

TRANSCRIPT

Cboe: Option hedging techniques

Jermal Chandler: I am Jermal Chandler, senior instructor of market insights at Cboe Global Markets, a US-listed options exchange. We provide a ton of different instruments that help people hedge their portfolios. And today we're going to talk about a couple that will help you hedge your portfolio. We're going to utilize the leverage of options to hedge your entire portfolio.

It's impossible to know how everybody has structured their portfolio, but that's totally fine. What we're going to talk about today will allow you to learn a little bit and maybe institute it in your broad-based index that suits your portfolio.

As we look at our disclosure slide, keep in mind that the information in this presentation is provided for general education purposes and information purposes only and option risks are not suitable for all investors.

Folks, as we move forward, I want to make sure one thing is for sure. We're going to challenge your thought process today surrounding hedges. A hedge is an investment that -- or it's an instrument that helps protect your finances from a risky or adverse situation. You either want to win on your hedge or you

want to win on your initial position. It's impossible to win on both. So, it's important to remember too that the size of your hedge is entirely up to you. And ultimately that determination should be made at the outset.

So today what we're going to do is introduce this concept of what a hedge is and provide some examples. Our agenda is going to largely pertain to index options. So, we're going to talk about the nuances of index options and introduce them some to you. This is European styled, cash settlement, AM settlement. What do these terms mean? We're going to introduce them. And then we're also going to talk about some potential tax considerations with regard to index options versus regular. And we're going to juxtapose a lot of that to equity and ETF options for those who may be familiar with it. For those of you who this is your first time, that's okay as well.

The index options we're going to focus on pertain to the S&P 500 index.

We're going to talk about S&P 500 index options. The index, I'm not sure, we haven't had a chance to look yet today, Colin, but I think it's probably around 3,400. I mean we're knocking on all-time highs. And when we first put this thing together, I can tell you right now there's no way we thought we'd be sitting on all-time highs. But it's perfect because we're going to talk about hedge. Maybe it's a good time to employ a hedge. And so, we're going to

talk about S&P 500 index options. And we also have another product, the Mini S&P 500 index, which is XSP. So, we're going to talk about both of those. And then we're going to walk through trading examples with both.

And hey, if those don't suit your needs, there's a couple of indexes out there. For example, the Russell 2000 index. If you have a small-cap portfolio that's an index you can use. You can use these same concepts.

So, what is a hedge? And why do you want to use one? Well, a hedge is an asset that can protect your portfolio from uncertainty. It allows you to decrease or transfer risk from one to another. So, a couple of examples here. I got three. Colin has got the best one, I think. But you could buy stock in two competing companies. So, let's just say UPS and FedEx. And you want to buy stock in both but you're not sure which one is going to take off further. So, you do what you probably heard before, hedging your bets. You decide to buy stock in UPS and FedEx. One may work out, one may not. And that's a way of hedging your bets. I know again we're going to challenge your thought process around hedges. I know that sounds weird but trust me, people do it a lot.

You can do another one where you could say, "I want to buy something in an equity that has underperformed, and I want to short one that has outperformed." Perfect example is Intel and AMD. AMD has been really rocketing this year. And you could say, "I want to short AMD." You could do it with options as well. Which is another way to do it. "And I want to buy Intel because I think that's been underperforming and they're going to come back to even." So that's another way of hedging.

The way we're going to talk about today is buying put options on a particular index against your portfolio that tracks that index. But Colin has got a better one.

Colin Songer: Yeah. Thanks, Jermal. So, I will tell you. When you go through all these different alternatives sometimes the most basic one, in all the years that I've spoken with clients and traders about their approaches to trading, they seem to forget about this one, which always baffled me, which is just general risk management techniques that people have typically done. Yeah. Using stop orders or choosing a price level that you would view as oh, this is where I'm wrong in the trade. And yes, that is my secret sauce. Where am I wrong in the trade? That's what I ask myself before I get into any trades. Just that or even setting up price alerts to notify me, "Okay, it's hit this level, it's time to

