

TRANSCRIPT

## Analyzing your option trades with Active Trader Pro

*Presenters: Konstantin Vrandopulo and Chase Cotnoir*

**Konstantin Vrandopulo:** I'm Konstantin Vrandopulo, he's Chase Cotnoir. We're both Trading Strategy Desk Specialists here at Fidelity Investments. If you're not familiar with our team, we're a small group of dedicated brokers who focus particularly on self-directed client education in areas such as options trading, technical analysis, equity trading through, of course, the prism and the utility of Fidelity tools that we provide here. So, if you are interested in additional education that we provide, kind of a shameless quick plug at the front end, [Fidelity.com/coaching](https://www.fidelity.com/coaching), you can find a whole host of things that we do live every single day via the Zoom functionality format.

With that in mind, I know that we've gathered here today to talk about option tools and we've realized -- Chase and I do educational-type material all the time, we realize that your time is valuable and we've prepared some commentary today to kind of take you on a journey on a few tools from start to finish here in Active Trader Pro and show you how professionals like us use it on a daily basis. So, without further ado, we'll jump right into the topic at hand. Chase, I know that we wanted to start with option filters in Active Trader Pro, so I'm going to start sharing my Active Trader Pro with everybody. I have the white background going.

Recognize, please, that we are going to be sharing several tools here today. We have the Active Trader Pro platform maximized in its font terms so everyone can see clearly, and of course it will depend really on the size of your screen and the amount of the real estate that you have. Remember that Active Trader Pro platforms do give you the ability to float windows to multiple screens, but we'll be working within a single window holistically for each and every tool that we're covering here today. So, Chase, over to you, sir. Filters for options traders in Active Trader Pro that can be found under quotes and watchlists filters and then of course the options tab at the top.

**Chase Cotnoir:** Yeah, thanks Konstantin, I appreciate that. You know, really excited to be here with everyone. Thanks for spending some of your time here with us at Fidelity. I love the chance to talk about ATP, Active Trader Pro, because it's a program that Konstantin, just like yourself, I use every single day when I'm doing my analysis, my trades. It's the primary platform that we place all of our trades through. And I hope what comes through today in this conversation is that we can keep this research process and some of the analytics that we include as simple or as complex as we need it to be. There is no real one size fits all; you can customize it. I think that's the beauty of the tool.

Secondarily, we're going to start with just a brief overview on the idea generation tools and then really fold that into an analysis to make the insights actionable. So, if at the beginning it just seems like we're going over tools, we're not just going over them for the sake of the tools but really how you would incorporate that into a trading process.

So, with that being said here, Konstantin, let's start right from the very top. As you mentioned, we're going to start with the filters tool in Active Trader Pro. This tool allows us to scan the markets in real time for a variety of criteria. I know you quickly showed the navigation how to get here; I'll just go through it one more time. Up at the very top we've got the options main menu choice and you also have quotes and watchlist. So, there's actually two different ways you can get here. If you click on the quotes and watchlist first, we get a dropdown selection and there's a filters choice. If you click on that, then you just have to switch tabs over to the options. However, if you click on the options main menu to start, then we've got it as a dropdown menu right there — option filters.

So, KV when this pulls up for us, the first thing that we're going to initially see is options, this dropdown menu, and it typically is going to default us to the high option volume choice. And what we're doing is we're scanning up the market through the market in real time for what underlying securities are having a certain type of metric. So, in the case of high option volume,

which would be the default, we're looking to see what contracts or what underlying securities are having a lot of option contracts traded.

A few nice benefits about this tool, as Konstantin is showing us, is if you click on any heading, it's going to sort the data by that criteria. So, the percent over some type of average in terms of the volume, that's one criteria or one way to view it. The average option volume, you can left click on that and it's going to sort it by that. You get the point there, right? Additionally, you can left click, hold, and drag to actually move columns around in some of our tools within Active Trader Pro. If you're ever curious on how to do that, okay view showing us right here in real time on the screen. So, really nice again you can customize it; make this tool as you see fit.

But then I think the question right there, Konstantin, is well, what if we don't want just like a high option volume, what if I want to be a little bit more specific? Well, we've got this pre-made tool with a number of different filters and criteria. Let's go to high call volume for example. There's calls and there's puts. Let's say you want to focus in just on the calls. So, initially, we get everything here. Now, what it's sorting for is wherever the arrow is — and we can see the little arrow icon is next to the percent average volume — but what if we want to filter by something else?

So, what if we click on the call volume category or column and see if it filters through here? So, first it goes to the low, we click it one more time, now it's showing us the highest. In this case, we're seeing INTC, Intel. We're seeing right now today, its last price; it's up a little bit in terms of dollars and percentage points and we see that there's a massive amount of contracts trading today, about 280,000 call contracts where the average option volume for an entire day over a historical timeframe is about 85,000. And at the time of this recording — it's about noon time, a little bit past noon eastern — so we still have a few hours left in the day. So, very likely we're going to be well above this average by the end of today's close.

