thinkMoney/27

Random musings for traders at TD Ameritrade — SPRING 2015

IS TRADING A GAME OF CHANCE?

WHY THE NAYSAYERS ARE WRONG.

PAGE 16

DING! DING!
TD AMERITRADE GETS #1
ONLINE BROKER (thank you)
BY STOCKBROKERS.COM
see page 7 for details

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ISSUE 27

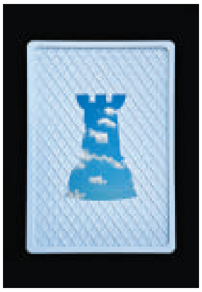
CONTENTS/SPRING 2015

MISCELLANEOUS

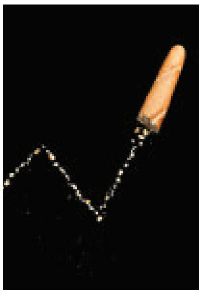
REGULAR COLUMNS

Oops!

On the "Trading Tarot" insert in the last issue (Winter 2015), we erred in the description of max loss on the short call vertical. The max loss occurs when the stock price rises above the long strike prior to or at expiration , not falls below it. For more information on the risks of trading options, **see page 39, #2.**



Cover Photograph by **Fredrik Brodén**



"When you gamble, you're throwing money at a wager. You play your emotions. Trading options requires education and forethought."

Trading is (Not) Gambling
Page 16

SKILLS BAROMETER: See a dot. Read or pass. If you've ever been frustrated spending your precious few minutes reading articles that are too hot or too cold, these little color dots at the beginning of each article will help you skip to just the right temperature.

- EASY
- SEASONED
- PRO

PHOTOGRAPH: FREDRIK BRODEN

A QUICK HOWDY
FROM THE EDITOR'S DESK TO YOU

What Are the Odds?

• IT HAS TO BE UP THERE as one of the most frequently asked questions for which we don't bother to give much thought to the actual answer. Suppose you bump into your ex years from now at a coffee shop in Poughkeepsie. You'll ask yourself, "What are the odds?" You could get struck by lightning, or see penguins in the desert. Again, "What are the odds?"

But when looking at a possible trade, "What are the odds?" is no longer a rhetorical question. In trading, odds are everything. And if you don't take them seriously, they could leave you with nothing. Ask a professional card player or a really good fantasy football player "What are the odds?" and chances are, they can tell you.

That's because for all the bad rap about gambling and other games of chance, there are those who consistently succeed because of a few basic principles—the same ones you'll find some successful traders share as well. To say trading isn't gambling may be true. But they share some commonalities for success addressed in "Trading is (Not) Gambling" on page 16 that might surprise you.

Now here's something we'll try on for size—a new way to trade dull markets. Frustrated option sellers who can't make enough to buy a can of tuna when the market's dull, might catch a marlin by switching things around. In "Show Me the Money" on page 24, we'll introduce you to the concept of "vol dispersion," used by pro traders.

And if you're going to venture out into the land of buying premium (read: buying calls and puts), you better wear your raincoat or you're going to get wet. While buying options presents some of the worst odds in trading, there's no escaping their allure. So if you must buy, then try to buy safely. In "Going Long with a Safety Net," page 20, we'll show you strategies to consider.

You might say that this issue's theme is about looking for opportunities where other can't see. With that in mind, if it's one thing we've learned through the years, the money isn't always in the trend, it's in the response to the trend. Penguins may not live in the desert, but even the desert cities have zoos.

Happy Trading,
Kevin Lund
Editor-in-Chief, thinkMoney

TAKE ACTION:
Talk to us about this issue of thinkMoney! Take our survey and you'll qualify for infinite brownie points. **tdameritrade.com/tmsurvey** or write to us at: **thinkmoney@tdameritrade.com**

PHOTOGRAPH: FREDRIK BRODEN

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• *TD Ameritrade was ranked #1 out of 15 online brokers evaluated in the StockBrokers.com Online Broker Review 2015. Read the full article at www.stockbrokers.com/2015-online-broker-review.html.*

LOVE NOTES

LITTLE QUIPS FROM YOU TO YOURS TRULY

Socially Speaking...

Nicole Sherrod, @TDANSherrod, 1:23PM – Mar. 17, 2015
OK, let's test out the new $FB messenger feature. Everyone go ahead and send me cash.

J.D., @Dawson_JE, Mar. 17, 2015
@TDANSherrod as soon as I received my Nigerian lottery winnings.

P.J., @optionsNYC, Mar. 17, 2015
@TDANSherrod I'll send you $1 if you send me $2.

Marty, @pilot2b, Mar. 17, 2015
@TDANSherrod Do you take MySpace?

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JOIN THE FUN
If you haven't chuckled yet today, go to Nicole "The Suit" Sherrod's Twitter page now. **@TDANSherrod**

Chat Room Pearls...

I've ordered my mortician to fill me with Grey Goose, instead of embalming fluid. The cremation should be a blast. —NICK

My wife just said, "Why are you long, are you stupid?" —FRANK

There's a fine line between strong convictions and stubbornness. —WENDY

Ever since my neighbor got solar it's been raining for 3 weeks. —BOB

AAPL will be in your life from cradle to grave; iBorn to iBox. —HAL

Swapping mouse hands reduces over-trading by up to 90%. —SAM

Who would want an electric car when petrol is $2 a gallon? —JERRY

I ordered Trading for Dummies, but it may be too advanced for my skill level. —BURT

Though I'm intellectually certain that lotteries are a tax for the mathematically naïve, random things happen. So I buy a ticket. —VERONICA

You cannot petition Yellen with prayer. —NANCY

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PHOTOGRAPH: FREDRIK BRODEN

A HODGEPODGE OF MARKET STUFF WE THOUGHT YOU SHOULD KNOW

INDUSTRY SPOTLIGHT • EASY

Buyback Bubble?

BIG IDEA: SHARE BUYBACK POPULARITY HAS HELPED PROP UP THE MARKET. BUT COMPANIES GIVETH. AND COMPANIES TAKETH AWAY.

• IN THE FAT financial glossaries, there may be no other term whose definition is as straightforward as "stock buyback." It's the perfectly legal and sometimes sporadic action by which companies snare their own shares out of the market. And they do this buying with dust-collecting cash not earmarked for dividends or other uses—um, like maybe growing the company.

Yet, buybacks can be a worthwhile equalizer. Companies may feel the need to offset option issuance that risks overly diluting share value—think newbie tech companies that like to lure talent with options-padded pay. Some companies may be bowing to shareholder squawking for a little trickle-down to the rank and file (although what the masses may really want is a dividend they can spend or invest). And, while a company may not cop to this motivation, a buyback can boost earnings per share (EPS) at opportune times. To crunch EPS, income is divided by the number of shares outstanding. Third-grade math tells us that the smaller the divisor, the bigger the result. Some companies announce share buybacks (which can often result in a short-term price uptick) that never get off the ground as there's no obligation to deliver on the pledge. Of course, investors will smell a rat at some point.

The broader market impact from buybacks is notable. A quick trip in the Wayback Machine takes us to the 1997 Asian financial crisis. That particular October, IBM announced a beefy buyback that actually plugged a 7% plunge in the Dow Jones Industrial Average. And now? Buybacks are boss in the current market in large part because ultra-low interest-rate policy allows companies to issue cheap debt to finance expensive buybacks.

TAKE ACTION: Keep a closer eye on your favorite stocks the way shareholders do—with fundamentals—using the **Company Profile** tool in thinkorswim®. In the Trade page of thinkorswim, enter a stock symbol. Then choose the Company Profile button in the upper right.

PHOTOGRAPH: FREDRIK BRODÉN

Just How Popular?
S&P 500 buybacks reached a lofty $900 billion in the 12 months through December 2014, according to data from S&P Dow Jones Indices. One headliner has been Apple (AAPL), as the smartphone giant returned some $45 billion to shareholders in that 12-month stretch. S&P Dow Jones Indices has a bigger view: some $2 trillion in buybacks was stacked up from the first quarter of 2009 (as the U.S. broke free from the financial crisis) through mid-2014. Buybacks dwarfed $1.2 trillion in corporate bonds sold over the same time.

There's more to these figures. Operating profits of the S&P 500 companies reached $4.4 trillion from the first quarter of 2009 through mid-2014. That means buybacks amounted to a staggering 45% of profits from Q2 2009 forward.

Earnings Effect
And it's not just Apple's game. The number of companies increasing buybacks is rising, with nearly a quarter of S&P 500 members reducing their outstanding share count by more than 4% in Q3 2014, up from just one-fifth of companies clearing that 4% threshold at the beginning of last year. Howard Silverblatt, a senior index analyst with S&P Dow Jones Indices, explains why 4% is significant: that's the amount of reduced share count that begins to affect price-to-earnings ratios. In other words, buybacks can provide a "synthetic" boost to EPS. That boost presumably draws more investor interest, and that pushes up share value. Some analysts point to 1990s IBM. Big Blue's steady buyback schedule goosed EPS without much help from rising revenue.

So, what's next? Will the trend slow but continue? Or will companies revisit the capital expenditure side of the ledger? All told, buybacks beg some attention from investors who should be asking if sales and innovation, and not cosmetic accounting, are driving earnings.