reassess." These are overlooked all the time by traders and usually when I bring it up, they're like, "Oh yeah, I forgot all about that." There is not one better than the other. And that's really not what we're trying to get across. We're trying to say you should be weighing the advantages and disadvantages. I know you heard that in the last session. But it's that important, right? Each one has their own advantages. Each one has their own disadvantages. Which one is best suited for what you're trying to accomplish? And that will actually answer that question. We'll be going over the ins and outs of hedging utilizing options. But when we're going through do, I want to use this particular hedging approach, I also want to consider what if I just did general risk management techniques, what's the ins and outs of that. That way I can figure out this one might be better suited for what I'm looking to accomplish.

Chandler: Heck, yeah. So now we're going to talk about index options. Now again index options, they're just options on an index. Calls and puts are the two types of options that we have, right? We're talking about options on an index. And there's some things that are a little bit different with that.

So, a stock index is a measure or a calculation of a group of securities, right? Can't trade the index. And as a matter of fact, 1982 marked the first time it

was possible to trade a specific market index with the advent of index futures. You see, up until that point you had to actually trade the stocks of each individual company that comprised the index. So, imagine 500 shares you got to trade for an S&P 500 index type of thing and make sure they are statistically correct as well. So quite a bit.

Options are financial instruments that are based on the value of the underlying securities. As a matter of fact, Cboe was a pioneer with options on individual stocks with call options in 1973 and then put options in 1977. Index options came on the heels of that and made it possible to trade indexes aside from just trading futures. What did that do? Allowed you to trade the segments of the broad market in a single transaction. Allowed you to speculate on price direction of the underlying index. And for our purposes today allows you to hedge the portfolio that might closely correlate with a particular index.

Cboe offers options on 50 domestic, foreign, sector, and volatility-based index. So, a couple of examples of tradable indices are Dow Jones Industrial Average index that has options. It's ticker DJX. Nasdaq 100 index options are ticker NDX. You have the S&P 500 index, ticker SPX. Now of course the S&P 500 measures the performance of the 500 largest companies that are listed on

US stock exchanges and SPX options are used widely by investors, speculators, and hedgers alike because it's such a broad-based index.

Another one here is the Cboe Volatility Index or the VIX index. Colin and I actually did a four-week course on this in February. And it measures the market volatility based on inputs from the S&P 500 index option. So, it gives you a look at market volatility on a broad-based index.

Now something else we need to cover here going forward and need to understand is notional value. So notional value tells you how much total value of a security you theoretically control. Index options, similar to equity option contracts, control 100 shares of the underlying. So, in this case the contract size we're talking about is 100 for a contract of an option, 100 times the value of the index, right? So, let's just say the S&P 500 index is at 3,000. I want to make it simple numbers. So, we'll go with 3,000 here, 100 contract size times 3,000, the value of the index, would be a notional value of \$300,000. So that lets you know for every one option if the index is measuring 3,000 for every one option you control \$300,000 of notional value with a contract.

And one last thing too is that they're cash-settled for index options.

Songer: When we talk about notional value, when we're talking about the option trades themselves, and when we look at that option chain, we're looking at how many contracts, like Jermal said, times 100, because most of them are going to be that multiplier of 100, times the strike, right? So, if we're looking for the notional value of the contract, we're multiplying by that strike.

Chandler: And I know I threw cash-settled out there. We're going to talk more about that, trust me, we will. Now we're going to get into these interesting different things about index options. So, on the left we have American style exercise and on the right, we have European style exercise, what gets to index options. So, the reason why we put American style exercise here is because for any of you who have traded any options, those unknowingly probably to you are considered American style options. They are considered American styled exercise options in that all of those equity and ETF options that you trade, they're American style. They can be exercised at any time prior to or including expiration. An option only needs to be in the money by a penny. Again, in the money is if you have a call, if the stock is above the strike, and if you have a put, if the stock is below the strike. So that's in the money. And it only has to be in the money by a penny to be subject to auto-exercise.

