

# Options: The Concept of Equivalent Strategies

**Naked put selling is equivalent to covered call writing in terms of where and how profits and losses are incurred. But it can be advantageous in terms of cost savings and potential reward.**

Talk to an investor who is involved in a covered call writing program about his doing some naked put selling instead and he may cringe. This is understandable. Most covered call writers don't realize that naked put selling and covered call writing are considered equivalent strategies. Nor do they realize that put selling might be the more advantageous of the two strategies. To see why this is so, one needs to be familiar with the concept of equivalent strategies.

## Equivalent Strategies

First, let's review some options basics. An option gives the holder the right to buy or sell a given amount of stock at a given price on or before a specific date. The premium is the price that is paid for the option. The strike price is the price at which the stock would be bought or sold. A call option gives the holder the right to buy stock, while a put option gives the holder the right to sell stock. An option is sold by an option writer, who has the obligation to buy or sell the stock if the option is exercised by the holder. The option writer receives the premium.

Any position that involves either a stock only or a combination stock and option has an equivalent position that involves just option(s) on the stock. Some examples are presented in **Table 1**.

## **Table 1. Equivalent strategies**

### **Stock only or combination**

### **Equivalent option-only position**

Buy stock	Simultaneously buy a call and sell a put
Sell stock short	Simultaneously buy a put and sell a call
Buy stock and buy a put (hedged stock purchase)	Buy a call
Sell stock short and buy a call (hedged short sale)	Buy a put
Buy stock and sell a call (covered call write)	Sell a put

What's meant by "equivalent" is that both strategies share similar characteristics in terms of where and how they incur profits and losses. It does not mean to say, however, that their returns on investment or break-even points would be the same. How they would compare on those terms would be a function of capital requirements, option premiums, margin requirements, dividends, commissions, taxes, etc., associated with implementing each strategy. The point is that if an investor is considering taking a position that involves a stock only or a combination stock and option position, he should also consider the options only position. In our case, we will examine the covered call writing strategy versus its equivalent strategy—the sale of a naked put. To show how these strategies are equivalent, we need to look at what each strategy involves and profit/loss diagrams for each.

## Covered Call Writing

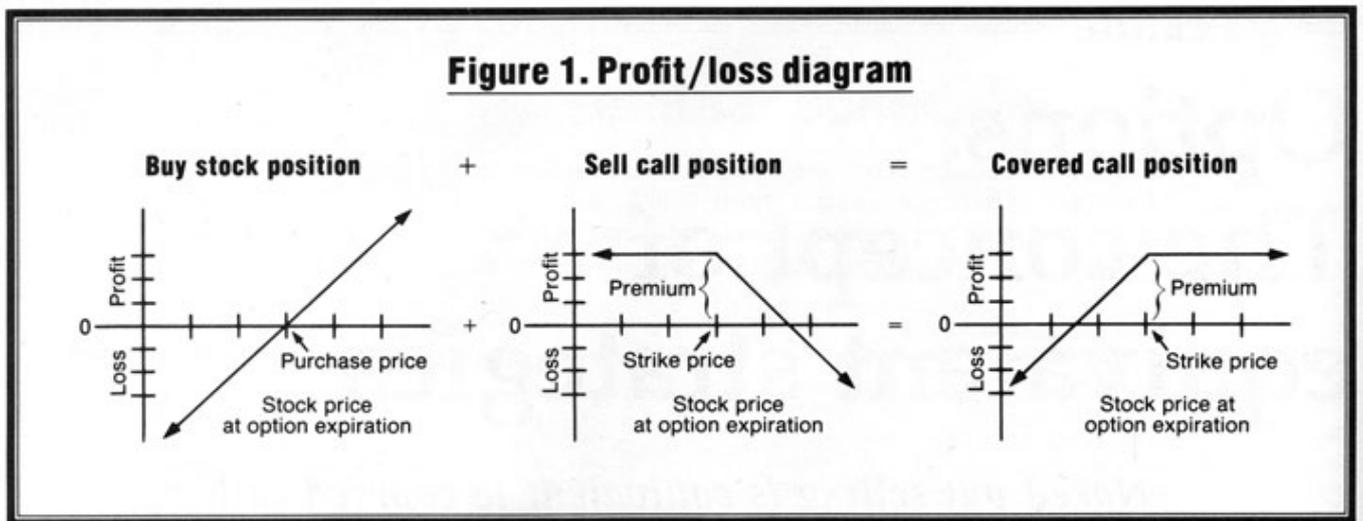
Covered call writing is a strategy that involves buying a stock and selling a call option on the stock. The investor's objective is to achieve a return based on collecting the stock's call option premium (plus whatever dividends the stock might pay over the term of the option). The call option is considered "covered" (collateralized) due to the fact that the call seller is the owner of the stock and could deliver the stock if the option were exercised. The cost of the stock minus the premium received for the option (plus commissions) is considered his investment. The return on the combined (stock purchase and option sale) position if the option were exercised at expiration can be determined in advance—based on the cost of the stock, the strike price of the option and the option premium received.

