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• random musings for traders at TD Ameritrade
Winter 2014

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SAUCE FOR
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OWN PLATFORM
BELLS & WHISTLES

10/INVESTING LIKE A TRADER, FOR TRADERS



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Photograph by
Fredrik Brodén

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The background of the entire page is a solid grey. Scattered across this background are five slices of orange. One slice is in the upper right, another in the upper center, one in the lower left, one in the lower right, and a small portion of a fifth slice is visible at the bottom left edge. The slices are bright orange with some texture visible on their peels.

p. 10

**You're Not an Investor
Anymore**

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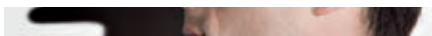
10/ You're Not An Investor Anymore

The old world looked at PE ratios and dividend yields as a basis for investment strategy. Today, if you're skipping volatility and probability, you're missing some important information. Savvy traders do this...And Granny can do this, too.

Miscellaneous



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18/ The Truth About Covered Calls

Just when you thought you've heard it all about this staple strategy, along comes a new reason for traders to rethink this old dog.



15/Love Notes



24/ The Unfair Advantage

If you're trading VIX options based off a VIX chart, your compass is off. Now that you have access to VIX futures with thinkorswim®, not only are you amongst a privileged few, you're in your happy place.



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Columns



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After three notable exchange glitches raise eyebrows with traders, is it time for an OPRA backup overhaul? + The Suit chats on her favorite new sharing toy.



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You may never be able to pick market tops and bottoms, but certain breadth indicators could get you closer.



22/Trader Trio

As if the new fundamental tool for traders wasn't cool enough, you can now scan for options, as well as update your watchlists every few minutes—automatically.



40/Capiche?

Index options like those on SPX can cost a pretty penny. If you're looking for a better deal, think weeklies.



28/Ask the Trader Guy

Our resident advice-disher breaks down volatility crushes, how dividends affect option prices, and Superman's trading secrets.



30/The Spotlight

If script-writing has you befuddled, David Kier, aka "Mr. Script," is the man with the answers. And he wants to chat with you.

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edit.

Trading Backwards

There are two camps in the stock market today—investors and traders. And while the differences between them has been better summed up in volumes of books on the subject, it's really the style that separates the two. Investors tend to be more risk averse, and "in it" for the long haul. While traders are looking to make a quick buck on a short-term move using market momentum as a guide.

But readers already know this. After all, just by receiving this, you're likely a very active trader. So moving past the mundane finance lesson, the point is that investors can be traders, and traders can be investors. However, as the investing paradigm shifts, and the markets become more short-term obsessed, the lines have become blurred as to which discipline you might use to uncover investment

ideas—i.e. PE ratios and dividend yields, or probabilities and volatility. The answer—perhaps both.

Doing your due diligence to unearth your next hidden gem doesn't stop at fundamental analysis. If you're skipping over the things you've learned as a trader—i.e., probabilities and volatility analysis—you're missing out on some valuable information. Our cover feature, "You're Not an Investor Anymore," on page 10, helps break down where you can go to blend it all, right on the thinkorswim® trading platform.

And while we're looking through the active investor lens for a moment, you might want to think about dusting off the 'ol covered call strategy and rethinking why it may not just be for retirement accounts and conservative investors. Traders can benefit as well. On page 18, you'll find strategy enlightenment in "The Truth



Got Feedback?

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

About Covered Calls."

And finally, if you've ever thought about creating your own tool on thinkorswim before the developers beat you to it, you ought to learn about scripting in this issue's special focus on page 34. As they say, if you can dream it, you can build it. Give it a whirl and share your ideas with us if you create your own tool you just can't live without. Who knows. It just might end up on the platform!

Happy Trading!
TD Ameritrade
Trader Group

WE GOOFED!

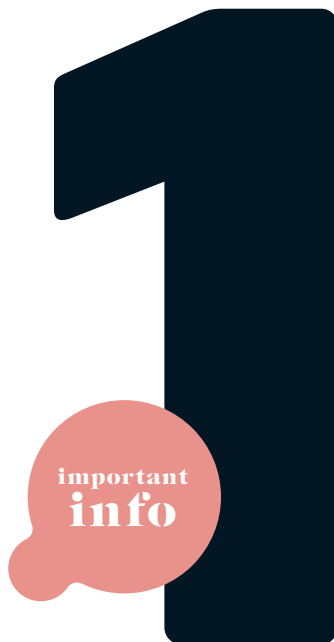
If you're an astute proponent of the Black-Scholes pricing model, then you may have noticed an error in the "d2" formula on page 20 of "It's the Math, Stupid" in the Fall 2013 issue of *thinkMoney*. The image below is the correct version. Fortunately, this error doesn't affect the lessons contained in the article.

$$d_2 = \frac{\ln\left(\frac{S}{K}\right) + \left(r - \frac{\sigma^2}{2}\right)T}{\sigma\sqrt{T}} = d_1 - \sigma\sqrt{T}$$

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- Options transactions involve complex tax considerations that should be carefully reviewed prior to entering into any transaction.
- The risk of loss in trading securities, options, futures and forex can be substantial. Clients must consider all relevant risk factors, including their own personal financial situations, before trading. Options involve risk and are not suitable for all investors. See the Options Disclosure Document: Characteristics and Risks of Standardized Options. A copy accompanies this magazine if you have not previously received one. Additional copies can be obtained at tdameritrade.com or by contacting us.
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3

Transaction costs (commissions and other fees) are important factors and should be considered when evaluating any options trade. For sim-

plicity, the examples in these articles do not include transaction costs. At TD Ameritrade, the standard commission for online equity orders is \$9.99, online option orders are \$9.99 + \$0.75 per contract. Orders placed by other means will have higher transaction costs. Options exercises and assignments will incur a \$19.99 commission.

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TD Ameritrade won the Gold Pearl for Best Overall Magazine Design (for circulation over 250,000), as well as tied with one other firm for the Bronze Pearl for Best Overall Editorial for circulation more than 250,000, at the Custom Content Council 2013 Pearl Awards. For more information, <http://bit.ly/tmpears13>.

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Trader Analysis

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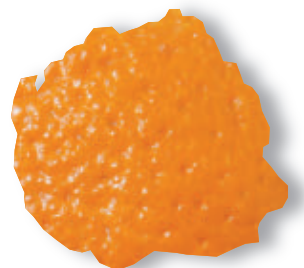
You're Not an Investor Anymore

THE OLD WORLD LOOKED AT PE RATIOS AND DIVIDEND YIELDS AS A BASIS FOR INVESTMENT STRATEGY.

TODAY, IF YOU'RE SKIPPING VOLATILITY AND PROBABILITY, YOU'RE MISSING IMPORTANT INFORMATION.

SAVVY TRADERS DO THIS...
AND GRANNY CAN DO THIS, TOO.

WORDS BY **CHESLEY SPENCER**
PHOTOGRAPH BY **FREDRIK BRODÉN**



B

BUY AND HOLD MAY NOT BE DEAD.

But it's no longer the straightforward process it was made out to be. It is in fact a brave new world—with short-term holdings, hedging, and derivatives becoming ever more a part of the regular person's financial lexicon. There's a cultural perception that the cutting-edge in trading is defined by high-speed quantitative analysis, algorithmic risk modeling, and a barrel-full of ten-syllable words that hardly existed twenty years ago. The technicians are rising it would seem, and the fundamentalists are starting to be seen as, well, fundamentalists.

But this perception has a lot of holes. While it's true a simple unmonitored portfolio can be a recipe for disaster, the idea that fundamental analysis has been replaced by technical and probability analysis is mostly false. Let's face it, when all you have is a hammer, all your trades look like nails. So using probability tools in conjunction with a grounding in fundamentals can groom you to become a well-rounded, seasoned market crusader.

Let's take a deeper look at how you can add both fundamental and probability tools into a comprehensive toolkit, without going cross-eyed.

WHAT'S GOOD FOR THE GANDER

As an options trader, fundamental analysis can prove a solid complement to the decisions you're likely to make. But the reverse is equally true. A solid understanding of probability analysis through the lens of option volatility is invaluable, even if you trade only stocks. Options may seem like voodoo to the uninitiated. But since their worth is tied to the value of the represented stock, options prices can be quite useful to someone trading an underlying security.

Implied volatility (IV) is the foundational building block of most probability analysis. Without pummeling you with the math, expressed on an annualized basis, IV is a percentage representing the market's expectation of a security's price range in the future. Notice I didn't say which direction. Whereas company financials and price charts help determine a stock's trend, IV helps determine magnitude, or how big the price move might be. So IV and its siblings, "expected move" and "market-maker move," can be invaluable tools regardless of your trading vehicles. Let's break down how they work and where to find them.

1—Vol Index is the composite IV for an underlying in the thinkorswim® platform. When in thinkorswim's Analyze tab, the probable range of a security's price can be determined for any given date—meaning you can see the expected stock range between any present and future time you select. You can find the Vol Index in a Watchlist column (Figure 1), as a snapshot within the Probability Analysis section, or on a day-by-day basis within the Risk Profile section (both on the Analyze tab of the thinkorswim platform).

Keep in mind the Vol Index is a statistical model of price expectation and not a crystal ball. As an equity holder, high vol can reveal when the market expects big stock moves and how big they might be. These date-specific values can potentially be used to help you time portfolio rebalancing, hedging, or trade exits.

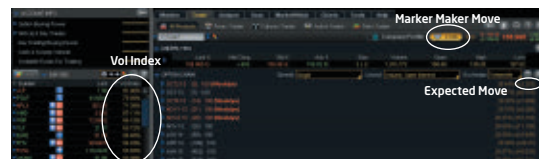


FIGURE 1: Triple Play. Three ways to track volatility and probabilities on thinkorswim are the Vol Index, Expected Move, and the Market Maker Move. For illustrative purposes only.

2—Expected Move can show you, the equity trader, the dollar value of an expected move by a specific options-expiration date. This is the non-percentage value shown on the far-right side of each options series header. While the expiration date doesn't affect you directly, this kind of benchmark is a great forward-looking indicator to complement traditional charting methods.

3—Market Maker Move ("MMM") is a displayed value when the volatility of the front-month options expiration is higher than the vol of the next expiration. If displayed, you'll find the MMM at the top right of the Trade All Products page in a yellow box when an equity is loaded. If you don't see the MMM, it is probable that the security is not displaying a MMM value at that time.

When MMM is present, it implies there's some event in the near term, such as earnings or an announcement, which can shift the price of the underlying security. The MMM is a derived figure that separates the volatility implicit to time from the "extra" volatility attributed to the upcoming event—potentially giving you the amount of movement the market anticipates the event to cause.

