TRANSCRIPT

Getting to know synthetic options

Speakers: James Savage & Chase Cotnoir

James Savage: Good afternoon, good morning everyone, thanks for joining with us in this nice hour-long Synthetic Option Positions webinar that we have planned for you. And in case you aren't familiar with myself or our team, so both Chase and I are part of the Trading Strategy Desk. We are ten traders who are here to assist clients such as yourself with their trading strategy. We have a number of sessions each day covering options, technical analysis, Active Trader Pro, tool demonstrations, and both morning and after-market briefings. Now we're live, we turn on our camera so you get to see us, and we will stop and answer questions in real-time along the way. So, if any of the topics interest you or that type of format seems to possibly pique your interest, then I hope to see you in one of our upcoming sessions real soon.

Now when it comes to today's agenda, this of course is in options-focused classroom, we are going to be breaking down it into I would say roughly three parts. Now, this is geared towards a beginner and an intermediate-level options trader, although I will say some of the concepts might seem a little advanced. But we'll definitely try to break it down in the simplest form, so whether your level is at a beginner, or an expert, we're going to try to make

sure that you lead the session today far better-informed then when you got started. Now if we're looking at this Venn Diagram style of design, this will illustrate those three topics. Now the first two are what we're going to be spending the majority of the time. First, we're going to be going over the basics of call-put parity. We're going to covering profit-loss diagrams, and an overview of the various Greeks and their relationships to each other, the difference between being short and long an option and how that will affect the Greeks. The second topic which is where we're going to be spending the vast majority of time will be covering basic synthetic options, probably what you're all here for, right? So we're going to be talking about six examples, six, I would say of the basic synthetic positions, and we're going to compare a few trades and they're synthetically-similar counterparts, and then of course that third section, the managed risk and just, we're going to spend a little bit of time going over some of the key takeaways.

Now again, without further ado, let's start by talking about the basics of the call-put parity, and I'll leave it to my colleague, Chase, to really introduce themselves, and kind of kick us off today.

Chase Cotnoir: Yeah, certainly. As James mentioned at the beginning, my name is Chase Cotnoir, another member of the Trading Strategy Desk, and I'm

certainly excited to be here with everyone today, and I just want to say thank you. Thank you for taking the time out of your busy schedule to be here with us and learn exactly what synthetic options, or maybe synthetic positions are, and how we can add these tools, if you will, to your toolbox as a trader.

So, you know first thing to kind of ask ourselves is, what exactly is a synthetic option or a synthetic position? I want to start with just a very, very basic framework to use through our discussion today. The way that I would think about this is a synthetic position is when we combine at least two separate trade components to create a similar risk and reward profile as some other original strategy. So, we're taking at least two things, two different trades, two different strategies, putting them together, and using that to try to re-create your risk and reward profile of some other strategy. That's ultimately the goal in general for synthetics.

Now as we can see on the slide, we're going to want to understand, well what are those components first of all, if we're going to be mixing and matching those together. Now for anyone who has never seen these types of diagrams, these are going to be a simplified version of what we call the profit and loss diagram. We'll notice there's a long row, there's a short row and a column for stock call and puts.

So I want to spend a couple minutes here; I know we're not here just to look at the profit and loss, we're looking to learn more about synthetics, but this is going to be the foundation that we build the rest of our conversation around here today.

So, starting with the long stock, the way that we read these charts, because they're going to be in many slides here in just a bit, is we have these vertical axes going up and down. Now this axis is going to tell us our profitability on the chart, or of the position, excuse me, of the trade. So, as we make more and more money, that's going to be the top half of this vertical line. The bottom half is how much we're losing on the trade. And that sort of middle, I will say, kind of breakeven zone, that sort of middle point, that horizontal line, that's where we make no money, that's the breakeven. We're not making money; we're not losing money.

Now that breakeven also helps to visually represent something else, not just if we're profiting if we're above that line, or for losing money, below that line, in addition, it's going to tell us the relationship to the underlying price of the stock or ETF. Another way that we interpret this here is the further we are to the right on this horizontal line, the more money we're making on that trade,

or excuse me, the higher the stock price may be. The lower we are on this horizontal line, the lower the stock price will be on this horizontal axis.

So, let's kind of break this down with just a quick example of a long stock. Now, when we say, "long stock," we just simply mean someone who is buying stock; you're an owner of the stock. Well, when we buy stock, we want to buy low and sell high. Or maybe sometimes we say buy high, sell higher. In any case, we want the stock price to appreciate, right? And so what this chart is trying to tell us is as the stock price increases, which means we're moving more to the right along this horizontal axis, we'll make more money, which is why the line goes higher and higher above the horizontal line, and we'll say the top half. Now as the stock price decreases, which is why we're moving leftward along this horizontal line, we start to lose money, which is why we go below it, and we can see in this case it points downwards to the left. So, if we're pointing up and to the right for the long stock, we're making more money. Stock prices that go higher make us more; stock prices go lower, make us less. And I spend time on this example because the corresponding or the additional types of strategies, this type of breakdown remains the same in that we want to interpret that profitability, or loss characteristics. If the security is, let's say, above the top half of this chart, that means at some point, that's what's profitable; if it's below, that's when it's at a loss.