Settlement type upon expiration results in a delivery of shares. We're keeping it simple here as far as talking about options that expire on Friday. There's a lot of different ones and we're going to get into some of the different expiration dates at some point. But for now, we're talking about let's just say options that expire on Friday, the settlement value is determined on Friday afternoon. And the last trading day prior to expiration is that Friday afternoon. Now that's key and we're going to see why in a little while.

Long call option holders sometimes early exercise prior to the ex-dividend date in order to capture the dividend payment. Now this gets back to being able to exercise prior to expiration. Now we could make a whole other webinar about ex-dividends and about early exercise. But understand this. When you have a dividend payment with a stock, the next day after the stock dividend payment is distributed, the stock will trade lower by the amount of the dividend. So sometimes people who own calls, it behooves them to exercise their call. So, understand that this type of idea where you have a dividend date and ex-dividend, it can create a situation of long call holders having to exercise and/or maybe just selling out, closing out their option. And it could create a situation for those who are short calls. So again, that's a whole other webinar. But understand that it creates that situation.

European style exercise is a little bit different. You can only exercise them at expiration. Now again I said exercise. Keep in mind what we have down here in the green. Do not confuse buying and selling an option with exercising an option. You can buy and sell an option any time during the life of that option. Exercising is a whole different animal. So, with European style options you can only exercise them at expiration.

They settle in cash. This means that the options at expiration you're credited or debited the amount of payment that is the difference between the underlying settlement value and the strike price of the option. No shares are exchanged. Now Colin is going to pull up ATP in a little while and show you what I just said because words don't mean a lot. Sometimes you need an actual example. So just understand that they settle in cash. No shares are delivered.

I got to make the distinction here between standard and nonstandard options here, particularly with European index options. So standard options, this harkens to the days of when options only expired on the third Friday of each month, before we had weeklies and quarterly options and monthly options and things like that. So standard options for index options, they settle on that third Friday of the month.

The last day to trade them is the Thursday prior to that third Friday. So, you can trade them on that Thursday and then the market closes and then Friday morning the index actually will move, and your settlement value is determined then. You are not able to trade that option. So that's something to understand with standard options.

Nonstandard is another way of saying weekly options. So weekly index options, they trade until Fridays at 4:00 p.m. Eastern, 3:00 p.m. Central. And the last day of trading is Friday. And the settlement value is determined on Friday, that afternoon. So, for example when we're talking about nonstandard and standard, one way to look at this is standard SPX options are denoted SPX. You can type up a ticker for SPX. You'll see standard options, which are SPX, that last day of trading is Thursday and settle on Friday morning. And then you can see SPXW, which are the weekly or nonstandard options. Those trade up until Friday at 4:00 p.m. Eastern, 3:00 p.m. Central. And they settle at that time.

Songer: Jermal, you're right, I think this is a great opportunity to show right on the option chain where we can view those different versions of those, right? The standard and the nonstandard. So up here in options we go to the option

chain. But guess what. I've already had mine fired up and ready to go. So, I'm going to put in SPX in there for us. And what you'll notice on our horizontal bar here for our expiration dates. Look what's coming down the pike this Friday. We have August 21 a.m. which is those standard contracts that we're talking about. And then August 21, which is referred to as the weeklies, right? And you can see the other dates where it shows a weekly designation as a W within the parentheses here. So, you can see directly on there which ones are those weeklies, which ones are the nonstandard, and which ones are those standards. That way you know the August 21 a.m.s stop trading Thursday, right? And they get that settlement value on Friday morning. So, you can see clearly right on this option chain. And guess what. We talked about adjusted contracts. We have toggle features for showing adjusted contracts and for showing weeklies. So, if you just like those monthly contracts, you can click that W and do so. We have the customization to do it.

But now that we showed you how you can find those let's keep going, let's keep plugging away at our presentation here. Because we have a lot to cover here.

Chandler: Okay. So now we hit American style and European style exercise. We compared the two of those. Now let's talk about delivery of shares and cash

settled. Again, on the left you have delivery of shares. This is something that you'll see with equity and ETF options that most of you probably are already trading or some of you have already looked at possibly trading. This results in a delivery of shares. Now what does that mean? Well, that means the shares are transferred from seller to buyer. So, if you're a long call option holder you can exercise your right to buy shares at expiration and that call seller is obligated to sell shares to you at the strike price.

