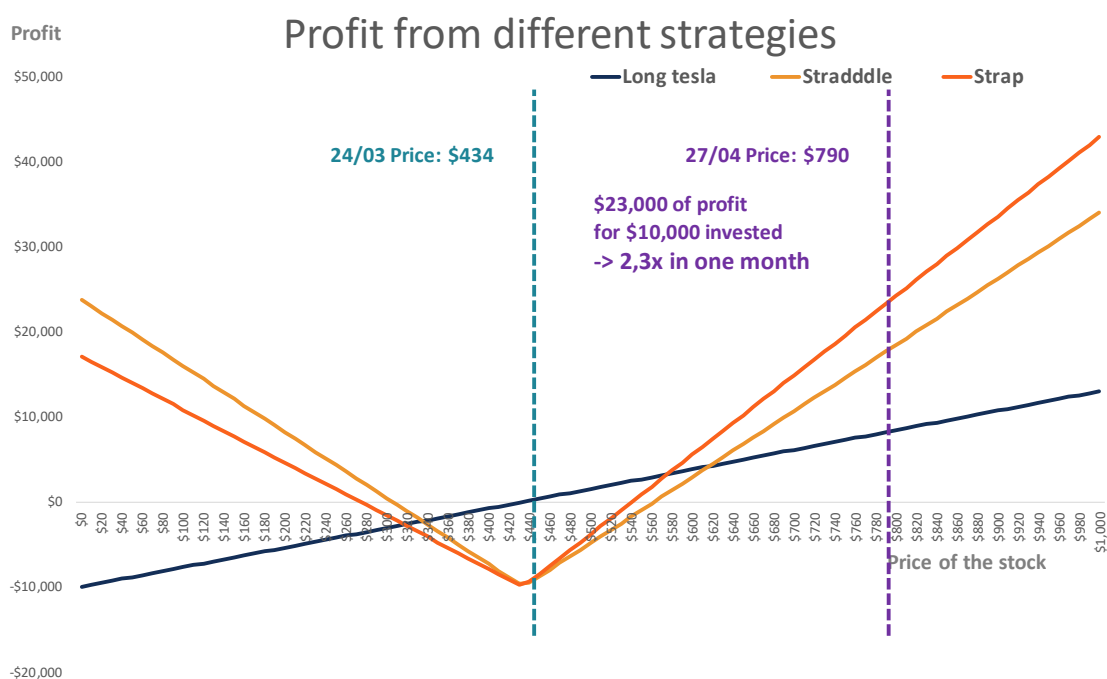


Benefiting from tesla mid-term potential and mitigating risks

Adam Thiébaud, M1 in Finance Student EDHEC
EDHEC Student Finance Club, 27/04/2020



Preliminary discussion



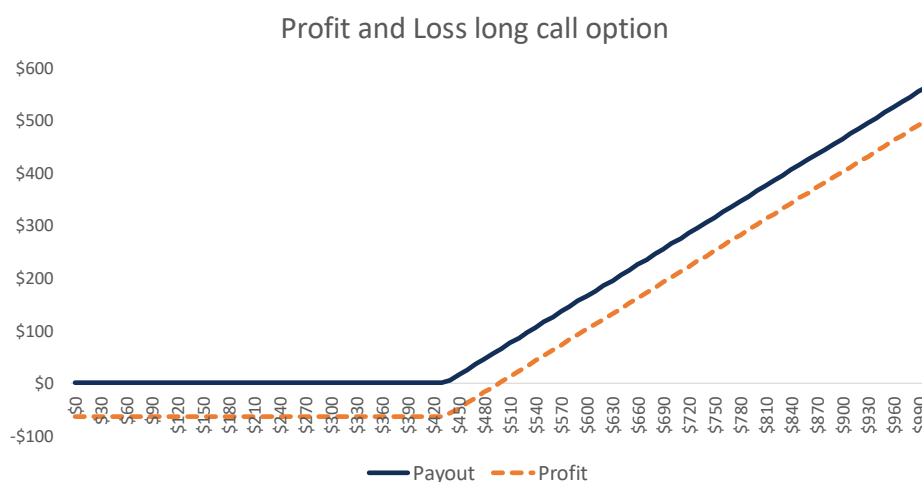
I shared on the 24/03/2020 a speculative bet on tesla based on my thesis that tesla could not stand at \$434 share price using a strap. This would allow to gain for any upside in the stock until the first May 2020 which is in 4 days at the time, I write this post. I would strongly recommend to consider taking profit if you decided to follow my investment rationale even if I prefer to mention you should not follow anyone's investment as it may be associated with risk of losing your capital and you should always perform your own due diligence. Today I want to share another uncommon way to take advantage of tesla on the mid-term this time (6 months to 9-month horizon) while mitigating the potential stagnation of the stock.

