocks—including two I'd almost picked—move up nicely, while XLB sits around on its no-account ass. It's

beyond frustrating: holding hands on prom night. I need action, baby. I have to get more cash in play, in the right place, but still stick to my \$500 loss limit.

Day 3 / WEDNESDAY

I decide to make a bigger bullish bet, going long on SPYs, buying five calls for about \$2,500, but putting in a stop loss order to sell if the option price drops by a dollar—*voilà*, \$500 loss limit. Well, um, sort of. As I watch the SPYs slide a bit, I get nervous. By lunchtime, I realize this position has eaten up half my buying power, radically reducing my ability to get into other trades. I'm also concerned that the stop order I've entered will expire at the end of the day. I'll need to remember to reenter it the next morning (maybe this time as a good 'til canceled). But what if the market gaps down at the open? My \$500 limit could be moldy old toast by the time I get out. This seems like too much risk. I exit the position at a \$225 loss, and, in the process, use up one of the three day trades I'm allowed in any five-day period, which limits my flexibility for the rest of the week. I've got to hoard those day trades, use them only for great opportunities or real, rather than imagined, disasters.

Seeking comfort, I return to an old friend, Halliburton, which is heading up again despite an overall down market. This seems auspicious. I decide to experiment with a vertical spread to capture what looks from the charts to be some remaining upside, while limiting my losses (and cash outlay) for real this time. With the stock just under \$21, I sell six in-the-money February 22.5/25 put spreads for a premium of \$1.68. My maximum profit here is \$1008, maximum loss \$492, figures helpfully confirmed for me on the TOS trade-confirmation screen. This seems like a favorable payout to me, until I realize the strike prices are so far in the money that the chance of capturing all that profit within my time frame is slim. I'm getting 2:1 odds on what, when I think about it, I'd call a 10:1 shot. Las Vegas was built—and lavishly furnished—on transactions like this.

Day 4 / THURSDAY

My first week deteriorates from there. Thursday's a down day, but in the afternoon, I notice the Dow has bounced twice off what looks like "support", around 8,665. I decide we've hit a low. Friday, I think, will see the market up. I go long DIA, selling an 88/91 put spread—again, in-the-money, but not by too much, especially if I'm right. I hang on to the HAL spread, and make a snap decision to add another bullish position. Some joker on the TV over



THE NEXT MORNING, THERE'S SOMETHING IN MY MOUTH. IT TASTES LIKE LIVER. IT PROBABLY IS LIVER, MY LIVER, GIVEN HOW FAST I'M DROPPING HERE.

my shoulder is shouting about Owens Corning. I fire up the TOS platform's Prophet screen, check out the chart and quickly scan the handful of technical indicators I've managed to figure out between trades—various flavors of moving averages, Bollinger Bands, RSI, ROC. I sell another put spread, hoping for a run-up in days to come.

Day 5/ FRIDAY

The next morning, there's something in my mouth. It tastes like liver. It probably is liver, my liver, given how fast I'm dropping here. There's been a bad jobs report and the market's headed to Mexico, taking my positions with it. In a moderate panic, I close out everything but the Halliburton position, which I decide to keep as a science experiment: I'm going to stash that sucker in my locker to see how just how smelly it gets. At week's end, I'm down about \$650, or

13%. Not ruinous, by any means, but it occurs to me that I've picked up bigger bar tabs and had far smaller hangovers, which is to say that the psycho-emotional factors in trading can't be overestimated. It's easy to mesmerize myself staring at the colorful numbers on the screen, wrap myself in charts and studies, bathe in a relentless stream of news—but this game, it occurs to me, is being played largely inside my head. And my toughest opponent is me.

Half-Time

I spend the weekend thinking things over. I need to get less twitchy, more reasoned. I'm in and out of my positions on whims and snap judgments—especially early in the day, when the chaos that seems to define the first hour of trading makes me particularly prone to rash moves. On balance, it's as though I'm in a rush to lock in losing trades. Oh, that one's down a bit—for God's sake, hurry up and close it out before it goes back up! I need to learn to stick to the plan until I have a real—rather than an emotional—reason to change it. I also seem to have a deeply ingrained bias toward bullishness. Though I understand it intellectually, I can't get the reptilian part of my brain—the subconscious dictator who's moving my money around with simple mouse-clicks—to accept that down moves can be equally good opportunities. I decide it might also be a good idea to hedge. If I'm bullish in a couple of positions, maybe I want a bearish position just, you know, in case. A hedge a day to keep the liver away.

Day 6/ MONDAY

In a bid to drag out my inner bear—and faced with plenty of bad news, along with a market that's dropping at the open—I lead off week two by shorting the S&P, selling an at-the-money February 86/87 SPY call spread. The market promptly rebounds, leaving me down slightly at the close. My outlook hasn't changed, though, and I've vowed to get more patient, so I decide to leave the position alone.

Day 7/ TUESDAY

Tuesday, the market drops—whew—and the position starts to pay off. I decide to add a few trades, spread my bets around. I want things that will move, and solar energy stocks have been atomic yo-yos lately. I've been watching a few, including First Solar (FSLR) and Sun Tech Power (STP). First Solar has been the most volatile; so volatile, in fact, that as a beginner it intimidates me. At about \$11, Sun Tech's more my speed. It opened down, near recent lows, but the price is bouncing back and there's plenty of headroom before we hit a high. I resolve to put on a bull put spread if it goes positive for the day. It does and I do. What else? The tech sector has shown signs of life, and Research in Motion (RIMM) has moved up, even as the overall market has declined. It's up again early today. Another bull put

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Feature #3

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spread. I'm hoping these two will be good for a few upside points, while my SPY vertical will keep making money as the overall market declines. It should also serve as a hedge if I'm wrong on RIMM and STP.