If you are a put option holder you can exercise your right to sell shares and that put seller is obligated to buy stock from you at that price. And again, these result in delivery of shares. Some of you maybe have experienced this inadvertently sometimes when you had an option position, at expiration, it finished in the money, and you woke up on Saturday morning with stock position, so this is how that usually may go down. Or maybe you did it on purpose. But understanding the delivery of shares, that's what we're talking about in this scenario. Again, this is a case with all equity and ETF options that are American style options.

Cash settlement. That pertains to index options. And that's how index options are different. Now while there's still an exercise process it occurs via cash settlement, which means no physical delivery of shares. You're credited

or debited that in-the-money value of the options. So, there's no disruption to your portfolio if you will with introduction of any shares upon assignment. The reason why I say introduction or disruption to your portfolio with shares, because some people may have their portfolio set up in a certain way. Say they may have it set up certainly to mimic a specific index and certain allocation share amounts. And so, some kind of introduction to the portfolio of shares may throw that off. This is something you don't have to worry about with index options because they cash-settle. So, this is the case with European style index options.

Now we got a.m. and p.m. settlement. Again, we're introducing this. P.M. settlement is something that if you've traded options, you're already familiar with. Or it's something you probably don't even think about. But you should understand there is a difference between the two. So, a.m. and p.m. settlement determines the last day you have to trade your option, as we alluded to before.

It determines the calculation of the settlement value of your option. A.M. settlement means your options expire on the morning after the last trading day which is typically that Thursday. That Thursday is the last trading day. And

then they expire on the morning of that Friday morning based on the opening prices of the index. So, this is the case with index options.

This largely pertains to those type of cash-settled index options. One thing to remember. No equity or ETF options settle a.m. style. This is particularly for index options. So, examples like SPX options. Those DJX options we talked about. And RUT options, Russell 2000 index options.

P.M. settlement, most of you may be familiar with it. For those who aren't, this is when your options expire at the close of the market on the last trading day. So, this Friday is August standard equity options exercise. And so, all equity options will expire this coming Friday. And you can trade them up until 4:00 p.m. Eastern, 3:00 p.m. Central. And at the close everything is in. The value is determined. The stock is settled at that price. Although for those of you who are unfamiliar, you will have some stocks that may move around. But for the most part the settlement value will be determined at the close on Friday and that's the last trading day. So, this is the case with all equity and ETF options.

But here's the interesting thing. Those nonstandard weekly index options that we talked about. Those settle that way too. And there's another index which is XSP which we're going to get into. All of those options settle p.m. style,

meaning they settle at the end of the day, and their value is determined on that last day.

Tax consequences. We're going to cover this briefly just because there is an interesting difference. I'm not a tax adviser. Please consult your tax adviser.

But something you should be aware of. Because index options are considered Section 1256 contracts by the Internal Revenue Code. Each contract held by a taxpayer at the end of the year is treated as if it were sold for fair market value. Profits and losses are considered 60 percent long-term and 40 percent short-term gains. So, allows you to get the mixture of the two.

On the right side, equity and ETF options, they're treated similar to equity stocks for tax purposes. Equity and ETF options are generally taxed as either long-term or short-term trades, depending on how long you hold it. So, if you hold one for over a year, then it's going to have a lower tax rate compared to a short-term gain for a shorter-term time period. Now please consult your tax adviser. But understand there is that interesting difference.

All right. So, we've introduced index options. We talked about a.m. and p.m. settle. We talked about European style exercise versus American style exercise. We talked about cash settlement versus delivery of shares. And we

even introduced a little bit of tax stuff there, right? So, I wanted to just give you that background about what index options are and how they differ a little bit.