So, for example, let's take a look at a long call. We can see here, as the stock price increases, or we move more to the right on the horizontal axes, we actually make more money, our profitability increases. However, as the stock price decreases, we start to lose money, past our breakeven. But notice here how it's capped; it doesn't go off in perpetuity or forever; it kind of plateaus. And that's because with the long call strategy, your maximum loss is equal to the amount of money you paid for the option; that's the most that you can lose. And so, no matter how far the stock goes after a certain point, there's no more money you can lose on that trade.

Take a look at the long put here, we can see it's almost a mirror image in that, again, as we buy this type of strategy, we can only lose our maximum loss which is the amount that we paid, so there is going to be a plateauing here when we get into the loss section of this strategy. However, as the stock price goes lower and lower, we can see we make more and more money because we're going to the left on this horizontal line and upwards, indicating lower stock prices mean more profitability.

So that's just a quick breakdown on how the profit and loss works on some of these individual strategies. I really want you just to understand how to read

these charts, or how to read these diagrams, because as we move forward through today's presentation, we're going to see these over and over again. That same type of interpretation is going to apply, of course, to some of these short positions or short trades as well.

Now another concept that's going to be important with understanding that diagram when we talk about synthetics is going to be understanding the option Greeks of some of those individual trades, individual strategies. Now for anyone who is newer to the option Greeks, or maybe just isn't too comfortable with some of these concepts, these are going to be, in my mind, sort of statistics, or pieces of information about what our trade will do, or theoretically do, given certain parameters; what's the relationship to the stock price or time, volatility, things of that nature. Delta's going to tell us the relationship of how much our option will theoretically change in value based upon a one-dollar or one-point change in the underlying security. However, that's not all that delta tells us. Delta's also going to tell us, specific to this conversation, this might be more useful, is the share equivalency of a given option trade. Now the way we can break this down a little bit further to better understand some of these synthetic trades, is delta in regards to stock itself. Delta for stock is on a one-for-one basis, and what I mean by that simply is if you own 100 shares of stock, that means your delta's also 100. If you own 50

shares of stock, your delta is 50. Notice here how delta in this case is a positive sign. That means it has a positive correlation, or we make money when a stock price goes up or increases in value.

Now the short stock, the same kind of concept applies in that it's a one-for-one basis, so if we're short 50 shares, we'll have a -50 delta. If we're short 100 shares, we'll have a short 100 delta. But the reason that this is a negative isn't necessarily to say that it's bad for the short stock, what it means is there's a negative correlation. Or in other words, this trade makes money when the stock price goes down. Okay, so that's definitely going to be something we want to keep in mind when we look at some of these strategies. For example, a long call's going to have positive delta. This trade is going to make money, all things being equal, as the stock price increases in value. The short call, long put, they have negative delta, so we can see that these would be regarded sometimes as bearish trades, or they make money, all things being equal, as the stock price decreases. And lastly, we got the short put, which again is going to be regarded as more of a bullish or neutral trade, and we can see it's going to benefit from an increase I stock price, all things being equal. That's what delta tells us.

Now obviously, we can see there's some other Greeks. There's gamma, which is going to tell us the relationship or the rate of change of delta for movements of stock price. We can also see theta here, how much is that option going to theoretically change in value due to the passage of time. And lastly, we have vega, how much is implied volatility going to change that theoretical value of an option of volatility increases or decreases.

Now what's important to note about these option Greeks, the reason we're spending a few minutes here, is that if you buy stock, for example, you're going to have a certain delta value. But then there are other strategies which we're going to talk about a little bit later where you might be able to combine several different components and get a similar net delta; that's how we get into that synthetic relationship. And that same kind of concept can carry over to these other Greeks in which we might end up in a very similar situation once we combine different components.

Now I know this is going through pretty quickly here on some of these Greeks and these mathematical calculations. If you want more information on these, of course, you can also go to fidelity.com, you can go to our Learning Center, and we do have a webinar at least at the time of this recording for option Greeks. So, you can certainly search that. I think we spend a good 15 minutes,

maybe an hour talking about each of these in greater detail. We're going to mostly focus on delta for today's conversation.

Now the last concept to kind of keep in mind here as we're building this foundation of synthetic trades or putting two different things at a minimum together to create something else, is the put call parity. It's a mathematical relationship that really tries to help us understand the pricing, we'll say, of options that are at the same strike, same expiration, calls versus puts. There's a relationships here; this math helps describe it.

