TRANSCRIPT

Options trading around earnings

Presenter: Konstantin Vrandopulo

Konstantin Vrandopulo: Thank you so much. Very humbled to be here. Humbled to present by myself alone today. The topic is very interesting to me, it's something that I've been paying attention to for almost two decades now and continue to track it, right? Plotting and continuing to track it going forward. So trading options around earnings, you know, hits home especially during the earnings season so couldn't have been a better time for us to host this webinar. So without further ado -- a couple things about myself. I've been with Fidelity for just a little over 10 years at this point -- split just about half and half. I started on the trade desk -- worked my way up and I joined the Trading Strategy Team. So

[00:01:00] now for the past five years or so I've been working on educating self-directed investors on trading topics, and options obviously is a big part of what we do on the strategy desk. Now, Trey mentioned that he was going to be sharing some sources with you. I wanted to share with you where we live for additional educational content. You could always find this by going to News and Research Learning Center, then, of course, scrolling down just a little bit lower under Daily Trading and Investing Coaching Sessions as well as online classes for beginners. The online classes for beginners are going to be beginner topics -- technical analysis options, Active Trader Pro, how to trade in

general -- focusing essentially on four weeks' worth of information plugged into a month on that specific

[00:02:00] topic. And then the daily trading and investing coaching sessions is where we talk about things that are ongoing in the market -- so daily market briefings every single day and then options related, technical analysis related stuff. So please sign up. This is where we live, we're a tight team of just 10 guys right now and we're excited to present for you every single day. So if you're looking for a live coaching room don't hesitate to join us there. All right, so, Trey, jumping in into what people showed up for today. So the lay of the land essentially of what we'll be covering -- I'm going to show you some tools that will help you identify which companies are about to report earnings, what their earnings expectations are, how they've done historically. We'll talk about volatility at length. We'll talk about volatility through the prism of individual strategies that you're going to

[00:03:00] be putting on if you're going to be deciding to trade options around a binary event like an earnings announcement. And, of course, as an options trader we do recognize or we have to recognize that whether we like it or not we will have a volatility position on. We're going to be either long or short volatility-dependent on whether we're going to be buyers of options on the net basis or sellers of options. So, more on that in an elaborated way in latter slides. And then, of course, a simple calculation for the expected move.

Something that everyone should be aware of even if you're not an options trader at all and you're just tracking the stock by itself. So, without further ado, into volatility we go, Trey. So, historical versus implied volatility. Now, this terminology is thrown around quite a bit. So, we're going to be

[00:04:00] dissecting it in depth today starting with historical volatility otherwise abbreviated as HV. Historical volatility. Well, what does it representative of? We need to recognize that it's actually basing its value on the historical price action of the underlying security that we're observing. Historical volatility is presented to us in a one standard deviation annualized format. So, you've got to think back to what a standard deviation really is and what is volatility. Well, in math it's known as sigma and historical volatility is actually relatively straightforward. Everyone probably can put their thinking hats back on, whether you've taken statistics in college or

[00:05:00] high school you remember that we look at a particular time frame historically. We have a look back. So if we're looking back at 20 trading sessions we take closing prices of those 20 trading sessions. And if we're calculating out the mean or the average of those 20 trading days and from there we go on to calculating the variants and then square rooting that variants to calculating out what (break in audio) that standard deviation is. And effectively what one standard deviation is representative of is 68 percent of occurrences -- a little bit more than that -- 68.2 percent of occurrences around

the mean. So whatever the price currently is, what we're trying to figure out is based on how the security traded in the past over that 20 day look back. What sort of a range would incorporate the majority of

[00:06:00] price action? So, obviously if it's provided to us in an annualized one standard deviation format, we can double it to get two standard deviations or 95 percent of occurrences, or three standard deviations which would be 3x that value to get approximately 99 percent of occurrences around the mean. So, looking at the price chart gives us the ability to gauge historical sigma. Well, how about implied volatility? IV. Implied volatility is being derived from the options market. So we'll look at the options prices for that given security and we're trying to figure out what the future expected move is for that underlying security based on how option market participants are currently behaving. So if