But at the end of the day they're calls and puts, right? So now we want to figure out, we want to hedge our portfolio here, right? S&P 500 index is measuring 3,000 and we decide we want to hedge our portfolio with some put options. Put options, if you own them, they give you the right to sell stock at expiration. But in this case, we said there's no underlying that's traded, so you won't actually sell the index. What you'll do is create a situation where maybe you can collect -- or I shouldn't say collect -- where your option will generate a higher cash value than it was when you initially paid.

So first we need to figure out how many options do we need to hedge our portfolio. Well, you have a simple formula here in this example. Say your portfolio that you want to hedge is \$500,000. And we already talked about the notional value, right? We talked about how you can calculate that notional value based on where the value of the index is. So, you divide the value of your portfolio by the notional value, in this case 3,000 times 100, which is 300,000. That lets you know you need 1.6 S&P 500 index puts to hedge your portfolio.

Now news flash. You can't use fractional put options, fractional options at all, at least not yet. But what you can do is decide the type of hedge you want to use. You can either use one put, which we know that one SPX put protects \$300,000, or you can decide to use two. In this case let's say you're a little more skittish than usual about the market and you decide to buy two SPX January 2021 3,000 strike puts for \$100. Those expire in I think about 129 days, right, Colin? I think Jan is like 129 days or so. So, your total premium that you're outlaying is \$20,000. Now where did I get that from?

Well, we're buying two puts. We're paying \$100 for them. And there's always a 100 multiplier with options, whether it's index options or equity, ETF options. So, 2 times 100 times 100 is where we get that \$20,000. And that just happens to be 4 percent of the portfolio. So that's an interesting way to look at it, as we talked about looking at how much you're paying for this premium to protect your portfolio. So, you're doing that just so you can sleep at night.

So, we have this \$500,000 portfolio with the S&P 500 index at 3,000. We bought these two SPX January 2021 3,000 strike puts for 100 bucks. Our cost is \$20,000. It's just something interesting to note that it represents 4 percent

of our portfolio. One put protects \$300,000 of equities. So, two would protect \$600,000. So, we're a little more nervous. We decide to do this.

And our breakeven is 2,900. So how did I get a breakeven point? So, when you own a put your breakeven is the strike that you own which is 3,000 minus the price that you paid for the put which is 100. So, our breakeven is 2,900.

And when you look at the P&L graph here below anywhere below the strike which is 3,000, we lose all of our premium. So, we lose the \$20,000 that we paid. I'm sorry. Anywhere above. I'm sorry. The strike. Anywhere above 3,000 you lose. So, you see 3,000, 3,100, 3,200. All the same because the most you can lose when you buy a put is the premium that you pay for it.

Below your breakeven, which is 2,900, you can make a substantial amount.

And substantial just means if the index continues to go to zero. Now of course that's something we don't want. But if the index continues to go down and eventually goes to zero you would make a substantial amount on your put purchase.

But again, we're talking about hedging your portfolio and we're going to challenge your thought process on hedges. You may make money on that put. But what are you losing on? Your equities. So just keep that in mind.

Songer: And I think that's a really interesting point because over the years when I speak with traders, sometimes they think that they're the same thing. Hedging and then buying puts to make money. So, if you ever find where you're buying this index put and you are really hoping that you make money on the put, well, you might be just speculating, not necessarily hedging, okay? So, we want to make sure we put that out in front about being aware of exactly what our intentions are with the trade. Because if I am hedging, I'm just looking to protect the portfolio. Okay? And that's really important. There is big differences between the two. And I'll show you on a profit loss diagram why it makes a big difference, right? Because we see this one where it's just a put. Well, what if we added the portfolio to that? And we'll go over that in just one moment.

Chandler: All right, folks, ready? So, let's move the scenario forward a little bit. Let's say market is down 10 percent, which would mean from 3,000 the SPX is now trading -- or I should say measuring -- 2,700. Market is down 10 percent, so therefore your portfolio that tracks the index is down 10 percent. We have a \$480,000 stock portfolio. Now for those who were listening I originally said 500,000, right? We removed the \$20,000 from the portfolio to pay for those options. So, our \$480,000 portfolio is down 10 percent, meaning it's now

\$432,000. That's how much our portfolio is. So, we have \$432,000 worth of equities. And then we also have \$20,000 that we purchased puts with.