Investment thesis

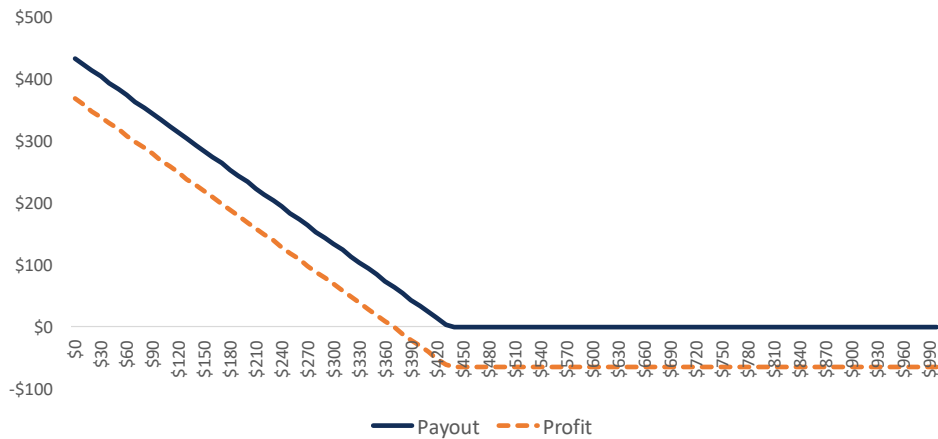
My thesis is the following: I performed new valuation (added the upside potential for robotaxi and deducted the impact of the coronavirus + small corrections) that I will probably share within the next few months and even if the coronavirus is hitting the car industry, I am very optimistic that it won't decrease the sales for tesla as much as expected on the street by analysts and the shift towards EV is actually going to accelerate from the crisis as investor will care even more to their expenses (and for facts electric cars are far less expensive after the purchase) and the other car makers will suffer from the crisis (actually all tesla competitors added new debt to survive the crisis) which will pave the way for tesla to gain market share. So, my thesis is that the worst case I see in the range of possibilities is tesla stock to stagnate in the following year and all other cases range from 1371 to 1600+ for the end of the year which I am willing to take advantage beyond the simple holding of the stock. This is gonna be achieved by a mix holding call options with strike price around \$1,000 and butterflies or condors (option strategies that I will explain below) with strikes of \$700, \$850 and \$1,000 with every option to be exercised for end of January so that the Q4 2020 can be taken into account by the market. To make it simple, straps and straddles can take advantage of high volatility while condors and butterflies are the opposite, they take advantage of low volatility or price stagnation. Last time, I used 10,000 as the capital employed, I am gonna use the 33,000 this time as the continuation of the trading strategies on tesla (23,000 of profit + 10,000 of historical starting capital).

Definition: What is an option, a butterfly, a condor

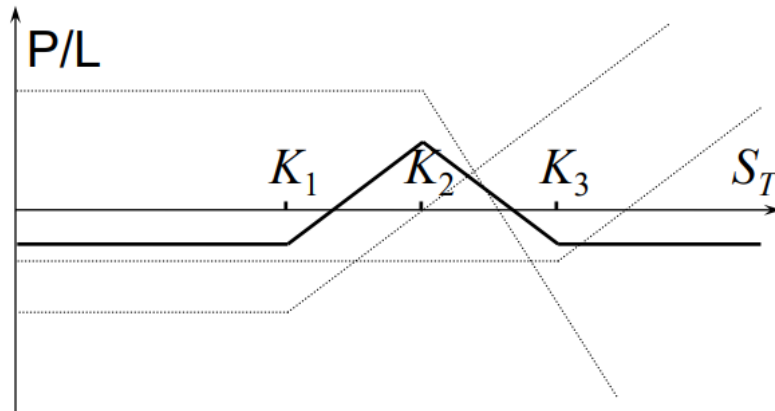
An option is a derivative (this means its value derives from another asset that we call the underlying asset) that gives the holder the right but not the obligation to buy (call option) or to sell (put option) a stock up to a certain date (or at a certain date). In the further reading, I will use the term long and short and thus, I remember the reader that, being long means you buy the asset (so if you are long in a call option this mean you are holding a call option) and being short means you sell the asset.