Again, none of these figures are tied to a move's direction. They are merely estimated ranges for a security, given a certain period of time. A stock trader can often use these values to determine when a security might encounter a bumpier ride, thus signaling a time to hedge, a time to build a position, or signal a time to expect a potential reversal.

WHEN ALL YOU HAVE IS A HAMMER,
ALL YOUR TRADES LOOK LIKE
NAILS. SO USING PROBABILITY
TOOLS IN CONJUNCTION WITH
FUNDAMENTAL DATA CANGROOM
YOU TO BECOME A WELL-ROUNDED,
SEASONED MARKET CRUSADER.



STRANGLE THAT STRADDLE

Let's look at probability analysis in action by taking a look at high-volatility earnings trades. Picking a directional trade like a long-option strategy, or a **neutral** trade like a **short straddle**, using probability tools can complement your fundamental analysis to give you the most complete picture of a potential trade.

Whether your stock moves up or down, vol in near-month options often drops dramatically after an earnings announcement. So overall, option prices tend to move down once vol is removed. This can work to your advantage if you sell premium or work against you if you're buying. How do you counter this effect? Look at volatility to help determine if the price movement might be large enough (if you're a buyer) or small enough (if you're a seller) so that a correct assumption on direction doesn't turn into a Pyrrhic victory.

The Market-Maker Move above, along with the price of an **at-the-money** straddle, will help you get a sense of an expected range post-announcement. Since a long straddle is a trade that is profitable when a movement in the underlying is larger than the cost of the trade, it will be priced at or near the value that the market "thinks" the underlying is likely to move.

Reading this value is straightforward. On the Trade page of thinkorswim, set the "Spread" dropdown above the options chain to "Straddle" and look at the price of the strike that is closest to the current market price of the underlying. If the front-month price of this straddle suggests a smaller movement than expected, a long straddle is more likely to pay off than a short straddle if your assumption is validated. If the move inferred by the prices seems improbably large, the short-straddle premium will overshadow delta loss from a movement

smaller than that range. Just remember that if you decide on a directional trade, keep in mind that a net-short position will benefit from a vol-drop post announcement and a net-long position will need a larger gain to offset that drop.

TRUST THE FUNDAMENTAL CLUES

Now that's all well and good once you have a trading idea. But how does one establish an assumption in the first place? Traders can take a look at fundamentals "by the numbers" in the new Fundamentals screen under the Analyze tab of thinkorswim (Figure 2, below). It's a good way to start hunting for ideas. (See "Trader Trio" on page 22 for more on this tool.) Looking at previous quarters' earnings is pretty straightforward. But you should also consider other valuation metrics to get context for that history. For example, a company with a history of beating analyst estimates might be a market darling. But if this rising popularity has caused a price-to-earnings ratio to skew, it may be a sign that expecta-

tions are unrealistically sunny. On the other hand, if a company in a slumping industry has been showing growth in market share (viewable in the Company Profile), beating earnings estimates by even a modest amount might provoke a surprising gain because of a perceived flight to quality.

REGARDLESS OF THE SPECIFIC SCENARIO, COMPARE a security's earnings history to the price history of the security in that same period to get a sense of established trends. Use your own judgment, along with customized projections in the Company

Important Information

For more information on the risks of investing and option spreads, see page 43, #1-2.

Spreads, Straddles, and other 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.

Profile, to plan the move you expect. Finally, compare your analysis to market assumptions using probability analysis, to decide how to best capitalize on your expectations, while keeping your risk at acceptable levels.

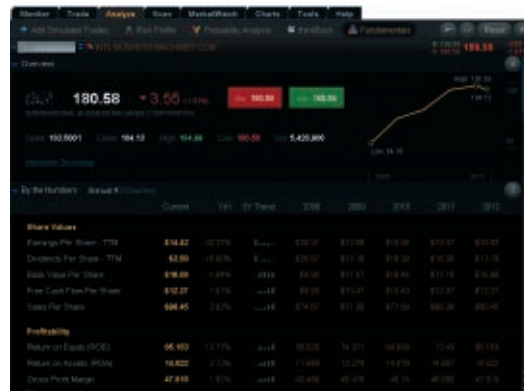


FIGURE 2: The Fundamental Page on thinkorswim is a smart tool for Traders who want to use traditional metrics. For illustrative purposes only.



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Love Notes

Quips from the
thinkorswim
Chat Rooms

Photograph by
Fredrik Brodén



Got your own quip or
pearl you'd like
to share? Send
your best prose to
[thinkmoney@
tdameritrade.com](mailto:thinkmoney@tdameritrade.com).

• If only the Russell 2000 would
tank, my wife will allow me to
sleep indoors, out of the garage.

Burt

• Optimists are better folks to
hang around, until the house is
on fire.

Jenn

• People are never wrong, they
are just statistically improbable.

Phin

• What if Steve Jobs was eating
Greek food when he was mak-
ing the first Apple computer?
Would we be talking about
Gyro5 phones? It would have a
virtual dipping sauce.

Sam

• If you stay in a bad trade long
enough one can be right .

David

• Repairing a loss is simple.
You sell the other side and
pray for a rally.

Martha



• I'm more tired than bored,
but I'll work on that perception.

Jack

• My 3D printer burned out on
Bitcoins.

Max

• My six kids are going to order
the new iPhones, depending on
their income levels. I can't
afford the new iPhone because
I had six kids.

Bob

• How bad is it when you can't
cut your grass because it's expi-
ration week?

Jo



• I have a 12-legged Spunky
Lizard options trade on, but
I forgot what I want the under-
lying to do.

Johnny

• Day-trading is like owning a
Bed & Breakfast. Most people
do it until they run out of
money.

Kristin

• Deflation is engineered into
most everything we have
bought (cars, etc.) Inflation is
engineered into everything we
need.

Darryl

• Reality does not belong in
finance or politics.

Bob

• The problem with smart is
that it tends to think it can't be
wrong.

Ken

• There is no managing risk in a
disaster. There is only manag-
ing the disaster.

Shara

• I'm going to tell everyone at
my wife's company Christmas
party that I trade catfish feed
futures.

Scott

• Bacon improves everything.

Allysa

• I shook my own hand, and
agreed to take other side of my
own trade. One of me should
win.

Tommy

•
Important Information

*These comments are
excerpts from emails sub-
mitted by TD Ameritrade
clients, as their views, and
may not reflect those of
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the experience of other
clients and are no guaran-
tee of future performance or
success.*

News+Views

A hodgepodge of stuff we thought you should know.

Photograph by
Fredrik Brodén

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Ask The *Suit*

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

Q: Hey, Suit! I started a blog for trading. I wish you could make it easier for us to share screenshots from thinkorswim® onto the blog. -KARL

A: I recently started a blog too, Karl. And I'm pretty sure that means that blogs have officially jumped the shark. But I continue to be amazed at the power of social communication on the "interweb." A few months ago, I joined Twitter (@TDANSherrod) and I'm fascinated by how many smart, opinionated traders and thought leaders are out there every day sharing their perspective. I have a lot of very young, sharp technologists on my team who are way more current

than I am. Over a year ago, they started building a new capability in thinkorswim that is going to change the way you interact in the Chat rooms, on Twitter, and on your blogs. It's revolutionary. It's called:

Yup, that's not a typo. Our marketing department told us we could not name it yet. But since you might see little "Share it!" messages all over this issue, here's what it does. < this space intentionally left blank > allows you to easily share images of thinkorswim capabilities. But not only that, it also allows you to easily share your personal settings with other traders. You may not realize this, but thinkorswim has over 2,000 settings that can be customized. With just three clicks you can share settings for entire workspaces, grids, charts, watchlists, order-entry templates, alert templates, and even...wait for it...scripts. Yes! Math nerds rejoice!

How will you access it? Easy. Hit the "share" button in the upper left corner of any capability that is sharable.

In the window that pops up, simply hit the copy button next to the short link to copy it to your clipboard.



FOLLOW THE SUIT

Read more of Nicole's musings on her own blog at tickertape-monthly.com/blog.

Next you can paste that link into an email, your blog, Twitter, Facebook, the thinkorswim chat rooms...virtually anywhere.

Now your friends who have TD Ameritrade accounts (and I sincerely hope they all do—or what's the point in hanging out with them?) will be able to easily apply your settings to their instance of thinkorswim.

Not since Snapchat has an image sharing technology been launched that has so dramatically altered the way that we share with one another. I can't wait to see all the creative ways you guys start using this new technology in the coming weeks and months. See you on the interweb!

—The Suit



industry
spotlightPhantom
of the
OPRA

...or the scare
that brings an
options price-
system fix?

Words by
**Rachel Koning
Beals**

Illustration by
Joe Morse

Nope, it's not Andrew Lloyd Weber's masked anti-hero sneaking around the underbelly of the Paris Opera House. We're talking about the technical gremlins in the options-quote system, as a fast-expanding market strains multiple-exchange link-ups. OPRA is the Options Price Reporting Authority, the national market system that connects all exchange data in nanoseconds by recording quote-message traffic. Critics say OPRA and the exchanges need to beef up a price-quote back-up system and increase testing in real time, under realistic market conditions.

A 12-exchange price freeze in September (the

exchanges pointed fingers at OPRA) may just be the reality check that tips reform into high gear. In fact, the snafu was a blip, and its impact on volume limited, as orders were quickly executed by hand. But the options-market glitch hit only three weeks after Nasdaq OMX's stock-price distribution also hiccupped. To add insult to injury, a spring 2013 software upgrade at the Chicago Board Options Exchange shut down its CBOE VIX pricing for a few hours, and a large, unintentional Goldman Sachs Group Inc. options order sent system administrators scampering to find the mistake. Securities regulators, still in high gear to police and prevent a repeat of the 2010 "flash crash", weren't amused.



After the September incident, the Securities and Exchange Commission quickly gathered reps from U.S. stock and options exchanges, the Financial Industry Regulatory Authority, Depository Trust & Clearing Corp., and Options Clearing Corp. The SEC told these respective bodies to "provide comprehensive action plans that address the standards necessary to establish highly resilient and robust systems for the securities information processors," according to

an SEC statement. That includes "testing standards and disclosure protocols."

Translation: build out price-feed back-ups and put them through tougher tests. Soon. For their part, exchanges are wary about extra, misguided steps that add to cost and complexity. Remember, glitches so far are typically smoothed by manual-order fills of little consequence to

traders and investors. So far.

The bottom line? Any breakdown in quotes, no matter how limited, no matter how quickly filled by other means, risks the reputation of a popular and increasingly crowded options market. After all, it's comforting to know that the figure lurking behind the scenes has the market's back. Even if we never see it. **Important Information**

For important information on the risks of investing and options, see page 43, #1-2.

Toys for
Traders

Our latest
trading
platform faves

thinkorswim®

FUTURES NOW!