Specific securities mentioned are for educational purposes only and should not be considered a recommendation to buy or sell a particular security. Probability analysis results are theoretical in nature, not guaranteed, and do not reflect any degree of certainty of an event occurring.

GEAR HEAD ● PRO

What are the Odds of Your Next Big Trade?

BIG IDEA: THE RISK PROFILE TOOL LET'S YOU KNOW A THING OR TWO BEFORE THE TRADE EXPIRES.

COOL INFO:
Learn more about the thinkorswim Analyze Page and all its wonder:
1. Go to the thinkorswim Learning Center at **tlc.thinkorswim.com.**
2. Read our Trade Analysis Focus in thinkMoney #23, Spring 2014 issue at **thetickertape.com/thinkmoney**

QUESTION: If you trade short options strategies (i.e. short puts and short verticals) can you calculate the probability of making a profit before expiration?

ANSWER: Do jungles have mosquitoes? The Risk Profile feature in TD Ameritrade's thinkorswim® platform is one of the quickest ways to see the probability of a position making or losing money prior to expiration.

For illustrative purposes only

How To Do It
Under the Analyze tab in thinkorswim, type the underlying symbol in the field in the upper-left-hand corner. You'll see a graph showing profit/loss for the current day, and the closest expiration date of the position's options.

1 - **Set the date** in the right-hand side of the Positions and Simulated Trades section to the date you might close the position.
2 - **Set the price slices** to the break-even points of the position on that date. Click the dot to the left of the price slices. Select Price Slices > Break Even > (date from Step 1).

3 - **Go back to the date** in the right-hand-side of the Positions and Simulated Trades section, and set it back to the current date.
4 - **Go to the Probability Date** field in the upper-right-hand side of the Risk Profile section. Set that to the date you might close the position.

5 - **Find the probability of the stock** being inside or outside the break-even points in the Risk Profile section.

TRADER GLOSSARY
TURN TO PAGE 36

ASK THE TRADER GUY ● SEASONED

When Debit Spreads Misrepresent

BIG IDEA: DEMYSTIFYING IN-THE-MONEY DEBIT SPREADS AND WHEN IT'S OKAY TO TRADE AND DRIVE.

• Hey, Trader Guy! When I simulate long verticals on the Analyze page of thinkorswim, I see that some have positive theta. How can a debit spread that I pay for have positive theta? I thought only short option strategies had that?
Positive theta or time decay means that time passing benefits the position, all things being equal. When the debit of a long vertical is less than the intrinsic value of the long option, it's possible for the long vertical to have positive theta. As time passes and the price of the stock doesn't change, the vertical will be worth the intrinsic value of the long option at expiration. Its value will grow from the debit to the intrinsic value, which means time benefits the position. Hence, it has positive theta.

"You'd expect the VIX and VXX to move up and down together. But they don't always, because of what they actually represent."
—THE TRADER GUY

Why do I sometimes see the VIX go up, the VXX go down, and vice versa? I would expect them to up and down together.
As products, the CBOE VIX and Barclay's VXX are related to implied volatility in SPX options, so you're right. Intuitively, you'd expect them to move up and down together. But they don't always, because of what they actually represent. The VIX is a pure-cash index that's calculated directly from SPX option prices. VXX is an exchange-traded note (ETN) with a portfolio of /VX futures. /VX futures are the market's expectation of future 30-day implied vol in the SPX. And while they're related to the VIX, /VX futures move independently from the VIX. Because the VXX rolls a portion of its portfolio from the front month /VX to the next month, the basis between the /VX futures affects VXX as well. Because there are more factors impacting the VXX price, don't be surprised if it moves in the opposite direction of the VIX on any given day.

I know some places have laws against texting while driving. But how about entering trades or checking quotes on the TD Ameritrade mobile app while I'm stuck in traffic?
I have to think that trading while driving is probably not the safest thing. I don't do it myself. But a possible defense might be to show the arresting officer how you skillfully scalped bond futures at 55 mph.

Spreads and other multiple-leg option strategies can entail substantial transaction costs, including multiple commissions, which may impact any potential return. Investments in exchange-traded products like VXX that offer exposure to stock market volatility entail significant risk and are intended for sophisticated investors who actively manage their investments daily.

TOYS FOR TRADERS
FROM THINKORSWIM®

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When you're looking for a trade in a specific sector, industry or sub-industry just choose the "Scan in" drop down above your Stock Hacker criteria and choose "By Industry." This will perform your scan only in the sector you choose. You can also choose to scan for an Index of each of these sectors by choosing to "Scan in" the public watch list "S&P 500 Sector Indices."

MARKET-WIDE PUT-TO-CALL RATIOS
Put-to-call ratio is a classic market indicator that can be used to determine possible changes in market sentiment by comparing the current ratio to the previous ratio. (See page 30 for more on the put-to-call ratio.) thinkorswim® has had this ratio for individual securities for quite some time, but we now offer this ratio for the market as a whole. Just enter $PCALL in a chart or any symbol data box.

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CAPICHE? SEASONED

Option Prices and the Great Divide

BIG IDEA: WIDE BID-TO-ASK SPREADS ARE PART OF THE DEAL IN VOLATILE MARKETS. THE QUESTION IS, WHY?

• WHEN I WAS A MARKET MAKER in options, my job was to make bid and ask prices. To make money, I made my bid prices low enough and my ask prices high enough so if I bought or sold a respective option at a given price, I might squeeze a profit on the trade. Of course, if my markets were too "wide"—with the bid and ask too far apart—no one would trade with me. That was a balance I had to strike.

Often bid/ask options spreads widen out when higher volatility strikes the underlying stock or index—like if a stock moves $1.00 a day when it usually moves $0.20. The reason the bid/ask options spread gets wider has to do with how market makers manage trades. Market makers don't speculate on where a stock price will go. They usually keep the delta of their positions close to zero. They do that throughout the day by trading stock against the options they buy or sell. If a customer sells 10 calls, the market maker buys those calls and has to hedge the calls' long delta.

Consider a 0.30 delta call. The market maker would sell 300 stock shares to offset the long 300 deltas from the 10 calls bought. The market maker is tracking the stock price to determine where she can fill it. If the stock is trading a lot at a given price, and not moving much, she's confident she can execute a trade at or near that price. She'll make narrower bid/ask options spreads to be more competitive with other market makers.

But if the stock price is moving and volatile, the market maker is less confident she can execute the trade at the desired price. She might not get filled until the price has moved away. She has to factor the slippage from her potential stock trade into the bid/ask spread of the option. Buying the option at a lower bid price or selling the option at a higher ask price lets the market maker get a slightly worse fill on the stock hedge and still make some money on the trade. —Words by THOMAS PRESTON

FOLLOW THE SUIT!
Nicole makes quips without calories possible. Read her (almost) daily musings in 140 characters or less on Twitter. **@TDANSherrod**

ASK THE SUIT

A little Q&A with **Nicole Sherrod**, Managing Director, Trader Group at TD Ameritrade

AIN'T SHE A BEAUT?

The question I get most often is some form of "What's coming next for thinkorswim®?"

Are you sitting down? Good, because I need to break it to you that it's time we gave thinkorswim a makeover...Okay, now breathe—and, exhale.

You see, thinkorswim is now 14 years old. In technology years, that's the point of mid-life crisis. She isn't looking as young as she used to, so it's time for a little nip and tuck. But it's important to know this is more than a Botox injection and new outfit—she's got a whole new lease on life. We're cleaning up the codebase and improving the stability of the platform at the same time we touch up the makeup.

Hey, I understand. Over the years, I've come to know what you want from the old girl. I know your likes, your dislikes, your passions, and your fears. You love new features and improved performance. You just don't want "shock and awe" change. I get that. But by re-skinning thinkorswim, we can provide an even better foundation going forward that will support future development so you can fall in love with her all over again.

So what will you see? Easier on the eye colors. Crisper fonts. Improved iconography. "Moar" customizability. And don't worry. With the new "skin" all of your existing layouts will be migrated. None of your customized charts, grids, workspaces, will disappear. And we aren't changing the location of any of the controls or features you're used to. I know that you love our charts more than you love summer vacation, so we're hardly touching those.

So when the upgrade notice comes, don't be afraid. This change is good. After the initial shock, you're going to love thinkorswim more than you ever have before. Promise.

X MARKS THE SPOT

TRADE SPOT FX OPTIONS

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TRADING IS (NOT) GAMBLING

BIG IDEA:

SURPRISINGLY, THE PRINCIPLES OF SUCCESSFUL TRADING ARE ALSO ROOTED IN THE PROFESSIONAL SIDE OF THE CARD TABLE RATHER THAN GAMES OF PURE CHANCE. SINCE IT'S ALL IN THE MATH, THE TRICK ISN'T JUST KNOWING WHEN TO HOLD 'EM, OR FOLD 'EM, BUT WHY.

WORDS BY
MARK AMBROSE

PHOTOGRAPH BY FREDRIK BRODÉN

EVERY CLICHÉ has a kernel of truth, like an apple a day keeps the doctor away. Sure, healthy diets make sense. Likewise, the early bird gets the worm. Okay, ambitious birds seem to have pretty happy songs. But there's another cliché—trading options is gambling—that you might hear from those skeptical of leveraging puts and calls.