[00:07:00] we are looking at an implied volatility we have to understand that we're looking at calendar days going forward. Yes, we don't trade on the weekends. However, those are future days that we need to account for. Therefore, implied volatility is looking forward in calendar day terms but historical or realized volatility is looking backward in realized trading day terms. So this bullet point here -- volatility is both an input for and an output from the fancy option theoretical pricing models. We're certainly not here to discuss the details of the Black-Scholes option pricing model or the binomial option

pricing model, for example, today. But what you need to recognize is that there's certain things that are going into these models that are known at a given moment in time. Those things are -- where is the security currently trading at? What price exactly? How much time exactly almost to the minute in the trading day is

[00:08:00] left until the expiration of that option? That is also a known fact. We know what the current interest rate environment is like and how much would it cost us to borrow capital if we needed to in order to put on a position of some sort. Either being long or short. An underlying security or a proxy of that security. So we understand what it costs us to borrow money. Interest rates don't willy-nilly change in the real world on a daily basis up and down. The risk-free rate does not at the very least. We know what the dividend environment is like for that underlying security and we know that the dividends are not also willy-nilly changed by companies on a daily basis. So, a lot of those things that are going into the options pricing model are known facts at any given moment in time. And then essentially, if you are thinking about binomial or Black-Scholes, we're saying with a given

[00:09:00] parameter all of those things known, the last piece that goes into the calculation or the equation is going to be the volatility expectation -- that's sigma. And based on that formula we're going to be getting out the value of a call or a put for a certain strike price. Well, guess what? It says that volatility's

both an input and an output. Why is that important to us? Well, because we can certainly theorize based on certain volatility expectations and all of those other things that I mentioned in this pricing formula -- what will be a value of a put and a call. And we'll get to that in the demonstration portion, but effectively at any given moment in time when you're looking at an options chain you have live bid and offers for each strike of an option. So essentially, if we have the values of puts and calls and what they're trading

[00:10:00] for in the open market then implied volatility becomes an output of the marketplace. All right? So we kind of solve back for x because we know what the value of a call or a put is. So let's go on into the implied volatility spectrum and expand out on this expectation -- or really if we call this a unicorn that all of us as options traders are trying to saddle, we understand that it's based on future expectations for movement as option market participants who are not trading the past, but we're trading the future expectations. Maybe past expectations of historical movement on the underlying security and its behavior affects us in terms of what sort of activity we engage in in the options world, but that's not the only determining factor. And so trading options around earnings especially brings us to the forefront because we

[00:11:00] know that there's a binary event that could potentially be beneficial for a stock or detrimental to a stock. And option market participants are trying to gauge what that move is going to be like and trying to wrap the expectation

around that binary event by voting with their dollars. By being net option sellers or net option buyers and voting with their money. So, implied volatility -- just like historical volatility -- is presented to us in an annualized one standard deviation format based on calendar days looking forward. So if I'm talking to you about implied volatility 30 -- and here we have a screenshot of the trading statistics tool in Active Trader Pro which we'll look at a little bit later -- but implied volatility 30 at 62.35 percent is telling us what exactly? Well, if I look at a

[00:12:00] hypothetical option that is expiring exactly 30 days from today, sometimes we're going to have an exactly 30 day to expiration option available. Most of the time, however, we won't. That's the reason why we say it's a hypothetical 30 day option because there has to be a morph calculation between expirations around that 30 day value to weigh it appropriately and give us that hypothetical value, as if that 30 day perfect expiration existed each and every time. Now it's a rolling one. As time passes and time moves forward this 30 day to expiration option gets further and further away from the current date. Implied volatility 62.35 percent annualized. So, based on the way 30 day to expiration options are trading right now, incorporating both the call and

[00:13:00] puts, we're expecting the security to be up or down 62.35 percent one year from today two thirds of the time. Sixty eight percent of the time. You

double that, you get 95 percent of occurrences. And now you should probably be scratching your head if you're mathematically inclined. You're saying to yourself, "Well, there's a hard floor at zero, Konstantin." So a security cannot go down by more than 100 percent but it can certainly go up by more than 100 percent. So the larger this volatility expectation -- especially if we're starting to get into triple digit implied volatility values -- we're starting to deal with some skewness with potential of much more upside incorporated into that range than downside that is a hard floor, again, at the zero value. Now what is driving implied volatility