Now for anyone who maybe math isn't your strongest subject, we definitely don't want to bore you with the algebra formula except for understanding the implications. If we rework some of this math, we look at the call, we look at the put, stock, dividend, interest, some of these different factors, we rework them to be more simplified, what we come to is a relationship where, for example, if we include long call, and a short put, that's what the negative sign means, that would be equal, synthetic, or similar to stock. And this is going to be a crucial point here. This is that foundation, the math that we can see in the marketplace tells us that there may be that synthetic relationship between certain different options together, and something such as stock. If we put this call together with a short put, to kind of be synthetic to a stock, that's that

putting two things together to create a risk/reward profile that might be similar to something else, but we'll break that down further in just a few slides.

What you should keep in mind though is when it comes to this call, or this put/call parity, it was originally invented for what we'll call European-style options; those are the type that maybe you couldn't exercise until expiration. When it comes to regular stocks or equities and ETFs, those are going to be generally regarded as American-style options which can be exercised at any time and before we'll say expiration, so that has added a twist if you will to some of the formula. We've kind of moved forward in time to make adjustments for that. But certainly, you want to keep that in mind when we go into some of the deeper details on the put/call parity.

Another factor to keep in mind in addition to the types of exercise is dividends. When we think about some of these relationships, some of these synthetic positions, some of them might actually get the dividend. Others may not. And that's going to be something that's going to weigh on your decision about which strategy maybe makes the most sense. You know, today's session's not necessarily to say which strategy is the best, but rather what are some of the tradeoffs, what makes sense, what are some of their different characteristics.

So, James, we've covered here some of the option Greeks, just the very basics, really focusing on delta and how that helps us understand the rate of change, and maybe the bullish or bearish nature of that trade. We've also got some of this put-call parity, and I would say probably most importantly, breaking down those profit-and-loss diagrams so we really understand what we're looking for. I'm hoping from here we can use that as our foundation and take a look at some of these strategies.

James Savage: Yeah, that call-put parity formula is certainly something to behold, looking at, well a call is equal to a stock plus a put, call minus a put is a stock, and it goes to this kind of idea that traders have used that a call is a put and a put is a call. Sometimes it just matters how we hedge them.

Now, let's put some of these concepts into practice. So, the first synthetic strategy that we are going to be covering today will be the synthetic long stock. And I think it's a great way to kind of kick us off because I imagine the majority of you here are probably familiar with being long stock. I imagine the majority of you here at one point have purchased a stock in their account. Maybe you have some in your account now, maybe you have some in the past, but you're at least familiar with the idea of, well, you can be long a stock. So, when we create this synthetic long stock, as Chase mentioned earlier, we're

really just combining two other types of options trades. And in this case, we are going to be using a long call and a short put. So just the combination of these two trades will create this synthetically similar trade to a long stock position.

So, let's talk a little bit kind of why you would put on a trade. Well we'd imagine, if you're purchasing a stock, you're probably bullish on that price outlook, aren't you? You want the stock to increase in value. So, it would kind of, I think reason to believe that if you were putting on a synthetic long stock, you'd want a similar type of price action; you want bullish price action. You want the price of that security to increase, whether you were synthetically long, or just long the stock. And we can see looking at those two profit-loss diagrams from a long call and a short put, why this is the case. As the price of the security increases, if you want to look at the, first, the long call, profit-loss diagram, as the price of the security increases, as we move along to the right on that x-axis, that line continues to rise, and there's no flatline there, it continues to rise. And that's because, just like when you're long the stock, when you're a long call, you're going to be making money as the shares increase in price.

Now, I want to focus on the short put, and I want to focus on the loss side of the short put. What do you notice there? As we move to the left of our x-axis,

we slowly go down that y-axis, our losses increase. And that's why because on a short put, we have a similar type of loss characteristic as long stock. We will lose up until the stock reaches zero. So we take the profit characteristics from a long call, we combine that with the loss characteristics of the short put, and those two together give us that same profit-and-loss characteristics that being long a stock has, hence the synthetic long stock where we have the unlimited upside profit, so that's our maximum gain, the theoretical unlimited profit potential, and our maximum loss, so what we can say our loss potential, is if the stock were to go down to zero. And because of that long put, we get that loss potential, that maximum loss potential, what we would define as being substantial.

Now when you're thinking about choosing strike prices and expirations, typically what you're going to be doing, and what you should be, strikes and expirations you're going to be choosing are, they're going to be the same. So, you'd want the expirations to be the same, and the strike prices to be the same. So if we're using at-the-money strike price, for example maybe there's a $50 security and we're buying a $50 call and we're selling a $50 put, that will be the way that we can create our synthetic long stock, by purchasing at-the-money strike call, and by selling an at-the-money strike put. Now you could decide to use different strikes, what's referred to as split strikes, which would

employ using an out-of-the-money call and an out-of-the-money put. It will change kind of the dynamic slightly where you're going to need more upside in price, but you'll get a little more room for error because of the lower put strike. Now both the split strike, synthetic long stock, or just the classical version, which is using the at-the-money strike prices, could be open for both a debit and a credit. And it's not necessarily always going to be one or the other; it could slightly depend on the cost of the call and the puts. But whether you were going to be opening up for a debit or a credit may not matter too much for the trader because ultimately that overall fee is that you're going to be still having the same type of risk and reward profile of long stock.