So, since we hedged with SPX being at 2,700, the Jan 2021 3,000 puts that we purchased for \$100, well, now they're \$300, they're in the money. The difference between the 3,000 strike and where the SPX currently is measuring is \$300. And we're keeping this example very simple. It would probably be a little bit more based on volatility and how far out and different things. But in a simple world, simple example, those puts would now be trading \$300 with the SPX measuring 2,700.

So, the value of those puts now is the \$300 that they're worth times the two that we own times the 100 multiplier that we always use for options. So, the value of our puts is \$60,000 now. Remember it was 20, now it's 60. So, the whole entire portfolio is the value of your equities plus the value of those puts that you own. So, at 2,700 the value of your equities is 432,000. The value of your puts is 60,000. So, your portfolio total value is \$492,000. Now again this is an extreme example. The market going down 10 percent, and you held those puts, right?

So due to hedging with the market being down 10 percent, because you bought those puts, your portfolio is only down 1.6 percent. You know what, we like that, we like that. That's a real nice example. right? So that's how you can use S&P 500 index options to hedge your portfolio.

But now some of you may want a lower price point, because again we said those puts you paid for was \$100, and yeah, it's 4 percent of your portfolio, but \$100 is \$100. And that's get to like we said you paid \$20,000 for those, right? So, some of you might not want to pay that much. Well, guess what, we have a smaller price point index that does the same type thing, SPX is our flagship product at Cboe, average daily volume in 2019 was 1.45 million, that's 435 billion notional, it was probably a lot more than that this year because people have been trading. But we also have something smaller. We have XSP, which is the ticker for Cboe's Mini S&P 500 index options. They are one-tenth the size of SPX. And they are notionally equivalent to SPY or SPDR options, which some of you are maybe somewhat familiar with.

So, the interesting thing about XSP and why we're introducing it, well, like I said, it's one-tenth the size. Like we said when we had those \$100 puts, those puts would be \$10 in this scenario for XSP. And it's an index option just like SPX. So, it has that 1256 contract that we introduced earlier. It has that

potential tax benefit. Has the European style exercise, which eliminates any early assignment risk. Now this is if you were short. But if you're long you continue to hold that. You don't have to worry about a dividend. There's no dividend with XSP. So, you wouldn't have to exercise your call, or you wouldn't have to do anything with your long put in any scenario. And it's cash settled. No portfolio disruptions.

We just want to show you these on the next slide, that there's no way you can forget how much smaller it is when you look at the difference between these two steaks. It's how you think about it. And that smaller size allows for flexibility. When we talked about notional value earlier for SPX being at 3,000, the notional value of that contract would be \$300,000. For XSP it would be if SPX is at 3,000, XSP would be at 300. And the notional value of that contract would be 30,000. And it's still European style exercise options. And it's still cash settled. And then yet you still have that smaller size for flexibility.

So, at this point it makes sense to compare XSP to SPY. Because like I said they're very similar in that way. As a matter of fact, we built this product for that type of reason, to give people that smaller price point compared to SPX. So, if the notional value for SPX -- or I should say if SPX is measuring 3,000 then we look at notional value for XSP, which would be at 300, then notional

value would be 30,000. Again, notional value is that 100 contract size for options times the value of the index, which in this case XSP would be at 300.

Similar thing for SPDR. Now just so some of you are aware, SPDR would probably be trading around 300, maybe a little higher or something like that, only because SPDRs have a dividend. They distribute a dividend. So, it wouldn't be exactly the same price. So that's one thing that's different. SPDRs have a dividend, which because they're American style you have that situation where maybe you have to exercise prior to expiration. This is why we introduced this idea of American style versus European.

Settlement type. Like I said before I did introduce this idea of a.m., p.m. settlement. We talked about how a lot of standard options are a.m.-settled. What we did here with XSP, we just made it p.m.-settled across the board. So that makes it a whole lot easier. Similar to SPY in that way, p.m. settlement. I alluded to this fact earlier. And Colin, when he showed you the ATP, you saw these different expirations. This happens a lot in index options. People generally use index options for hedging.