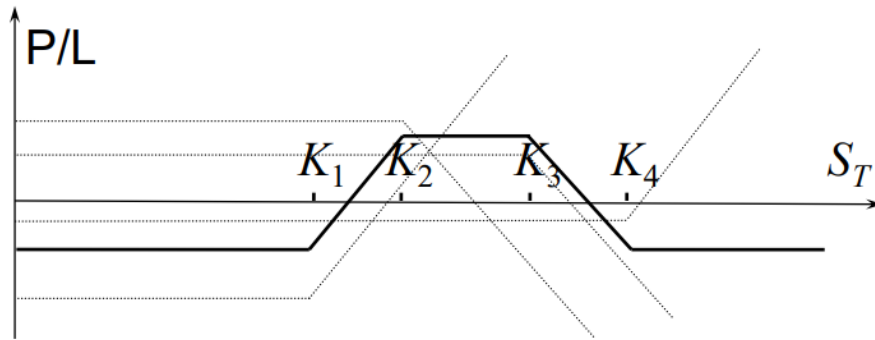
Profit and Loss long put option



A butterfly or long butterfly spread is an option trading strategy that uses two types of option to win money from a low volatility market. One butterfly consists of going long two call options with different strike prices (K_1 and K_3 on the figure below with K_1 in the money and K_3 out of the money which means that K_1 is below current share price and K_3 is above current share price) and going short two call options with a strike price K_2 and K_2 being most of the time the current share price (with $K_1 < K_2 < K_3$) while all options have the same date until then you can exercise the option. The profit and loss from a butterfly look like an inverted V shape with flat extremity (to make it simple, you win if the price does not move much and you lose money if the price takes upside or downside).



A condor or condor spread is an option trading strategy that is similar to the butterfly but instead of going short 2 call options with a strike price $K_2 =$ current share price, we are going short one call with strike price K_2 below the current share price and we are going short another call with strike price K_3 above the current share price. We are still going long two call options, one having a K_1 strike price such as $K_1 < K_2$ and one having strike price K_4 such as $K_3 < K_4$. In the end we have 4 kinds of options with $K_1 < K_2 < K_3 < K_4$.



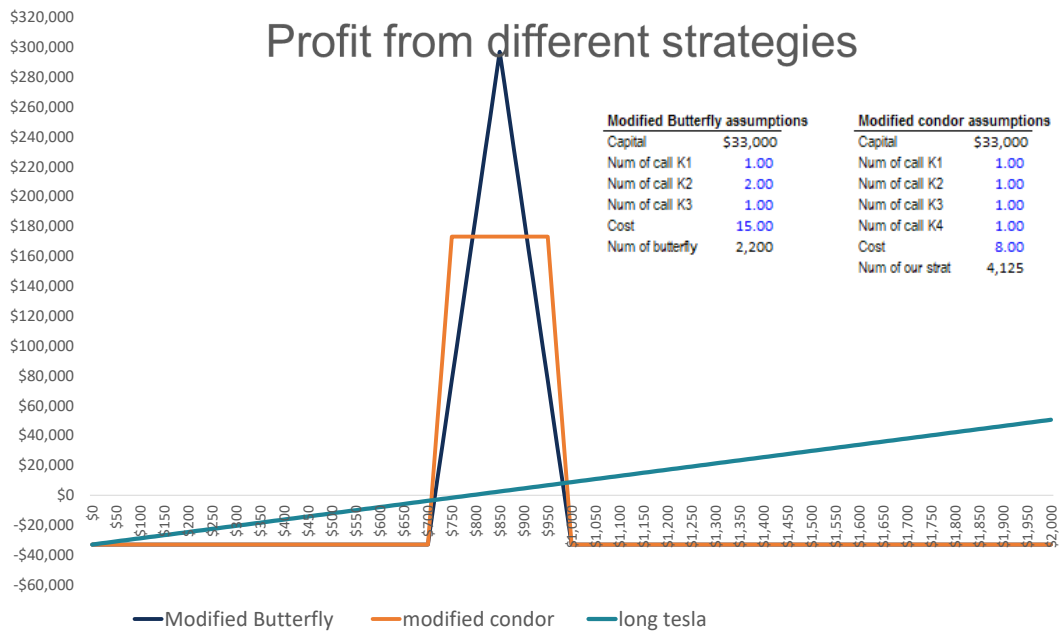
Implementing the strategy

As I said I am not going to just implement a condor or a butterfly, I am going to tweak the parameters of his strategy to achieve the investment thesis that I want. The other tweak I am gonna introduce is a shift for the butterfly as we usually take $K_2 = \text{current share price}$ but I am going to center it around \$850 price tag. $K_1 = \$700$, $K_2 = \$850$, $K_3 = \$1000$.