[00:14:00] from not being a static number? Well, it's purely the market participants' actions and their engagement in the marketplace. So let's talk about this. If we're saying that implied volatility at any given moment in time -- if we're dealing with the liquid underlying security and there's trading markets in that underlying security that have transactions going off on both bids and offers and those bids and offers are tightly represented -- meaning you can't drive a truck through the spread between the bid and ask but it's relatively tight -- we could say that implied volatility becomes that output out of the option pricing model. So let's think this through. What is the driving force behind implied volatility expansion? Or implied volatility, in other words, going higher? Well,

[00:15:00] it's the expectations of market participants for movement in the underlying security. They believe that the underlying security has the potential to move more, they're going to be willing bidders with overwhelming demand over supply of options action in that underlying security. So, if -- on the net basis -- option market participants are primarily engaging in option buying activity, call buying activity for net bullish positioning, speculative positioning, net put buying activity for bearish activity or sentiment, hedging activity against the securities that market participants already own –

[00:16:00] so if they're net buyers primarily as initiators of transactions -- buying of calls, buying of puts, and not only that, but also buying back, maybe, calls that they have sold before, buying back puts that they have sold before. So if the net initiating transactions are being driven by option buying activity, supply is always going to be there but only at incrementally higher prices. At the end of the day, for each transition to happen -- to go through, there needs to be two party to the trade -- one party is buying and the other party is selling. And all of that we're solving for is saying if options are becoming more expensive and demand is overwhelming supply, supply is constantly going to be there but only at incrementally higher prices. And if higher prices are occurring, and we're observing them in the marketplace, we're basically

[00:17:00] solving back from implied volatility and saying that implied volatility must have expanded. Options became more expensive. Conversely, the

opposite would be true if option market participants are primarily engaged on the net basis in options selling activity as the key driver. Then the demand is constantly there and provided by the counter party, but the demand is only there at incrementally lower prices as supply is overwhelming demand. So if you think about implied volatility in those terms and what is being the key driver of expansion -- implied volatility versus contraction of implied volatility -- we're now going to be taking it a step further and saying, "Well, we could be building or sort of carving out some expectations on how market participants could potentially behave post certain events." They're anticipating something

[00:18:00] that is going to be driving the stock price and then once that events comes and goes, the stock either moves by the expected move or more or it doesn't. And the demand and supply function in the options market for that particular underlying changes. So, we have the implied volatility percentile as one of the ways to be looking at implied volatility to say "Well, a rolling 30 day to expiration implied volatility had a value on the low of 25, 58 and on the high of 48, 45 annualized," and if I'm hovering over that carat right now it's telling me that it's currently in the 60th percentile. Thirty nine point three four percent annualized. So 60th percentile here. Now, generally we could be thinking about implied volatility as sort of the personality of the

[00:19:00] underlying security. Sometimes security that we're observing moves with a lot of gusto directionally up or down. Sometimes it's trading sideways

in a range-bound type of formation. Sometimes it is on the cusp of reporting earnings and other times it's not. So, sort of that personality of that stock and so, if we're gauging the range and we're saying it's in the 60th percentile or in the 90th percentile or in the 10th percentile, it is giving us a gauge of where the underlying volatility has been over the past year. But we could also visualize it just like we would on a chart by looking at the proxy of an implied volatility gold line on this chart, versus historical volatility blue line on this chart. Through that same one year lookback. So just kind of visually representative of where those values

[00:20:00] currently are relative to where they have been in the past. The interesting part about this chart is that implied volatility and historical volatility, especially around particular events like binary events of earnings for underlying securities, has a pretty predictable pattern. Implied volatility rises into an earnings event and then post an earnings event it comes down, or, in some cases, collapses. And then historical volatility or the blue line the realized volatility either catches up to where implied volatility came down from, exceeds it or doesn't exceed it. So, if market expectations going into an event are at a certain level, the question becomes, does this security move by more

[00:21:00] than what was expected or by less than what was expected? You can determine whether a specific stock's IV is relatively expensive or inexpensive.

