



Covered Calls Inside and Out

CBOE[®]
CHICAGO BOARD OPTIONS EXCHANGE

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In order to simplify the computations, commissions have not been included in the examples used in these materials. Commission costs will impact the outcome of all stock and options transactions and must be considered prior to entering into any transactions.

Any strategies discussed, including examples using actual securities and price data, are strictly for illustrative and educational purposes only and are not to be construed as an endorsement, recommendation, or solicitation to buy or sell securities.

Options involve risks and are not suitable for everyone. Prior to buying or selling an option, an investor must receive a copy of Characteristics and Risks of Standardized Options. Copies may be obtained from your broker or from The Chicago Board Options Exchange, 400 S. LaSalle, Chicago, IL 60605. Investors considering options should consult their tax advisor as to how taxes may affect the outcome of contemplated options transactions.

Covered Calls Defined

Profit/Loss Table and Diagram

Rate of Return Calculations

Motivations

The “Pure Income” Variation

Bonus - a Similar Strategy

Selling Options to Target Consistent Income

Covered calls is a two-part strategy that consists of buying stock and selling calls on a share-for-share basis

Examples:

Buy 100 shares and sell 1 call

Buy 500 shares and sell 5 calls

Buy 2,000 shares and sell 20 calls

Covered Calls Example

Buy 100 shares XYZ @ 37.80

Sell 1 XYZ 40 Call @ 1.10

Assumptions: 75 days to expiration
the stock pays a 23-cent
dividend prior to expiration

Note: Examples do not include commissions.

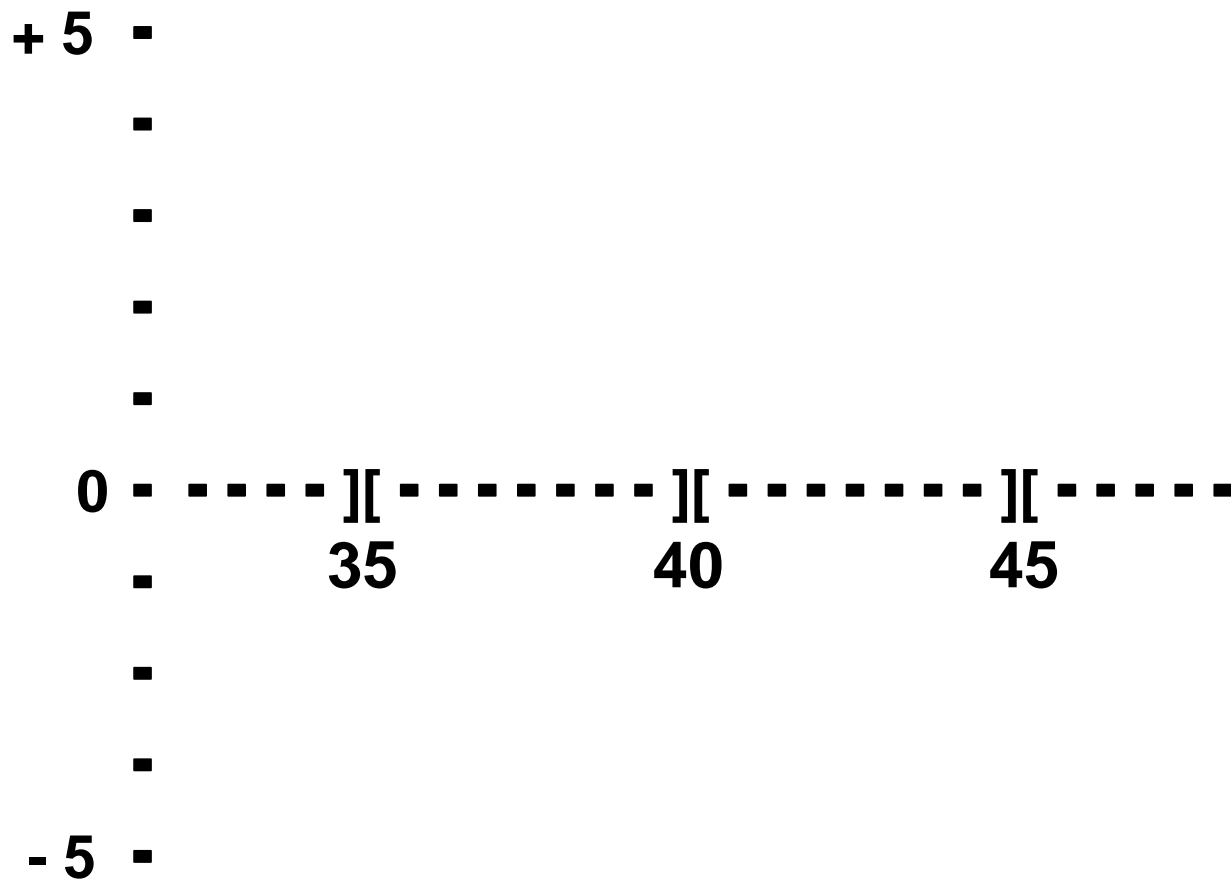
Buy Stock @ 37.80
Short 40 Call @ 1.10



Stock Price	Long Stk at 37.80	-1 40 Call at 1.10	P /(L)
42.00			
40.00			
37.80			
36.70			
35.00			

The Covered Call

P/(L)
+3.30
+3.30
+1.10
-0-
(1.70)



AT EXPIRATION:

Stock price at or below the strike price:

Stock price above the strike price:

The break-even stock price at expiration:

Stock price – call premium

Below this point, the covered call results in a loss.

The indifference point:

Strike price + call premium

Above this point, the covered call makes less than a straight long stock position.

Stock options can be exercised on any business day prior to expiration. This is known at “early exercise.”