Watch the skinny on futures trading from the experts, regardless of the time of day. In conjunction with CNBC, the platform now offers the Futures Now webcast to all users on a 24-hour basis. In the Gadgets tools, choose Trader TV. Then Futures Now from the dropdown box.

TRADE FROM
THE CHARTS

Find a chart and pick it up. All day long, try to make a buck...from the chart, that is. To load a trade from thinkorswim Charts, just right click on the chart itself and select BUY or SELL, or customize the order with the BUY Custom or SELL Custom. This will bring up an order ticket with your default quantity stock order (typically 100, unless you've changed it).

GADGET REDUX

In case you missed the release notes, it's worth repeating that thinkorswim Gadgets have gotten cooler and easier to use. Be sure to play with the menu at the bottom of the gadgets pane on the left sidebar of thinkorswim. You can now add, move and scroll through the gadgets, or make them disappear, without pulling your hair out.

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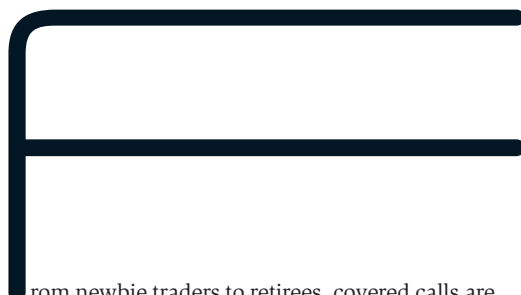
•
Strategy Focus
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tdameritrade.com

THE TRUTH ABOUT COVERED CALLS

JUST WHEN YOU THOUGHT YOU'VE HEARD IT ALL ABOUT THIS STAPLE STRATEGY, ALONG COMES A NEW REASON FOR TRADERS TO RETHINK THIS OLD DOG.





From newbie traders to retirees, covered calls are becoming an important strategy to consider for both margin and IRA accounts. And because they're so popular, you probably think you've got it nailed down—i.e., buy 100 shares of stock then sell a call. Sounds simple, but is there more? In *thinkMoney* fashion, we'll explore a different way to think about covered calls.

COVERED CALLS 101

First, let's nail down a definition. A covered call is a bullish strategy that's always long stock, and short an **at-the-money** or **out-of-the-money** (OTM) call, where you have 100 shares of stock for every call you sell short. That's the case for the majority of equity options in the U.S. that deliver 100 shares of stock. On the other hand, if you sell, say, 2 calls against 100 shares of stock, that's a different strategy, not a covered call, and that extra short call would be "uncovered."

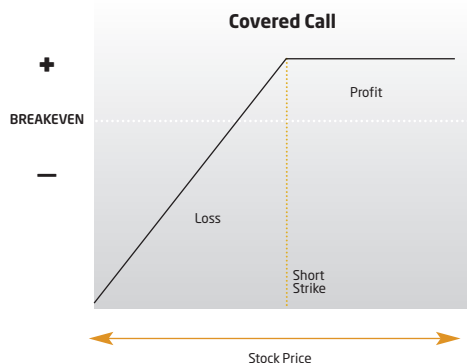


FIGURE 1: Covered Call Profit Curve The covered call can limit your upside, but the additional premium you collect will lower your cost basis and can increase the duration of the trade. *For illustrative purposes only.*

To create a covered call, you short an OTM call against stock you've bought or already own. If it expires OTM, you keep the stock and maybe sell another call in the next expiration. You can keep doing this expiration after expiration, unless the stock moves above the call's strike price. In that case, you can either let the now **in-the-money** (ITM) call be assigned

and deliver the long shares (that's why the short call is considered "covered"), or you can buy back the short ITM call before expiration, take a loss on that call, and keep the stock. Check out the Strategy Roller on thinkorswim. It lets you automate the rolling process based on time, strike, **delta**, and expiration.

NOW, FOR TRADERS...

Traditionally, the covered-call strategy has been used to pursue two goals:

- 1) Generate income
- 2) Act as a hedge against a stock price's drop

And while those two things may occur, they're not the primary reasons a savvy investor might use covered calls. For starters, generated income implies consistency—something in fact the market can't promise. In theory, income from a covered call comes from your credit when you sell the call (minus commissions). But the price for which you can sell an OTM call is not necessarily the same from one expiration to the next, mainly because of changes in implied volatility. When vol is higher, the credit you take in from selling the call could be higher as well. But when vol is lower, the credit for the call could be lower, as is potential income from that covered call. That's why if you're using the covered-call strategy to pay bills, you might want a backup plan.

A covered call can act as a hedge for long stock if the stock price drops, the short call expires OTM, and the short call's profit offsets the long stock's loss. But if the stock drops more than the call price—often only a fraction of the stock price—the covered-call strategy can begin to lose money. In fact, the covered call's maximum possible loss is the price at which you buy the stock, minus credit(s) from short calls. The bottom line? If the stock price tanks, the short call potentially offers minimal protection at best.

Okay. So what's the lure for traders?

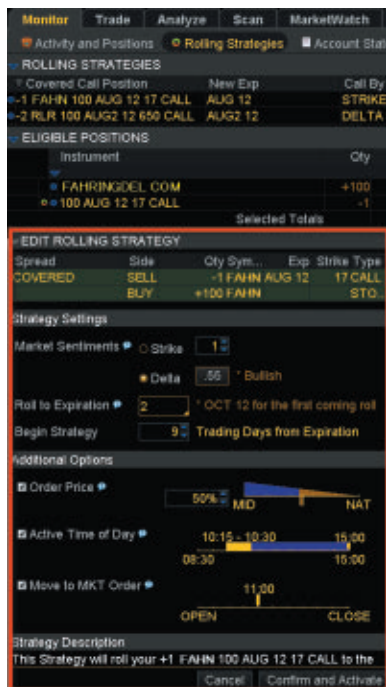
Lower cost basis. In a covered-call strategy, the stock's cost basis is the price you paid for the stock, minus your credits from covered calls. If you buy stock for \$50, and sell an OTM call for \$1.00, your stock's cost basis is \$49. If that first OTM call expires worthless and you sell another call for \$.75, the stock's cost basis goes down to \$48.25.

Now, this definition of cost basis has nothing to do with tax reporting. Consult your tax expert for that. This particular definition is how a trader might see it. And that's important. Because theoretically, if the current stock price is greater than your long stock's cost basis, the position should be profitable. The lower your



Automate Your Rolls

To “roll” a call is to buy back your short call and sell the next month out, while leaving your stock position alone. With thinkorswim’s Strategy Roller (pictured below), found in the Monitor page, you can automate your rolls each month according to the parameters you define. Just click the Monitor tab and select Strategy Roller at the top of the page. For more information, go to the Learning Center at tlc.thinkorswim.com and search for “Strategy Roller.”



For illustrative purposes only.

SEE
GLOSSARY
PAGE 42

cost basis, the lower the stock price has to be for it to be higher than the cost basis. Imagine the scenario if your stock’s cost basis is \$0. (That might sound unlikely but it can happen in certain stock-compensation plans.) Because the stock price can’t go below \$0, as long as it’s \$.01 or higher, that position can be profitable. So think of covered calls as pushing a long stock’s cost basis lower and lower. Maybe not to \$0. But potentially lower than the stock’s current price.

The advantage of a lower cost basis comes down to the likelihood of the long stock position being profitable. If you bought 100 shares of ABC at \$50, and another 100 shares of ABC at \$51, which 100 shares would have a better chance of being profitable? The shares you bought for \$50 only have to be above \$50 to be profitable, while the shares you bought for \$51 have to be above \$51. Think of cost basis as the long stock’s breakeven point. The lower the breakeven point, the less the stock has to go up in order to be profitable. And the less the stock has to go up, the higher the likelihood of it making that

move. A 1 % move is more likely than a 10 % move.

Longer duration. Covered calls can also increase the duration of how long you might hold a long stock position by hedging against losses. Reducing the cost basis by selling calls against the stock means you can move the price of a stop loss lower (either a mental stop or stop order).

If you wanted to stop the loss of 100 shares of stock at \$300, the stop price would be \$48 for 100 shares, with a cost basis of \$51, and \$47 for 100 shares, with a cost basis of \$50. If the current stock price is \$50.50, there is a greater chance it would hit a \$48 stop than a \$47 stop. That extra downside room means you might hold that stock position longer and give it more of an opportunity to rally.

TAXES SCHMAXES

Some people are concerned their stock will be called away with a covered call and trigger a taxable event.

The logic is that if the stock gets called away, the price has moved up higher than the strike price of the short call, and is either profitable or has a smaller loss.

For long-term investors, this may not be desirable. But from a trading perspective, this is a good thing. Profit is profit. And that’s the name of the game. A long-term investment means you’re speculating that the particular stock will outperform, which may or may not happen. When viewing covered calls as a trading strategy, not an investing strategy, the goal becomes whittling down the cost basis, while increasing the probability of profit and duration—things over which you have a lot more control. The process over time should become almost mechanical, which could grow your confidence in your trading decisions. That’s good for newbies, retirees, and even traders like you and me.

Important Information

For more general information, see page 43, #1. 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.)

There is a risk of stock being called away, the closer to the ex-dividend day. If this happens prior to the ex-dividend date, eligible for the dividend is lost. Income generated is at risk should the position moves against the investor, if the investor later buys the call back at a higher price. The investor can also lose the stock position if assigned.

The maximum risk of a covered call position is the cost of the stock, less the premium received for the call, plus all transaction costs.

Rolling strategies can entail substantial transaction costs, including multiple commissions, which may impact any potential return. You are responsible for all orders entered in your self-directed account.

Trader Trio

Three thinkorswim tools you didn't know you should know

• You say nice things about our tools and we blush. But we know thinkorswim can also feel like a gnarly beast. The platform has so many detailed features and tools that even its developers occasionally overlook some of its more interesting and useful bells and whistles. Combine that with the never-ending work we do to expand and enhance these tools and you could publish a whole magazine comprised of nothing but descriptions of what thinkorswim is capable of. Ego-stroking aside, here are three features that could make you happy this particular gnarly beast exists.

you know and love is still on the All Products page, but has been expanded in context of the Fundamentals tab as well.

The revenue and market-cap visualization is likewise displayed next to the Trefis expected price, and any custom projection you might make. Click a revenue

stream to view its components' forecasts. If you select individual forecasts, you can adjust the graph charting that element's expectation to match your projections.

For you Company Profile veterans, a number of new revenue parameters have been added as well, for an in-depth analysis of each division (click on the Division Overview tab top-right). Finally, overall company analyst reports, and each of a firm's major business lines, are also available on the Company Details screen. Much like the All Products tab, you can individually activate or arrange the Fundamentals tab's components using the Wrench button at the top-right. This tab delivers vital corporate reporting data to jump start your research for a potential trading vehicle, as well as help you make better-informed projections.