When people think of gambling, they think of big wins and losses depending on a single roll of the dice or the next magic card. And over the years, we've heard plenty of stories about derivatives traders who've made piles of money seemingly overnight, or who've had catastrophic wipeouts.

Naturally, jackpot-hunting isn't a great way to manage your trading bankroll.

To a less-seasoned trader, options trading can sometimes feel like gambling, with the cliché hovering overhead. But here's the deal. To serious traders (and investors, too), gambling and trading can be similar in ways that aren't so scary. And in the long run, that overlap can be informative and even helpful. Going a step further, many traders know there's a critical ingredient that often separates successful options strategists from the rest of the pack. So let's challenge the cliché to help you get smarter when options are in the cards.

A LITTLE CAN GO A LONG WAY

SIMILARITY #1: CATASTROPHIC LOSSES

If you're the type of poker player who raises that handsome suited ace/jack pre-flop and shoves your flush draw on the turn with your last $5,000, chances are you're going to lose. Fast. How could you have avoided that? Snap. By making smaller bets to preserve your stack (remember the cardinal rule in both worlds: buy low, sell high).

The same is true in options trading. If you have a $5,000 account and are trading a particular strategy with defined risk—like a **vertical spread**, for example, where you can't lose more than a certain amount no matter what—you can choose how many verticals you trade and preserve a certain amount of control. If the vertical has a max possible loss of $100, one of them can hurt—no one likes to lose $100—but it won't be fatal. You'll still have $4,900 left (minus transaction costs, of course). But if you do 50 of them and the trade has its max loss, then you'll lose the entire $5,000 and find yourself begging strangers for bus fare home. It seems obvious, but let's say it anyway: to avoid big, sudden, and/or unexpected losses in both options trading and gambling, risk an amount suitable to the inherent risk of the investment and, not to mention, an amount you can afford to lose.

HOPE IS NOT A STRATEGY

SIMILARITY #2: PROBABILITY-DEPENDENT

No matter what your game—from scratch-off cards at the corner deli to craps to blackjack—the amount you win when you hit naturally depends on the probability of winning. A big payout means the probability of getting that payout is low. You buy a lottery ticket that can win you $10 million for a $1 investment? The probability of winning is less than 1 in 10 million. A bet on the pass line at the craps table costs $1 and pays $1 if you win. The probability of winning is about 50%, which is reflected in the ratio of the payout.

Options prices, too, are based on probabilities. Look at the prices of out-of-the-money (OTM) put or call options. In the same expiration, each further OTM option is less expensive than the previous one. For example, with a stock at $100, the March 115 call will have a lower price than the March 110 call. Why? Stocks usually have smaller price changes more often than larger price changes. So the stock has a higher probability of reaching a closer price ($110) than one further away ($115). Now, if the price of the 110 call is $0.75, and the 115 call is $0.25, and the

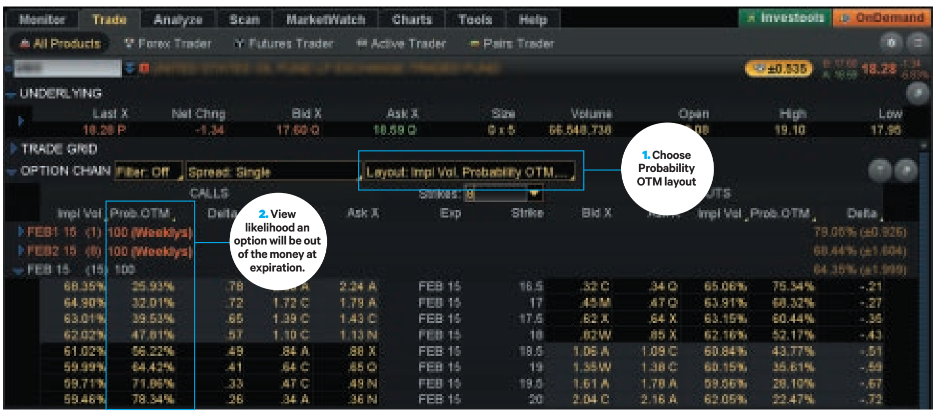

Figure 1: Probability of Potential. **You can see the likelihood an option will be out of the money at expiration by selecting Probability OTM in the Layout in the Option Chain on the Trade page of thinkorswim®.** *For illustrative purposes only.*

stock closes at $120 at expiration, the 110 call will be worth $10, and the 115 will be worth $5, minus transaction costs. But the probability of the stock hitting $120 is lower than it is for $110 or $115. Yes, the potential payout can be big, but the probability is typically low.

Conveniently, you can use the thinkorswim® platform to from TD Ameritrade to review a trade’s probability of success.

For single options, click the Trade tab and load up the “Probability OTM” column. (See Figure 1) You’ll see the probability of an option being out of the money at expiration, and that can help you decide whether you want to buy or sell.

For spreads, head over to the Analyze tab and refer to Figure 2.

1. Go to the Analyze page and create a simulated position of any strategy your heart desires.
2. Look at the Risk Profile page. Set the “prob date” in the upper right-hand corner to the option’s expiration date.
3. Then click on the menu on the far right-hand side and choose “Set Slices” to “Break Even.” The probabilities of the stock being above and below the strategy’s breakeven points will be on the Risk Profile. (To learn how to use the probability tools to determine the likelihood of a trade succeeding before expiration, see Gear Head, page 10, this issue.)

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THE NUMBERS DON’T LIE

SIMILARITY #3: HIGH FREQUENCY OF OCCURENCE

The probabilities just mentioned are based on what’s called a high number of occurrences. For example, the probability of rolling 7 with two dice is 1/6, or about 16.67%. But you could roll the dice 10 times and not once get the number 7. There’s about a 15% probability of that happening. But if you roll the dice 100 times, you’ll start to see 7 about 1/6 of the time. If you roll 1,000 times, 7 will get even closer to 1/6.

In trading, you can have a strategy that has a 90% probability of making money. And it can still be a loser, because the market can make a big move in the “wrong” direction for the strategy. And even though that big move isn’t very probable, it’s still possible. Just like you’re not likely to hit the number 7 in 10 rolls of the dice.

Figure 2: Traders (and Gamers) Know Their Odds. **No matter the trade, you can look to thinkorswim® to find the probability of a trade working out. For this short put vertical, it’s nearly 71%.** *For illustrative purposes only.*

This takes us back to the start: be careful not to risk all your money on a single trade, no matter how high its probability of profit. Allocate but a portion of your account to that trade, and a portion to another trade also with a high probability. Then another and another. Think of it as “diversifying your probability.” And don’t think of this as over-trading. You’re not buying and selling constantly. This is about putting on new positions in small quantities over time.

This is where trading is less like gambling and more like chess. You use a gaming mentality to calculate odds and probabilities through the lens of thoughtful, tested strategies. Your trading experience too will naturally shape your analyses over time.

THE BIGGEST DIFFERENCE?

Finally and most importantly, trading and gambling are different. When you gamble, you often throw money at a wager. You play your emotions. Your hunches. Gambling is often crazy wild play. No plan, no strategy, and often no profit.

Trading options requires education and forethought. And these instruments often have more flexibility. If you’re bullish on a stock, you could put on a trade that would make money if the stock does indeed go up, like buying the shares themselves. Or, you could do a trade that would make money if the stock goes up, stays the same, or doesn’t drop too much, like **shorting an out-of-the-money put**. Both are bullish trades, but they have different probabilities and payouts. The long stock makes money only if the stock price goes higher. The short put makes money so long as the stock stays above the put’s strike’s expiration price. A seasoned trader can choose which options strategy best matches an earnings outlook for a given stock.

So, next time someone tells you trading options is like gambling, take them to school. And urge them to know their poker odds while you’re at it—the flush being roughly 2:1 with two cards to come, and nearly 5:1 with one card to come. If they’re holding the nut flush on the river, naturally they’re golden.

Probability analysis results are theoretical in nature, not guaranteed, and do not reflect any degree of certainty of an event occurring. Multiple-leg option strategies can entail substantial transaction costs, including multiple commissions, which may impact any potential return. These are advanced option strategies and often involve greater risk, and more complex risk, than basic options trades. For more information on the risks for trading and options, see page 39, #1 & 2.

GOING LONG WITH A SAFETY NET

BIG IDEA: DESPITE THEIR SIREN SONGS, BUYING CALLS AND PUTS IS HOW MOST TRADERS JUMP INTO THE OPTIONS MARKET. SO WHEN THE ALLURE HAS TAKEN HOLD, AND YOU CAN'T LOOK AWAY, YOU CAN STILL ATTEMPT TO PROTECT YOURSELF FROM THE ELEMENTS.