Day 8/WEDNESDAY

On Wednesday, the market heads down again, which helps my SPY position. RIMM is holding strong—it's actually up nicely in the early part of the day. So far, so good. STP, though, starts to tank. When it drops below \$10, which I'd figured as a likely bottom, I sell the position for a \$150 loss.

THE NEW ME, THE OPTIONS TRADER, KNOWS IT DOESN'T TAKE A DUMP TRUCK FULL OF DOLLARS, SUPERSECRET INFORMATION, OR LONG YEARS OF EXPERIENCE TO START MAKING MONEY.

Then RIMM goes bad, giving up its early gains and heading down as much as a dollar. All hail the SPYs, my hedge. Last week when I got hit, I had my guts in my mouth. Today, nothing—and nothing never tasted so good.

Day 9/THURSDAY

Of course, in the markets as in life, it's one step forward, two steps back. Thursday confirms this. The market's down again, so the SPYs keep making me money. And RIMM is now taking off like a rocket, just as I'd bet it would. But by now, the HAL position is really starting to reek. So much for science experiments; I don the haz-mat suit and resolve to throw it out. As I do, I expose an embarrassing chink in my technique. Exiting my vertical spreads, I've been "legging out," as they say—selling one half, then immediately buying back the other half. So far that hasn't caused any problems. But today, it trips me up—and costs me an extra \$90. After selling the long leg, I'm briefly exposed with no hedge on the short leg, and, in that small amount of time—20 seconds maybe—the price moves against me. I'd have done much better to close out the position by buying it back as a vertical—something that would have been easy to do on the TOS platform had I realized it made a difference. I now know it can.

Backstep two comes later. Around midday the SPYs are bouncing around a low. I think about taking my profits. I go get a cup of coffee. I make a phone call. I dilly-dally. I stroll back to my computer and check the screen. Uh oh. The SPYs are now up significantly off the day's low—definitely time to bail. Past time to bail, really, but I can still come out ahead. I enter an order to sell the spread—all at once this time. The TOS platform automatically configures the order as a limit order, priced to the current market. But the SPYs are heading up quickly now and the price moves away from

my order. After a few minutes, it's clear it's not coming back. I decide to revise my price, bumping it up to try to get filled. This is easy—I use the cancel/replace order function, manually boosting the price, in this case to just under the current mark, still trying to catch a break. But the market keeps moving away, now with astonishing speed. My gains are dissolving. I get rattled. I decide I don't have time to chase the galloping market with order after order, so I revise again, to a market order. Just dump it. Now. Sure enough, the order fills instantly—but I get slaughtered on the "market" price, giving up my entire gain on the trade. Note to self: I will never again use a market order in a fast-moving market, nor will I try to chisel on the price when I need to get out. That was wishful thinking.

The good news is that RIMM is up a whopping four bucks on the day. Yee-haw! It's nearing its recent top, so I think it's almost done. I close the position—no drama this time—snag a 20% return on my trade, and pat myself on the back for what feels like a perfect trade from start to finish. I saw it, I did it, I stuck with it, and I got out at the right time, in the right way, for the right reason. If I can do that once, I can do it again.

Day 10/HOME STRETCH

Friday, my last day, I choose not to trade at all—nothing I'm looking at tempts me enough—and I'm pleased with myself again, this time for resisting the urge to trade for the hell of it. I feel like a fat man who finally knows when it's time to pass on dessert. It's all about discipline. I finish the week down \$350—half what I gave up in my first week, which feels like a triumph. Take away a few mistakes I doubt I'll ever make again (and that you now need never make) and I'd have been right around breakeven.

So my two-week trial by fire is over, but my trading days are not. I've proven to myself that I—me, the writer, the market-phobic walk-on with experience measured in hours—can make winning trades. Not every time, but probably, as I improve, often enough. Most of my losses were avoidable, the product of squishy psychology and correctable human error. And I was amazed, in the end, at just how easy it was to get started. Options trading wasn't the arcane, impenetrable province of the pros the old me imagined it to be. I mean, who am I? Some guy in his basement 1,800 miles from the nearest trading pit. Yet there I was, with all the information and data I could have ever wanted or needed, along with seamless, immediate access to the markets, as well as my own refrigerator. The new me, the options trader, knows it doesn't take a dump truck full of dollars, super-secret information, or long years of experience to start making money. And next week, mark my words, I'll prove it. I'll be up. I know it. I can actually feel it, deep down. Unless, of course, that's my liver acting up again.

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Hey Monkey!

Got a question about anything? Ask Monkey, our resident primate.

Or visit the Monkey Brains blog at www.thinkorswim.com

Illustration by
Evonrude

Q: Hey Monkey, Newt Gingrich said that mark-to-market accounting caused the mortgage crisis. Monkey, say it ain't so.

