Managing equity risks using collars

August 9, 2019
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Presentation Outline

• Managing Risk
• Traditional Options Collar
• Choosing Strikes/Expiry
• Staggered Collar
• Put Spread Collar
• Laddered Collar
Managing Risk

• Protecting against a market correction is one of the most important aspects of managing a portfolio

• An investor can:
  • *Size down*
  • *Use stop loss orders*
  • *Implement options strategies*

• Options offer **FLEXIBILITY!**
Long Stock vs. Short Stock

In a world without options, stock investors have limited choices.
Traditional Options Collar

A Collar can be considered to be two strategies in one:
On the downside, it’s a **Protective Put:**

- Provides *protection* against a *decrease* in long stock share price
- Typically, an out of the money put is purchased
- Strike selected determines exit price
- **Profit** is in *long stock* position
- May allow investor to lock in profits
- Long option retains the *right* to exercise
### Protective Put

<table>
<thead>
<tr>
<th>Structure</th>
<th>Long 100 shares of stock and long 1 OTM put</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motivation</td>
<td>Protection to downside of long shares</td>
</tr>
<tr>
<td>Forecast</td>
<td>Bullish but cautious</td>
</tr>
<tr>
<td>Risk</td>
<td>Deductible + Premium paid</td>
</tr>
<tr>
<td>Reward</td>
<td>Unlimited</td>
</tr>
<tr>
<td>Assignment</td>
<td>No risk</td>
</tr>
</tbody>
</table>
A Collar can be considered to be two strategies in one:

On the upside, it’s a **Covered Call**:

- Generally used for income, can be used to **offset cost of Protective Put**
- Typically, an out of the money call is sold
- Strike selected determines where stock may be called away
- Upside profit limited by short call
- Short option seller may have assignment obligation
## Covered Call

<table>
<thead>
<tr>
<th>Structure</th>
<th>Long 100 shares of stock and short 1 OTM call</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motivation</td>
<td>Income, Increase stock returns</td>
</tr>
<tr>
<td>Forecast</td>
<td>Neutral to moderately bullish</td>
</tr>
<tr>
<td>Risk</td>
<td>Long stock minus call premium received</td>
</tr>
<tr>
<td>Reward</td>
<td>(Call strike + call premium) – long stock price</td>
</tr>
<tr>
<td>Assignment</td>
<td>Central to the strategy</td>
</tr>
</tbody>
</table>
Why Use a Collar?

• Stock, ETF or Index buyer with unrealized gains wants
  • Downside protection – long put
  • Some upside participation – limited by short call

• Key benefits
  • Put cost fully or partially paid by call premium received
  • Objectives met whether share price up or down
  • Receive any dividend if not assigned on short call

• Risk remains in long stock up until long put kicks in
What Does All This Cost?

Stock price = $75, 45 day expiry
Looking for protection beyond a 10% ↓ move

$75 – 10% = 67.50
Buy 1 67.50 put for $1.30
(Insurance Policy)

Sell 1 82.50 call at $0.90
to pay for it

NET COST = $.40 DEBIT

<table>
<thead>
<tr>
<th>Calls</th>
<th>Strike</th>
<th>Puts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bid</td>
<td>Ask</td>
<td>Bid</td>
</tr>
<tr>
<td>$8.75</td>
<td>$8.95</td>
<td>67.50</td>
</tr>
<tr>
<td>$6.10</td>
<td>$6.30</td>
<td>70.00</td>
</tr>
<tr>
<td>$4.40</td>
<td>$4.60</td>
<td>72.50</td>
</tr>
<tr>
<td>$3.05</td>
<td>$3.20</td>
<td>75.00</td>
</tr>
<tr>
<td>$2.05</td>
<td>$2.15</td>
<td>77.50</td>
</tr>
<tr>
<td>$1.30</td>
<td>$1.40</td>
<td>80.00</td>
</tr>
<tr>
<td>$0.87</td>
<td>$0.97</td>
<td>82.50</td>
</tr>
</tbody>
</table>

Not including commissions
Long 100 shares of stock at $75.00

- Buy 67.50 put for $1.30
- Sell 82.50 call at $0.90

Net DEBIT: $.40

Max Profit: Short call – share price
+/- net debit or credit

Max Loss: Share price – long put
+/- net debit or credit

Breakeven: share price +/- net debit or credit
What if the stock price plummets?
• Close position and free up capital?
• Hold shares and sell back long put?

What if the stock price remains flat?
• Still cautious?
• Roll out?

What if shares rally?
• Is protection still needed?
• Roll up and out?
Cost of trade
Risk of assignment
Theta
Management

Staggered Collar

What would happen if we bought longer-term protection and sold shorter-dated calls?
Advantages/Disadvantages of selling shorter dated options:

- Faster time decay: Theta accelerates roughly 30 days out
- Possibly larger pool of market participants may lead to more favorable pricing vs. longer dated calls
- Less time = less premium
- More chances to be assigned—be aware of Corporate Calendar—dividends, earnings, etc.
**Staggered Expiry’s**

*Scenario:* Due to better than expected earnings, Tom has enjoyed a run-up in share price of BUBL. He’s long 100 shares from $82 and stock is currently trading $96. To protect some of the unrealized gains against future earnings reports, his broker suggests putting on an options collar.