FUNDAMENTALS TAB EVEN TRADERS CAN LOVE PE

As we mentioned earlier this issue, fundamentals matter—even to traders. And thinkorswim has taken a leap forward by integrating the grand tradition of fundamental analytics alongside existing probability and technical-analysis tools, making the platform more useful to traders than ever. In a word, the new Fundamentals tab brings to the table a company's traditional tear-sheet data points, as well as other functions unique to thinkorswim.

Without entering a symbol, the page will load the major industry sectors to start you off. When a particular industry is selected, its listed securities are then displayed. Click on any of these symbols to load the information on a particular security. This is a good way to do a quick market browse, or to compare companies in similar industries.

When you select a company, either directly with the symbol selector or from an industry list, the platform loads the available security into the tool. The tool's primary section, "By the Numbers," displays a tear sheet with a company's core fundamentals, including both an annualized and per-quarter historic view. You'll find key indicators like per-share earnings and dividends, return on equity or assets, tax rates, profit margins, asset turnover, and more.

Also included are symbol details from the previous Company Profile tool, whose functionality has been expanded. Don't worry—the Company Profile page

Fundamentals									
Financial Ratios									
Long-Term Debt to Capital	85.824	5.11%	...	82.551	49.079	49.027	51.841	55.824	
Financial Leverage (Assets/Equity)	6.1193	0.22%	...	7.5835	4.0228	4.7021	5.8876	5.1193	
Fixed Charge Coverage Ratio	45.846	11.66%	...	25.275	36.47	40.424	51.152	45.846	
Dividend Payout (% of Earnings)	22.723	0.00%	...	22.850	21.394	21.418	21.820	22.723	
Quick Ratio	96.967	0.54%	...	95.051	1.1358	89.626	96.777	96.967	
Current Ratio	1.1331	0.11%	...	1.1040	1.3202	1.1882	1.320	1.1331	
Valuation					Growth Rates				
Price/Earnings Ratio	12.728				Revenue	Current	3yr Avg	5yr Avg	
Price/Cash Flow Ratio	8.9522				Net Income	-3.4959	2.8572	1.1222	
Price/Book Value Ratio	9.2791				Earnings Per Share	3.1884		9.7708	
Market Capitalization/Current Equity Ratio	9.1419				Dividends Per Share	0.015	12.839	14.008	
Dividend Yield	1.7264				Book Value Per Share	13.253		17.68	
Dividend Payout/Per Share (% of EPS)	22.024					-4.8852		-3.8028	
Total Shares Outstanding	1,385,954,000								
Market Cap	166,628 M								

FIGURE 1: The Fundamentals page featuring the company profile tool. For illustrative purposes only.

2

SINGLE-OPTIONS SCREENER IN SEARCH OF THE PERFECT OPTION

A more recent platform expansion is a screener built into the Scan tab that lets you scan for specific options contracts based on your selected criteria (Figure 2). It also lets you search for underlying symbols that have options meeting those criteria, or a combination of the two.

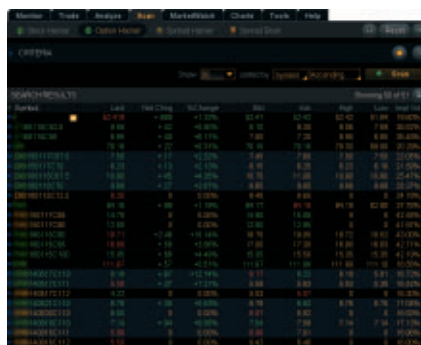
If you're familiar with the Stock Hacker feature, the layout of this tool should be familiar. The tool's upper portion provides the various scanning parameters, starting with which watchlist the tool should begin its search. Immediately below are buttons to help you add filters like stock, options, and study filters (note: study filters are only available in Live Trading).

1. The Stock Filter button adds a criteria field that allows you to choose parameters you require in the underlying symbols, such as price, volume, beta, etc.

2. The Option Filter button adds a criteria field that specifies parameters of the particular options you seek such as delta, days to expiration, or strike price.

3. The Study Filter allows you to choose or create any technical study to define which symbols to return, such as symbols with a given MACD, or those experiencing a moving-average crossover.

Combine any of these filters with up to ten unique criteria. Settings to specify the number of results, their sorting criteria, and a selection to include stocks, options, or both, are available in the dropdown menus below your list of criteria. Once you click the "Scan" button and results are returned, the resulting watchlist can be saved using the Disk button at the top-right of the results on either a static or dynamic basis.



Symbol	Price	Volume	Delta	Gamma	Theta	Rho	Implied Vol	Open Interest
SPY	120.00	1000000	0.50	0.05	-0.10	0.20	15.00	1000000
QQQ	150.00	500000	0.40	0.04	-0.08	0.15	12.00	500000
IWM	80.00	200000	0.30	0.03	-0.06	0.10	10.00	200000
DIA	100.00	150000	0.20	0.02	-0.04	0.08	8.00	150000
VOX	10.00	50000	0.10	0.01	-0.02	0.04	5.00	50000

FIGURE 2: Single-Options Screener. For illustrative purposes only.

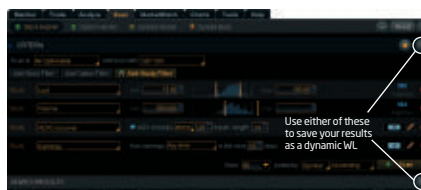


FIGURE 3: Dynamic Watchlist. For illustrative purposes only.

3

DYNAMIC WATCHLISTS NEW IDEAS. ALL THE TIME.

Though this oldie-but-goodie has been around a while, it's a useful function that often gets overlooked. The basic idea is simple. When you create a new watchlist, whether from the Scan tab or the Watchlist gadget, you can save the watchlist as a "query" rather than as a watchlist based on your own parameters. By doing so, the watchlist automatically updates every three minutes, rather than asking you to manually re-run the scan for current results. So, for example, if you'd like to know what securities are experiencing unusual option volume at a given moment, or have a moving-average crossover in the last ten minutes, a dynamic watchlist will continually update with the symbols that meet your criteria. Looking at Figure 3, here's how it works:

1. From the Scan > Stock Hacker tab, create a scan as if you were creating a static watchlist. Select the Scan button to the right. If you don't know how to create a scan watch the video at the Learning Center (<http://bit.ly/tosscantab>).

2. To create a Dynamic Watchlist, click "Save Scan Query" in the action menu at the top-right of the Stock Hacker tool. A box will let you name the query. Click "Save." It will now be available anywhere in the platform where a watchlist can be viewed.

3. To tell the difference between your static and dynamic watchlists, look for the small sonar icon to the left of the watchlist name. If the icon's there, that list is dynamic.

3. To tell the difference between your static and dynamic watchlists, look for the small sonar icon to the left of the watchlist name. If the icon's there, that list is dynamic.

Important Information

For more information on the risks of investing and options, see page 43, #1-2.

thinkMoney/22

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VIX futures

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tdameritrade.com



THE UNFAIR ADVANTAGE

IF YOU'RE TRADING VIX OPTIONS BASED
OFF A VIX CHART, YOUR COMPASS IS OFF. NOW
THAT YOU HAVE ACCESS TO VIX FUTURES,
NOT ONLY ARE YOU AMONGST A PRIVILEGED
FEW, YOU'RE IN YOUR HAPPY PLACE.

WORDS BY **THOMAS PRESTON** PHOTOGRAPH BY **FREDRIK BRODÉN**

I was happy when CBOE VIX futures were added to TD Ameritrade's thinkorswim® platform. So, it's not running with the bulls in Pamplona. But I'm a trader and excitable. VIX futures on a retail-trading platform are a kind of game changer and can help to further level the playing field between retail and professional traders. With the VIX index, VIX options, the VVIX (volatility of the VIX), and now VIX futures, you can increase market awareness and make more informed trading decisions.



CBOE Volatility Index (VIX)

The de facto market volatility index used to measure the implied volatility of S&P 500 index options. Otherwise known to the public as the "fear index," it is most often used to gauge the level of fear or complacency in a market over a specified period of time. Typically, as the VIX rises, option buying activity increases, and option premiums on the S&P 500 index increase as well. As the VIX declines, option buying activity decreases. The assumption is that greater option activity means the market is buying up hedges, in anticipation of a correction. However, the market can move higher or lower, despite a rising VIX.

THE SOUP AND THE NUTS

In a word, SPX options drive the VIX. The VIX (or anticipation of what the VIX might be) drives VIX futures. VIX futures drive VIX options. And VIX options drive the VVIX.

The VIX measures the implied volatility ("vol") of the S&P 500 index (SPX) options. The VIX at 14.00 should be interpreted as 14%, and is the market's collective estimate of how much the price of the S&P 500 might move up or down over a succeeding 30 days. The VIX is calculated from the prices of out-of-the-money (OTM) SPX options. So when the prices of SPX options go up, say, because traders expect a price move upward, the VIX goes up. When the prices of SPX options go down, the VIX goes down. The VIX formula does a weighted average of the first two expirations of SPX options to arrive at a hypothetical constant 30-day-to-expiration volatility. Some investors only watch the VIX relative to the S&P 500. But that's only half the picture. VIX futures are the other half.

The symbol for VIX futures is /VX. On the Trade page of thinkorswim, you'll find the available futures

out five or six expirations with different prices at each (Figure 1). When the prices of the further-expiration futures are higher, that's called "contango." When the prices of the further-expiration futures are lower, that's called "backwardation." In most financial-futures products, contango and backwardation are determined from the "cost of carry"—the cost incurred by owning the underlying stocks or bonds.

VIX futures don't have a cost to carry. Their contango, or backwardation, is determined by the market's anticipation of what vol might be. For example, if you're speculating on the VIX, don't just look at the VIX index. Look at VIX futures, too. Market uncertainty



FIGURE 1: VIX futures on thinkorswim's Trade page. For illustrative purposes only.

can create contango in VIX futures where expectation of future market vol exceeds the level of the VIX index.

Back in late 2008, when the VIX spiked higher due to market fear, VIX futures were in backwardation, indicating there might be less vol in coming months. Investors who don't want to trade the VIX may use VIX futures to anticipate higher or lower vol in the near term, and adjust strategies accordingly.

CONNECTING THE DOTS

Retail traders can't trade the VIX itself, so they often speculate using VIX options. But you can't look at VIX options alone. When you're looking at the VIX options on the Trade page, you'll see expirations out roughly to six months (Figure 2). VIX options are European-style and cash-settled, with Wednesday expirations 30 days prior to the third Friday of the calendar month following the expiration of VIX options. (To see the VIX settlement value, use the symbol "VRO.") Confusing, so it's a good thing the expirations are clearly labeled for you in the option chain of each series itself.