Well, we can look back at a 52 week range and say it's currently at xyz percentile or it's currently at its highest level, but realistically, of course, we need to understand that future expectations are going to be based on how market participants will continue to do business in the future and how that underlying security is going to behave. We can't just automatically assume that even though there is a mean reverting characteristic to this gold line it is always going to be reverting to the mean that is determined by the date range that we've identified. The personalities of stocks change sometimes whether it caused by a binary event like an earnings

[00:22:00] announcement or an overall market sentiment and factor. Macroeconomic events affect individual securities, geopolitical risks, so forth and so on. So this range of expectations could also change and move and it's not a determinant or determined factor that you could use with 100 percent accuracy. So moving on to the expected move calculation. This is interesting. So we have a formula relatively straightforward nothing complex about it is that one standard deviation move for securities is calculated in the following fashion: you take the stock price, you multiply it by the percentage of implied volatility, and the numerator -- you multiply that by the square root of the days to expiration that are left in that option's life, and then we take that total numerator value and divide it by the

[00:23:00] square root of the trading days in the year. Now, as a trader, I can tell you that on my last check there was about 253 trading days in the year. So a square root of 253 is equal to 50.9, but as traders we like some round numbers. We like easy quick snap of a finger gauges to say, "How can we de-annualize this number? Who cares that the security based on the 30 day to expiration option is going to be up down 62 percent one year from today? How about tomorrow? How about the day after that?" So this formula gives you the ability to de-annualize that number into a daily format and naturally, again, if you're a little mathematically inclined it's very

[00:24:00] simple to understand that whatever that volatility number is square root of one -- one day -- is going to be one. I'm taking the implied volatility value and dividing it by 16. So we call this, as traders, the rule of 16. If my implied volatility value is 16 then my daily expected move is one percent. Multiply the stock price by that one percent, get the one standard deviation dollar change, potentially, up or down. If it's 32 percent -- well, that would be a two percent daily expected move, so forth and so on. So it's a good screenshot to have. You could geek out on the math here and do the appropriate calculations for different time frames, whether you're trading something that's expiring 17 days from now -- so forth and so on and kind of look at these expectations based on this equation, but it's a good one to have in your

[00:25:00] pocket. But remember the rule of 16 for the one day variants. So if I have a $100 stock and implied volatility is at 20 percent, I'm dividing that 20 into a rough number -- approximately 16 -- which gives me a one and a quarter percent move up or down per day in that stock. Let's move on onto the impact on option prices. So, which option Greek measures the impact of implied volatility changes on the options value. So now we're introducing an options Greek, which is basically a mathematical variable that is telling us in dollar terms by how much my option premium will change if implied volatility changes by one absolute percentage point. So, if it goes from 62 to 63 or from 62 to 61. One absolute percentage point change in implied volatility will change my options value by the

[00:26:00] amount of vega. And I could be either positive vega or negative vega in my exposure. Now, let's take a few steps back. If the options chain is going to be provided to me as an observer from the prospect of being an options buyer. Why? Because my vega value for both the puts and calls on the option chain --which we'll see in just a second -- are going to have a positive value. So that means that if I'm a buyer of options I'm long volatility. I am long vega. I am buying markets expectations for future movement and what I'm betting on with my being a buyer of options, is the fact that whatever is being priced in is not enough and the security is going to

[00:27:00] move by more than what's expected. That's how I make money on long option trades. Directionally being a call buyer or directionally bearish being a put buyer. So vega is provided to me from the prospect of a long option holder or a long option buyer and I'm going to be positive vega whether I am buying puts or calls. So I want implied volatility to be doing what if I'm a buyer of calls and puts? I want it to be expanding. That's what will be benefiting me. Of course, if I'm a buyer of puts and calls I also want to be directionally correct without a doubt. If I'm figuring out the direction of the underlying security and I want to be directionally biased. I'm either bullish it or bearish it I want to be

