

### SITUATION

The purchase of put options enables investors to get downside protection while retaining most of the upside potential of their shares. However, this insurance has a cost and can be quite expensive if the size of the stock position held is significant or if an investor wants to renew his protection on a regular basis.

Another alternative is available to investors wanting to protect the value of their shares, but finding the cost of put options too high: the collar. This strategy implies the purchase of put options and the simultaneous sale of call options having the same expiry. The call option premium revenue reduces the put option cost. So, this strategy allows buying insurance for a lower or near-zero total cost.

The disadvantage of this strategy is the obligation to sell the shares held if the call option is in-the-money at expiry unless the investor closes his position. An investor must fully understand the risks and rewards of each strategy (purchase of a collar v. purchase of put options as an insurance policy) and consider a market forecast that justifies each strategy.

### OBJECTIVE

Hedging the value of existing portfolio positions at a lower cost.

### STRATEGY

An investor holds 4,000 shares of ABC Inc. worth \$44.00. To hedge these stocks from a potential decline in share price, the investor buys out-of-the-money put options at a strike price of \$42.00 expiring in 90 days. Put options are trading at \$0.60, for an out-of-the-pocket cost of \$2,400.00. Since he finds this insurance quite expensive, he decides to sell ABC call options having the same expiry at a strike price of \$46.00. Call options are trading at \$0.35, for revenue of \$1,400.00. The premium collected from selling the call options substantially offsets the cost of put options. The total out-of-the-pocket cost for this strategy is reduced to \$1,000.00

- > Buy 40 ABC APRIL 42 puts at \$0.60
- > Sell 40 ABC APRIL 46 calls at \$0.35
- > Net debit: \$0.25

Note that since the options purchased are out-of-the-money, the investor assumes a downside risk of \$2.25 (the market price of the shares of \$44.00 minus the strike price of the put option of \$42.00 plus the premium paid for the strategy of \$0.25). At the same time, he limits his upside potential to \$1.75 (the strike price of the call option of \$46.00 minus the market price of the shares of \$44.00 minus the premium paid for the strategy of \$0.25).

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## RESULTS

### Scenario 1: ABC is trading at \$48.00 at expiration of the options.

The ABC APRIL 42 puts expire worthless. Since the holder of the 40 ABC APRIL 46 calls has decided to exercise, the investor is obligated to sell his shares at \$46.00. He experiences an opportunity cost since he could have sold his shares at \$48.00. His profits are limited to \$7,000.00 ( $\$1.75 \times 4,000$ ) instead of \$16,000.00.

A collar places a limit on the future potential profit since the investor must deprive himself of the gain from an increase in share price above the strike price of the call options sold.

### Scenario 2: ABC is trading at \$40.00 at expiration of the options.

The ABC APRIL 46 calls expire worthless. The puts purchased are now in-the-money. Thus, the investor decides to exercise his right to sell the shares at \$42.00. He limits his losses to \$9,000.00 ( $\$2.25 \times 4,000$ ) instead of \$16,000.00. As we can see, his losses would have been much more significant without this protection since he would be obligated to sell his shares at \$40.00, a loss of \$4.00 per share.

In the end, a collar enables an investor to acquire put options as an insurance policy at a lower or even zero cost. This strategy thus limits the downside risk but, at the same time, caps the upside potential. The choice of strike prices defines the risk the investor is willing to assume in case of falling prices, considering the return he wants to achieve in a rising market.