Sometimes VIX option prices don't make sense relative to the VIX. Why? Because of the golden rule of

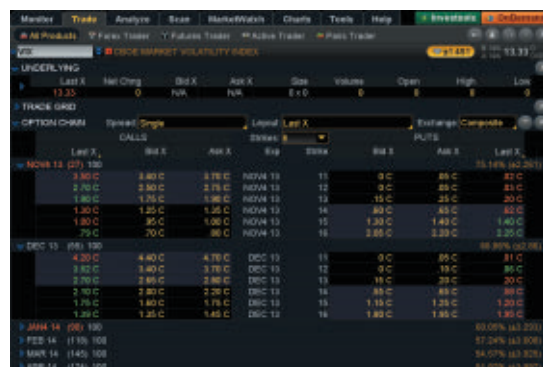


FIGURE 2: VIX options come from the VIX futures, not the popular index itself. For illustrative purposes only.

market making—price options off your hedge. As market makers buy and sell options, they hedge trades to avoid directional ([delta](#)) risk. If you make markets in VIX options, and you can't trade the VIX itself, what's your hedge? Bingo—VIX futures.

That's why VIX options look at the prices of VIX futures to determine pre-expiration value, not the VIX index. And that's why seeing VIX futures easily is exciting. thinkorswim is one of the few retail trading platforms to offer VIX futures—which help to make VIX option pricing more transparent. Here's how.

Recently, the VIX was 14.25. The 16 put with 19 days to expiration was trading for 1.70, and the 16 put with 54 days to expiration was trading for 1.55. Aren't options at the same strike with more days to expiration supposed to have a higher value than options with fewer days to expiration? Yes, if you're looking at equity options. VIX options in a particular expiration are priced off the VIX futures with the same expiration. If you're looking at March VIX options, those are priced off March VIX futures. And because of the contango or backwardation in VIX futures, the VIX options may look mispriced if all you're looking at is the spot VIX.

While the VIX was at 14.25, the VIX futures that expired in 19 days were 15.00, and the futures that expired in 54 days were 16.10. Because the VIX futures with 54 days to expiration were trading higher than the futures with 19 days, the VIX puts with 54 days to expiration were trading lower (1.55) than those with 19 days (1.70).

THE KNEE BONE, SHIN BONE, AND VVIX

Without VIX futures, it's hard to make sense of VIX option prices. Seeing the price of the VIX futures that have the same expiration as the VIX options, you can tell which VIX options are considered [in the money](#) (ITM) and [out of the money](#) (OTM). This helps determine the strike prices you choose for VIX option strategies.

Just as SPX drives the VIX, you can plug VIX options into the same formula to get the overall volatility of the VVIX. If the VVIX is low, the market anticipates that vol specifically, and the VIX might not experience large changes up or down in the weeks following. If the VVIX is high, the market anticipates

Important Information

For more on the risks of investing, options, and futures, see page 43, #1-3, 5.

THE GOLDEN RULE OF MARKET MAKING IS TO PRICE OPTIONS OFF YOUR HEDGE. BUT YOU CAN'T TRADE THE VIX ITSELF, SO WHAT'S YOU'RE HEDGE? BINGO—VIX FUTURES.

larger VIX price changes. A VVIX chart will show it oscillating up and down, with some mean reversion, like the VIX itself. While some traders might use the VVIX as an indicator for future VIX price changes, and/or corresponding price changes in the S&P 500 you could use it as a measure of the amount of VIX-options premium, and consider whether credit or debit strategies might be preferable.

Think about the S&P 500. If the S&P 500 has been rallying and pushes the VIX lower, a contrarian trader might believe the VIX is due to bounce. Two bullish strategies to consider might be a [short put](#) or a [long-call vertical](#).

Take a look at the VVIX as an indication of whether VIX option premiums are relatively high or low. If the VVIX is high, a bullish VIX strategy might be a short OTM put. If the VVIX is low, a bullish strategy might be a long VIX [at-the-money](#) (ATM) call vertical whose debit is relatively low compared to high VVIX markets.

Then look at the /VX futures prices to determine which VIX options are ITM, OTM, or ATM, and choose the strikes for your strategy accordingly should you decide to proceed. Overall, this has been a simple example. But it shows how a basic knowledge of VIX, VIX futures, VIX options, and VVIX interact, which might make volatility-strategy selection potentially simpler and more straightforward.

If the VIX is the de facto sentiment index for gauging market fear and complacency through the options market, what would be a great complement to that? How about measuring portfolio activity of millions of your peers. The Investor Movement Index (IMX) does just that. In a word, the IMX is a sentiment indicator of sorts that uses real port-

folios of over six million clients to give you a better idea of what investors are actually doing, versus what they're thinking of doing.

While the IMX doesn't predict anything like market direction, it's useful when viewed over time in suggesting bullish and bearish sentiment by retail investors. It's often been said that it's the "big money" that moves the

markets. But let's face it. We as retail traders don't invest like the institutions do. The IMX gives you a truer sense of what a real human investor is thinking.

To access IMX, just type in \$IMX in any symbol box on thinkorswim, or go to tdameritrade.com/IMX for more info, monthly commentary, and to sign up for email alerts.

INVESTOR MOVEMENT INDEX (IMX): For illustrative purposes only.



IMX: The Other Sentiment Index

28

**Ask the
Trader Guy**

Rescuing traders,
one question at a time.

Photograph by
Fredrik Brodén

**Q: Hey, Trader Guy!
What does “vol
crush” mean?**

A: That’s short-hand for “volatility crush,” and it refers to when implied volatility drops suddenly after, say, a news event like an earnings announcement. A lot of times you’ll see the implied volatility of options increase ahead of upcoming news when there’s a lot of uncertainty about what might happen. When the news comes out, the uncertainty is reduced, and vol gets crushed.

**Important
Information**

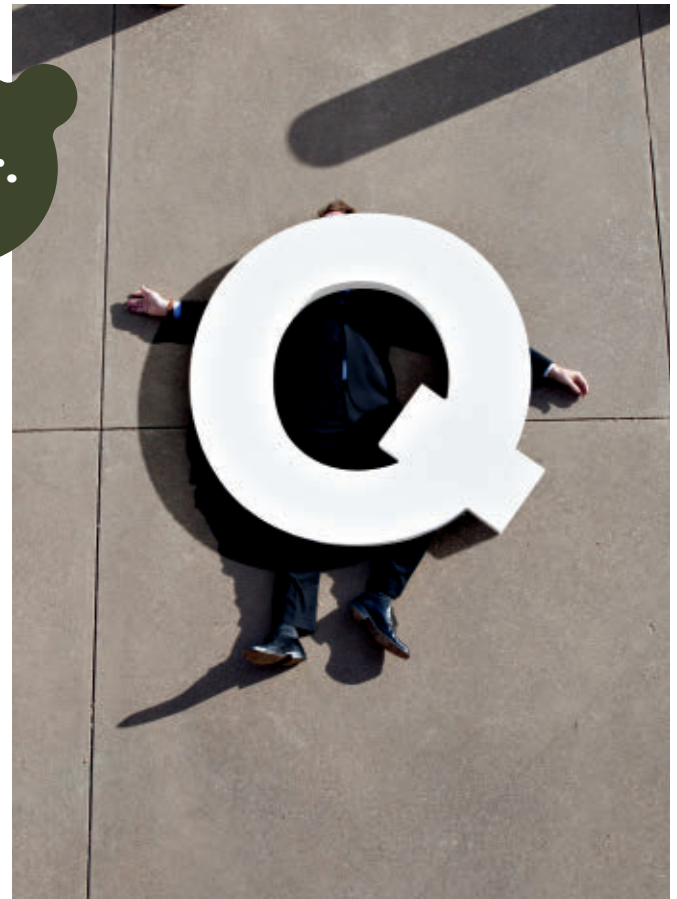
For information on options and multi-leg option strategies, see page 43, #1-2.

**Q: Hey, Trader Guy!
Sometimes I hear
traders talk about
“odds” and “probabilities.” What’s the
difference?**

A: Odds are a ratio of numbers, like 2 to 1, or 3 to 1. Odds refer to the number of times you can lose before you win one time, or the money you can be paid if you win a bet. So, guessing the day of the week could be described as having 6 to 1 odds against. If you “take” the odds, you’re betting 1, to win 6, that you can guess the day of the week correctly. “Laying” the odds is a bet where you bet 6 to win 1. Odds and probabilities are the same concept, but in different forms. Probabilities are a percentage of the times something occurs, over the total number of occurrences. So, the probability of guessing the day of the week is 1/7, or 14.28%. You can convert odds to probabilities, and vice versa. To convert a probability to odds, take the probability and divide it by 1, minus the probability. To convert odds to probability, divide the odds by 1, plus the odds.

**Q: Hey, Trader Guy!
When I’m working
a limit order for an
option spread at the
mid-price and not
getting filled, how
long should I keep
working it before I
change the price or
just give up?**

A: It’s hard to give real guidelines about how long you should work a limit order because each case is unique. But assuming two things—one, you’re trading a liquid option that has a decent level of trading activity, and two, the price of the underlying hasn’t changed which would change the value of the option spread, I think a good rule of thumb is to give a limit order about 60 minutes to see if it gets filled at the mid-price, which is just the average of the bid and ask prices. If it’s not filled by that time, you could change the limit price either higher (for a buy order) or lower (for a sell order) but not by too much, maybe .01 if the options are trad-



ing in penny increments. You don’t want to give up too much slippage to fair value. If changing the limit price by .01 doesn’t get it filled in a few minutes, I’d cancel and look for a new trade. Sometimes you need to take your ball and go play in a different field.

**Q: Hey, Trader
Guy! Stock A is \$50
and pays a dividend,
stock B is \$50 and doesn’t
pay a dividend. All
things being equal,
why are Stock A’s
calls cheaper than
Stock B’s?**

A: These 3 words—cost of carry—will answer 99% of the toughest questions

in the world. “What’s for dinner?” Cost of carry. Where’s the dog?” Cost of carry. “Does this make me look fat?” Cost of carry. And it answers this one, too. Think of a call as an alternative to long stock. If you buy stock, there’s a cost to carry it in the form of interest paid to borrow money to buy it, or interest lost on the cash you use to buy it. A call has to factor that cost of carry into its value as an alternative to the long stock. If the stock pays a dividend, the amount of the dividend may partially offset, wholly offset, or more than offset

the interest part of the cost of carry. So, the call on a dividend-paying stock is a little bit less expensive because of the reduced cost of carry.

**Q: Hey, Trader Guy!
I’m betting my college
roommates a case of beer on this
answer. If Superman
can make the Earth spin in
reverse and make time
decay on long options
positive, could Flash get
decay negative again by
speeding up the expiration
cycle?**

A: Yes.

trdr.