EASY / **TAKE AWAY:** *Option Buying No-No's*

WORDS BY **MARK AMBROSE**
PHOTOGRAPH BY FREDRIK BRODÉN

DESPITE THE WARNINGS, there's something titillating about trading long options without protection—you know, buying calls and puts without a hedge. Despite the odds, you may be tempted now and again, like an unsuspecting sailor to a mythical siren's sweet song. And there's nothing wrong with that. After all, options can give you substantially more leverage at a fraction of the cost than their underlying stocks. The result is the ability to spend less on each trade, and control more shares than you could otherwise afford—possibly earning you multiples of what you would have made on the underlying stock. Trading bliss, right? Not so fast.

While the leverage provided by long options is alluring, their siren calls mask the risks that have nothing to do with picking the right direction. In fact, you can be 100% right on direction and still lose money. For this reason, rather than focus on how to make money trading long options, let's focus on the three killers—time decay, volatility, and duration.

TIME DECAY: ECSTASY CAN WAIT

The first thing to know about long options is they're always losing money. Always. If a stock doesn't move, it doesn't lose anything. On the other hand, if a stock doesn't move, its options lose. Why? Time decay—or rather, theta. Options are time-sensitive instruments—meaning, much like the milk spoiling in the fridge, they have expiration dates. Ignoring these dates can be quite risky, as options lose value each and every day until their last breath at expiration.

Theta is defined as the change in the option value due to a change in time. The theta value that you see on the thinkorswim® platform by TD Ameritrade represents the dollar amount your position loses simply because one day of time has elapsed. (See Figure 1) In fact, theta happens every day until the option expires.

The good news? Options consist of values—real value and time value. This is important because theta only affects the time value of an option. It cannot affect the real value of an option. So to help mitigate value loss due to time decay, give your option a bit of both. To do this, consider buying in-the-money (ITM) options.

ITM options have both real value and time value. Hence, deeper ITM options mean a lower percentage of the total option value affected by theta. While you'll be paying more for an ITM option, it's likely to move more like the stock you're trying to mimic, and the option price will still be considerably less than what it would cost you to buy the stock outright. A discount here and there can help take the edge off love gone wrong.

IMPLIED VOLATILITY: GET A PRE-NUP

The heart muscle is formidable but often disappointed. Imagine you buy an option hoping the stock makes a directional move. The stock does just that but you fail to make money. If this is your life, you've likely been on the wrong end of a volatility change.

Implied volatility helps determine how much time value an option should have. When implied volatility is high, options have a lot of time value, and may be considered expensive. Yet, when implied volatility is low,

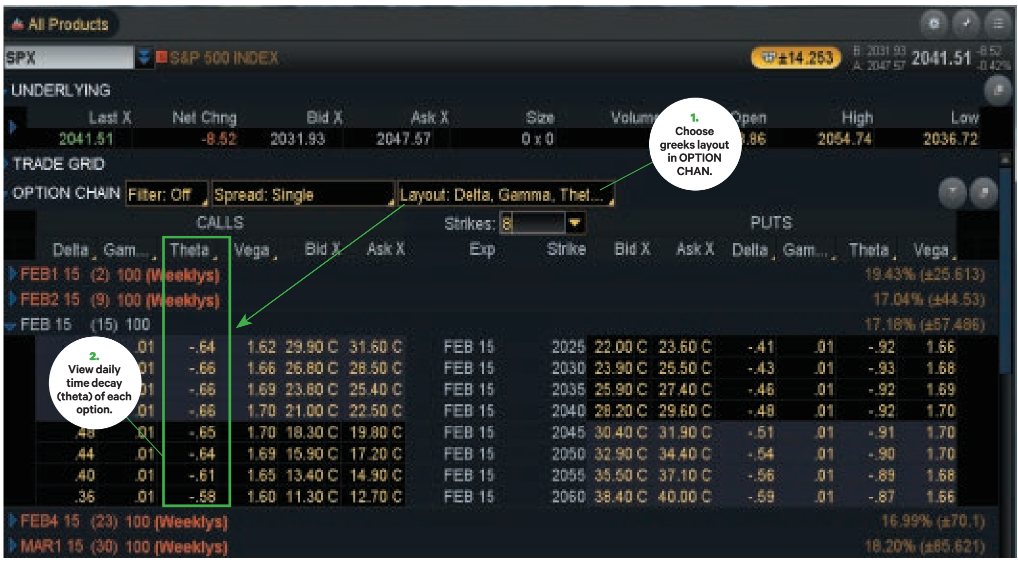

FIGURE 1: Daily Dose of Theta. Every day your option exists, it loses money to theta. The lower the theta, the better for your long option positions.

[redacted]

For illustrative purposes only.

TRADER GLOSSARY
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options have relatively little time value and may be considered cheap.

But how do you know how much volatility is too much? Tech stocks tend to trade at higher volatility levels, while the more established blue-chip stocks tend to trade at lower vol levels. Which one is high relative to itself?

It turns out that the best way to determine whether implied vol is high or low is to go back and check past levels and compare them to the present. Referring to Figure 2, the Vol Index on thinkorswim can help with the heavy lifting by analyzing how today's volatility fares against past levels. If current vol is at or near the high of a recent range, it may not be the best time to buy those stock options. Yet, if the level is near the range's low end, not only could it help mitigate the chance that volatility levels may drop dramatically, but also you may benefit from a rise in the overall vol level. This is because implied volatility is what's called mean-reverting. In other words, what goes up is likely to come down. But it can also mean that what goes down is likely to come back up. When vol goes up

COOL INFO:
To see more about how to use the tools we talked about here, just go to the thinkorswim Learning Center at **tlc.thinkorswim.com.**

FIGURE 2: Vol Index Past and Present. **A higher Vol Index compared to the recent past provides clues that options could be inflated and riskier for the long option trader.**

[redacted]

For illustrative purposes only.

while you're holding a long option, that's a good thing. That's like a mythical story about the bombshell in the elevator who accepts your marriage proposal on the fourth date.

DURATION: SOUL MATES ARE TRICKY

There's the old saying: "An option is worth more alive than dead." Long-term options, namely those with 90 days or more to expiration, have existed for decades. And expiration dates may range from 90 days to several years. LEAPS options can have expiration dates out more than two years. Super-LEAPS, and some over-the-counter options, can have even longer life spans. But still, whether five days or five years, they do expire at some point. And one of the most frustrating things to experience in the trading world is to have your options expire just before that big move you expected, where desire and destiny align.

So what can you do? Read a chart or talk to a love shaman, then make your best guess as to when you think the stock will make a move and how long it will take. Beyond that, consider selecting an option that covers your time frame plus a little more. Finally, consider options with at least 90 days or more remaining until expiration. Just give yourself enough time to have the stock do its thing, and try never to bolt out of a trade because you're racing time on an option that expires in a week. In general, you're not looking for small fluctuations or an overnight home run. Rather, you're trading off the notion that a stock is likely to cover more distance if you give it time.

WHEN YOU'RE SOBBING TO STRANGERS AT BARS

Since you're substituting stocks with long options, your choice of strategy naturally suggests you're comfortable with, and embrace, directional risk. Long options have directional risk, much like trading long or short stock positions. At the end of the day, the stock either moves your way or it doesn't.

Trading is about making one choice relative to another. Options look like a cheap alternative when compared to the price of underlying stocks. But they're not a perfect substitute. And they have a defined existence. Further, while stocks only have real value, options have both real and time value. And with that time value comes volatility and time decay. On the bright side, if you're buying ITM options 90 days out, when vol is historically low, you may not have saved yourself from the call of the sirens entirely, but at least you've helped reduce the risks you can control somewhat, and increased the chances of your trade seeing another day.

A long call or put option position places the entire cost of the option position at risk. Should an individual long call or long put position expire worthless, the entire cost of the position would be lost. For more important information on the risks of trading and options, ***see page 39, #1 & 2.***

SHOW ME THE MONEY

PRO / **TAKE AWAY:**
Finding premium in a dull market with vol dispersion.

WORDS BY
THOMAS PRESTON
PHOTOGRAPH BY
FREDRIK BRODÉN

BIG IDEA: OPTIONS TRADERS THRIVE ON VOLATILITY. SO WHEN DULL MARKETS ARE A DRAG ON YOUR P/L, DON'T WAIT FOR AN INDEX TO COME TO YOU. GO AFTER ITS COMPONENTS.

***Portfolio margining involves a great deal more risk than cash accounts and is not suitable for all investors. Minimum qualification requirements apply. Portfolio margining is not available in all account types. Portfolio margining privileges subject to TD Ameritrade review and approval. Not all clients will qualify. Please consider your financial resources, investment objectives, and tolerance for risk to determine if it makes sense for your individual circumstances. Carefully read the Portfolio Margin Risk Disclosure Statement, Margin Handbook, and Margin Portfolio Margin Risk Disclosure Statement, Margin Handbook and Margin Disclosure Document for specific disclosures and more details. You may also contact TD Ameritrade at 800-669-3900 for copies.*

Option prices discussed in this article don't include transaction costs. Please see page 39 for more.

"WHEN SEEKING VOLATILITY PREMIUM, WHY WAIT FOR VOL TO COME TO YOU? RATHER THAN BEMOAN LOW VOL IN AN UNDERLYING'S OPTIONS, TRADERS OFTEN LOOK FOR IT ELSEWHERE, USING VOL DISPERSION."