The position is usually implemented with the stock price very near the strike price of the option,

because that's where the time value in the option—which the call writer receives—would be the greatest. The position might also be implemented when the call option has about six or eight weeks to go to expiration, because it's during that time period that the time value in the option falls the quickest—something the call writer is attempting to capitalize on. This would also permit more turnovers for his call writing program.

To see how profits (and losses) arise from this strategy, we need to look at a profit/loss diagram for such a position. A profit/loss diagram reflects the profit or loss that will result from a position as a function of where the stock price is when the position is closed out (in our case, at option expiration).

To generate a basic profit/loss diagram (not adjusted for dividends, commissions, etc.) for the covered call write, we need to combine two profit/loss diagrams—one for the buy stock portion of the position and one for the “sell a call” portion of the position as shown in **Figure 1**.

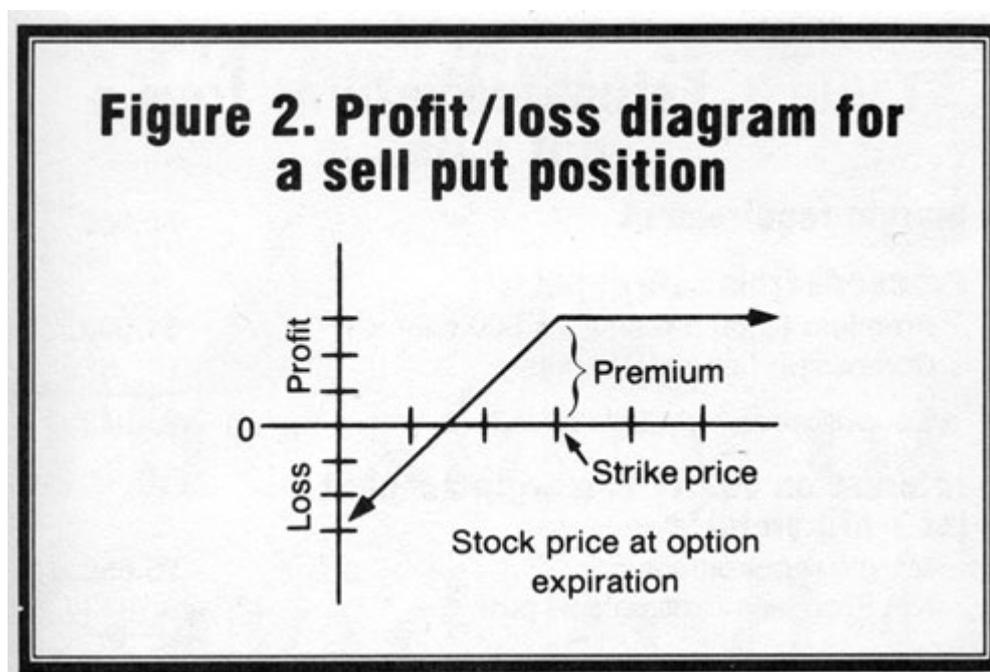


What's reflected in the profit/loss diagram for the covered call position, opened here with the stock price equal to the strike price of the option, is that the position returns the call option premium if the stock price at option expiration is anywhere above the strike price of the option. Below the strike price, losses in the stock position erode potential profits from the option position dollar for dollar with each lower stock price. Below the break-even point (where the profit/loss line crosses the zero profit/loss reference line), losses continue to build up at this same dollar-for-dollar rate.