A: Hoo boy, where do I start with that one? When ex-politicians start opining about real-world trading losses, I figure it must be a slow day at the recount office. Among the dozens of reasons the credit markets collapsed, mark-to-market accounting isn't one of them. Mark to market has been used in the

trading industry for decades. It basically says that your positions are worth what the market says they're worth today. Not what you *think* they're worth, but what the actual tradable price is. It works beautifully with exchange-traded things like stocks, futures, and options; not so beautifully with things like houses and financial instruments cooked up by overpaid geniuses. The argument against mark to market for mortgage securities is that because they don't trade frequently and there are no industry standards for pricing the more esoteric derivatives, the people most qualified to attach a value to them are the ones who actually have positions in them. So, who can properly account for the projected cash flows, defaults, etc.? Er, excuse me? I may have been born at night, but it wasn't last night. That's part of what got us into this mess. When you apply for a home equity loan, does the bank take your

word for it when you say the house you bought last year for \$500,000 is now worth a million because you like the neighborhood? Or does the CEO of IBM get to decide the stock's worth \$1,000 a share because he thinks sales are going to soar in a crappy economy because of some new printer? No. The problem isn't mark to market, it's a lack of transparency and standardization. Instead of griping about some sensible regulations, offer some solutions for creating a real market for these things.

Q: Hey Monkey! I hear you're being replaced by that guy from Law and Order? Yuk yuk!

A: Who, Fred Thompson? I hear you can get two-for-one speaking engagements with him and Newt.

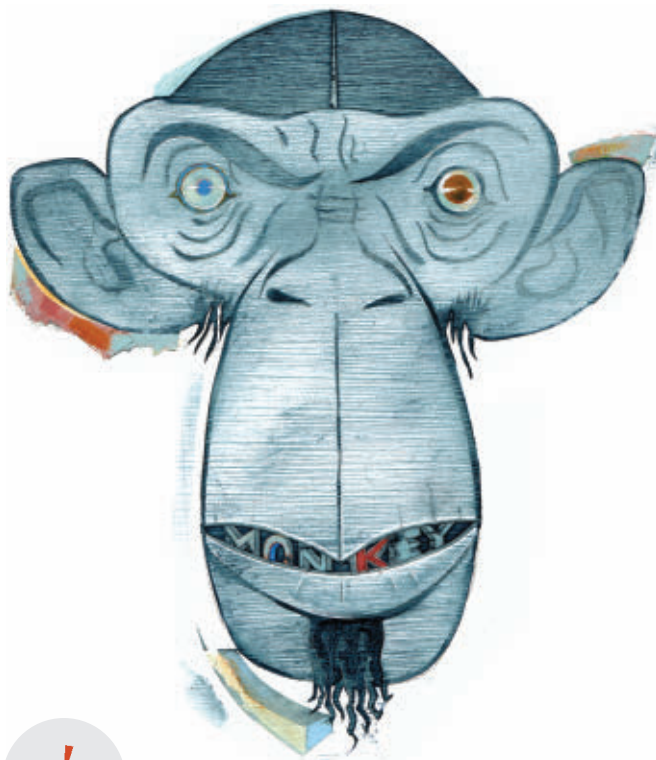
Q: Hey Monkey, since when do they give Pearl Awards? Talk about a popularity contest.

A: When I heard that *thinkMoney* was going to win an award at some ceremony, I thought it was one of those tricks that the sheriff's office plays when they want to lure some fugitive

When ex-politicians start opining about real-world trading losses, I figure it must be a slow day at the recount office.

into their grasp. That's not a game I want to play. So, even though I don't think there are any outstanding war-rants on my furry little butt, I sat tight at home and celebrated with a second glass of 25-year-old scotch. Tasted even better than the first.

or sell short (if you have a short put) stock to offset a possible assignment, or not. You could be left with stock position Monday morning if the option is assigned and you don't offset, or if you do offset and the



For more Monkey business of daily market wraps and trading ideas, visit the Monkey Brains blog at www.thinkorswim.com by going to the path Support tab > Monkey-Brains Blog.

Hey Monkey, what is "pin risk"?

A: Pin risk occurs right at expiration when the stock is right at, or a couple pennies away, from the strike price of your short option. The option isn't clearly in or out of the money, so, you may or may not be assigned. The choice you have is to buy (if you have a short call)

option is not assigned. The not knowing part is what traders call "pin risk".

Hey Monkey, SXS.W. You there?

A: Dude, I am SO there this year. I hear Primal Scream will be playing. Look for me. I'll be the chimp in the Oakleys.

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UNDLY	CLS	EXPR_DT	STRIKE	HIGH	LOW	OPEN	LAST
SPX	SXY	20070317	1350 C	56.90	46.90	56.90	46.90
SPX	SXY	20070317	1355 C	52.40	47.20	52.40	47.20
SPX	SXY	20070317	1360 C	41.60	41.60	41.60	41.60
SPX	SXY	20070317	1365 C				
SPX	SXY	20070317	1370 C	38.50	32.40	38.50	32.40
SPX	SXY	20070317	1375 C	37.00	28.00	37.00	28.00
SPX	SXY	20070317	1380 C	31.50	28.00	31.00	28.00
SPX	SXY	20070317	1385 C	24.00	20.00	24.00	21.00
SPX	SXY	20070317	1390 C	23.30	18.00	23.30	20.00
SPX	SXY	20070317	1350 P	10.20	4.70	5.00	10.20
SPX	SXY	20070317	1355 P	10.50	1.40	1.40	9.40
SPX	SXY	20070317	1360 P	12.30	5.90	6.30	12.30
SPX	SXY	20070317	1365 P	12.00	6.50	8.20	12.00
SPX	SXY	20070317	1370 P	13.70	7.50	12.00	13.00
SPX	SXY	20070317	1375 P	16.00	8.00	10.00	13.00
SPX	SXY	20070317	1380 P	18.00	9.50	11.00	18.00
SPX	SXY	20070317	1385 P	20.00	10.50	12.50	20.00

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Special VIX Focus

Photograph by
Fredrik Broden

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FOCUS:
vix.