When is volatility scary? When it's high, most investors say. High "vol" in the form of large price swings can also make account values swing quickly from profit to loss and back again. Not a lot of fun for your average investor. But ask a professional options trader, and you might get a different answer.

Less market uncertainty can push vol lower. Which means there's less value in options as a speculative or hedging product. And this means less premium to collect for shorting them, shorting being the approach many options traders use. A lot of short strategies carry higher probabilities than their long strategy brethren. So to an options pro, the credit from shorting options can mean primary income. When vol is low, income is low—which is never fun.

Rather than bemoan low vol in an underlying's options, traders often look for vol elsewhere, using something called "vol dispersion." Essentially, why wait for vol to come to you?

Vol dispersion is high-level stuff. It can have high capital requirements and carry risk. Vol dispersion is used in the main by trading institutions, but don't be discouraged. You can leverage the strategy in any size account with your own defined-risk strategies.

EXPLORE THE GRAY AREA

Volatility is a metric that estimates how big a future percent change in an underlying's price might be. But let's look at vol differently.

If you buy 100 shares of XYZ, and someone else buys 100 XYZ shares, the profit or loss as the price of XYZ shares moves and XYZ's vol is the same for both traders. Why? Because it's the same stock and the same company, no matter who owns it. But what if you buy 100 shares of XYZ, and the other trader buys 100 shares of XYZ's competitor? Maybe XYZ and the competitor have similar business models. If the prices of XYZ stock and the competitor correlate, then it's right to expect their price vol, and implied-options vol, to be similar, too.

Now, vol between two stocks or indices are never going to be exactly the same, no matter how similar superficially. Yes, XYZ and the competitor are similar. But not identical. It's that "almost but not quite" quality that's at the heart of vol dispersion. When two correlated stocks are similar in price vol, and the implied-options volatilities are different, vol dispersion may be the right strategy.

BENCHMARKED INDICES: JUST SAY YES

In practice, institutions that are long a diverse portfolio often apply vol dispersion to a benchmark index, vs. the index's component stocks. Consider a portfolio benchmarked to hypothetical index NSX.

Suppose NSX's largest component, MNKY, was over 13% of NSX's total market cap. MNKY and NSX have roughly 90% correlation based on a rolling 30 days of percentage-price changes. What this means is when MNKY moves up or down, most of the time NSX moves up or down along with it, too. So, MNKY is a stock that makes up a large percent of the index, and is highly correlated to it. But MNKY's overall implied vol is about 27%, while NSX's overall implied vol is about 16%. If the institution wanted to sell calls against its book, a simple example of vol dispersion would be to sell MNKY calls instead of NSX calls. MNKY calls have a relatively higher premium due to higher implied vol.

There's more. An index of 100 stocks is often less volatile than a single stock because the index has less unsystematic risk—risk associated with a company's management, financials, etc. So NSX has lower implied vol than MNKY for good reason. But what if you add FAHN and UBSW to MNKY? The market cap of those three comprises about 25% of NSX's total market cap. FAHN and UBSW have relatively high correlations to the NSX, like MNKY. FAHN's vol at 21% and UBSW's vol at 26% are also higher than the NSX's implied vol. Creating, then, a mini-basket of MNKY, FAHN, and UBSW theoretically can reduce some of the unsystematic risk.

Using vol dispersion, institutions might sell MNKY, FAHN, and UBSW calls with implied vols over 20%, rather than NSX calls. The institution is collecting a higher premium selling the calls in individual stocks, while the mini-basket has a high portfolio correlation. (Though, the company is also paying transaction costs for three options trades, rather than one.)

SMALL PROFITS ADD UP

How much more premium might vol dispersion deliver? Let's say, hypothetically, that selling an NSX call that's 3% out of the money with 45 days to expiration might generate about $5,700 in premium. Selling OTM calls in MNKY, FAHN, and UBSW in quantities to match the exposure of one NSX call might generate about $12,000 in premium.

With the NSX at $4,090, the value of the index is $409,000. Selling one NSX call covers about $409,000 of underlying value. If we created an equally weighted portfolio of MNKY, FAHN, and UBSW that's worth $409,000, that's about 1,200 shares of MNKY at $107; 3,000 shares of FAHN at $45; and 3,800 shares of UBSW at $35.50. Selling 12 calls in MNKY, 30 calls in FAHN, and 38 calls in UBSW would be roughly the same risk exposure as one NSX call. And the credits from selling the calls in MNKY, FAHN, and UBSW generate that $12,000.

Maybe that extra $6,300 from vol dispersion doesn't sound like much in a $409,000 portfolio. But that 1.5% could set you apart.

FEAR NOT THE GREAT UNKNOWN

If returns are so great, why doesn't everyone use vol dispersion? First, the correlation between stocks and indices can fall. So in our example, MNKY, FAHN, and UBSW could rally and the NSX could drop, and both the short calls and the underlying book could lose money. Second, vol dispersion can cap potential profits of the underlying portfolio just like a covered call, and provide limited crash protection. Third, vol dispersion can be capital intensive because short calls in MNKY, FAHN, and UBSW could be considered naked, uncovered by a long-stock portfolio.

Options traders can get creative and build out diverse strategies based on relative vol differentials. If that's not you, how can you benefit?

1/ SELL CALL VERTICALS For smaller accounts, short call verticals in single stocks can have lower capital requirements than naked short calls, are IRA-friendly, and can have less risk if correlations break down.

2/ PORTFOLIO MARGINING ** If you have a TD Ameritrade portfolio margin (PM) account and a diverse portfolio against which you sell index calls, you may want to consider vol dispersion. You'd sell options in those stocks that correlate to your portfolio but have higher implied vol. The PM requirements for naked short options are generally lower than a regular margin account.

SOMETIMES YOU HAVE TO DIG for new opportunities when volatility is low. But vol dispersion is one way to lead with the soldiers when the generals are tired.

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WHICH STOCKS MOVE LIKE JAGGER?

Typically the biggest stocks that make up a good chunk of an index will provide the greatest correlation to that index. The trick to finding them? Go to the Market Watch tab on thinkorswim® and load the index from the "Public" lists. Then add the "Market Cap" to the columns on the Market Watch, and sort them by clicking at the top of the Market Cap column.

To correlate an index and a component stock or group of stocks that might :

STEP 1

Go to the Charts tab and load the Pair Correlation study.

STEP 2

In the symbol field, type in something like "NDX—AAPL" (considered a "pair" in the Pair Correlation study).

STEP 3

Type in NDX—(AAPL + MSFT + INTC)* to see the correlation between NDX and a basket of those three stocks. What you'll see will be similar to Figure 1.

Figure 1: Correlate or Gyrate? Using the Pair Correlation study in thinkorswim, you can see if a stock or group of stocks follows the lead of a respective index.
For illustrative purposes only.

**Stock symbols used in this article are for education purposes only. The risk of loss on an uncovered call option position is potentially unlimited since there is no limit to the price increase of the underlying security. Naked option strategies involve the highest amount of risk and are only appropriate for traders with the highest risk tolerance. For more information on the risks of trading and options, see page 39, #1-2.*

READING THE ALT CROWD

BIG IDEA:
EVERY TRADER KNOWS THAT TO GAUGE A STOCK'S TREND, IT'S ALL IN THE CHARTS. BUT WHAT ABOUT ITS OPTIONS? YOU MAY NEVER BUY A PUT OR A CALL, BUT IF YOU IGNORE WHAT THEY'RE TRYING TO TELL YOU, YOU COULD BE MISSING THE BIGGER PICTURE.

● SEASONED / **TAKE AWAY:** *Gauging Stock Momentum with Options Data*

WORDS BY
THOMAS PRESTON
PHOTOGRAPH BY
FREDRIK BRODÉN

LOAD UP THE TRADE PAGE on TD Ameritrade's thinkorswim® platform and you'll find a dizzying array of flashing numbers. To the veteran options trader, that particular light show makes sense. But if you're an investor who doesn't usually trade options other than to sell the occasional covered call, you might ask, what's the point?

Certain interesting options metrics can be instructive, regardless of your trading habits. I'm not referring to the greeks like **delta** or **theta**—those are by nature theoretical. I'm referring to those derived from options-trading activity—the collective buying and selling of the options themselves. The idea being that you can get a sense of what a stock might do based on what traders are doing with its options. The three more useful metrics are:

1. Open interest
2. Put/call ratio
3. Sizzle Index®

Think of these as "options-market internals." They often deliver market clues on sentiment, and indicate where money may be flowing.

OPEN INTEREST: ONE CRITICAL INDICATOR

Open interest is best defined by how it's calculated. When an exchange creates a new options series, before trading begins, the open interest is zero. Every trade is either opening, where a trader establishes a new position, or closing, where a trader exits an existing position. So, a buy might be opening or closing, and a sell might be opening or closing. That said, an option's first buy and sell are both opening trades. For every option position created through an opening trade, open interest goes up by one. For every position closed, open interest goes down by one. So open interest is the number of options in traders' positions not yet closed—either long or short.

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Referring to Figure 1, you can find an option's open interest on the Trade tab of thinkorswim.

1. Enter a symbol in symbol box.
2. Select "Layout: Volume, Open Interest" in the right drop down of the "Option Chain" section.
3. Open interest now appears in the option chain columns for both calls and puts.