And there's a lot of events you may want to hedge around. You can hedge on a Monday. We saw earlier a little bit when we looked at ATP. It has August

31st expiration. That's a Monday, folks. So, you can hedge something on a Monday. It's also the end of the month. You can hedge on the end of the month. You can hedge on the end of the quarter. You can hedge on a Wednesday if there's some type of event. For those of you who've been trading a little while, there's usually a big event on a Wednesday every couple months, right? It's the Fed meeting. So that's one thing that you could hedge on for using this type of index. And then of course there's Fridays that you can hedge on. SPY does the same type thing.

But here's the differences. Index option versus American style equity. You have cash settlement versus the physical delivery of shares. And then you have exercise style being European, which means you can only exercise at expiration. Versus American style where you can exercise at any time. So, you can see the interesting differences.

All right. Now that we've introduced a.m. and p.m. settlement, we've introduced European style and American style, we introduced cash delivery and delivery of shares, I know we've thrown a lot at you here. But we just want to lay all the information out. You take anywhere from 10 percent of this information, like Colin said, that'll be a win. Just remember that XSP is an index option and it tracks the S&P 500 index. In this example we're going to

show you, let's say the notional value of your positions is \$150,000 and they're tracking the S&P 500 index. You want to hedge your portfolio. Right?

The SPX is measuring 3,000. So XSP is measuring 300. Let's say the market is in a good state. But the investor has some concerns out there. They're worried about COVID-19 resurgence of cases. They're worried about the US-China trade war which has been really ratcheting up recently with some of the rhetoric that's being thrown around. They're also worried about the 2020 election that's coming up, some potential movement around that. We saw that in 2016. If there's a potential change of regime, who knows what's going to happen? But if it changes there's going to be a lot of movement. Why? Because they view different areas of the market differently. Health care, all of that, industrials, they view those differently. And so, they're going to change. Matter of fact, you're going to see them move around in these next couple weeks from now, I can promise you that.

So, what does this investor want to do? They want to hedge, but they want to remain long equities. However, they're looking for that broad market rally to continue, but they want to protect their gains if the market falls. So, what they're going to do is, ta-da, buy five XSP December 300 strike puts for \$3 per contract.

So, we have a P&L graph here again, right? I know we got a lot on the screen, let me take you through it. First let me take you to the bottom left. Why did we choose five? Well, again we talked about this notional value. The bottom left here shows you a 5-lot of XSP is \$150,000 notional. And we get that again by the 5 times the 300 of the value of the index times the 100 multiplier for options. So that's why we chose five, because they have \$150,000 worth of equities.

So back up top we bought these five December 300 strike puts for \$3 each. Their total hedge outlay is \$1,500. That comes from the five puts that they purchased times the \$3 in premium for those puts times 100 multiplier. That's where the \$1,500 comes from.

And as you see on the P&L graph where the line down at the bottom there, that's your max loss. When you purchase a put as we said with SPX, when you purchase a put the most you can lose is what you pay. So that's the \$1,500 there.

As the index starts to measure and fall down it's important to understand your breakeven point, just like we did with SPX. Your breakeven point is the 300

strike that you purchased minus the \$3 in price that you paid for those puts.

Doesn't matter that you did five, it's just a matter that when you're figuring out breakeven it's the strike minus the price of the put. In this case that's 297. So XSP below 297, they start to see some profit.

Now your max profit is substantial, you're making a ton of money as this thing starts to go down. But wait, whoa, whoa, what's happening on the right here? Notice our value of our equities are starting to go down as the index goes down, right? Colin and I said we were going to challenge your thought process around hedges. And this is it, ladies and gentlemen, straightforward, right in front of you. You have the index going down.

At your breakeven it's 297, you're not making any money on your put as you can see on the far left here, 297 is 0. But as Colin pointed out at 297, we're down \$1,500 in that scenario. At 200, well, your equities are now -- you've lost \$50,000 on your equities. Sorry, buddy, we lost \$50,000 at 200 on our equities, but on the puts over there we're up 48,500. We would be up 50,000 but again we paid \$1,500 for that position and that's what's being taken out of there. The value of those puts would be 50,000 but we only make 48,500 because that's how much we actually made on those puts moving down.