VIX OPTIONS... YOUR NEW BEST FRENEMY?

For those who weren't into mortgage securities, VIX options provided a few surprises for the accounts of unwary traders in the Crash of 2008. For those in the know, they're a fresh way to trade our emotionally unstable, but beloved market.

words by **Thomas Preston**

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VIX Focus

Photograph by
Fredrik Broden

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FOCUS:
vix.**IF**

you hadn't heard of the CBOE's VIX before last fall, you almost certainly did during the Crash. A lot of mainstream (read "non-trading") media latched onto it as the story du jour when it hit all-time highs, and commentators were looking

to answer the "the chicken or the egg" riddle—was the market collapsing because of the high VIX, or was the VIX high because the market was collapsing? That sort of simplified analysis may make for good TV, but it won't do much for your trading. With options, a little bit of knowledge can be a dangerous thing. And with VIX options, it can be very dangerous. Trading VIX options can leave even experienced traders scratching their heads. This article will hopefully give you the knowledge you need either to use VIX options to your advantage as they were intended, or to avoid them.

To traders accustomed to trading equity options, a chain of VIX options can present temptations that can lead to their undoing. Let's look at some VIX option prices:

STRATEGY BOX**Calendar Spread (Long)**

A market-neutral, limited-risk strategy, constructed by selling an option (typically front-month) and buying an option with a more distant expiration date of the same class (i.e., calls or puts). The strategy assumes the underlying will remain relatively unchanged during the life of the trade, in which case, time premium decays and the spread can be sold at some point in the future for more than the original debit. The breakeven points can't be manually calculated easily, so consider using the Analyze feature in the TOS software.

VIX index = 50.00**6 days to expiration, 50 call = 3.90, 50 put = 2.60****60 days to expiration, 50 call = 5.50, 50 put = 9.30****90 days to expiration, 50 call = 4.50, 50 put = 11.60**

A couple of things don't look quite right here. The call with 60 days to expiration is worth more than the call with 90 days to expiration, which makes no sense in the traditional equity option world. And the 60- and 90-day puts are trading much higher than the calls. If these were equity options, that would signal something like a huge dividend or maybe a stock that was really hard to borrow. But the VIX doesn't pay a dividend, and isn't tradable like stock.

Price is Everything

The first thing you have to learn about VIX options is that you have to ignore the VIX index itself—for the most part. That's because the market makers, who are creating the bid and ask prices you see for the VIX options, don't look at the index; they look at the VIX futures. VIX futures are traded on the Chicago Futures Exchange, which is owned by the CBOE. The VIX futures, and some other volatility index futures, are basically the only thing traded at the CFE. Anyway, VIX option market makers hedge their VIX option positions with VIX futures. Even though the VIX options are cash settled, so are the VIX futures, and they

expire to the same VIX settlement price on the same day. Because the VIX futures are the hedge, the market makers use them to value the options.

That said, the VIX future expiring in 6 days was trading at 51.30, the one expiring in 60 days was trading at 46.20, and the one expiring in 90 days was trading at 42.90. Hmm ... the further-month futures contracts were trading lower than the front-month future? Well, the different VIX futures trade up and down based on traders' expectations of what the VIX will be in the future. The longer-dated VIX futures had a lower price because traders felt that volatility would be lower in the coming months. Sometimes you'll see longer-dated VIX futures trading higher than the front months. That's because traders think that volatility might be higher in the future.

[Side note: The relationship between VIX futures prices at different expirations is due only to speculative pressures, not the cost-of-carry charges that you see in other futures products.]

But, you say, I can't see VIX futures prices on the trading platform. How do I know what the futures prices are? This one's easy. You can eyeball it by pulling up the VIX option chain on the TOS platform and simply use the following formula:

Call price – put price + strike price = VIX futures price

I can create a synthetic long future by buying a call and selling a put at the same strike price and expiration. If I add the net price of the call minus the put to the strike price, I get the synthetic futures price. Notice that if you do that with the option prices in the example, the calculated synthetic future is equal to the actual VIX future.

When you know what the futures prices are, suddenly the VIX option prices start to make sense. The VIX options with 6 days to expiration are priced off the VIX future with 6 days to expiration, the VIX options with 60 days to go are priced off the future with 60 days to go, and so on. The 50 call with 90 days to expiration is cheaper than the 50 call with 60 days to expiration because the VIX future with 90 days is cheaper than the VIX future with 60 days. Notice how this really doesn't have anything to do with the value of the VIX index itself. But as the VIX futures get closer to expiration, their price will begin to converge with the VIX cash price. On that funky expiration day, the expiring options and the expiring futures will look to the same VIX settlement price.

For example, with the VIX at 50, you could sell the 35/40/60/65 iron condor with 30 days to expiration for 1.70. That would have a max profit of \$170, a max loss of \$330, and breakeven points of 38.30 and 61.70. But if you sold the 35/40 put spread when the VIX was 45, you could take in 1.20 for it, and if you sold the 60/65 call spread when the VIX was at 55, you could take in 1.30 for that. Assuming you're lucky and you get the back-and-forth moves in the VIX, you would have that iron condor on for a 2.50 credit, with a max profit of \$250, a max loss of \$250, and breakeven points of 37.50 and 62.50.