## Naked Put Selling

Naked put selling simply involves selling a put option on the stock. The investor's objective is to achieve a return based on collecting the put premium. The investor sells puts on stocks where the price of the stock is expected to remain above the put's strike price until expiration. The investor

expects the put option to thus go unexercised and expire worthless, permitting him to pocket the premium received. The put option is considered “uncovered” (naked) because the put seller does not have a position in the stock and would be required to buy the stock if the put he sold was exercised. The put sale must, therefore, be collateralized, so there is a margin requirement involved. A profit/loss line for the sale of a put is given in **Figure 2**.



What’s reflected in the profit/loss diagram for the sell put position, opened here with the stock price equal to the strike price of the option, is that the position returns the put option premium if the stock price at option expiration is anywhere above the strike price of the option. Below the strike price, the put option would have to be bought back in order to avoid exercise. This would erode potential profits dollar for dollar with each lower stock price. Below the break-even point (where the profit/loss line crosses the zero profit/loss reference line), losses would continue to build up at this same dollar-for-dollar rate.

## Similarity of Both Positions

Note the similarity in the shape of each strategy’s profit/loss line. Because of this similarity, these two strategies are considered equivalent and can be expected to have very similar risk-reward (profit/loss) characteristics.

The difference, however, in these two strategies—and the element that gives the sale of a naked put the advantage over the covered call write—is that in the case of the covered call, the investment involves taking a position in the stock, while in the case of the sale of a naked put, the investment

involves only a margin requirement. And the margin requirement for the naked put sale is considerably less than the cash requirement to purchase the stock (even if the stocks were bought on margin). The sale of a naked put position is, therefore, more highly leveraged—as we will see when we make a direct comparison of both strategies with an example.

## A Direct Comparison

Assume stock XYZ is at \$41 per share, and that an XYZ 40 strike price call option with two months to go to expiration is selling for 3.25. Let's also assume that its corresponding 40 strike price put option is selling for 2. The price of XYZ stock is expected to advance or to at least remain above the 40 strike price over the next two months. XYZ is also expected to pay a \$0.45 dividend over the term of the option.

The following assessments and comparisons of returns and break-even points for a covered call write on 500 shares of XYZ and the equivalent strategy of a simple sale of five put option contracts on XYZ are intended to show the advantages of the naked put selling strategy over the covered call write.

## The Covered Call Write

The return on the investment of a covered call write is computed based on: a cash investment equal to the net cost of the stock minus the net proceeds from the sale of the calls; and a return based on the dividend income plus the net proceeds from the sale of the stock upon exercise of the option at expiration. An estimate of the return for the example would be computed as indicated in **Table 2**.

## Table 2. Estimated returns from a covered call write

### Cash required to initiate position

Cost of stock:

Price of stock \$41 per share x 500 shares = \$20,500

Commissions on purchase of stock  
(average between discount and full service) + 236

Net cost of stock (1) \$20,736

Premiums received from sale of call options:

Premium \$3.25 per share x 500 shares = \$ 1,625

Commissions on sale of options - 69

Net proceeds from sale of options (2) \$ 1,556

Cash required to initiate position (3) [(1) - (2)] = \$19,180

### Dividend income over term of option

Estimated dividends: \$0.45 per share x 500 shares (4) = \$ 225

### Proceeds from closing position due to exercise of option

Proceeds from sale of stock:

Strike price 40 x 500 shares = \$20,000

Commissions on sale of stock - 232

Net proceeds on closing (5) = \$19,768

### Return on investment

Net proceeds on closing (5) \$19,768

Dividend income over term of option (4) + 225

Total net proceeds \$19,993

Cash required to initiate position (3) - 19,180

Profit return \$ 813

Cash required to initiate position (3) ÷ 19,180  
× 100

Percent return over term of option 4.2%

(t = term of option = 60 days) × 360/t

Percent return on investment (annualized) 25.2%

**NOTE:** Had the stock been bought on (50%) margin, the annualized return on investment would have computed to be about 40%.