So, Konstantin, right from there we have some kind of insight. Something must be going on with Intel. Now, that could prompt us to maybe look at a chart maybe or someone who employs technical analysis and you want to take a look and see a potential support, resistance, trend analysis. Or maybe you're someone who likes to incorporate fundamental analysis. Is there some kind of news catalyst, was there an earnings event, was there a comment made by someone who is in the executive leadership of the company? And so, this just gives you that little bit of an insight to start down that journey with your research.

Now, I want to point out here, Konstantin, if you could show us the list of all of the different choices we've got. There's a number of filters that we've

made for you right off the top; they're all free to use, of course. There's some of them that focus on implied volatility, for example. So, maybe you're looking for whether an option is relatively expensive or cheap compared to either itself or maybe some other type of options trading out there in the marketplace. And these types of filters for implied volatility are going to help with that. We have to remember, when we're trading options that some of the main factors is price, time, and volatility, these implied volatility filters or screens certainly can help to that end.

What I want to point out lastly, because as we can see there are many different filters, we're not going to have time to demonstrate all of them here today, but at the very bottom there's one called custom. This is pretty nifty. You can, yourself on our platform, can create your own custom scanner filter. Now, this is our test account that we use for demonstrations, so there's actually already a number of filters that we have made. But you are welcome to use anything that you want in terms of specific criteria to mix and match for your own filter. I want to walk through that process with some of the time here on the filters portion of our conversation.

So, how do we do that? Well, we actually have to create this filter through Fidelity.com and it imports it into ATP. Notice there's this manage scans link that Konstantin is trying to point out here. So, we can go ahead, we can click on that, or of course there is a way you can navigate through

Fidelity.com as well. And what this would do is bring up a website where you can pick and choose all the different criteria. So, we first go to news and research and then options. Now, once this page loads up, we want to work through the navigation and go over to our trading ideas tab right here. And that should make some sense, right, this is all about idea generations for right now.

This is going to pull up initially a very similar type of tool. We've got these top scans, we've got scans specific to implied volatility, order flow, liquidity, things of that nature. But again, let's focus in on the custom scans. You can see the ones that we've already created. For example, I want to just show one — these are just for demonstrative purposes we just put together some random different pieces of criteria — we've got this high IVR with liquidity.

So, if we go ahead and click on that, what exactly is in this scan that we've made just for demonstrative purposes? Well, of course we know with the symbol of the underlying is, what the closing price of the underlying securities are with a minimum value of 10 dollars per share. Notice there's that min/max criteria. We've got an average volume component, an implied volatility, average option, average open interest, and we can work down the list to see we've picked from a list of I think it's more than 50 different criteria, probably much more than that, to build this custom screen or scan or filter: all kind of synonymous there.

Once you're done, you can either preview the scan and see what kind of results that you get, you can save the scan, you can also edit the scan. You can go back in and add different criteria and tweak this through time to yield different types of results. Konstantin, the reason I love showing clients this is one, it's empowering them to find the results that they might want, two, it's completely free, three, it's going to scan the market in real time when you refresh it, and then four, you have the flexibility to change it whenever you want down the road or make multiple custom scans. And Konstantin is just showing us right now with the demonstration, there's all kinds of criteria. You know, probably more than you'd ever really need in your day-to-day trading activities. So, I just want to point that out for everybody in terms of how this filter can help through ATP and how you can create a custom one on Fidelity.com. Remember, you're going to import it right from Fidelity.com into Active Trader Pro.

If we circle back real quickly to where we were in these scans, we go back to options, we've got some of the customs there, we can see it finally pulling through, we have a number of different results that pop up.

Konstantin, do me a favor. Can you go back to not the custom scans, but let's go back to that high call volume. We saw through here that today, you know, a company that's within the DOW and the NASDAQ 100 here is definitely on the top of the list; it's Intel, INTC, with a lot of call volume. I'm



curious, we've got a number of different tools, what could we maybe do with this information, take that next step further with some of these insights?

**Konstantin Vrandopulo:** Yeah, absolutely, Chase. I mean, this is so important, once you've found something that's moving, the next step is to get to know maybe the personality of this stock; where has it been in the past, where is it trying to get to from the price standpoint of view, what does the company do? I mean, the fact that maybe the majority of us in the audience here know what Intel does, what sector it's a part of, it doesn't always mean that you're going to be recognizing these names.

So, a few tools, Chase, that I would encourage folks to sort of prebuild into your layout for options trading are going to be the following: first, obviously the news tool, second, going to be the stock and ETF profile tool, and then of course a simple chart of some sort. So, I have a couple of things running in the background here. And again, this is all about options trading, but we want to take a look and see where these things are actually -- you know, what is happening, right?