Too Good to be True: Calendars on the VIX

So, if you thought that selling the 60-day call and buying the 90-day call to create a long [calendar spread](#) for a credit

was the genius trade of the century, you're wrong. Traders who think that don't understand VIX options, and many of them are out of business because of it. While the max loss of a long calendar spread in equity options is defined to the debit of the spread, the max loss on a VIX calendar spread is indefinable.

Here's what can happen. Say you buy that VIX call calendar for a credit of 1.00, hoping that the VIX stays around 50. Everything looks fine until a few days before the expiration of the front-month option—when the market crashes and the VIX goes up to 80. The front-month VIX future spikes higher, but the back-month future goes up only a little bit because the market thinks the rise in volatility will be short-lived. That means your short front-month

option soars and your long back-month option languishes. And oh, by the way, VIX options are European-style, which means that you can't exercise that back-month option and have it turn into the cash value of the intrinsic value relative to the VIX index. Remember when I said that the VIX index itself doesn't matter much? When this happens, the calendar spreads invert, and the losses can be enormous.

The European-style aspect of VIX options, which means you can't exercise them prior to expiration, combined with their value being driven by futures, means that some VIX options can look like they're trading under parity, or less than their intrinsic value—another no-no for equity options. [For more on this concept, see p. 40]. The 40 strike call options with 90 days to expiration were worth 8.50 with the VIX index at 50. Based on the VIX

index, that option seems to have an intrinsic value of 10.00. But compared to the VIX future at 42.90, they have only 2.90 of intrinsic value, and the options aren't underpriced at all. Those, like the calendars for credits, are like Old Scratch offering profits that are not only illusory—they'll take your trading soul away.

Strategies to Cure Your VIX Fix

So, with all that under your belt, what do you do with VIX options? Well, based on what we've seen, it's unwise to short naked calls in the VIX. The reason is that the VIX crashes up, not down, like most equities and equity indices. It acts more like a physical commodity like wheat or corn, where shortages can drive prices dramatically higher in a short amount of time. Look at the VIX behavior during the Crash of 2008, and you'll see it moved up from 20% to 30%, then to 80% without pause. Those are the situations that will wipe out a trader who's short naked calls. If you don't think the VIX will go up, you can try selling call verticals, not naked calls.

On the other hand, it can be reasonable to sell naked

puts. When the VIX was trading in the teens, you could sell puts that were a couple strikes out of the money for 0.20 or 0.30, depending on the expiration. The risk is if the VIX drops below the short strike, which is possible. But consider the likelihood of the worst-case scenario for a naked short put—VIX at 0%. In a world where out-of-the-money SPX options are 0.00 bid at 0.00, and all market risk is gone, that's when the VIX would be 0%. No more terrorists, crooked CEOs, or wacky court rulings? You get the picture. VIX at 0% is almost a complete impossibility. But don't go and whack every bid they show you on those puts. Make sure that you can handle the loss if the VIX settles at a historic low of about 9%.

One of the things you might notice is that the VIX often bounces back and forth around an average level. That's known as reverting to a mean. In practice, the VIX does that for a while, then the world changes (i.e., financial meltdown or peace and prosperity forever) and the average moves to a higher or lower level. The VIX then oscillates around that new average. When you think "range-bound," you tend to think of short premium option strategies that generate time decay and make money if the stock or index doesn't move much. But when you think "world changes," you need to think of defined risk.

Defined risk spreads, such as verticals and iron condors, which aren't subject to the inter-month pricing factors, can be ways to speculate on the direction of the VIX. You can use the same criteria you use for selecting those types of trades in equity options, and exercise sound risk management principles to make sure that one bad VIX trade doesn't knock you out of business.

Word of Caution

By the way, don't ever, ever keep short call options or spreads until expiration. Even if you think that the VIX is too far away to have the settlement close beyond your short strike, think again. Not only can the market make a huge move down in one day that could send the VIX soaring; it is also possible for institutions to influence the settlement price of the VIX by bidding for far out-of-the-money SPX options. It's a risky thing to do, but it can artificially push the settlement of the VIX higher. Close those short call positions. But given the nature of the VIX to spike higher from time to time, you might want to just hang on to those worthless, expiring call options as a lottery-ticket type of trade.

After reading this, it's understandable that you may have some reservations with trading VIX options at all. They are tricky. However, they do offer unique opportunities unlike anything else you may come across. If you do trade them, heed the warnings and apply the lessons. You'll avoid some painful mistakes.

Multiple option strategies such as those discussed in this article will have extra costs due to the additional strikes traded. Be sure to understand all risks involved with each strategy, including commission costs, before attempting to place any trade. Be aware that assignment on short-option strategies discussed in this article could lead to unwanted long or short positions on the underlying security. Customers must consider all relevant risk factors, including their own personal financial situations, before trading. Options involve risk and are not suitable for all investors. A copy of Characteristics and Risks of Standardized Options can be obtained by contacting Scott Garland at 773.435.3270 or 600 W. Chicago Ave. Suite 100, Chicago, IL 60610.