So, Chase mentioned about the Greeks earlier. Now we can briefly talk about the Greeks when they can help illustrate why these two, long call and the short put, create that synthetic long stock. So if we were to go back to that chart thinking about it from the delta perspective, we know that when you're long a stock, you have, well, the delta is one-for-one; if you have a hundred shares of stock, you have a hundred delta. Well, what do we know about at-the-money options? Well at-the-money options typically have around a 50 delta, and that's both for calls and for puts. So, if we're long a call, we're going to have positive-50 delta, and if we're short a put, we're going to have positive-50 delta. If you add them together, again this is assuming one contract, well, the

positive-50 from the call plus the positive-50 from the put, brings us to, well 100-delta, which is equivalent to 100 shares of stock in that underlying position. So even just focusing on delta, we can really see why that synthetic long stock starts to behave very similar to just owning shares of the underlying.

And let's quickly talk about vega and theta, two other important Greeks. Since the contracts involve both a long and a short, or a long call and the short put, at the same strike, at the same expiration, they are roughly offsetting each other. And this is true from both vega and theta. So, you might be wondering, well Greeks are important when it comes to options, understanding how volatility and time affect an option is important, and you're right. But we've just created this synthetic long stock because we're using the same expirations and the same strike, those vega and theta components, they're actually offsetting each other roughly enough so that it's almost just like you're purchasing these shares of stock.

And then finally, I would say one more kind of consideration that I always like to talk about is, you may be asking, well what's better, do I purchase the shares now, or do I create this synthetic long stock? And it always comes back to, like with most trades, there's not necessarily always going to be the best trade or the worst trade, or one that's necessarily better or worse. We usually

won't know that answer until after the fact. So, when you're setting up your trade, you might want to understand some other considerations. One could be cost. It might be significantly cheaper from a just cost perspective to purchase the long call and the short put as opposed to just going out and purchasing shares of stock. Options gives us that leveraging ability, we can usually oftentimes sometimes significantly, spend significantly less money on the options as opposed to purchasing the stock. So, one may feel that the synthetic long stock could allow them to have that similar risk and reward profile for less capital outlay.

But let's think of another aspect, and Chase mentioned this earlier in the call-put parity, and that is dividends. If you are synthetically long the stock, are you able to receive the dividends? Well unfortunately not, so if you are doing this on a security that does pay a dividend and you were interested in receiving that dividend, well you won't be receiving it if you're going to employ the strategy. At that point, you might want to then consider just owning the shares.

So as you can see, and just in that brief illustration, just focusing on two factors, cost and dividends, you could see, one might not necessarily be better

or worse for all traders out there, but depending on who you are and what you're interested in, one could be at least more favorable for you.

So, you know, this kind of shows how we can just use these two options to create another position. And when I usually like to compare, I like to start at the long, and then switch to the short. So fortunately, when we jump into our next strategy, you could imagine if we were comparing being long, let's take a look at a synthetic short position. And take a look at the construction, what have we done? In a sense, we've just flipped it. Instead of being long a call, we are in this case, long a put. Instead of being short a put, we are now short a call. So, long call goes to a long put, short put goes to a short call, and thus we've now created our synthetic short position.

And again, let's take a quick look at those profit-loss diagrams, just to illustrate why this is the case. So, a long put, looking on the first left box there, that profits on a decline. So as the price of the underlying security goes down with all else being equal, we would imagine our portfolio will increase in value. We are making the money as the stock price moves down, but we have a limited loss potential if the stock were to increase, and that is just related to the cost of that long put.

But then when we jump over to the short call, well, what do we notice here? Our loss in this case, and again, I'm focusing on that line that does not break flat, so we're moving now to the right as we start to go right on that x-axis, we continuously lose value. Our short call, similar to being short a stock, has a theoretically unlimited loss potential. We've got the loss, and that will continue to grow should the price of the stock keep increasing. So, when we have kind of merged these together to create our synthetic short, we still keep that substantial profit should the stock go to zero. And we've got it from where we enter all the way to zero, but we still have that, we can say theoretically unlimited risk should the stock continue to rise. So, we're both taking that left side of the long put and the right side of the short call and merging it together.

So, I would imagine many of you are probably familiar with the outlook needed for such a strategy. If you're short a stock, you want it to go down. If you're synthetically short a stock, you guessed it, you want the price of the security to decrease. You've got that maximum gain being from, if the stock were to go to zero, the maximum loss would be, theoretically if the stock were to continue to be rising up until, well, infinity, right, who knows how high the stock's price could go.

Now similar to the synthetic long stock, we could create this with split strikes using out-of-the-money calls and out-of-the-money puts which could give you more room for error, but oftentimes needs a greater downside move. Typically, this trade is going to be using at-the-money strike prices. But when you're using this in the classical sense, and you're going to be using those at-the-money strike prices, both strike prices will be the same, and both expirations will be the same. That's how to create it in again the true classical sense, in the example that we're using here.