So, let me do this: let me double click on Intel and what I want to point out to the folks in the audience is that if you have those separate tools open like a chart, like a news feature, like a stock and ETF profile, and you have all of

them in the top left hand side corner linked to gray tools, automatically, no matter what symbol you're going to be clicking on on the filters tool -- let me click on Marvell for example, everything else is going to be pre building that underlying that I clicked on. So, just have that linked tool functionality to gray across the board in your options profile as a suggestion to kind of be browsing through the things that are important to us before we jump in into the options structure.

But this is an Intel one-year daily chart. I'm going to quickly add the earnings event; I can show you, of course, that it generally, in the recent history, has been a pretty big mover on earnings. It tends to gap predominantly down over the past three quarters and of course, today obviously some news came out about I believe Intel is planning on IPO-ing or spinning off one of its acquisitions that it's made in 2017, specifically Mobileye and trying to take it public. And so, I gave a boost to the stock in the morning.

Now, it's interesting, Chase, that of course charts do have memories; we do technical analysis sessions all the time but where do the sellers come in and where does a little bit of supply come in? Well, it came in right at the gap fill. So, the old Wall Street saying is that if it printed bear, it will trade bear. And so, it traded bear this morning and tucked in a little bit, still up 4.3

percent on the day. But charts have memories is probably a good phrase to use for this particular chart.

So, going into the stock and ETF profile, recognition of what the company is doing, what sector it's a part of, what does the earnings picture look like, what have they reported in prior quarters, did they beat the day, disappoint, what is the upcoming earnings event or when it is, so things of that nature that could be important to that particular underlying. So, you have a flow. You start with a new idea, you're saying okay, I'm starting with options, I know there's a lot of activity there, let me go and get familiar with the underlying in and of itself and its personality and then what we're going to do is we're going to start breaking down what is actually happening under the hood in that underlying in and of itself.

Okay, a lot of calls traded today. Let's go into the options statistics tool. For those of you in the audience who are following along, you're going to be able to find that tool by going to options at the top and then options statistics. The majority of the presentation, through the next 40 minutes or so, we're going to be spending in this tool primarily, and you can see that this tool is sort of five tabs or five tools in one. So, we're starting here on the first one today in options statistics and we can right away see that the total amount of contracts traded is 386,000 contracts on 90-day average volume of around 134,000.

And Chase was kind enough to point out that this is an unusual day. It's already trading three times the normal volume and we've still got around three and a half hours to go in the trading session. So, no question about the fact that option traders are being very active about jockeying for a position based on these new news that came out that have to do specifically with what it would mean for the company may be going forward.

So, what are they doing? Well, 285,000 calls traded to 100,000 puts. So, that's 2.85 to one calls to puts. Okay, that's an interesting statistic, call/put ratio is an interesting statistic, but it doesn't really tell us what is being done. Remember that there's always a buyer and a seller for both the calls and the puts; in order for the transaction for one contract to go through, there needs to be one buyer and one seller. So, the question is, is not only how many calls have traded, but how were they trading and where are they trading? Are the people who are trading them in a rush to buy them, meaning willing to pay the offer price or more, or are they in a rush to sell them, to hit the bid and sell to open maybe? Or sell the ones that they have been warning already.

So, we start dissecting the details of that by looking further down the list.

So, how many of these 286,000 calls were sold on the bid versus bought on

the ask? How many of those that were let's say more of a bullish sentiment flow, hey, I'm either covering the short calls that I was short going into this event because maybe I don't want to be short them anymore and I'm willing to pay the ask price or higher for them, or it's new initiating activity of people who are interested in buying calls. So, of those who are buying them, 120,000 out of the 286 on the ask or higher, how many are five percent or more out-of-the-money based on where the stock price is today?

The fact that it's 41 percent doesn't surprise me, Chase, because we're up four and a half to five percent right now, and as I pointed out on the chart, we actually opened up around 55 and tacked in to come down to 53. So, in other words, the stock on the open was up give or take eight and a half to 10 percent depending on where you caught it. So, people are active in out-of-the-money options right now. And of course, you have the net delta signifying what is the amount of total deltas that is netting out how many contracts are bought on the ask versus how many are sold on the bid.

Those that are not familiar with option Greeks, again, a quick plug here, attend those sessions by going to [Fidelity.com/coaching](https://www.fidelity.com/coaching). There are a few Greek webinars available as well in the on-demand section on the learning centers page.

But net premium is an interesting statistic here and it's actually in Greek.