<table>
<thead>
<tr>
<th>Expiry</th>
<th>Strike</th>
<th>Call Value</th>
<th>Put Value</th>
<th>Expiry</th>
<th>Strike</th>
<th>Call Value</th>
<th>Put Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>April</td>
<td>92.50</td>
<td>$6.25</td>
<td>$2.30</td>
<td>Dec</td>
<td>92.50</td>
<td>$11.50</td>
<td>$11.20</td>
</tr>
<tr>
<td></td>
<td>95.00</td>
<td>$4.90</td>
<td>$3.30</td>
<td></td>
<td>95.00</td>
<td>$10.30</td>
<td>$12.50</td>
</tr>
<tr>
<td></td>
<td>97.50</td>
<td>$3.60</td>
<td>$4.70</td>
<td></td>
<td>97.50</td>
<td>$9.20</td>
<td>$13.30</td>
</tr>
<tr>
<td></td>
<td>100.00</td>
<td>$2.75</td>
<td>$6.25</td>
<td></td>
<td>100.00</td>
<td>$8.00</td>
<td>$13.80</td>
</tr>
</tbody>
</table>
To lock in some profit, Tom buys some “insurance” in the form of the Dec 92.50 put for $11.20. In the interim, he can also take advantage of further share price increases by selling the April 100 call at $2.75.

• Can repeat sale of short calls each month generating additional profits (assuming no assignment)
• Each sale reduces overall cost of long Dec put
• Short-term Theta often works in favor for options sellers
Staggered Collar Risks

• What if the stock moves sharply lower?
  • Exercise long put early or sell back to market?
  • Hold put and keep selling lower strike calls? (lowers potential assignment price)

• What if the stock moves sharply higher?
  • Assignment will result in lower profit due to lower premium of shorter dated calls
  • Roll up and out?
Put Spread Collar

Standard options collar provides protection (long put) down to zero

What is the likelihood of the stock plummeting to zero vs. a minor downturn—but NOT to zero?

Might be possible to save money (or increase credit) by selling a further OTM put also!

Possible position: long stock, short OTM call, long OTM put (traditional collar) & short a further OTM put
## Put Spread Collar Example

Setup: Long 500 shares from $105 with stock currently trading $120
Buys 5 45-day 115 puts for $3.60
Sells 5 45-day 125 calls at $3.00, AND
Sells 5 45-day 105 puts at $1.60

### Traditional Collar

<table>
<thead>
<tr>
<th>Stock Price at Expiry</th>
<th>115/105 Put Spread P/L at Expiry</th>
<th>Short 125 Call P/L at Expiry</th>
<th>Long $105 Stock P/L at Expiry</th>
<th>Net P/L + $1 Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>$95</td>
<td>$8.00</td>
<td>$3.00</td>
<td>($10.00)</td>
<td>$1.00</td>
</tr>
<tr>
<td>$105</td>
<td>$8.00</td>
<td>$3.00</td>
<td>-0-</td>
<td>$11.00</td>
</tr>
<tr>
<td>$115</td>
<td>($2.00)</td>
<td>$3.00</td>
<td>$10.00</td>
<td>$11.00</td>
</tr>
<tr>
<td>$125</td>
<td>($2.00)</td>
<td>$3.00</td>
<td>$20.00</td>
<td>$21.00</td>
</tr>
<tr>
<td>$135</td>
<td>($2.00)</td>
<td>($7.00)</td>
<td>$30.00</td>
<td>$21.00</td>
</tr>
</tbody>
</table>
Put Spread Collar Example

Long 500 shares of stock from $105
- Buy 5 115 puts for $3.60
- Sell 5 125 calls at $3.00
- Sell 5 105 puts at $1.60

Net CREDIT: $1.00

Max profit: diff. between long stock and short call + net premium: $21
Max loss: assignment value of short put – net premium: -$94

Protection kicks in between 105 & 115
Laddered Collar ( Strikes & Expiry’s )

Buying a put (long or short-term depends on protection desired)
Sell calls at various strikes/expiry’s

Example: Stock trading $100, long 500 shares
- **Buy** 5 180 day 85 puts for $4.00/each
- **Sell** 1 30 day 105 call at $.75
- **Sell** 1 60 day 110 call at $.80
- **Sell** 1 120 day 115 calls at $1.80
- **Sell** 2 180 day 120 call at $2.50

Net DEBIT of $1,165
What if’s?

- Stock makes a sharp move in either direction?
  - Sharp move down: Exercise put and buy to close short calls at a profit?
  - Sharp move up: Some or all short calls may be assigned and stock gets called away at various intervals

Regardless, less premium collected for shorter dated calls vs. longer results in less overall profit from a big move
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