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Associate Spotlight

A chat with a TD Ameritrade VIP making things happen

Interview by
Kira Brecht

Illustration by
Joe Morse

spot

• Before his girlfriend put the kabosh on the dare-devil thing, David Kier—better known within TD Ameritrade's Trader Group as “Mr. Script”—used to speed through Chicago’s morning traffic dodging cars and buses and people on an old Italian road bike he rebuilt himself.

Still a man on a mission, David devotes his professional focus to fixing things—having trained his mind on Nebraska farms in his youth where challenges rose daily. David likes solving puzzles and finding answers. And every day he helps clients get the most out of the thinkorswim platform.

David joined TD Ameritrade in 2007, working in client-tech support and with the trade-desk team. On the trade desk, he earned a reputation as the go-to fix-it guy. Today, he spearheads charting development for thinkorswim, and also hosts a weekly chat in the thinkScript® Lounge (see sidebar). How did this boy from a low-key farm community become a savvy computer programmer and part-time options trader? We sat down with David to find out.

So, how did you become Mr. Script?

In 2009, I came up to Chicago and met with Guido Espinosa—a very passionate individual who developed thinkScript—the script-writing tool that turned thinkorswim into a totally customizable trading platform. I started playing with it. I was a math major in college, so I gravitated toward thinkScript. And I like to problem solve, which is what writing code is all about. I was working on the tech-support team with



Meet the Fix-It Man

David Kier wants to make every trader's life easier—with scripts

clients who wanted to use the feature to write their own scripts. There wasn't a big knowledge base for it. So I became the expert. Clients liked it and I started supporting it—hence my nickname.

Why are scripts so popular?

For one, they allow you to manipulate traditional technical analysis. ThinkScript allows you to develop something in thinkorswim that's not preconceived or predefined. You can expand into any direction.

What happens in the thinkScript chat room?

We have a dedicated group of users who know the software inside out. Because thinkScript is so customizable you see unique personalities who really want to do their own thing. We do some pretty intense research that can be enhanced through



Meet Mr. Script, for Real

Chat with David “Mr. Script” Kier in the thinkScript lounge Tuesdays, after the market close. Click the Chat icon at the top of thinkorswim (2nd from right), then click the Chat tab, and select “thinkScript Lounge.”

thinkScript. I show clients unique aspects of the thinkorswim platform that can be enhanced through thinkScript or only accessed by thinkScript. Clients have questions and we can build the answers in the thinkScript Lounge. It's essentially on-demand development.

What's the coolest script you've ever seen?

Oh, wow. I have thousands of scripts on my computer. My buddy in Omaha

wrote a script that would draw a snowman on a chart for the holidays.

Got it. So what about a script that relates to the markets?

One client requested something called Angle Swing Count. It defines angles of moving averages and then puts in logic-counting conditions, above and below price.

What's the bigger goal ahead for TD Ameritrade scripts?

To make sure everyone can take full advantage of thinkorswim's true power. thinkScript helps unlock that potential.

Do you miss biking to work in the snow?

Of course. But, I do help my neighbors fix their bikes through the winter. My house is now a bike shop. And my girlfriend's happy I'm not at the center of my own video game!

32^{ern.}

Coach's Corner

Pulling pearls from your favorite trading instructors.

Words by
Brandon Chapman, CMT
Investools Instructor

• When you compete, it's typically a good thing to be the last person standing. But in trading, the last person standing is the greater fool because the psychology of greed and fear continually play out by missing bottoms and buying tops. If you can relate to this, you may find adding market-breadth indicators into your trading habits may help you break the buy-high-and-sell-low cycle.

Market breadth measures the degree to which a majority of stocks are participating with a market's trend. For example, the S&P 500 may have an up day. But, if a majority of stocks are down, or there is more volume on stocks that declined, you might interpret this as bad news. Breadth is typically used to identify possible divergences in the market, rather than confirming the strength or weakness seen in an underlying market trend.

ADVANCING VS. DECLINING ISSUES

The New York Stock Exchange (NYSE) is one popular exchange to monitor for breadth because of its strict listing requirements, size, and diversity. If you follow a capitalization-weighted index like the S&P 500, you'll find certain stocks will count more than others because of their size. By considering the number of stocks advancing (moving up), versus the number of stocks declining (going down), you'll be equally weighting each stock. This eliminates the potential bias of a few large stocks carrying the index. You'll find lots of ways to view this information. But, for our discussion we're going to be using a ratio of advancing-to-declining issues.

In the upper chart in Figure 1, you'll see the NYSE Advancing Issues (\$ADVN) plotted against a relative-strength study of Declining Issues (\$DECN). The left scale is

Finding Strength in Numbers

With market-breadth indicators, could buying high and selling low be a thing of the past?

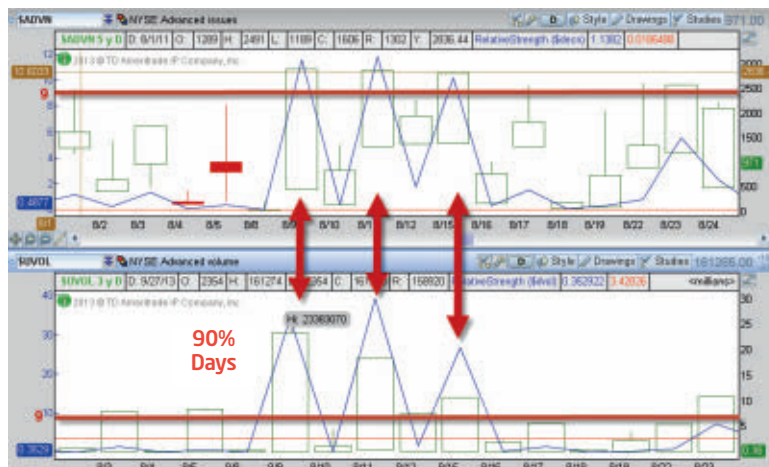


FIGURE 1: Searching for Divergence. Market-breadth indicators don't necessarily confirm strength in a trend. They're better for finding divergence, or early warning signs (like "90% days" that a trend could be reversing soon. **Chart Source:** thinkorswim®. For illustrative purposes only.



Chart Share!

To download the chart settings above, just copy the following link to your browser:
<http://bit.ly/toschartRSI>
For how to use the share function, see page 16.

the value for the relative strength line and represents a ratio of advancing-to-declining issues. The area highlighted tracks the market swoon following the last debt-ceiling negotiation, and subsequent debt downgrade in 2011.

This is a key area for some traders, but before we get to that, let's talk about volume.

UP VS. DOWN VOLUME

You may have heard volume precedes price. This idea is that volume will typically increase ahead of a significant price move. From our breadth perspective, using the volume of the advancing and declining issues on the NYSE may give you a heads up when a trend changes. Or it might at least confirm the trend. Up volume is comprised of the aggregate total of volume across all advancing issues on the NYSE for a given period, and vice versa for down volume.

The lower chart of Figure 1 is similar to that of the upper chart—except that the NYSE Advanced Volume (\$UVOL) is used

instead of \$ADVN, and NYSE Declined Volume (\$DVOL) replaces \$DECN in the study. You can arrange both charts for bearish indications by reversing the order of the symbols.

THE PUNCHLINE

You may have heard traders use the term "90% day (Figure 1)." A bullish 90% day is when there is nine times the volume of advancing to declining stocks, and 9 times the amount of up volume to down volume. The opposite would be true for bearish 90% days. You'll notice that between August 9th to the 15th, three out of five days were 90% days. This may have provided an early bullish signal that breadth was improving.

WHILE THESE TYPES OF DIVERGENCES should not be your sole trading signal, as a technician it's important to approach the market systematically and know what your market posture is. Using breadth indicators may give you more confidence to know that you're not alone.

Important Information

For more important information about the risks of investing, see page 43, #1. Past performance of a security or strategy does not guarantee future results or success. It is not possible to invest directly in an index.

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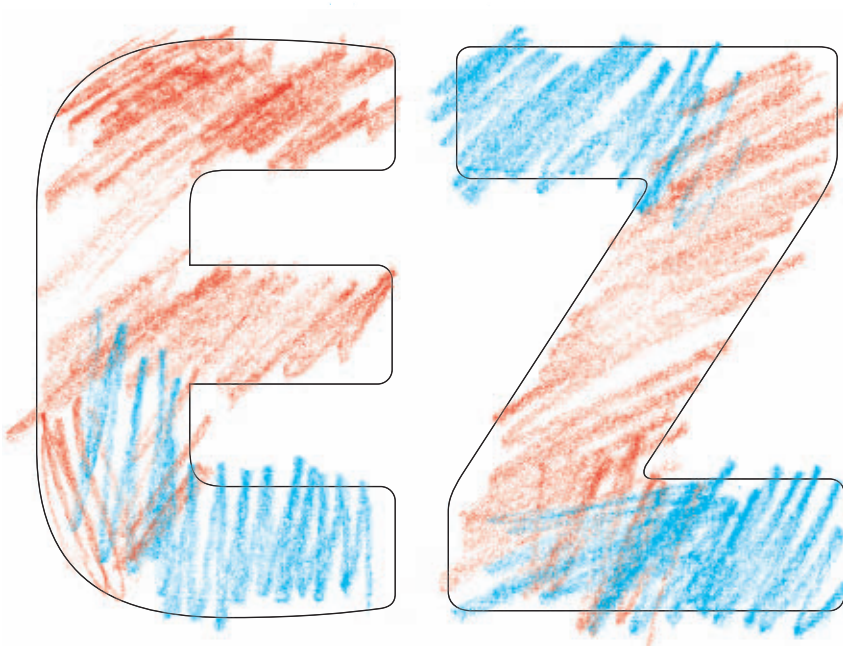
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CODE FOR SMART TRADERS

YEARNING FOR A CHART INDICATOR THAT DOESN'T EXIST YET? WHY NOT WRITE IT YOURSELF. AND NO, YOU DON'T HAVE TO SPORT A POCKET PROTECTOR TO DO IT. YOU JUST NEED TO KNOW YOUR THINKSCRIPT ABCS.

WORDS BY

THOMAS PRESTON

PHOTOGRAPH BY

FREDRIK BRODÉN



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Special Focus: Scripting

Photograph by
Fredrik Brodén

tdameritrade.com

Back

in thinkorswim's® early days, traders clamored for more charting tools like technical studies and strategy testing. Originally, the development team wrote these individual tools in the platform's rather complex programming language. That was great for performance, but clunky for simpler ideas like “subtract the 10-day moving average from the 30-day moving average.”

Today, our programmers can still do it. But why not give traders the ability to do it themselves, while creating their own custom chart data using a simple language? With this lightning bolt of an idea, thinkScript was born.