So, the net premium paid, if you kind of take all of the offers that got lifted,

meaning all of the money that was spent on the ask prices are high, and you take that net amount of dollars and you subtract out all of the bids that got hit, so all of the calls that got sold on the bid or lower, you net them out, and the net amount of premiums spent on those options today just on the options that traded on the ask or the bid — by the way, there are probably going to be a bunch of them in between — but the net amount of premium is 2.6 million dollars. So, there is substantial activity in here today and that's of interest to us.

Now, Chase is kind enough to remind me that a lot of this terminology and a lot of the statistical data that is provided here is pretty complex. And we don't expect you to understand it right away. If this is your first rodeo in this tool, what you want to be mindful of is the ability of right clicking in this tool and clicking on the help section. The help section will bring you to the Frequently Asked Questions page where you can find the definitions for every single statistic that is being described in this tool so you can understand it a little bit better.

Now, Chase, I would be remiss not to mention the implied volatility statistics. What is happening to implied vol at the top, applied volatility based on 30-day to expiration options where it is relative to the 60-day, to 90-day, and if I'm looking at something like a 52-week range, where are the current 30 day to expiration options in implied volatility terms relative to the

past year? In what percentile are we currently; are options relatively cheap, or are they expensive to themselves? Well, we're in the 26<sup>th</sup> percentile, so kind of in the first quadrant in the bottom quadrant of the range that we have been in in implied volatility terms.

Now, Chase, what that also of course is doing is telling us well, we now understand what's going on under the hood. It looks like more calls are being traded on the ask rather than the bid and more premium in dollar terms is being spent on options that are being bought versus those that are being sold and implied volatility is in a lower quadrant. That's telling us what? People are saying maybe options are relatively cheap and I am a willing spender or willing to accept the offer price for whatever deterministic outlook in bullish terms that I'm making.

So, let's take a look at what today's biggest trades is showing us. So, now we're getting under the hood really and we're saying out of all of those options that are being traded, what Fidelity is doing is it's looking through the largest transactions that took place across all exchanges, floor and electronic, in the U.S. And of course, just like with all of the other tools, it is going to be scanning them based on the largest orders at the top, giving you the time at which it traded, the option contract that traded, at what price it traded, and the bid and ask at the time when the transaction took place.

Now, Chase, this is a condition of stock option cross on the Philly exchange, which is obviously now part of the NASDAQ exchange. You know, interesting stock option cross, again, if you don't know what these definitions for conditions mean, and they can be important because you're trying to figure out what this guy or gal is actually doing, they traded 10,000 contracts of the 2023 LEAP call options in Intel 10,000 times and they paid two dollars and 15 cents for them when the bid was 202. So, it was a 13-cent spread and they were willing to pay the offer price.

What is the stock option cross you would ask? Well, just from trading experience, I can tell you it's a situation where a broker essentially is receiving sort of a pre-consummated order. So, a buyer and a seller have already agreed on transacting and the brokerage has basically brings it to the floor and consummates the order and gets cleared. So, there was a buyer and a seller, the buyer said I want to be paying 215 and the seller said I will be willing to sell them to you 10,000 times at 2.15.

So, interesting stuff going on in here. Chase, from here I normally say to myself okay, well, wouldn't I want to be looking under the hood on what's been transpiring maybe in those contracts prior to this transaction taking place? In other words, could I reduce this information to is an opening transaction, is it a part of a closing transaction of somebody is just covering



what they were short before and willing to pay the offer price? And so, from there, you're jumping over into the options chain and you start digging in.

So, we go off to January 2023 and we're going to look at calls only and we're going to take a look at all strikes. Because, of course, stock is at 53 bucks and those are 70 strike calls; way out-of-the-money so we have to go to an out-of-the-money strike of 70 to see that activity. And what I normally balance it against is to say well, first of all, Intel clearly has a ton of open interest out there in the LEAP contracts of 2023, which is quite surprising to me, Chase. The stock hasn't been a tremendously stellar performer necessarily; it has certainly been dragging its feet relative to the Philly semiconductor index for example.

But there's a lot of open interest out here above the current level of where it's currently trading. And of course, 19,000 contracts in open interest versus 10,000 by traded a day, Chase, it could not be clearly said that all of this activity of the 10,000 lot is necessarily opening activity. Why? Because the open interest from the day prior is larger than today's volume. So, if that volume was 30,000, we could say that definitely at least a part of it is an excess of open interest and therefore it has to be opening. But this way we can't really tell, so this is the information you have to carry over into the following day and see if this open interest actually increases or it declines

by an amount of volume that we're observing. Nevertheless though, big trade. Clearly somebody's making a stance; either it may be bullish or from the perspective of, hey, if I was already short these contracts, maybe this is my clue to cover them today because I'm thinking that the stock might be going higher.