Some look at an option's strike price with the highest open interest and interpret that as either a potential stock-price target, or maybe even support (for strike prices below the existing stock price) or resistance (strike prices higher than the current stock price). According to the theory of "max pain," investors typically buy calls and puts, either as directional bets on a stock or as a hedge. If the stock price is away from the strike price, either the calls or puts at that strike will be in the money, and the trader who bought the call or put that is now in the money could be making money. That's a good thing.

Yet, if the call is in the money, the put at that strike is out of the money, and vice versa. Whoever bought that out-of-the-money option could be losing money. Not good. But when the stock is exactly at the strike price at expiration, both the calls and puts at that strike are nearly worthless. And whoever bought either call or put could be losing money. That's the "pain." The "max" part comes from the strike price that has the highest open interest, where the largest open long-option positions are. If the stock goes to that strike, it could cause the greatest losses for the traders who are long those options.

Is the max-pain theory valid? Hard to say. It can seem like some stocks stay in a range of prices where the strikes have the highest open interest. But that's not always the case. So you may not want to base your stock price targets solely on the strikes with the highest open interest. Always use more than one indicator. Open interest could be supporting evidence for a next move, along with other technical or fundamental indicators.

P/C RATIO: NOT ALL METRICS ARE CREATED EQUAL

Our second metric is the put/call ratio. This is a straightforward measure of good old market sentiment. It's simply the ratio of the trading volume in a stock's puts and calls. If 100 puts have traded, and 100 calls have traded, the put/call ratio is 1.00. If 200 puts have traded and 100 calls have traded, the put/call ratio is 2.00.

The p/c ratio is a contrarian metric. Some think it's a signal for a stock reversal, as most retail-options buyers lose money. That's debatable but for the moment let's go with it. Say calls are bought after the stock has gone up a lot, and puts are bought after the stock has dropped. Certain investors get caught up in the excitement of a big move up or down and expect it to continue. They place bearish long-put trades after the stock drops, and bullish long-call trades after a rally. That's the idea, anyway. The p/c ratio is a measure of this kind of activity. When the p/c ratio is low, more people are trading calls, which can mean retail investors are buying. That can signal a top in the price of the stock, with veteran traders taking profits as retail traders buy, which can lead to lower stock prices. When the p/c ratio is high, it means more people are trading puts, which can mean retail investors are buying them as a hedge or speculation that the stock will continue to drop.

The high p/c ratio can also suggests a stock bottom could be in place, when more experienced traders who have shorted the stock are taking profits by buying their stocks back at lower prices. The pro traders are buying short stock back from less experienced traders who might be exiting their long stock positions, either being stopped out, or having to close positions to meet margin calls. This activity may drive stock prices higher. That's why low p/c ratios are seen as potential reversals after a stock rally, while high p/c ratios are seen as potential reversals after a stock drop.

The p/c ratio, as it's called is found on the Trade page in thinkorswim. (See Figure 2) Look in the "Today's Options Statistics" section, and you'll see "P/C Ratio" on the far-right-hand side. A p/c ratio above 1.00 means more puts than calls have been traded. A p/c ratio below 1.00 means more calls than puts have been traded. So, how can you interpret the data?

Is the p/c ratio an accurate metric to predict market reversals? It assumes that buying into strength or selling into weakness leads to losses, and because that's not true for all investors in all stocks every time they rally or drop, the ratio should be used cautiously in conjunction with other directional indicators. But an extreme level of the p/c ratio can reinforce a bullish or bearish bias, and can assist with timing a trade entry or exit.

For example, an investor who is long stock

FIGURE 1

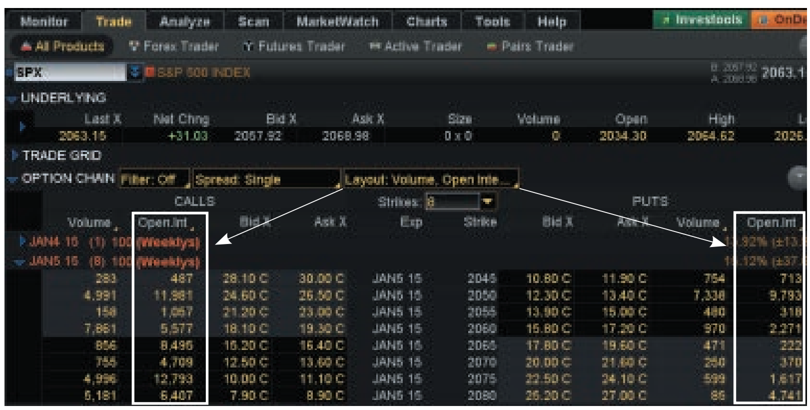

Figure 1: Open Interest. Based on the theory of "max pain," options' open interest can show you where potential support and resistance. They're where the traders are screaming "uncle" and get in, or bail out. *For illustrative purposes only.*

FIGURE 2

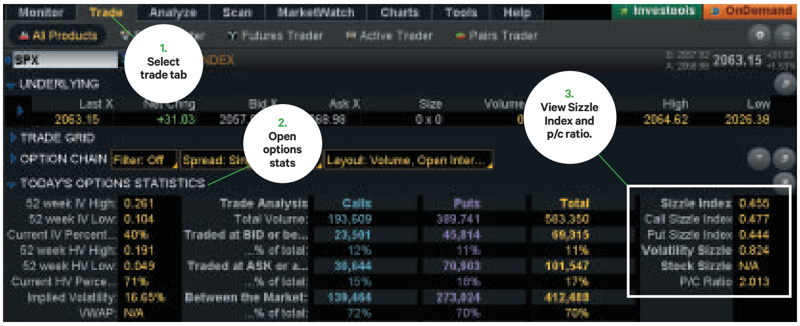

Figure 2: Today's Options Statistics in thinkorswim is where you'll find the p/c ratio (bottom of yellow box, right) or the Sizzle Index (top of yellow box). *For illustrative purposes only.*

might look to take profits when the p/c ratio is high after the stock has rallied. Also, what counts as a high or low p/c ratio can be different for different products. For example, the p/c ratio for an index like the SPX or NDX is usually above 1.00 because a lot of institutions regularly buy puts as hedges for their portfolios. Stocks that have a lot of price swings might have p/c ratios between 1.2 and 0.80 as trading activity shifts from calls to puts and back. Before you use p/c ratios to shape your trading decisions, get familiar with their levels for the stock or index you're trading. One size put/call ratio doesn't fit all.

SIZZLE INDEX: IT'S ALL RELATIVE

The third metric—the sizzle index—is a number you'll find only on the thinkorswim platform. It may as well be called "Relative Options Volume" because in effect it's the ratio between total-option volume on a given day to the average total-daily option volume for the previous five trading days. It measures whether options trading has been more or less active relative to several days prior. If the sizzle index is greater than 1.00, option volume is greater than the average of the previous five days. If it's lower than 1.00, the present day's volume is lower.

You can find the Sizzle Index on the Trade page in thinkorswim (see Figure 2). In the "Today's Options Statistics" section, you'll see the:

• **Sizzle Index** on the far-right-hand side

• **Call Sizzle** and **Put Sizzle**, which measure present-day call or put volume against the previous five-day average

• **Stock Sizzle**, which measures present-day stock volume against the previous five-day average

• **Volatility Sizzle,** which measures present-day vol index against the previous five-day average

The Sizzle Index can be used in a couple of ways. As a simple indicator, it can show which stocks' options are generating the most interest, which can signal upcoming news or a corporate event. To a stock investor, a high Sizzle means you should at least be aware of a stock's potential price swing. The second is if a high or low Sizzle Index coincides with a big swing in a stock price. A big move accompanied by a high Sizzle could indicate continued strength in that move, just as high stock volume might. A big move accompanied by a low Sizzle could indicate the market sees less likelihood of the move continuing.

IF YOU'RE PAINTING A MENTAL PICTURE of a stock's trend, think of its chart as momentum, while its options data fills in the sentiment of that momentum. If you're charting momentum without sentiment, you could be ignoring critical information that might give you just the push you need to get in or out of a trade.

The information contained in this article is not intended to be investment advice and is for illustrative purposes only. Be sure to understand all risks involved with each strategy, including transaction costs and your own personal financial situations before attempting to place any trade. Supporting documentation for any claims, comparison, statistics, or other technical data will be supplied upon request. Past performance of a security or strategy does not guarantee future results or success. For more information on the risks of trading and options, see page 39, #1-2.

Q&A

SOME LINGERING QUESTIONS YOU MAY HAVE ON OPTIONS ANALYSIS.

• How frequently are these metrics updated?
The put/call ratio and Sizzle Index are updated throughout a trading day because the volume that drives the put/call ratio is real-time, as is the volatility data that drives the Sizzle Index. Open interest, though, is one day old and updated overnight.

• Are these metrics short- or long-term in nature?
The Sizzle Index tends to be shorter-term in nature because implied volatility can change quickly in response to news and market events. The put/call ratio can be short term for stocks, where trading activity in calls or puts in response to news can push it higher or lower. In index options, the put/call ratio tends to be longer term with fewer short-term fluctuations. Open interest tends to build over time, but can increase quickly if there's a lot of trading in a stock's options around earnings.