[00:28:00] correct on direction but I also want preferably implied volatility to be expanding because it's going to be creating additional extrinsic value or additional time value in that option I'm trading. And by how much my option value will change? Well by about the amount of vega for each absolute one percent change in implied volatility terms. So we're going to look at a few things. This is effectively how volatility crush and vega affects options. I think the screenshot is just trying to illustrate to us that we had calls and puts and let's focus on this approximately at-the-money 65 strike. The calls and puts we're trading at very relatively equal value. One -- let's call it 180 for both the puts and calls with vega of point zero one nine three. Remember that vega is provided to

[00:29:00] us in dollar terms, so it's telling us by how much my option value will change if that implied volatility midpoint value will drop or increase by one percentage point. And the second screenshot down below is just a post-event type of thing. So we're looking at the security and most likely the security is moved. Based on what I'm seeing here, if it was trading at $65 post the move would occur. Well, I'm seeing that my calls are practically worthless at this point and my puts are all of a sudden worth more. So puts went from 185, 188 bid offer to 277, 299 bid offer. So, I am just taking a wild guess here and I would say that the security must have moved down in value directionally. But how much was the decrease in value due to the collapse in implied volatility? Implied volatility

[00:30:00] went from 93 percent annualized to post-event 50 percent annualized approximately. And I'm just calculating this out based on vega values and we're showing you how much of value of that option has declined if you were a buyer of options, effectively. And if you were a seller of options that's something that you should've been counting on that would've been obviously benefiting you. Now, to the point of being directionally correct -- stocks trading at 65 bucks, a reports earnings had heightened volatility value, implied volatility collapses by almost half. This stock probably came down because calls are worthless. Now puts are worth 277 bid, 299 offer and I know that my puts have declined by about a buck 18 just to the implied

[00:31:00] volatility collapse. If implied volatility would not have collapsed to the same value, I should have been expecting my puts to be more profitable. So yes, they're making money -- they went from 188 to 299, but if implied volatility did not collapse to that certain degree that it did, my puts would have had more value in them. And that's something that we have to wrap our heads around and maybe this would be a great time for us to jump in into the screenshare portion. So, I went out and took a little bit of a liberty here -- wanted to show you how you can look at the expected upcoming earnings events and I decided to focus for today on Apple because it is the largest market capitalization company in the world, and it just so happens to be reporting earnings after the close today. So let's

[00:32:00] dissect this guy in grander detail and look at its current market condition. You can, of course, go to News and Research Daily Dashboard to bring up this particular tab or tool that I have open, click on today's earnings announcements and pull up the fact of the calendar. Who is coming up on deck, is it pre-market after market. And we can clearly see that Apple is today after market. First name on the board that comes up. So, fantastic. Going to take Apple as an example for today's conversation. Let's look at a chart before we get into the options trading piece. Choppy activity for sure since the top -- back the end of December, beginning of January up and down with a lot of volatility and

[00:33:00] what we're seeing is that going back about two years Apple has certainly been in an uptrend intermediate to long term because it's going from the bottom left hand side quadrant on my chart at 65 bucks or so -- 70 bucks all the way up to 180 and now trading at 162. But most recently it's started to struggle and consolidate a little bit. And it's not a newcomer to struggles and sideways actions because if you look to the left of the chart you see prior areas of consolidation that the stock has gone through before breaking out to new highs. What we also see is that I have four moving averages on my chart. The five day -- very short term --- five days' worth of action, 20 trading days -- about one month worth of action that we talked about from the historical volatility perspective. Fifty days and 200 days. I

[00:34:00] can tell you that Apple -- in the past two years -- has not spent time of more than a day underneath the 200 day moving average for two trading years. Zooming into a one year action here, as you can see, undercuts the 200 day tested here -- bounces right away. Tested here -- undercuts it the following day -- closes above it. Closes below it just this week -- undercuts it yesterday. Today we have a nice relief rally -- bounce right back up and through the 200 day moving average. So it's an interesting balance. We haven't seen price acceptance below the 200 day and it's clearly being deterministic kind of from the historical standpoint of view. Institutional level of interest -- the longer term -- intermediate term traders focus quite a bit on