So, Chase, last thing that I'm going to mention is the fact that you can chart the option, especially something like a LEAP that's been in existence for some time. We're going to go into this menu, burger little field and we're going to click on the chart for it. And what I normally tend to do here is I look at the one-year chart because it gives me the LEAP's elongated time frame for how long this contract has been in existence, and it's been in existence for at least a year, and I'm going to look down below. And I say, I know that today it traded in excess of 10,000 contracts; have there been a clear prints that are reminiscent of the type of activity that is happening today? So, in other words, is it somebody who was trading in a very large lot prior is now getting out and covering their position or not?

And in this case, there has been some large activity going back to September, it traded 4,000 contracts here in a few days a couple of thousand contracts in November, but certainly not 10,000 in a single day. So, again, this is the information that I would be carrying forward, I would be looking at that open interest to see if it changes tomorrow and increases

substantially. If so, you can then be saying maybe this is somebody who is a willing buyer of those calls clearly making an out-of-the-money call bet that maybe this stock is going higher between now and January of 2023. Alright, Chase, I'll pause here. I think it would be a good time for us to kind of change gears a little bit and hop over into the probability calculator.

**Chase Cotnoir:** Yeah, for sure. And one thing I want to point out, Konstantin, is we're doing our best as traders to investigate and look further into these trades, but ultimately, we have to understand that there is a level of anonymity as to what's going on. So, that person might be buying calls because what if they were already short and are looking for some type of hedging or protection? We don't really know the full story or how they're positioned or what their portfolio looks like. So, it's always interesting, and there can be some good insights, and that's why we're going over this today, but just remember when it comes to a trade thesis, we're looking at price, time, and volatility and we're adding these little tidbits in here that supplement with those insights.

**Konstantin Vrandopulo:** Chase, I want to really quickly just jump in and say you're absolutely right; being short, you could be short directionally through other positions that you already have through options, or you could be just short stock. So, again, unless you know who this person is and what their intentions are, you have to make these guesses and it's

never a guarantee. So, that's very important. But digging in there, taking out the magnifying glass and starting to dig under the hood is very important. And you see the levels and layers of complexity that there are that you would need to have as an options trader in order to make sure that you're not steered in the wrong direction with false hopes.

**Chase Cotnoir:** Couldn't agree more; that's well said, Konstantin. I do want to pivot and transition over to maybe the next tool that we've got in our lineup here. Konstantin had mentioned that this overarching tool really has five different tools or tabs within it, so we were just looking at today's biggest trade and that segued us into the conversation of additional research.

Let's hop back over to this probability calculator. This is a really interesting tool. I think from a lot of traders, especially those who are new to options, it's severely underutilized and it can give you some very helpful insights in terms of your outlook, how rational or maybe irrational your outlook could or could not be, looking at the market's pricing of certain expectations versus what maybe math or statistics would suggest to us.

So, let's walk through the tool real quickly here before I get ahead of myself. First thing you want to put in this symbol. We're going to switch symbols for this demonstration; we'll use SPY, the ETF that tracks the S&P 500, using it for educational purposes, the first ETF out there. Go ahead

and plug that in. And what it should do right from there is give you a quote, it tells you what the current price is, and you get a couple of different fields down below. You have a target price, which is essentially you get to tell the tool what prices you want to analyze in the future. You can choose to use only one price or two prices to create zones or channels, if you will. The next category is the date, so out to what point in time do you want to run some type of probability analysis, and we'll get to that in just a moment. And then lastly, volatility; what kind of volatility assumptions do we want to make in this analysis?

Now, what a coincidence, Konstantin, that you and I are always talking about how an outlook for an option trade is comprised of, I'll say it again, an outlook on price, time, and volatility, what just happens to be the three fields in this tool: price, time, and volatility inputs. So, that's exactly what we would expect and why these are here. So, let's run a scenario real quickly here. Down below there's a few other fields I'll just briefly mention. You can change how much you want to show in terms of historical data; that's going to show underneath that price target field at the top left of the tool here.

You can also choose how many standard deviations you want to visualize along the way. Changing the historical data doesn't change any of the analysis, it just shifts how much historical price data is included in the view.

And then with the three standard deviations, that's how it defaults, but you can change it to two or one standard deviations. The other default I'll mention just while I'm on the topic is that when it comes to the volatility input, it's always going to default to the historical volatility from the past 90 days. So, HV, historical volatility.

So, let's run an example here with SPY. Konstantin, we're coming quick towards the end of the year, as the day we're recording, it's December 7<sup>th</sup>, so year-end is on its way. I know that the SPY does have quarterly options that go out to December 31<sup>st</sup>, so let's run some brief analysis. Let's say what's the probability that SPY gets to a certain level by December 31<sup>st</sup>? We'll put the time input first. So, we add that and then right away, folks, what you should see is this black vertical bar with the date and then we have the black horizontal bar which is giving us our current target price which is going to default to what the current price is of the stock.