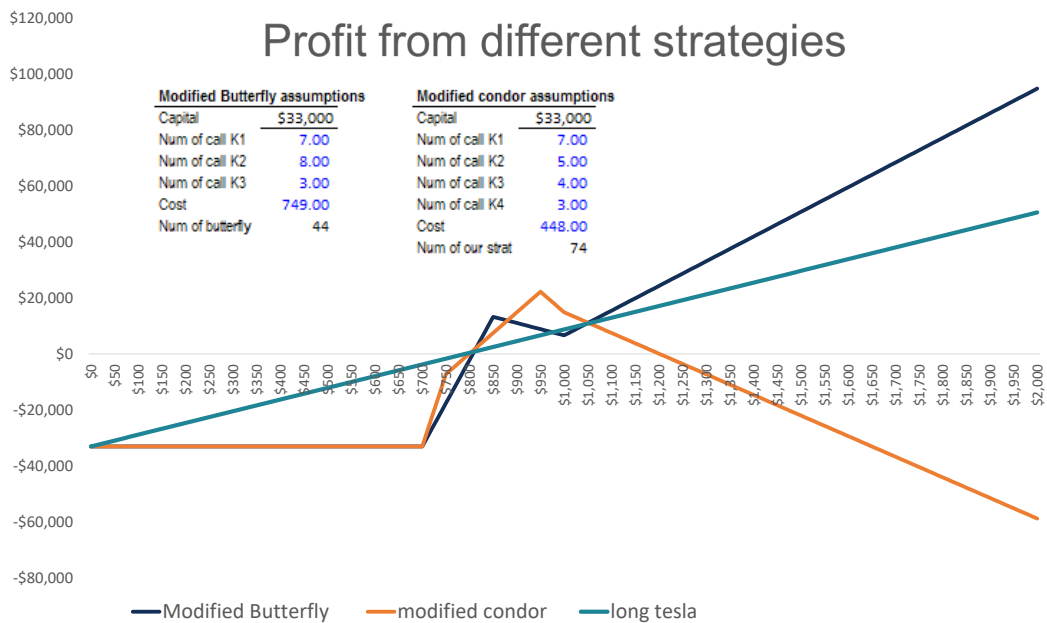
So, I have built an excel model to be able to see the output (Profit and Loss) for my strategy and I added the scroll bars on the right top corner that directly change each number of call options of the model (which are part of the assumptions) to make it simple at investigating the parameters effect on the P&L.