And then when it comes to, well, that kind of discussion of, well, is it better or worse than shorting stock? Is it better to be a synthetically short or actually short? And I'd like to talk about some of those difference. Maybe this is something that could be looked at as an advantage for being synthetically short. Well, one of them is going back to the topic of dividends, when you're short a stock on that x-date, you are responsible to pay that dividend. Short sellers must be aware of this because when you're liable to pay that dividend, you are going to have to debit that cash from the account, but when you've created a synthetic short stock, you're not liable to pay those dividends because you don't own the shares. You're just synthetically creating them. So that could be a benefit for folks choosing a synthetic short stock and that is not paying the dividends on those shares.

Now another advantage could be that it's not subject to the uptick rule. Yes, there's an SEC rule that requires short sales to be conducted at a price higher than the previous trade, on an uptick. Well, when you're creating this through options, you're not subject to that rule. And then one final we can say, also an advantage or a difference between doing it on shorting shares or creating the synthetic short, is that when you create the synthetic short, you don't need to have shares to borrow. The whole act of selling shares short is that you're borrowing someone else's shares and selling them; however maybe they're not available to you or you don't have the ability to borrow them, but creating this type of position would still allow you to have that similar risk/reward profile or a short trade without the need to borrow shares. So, I always like to kind of characterize it as that there's not necessarily one better or worse, whether you're creating the synthetic long or creating a synthetic short, but there are differences. Then this is more of mechanical differences. But you get the benefit of keeping that same risk-and-reward profile, which is really what the synthetic idea is roughly all about.

But I've got one more one I'll show before I pass it back to my colleague, Chase. We've talked about creating synthetics longs and short. But what about creating a synthetic option? Instead of creating stocks, creating

synthetic options? And sure enough, we can do that. In this case, that calculation is using shares of stock. So, we're going back to the idea of, well, call's a put, a put is a call, now we can start adding or subtracting stock and create another synthetic position. So, for our synthetic long call, this time we're going to be using stock as part of our calculation, and we're going to be adding an option, in this case, a long put. So with our long stock, we keep the same course risk-reward profile, unlimited profit potential on the upside, substantial loss potential on the downside should the stock go to zero, but we are adding in this long put which is specifically there to cap, or limit the downside. And why is that? Because looking at our profit/loss diagram, as the price of the stock goes down, so as we move to the left on the x-axis, that long put will increase in value, and ideally, what that long put is doing, is that it's offsetting the loss on the stock when the price moves down.

Now when you construct such a trade, you could choose to have that long put after the fact, if you already own shares of stock, and you want to turn this into a synthetic long call by adding a long put, by buying a put to open, based on shares you already own, or if you bought the stock and bought the put on the same trading day, you'll have created what's called a married put; again that's buying the put, buying the stock on the same day, we just define that as a married put. But whether you do it on the same day or not, you're still creating

that synthetic long call that's giving you that unlimited upside, so that's your max gain, that's unlimited upside, and that maximum loss now is limited because of that put.

Now this trade, unlike previously when I was mentioning the, whether you'd put it on for a debit or credit, this one, well, it would be put on for a debit, because you're purchasing the stock, and you are purchasing the put, so you would be putting money down in order to create this synthetic call, which is what you would be doing either way if you were going to buying the long call.

Now when it comes to a breakeven, and I always like to compare this, because you're going to find that there can be some similar, it's a breakeven, where if you were purchasing a stock, purchasing a long put that's at the money, well some may feel that you need the price of a stock to rise in order to offset the cost of the put. So, your breakeven will be added to your purchase price of the stock, and that's oftentimes what's looked at to the breakeven of the synthetic long call. You're adding the cost of the call to a strike price because we need that stock on expiration to be not only above the strike price, but above the strike price plus the cost, plus the premium.

And then finally, I always like to talk about some of those differences, but when it comes to the synthetic long call, well, what you do have that you don't get when you're just purchasing a long call, is the ability to receive dividends, something we talk about quite often here, because if you purchased the call, you don't receive dividend, all the shareholders are going to receive those dividends. So if you decide to create the synthetic long call, you'll still have that same risk and reward profile, but you will also get to receive dividends, so if that is a concern for you, possibly the stock you're creating has a yield that you're looking to also partake in, while the synthetic long call will allow you to receive those dividends, in the cases that the long call would not.

So, keeping with that theme on using these options to create other options, well we talked about a long call, so I guess we should at least show how to create synthetic short call as well.

Chase Cotnoir: You know, when we talk about these positions, it just goes to show how many different choices for options that you have available to you as a trader, now that we're starting to dive into what these synthetics can really do for us. So when it comes to this synthetic short call, for me, I always start on the right side with the synthetic strategy, kind of figure out what that profit and loss diagram really means, and then look at the components and how that really fits together.