A stock is considered "pinned" when it settles at or near an option's strike price at expiration. While this tends to happen randomly, there are certain forces that increase the frequency with which stocks are pinned at a strike at expiration. One explanation is that market makers hedge existing positions. In order to understand why, we simply have to imagine what happens to an option at expiration.

• What is "pinning," and can I use it as a stock-trading tool?
Suppose a trader is long one call option in the final hour of trading on expiration day. Then, at expiration, the trader will likely end up with one of two positions. If his call expires out of the money, he will end up with nothing. But if his call expires in the money, he will end up with 100 long shares. Now, the market maker assumed this position by taking the other side of someone else's trade. In other words, he neither asked for nor wants this position. So, he will likely try to hedge the risk away.

On expiration day in the final hour of trading, if the stock trades above the strike price, the market maker now has an option that is likely to turn into 100 long shares. So, to hedge, he sells 100 shares of the stock. This works great until the market maker notices that his sale of stock has impacted the market such that the stock drops below the strike price. Now, the market maker will not get 100 stock shares from his option at expiration, so he no longer has a need to be short stock. He buys back the 100 shares he sold earlier. Now what if that subsequent stock purchase impacts the market such that the stock once again rises above the strike price? He once again has to sell stock to hedge...and you get the point.

Now one market maker buying or selling 100 stock shares is not likely to make much of an impact on the market. But if there are hundreds of market makers, each trying to hedge with thousands of shares at a time, a stock may trade in a tight range around a strike.

From Russia with Love

ANNA LEMPERT TRANSLATES HUMAN TALK INTO COMPUTER CODE, WITH THE GOAL OF RULING THE TRADING WORLD.

Interview by Kira Brecht / Illustration by Joe Morse

• IF YOU EVER MEET ANNA LEMPERT, Director, TD Ameritrade Trader Technology, you won't forget her. As a Chernogolovka native, she sports a Russian fur hat around the office, has full-blown conversations with her computer, and codes up a storm, surrounded by piles of papers and files. Anna offers up Ukrainian salted smoked fat or "salo" as a treat at Friday morning meetings, and has a habit of calling her colleagues "humans." Best of all, she drives the coding magic behind all the tech tools you use to trade.

1

So, Anna, what does the "Trader Technology" department do? We develop the software that drives the site and displays the pages. I bridge technology and the business units. My goal is to make sure that everyone speaks the same language. We make sure the products we design are what the business units want. I drive spikes in the ground to help create the framework for certain things and then I move on. I'm constantly traveling in different directions.

2

Name a project you've worked on that traders would know. We do everything—the products for trading, thinkorswim,® the downloadable platform. We recently worked on the thinkorswim Challenge. It's a program for university students, in which 245 teams competed for four weeks of hard-core trading.

3

You call people "humans"? It's a very descriptive term. In the behavior of a system, you define logical behavior to predict if it's going to be the human doing the work, or the computer will do the work. It's the difference between an active user doing logic, and a machine doing that. In Russian, the proper word to address people is humans; it is the same word as people. Now everyone makes fun of me.

4

What's next for TD Ameritrade Trader Technology? To rule the world, which in a way we already do. To create a safe place to interact with other serious people who are living and breathing their passion for trading. I want to create a dating site for our customers. Traders would love that. Hey, somebody trades the same strategy, would you like to meet them?

5

I've heard that your nickname is "Brains." Where did that come from? I started using that a while back. Everyone can use whatever signature we want on our e-mail. I used Brains. Nobody disagreed and that was the good part. Then, I left the company for a while and came back, so now I'm Brains 2.0.

6

Sooo... what's with the hat? I was born and raised in Russia. Last year's polar vortex made me feel at home. The hat is called an orshanka, which basically means long ears. What can I say? I need to keep my brain warm.

"I do my best coding while I'm in the shower. Lots of time for the "what-if's" and "what-else's" and thinking about different scenarios for the coding logic. Then it stays in your head."

TAKE ACTION: **Open a Futures Account.** For qualified accounts, you'll need Level 3 options approval to trade futures. Log in to your account at tdameritrade.com. Under the Trade tab, go to Futures & Forex for more information.

Teaching the Goblins to Trade

USING FUTURES TO HEDGE STOCKS DOESN'T HAVE TO BE SCARY. IT'S SMART.

● PRO / **TAKE AWAY:** *Calculating a futures hedge with beta weighting.*

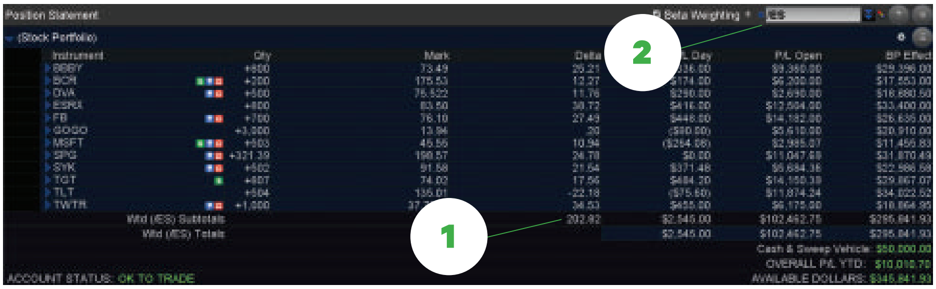

Figure 1
Measuring Beta. In thinkorswim,® click the "Activity and Positions" subtab under the Monitor tab. Check the "Beta Weighting" box in the upper right corner and type in "/ES" to compare your portfolio to the S&P 500 E-Mini index future.
1 - Beta-weighed Portfolio Delta
2 - Beta Weight with /ES
For illustrative purposes only.

• The idea of hedging a stock portfolio with low-cost index futures can make you feel like that anxious kid again. Something spooky and unpredictable with every trading day, right? Maybe not.

Bear in mind, hedges can be expensive. Before implementing a hedge, consider booking some of your gains, and rebalance your portfolio to the right risk level. Doing so can help reduce your exposure and how much you need to hedge. With more cash in your portfolio, you can buy at lower prices when the correction actually occurs.

Greek Never Scary

If you're holding a book of large-cap stocks, the E-Mini S&P 500 index future is a common hedge and can have very cool potential tax, settlement, and liquidity benefits. The question is, how much is enough? Trader, meet beta.

Beta is a ratio that compares a stock's volatility to a benchmark, usually the S&P 500. If a stock has a beta of 1.50, it's approximately 50% more volatile than the S&P 500 with a beta of 1.00. In other words, for every 1% price move in the S&P 500, the stock is expected to move 1.50%.

"Beta-weighting" your portfolio helps you understand each component in like terms. It's like turning both apples and oranges into bananas. Measuring bananas for everything makes the process easier.

Delta describes the value magnitude an asset is likely to gain or lose, given a one-dollar move in the benchmark. For example, 100 stock shares with a beta-weighted delta of 70 would change $70 in value for every dollar change in the S&P 500. Add up the beta-weighted deltas of your positions and you have your delta.

Consider the portfolio in Figure 1, beta-weighted to the E-Mini S&P 500 Futures continuous contract (/ES). Each position's delta is expressed in beta-weighted terms of /ES, with the delta displayed as approximately 200. In other words, this portfolio of bananas will gain or lose approximately $200 for every one-dollar move in /ES.

Pick Your Demons Wisely

Now that you've wrangled your portfolio into measurable terms, the last step is choosing how much delta you want to offset. It's common to shoot for a 30–50% range, while keeping the capital requirement to no more than 3% of the portfolio value. (A 100% hedge is often impractical and expensive, in which case it's best to evaluate your book's basis instead.)

To target a nearly 50% hedge above, we'd need to sell enough /ES contracts to produce -100 deltas. The following table shows how selling two /ES contracts would offset the target deltas at a cost lower than 3% of the portfolio.

E-MINI S&P 500 CONTRACTS	1	2
DELTA (TICK SIZE 0.25 POINT = $12.50)	50	100
INITIAL MARGIN REQUIREMENT	$5,060	$10,120
CAPITAL REQUIREMENT AS % OF ACCOUNT	1.01%	2.02%

For illustrative purposes only.

Not for nothing, deltas change over time as the market moves. Depending on how long you keep the hedge, you may need to adjust several times to keep it aligned with target percentages.

Remember, hedges are often temporary by nature. If your temporary hedge becomes permanent, it may be time to rethink objectives, and just how much Fright Juice you want stashed in the fridge.

—Words by DEVIN EKBERG

Futures and futures options trading is speculative, and is not suitable for all investors. Please read the Risk Disclosure for Futures and Options prior to trading futures products. Futures accounts are not protected by the Securities Investor Protection Corporation (SIPC). For more information on the general risks of trading, options, and futures, ***please see 39, #1-3.***

GLOSSARY

Delta
PAGE 29

• A measure of an option's sensitivity to a $1 change in the underlying asset. All else being equal, an option with a .50 delta for example, would gain 50 cents per $1 move up in the underlying. Long calls and short puts have positive (+) deltas, meaning they gain as the underlying gains in value. Long puts and short calls have negative (–) deltas, meaning they gain as the underlying drops in value.