[00:35:00] that 200 day moving average. What we also know is that the stock has been in this vicious short term downtrend since the beginning of April. So I'm just going to use a regression channel line and show you how it's been struggling as of late. So it's in the battleground zone. It is testing very viable levels of support where bulls and bears have fought before and so far that level down below at around -- let's call it 155 -- has held up a support. Most recent lows some are around a buck 50 area. So it has an earnings report coming up. What is happening in the options market? Let me minimize the momentum tool here and now we're looking at the one year prospective view of implied volatility -- just like we were in the slides -- versus historical volatility. Well, implied volatility is currently

[00:36:00] at 37 and a half. Historical volatility is at 26 and three quarters. So implied volatility is substantially higher than historical volatility. In other words, the future market expectations for movement in the stock are heightened right now. We look back to the left to the past earnings announcements -- here we have an earnings announcement on the 27th and the stock ripped higher off of a similarly vicious down trending move that broke it out to the upside. We had a move up and then a following consolidation a quarter prior to that, we had a move down and consolidation the quarter prior to that, so it's kind of a crapshoot, right? The stock has been up and down and in some cases it's

moved up and trended higher. In some cases it has moved down historically and trended

[00:37:00] lower. And in some cases it did not a whole lot of anything. So not very deterministic as to what we could be implying that this is usually what Apple does on earnings based on the four last quarters that it has presented. Undetermined directional movement is the way that I would put it. So here we are with heightened volatility expectations and dropping a line on the current level of vol. Thirty seven and half puts us practically onto very close to 52 week highs. So we have to be in a higher heightened implied volatility environment. Percentile wise I'm looking at my options statistics and it's telling me that we're in the 77th

[00:38:00] percentile. And just a couple of days ago when we were testing those lows our implied volatility 30 day value was at 43. So we were at a 100th percentile at the highest level of the year, and over the past couple of days' worth of a bounce we've come down off of that level just a smidge. So what does that all mean to us as options traders? Let's look at an options chain and start looking at a few options strategies that we could mock up and figure out. Well, one day to expiration options versus 15 day to expiration options versus approximately 30 day to expiration options. Now, what I want to emphasize here on this board -- as we traders would call it the options chain -- is the non-linearity of time decay and the skewness of

[00:39:00] volatility expectations that is from and loaded. So the stock is at 162 and a half and I'm going to look at the at-the-money or as close to at-the-money 162 and a half call and put. If we look at the price of a call and put and we combine it together that is also known as what? As a straddle. And option traders would frequently use the price of a straddle as the expected move of a stock post-earnings event. Now, the best course of action would to be look at an expiration (break in audio) right at or as close to as possible to the earnings option and we have a stock that is

[00:40:00] reporting earnings tonight on Thursday night. So one day to go, 162 and a half put and call is approximately trading for eight dollars and let's call it 30 cents. Why don't we go back to our chart and throw on eight bucks on either side in terms of a range. So, that gives us about what? One seventy one or so? I'm just going to do some rough math here as the market's moving around and it looks like it found some direction to the upside off of early morning gains that were sort of disappearing before this event has started. Looks like we found some direction, back to the upside we go. So the

[00:41:00] downside -- eight and a half bucks off of the current level puts us where? One fifty four-ish? Drop a line there. And so, are option market participants oblivious to important technical areas that we've deemed to be valuable to us by just looking at technical analysis prior and I would say absolutely not. What is the 171 or so area to the upside? Well it goes right

through the downtrend channel that we have drawn. It basically is above the 50 and the 20 day declining moving averages and it gets you back to the most recent tweezer highs here -- April 21st as well as April 14th. Gets you right to that point in terms of the expected move into tomorrow. To the downside we've identified