So, we see here with a synthetic short call that as the stock price increases, or it goes higher and higher, we're losing money. We're going to have losses on this trade. However, as the stock price decreases in value, we can see that we are making more and more money until a certain point, and our profitability plateaus. That's the synthetic short call. Now the reason that this works is because, well first of all, we're short stock. That's that first component. And as we know, we've seen through some of our other strategies thus far, when you're short a stock, well, you can have unlimited theoretical risk if the stock continues to go higher and higher, that same characteristic is applied and carried over to the synthetic short call. But, we're combining this in this case with the short put, and we notice that with short puts, they have a maximum defined gain, the most that they can receive on a trade, that portion is also carried over, and so now we have unlimited losses to the upside, theoretically speaking, with a maximum gain characteristic to the upside, or I should say, in terms of profitability, when you put these two components together. And keep in mind, as James highlighted some of those differences, in this case, you would actually be short the stock. Now, if you didn't have the strategy, but you were trying to enter into it, well then you would have to contend with concepts such as that uptick rule if you wanted to actually short that stock. You'd also have to make sure that you have a margin account approved to be

able to short the stock. Also, there were situations where it may be difficult to even find shares to borrow, sometimes called hard to borrow, certain factors or tradeoffs that need to be considered before you actually even short the stock to begin with. And in addition to that, if you are, in reality, short the stock, trying to create some sort of, we'll say, synthetic short call, if that underlying security pays a dividend depending on how long you've been holding it and some of the key dividend dates, you actually may be liable to pay that out. So that's certainly going to be something you want to consider. Do you rather just short the call outright, or would you rather create a synthetic short call by using some of these components? That's where it comes down to your risk tolerance and kind of your level of sophistication and certainly how much management or time you have to put into these strategies. You have to execute them both together, look at them in your account. You have to understand that could add a level of complexity, that might be an order or a level greater than just simply doing the one single strategy. So, there's not necessarily good or bad to it; it just comes back down to what James was saying: there's a tradeoff.

Now if we look forward to another type of synthetic option trade, we can look at a synthetic long put. Okay, so as we look here at the profitability chart, we should see that as the stock price or ETF or the underlying price goes lower

and lower, we make more and more money. And of course, as the security rises in price, we lose money, but only to a certain point. We've got that defined maximum loss characteristic. And again, if we take a look as to why, we've got these two different components. We've got the short stock, which makes money as the stock goes down, all things being equal, and we've got that long call which gives us that defined maximum loss characteristic. We put those two together, that's how we get to this synthetic long put. And again, this comes back to that argument or maybe thought process that you want to be going through with yourself: do you really want to short the stock and then buy a long call as you're hedging or maybe your protection in case the trade works against you, to create some sort of bear strategy? Or would you rather just go out there and buy a long put? As we can see, doing these, whether it's short stock and a long call, or just buying a long put or buy-to-open, if you will, that put, they're going to be synthetic, right? They're going to get you in a similar type of situation, so you want to be mindful, what is it that you're trying to accomplish? Also, what kind of accounts are you trading within? There may be an account where you don't have the ability to short the stock, and so that might not even be something that you're able to do. Other times, you might. This is going to help us highlight some of those differences in these strategies. Now if you have any questions onto which of these might make the most sense, it looks like you're trying to place one of these types of trades, but

something just doesn't quite seem to make sense. Obviously, you can reach out to the trading strategy desk; we'd be happy to take a look at that on a one-on-one basis.

Now if we move forward here on maybe the last strategy that we want to highlight here, before we get into the summary, and maybe take it one step further, that's going to be a synthetic short put. In this case, we can see, we've got that defined maximum gain with lower, or we'll say greater and later losses, all the way down to the stock or ETF, whatever the underlying is, goes down to zero. And that should make some sense because look at the components that come into this. Again, I want everyone to remember, if we come back to what I said at the beginning, a synthetic position is when we combine at least two separate trade components, and we put them together to create some sort of similar risk-to-reward profile as the original strategy. So, if a long stock loses money as we go lower and lower and lower, well that characteristic is coming over here; it's following us with the synthetic. The short call has a maximum defined gain, and that's coming along here with us as well.

Now for anyone who may have noticed, a long stock and a short call, that's a strategy I think most beginner option traders have heard of before. That's

going to be a covered call, right? With a covered call, we can see that you're long the stock, and you've sold to open a call, or you're short the call, and we know that in covered calls, you've got that maximum defined gain, but if the stock price goes lower and lower as a stockholder, stock owner, you're also going to lose money as it goes down. And so, what's interesting just to note here is I know I've had conversations with traders on a one-on-one basis, James has too, where a client has struggled deciding which strategy to use. Do they sell puts, or do they do a covered call? And we've talked to them about this synthetic relationship to say hey, depending on your strike and expiration selection, they might actually be very, very similar. But of course, you want to highlight some of those differences. If you are long the stock, as talked about, if that company pays a dividend, you're potentially eligible to receive that dividend. But if you're doing this synthetic short put to get some sort of bullish to bullish-neutral outlook or exposure, well you're not going to get that, or if you're doing a regular short put, you're not going to get that kind of regular, we'll say dividend coming from the company. By doing it synthetically though, you actually might be able to, because in this case, you're long the stock. So, just different tradeoffs when you're looking at these types of trades. I know it's going to feel like a lot, all these different relationships, you've got calls, we've got puts, stock both long and short, and all these types of variations. I think what we want to do is maybe summarize some of these,

get a good foundation from here, and look at some of those more, we'll say advanced, strategies.