For an extended discussion on trading the VIX, go to thinkorswim.com/thinkmoney

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Special VIX Focus

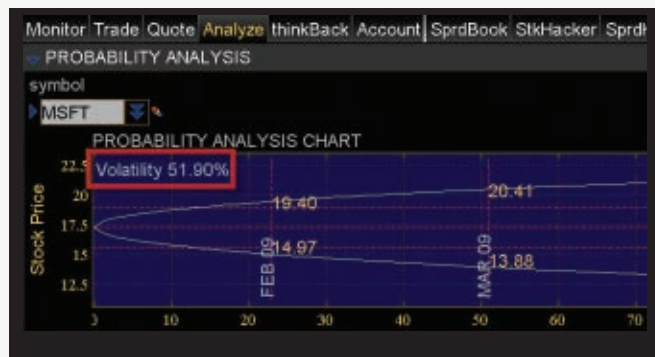
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vix.

The thinkorswim (TOS) platform uses the VIX-style calculation to arrive at volatility estimates for stocks and indices rather than the at-the-money implied volatility. The reason is that the VIX calculation incorporates much more of the information that the full option chain contains, not just the at-the-money strikes. Because VIX is the name of the CBOE's volatility index, TOS calls the volatilities generated by the formula Vol Indices. A Vol Index is calculated for each stock, ETF, or index that has options traded on it.

You can see the Vol Index of a particular stock or index in a few places on TOS. The first is in the upper left-hand corner of the Probability Analysis window of the Analyze page. We tuck it up there because that is the volatility that's used to calculate the probability cone on that page. You can also see the Vol Index as one of the fields on the Quotes and Stock Hacker tabs.

An important use of the Vol Index is in the Analyze tab, where it is used to calculate the probability numbers on the Risk Profile. The Risk Profile shows you the profit and loss numbers for a particular position at different dates and underlying prices. Because the risk profile may be based on the P/L for many different options, you want to use a volatility input that represents the market's forecast of the overall potential volatility of the underlying, not just the implied vol of a single option. The Vol Index provides that single volatility number for each underlying stock or index. So, when you see the proba-



The screenshot shows the 'TRADE' tab for Microsoft Corporation (MSFT) in 'STANDARD MODE'. The 'CALLS' section is active, and the 'Strikes' are set to 'ALL'. A red box highlights the 'Impl Vol' column. The table lists various call options with their respective implied volatilities, probabilities, deltas, and bid/ask prices.

Impl Vol	Prob of...	Delta	Bid X	Ask X	Exp	Strike
53.26%	93.89%	.94	3.30 C	3.35 C	FEB 09	14
48.67%	86.98%	.89	2.38 N	2.41 C	FEB 09	15
44.05%	74.49%	.78	1.52 C	1.55 C	FEB 09	16
41.41%	54.41%	.59	.84 C	.85 N	FEB 09	17
40.32%	32.23%	.36	.39 C	.40 C	FEB 09	18
39.74%	15.37%	.18	.15 C	.16 C	FEB 09	19
40.40%	6.39%	.08	.05 C	.06 B	FEB 09	20

FIGURE 1: Analyze implied volatility in several places on TOS. Use a VIX-style calculation of vol, as in the Analyze feature (above) to help predict overall potential of the underlying volatility, or a single-option measure of vol (below) to maintain consistency of the per-strike calculations, such as greeks. **Source:** TOS platform

Analyzing Vol on TOS

So much to say about vol, yet so little time to say it. So long as you can handle the geek-speak, let's break out the coffee and show you where to find it on TOS.

bility numbers on the Risk Profile graph, those are based on the Vol Index.

That's different than the probability numbers calculated on the Trade page. Those numbers use each option's implied volatility as the input for the formula. The reason we do that is to maintain consistency in the different per-strike calculations, such as the greeks. The greeks (delta, gamma, theta, vega, and rho) use each option's implied volatility. So, we use the implied as well for the probability number for each option. Note that the probability you see on the Trade page for a particular option may be different from the probability you see on the Risk Profile or Probability Analysis graph. There's a difference because the pages use different volatility numbers in the probability formulas.

Also, the Vol Index is what's used for the "ImpVolatility" study on the Charts page. That study will show you a graph representing the

historical VIX-style volatility, the Vol Index, of the options of the symbol on the chart. Again, we use that because we feel it is a better representation of the market's forecast of volatility for the stock or index than a single implied volatility. The Vol Index data goes back approximately five years.

On the Trade page, on the far right-hand side for each expiration, is a variation of the VIX-style calculation. That number uses the same VIX calculation for that expiration's options, and only that expiration's options. While the VIX takes a weighted average of the front two expirations, the per-expiration volatilities on the Trade page do not. They isolate the volatility for their particular expiration. Those numbers can let you scan the different expirations quickly and see if the volatility is dramatically higher or lower than any of the other expirations. If the volatility is higher in one month, particularly the front-month expiration, it can indicate that there is some news event that could have a big impact on the stock price. The market knows that, and it starts pushing up the values of the options as traders look to hedge their stock positions or

THE VIX

Q + A:



Answers to questions about the VIX you didn't know you had.

speculate on dramatic moves up or down in the stock.

Those per-expiration volatilities are used on the Scan and Spread Hacker tabs in the "Vol Diff," "Front Vol," and "Back Vol" fields. The front and back month volatilities are simply the numbers from the first two expirations. The Vol Diff stands for "volatility difference," and is the Front Vol minus the Back Vol. If you are looking for stocks whose front-month volatility is higher than the back month, you would look for a positive value in the Vol Diff field.