Secondarily, what I want to do here, Konstantin, let's go to that three standard deviations and let's change that to just one. So, one standard deviation, if you're looking at normally distributed information or data sets, is typically going to include about 68 percent of occurrence. Then, of course, you do have to factor in whether or not markets are normally distributed or if they're logged normal. And there's a whole conversation

to be had about that as well, so we do have to understand some of the statistical limitations in this analysis, but I digress.

This is going to give us a visualization of a one-standard-deviation pricing out into the future. What I want to do here, Konstantin, is add another target price in so we have the current price, and we'll just add in another one. Let's put it at let's say 485 just to start. And the reason I'm choosing this price is once he inputs this, it's going to give us the secondary line. And we can click those little black tabs as he's pointing out and we can slide them up and down as we see fit to get any type of finer tuned adjustment.

And let's go ahead and do the same thing with the bottom or maybe that middle black line that runs horizontally and let's slide that to the envelope of the one standard deviation band. Now, the reason we're doing this is to visualize what prices per share would be at approximately one standard deviation move. The way you can think about that is there's going to be about a 16-percent probability on the upper end and a 16-percent probability on that lower end in terms of some of those zones with 68 percent in between, roughly. Again, we're just kind of moving these numbers as we speak.

So, Konstantin, we can see that on the low end by December 31<sup>st</sup>, if we assume price moves in a normally distributed manner within one standard

deviation, it should be around what, 450ish bucks give or take? To the low end. And if we look up to the high end, what do we have there for pricing? We can see that from the statistics we're saying it's going to be around 484, 485 give or take there.

So, right away, if we just stop and pause for a moment, what we're saying is based upon a historical volatility input of about 13 and a half percent of volatility, if we look out to the end of the year, if we assume a one standard deviation move, where are we looking in terms of pricing? We could be all the way up to about 485 and all the way as low as 452. And we can start to think about that in terms of our trading. Hey, if you're someone who's trying to put on bullish trades and you're asking yourself well, how high do I think that this could go realistically or statistically speaking by the end of the year? Well, you could say hey, according to a standard deviation at the high end of this thing, we might get up to that 485 level. Or if we get some kind of pull back where might come down to from a statistical perspective on one standard deviation may be the 452. And so, if you have expectations that are different from that, now you can start to compare that to these and say am I being realistic, am I being rational, is there something I'm missing in my analysis?

Now, we can actually check that in real time. How we can do that is see what the option market participants are pricing relative to maybe what the



statistics would suggest. So, we'll go ahead, and we'll pull up our option chain here. There's a few things we'll tweak on this option chain: first of all, we can get rid of the weekly expirations if we want to just to make that a little bit cleaner. We're going to have our December 31<sup>st</sup> quarterly expiration — that's what the Q stands for. We can go ahead and reduce some of these strikes. We'll put it down to 20 strikes just so we're not overwhelmed with all the choice that we have.

And specifically, I want to change it to go from just call options and let's change that to say straddle. Now, a straddle's going to be an option strategy or a trade setup where there is a long call and a long put if you are long to straddle. If you're short to straddle, you'd be short to call short to put. But what we're trying to do is assess based upon the premiums and the quotes for this option, what are option market participants pricing in as an expected move in the future based on trading today?

So, we're looking at the December 31<sup>st</sup> expiry here and we can see that around at-the-money, so that 468 pricing, is looking about a 15-dollar move give or take. Now, if your mental math is better than mine, and I hope it is, you can just quickly take a look at that math and say hey, that's actually going to put us right at those levels we just previously determined. If we think about 15 dollars added to the 468, that gets you pretty close to the

485. Or if you subtract the 15 dollars from the 468, it gets you pretty close to the 452.

So, if we step back, what's the point? What is this telling us? Well, what we're doing here is we're running a statistical analysis and saying according to numbers, where might this thing go on a quote unquote reasonable basis within a standard deviation and then we gut check that against the options market participants and say, are they expecting the same thing or something similar or is it wildly different? And if it is, what are they pricing in or perceiving that maybe the math isn't considering?

And on that note, there's one thing I do absolutely want to disclose: what this tool won't consider are fundamental catalysts such as earnings coming up or comments made by executives or FOMC meetings coming up. This is just looking at statistical inputs and math. It's not looking at the technical or fundamental external factors that we as traders need to include within that thesis and that research process. Konstantin, were you going to add something to that as well?

**Konstantin Vrandopulo:** Yeah, Chase, you know, it's interesting because I love the way you married the two topics. We're looking at the options market, we're looking at the straddle price, which is a cost of a call and a put that's close to at-the-money as possible. So, that's telling us what is that

expectation into the year end, into December 31<sup>st</sup>, which is the same date, given the two thirds of the time it will be within that range up or down, given the fact that the market is not directionally biased in volatility terms. So, it could go up or down, and what is that range?

