Notes on Option Trading Strategies Using a Combination of Basic Trades:

**Risk Management Strategies**

Downside Protection to an Existing Position: Neutral to Bullish Sentiment

**Collars:** You hold an existing long stock position as a core portfolio holding. However, you are concerned about short term events that could reduce share price [for example the RSI shows the stock is entering overbought territory, a Fibonnaci retracement chart shows the current price is at a peak level, or there is an upcoming earnings announcement in a difficult economy]. Under the circumstances you would like to buy insurance against a short term drop in stock prices. In other words, you want to place a floor underneath the current price of your existing position. With a collar, you can write [sell] a covered call, obtain the option premium and then use those funds to purchase a put to protect your position against a short term price decline in the underlying stock. Your floor price is the strike on the put. Usually this strategy will be used for a 30, 60 or 90 day period.

From a risk management standpoint, a collar is a hedge against an existing long position in the underlying. It is created by selling an out of the money call and using the proceeds to buy an out of the money put. This creates a combination where both the maximum gain and the maximum loss are limited. It is equivalent to a bullish non-ratioed vertical spread.

Other names for a collar are: a range forward, a tunnel, a cylinder, a fence, and a split-price conversion. A collar is considered to be a type of vertical spread.

Limiting the Costs of Taking a Position on a Stock's Price Direction: Bull or Bear Sentiment

**Vertical Spreads**  are an options strategy involving buying and selling of multiple options of the same underlying security, same expiration date, but at different strike prices. They can be created with either all calls or all puts. The holder of a vertical spread will make or lose money based on where the price of the underlying stock goes during the life of the options.

Vertical Spreads Based on a Moderately Bullish Sentiment for the Underlying Stock:

 Bull Call or Bull Put Spreads

**The Bull Call Spread**: consists of buying one call option with a low strike price (A) and selling another call option at a greater strike price (B). This options strategy is designed to profit from a moderate rise in the price of the underlying security while limiting loss should the stock price go down precipitously.

The maximum loss from this trade is the difference between the option premium paid to buy the low strike call minus the option premium received from selling the high strike call, the net debit amount.

The maximum gain will be the difference in the two strike prices less the net debit amount.

Trading Example:

Suppose that JNJ is currently selling for $100, and you hold 100 shares of the stock which is equivalent to 1 standard option contract.

The near term one month call at a strike of $100 has an asked [buy] price of $3 which translates to a $3 x 100 = $300 option premium. Another near term one month call with a strike of $115 has bid[sell]price is $1 which equates to an option cost of $1 x 100 shares = $100. Assume that for the next month, a call option with a strike price of $100 costs $3 per share, or $300 per contract, while a call option with a strike price of $115 is selling at $1 per share, or $100 per contract.

You buy the lower $100 strike call option for $300 and sell the higher $115 strike call option for $100 producing a net credit of [$100 - $300 = -$200]. With strategy a trader can then buy a long position on the $100 strike price option for $300 and sell a short position on the $115 option (aka write a $115 call) for $100. The net debit (cost) for this trade then is *$300 - 100* = $200.

This trade results in a profitable trade if the stock closes on expiry above 102. If the stock's closing price on expiry is $110, the $100 call option will end at $10 a share, or $1000 per contract, while the $115 call option expires worthless. Hence a total profit of *$1000 - 200* = $800.

The trade's profit is limited to $13 per share, which is the difference in strike prices minus the net debit (15 - 2). The maximum loss possible on the trade equals $2 per share, the net debit.

Alternatively, based on the put-call parity theorem, a bull spread can be constructed using puts in lieu of calls.

**The Bull Put Spread**: is constructed by selling higher striking in-the-money put options and buying the same number of lower striking out-of-the-money put options on the same underlying security with the same expiration date. The options trader employing this strategy hopes that the price of the underlying security goes up far enough such that the written put options expire worthless. When both the bought and sold puts expire on the same day, it is called a vertical credit put spread.

Your Break even point=upper strike price- Net premium paid

Trading Example: Suppose that CVX is currently priced at $106. You are interested in trading a vertical spread using a standard set of put options where each contract controls 100 shares of CVX. You are expecting that the price of CVX will rise from its currently depressed level sometime in the next month.