Now let's look at the break-even point. As reflected by this strategy's profit/loss diagram, the risk

with this strategy is to the downside. The downside break-even stock price for the example position would be computed as follows:

Net cost of stock:	(1) \$20,736
Net proceeds from sale of options	(2) - \$1,556
Dividend income over term	(4) - \$225
Commissions on sale of stock	+ \$232
Number of shares of stock	÷ 500
Break-even stock price	= \$38.375

The break-even point, then, is \$38.375.

## The Sale of a Naked Put

The sale of an uncovered (naked) option does not involve an “investment,” but does involve a margin requirement. The margin requirement is much less than the cost of purchasing the stock—even if the stock was purchased on margin. The margin requirement (per share) for selling a naked option amounts to 30% of the underlying stock price plus the amount that the option is in-the-money (or minus the amount that the option is out-of-the-money). For the position in our example, it would be computed as follows:

$$[(0.30 \times \$41) - \$1] \times 500 \text{ shares} = \$5,650.$$

The margin requirement is computed each day based on the stock’s closing price, and it must be maintained at the recomputed level. In the case of a naked put, it would increase if the stock price decreased and would decrease if the stock price increased.

The proceeds from the put sale can be applied to the margin account to reduce the cash (equity) requirement. Thus, the return on investment from a naked put sale is computed based on a cash investment equal to the margin requirement minus the net proceeds from the sale of the puts.

Another point to keep in mind is that the margin requirement can be satisfied with a Treasury bill, thus permitting interest to be earned on the equity in the margin account. An estimate for the return for the example would be computed as in **Table 3**.

### Table 3. Estimated returns from a put sale

<b>Margin requirement</b>	\$5,650
<b>Proceeds from sale of puts:</b>	
Premium \$2.00 per share x 500 shares	= \$1,000
Commission on sale of puts	- 57
Net proceeds from sale of puts	(2) \$ 943
<b>Interest on equity in margin account (at T-bill yield)</b>	
Margin requirement	\$5,650
Net Proceeds from sale of puts	(2) - 943
Equity in margin account	(3) \$4,707
Interest: Yield $0.10 \div 360 = 0.00028$ per day x 60 days =	(4) $\times 0.0167$
	\$ 79
<b>Return on investment</b>	
Net proceeds from sale of puts	(2) \$ 943
Interest on equity in margin account	(4) + 79
Equity in margin account	(3) $\div 4,707$
	$\times 100$
Percent return over term of option	21.7%
(t = term of option = 60 days)	$\times 360/t$
Percent return on investment (annualized)	130.2%

The downside break-even stock price with this position is computed as follows:

Strike price of option $40 \times 500$ shares	= \$20,000
Net proceeds from sale of puts	(2) - \$943
Interest on equity in margin account	(4) - \$79
Number of shares	$\div 500$
Break-even stock price	= \$37.96

Thus, the break-even stock price is about \$38.

## The Results Compared

What these examples are intended to show is that although the break-even stock prices for both strategies would be very close (\$38 vs. \$38.375), the potential returns from the naked put selling strategy would be far superior to those for the covered call writing strategy (130% vs. 25%).

Even if you were to consider an “at risk” investment for the sale of the naked put as being the equivalent of a 100% margin requirement (since the put seller presumably needs to have the cash available to cover the cost of repurchasing the option at any stock price below the strike price in order to cancel his obligation as a put seller), the computed return on that basis would still exceed that of the covered call write due to the fact that the naked put sale does not have round-trip commissions on the purchase and sale of stock associated with it—a fact that may make brokers cringe when covered call writers start talking to them about selling naked puts on stocks instead of buying stocks and writing calls on them.

This article was written by Norman Saint-Peter for the August 1985 issue of the *AII Journal*. Saint-Peter is the author of the book, “How to Make Money in Stock Options” (Prentice-Hall, 1984).