So, two thirds of the time we're now observing a range and we're saying the option market participants are trading the future expectations, but we are in the probability calculator valuating the future potential based on historical 90-day volatility. So, how has the underlying performed historically over the past 90 days with what sort of variance, with what sort of standard deviation, and we're plugging that into the math and we're getting some statistical values. Now, like Chase pointed out, if these numbers are drastically different from each other, what is that telling you? Well, it's telling you that market participants expectations who are trading options are really different on what they think is going to happen between now, December 7<sup>th</sup>, and December 31<sup>st</sup> versus how the underlying has behaved over the past three calendar months.

And Chase, the point again is charts do have memories; is it just random chance that the 452 roughly at around one standard deviation 60 percent wings correlates to the prior all-time high and just happens to correlate to the bottom that we just saw printed last Friday before this massive monstrous rally to the upside over the past couple of days? Probably not

random. So, interesting stuff. Obviously way past prior all-time highs because we're a stone's throw away from them now, but the bottom side as 452 in terms of how the underlying has performed historically and it looks like the option markets are certainly in agreement with it again without any potential curveballs or out of the left field types of balls like new variants or Fed tilts or pitches or whatever.

**Chase Cotnoir:** Yeah, one thing I want to add real quickly to the tool, Konstantin, is that there certainly could be a degree of difference in terms of option market participants pricing in volatility versus what the historical volatility would suggest. So, I do want to point out to everybody you can click the HV-90 and first of all change it to a bunch of different of the HV timeframes, but you can also put in a custom value.

And why you might do that for example is if let's say earnings are coming up for a particular company, it's likely that you'll see implied volatility values rise up in the short term as people are trying to position themselves, maybe hedge their existing positions or speculate on what the news might be.

And so, the implied volatility in that short term might be a very different number from some historical volatility over 90 days. You can go right to the option chain, find the IV mid number or IV based on the bid, mid or ask, and custom plug that in to further tailor your analysis to this specific option

contracts. You might be analyzing, you might be trading, or just watching closely.

So, again, the tool's phenomenal in terms of providing you with a statistical gut check on what your thesis is, on price, time, and volatility, but like any tool, we've got to be cognizant of some of the limitations on what it won't include that we as traders have to be responsible for, i.e., those technical and fundamental catalysts or signals that we just want to be mindful of.

**Konstantin Vrandopulo:** Very good, Chase. Now, if some of you have done this and this is not your first rodeo and you're just looking at tools and resources and you're wondering hey, what's straddle? Maybe it's something that I might like to trade. How could I quickly build it out and trade it? I just wanted to show you with the functionality of trading in chain button. So, we can turn that on here, trading chain. And both the bids and offers are live. And so, if you are a buyer of that straddle and you're saying, what the expected move is 15 bucks, I think it's going to be much larger than that given the fact that we just rallied what, 18 bucks in a straight line in two days. Well, all of a sudden you start scratching your head and saying okay, is this going to continue, is it going to continue at the same pace, or are things going to kind of slow down here and maybe what's being priced in is too much?

So, that's what makes the market. I mean, the markets that are in disagreement are efficient because of the fact that they're constant buyers and sellers out there. If everybody agreed, there wouldn't be a market because everybody would be on one side of the trade. So, if I wanted to build out let's say a long straddle price, how can I quickly do that? Well, if I have the trading chain button open and I wanted to buy that long straddle, I can click on the offer price for the call, click on the offer price for the put, and now I have my straddle and I have my midpoint price that I can obviously manipulate by clicking in there and scrolling up and down on my mouse or actually typing in the number that I want to put in and throw it in the preview place trade.

So, multileg order for those of you who are thinking well, okay, that's great, two-leg it, how about something of maybe an iron condor type, four points wide. Could I add some wings on the other sides of it? Certainly could; going out there four dollars higher, four dollars higher for the calls, sell a couple of options as well, and now you have a long iron condor for 369 of mid-point. So, very useful tool for those of you multi-leg traders out there, trading chain. Don't forget it. There are other ways that obviously you can be building out a trade through the multi-leg option trade ticket or the multi-trade tool, but this is a very quick and useful way of managing whatever it is that you're looking to do within a few clicks on the option chain on the board as we traders like to call the option chain sometimes.

Now Chase, straddle price, before we place it, if we're not jumping in headfirst, and hopefully you're not out there in the audience, you're more analytical on your approach and you're saying, what if I want to analyze this thing? What if I want to play around with it and say through the prism of an option pricing model, if the market goes up another four dollars or goes down four dollars and it happens by Tuesday of next week and volatility shrinks or it expands, is there a tool that would show me what this straddle would be worth if those things were to come true? So, in other words, you're gut testing your strategy before you put it on, and you start with the risk side first.