Intrinsic value
PAGE 13

The part of an option premium that is "in the money" and not time value (or "out of the money").

Short out-of-the-money put
PAGE 19

A bullish, directional strategy with limited risk in which an unhedged put option with a strike that is lower than the current stock price is sold for a credit. The strategy assumes that the stock will stay above the strike sold; in which case, as time passes and/or volatility drops, the put option can be bought back cheaper or expire worthless, resulting in a profit.

Gamma
PAGE 31

A measure of what an option's delta is expected to change per $1 move in the underlying

Vertical spread (long and short)
PAGES 13, 18, 27

A defined-risk, directional spread strategy, composed of a long and a short option of the same type (i.e. calls or puts). Long verticals are purchased for a debit, while short verticals are sold for a credit at the onset of the trade. Long call and short put verticals are bullish, whereas long put and short call verticals are bearish. The risk of a long vertical is typically limited to the debit of the trade, while the risk in the short vertical is typically limited to the difference between the short and long strikes, less the credit.

CBOE Volatility Index (VIX)
PAGE 13

VIX measures the implied volatility ("vol") of the S&P 500 index (SPX) options. Typically, when VIX is moving higher, option volatility in SPX is increasing. When VIX is moving lower, option volatility in SPX is decreasing.

Barclay's VXX
PAGE 13

Also known as the iShares S&P 500VIX Short-Term Futures ETN, this exchange-traded note tracks the CBOE VIX futures.

Theta
PAGES 13, 22, 29

A measure of an option's sensitivity to time passing one calendar day. For example, if a long put has a theta of -.02, the option premium will decrease by $2.

Implied volatility
PAGES 13,22

The market's perception of the future volatility of the underlying security, and is directly reflected in an option's premium. Implied volatility, is an annualized number expressed in percent (such as 25%), is forward-looking, and can change.

Historical volatility
PAGE 13

A measure of stock's (or other asset) volatility that is based on the historical price action of a stock. Historical volatility is used to gauge the range in which a stock might trade in the future. The number is based on a recent subset of time and written as a annualized percent.

In the money
PAGE 30

An option whose premium contains "real" value, i.e. not just time value. For calls, it's any strike lower than the price of the underlying equity. For puts, it's any strike that's higher.

Out of the money
PAGE 30

An option whose premium is not only all "time" value, but the strike is away from the underlying equity. For calls, it's any strike higher than the underlying. For puts, it's any strike that's lower.

The Trader's Medi-Quiz

BIG IDEA: FEELING THE GASTROINTESTINAL EFFECTS OF HIGH GAMMA AND HIGH VOL? TAKE THE QUIZ AND FIND OUT WHICH SPECIALIST YOU SHOULD SEE ABOUT THAT.

Let's begin

1
When you first heard the word "volatility" you:

- **A.** Denied that traders needed to understand it
- **B.** Got angry that you fell asleep during the class on normal distribution
- **C.** Bargained with self that if you stuck to utility stocks, you didn't have to worry about it
- **D.** Accepted you were the only one in your family who loved it

2
When you look at your trading screen, do you:

- **A.** Focus both eyes on what you're looking at
- **B.** Focus one eye on key futures and the other on a tick chart, chameleon-style
- **C.** Blink rapidly to simulate changing prices during dull markets
- **D.** Intentionally blur vision to spot secret messages in Fibonacci spirals

3
When a trade is going against you, do you:

- **A.** Chain-gulp antacids
- **B.** Chain-gulp Thin Mint Girl Scout cookies
- **C.** Experience rashes on palm of trading hand and/or fingertips
- **D.** Mop sweat flowing from body before it shorts out keyboard and offends significant other

4
In your personal life, do you find trading:

- **A.** More satisfying than spending time with partner
- **B.** More satisfying than spending time with close friends
- **C.** More satisfying than spending time with children
- **D.** Replaces all manner of humanity in your life with never-ending quest for volatility arbs

5
When a losing trade turns into a winner and you jump for joy, do you:

- **A.** Rupture a disc
- **B.** Rupture a knee
- **C.** Rupture a blood vessel
- **D.** Rupture dog's eardrum with high-pitched squeals

6
When the plane you're on has no Wi-Fi and you can't log in to trade, do you:

- **A.** Hang your head in frustrated resignation
- **B.** Shrug your shoulders because the SPUs can take care of themselves
- **C.** Initiate simulated trading pit with other passengers
- **D.** Demand plane land immediately so you can short airline stocks

7
In the last hour of trading before expiration, do you:

- **A.** Roll your expiring options with military precision
- **B.** Short expiring options to see if your negative gamma equals your heart rate
- **C.** Quietly weep realizing you're one month closer to that Big Expiration in the Sky
- **D.** Quickly consume all expiring products in your refrigerator and pantry, even if you're not hungry.

8
To improve your trading performance, do you:

- **A.** Use contraband performance-enhancing drugs
- **B.** Improve technique to be able to squat 500 short strangles
- **C.** Use positive airway pressure to increase oxygen in brain
- **D.** Increase caloric intake to sustain you through marathon trading sessions

Test results

A

If you checked mostly As above, you could see a **nephrologist**. Traders often have positions in their accounts that need to be purged. Problems in the kidneys and urinary tract can make this difficult. This specialist can recommend a number of remedies, including medications and changes to diet and lifestyle designed to bring lasting relief.

B

If you answered mostly Bs above, you could see an **endocrinologist**. Glands like the thyroid and adrenals not only govern, but are also influenced by, our trading performance. Imbalances and deficiencies in critical hormones can exacerbate portfolio volatility and drawdowns. Through careful testing and drug applications, the endocrinologist seeks to make you a well-balanced trader.

C

If you answered mostly Cs above, you could see a **cytopathologist**. This doctor can perform a detailed analysis of trading performance by scraping lesions, studying secretions, and taking aspirations with fine needles from your portfolio. Pain is typically mild, and discomfort can be alleviated with over-the-counter analgesics.

D

If you answered mostly D's above, you could see an **Otolaryngologist**. Your ears, nose, and throat are your means of interacting with markets and provide the first layer of protection against adverse conditions that could impact your body. A problem with any one of them can cause a cascade of problems throughout your portfolio. This specialist seeks to solve them with drug protocols or outpatient surgeries designed to bring immediate results in market awareness.

DISCLAIMERS

IMPORTANT INFORMATION YOU NEED TO KNOW

1

GENERAL DISCLAIMER

The information contained in this article is not intended to be investment advice and is for illustrative purposes only. Be sure to understand all risks involved with each strategy, including commission costs, before attempting to place any trade. Clients must consider all relevant risk factors, including their own personal financial situations, before trading. Past performance of a security or strategy does not guarantee future results or success.

Transaction costs (commissions and other fees) are important factors and should be considered when evaluating any options trade. Options involve risk and are not suitable for all investors. Supporting documentation for any claims, comparisons, statistics, or other technical data will be supplied upon request.

It is not possible to invest directly in an index.

2

OPTIONS STRATEGIES

Trading options involves unique risks and is not suitable for all investors. Mini-options do not reduce the per share cost or price of options.

Spreads, condors, butterflies, straddles, and other complex, multiple-leg option strategies can entail substantial transaction costs, including multiple commissions, which may impact any potential return. These are advanced option strategies and often involve greater risk, and more complex risk, than basic options trades. Be aware that assignment on short option strategies discussed in this article could lead to unwanted long or short positions on the underlying security.

Maximum potential reward for a long put is limited by the amount that the underlying stock can fall. Should the long put position expire worthless, the entire cost of the put position would be lost.

When trading short option strategies, there is a risk in getting assigned early on the options sold, even if they go in the money by $0.01, obligating you to deliver shares you don't own (in the case of a short call) or purchase shares (in the case of a short put).

The risk of loss on an uncovered short call option position is potentially unlimited since there is no limit to the price increase of the underlying security. Option writing as an investment strategy is absolutely inappropriate for anyone who does not fully understand the nature and extent of the risks involved.

The short naked put and cash-secured put strategies include a high risk of purchasing the corresponding stock at the strike price when the market price of the stock will likely be lower.

Short naked option strategies involve the highest amount of risk and are only appropriate for traders with the highest risk tolerance.

A covered call strategy can limit the upside potential of the underlying stock position, as the stock would likely be called away in the event of substantial stock price increase. Additionally, any downside protection provided to the related stock position is limited to the premium received. (Short options can be assigned at any time up to expiration regardless of the in-the-money amount.)

3

FUTURES

Futures trading is not suitable for all investors as the risk of loss in trading futures is substantial. Futures trading privileges are subject to TD Ameritrade review and approval. Not all account owners will qualify. Futures accounts are not protected by the Securities Investor Protection Corporation (SIPC). Equity options trading involves risks and are not suitable for all investors. Spreads and other multiple-leg option strategies can entail substantial transaction costs, including multiple commissions, which may impact any potential return.

Futures and futures options trading is speculative, and is not suitable for all investors. Please read the Risk Disclosure for Futures and Options prior to trading futures products (https://www.tdameritrade.com/retail-en_us/resources/pdf/TDA631.pdf).

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