No, thinkScript is not an add-on, plug-in, or something to download. And best of all, you don't need to be a computer geek to learn it. That means ordinary traders like you and me can learn enough about thinkScript to make our daily tasks a little easier. At the closing bell, this article is for regular people. Not programmers.

LET'S GET CRACKIN'

thinkScript is most frequently used on the Charts and the MarketWatch tabs. Think of accessing it the same way you'd add a technical study, because the thinkScript editor that lets you write the thinkScript code exists inside the Chart studies and Quotes page.

For Charts

1. Click on the Studies button.
2. Select “Edit Studies” in the new window that opens up (*Figure 1*).
3. Click on the “New” button in the lower-left-hand corner. That opens up a thinkScript editor with a default thinkScript code—“plot Data = close;”—inside it. You can delete that code and start typing your own in that field.

Note the menu of thinkScript commands and functions on the right hand side of the editor window. That's a thinkScript library with quick definitions of each of the functions.

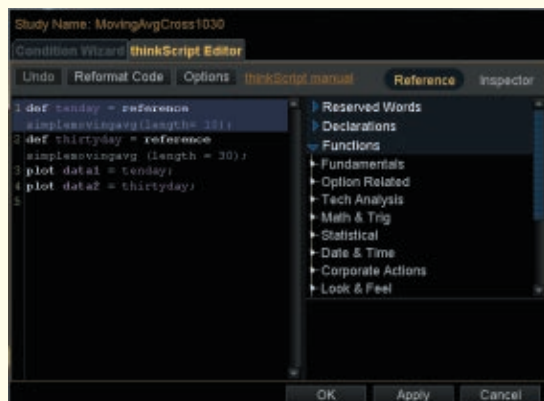


FIGURE 1: thinkScript Editor in thinkorswim Charts. For illustrative purposes only.

For Quotes

1. On the MarketWatch tab click Quotes in the top menu.
2. From the Quotes page, click on the small dot in the upper-left-hand corner next to the word “Symbol.”
3. Select “Customize” from the drop-down menu.
4. Scroll down the list of “Available Items” and click on one of the numbered “Custom” columns.
5. Double click to open the same thinkScript editor window that's on Charts (*Figure 1*).
6. When you're done writing your thinkScript code, hit “Apply” to display it on a chart or see it as a column on the Quotes page.

As I mentioned, you can script just about anything you want that's not in the platform (within reason, of



FIGURE 2: Once you've scripted your personal indicator in thinkorswim, you can view it in Charts. The chart above is from the script in *Figure 1*. For illustrative purposes only.

course). To get started, let's look at a few cool examples you might want to try.

1. Technical Indicator: Moving-Average Crossover

Above all, thinkScript was created to tackle technical analysis. This is the code for a moving-average crossover shown in *Figure 1*, where you can see 10-day and 30-day simple-moving averages on a chart. Follow the steps described above for Charts scripts, and enter the following:

1. `def tenday = reference simplemovingavg (length= 10);`
2. `def thirtyday = reference simplemovingavg (length = 30);`
3. `plot data1 = tenday;`
4. `plot data2 = thirtyday;`

Huh? Let's back up and clarify terms.



thinkScript Help!

If you're stuck or just want to explore all that thinkScript has to offer, there are a couple of places to go for help.

1. The Learning Center

For a bevy of tutorials on all things scripting, follow the click path to tlc.thinkorswim.com > Charts > thinkScript.

2. thinkScript Lounge

Hear live chatter from David "Mr. Script" Kier himself (interviewed on page 30 of this issue). From thinkorswim, click the Chat icon at the top (2nd icon from right). Then click the Chat tab and select "thinkScript Lounge." A great place to mingle with other scriptors, ask questions, share ideas, and meet your potential soul mate.

"def"—Defines something in thinkScript. It says "define this thing named 'tenday' as referencing the study 'simplemovingavg,' which uses 10 days of data." "def" also defines "thirtyday" as a simple-moving average that uses 30 days of data.

"reference"—A command of sorts that pulls studies into your code already written in thinkScript. As you know, developers have already created hundreds of studies. Save yourself time and use "reference" whenever you can. Here, thinkScript is pulling in a study called "simplemovingavg." You can find "simple-movingavg" in the studies list on thinkorswim Charts. Once you find a study, reference it in your code. In this moving-average crossover code, the "tenday" is telling the simplemovingavg study to use "length = 10." That means use 10 days of prices in the moving-average calculation. The "length = 30" tells the "thirtyday" simple-moving average to use 30 days of price data.

"plot"—Once you've defined the things for your chart, display them with the "plot" command. In this moving-average crossover, we're plotting two lines—a 10-day moving average, and a 30-day moving average. So, we'll need to create two plots and call them different things. I just created "plot data1" and "plot data2," and told them to display what we just defined. "plot data1 = tenday" means "the plot command will display this thing called 'data1,' which we defined above as 'tenday.'" "plot data2 = thirtyday" does the same thing for the 30-day simple-moving average.

By the way, at the end of each line of thinkScript code you'll notice a semicolon (";"). That tells thinkScript that this command sentence is over. Also, a trained programmer could write a thinkScript code for colors and all sorts of other things on a moving-average crossover. Don't worry about that for now. Learn just enough thinkScript to get you started. You'll go bonkers trying to figure it all out at once.

2. Custom Volatility: IV Percentile

If you want options data that doesn't currently exist as a platform feature, why not create it yourself? Another handy trick of thinkScript allows the Market-Watch tab to display a metric for a stock list on a Quotes page. You may already be familiar with the "Current IV Percentile" in the Trade page's "Today's Options Statistics" section. That number shows the

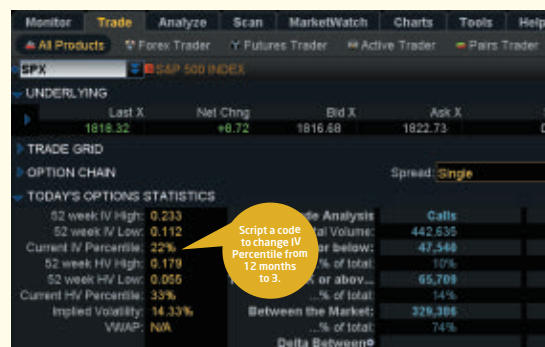


FIGURE 3: Custom Vol Percentile. Don't want 12 months of volatility? Write a script to get three. *For illustrative purposes only.*

current overall implied volatility of a stock's options, relative to its past year's high-to-low range. But what if you want to see the IV percentile for a different time frame, say, 3 months? (See Figure 3) Following the steps described for the Quotes scripts, enter this:

```
1. def ivol = if !IsNaN(imp_volatility)
    then imp_volatility else ivol[1];
2. def lowvol = lowest(ivol, 60);
3. def highvol = highest(ivol, 60);
4. def currentvol = imp_volatility;
5. plot data = ((currentvol - lowvol)/
    (highvol - lowvol)*100);
```

This thinkScript code defines four things—"ivol," "lowvol," "highvol," and "currentvol," and bases them on the value of "imp_volatility." "imp_volatility" is a study that gives you the platform's "Vol Index" number, which is a stock's options' overall implied volatility. The "if !IsNaN" returns zero if the Vol Index is unavailable for a symbol. The "lowest" and "highest" are commands that order thinkScript to find the lowest or highest "ivol" over the previous 60 days. The "plot" command displays the results of a formula using the things we've defined.

You can change "60" to whatever number for which you want to see the range. Keep in mind that each month has about 20 trading days, so 60 trading days is about three months. If you want to show a yearly number, use "262," which is approximately a year's trading days. To get this into a Watch List, follow these steps on the Market Watch tab:

1. Click on the Quotes sub-tab.
2. Click on the dot to the left of the word "Symbol," in the upper-left-hand corner of the Quotes tab.
3. Select "Customize" from the drop-down menu.
4. When the "Customize Quotes" box opens, click on



FIGURE 4: Backtest with thinkScript. You can turn your indicators into a strategy backtest. With the script for the 10- and 30-day moving averages in Figures 1 & 2, for example, you can plot how many times they cross over a given period. *For illustrative purposes only.*

one of the “Custom” choices in the list of “Available Items.” That opens the “Custom Quote Formula” box, where you can click on the thinkScript editor tab and write in the code. Remember to name your thinkScript code so you can add it to your Quotes list.

3. Backtesting

thinkScript is also used on thinkorswim charts as a technical analysis back-testing tool. With this feature you can see the potential profit and loss for hypothetical trades generated on technical signals. Bear in mind, this does not include commission costs, which will affect your true P/L.

Let’s review strategy results that get long (buy a stock or option) when a 10-day moving average crosses above the 30-day moving average; and get short (sell a stock or option) when a 30-day moving average crosses above a 10-day moving average. To do this, we have to write two scripts and separate them.

Script 1:

```
1. def sma10 = simplemovingavg(close, 10);
2. def sma30 = simplemovingavg(close, 30);
3. AddOrder(OrderType.Buy_Auto, sma10 >
sma30, tickColor = GetColor(6), arrowColor =
GetColor(6));
```

Script 2:

```
1. def sma10 = simplemovingavg(close, 10);
2. def sma30 = simplemovingavg(close, 30);
3. AddOrder(OrderType.Sell_Auto, sma10
< sma30, tickColor = GetColor(5), arrowColor =
GetColor(5));
```

To combine the two and add this backtesting script to a chart, do the following:

1. Right click on a chart, and select “Studies,” then “Edit Studies.”
2. This time, click the “Strategies” tab in the upper-left-hand corner.
3. Then click “New” in the lower-left-hand corner. When the thinkScript Editor tab opens, enter the code under thinkScript 1 above.

4. Give it an easy name like MovingAvgBuy.
5. Click “OK” button in the lower-right-hand corner to close the thinkScript editor.
6. Click “New” again.
7. Enter a name like MovingAvgSell.
8. Click “OK.”
9. Look for the thinkScripts you just created in the Strategies list. Double click to see them in the “Added Studies and Strategies” window.
10. Hit “Apply.”

As in Figure 4, on the chart you’ll see buy-and-sell signals. To see

profit/loss, carefully right click one of the chart’s trade signals. Then, select “Show Report” from the drop-down menu. The thinkScript code does this through the “AddOrder” command. This code specifies “Buy_Auto” when the “sma10” is greater than “sma30,” and “Sell_Auto” when “sma10” is less than “sma30.” Together, they create the chart’s hypothetical buys and sells. thinkScript also has commands for opening and closing buy-and-sell orders so you can create specific testing scenarios.

The “tickColor,” “arrowColor,” and “GetColor” are commands thinkScript uses to add color to buy-and-sell signals. The numbers “5” and “6” refer respectively to red and green.