Assume that for next month, a CVX put option with a strike price of $110 costs $8 per share, or $800 per contract, while a put option with a strike price of $130 is selling at $27 per share, or $2700 per contract.

 For the first leg of this trade, you will open a long position on the $110 strike put option for $8 x 100 or $800. Simultaneously you execute the second leg by opening a short position on the $130 CVX put for $27 x 100 or $2,700. The net credit for this trade will be $2,700 - $800 or $1,900. The $1,900 will be credited to your trading account shortly after executing these transactions.

The breakeven price for this trade will be:

BP = High Strike - [Net Credit/100]

BP = $130 - [$1,900/100] = $111

So this trade will profit as long as CVX's stock price ends at above $111 at the time of expiration for the options. If CVX ends at $116 at expiry then this vertical spread will generate a profit of:

$1,900 - [$130 - $116] x 100 = $1,900 - $1,400 = $500.

Net Credit - [High Strike - Ending Stock Price] x 100

This trade's profit is limited to $19 per share [i.e. the net credit per share].. The maximum loss on the trade is $1 per share which is the difference in strike prices [$130-$110] minus the net credit [i.e., (20 - 19)].

Vertical Spreads Based on a Moderately Bearish Sentiment for the Underlying Stock:

A vertical bear spread is designed to allow an options trader who is moderately bearish on an underlying security to trade that sentiment with limited downside risk.

This strategy can be created using either put or call options due to the results of the put-call parity theorem. In other words, you can either construct a bear call spread using calls with the same expiration date or develop a bear put spread using puts with a common expiration date.

**A bear call spread** is a limited profit, limited risk vertical spread options trading strategy used when a trader is moderately bearish on an underlying stock. This strategy consists of buying a call option at a certain strike price and then simultaneously selling another call option at a lower [in-the-money] strike price with the same expiration month and underlying stock.

Example: Bearish Call Vertical

Suppose you hold as a core holding 100 shares of JNJ currently priced at $100 per share. You still want to retain the stock, but are concerned about a short term reduction in JNJ share prices over the next month. By executing a bearish vertical call spread you may be able to take advantage of a short term decline in JNJ shares with a limited amount of downside risk. To construct this trade you buy 1 JNJ call @ 105 with an option premium of $2 and then sell 1 JNJ call @ 95 with an option premium of $7. This trade produces a net credit of [$7 - $2] x 100 shares = $500. What you would like to see happen is that both options expire worthless in which case you pick up the net credit amount.

At expiration, whether this strategy earns a profit, will depend on whether the underlying stock price rests below $95. If the stock price ends at $95 or lower, this bearish call vertical will generate $500 in profit [the net credit of $5 x 100 shares].

If the stock price ends at a price above the high strike of $105, both options will be exercised, resulting in a maximum loss defined by:

Net Credit of $500 - [High Strike - Low Strike] x 100 of $1,000 = -$500

Some traders will consider initiating the short call [lower strike] at a strike that is one standard deviation out of the money in order to increase the likelihood that this strategy will produce a profit.

**A bear put spread** is a limited profit, limited risk vertical spread options trading strategy used when a trader is moderately bearish on an underlying stock. This strategy consists of buying a higher striking in-the-money [ITM] put option and simultaneously buying a lower striking out-of-the-money[OTM] put option on the same stock with the same expiration date.

To reach maximum profit, the stock price needs to close below the strike of the out of the money put on expiration. In this case, both options expire in the money but the higher strike put that was purchased will have higher intrinsic value than the lower strike put that was sold. Thus, maximum profit for the bear put spread option strategy is equal to the difference in strike price minus the debit taken when the position was created.

The formula for calculating maximum profit is given below:

* Max Profit = Strike Price of Long Put - Strike Price of Short Put - Net Premium Paid - Commissions Paid
* Max Profit Achieved When Price of Underlying <= Strike Price of Short Put

**Limited Upside Risk**

If the stock price rises above the in-the-money put option strike price at the expiration date, then the bear put spread strategy suffers a maximum loss equal to the debit taken when putting on the trade.