[00:42:00] this box -- most definitely -- prior low -- tested again -- tested again -- tested again just yesterday on the low and now off with that level we're (balancing?) Does it correlate to prior highs here that used to act as a level of resistance multiple times before the breakout? Absolutely. So the option market participants are not oblivious to prior historical price action and they're pricing in a certain type of a move. Now, let's engage and expand this out a little bit further. So you would be saying, "Konstantin, so if that's the expected move, can we use the option chain to elaborate maybe into the probabilistic possibility of the stock staying within this range?" And that's where I think the probability calculator comes into play as

[00:43:00] well as this shortcut that I want to teach you is the expectation of delta. So, delta giving us the idea – rough approximate value of the stock or that strike of our choosing that we're looking at being in or out-of-the-money. So if I'm looking to the topside and I'm looking at 13 or 14 delta here at 172 and a half -- based on the rough gauge of delta it's telling me that it has approximately a 13 and a half percent chance of expiring in the money at

expiration, which is tomorrow by the end of the day. What about downside? Sixteen percent probability of 152 and a half. Notice that our implied volatility at the money is 115 percent right now. So could we

[00:44:00] be putting this into -- could we be looking at the delta or the probability calculator and just gauging? What is that expectation? Let's type in Apple. Let's type in 172 and a half and 152 and a half on the downside. Change our timeframe to Friday and then put in a custom value of implied volatility 115. Do we get approximately a one standard deviation window in that range? And the answer is absolutely. It's not perfect but it's almost there. If my one standard deviation expectation is 68 percent of occurrences and based on those strikes of our selection -- which has got 66 percent of occurrences -- that's pretty close to that one standard deviation expectation. Double that range, of course, for two standard deviations -- so forth and so on. So we're looking for wings of

[00:45:00] 16 percent on either side. The stock can go up or down or it can remain within the range of expectations. So what we're going to do our next seven minutes or so is we're going to build out a couple of strategies. We're going to go to our profit and loss calculator and we're going to recognize that time decay doesn't have a linear function. We look at the 160 strike or 162 and a half and it's trading at four bucks on either side. We look at the straddle price and we said that's approximately the expected move. We figured what the

delta one standard deviation expectations are -- so forth and so on. If I look out to 15 days and I look at 162 and a halfs, what is the time value or what are those options trading for? Well, if my at-the-money call and put with one day to go is trading

[00:46:00] at $4 and time extrinsic value was linearly distributed, then I would be expecting to take that one day value and just multiply it by 15 to get the extrinsic value of something that's 15 days away. Well, that's not the way it works. That speaks directly to the fact that a time decay -- especially for at-the-money options is not linearly distributed. It is more for 15 days out but, not linearly more. If I go out to 30 days approximately and look at that similar stuff is it more? Yes, more than 15 days away but a tiny little bit more. So, all of the market participants expectations are basically juiced up around the current binary event that's right on the nose and once that event comes and goes the stock either moves in excess of what

[00:47:00] was expected or it stays within the range and market participants' expectations and of course participants' actions of how they vote with their money starts to change on a go forward basis. So the question that I often get asked is, "Konstantin, well based on that, what is the smartest trade to do? What is the one that is a no brainer?" Well, there isn't such a thing unless you have the benefit of hindsight. You're trying to make a judgement call as to whether a security is going up, down, or is going to remain sideways and what

will happen to implied volatility post-event. Well, we said that, historically speaking, we've seen implied volatility sort of shrink or contract post-event. So let's create some options strategies that have capped risk potential. So if we did go out to that one standard

[00:48:00] deviation expectation type of a move and we went out -- let's say to -- instead of looking at one day we'll go out and look at 30 day to expiration options or 29 days to go. So we'll construct a short iron butterfly and a long iron butterfly and then expand that out to maybe a short and long iron condor and how they end up being different. So we're focusing on capped risk, capped reward type strategies. If you're truly being direction neutral you don't care which way it goes so long as it stays within a certain range or the opposite. If you don't care which way it goes but you think it's going to go outside of the expected range. So with a short iron butterfly we are going to be doing the