BONUS SCRIPT: SCRIPT ALERTS

Being tied into the markets doesn’t mean being tied to your computer. If you’re out and about, and don’t have time to watch the SPUs on TD Ameritrade’s mobile trading apps, the alert functionality on the thinkorswim® platform lets you write custom technical indicators and have messages sent to your phone or mobile device when the indicator reaches a certain level or value.

1. On the Market Watch tab, click on the Alerts sub-tab.
2. Click the Study Alert button in the upper-right-hand corner.
3. When the Study Alerts box opens, click the thinkScript editor tab.
4. You’ll be presented with “SimpleMovingAvg()” to get you started. Delete that if you don’t want to be alerted on a moving average. But as an example, this is the code you would write to be alerted if the 30-day moving average moves above the 10-day moving average.

For example:

```
plot data = simplemovingavg(30) >
simplemovingavg(10)
```

There are other controls in the Study Alerts box, like the “Aggregation” period at the top that lets you choose intraday, daily, weekly, or monthly data. There’s also the “Trigger if” drop-down menu that alerts you if the value of your thinkScript study meets certain conditions. When you’re done, click on the Create Alert button in the lower right, and you’re almost done.

To make sure you get messages with triggered alerts:

1. Click on Application Settings in the platform’s upper-right corner.
2. Click the “Notifications” sub-tab.
3. In the “Notify about” list, choose “Alert is triggered.”
4. Check a notification method under “Alert settings” such as email or SMS. You’ll need a confirmed email address or phone number for SMS to set up alert notifications, which you’ll do at the top of the “Notifications” sub-tab.

There you have it. Use thinkScripts for alerts, and you’ll never have to miss a trading signal again!

OKAY, WE COULDN’T HELP BUT GET A little bit geeky on that last script, but we’ve only scratched the surface of what thinkScript can do. If you have an idea for your own proprietary study, or want to tweak an existing one, thinkScript is about the most convenient and efficient way to do it. And you just might have fun doing it.

Important Information

For more information on the risks of investing and options, see page 43, #1-2.

Backtesting is the evaluation of a particular trading strategy using historical data. Results presented are hypothetical, they did not actually occur and they may not take into consideration all transaction fees or taxes you would incur in an actual transaction. And just as past performance of a security does not guarantee future results, past performance of a strategy does not guarantee the strategy will be successful in the future. Results could vary significantly, and losses could result.



SCRIPT

ORDINARY
TRADERS
LIKE YOU
AND ME
CAN LEARN
ENOUGH
ABOUT
THINKSCRIPT
TO MAKE
OUR DAILY
TASKS A
LITTLE EASIER.

Q: If I find thinkScript code online written by someone else is it safe to use?

A: As long as you enter the code yourself and don’t copy files to your computer, thinkScript code won’t harm your computer, or give someone else access to your trading account or personal information. That said, we can’t verify the accuracy or validity of any thinkScript code not written by our development team.

Q: Where can I learn more about thinkScript?

A: This link takes you to a well-organized thinkScript resource. You’ll find everything from beginner tips and help getting started, to more advanced topics for experienced programmers.

Q: If I create a proprietary thinkScript indicator, can anyone else gain access?

A: No. The thinkScript code is associated with your log in and can’t be accessed by another user, even if on your computer that person has logged into his or her account.

Q: Does running thinkScript code slow down the thinkorswim platform?

A: It’s possible for a thinkScript code that accesses live data across underlying symbols—like thinkScript applied to a Watch List—to run slowly. If it happens, try applying the code to a shorter Watch List. Generally, thinkScript code doesn’t slow down quotes or order routing.

Q: Can I use thinkScript to create live orders based on technical indicators?

A: It’s possible, but be careful. An error in thinkScript code can either enter live orders you don’t want, or create a large number of orders that would generate huge commission costs.

If you create an order on the Trade page, you’ll see a small “gear” icon in the lower-right-hand corner of the Order Entry section. If you click on that icon, you’ll open up the Order Rules box. There, click the “Method” drop-down menu and choose “Study.” That will let you route an order based on the value of a study you already defined.

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Capiche

Pearls from a
veteran floor trader

Words by

Thomas Preston

cap.

• You know how it rolls. You hit a certain age and think back to the old days when times seemed better. Canolis were made with heavy cream (no low-fat allowed). Cool guys drove Camaros or Trans-Ams or maybe even Corvettes, instead of today's minivans with DVD players in the back. And a Prius? Please. But despite the walk down memory lane, I've been a trader for 30 years and I must confess times are better now to trade options.

YOU'RE SKEPTICAL?

Consider this. Back then, there were no streaming quotes on computers or mobile phones. Getting trade-execution reports took minutes instead of milliseconds. And market makers like me kept the bid/ask spreads high, wide and handsome. In fact, one of the biggest factors in bid/ask spreads being narrower, or tighter, today is electronic trading.

You want proof? Take a look at SPX options in two expirations—the weekly-expiration options and the options in the regular expiration cycle. The “regular” SPX options are still traded in open outcry at the CBOE. The weekly SPX options are traded electronically, and open outcry in the hybrid system. The weekly and regular expiration options are both cash-settled, are both based on the S&P 500 cash index, and have the same contract size. The only difference is that one is trading only in open outcry, while the other is open outcry plus electronic.

The Weekly Deal

For big indices like SPX, weekly options can pinch a better penny



You can view all SPX and other weekly options under the Trade tab in thinkorswim®. Just enter a symbol in the fill-in box in the upper left, and if they are listed, the weeklies will show up in the Option Chain in the center of the page.

picked off by making an inaccurate bid/ask off an old index quote.

But with electronically traded options, computers don't get caught not looking at the index price. With electronically traded options, the quotes are electronically generated as well. So when the quotes are generated by a computer using an option-pricing model, the quotes can be updated with every tick in the index price. The computers don't have that problem, and are less

concerned about getting picked off. So, their bid/ask spreads can be a bit tighter.

Electronically traded options have been with us for years, and the resulting narrower bid/ask spreads can mean reduced slippage when retail traders like us execute limit orders. The options traded in penny increments wouldn't be possible without electronic trading. But sometimes you forget how nice it is to trade them and need to be reminded of the way it was in the old days. But I still miss my Trans Am.

Important Information

For important information on options, see page 43, #1-2. Because they are short-lived instruments, weekly options positions require close monitoring, as they can be subject to significant volatility. Profits can disappear quickly and can even turn into losses with a very small movement of the underlying asset.

CLOSING THE GAP

Look closely at the bid/ask spreads of both types of options. The bid/ask spreads of the weekly SPX options are narrower. They're up to 1/2 the width of the spreads of the regular SPX options. The weekly SPX options have spreads .50 wide, while the regular SPX options have spreads over 1.00 wide.

So, why is this? You have to understand how market makers think about bid/ask options spreads. When I was a market maker, a sheet told me the theoretical value of an option for a given index price. I'd look at the index price, look at the theoretical value, then make a bid price lower than the theoretical value and an ask price higher. That difference around the value was my “edge.” But if the index changed without me looking, I'd be making a market off an inaccurate theoretical price. So I made my bid/ask spreads wider to give me room in case the index did move, especially a big index like the SPX. I didn't want to get

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gls

The Token Glossary

Terms you might stumble across in this issue.

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Long Call Vertical Spread

- A defined-risk, bullish spread strategy, composed of a long and a short option of the same type (i.e. calls). Long verticals are purchased for a debit at the onset of the trade. The risk of a long vertical is typically limited to the debit of the trade.

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Short Straddle

- A market-neutral strategy with unlimited risk, composed of an equal number of short calls and puts of the same strike price, resulting in a credit taken in at the onset of the trade. The strategy assumes the underlying will stay within a certain range, in which case, as time passes and/or volatility drops, the options can be bought back cheaper than the credit taken in, or expire worthless; resulting in a profit.

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SHORT PUT

- A bullish, directional strategy with unlimited risk in which a put option is sold for a credit, without another option (of a different strike or expiration) or instrument used as a hedge. The strategy assumes that the stock will stay above the strike sold; in which case, as time passes and/or volatility drops, the option can be bought back cheaper or expire worthless, resulting in a profit.

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CBOE VOLATILITY INDEX (VIX)

- The *de facto* market volatility index used to measure the implied volatility of S&P 500 index options. Otherwise known to the public as the “fear index,” it is most often used to gauge the level of fear or complacency in a market over a specified period of time. Typically, as the VIX rises, option buying activity increases, and option premiums on the S&P 500 index increase as well. As the VIX declines, option buying activity decreases. The assumption is that greater option activity means the market is buying up hedges, in anticipation of a correction. However, the market can move higher or lower, despite a rising VIX.

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Delta

- 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 (ALSO WRITTEN AS .50) 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.

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Delta/Market Neutral

- A strategy that begins with no speculative (directional) bias. All combined deltas between each leg of an option spread that is delta neutral equal zero.

AT THE MONEY

- An option whose strike is “at” the price of the underlying equity. Like out-of-the money options, the premium of an at-the-money option is all “time” value.

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IN THE MONEY

- 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.

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OUT OF THE MONEY

- 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.

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Article
Disclaimers

- Important info that you need to know.
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important
info**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

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.

The naked put strategy includes a high risk of purchasing the corresponding stock at the strike price when the market price of the stock will likely be lower. Naked option strategies involve the highest amount of risk and are only appropriate for traders with the highest risk tolerance.



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

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.

Option writing as an investment strategy is absolutely inappropriate for anyone who does not fully understand the nature and extent of the risks involved.

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.)

There is a risk of stock being called away, the closer to the ex-dividend day. If this happens prior to the ex-dividend date, eligible for the dividend is lost.

Income generated is at risk should the position moves against the investor, if the investor later buys the call back at a higher price. The investor can also lose the stock position if assigned.

The maximum risk of a covered call position is the cost of the stock, less the premium received for the call, plus all transaction costs.

Rolling strategies can entail substantial transaction costs, including multiple commissions, which may impact any potential return. You are responsible for all orders entered in your self-directed account.

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).

Futures accounts are not protected by the Securities Investor Protection Corporation (SIPC).

4/ PROBABILITY ANALYSIS

Probability analysis results are theoretical in nature, not guaranteed, and do not reflect any degree of certainty of an event occurring. The probability projections in the Analyze page assume the underlying stocks follow a lognormal distribution. The results are derived using the Black-Scholes formula for delta, consisting of the current stock price, number of days in the future, current volatility of the stock, and the risk-free rate of return.

5/ Investor Movement Index

Historical data should not be used alone when making investment decisions. Please consult other sources of information and consider your individual financial position and goals before making an independent investment decision. The IMX is not a tradable index, and should not be used as an indicator or predictor of future client trading volume or financial performance for TD Ameritrade.

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