The formula for calculating maximum loss is given below:

* Max Loss = Net Premium Paid + Commissions Paid
* Max Loss Occurs When Price of Underlying >= Strike Price of Long Put

Example: Vertical Bear Put Spread

Suppose BP stock is trading at $38 on March 12, 2015. . An options trader bearish on BP decides to enter a bear put spread position by buying a May 40 put for $297 and sell a May 35 put for $68 at the same time, resulting in a net debit of $229 when entering this position.

The price of BP stock subsequently drops to $34 at expiration. Both puts expire in-the-money with the May 40 call bought having $600 in intrinsic value and the May 35 call sold having $100 in intrinsic value. The spread would then have a net value of $5 (the difference in strike price). Deducting the debit taken when he placed the trade, his net profit is $271, which is the maximum possible profit.

If the BP stock had rallied to $42 instead, both options expire worthless, and the options trader loses the entire debit of $229 taken to enter the trade, the maximum possible loss.

 **More Advanced Option Trading Strategies**

**Long Straddle:** Profiting When a Stock Dramatically Increases or Decreases in Price

The long straddle, is a neutral strategy in options trading that involves the simultaneously buying of a put and a call at the same strike and expiration for the same underlying stock.

**Mechanics of this Trade**

Buy 1 ATM Call at Strike Price A
Buy 1 ATM Put at Strike Price A

The goal is to profit if the stock moves in either direction. Typically, a straddle will be constructed with the call and put at the money [ATM] (or at the nearest strike price if there’s not one exactly at-the-money). Buying both a call and a put increases the cost of your position, especially for a volatile stock. So you’ll need a fairly significant price swing just to break even.

You will use this strategy when you are anticipating a swing in the stock price, but you're not sure in which direction. Advanced traders may use this strategy to take advantage of a possible increase in implied volatility. If implied volatility is abnormally low for no apparent reason, the call and put may be undervalued. In such a case, the idea is to buy them at a discount and then wait for implied volatility to rise and close out the position at a profit. Investors who use the long straddel will look for a major news event that might trigger an significant move in the price of the underlying stock. For example, they may consider running this strategy prior to an earnings announcement.

Thw long straddle strategy allows for unlimited profit with limited risk when the options trader thinks the underlying with experience significant volatility in the near term.

 Maximum Profit = Unlimited Profit

 Achieved When Stock Price > Strike Price of Long Call + Net Premium Paid

 OR

Stock Price of Underlying < Strike Price of Long Put - Net Premium Paid

 **Profit** = Price of Underlying - Strike Price of Long Call - Net Premium Paid

 OR

Strike Price of Long Put - Price of Underlying - Net Premium Paid

Maximum loss from this strategy is equal to the cost of purchasing the put and call options. This loss occurs when the underlying stock price at expiration is trading at the strike price of the options.. At this price, both options expire worthless and the options trader loses the entire initial debit taken to enter the trade.

Example: Long Straddle on BP

Suppose BP stock is trading at $38 on March 12, 2015. An options trader enters a long straddle by buying a May 38 call for $162 and a May 38 put for $175. The net debit taken to enter the trade is $337, which is also his maximum possible loss.

If BP stock is trading at $50 on expiration in May the May 38 put will expire worthless but the May 38 call will expire in the money with an intrinsic value of $1,200. Subtracting the initial debit of $337, the long straddle trader's profit comes to $863.

On expiration in May, if BP stock is still trading at $38, both the May 38 put and the May 38 call options expire worthless and the long straddle trader suffers a maximum loss equal to $337, the amount of the initial debit.

Alternatively, suppose that BP stock trades at $33 at expiration. In this case, the May 38 call expires worthless, but the May 38 put has an intrinsic value of $500. Consequently, the long straddle will produce a profit of $500 - $337 [the cost of the initial debit] = 163.