So, why does thinkorswim use implied volatility measures across the platform, but no historical volatility numbers? Historical volatility refers to a volatility calculated from the percentage price changes of the stock or index itself using some amount of past price data (one week, one month, one year, ten years). The problem with volatility based on previous data is that it doesn't really contain any of the information that the market might have of future news or events that might impact the stock or the market. Consider bond options—Their implied volatility may start to go up ahead of big economic numbers. But the bond futures themselves don't move much because the traders don't know whether the number might come out bullish or bearish. So, they buy options thinking that the number might drive bonds limit up or down. The fact that the market looks forward, at the potential impact of future events, makes implied volatility an arguably better measure, of future stock or index price volatility, and historical volatility.

• The information contained in this article is not intended to be investment advice and is for illustrative purposes only.

Q: When do VIX options expire?

A: This is one of the more screwy aspect of VIX options. They expire on the Wednesday that is 30 days prior to the third Friday of the calendar month immediately following the expiration date of the options. The CBOE Web site has a list of the expiration dates for VIX options.

Q: Can I get assigned early on short VIX options?

A: No. Because VIX options are European-style, they can be exercised only by someone who is long an option on expiration. Also, VIX options are cash-settled, which means that if an option is in the money at expiration, the cash difference between the VIX expiration settlement price and the option's strike price is added to (for long options) or subtracted from (for short options) your account.

Q: What is the VIX settlement price symbol?
A: VRO.

Q: Why is there a margin requirement on long VIX calendar spreads?

A: Because the front-month VIX options can be worth much more than the back-month options, calendar spreads can dramatically invert in price. You may actually have to pay money to close the trade, resulting in losses far greater than the original cost of the calendar spread. To protect themselves, brokers use the margin requirement that would be applied to the short front-month option as if it were naked, and apply that to the calendar spread. This isn't necessary with regular American-style equity options, where the back-month option is always worth more than the front-month option, and calendar spreads don't "invert."

Q: Is the VIX based on the implied volatility of the SPX options?

A: Strictly speaking, no. The VIX is actually what is known as a "variance swap." A variance swap is a security that

responds precisely and consistently to changes in volatility. It is something like a long straddle, which has a lot of positive vega, and has a value that changes, in part, with changes in implied volatility. But even if you eliminate the delta and theta aspect of a long straddle, its vega is not consistent. That is, the vega of the long straddle when the stock is exactly at the strike price is not the same as when the stock is, say, 20% above the strike price of the straddle. A variance swap is used to have the same sensitivity to changes in implied volatility no matter where the underlying stock or index goes. *[Note: Implied volatility is the volatility that, when plugged into a theoretical option pricing model, makes the theoretical value of the option equal to the market value of the option.]*

You can get the full description of the VIX calculation from a white paper on the CBOE Web site; however, for our purposes, the important thing to realize is that the VIX calculation does not use an option pricing model (i.e., Black-Scholes, binomial, Whaley, etc.) and doesn't really calculate implied volatility. Two different

option pricing models can yield different implied volatilities for the same option. Which is correct? That depends on what pricing model you think is more accurate. But the value of the VIX doesn't depend on a pricing model, and that makes it a universal number that anyone can calculate.

Q: Can I trade VIX futures or see the quotes at TOS?

A: At this point, no. Our clearing firm and order execution partners do not support VIX futures, and our quote vendor does not include them in its price database. However, you can estimate the price of the VIX future by adding the price of a call to the call's strike price, then subtracting the price of the put at the same strike price.

VIX future
= call price
+ strike price
- put price

40

Capiche?

Lessons from a veteran floor trader

• As you probably know, I'm an old OEX trader. When I left New York in the early 1980s to trade options in Chicago, there was pretty much only one pit at the CBOE big enough for me—the OEX. The index moved, there was a ton of volume, and everybody was making money. Life was good.

Now, the CBOE knew it had a good thing, and naturally, it wanted more. The OEX is an index on the S&P 100, but all the institutional traders and money managers wanted options on the S&P 500. So, the CBOE added the SPX options and put the pit (smaller, by the way) next to the OEX. So, I'm in the "O," and I climb to the top step and I look over to the "S," where all the traders were a bunch of young punks. I crane my neck to see how their markets are, and my eyes fall on some in-the-money puts. Now, I may not be a genius, but I know how to calculate how much an option is in the money, and its intrinsic value. And in my world, an option doesn't trade less than parity, which is how much the option is in the money. So I see the puts, and what do I see? They're offered at less than parity! What a bunch of chuckle-heads! I turn to a buddy of mine to let him in on the joke and I tell him he should see the in-the-money puts in the "S." He says, "Yeah, I was thinking about using them for the 'one five,' but they're European style, so I have to figure out how that works with the OEX." So, I keep smiling, but inside I'm thinking, "European style? Armani?" I run over to my booth and ask another guy what European style means. Let me clue you in. A European-style option can only be exercised at expiration, not before.

Words by **Tony Battista**
Photograph by **Fredrik Broden**

American vs. European Exercise

No, this isn't an exercise in diplomacy. But if you think you've found a way to beat the system by trading "cheaper" European options, think again.

cap.



have no position left. But the cost of my long stock is the strike price plus the price of the call, or \$54.50. I sold the stock at \$55. That means I made \$0.50 in profit. That's an "arb," and it's something that market makers won't let you do. That's why you see the ask prices of American-style options above their intrinsic value.