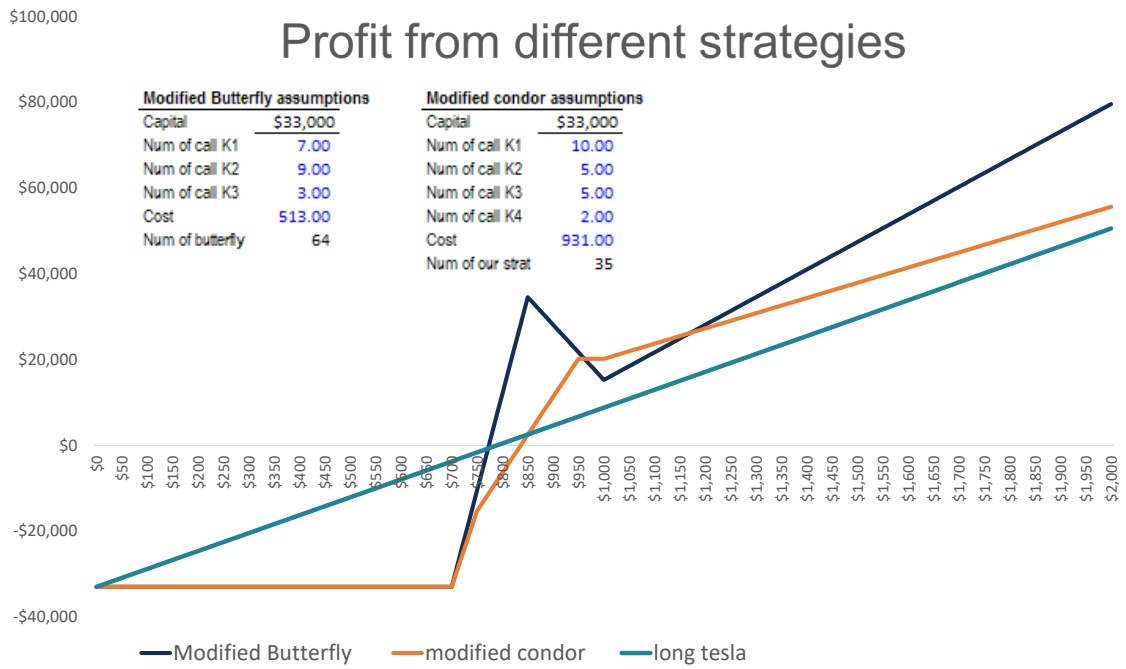
Modified Butterfly assumptions			Modified condor assumptions			Long assumptions		
Capital	\$33,000		Capital	\$33,000		Capital	\$33,000	
Num of call K1	7.00		Num of call K1	10.00		Num of stock	42	
Num of call K2	8.00		Num of call K2	5.00				
Num of call K3	3.00		Num of call K3	5.00				
Cost	749.00		Num of call K4	-				
Cost			Cost	545.00				
Num of butterfly	44		Num of our strat	61				