So, you can see there's something happening there that's playing off of each other. You're losing value on your equities as XSP goes down. When XSP is at 100 you've lost \$100,000 on your equities. But at down to 100 you're making 98,500, again minus \$1,500 you paid on your puts.

So again, we're challenging. This is how hedges work. You're going to make money on one thing but you're going to lose something on another.

Songer: I think it's a good opportunity. Let's model this up, right? Let's put the rubber to the pavement here and see this really get some traction. So, I'm going to actually bring up my Active Trader Pro here and let's see how we can model this ourselves for your own portfolios or your own theories. That's the way I like to put it.

Now as you can see in Active Trader Pro, I've already fired up our profit loss calculator, which is clicking on options, you'll see third from the bottom being that profit loss calculator. But I want to make sure that we have it ready to go. As you can see here, huh, I'm looking at that profit loss calculator, and wait a minute, well, that looks very different than what was on the slide. I saw it go down and it was making money. Well, what's going on here?

Well, let me explain why. Remember, we got a long portfolio. How did I simulate that? I utilized what is very similar to XSP which is modeled off the SPY. So, what I did was I took SPY, put that in our profit loss calculator, because SPY does trade on exchange. So, we can add it as stock in here. This is simulating our portfolio. And then what we did is we used Jermal's example of the December puts. I went out and I bought those puts here, yes, that's right, five of them, right? And they cost. Unfortunately, it was more than \$3. So, we spent a little bit more money, which is okay, right? Because we're protecting our portfolio.

So, as you can see here, when I select just the put, it does look like just the same scenario that we saw before. But it was so important what Jermal just said. That's what I really want to emphasize using this profit loss calculator, by holding down that control key and adding that stock in here you can see how it changes everything. Where do I make money? When the underlying portfolio goes up, not when it goes down. That's why it's so important of what your intentions are with this, right? If it goes down, do I make money? Nope.

Because I'm losing on my portfolio. The hedge is so I don't lose more. Which is exactly getting to the case of what we're trying to do. And that's why I say it's so important what your intention is with those puts. Are you trading to

make money? Which is this. Or are you hedging? Which is I'm trying to avoid losses on my portfolio, which is this.

That's where you see that the upwards movement is where I make money.

Why are we risking our money? I can't emphasize this enough. It's so we can make money, right? That's why we're risking our money. And that's why it's so important. And yes, if you wanted to add these positions, add simulated position here, it does have a drop-down to add stock on there. So that is available for you to add into our profit loss calculator.

Let's dive right back in. I know we're coming close to the end here. Let's close it up here. We do have a few more pieces of information that we want to cover with everyone here today.

Chandler: So, we challenged you. We talked about what a hedge is. Protects your portfolio from uncertainty. Allows for the transfer of risk from one to the other. We talked about index options. Options are options but index options offer these interesting different things. We talked about European style where you can only exercise at expiration. Talked about cash settlement. No introduction of shares into your portfolio.

We introduced this idea of a.m. settlement just so you're aware, because you do want to know when your last trading day is before if you have a particular option that you're trading and when the settlement value is determined. And we also talked about p.m. settlement. Talked about potential tax considerations with regard to index options. Consult a tax adviser on that.

We talked about the S&P 500 index options, the big contract SPX options, and the Mini S&P 500 index options, XSP, which is one-tenth the size. And we did hedging examples with both.

Most importantly, we challenged your thought process on hedging. Colin showed you a bunch of great stuff from ATP. And always remember you can choose the size of your hedge, or you can just choose to outright speculate on something if you want. You choose. But keep in mind when you're purchasing those puts, pay attention to the amount of premium that you're using. That's something you have to be aware of. And also, when you're looking at ATP, attention to detail on the different expirations that you're choosing. Pay attention to that, if it's a.m., p.m. Understand those type of things.

END OF AUDIO FILE

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