**A Long Straggle:** Is similar to a long straddle in that the option trader buys a long call, and at the same time purchases a long put. However, the strike price is not the same for each leg of this option strategy. The trader will purchase the long call at a strike price above the strike price for the long put. Because you are purchasing these options out-of-the money [OTM] the initial debit for entering the position will be less than a similar long straddle where you are ATM. On the other hand, in order to profit, the underlying stock price has to either exceed A[for the call to become valuable] or go down below B[for the put to have value]. The tradeoff is, because you’re dealing with an out-of-the-money call and an out-of-the-money put, the stock will need to move even more significantly than with the long straddle before you make a profit.

If the stock price stays between A and B you will lose the net debit amount [sum of the option premiums] because the options expire worthless.

**Mechanics of this Trade**

\* Buy a put, strike price A

\* Buy a call, strike price B

\* Generally, the stock price will be between strikes A and B and A>B

**Conclusion:** Unless you’re dead certain the stock is going to make a very large move, you may wish to consider running a long straddle in lieu of a long strangle. Although a straddle costs more to run, the stock won’t have to make such a large move to reach your break-even points.

Calendar Spreads

 Taking Advantage of Time to Expiration Using two Options with Different Expiration Dates

**A Long Calendar Spread:** involves selling and buying a call with the same strike price, but the call you buy will have a later expiration date than the call you sell. You’re taking advantage of accelerating time decay on the front-month (shorter-term) call as expiration approaches. Just before front-month expiration, you want to buy back the shorter-term call for next to nothing. At the same time, you will sell the back-month call to close your position. Ideally, the back-month call will still have significant time value. Ideally you would like the stock price to be close to the strike price when the short near [front month] call expires.

**Mechanics of the Trade**

 Sell a call, strike price A (near-term expiration — “front-month”)

 Buy a call, strike price A (with expiration one month later — “back-month”)

 Generally, the stock will be at or around strike A

Reducing the Cost of this Strategy: If you’re anticipating minimal movement on the stock, construct your calendar spread with at-the-money {ATM]. If you’re mildly bullish, use slightly out-of-the-money [OTM]calls. This can give you a lower up-front cost for this type of spread.

Because the front-month and back-month options both have the same strike price, you can’t capture any of the intrinsic value [gain in the underlying stock price] the options. You can only capture time value. However, as the calls get deep in-the-money or far out-of-the-money [OTM], time value will begin to disappear. Time value is maximized with at-the-money options, so you need the stock price to stay as close to strike A as possible.

Maximum possible Loss: The net debit amount which equals the cost to purchase the later month call less the credit produced from the front month short call.

Maximum profit: is limited to the premium received for the back-month call minus the cost to buy back the front-month call, minus the net debit paid to establish the position or alternatively, the difference between the cost to buy back the front-month call and the initial amount paid in establishing the front month call.

Note: You may use this type of option spread when you believe there will be little movement in the underlying stock’s price over a short period of time [30-60 days]. You can rollover this calendar spread going forward to earn additional debit amounts.

A Long Call Butterfly Spread: consists of a combination long call spread with a short call spread with the spreads converging at a strike price B. Ideally, you want the calls with strikes B and C to expire worthless while capturing the intrinsic value of the in-the-money call with strike A. Because you’re selling the two options with strike B, butterflies are a relatively low-cost strategy. So the risk vs. reward can be tempting. However, the odds of hitting the sweet spot are fairly low, consequently you can lose small amounts of money over a long period of time [like playing the slot machines!]

Constructing your butterfly spread with strike B slightly in-the-money or slightly out-of-the-money may make it a bit less expensive to run. This will impose a directional bias on the trade. If strike B is higher than the stock price, this would be considered a bullish trade. If strike B is below the stock price, it would be a bearish trade. However, in most instances if a trader where bearish they most likely would use puts to construct the spread rather calls.

**Mechanics of the Trade**

 Buy a call, strike price A

 Sell two calls, strike price B

 Buy a call, strike price C

 Generally, the stock will be at strike B and A < B< C

Typically, investors will use butterfly spreads when anticipating minimal movement on the stock within a specific time frame. You would like the stock price to be at or near strike B.

**Maximum Profit** will be limited to Strike B – Strike A – net debit paid [cost of call at Strike A + debit on the two short calls at Strike B – cost of the call at Strike C].

**Maximum loss** will be limited to the net debit amount.