Long K1			Short K2			Long K3			Modified Butterfly			modified condor			long tesla	
Price (S _t)	Payoff	Profit	Price (S _t)	Payoff	Profit	Price (S _t)	Payoff	Profit	Price (S _t)	Payoff	Profit	Price (S _t)	Payoff	Profit	Price (S _t)	Profit
\$0	\$0	-\$294	\$0	\$0	\$236	\$0	\$0	-\$193	\$0	\$0	-\$33,000	\$0	\$0	-\$33,000	\$0	-\$33,000
\$10	\$0	-\$294	\$10	\$0	\$236	\$10	\$0	-\$193	\$10	\$0	-\$33,000	\$10	\$0	-\$33,000	\$10	-\$32,582
\$20	\$0	-\$294	\$20	\$0	\$236	\$20	\$0	-\$193	\$20	\$0	-\$33,000	\$20	\$0	-\$33,000	\$20	-\$32,165
\$30	\$0	-\$294	\$30	\$0	\$236	\$30	\$0	-\$193	\$30	\$0	-\$33,000	\$30	\$0	-\$33,000	\$30	-\$31,747
\$40	\$0	-\$294	\$40	\$0	\$236	\$40	\$0	-\$193	\$40	\$0	-\$33,000	\$40	\$0	-\$33,000	\$40	-\$31,329
\$50	\$0	-\$294	\$50	\$0	\$236	\$50	\$0	-\$193	\$50	\$0	-\$33,000	\$50	\$0	-\$33,000	\$50	-\$30,911
\$60	\$0	-\$294	\$60	\$0	\$236	\$60	\$0	-\$193	\$60	\$0	-\$33,000	\$60	\$0	-\$33,000	\$60	-\$30,494
\$70	\$0	-\$294	\$70	\$0	\$236	\$70	\$0	-\$193	\$70	\$0	-\$33,000	\$70	\$0	-\$33,000	\$70	-\$30,076
\$80	\$0	-\$294	\$80	\$0	\$236	\$80	\$0	-\$193	\$80	\$0	-\$33,000	\$80	\$0	-\$33,000	\$80	-\$29,658
\$90	\$0	-\$294	\$90	\$0	\$236	\$90	\$0	-\$193	\$90	\$0	-\$33,000	\$90	\$0	-\$33,000	\$90	-\$29,241
\$100	\$0	-\$294	\$100	\$0	\$236	\$100	\$0	-\$193	\$100	\$0	-\$33,000	\$100	\$0	-\$33,000	\$100	-\$28,823
\$110	\$0	-\$294	\$110	\$0	\$236	\$110	\$0	-\$193	\$110	\$0	-\$33,000	\$110	\$0	-\$33,000	\$110	-\$28,405
\$120	\$0	-\$294	\$120	\$0	\$236	\$120	\$0	-\$193	\$120	\$0	-\$33,000	\$120	\$0	-\$33,000	\$120	-\$27,987
\$130	\$0	-\$294	\$130	\$0	\$236	\$130	\$0	-\$193	\$130	\$0	-\$33,000	\$130	\$0	-\$33,000	\$130	-\$27,570
\$140	\$0	-\$294	\$140	\$0	\$236	\$140	\$0	-\$193	\$140	\$0	-\$33,000	\$140	\$0	-\$33,000	\$140	-\$27,152
\$150	\$0	-\$294	\$150	\$0	\$236	\$150	\$0	-\$193	\$150	\$0	-\$33,000	\$150	\$0	-\$33,000	\$150	-\$26,734
\$160	\$0	-\$294	\$160	\$0	\$236	\$160	\$0	-\$193	\$160	\$0	-\$33,000	\$160	\$0	-\$33,000	\$160	-\$26,316
\$170	\$0	-\$294	\$170	\$0	\$236	\$170	\$0	-\$193	\$170	\$0	-\$33,000	\$170	\$0	-\$33,000	\$170	-\$25,899
\$180	\$0	-\$294	\$180	\$0	\$236	\$180	\$0	-\$193	\$180	\$0	-\$33,000	\$180	\$0	-\$33,000	\$180	-\$25,481
\$190	\$0	-\$294	\$190	\$0	\$236	\$190	\$0	-\$193	\$190	\$0	-\$33,000	\$190	\$0	-\$33,000	\$190	-\$25,063
\$200	\$0	-\$294	\$200	\$0	\$236	\$200	\$0	-\$193	\$200	\$0	-\$33,000	\$200	\$0	-\$33,000	\$200	-\$24,646
\$210	\$0	-\$294	\$210	\$0	\$236	\$210	\$0	-\$193	\$210	\$0	-\$33,000	\$210	\$0	-\$33,000	\$210	-\$24,228
\$220	\$0	-\$294	\$220	\$0	\$236	\$220	\$0	-\$193	\$220	\$0	-\$33,000	\$220	\$0	-\$33,000	\$220	-\$23,810
\$230	\$0	-\$294	\$230	\$0	\$236	\$230	\$0	-\$193	\$230	\$0	-\$33,000	\$230	\$0	-\$33,000	\$230	-\$23,392
\$240	\$0	-\$294	\$240	\$0	\$236	\$240	\$0	-\$193	\$240	\$0	-\$33,000	\$240	\$0	-\$33,000	\$240	-\$22,975
\$250	\$0	-\$294	\$250	\$0	\$236	\$250	\$0	-\$193	\$250	\$0	-\$33,000	\$250	\$0	-\$33,000	\$250	-\$22,557
\$260	\$0	-\$294	\$260	\$0	\$236	\$260	\$0	-\$193	\$260	\$0	-\$33,000	\$260	\$0	-\$33,000	\$260	-\$22,139