So, if you're a long premium obviously you need the movement to happen and you need the movement in excess of what you're paying, and if you're a seller of that straddle, you like less movement. You want basically the stock market or the S&P 500 to sit back exactly where it is right now and not move a whole heck of a lot between now and December 31<sup>st</sup>, and that's the way you would keep the majority of that credit potential. So, it depends on which side of the fence you're on.

What I'm going to show you right now is that analytical sort of paper trading tool. I'm going to click on the settings button in the top left corner next to my straddle and I'm going to go to options analytics and I'm going to hop

over into the profit and loss calculator from here. Okay, and this is a great tool, in my opinion, Chase, an underused tool. In my personal opinion, most likely the most powerful tool that we have. It is based on the binomial option pricing model. And so, what I'm doing here is I'm simulating a trade as if I was actually placing it in my own account before I did so with real money.

So, what are we doing? Well, let's mockup a long straddle, 468. You can evaluate it at a particular price that you can plug in here, or you could just say whatever pops in with the offer price, I'm going to be buying it at that. You're paying 15 dollars and 30 cents premium and now I have my profit and loss calculator. So, the V-shaped profit and loss diagram here, two hockey sticks combined with each other, what is the outlook? Well, I am certainly direction neutral. I don't care which way the market goes. I just want it to go, and I want it to go the faster the better and the more the merrier. So, the more it goes up or the more it goes down, the greater the probability for me to potentially make money on this trade, I need to overcome the 15 dollars and 30 cents by expiration to actually start making money.

So, my dark black lines are telling me where my break-even points are. I have two of them because I am long to straddle, and I don't care in which direction the market goes. Now, let's say that the market goes to 485



dollars, and it happens a week before -- let's say that it happens into Christmas, by Friday 24<sup>th</sup>. Now, let's say if that occurred and implied volatility maybe came down a couple of percentage points from the current value of around 15 to maybe 12, 13ish. Just randomly picking a number. I'm going to hit enter and now I have three lines on my hockey stick diagram, and more importantly, I have the profitability spectrum of this trade.

I put this on for 1,530 dollars. If the price of the stock SPY went to 485 today and implied volatility increased by three percentage points, my profit will be 514 dollars. If it did that by the date at which I evaluated it, which is the day before Christmas, Christmas Eve, I'll be making 200 dollars. And if it did that on expiration, on the last day of its life, I'll be making 170 dollars on this trade. Conversely, what if it goes to 400, what did we say, 53 was the bottom end of that? What if it goes to 453? Well clearly, we are trying to overcome the amount that's being priced in, so we need it to move by even more than 15 dollars and 30 cents. So, if it's right on-the-money we're basically going to be breaking even, if it happened today we'll be making around 481 dollars, and if it happened by Christmas Eve we'll be making around 23 dollars on this trade.

Now, let's say something catastrophic happens. And again, you're not direction biased, the market is exhibiting some very significant signs of

strength right now but let's say that we went back down to the Friday lows, and we actually undercut them by a decent bid. So, let's say we went to 440 and it happened on that day. What would that profitability look like? So, it's given to you in dollar terms, it has given it to us in, of course, single-leg terms as well if you click on the straddle and expand it out it's telling us what we paid for that straddle, it's telling us what it's worth theoretically if these conditions were met and what your profit and loss actually is.

And of course, for all of those who are astute and have been paying attention, you also have all of your Greeks down below over here, which are dynamic and they're going to be changing based on the inputs for price, time, and volatility that we're choosing. So, we're kind of getting to play wizards; we're getting to play option gods here to say what if we're wrong, by how wrong are we potentially going to be, stress test that position and say, am I comfortable with that loss if I'm wrong? Do I have the appropriate size of the position if I'm wrong? Okay, now that I've managed up the size and I am comfortable with the risk, what about the reward? If I am right, am I actually going to get paid and how much will I get paid? So then, does the reward-to-risk ratio make sense?

Now Chase, of course, for those of you curious, the add simulated button allows you to add dozens and dozens of simulated trades in here and watch them in real time kind of play out. What it also allows you to do is if you do

have positions already on a particular ticker in your account right now, notice that our test account is here in the bottom left, the positions that are built out that you already have on are going to populate in the tool and they would pair the way they're paired based on the option-by-expiration or option-by-strategy screen that you're normally used to. And of course, from there you can stress test not only something that you're evaluating as a potential trade, but also some of the stuff that you currently have on using the same tool.

Chase, we are just a little bit over time. I think this kind of wraps it up into a nice presentation. We walked you through a full story — actually, a couple of stories. Hopefully it opened your eyes to some of the stuff that Fidelity has to offer. Trey, it was a pleasure. Thank you, everybody, for attending.

#### END OF AUDIO FILE

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There are additional costs associated with option strategies that call for multiple purchases and sales of options, such as spreads, straddles, and collars, as compared with a single option trade.

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