[00:49:00] selling of the guts. So, focusing on that one standard deviation expectation approximately 175 above -- let's call it 160 slightly skewed. So selling of the guts at 160 puts and calls and then $15 to the downside. Maybe we'll focus on the 145 puts. So we're buying the calls above and selling the at-the-money calls. Selling the at-the-money puts and buying the puts below. So, 15 point wide short iron butterfly for about 10 bucks. Let's look at this strategy. What is our profit window here and what are we trying to accomplish

with this trade? This trade is going to be profitable so long as between now and May 27th the stock is within our

[00:50:00] break even points holes worth of range -- 150 versus 170. Anything in between we're making money. Anything outside of that we're starting to lose. Okay? We've sold the at-the-money or as close to at-the-money strikes as we possibly could to remain effectively delta neutral. We are time decay positive and we are short implied volatility because we expect volatility to collapse. So that would be a trade where you're saying -- so long as the stock is within the expected range that I've identified I have the potential to make money, but if it goes outside of that range I have a limited risk potential of around half of my maximum potential profit. So I can lose 500 bucks on both ends but if

[00:51:00] it stays within the range and it's exactly at 162 and a half of the May expiration cycle of my choosing I'm going to be making about 1000. Could be making a little bit less or a little bit more depending on where it falls in that range -- so forth and so on. Now, for anyone who is curious -- well, there's somebody who has taken the opposite side of that trade. And so I'm going to duplicate it and I'm going to change the signage here. So what if I'm a buyer of this strategy? What is my expectation? Well, my expectation all of a sudden is that the stock is going to move by more than what is being expected currently. So I don't think that it's going to be within this range if I'm a buyer of this butterfly, I think it's going to move outside.

[00:52:00] I'm a buyer of implied volatility, I want the security to move by more than what's being expected and my total payoff is $450 to $500 total potential profit versus $1000 worth of risk. Now, you can, of course, expand out on this thought. You could say -- what if I just went out and created something that was similar maybe to the butterfly structure where I'm dealing with a capped risk, capped reward type potential, but I'm not really comfortable with the risk I'm taking on by having this aggressive trade and shorting something right at the money expecting it to be within this range. What if I want to widen my goalposts a little bit? Could I do that? And the answer is absolutely. Let's go in and simulate this one and say -- you know what, instead of selling the at the money straddle with 160 strikes,

[00:53:00] what if I sell those further out one standard deviation expectations around the mean? One seventy five versus 150 and I will buy the outside wings -- maybe make them 10 points wide. So this would be called a what? An iron condor strategy. Notice that my net credit substantially decreased from around 10 bucks to $2.81, but I'm going to go ahead and apply it and evaluate this strategy. Let's say I have a much wider plateau of possible outcomes and my poles of profitability have widened, so I've given myself -- or the security -- more room to run, either up or down by -- but the risk reward ratio

[00:54:00] has changed and now it's skewed sort of against me. I have a higher probability potential outcome of profitability on this trade because I've widened my range, but my risk has shifted from being two to one reward to risk to approximately two and half risk to one reward. Maximum that I could make is 281 bucks and the security can only go up or down any one given time. But if it goes outside of my wings that I purchased -- those being 150 and 185 on either side of the trade -- I actually start to lose but I have a capped loss potential. So, reality is is that you're making a judgement called on directionality. Where do you think the underlying security's going? What is going to happen to implied volatility? Do you want to be a buyer of

[00:55:00] implied volatility or a seller of it? Look at the chart, look at the prior movement, and make a decision. And I would leave everyone with this, Trey, is that you don't necessarily have to be only doing these trades by focusing on sort of directionality and neutrality of it. Or the opposite -- like I want it to move if I'm a buyer of a butterfly or an iron condor versus a seller of it. You could be directionally biased if you just want to be doing one side or the other. You're just breaking these strategies up and you would need to be directionally correct on one side of the equation or the other. If the underlying security moves up or down, you're dealing with some directionality exposure because you'll have some deltas positive or negative depending on which side of the trade you do -- the put spread version or the call spread version. So

capped risk, capped reward potential stocks could do some crazy things on earnings.

[00:56:00] Implied volatility's telling us the market participants expectations but boy, they're not always 100 percent correct. We've seen stocks move by a lot more than that and, in some cases, by a lot less.

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