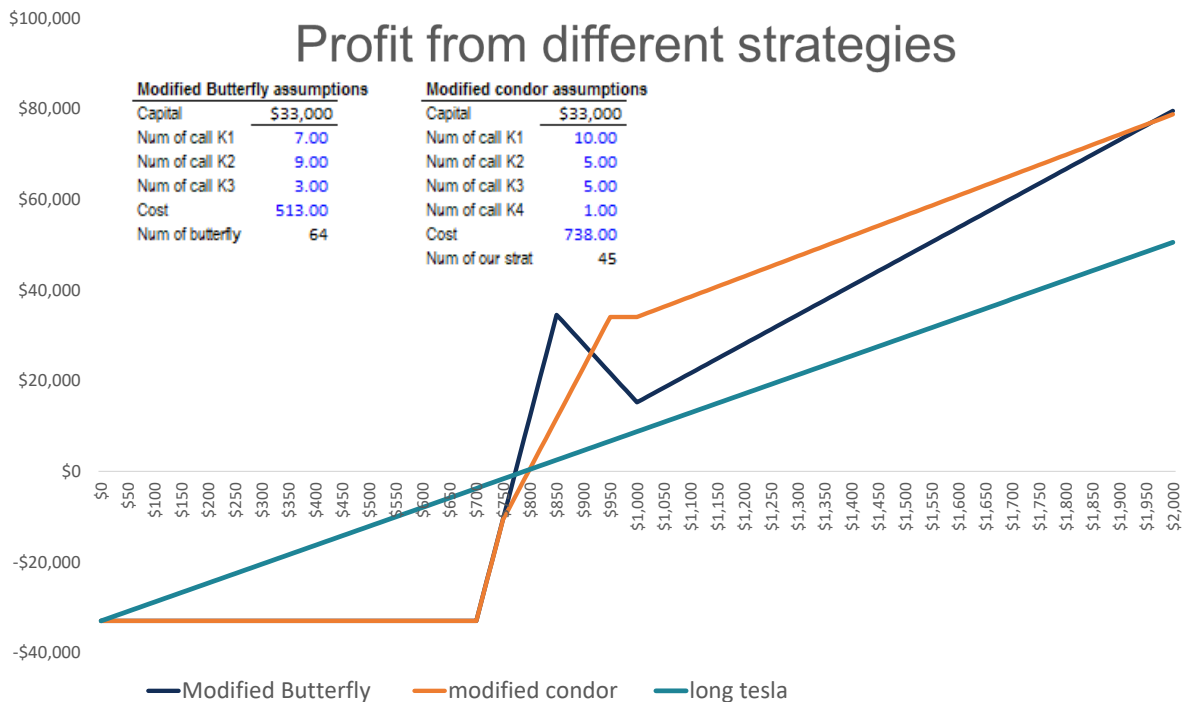


The model keeps track of the output as shown in the graph above. As you can see, I first started to plot the normal butterfly and condor strategies. Then I started to search for what I was looking for and the graphs below show you some of my findings.





And finally, I achieved with the modified condor pretty much what I wanted to obtain (orange line). For a cost of \$738 with going long 10 calls \$700, shorting 5 calls at \$750, shorting 5 calls at \$950, and finally going long one call at \$1,000, I can implement 45 times this strategy with the \$33,000 of capital.

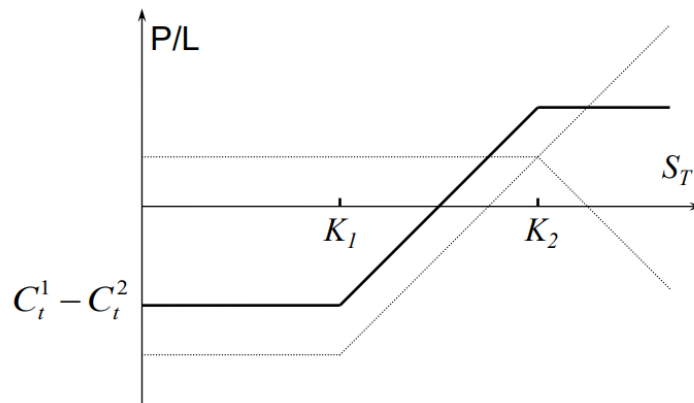


The 3 parts of this specific profit and loss profile are:

- 1. I lose all the capital employed if I am completely wrong which means the stock price goes below \$700 which is the foundation of my strategy, one can see on the orange line vs the light blue one (long on tesla stock strategy) that I am sort of scarifying more losses on being wrong to “redistribute” the upside on the right part where I am right.
- 2. From \$750 to \$950 I am winning proportionally to price

- 3. From \$1,000 to the sky, I am winning proportionally to the price but with a less steep line

One may notice some similarities will call spread which looks like what you can see on the figure below, the difference being that after \$1,000 I am still winning proportionally to how bullish the stock will be which is totally what I want with regards to my bullish opinion on Tesla. The similarities come from the options mix that I have taken to achieve such strategy (a call spread or bull spread consists of long one call K_1 and short one call K_2 with $K_1 < K_2$).



Full disclosure

The analyst is not a financial advisor nor a professional equity research analyst. The author is a young Master in finance student at EDHEC. In any case, you should never take any words for granted and keep a critical view when looking at someone else work. It should also be disclosed that the author is a tesla long term investor. The author is not responsible for any investment loss that you may realize in the stock market. Remember that the stock market must be taken seriously as you might suffer high capital losses. Always perform your due diligence and make sure not to be too much exposed to any company or industry and make sure to keep risks level where you can handle it. As this valuation is a learning-by-doing experience, the author is fully open to any argument/discussion if it respects the basic courtesy rules in an open debate.