But because you can't exercise a European-style option before expiration, you can't do that little arb. There's nothing forcing in-the-money European options to trade at least to parity, and that's why I saw those in-the-money SPX puts trade for less than their intrinsic value. They're European style, like a lot of other cash-settled indices, such as the XEO, DJX, MNX, NDX, and more. Not all in-the-money European style options trade under parity it all comes down to the cost of carry (see "Capiche," thinkMoney/04 issue):

**Strike price + call price =
Index price + put price +
cost of carry**

Now, I had been trading the OEX options and the occasional stock option, and had been exercising them anytime I wanted to. That, I learned, was an American-style option. You can exercise a long American-style option anytime you want, even before expiration.

The fact that you can exercise an American-style option at any time means that it shouldn't trade under parity, or less than its intrinsic value. If it does, there's an arb. For example, if an American-style call with a strike price of \$50 is trading for \$4.50 when the stock is \$55, that option is trading for less than its intrinsic value of \$5.00 (stock price minus strike price). I'll buy that option for \$4.50, sell the stock short at \$55, and exercise my long call on the same day. Because I exercise the call, I buy stock at the strike price of \$50. That long stock offsets the stock that I shorted. So, I

To calculate the cost of carry for an index, multiply the strike price of the option by the interest rate by the days to expiration divided by 360. When the SPX was 850, the bid/ask prices of the 2500 strike puts with 333 days to expiration were 1644 to 1648, which is less than the intrinsic value of 1650. The calls were basically worthless. If you calculate the cost of carry with the short-term interest rate at that point, 0.15%, it comes out to about 3.50. Using that formula, $2500 + 0 = 850 + \text{put price} + 3.50$. That makes the put price \$1,646.50, which is smack dab in the middle of the bid/ask spread. Funny how that works, huh?

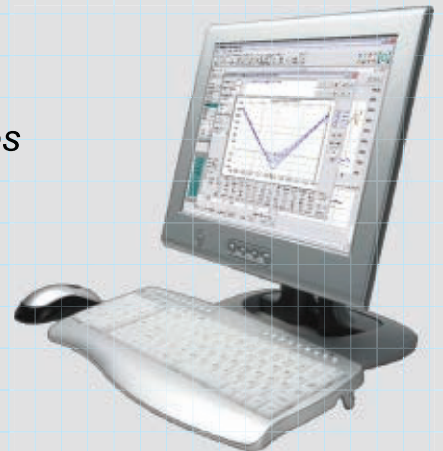
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The Last Page

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THE TOS TRADER PROFICIENCY TEST WHAT KIND OF TRADER ARE YOU?

After interviewing dozens of scientists, traders, and other dysfunctional personality types, we've developed the proficiency test to identify your trading profile. Just answer the following questions and match your answers to the profiles below.

AND...BEGIN:

1.

The music of which artist sends you into a paroxysm of rage?

- ☐ A. Jessica Simpson
- ☐ B. Elton John
- ☐ C. Clay Aiken
- ☐ D. Mozart

2.

In a bookstore, which department would you go to first?

- ☐ A. Adult periodicals
- ☐ B. The exit
- ☐ C. Careers (for broke retirees)
- ☐ D. Travel (to countries with liberal extradition laws)

3.

If you look down and notice a rash, do you:

- ☐ A. Consult a trained professional, like a doctor
- ☐ B. Consult an untrained professional, like your neighbor
- ☐ C. Call the thinkorswim trade desk
- ☐ D. Stay home and scratch until it bleeds

4.

For a weekend getaway, what's always in your suitcase?

- ☐ A. Encased meats
- ☐ B. Extra ammo
- ☐ C. Spare kidney
- ☐ D. List of bail jumpers

5.

What's your favorite form of cheap intoxication?

- ☐ A. Shorting index options at expiration
- ☐ B. Hypnotic tick-charts
- ☐ C. Expired medications
- ☐ D. Malt liquor

6.

Which option position conjures up the most painful childhood memories?

- ☐ A. Unbalanced sibling butterfly
- ☐ B. Foreboding mother of all put spreads
- ☐ C. Unavailable dad/kid pairs trade
- ☐ D. Junior prom of worthless calls.

7.

If you could take delivery of any futures contract, which would it be?

- ☐ A. 40,000 pounds of savory lean hogs
- ☐ B. 200,000 pounds of fragrant Class IV milk
- ☐ C. 60,000 pounds of sensuous soybean oil
- ☐ D. 2,500,000 vodka-convertible Russian rubles

8.

For what are you most grateful?

- ☐ A. The trade you did do
- ☐ B. The trade you didn't do
- ☐ C. Spouse's trust fund
- ☐ D. Kindly TOS trade desk staff

9.

Which is your favorite Japanese sports team?

- ☐ A. Nippon Ham Fighters
- ☐ B. Toyo Carp
- ☐ C. Kashima Antlers
- ☐ D. Nagoya Grampus Eight

10.

When the market goes up:

- ☐ A. Your long calls go down
- ☐ B. Your short puts don't budge
- ☐ C. It's the day after you gave up on your long S&Ps
- ☐ D. Markets go up?

SO, WHAT KIND OF TRADER ARE YOU?

IF YOU ANSWERED MOSTLY:

A_s**The Speculator**

Has a much better ring to it than "unemployed"

IF YOU ANSWERED MOSTLY:

B_s**The Arbitrageur**

When the marks come back in to line I'll be rich! You'll see! You'll ALL see!!

IF YOU ANSWERED MOSTLY:

C_s**The Risk Manager**

If it weren't for those stupid traders, I'd have a had a bonus last year.

IF YOU ANSWERED MOSTLY:

D_s**The Newsletter Guru**

Hey, even a blind squirrel finds a nut here and there. Can you say "up-sell"?

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