James Savage: These are the six that we were covering all throughout so far, and Chase, I really liked how you brought up that example of, well, the short put is, we can create a synthetically-equivalent type of short put by using long stock and short call, and, what is a long stock and a short call? That's covered call by another name. So, we can possibly see as we look at some of these synthetic relationships, maybe some of you in the audience might be looking at this and thinking to yourself, well, I've done that strategy before. I didn't realize it was a such-and-such, or these was a synthetically equivalent type of trade. So, that's one of the great things about learning these synthetic relationships, is that you can start to kind of piece together almost like a puzzle, various different trades in the relationships between stocks, calls, and puts, and you can create other types of trades where you might have been creating other synthetically-equivalent trades without even realizing it, and it can really help expand your knowledge with risk and reward and understanding the relationship between them. Now, I think a lot of you might also be asking another question, so we've covered six strategies so far. And what's one common theme between them all, is that they're all single-leg options. Long

call, short call, long put, short put. So, you might be asking me, well, does it apply to multi-leg options? And the simple fact of the matter is, it does.

So, let's kind of talk about this synthetic kind of relationship between calls and puts. So if you were planning to place a bull call spread, and I told you, well, you could place a bull put spread and have the same risk and reward, would you have believed me before today? I would imagine the majority of you might not, actually. So, if we were talking about bullish vertical spreads, you can construct them with both calls and puts and have a nearly similar, or nearly identical, risk and reward profile. What matters is not whether you're using calls and puts, it's what strikes are you buying, and what strikes are you selling. That is going to be key. So, in these two trades, the bull call spread, and the bull put spread, the common theme is that you are buying the lower strike and selling the higher strike. And yes, bull call spreads are entered at a debit, and bull put spreads are entered into as a credit, but they're going to give us mainly the same profit-and-loss diagram when we're using the same strikes and expirations. So if I were to possibly give you an example, let's say we were doing a bull call spread and buying the 100 strike, selling the 110 strike call, buying the 100 strike call, selling the 110 strike call, well if we bought the 100 strike put and sold the 110 strike put, so we're still buying and selling the same strikes, we are creating a synthetically similar trade. One might be

opened at a debit; one might be opened at a credit, but on that date of expiration should we choose to hold them to the end, it will have this nearly identical risk, or we could say reward with either trade. So, it's just an amazing, I think, idea that for many of you traders out there, thinking to yourself, well is it better to do a bull call spread, or better to do a bull put spread? Or should I use calls, or should I use puts? Sometimes, it doesn't actually matter whether you use calls or puts. The key is what strikes are you buying, what strikes are you selling, and that is going to be the main driver whether your trade could be successful or not, not necessarily whether you're choosing to use calls or puts.

Now, this doesn't just apply for bull spreads; this can work for bear spreads as well.

Chase Cotnoir: Yeah, when we take the concept, and we move it forward not just to the bull, but let's say to the bear side, it's that same thing where it's in relation to our strike selection. So, whether it's calls, or whether it's puts, it really matters about in which order in our strike selection are we buying and selling.

Now in this case, when it comes to a bear call spread versus a bear put spread, well the common denominator is that we're going to be buying the higher

strike, and then selling the lower strike in both of these spreads. So, keep in mind when it comes to your construction, depending on your outlook, you might end up in a synthetically same position regardless of which way you construct it. And I've certainly heard traders say, well hey, one of these that I've placed before is a debit trade. I don't really like paying for options; I'd rather receive a premium, so I'll go ahead and do a credit-type trade. But this is going to show us that regardless of debit or credit on the onset, what really matters is doing that evaluation regarding what the trade will look like towards the end of its life, or maybe at expiration, or how it might change through time. That's when we can see that these really are synthetically similar, equivalent. As James mentioned, if you're doing the 100 strike or the 105, no matter how you're setting these things up, in this type of situation, if you want that bear call spread, some people will say synthetic to the bear put spread, you need to be buying the higher strikes and selling the lower strikes. So, once you start changing that, if you don't stick to that, then these relationships certainly may change. If you're doing other kinds of spreads in general, we'll say some that may be more complicated, you're changing the strikes, expirations, et cetera, well then certainly this relationship is going to change through time, so you want to keep in mind, really focusing on some of those basics that James went over on, hey, if you're going to be using the same

strikes for both of these types of spreads for this relationship, to maintain its truth.

Now, I think we want to finish with one of the more complicated, as we can see, we started with single-legs. James and I went through, we'll say some spreads, or some multi-legs. I think it's only fair to finish off with something that's got a little bit more to it, and that's going to be the types of condor trades. Now these certainly can seem overwhelming, and I definitely think they are when you first start, but we just want to apply these same concepts here through these strategies. So, if it's a long call condor, or a long-put condor, I'm going to skip this middle for just a moment here. So, look at the top and bottom, the long call, and the long-put condors. In both cases here, we actually have screenshots over to the right on the individual pricing for these options, and the different strikes that we're using. Now the long call condor is simply all call options. The long-put condor is all put options. But get this: if we look, and you might have to squint to see those details, again we're going to make the presentation available so you can go back and take a look at this in greater detail, but if we look at this evaluation price column at the top of these two strategies, we'll notice that the pricing for both is about 58 cents. So, the takeaway here is that whether you're doing a condor comprised of all calls, or in this case, a long condor comprised of all puts, the pricing ends

up being, in this case, exactly the same. Now in reality, will that be the case? Of course, there might be some rounding errors, might be off a little bit here and there, but this is to demonstrate that synthetic relationship. All puts, 58 cents in this strategy. All calls, 58 cents in this strategy.

Now the reason I left the short-iron condor for last is that it's a mix of calls and puts. But notice something here on the profitability charts, these are screenshots from Active Trader Pro, it's still going to have this, the same relationship in terms of how it makes its profits, how it realizes its losses. In all three cases, we're trying to have the security stay between some sort of range. If it does, all things being equal, we'll make profits. As we start to deviate outside of that range, that's when we start to see some of those losses materialize.

Now, what I would encourage anyone who's looking at this screenshot, and maybe you've got Active Trader Pro pulled up right now and you're trying to work through some of these numbers. There's going to be a cool called the Profit and Loss Calculator. If you go to the options main menu, go down, Profit/Loss Calculator, P&L Calculator. Go in there and add some simulated strategies. Right, we talked about one of the more simple strategies, which is going to be, we'll say synthetic long stock and we put those different

components together. Go ahead and actually add those strategies in and see the relationship on the Greeks. Take a look at the pricing, and actually go and make some adjustments to see for your own eyes how this relationship exists through time.

With that here, I do just want to kick it over to James for any last thoughts on this relationship, some of the key takeaways here and make sure everyone's got the research that they need to move from today's webinar to be even that much more successful with these concepts.

James Savage: Chase, I appreciate you going over some of those points there, and absolutely, using the profit/loss calculator, for example, on Active Trader Pro could really help enforce some of the confidence that we talked about today. So anyone out there, if maybe you want to see this in action, and why some of these are synthetically similar to other types of trades, using that profit/loss calculator is going to be your way to model hypothetical changes that are going on due to price, time, or volatility, and actually see for yourself why these trades are synthetically similar to others. Because I imagine, especially for anyone here that was brand new to synthetics, if you started the session today thinking that, or if you started the session with us showing maybe this slide, with the long call condor can give you the same risk and reward profile,

or at least a similar, I should say, risk and reward profile of the long put condor, you might not have actually believed me. I think a lot of the folks out there, beginner options traders, sometimes get lost in this kind of idea of should I be using calls, should I be using puts, is one better or worse than the other, but we've hopefully learned today that it oftentimes just comes down to, well, what strikes are you buying, what strikes are you selling, because that's going to be a large determining factor in whether your trade is going to be profitable, or will it be, we can say, closed at a loss at a point later on.

But just to finally go over a few of the, I guess we'll say kind of key takeaways, and that is that synthetic positions, not only can they help you in understanding synthetic positions, not only can they help you understanding the risk and reward characteristics of many different options trades that are out there, some folks can use them as a way to change one position into another when your outlook changes, or in other words, when your expectations shift. So, if I were to give you an example of, maybe you currently own the long call in the account, because you were bullish on a security, stock price would go up in value. But maybe throughout some event, you became bearish, and maybe you now would say, I want to actually be long a put instead of long this call. Well now we know, judging from our synthetic relationships is that if you were long a call and you want to switch it being long a put, yes you could solve

your long call and open up a long put, or you could add short stock to that long call, and you would have created a synthetically, kind of we can say, equivalent, long put. So just understanding these synthetic relationships could help you make further adjustments going forward.

Now as always with any type of options trade, we always want to encourage, and I would feel certainly incomplete if I didn't mention it, you still need to make sure you do have an outlook and you do analyze your outlook for time changes, the changing of time, the changing of the price direction, and the changing of volatility, and using tools like the profit/loss calculator can help you with understanding your own possibly new synthetic positions, evaluating changes in price, and how those options Greeks can help define your risk and reward characteristics related to time, price and volatility.

END OF AUDIO FILE

A covered call writer forgoes participation in any increase in the stock price above the call exercise price and continues to bear the downside risk of stock ownership if the stock price decreases more than the premium received.

Greeks are mathematical calculations used to determine the effect of various factors on options.

Charts, screenshots, company stock symbols and examples contained in this module are for illustrative purposes only.

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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