Early exercise is usually related to dividends. Calls are exercised the day before an ex-dividend date, and puts are exercised on the ex-dividend date.

The static return assumes that the price of the underlying is unchanged at expiration and the call expires worthless.

Note: Return calculations assume that the same per-period profit can be earned repeatedly throughout the year, and this may not be possible.

Calculating Static Return

$$\frac{\text{Income}}{\text{Investment}} \times \text{Time Factor}$$

$$\frac{\text{Call} + \text{Dividend}}{\text{Stock Price}} \times \frac{\text{Days/Year}}{\text{Days to EXP}}$$

Static Return Worksheet

Call Price less Commission		_____
Plus Dividends	+	_____
= Income	=	_____
Divided by Stock Price plus Comm	÷	_____
= % Income	=	_____
Times 365/_____ (Days to Exp)	x	_____
= Annualized Static Return	≈	_____

Commissions not included

The if-called return assumes that the underlying price rises above the strike price and that the call is assigned at expiration. This means that the underlying is sold at the strike price.

Note: Return calculations assume that the same per-period profit can be earned repeatedly throughout the year, and this may not be possible.

Calculating If-Called Return

$$\frac{\text{Income} + \text{Gain}}{\text{Investment}} \times \text{Time Factor}$$

$$\frac{(\text{Call} + \text{Div}) + (\text{Strike} - \text{Stock})}{\text{Stock Price}} \times \frac{\text{Days/Year}}{\text{Days to EXP}}$$

If-Called Return Worksheet

$$\text{Call Price} - \text{Comm} + \text{Div} = 1.10 + 0.23 = \underline{\hspace{2cm}}$$

$$\text{Strike Px} - \text{Stock Px} = 40.00 - 37.80 = \underline{\hspace{2cm}}$$

$$= \text{Income} + \text{Gain} = \underline{\hspace{2cm}}$$

$$\text{Divided by Stock Price plus Comm} \div \underline{\hspace{2cm}}$$

$$= \% \text{ Income} = \underline{\hspace{2cm}}$$

$$\text{Times } 365 / \underline{\hspace{2cm}} \text{ (Days to Exp)} \times \underline{\hspace{2cm}}$$

$$= \text{Annualized If-Called Return} \approx \underline{\hspace{2cm}}$$

Commissions not included

Stock price forecast

Investment objective

If you do not want to sell the stock, what will you do if the stock price rises “too much”?

What is the stock price declines “too much”?

The “Pure Income” Approach

Buy 100 shares QRS @ 58.10

Sell 1 XYZ 50 Call @ 8.90

Assumptions: 60 days to expiration
No dividend

“Pure Income” Static Return

Call Price less Commission _____

Less in-the-money amount - _____

= Time Value = Income = _____

Divided by “Net Investment” ÷ _____

= % Income = _____

Times 365/_____ (Days to Exp) x _____

= Annualized Static Return ≈ _____

Commissions not included

“Pure Income” Static = If-Called

Buy 100 shares QRS @ 58.10

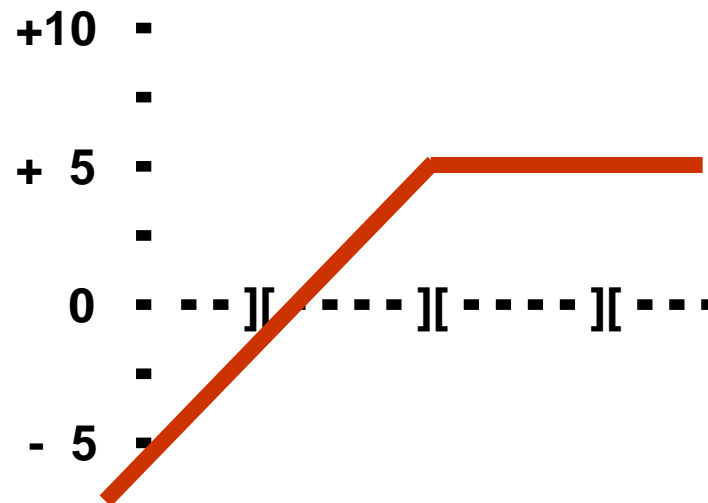
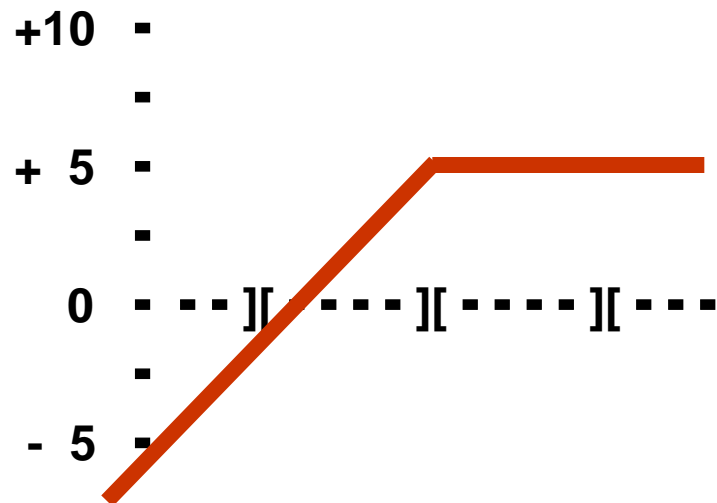
Sell 1 XYZ 50 Call @ 8.90

Static return implies stock price is unchanged.

If the stock price is 58.10 at expiration, then the 50 Call will be assigned.

Therefore, static return equals if-called return.

Bonus – A Similar Strategy



Covered Call

Does this look like another strategy?

Strategy Defined: Sell a put and make a margin account deposit

Traditional Example:

Sell 1 XYZ 55 Put @ 1.75

Purchase \$5,500 T-Bill

XYZ @ 57.75

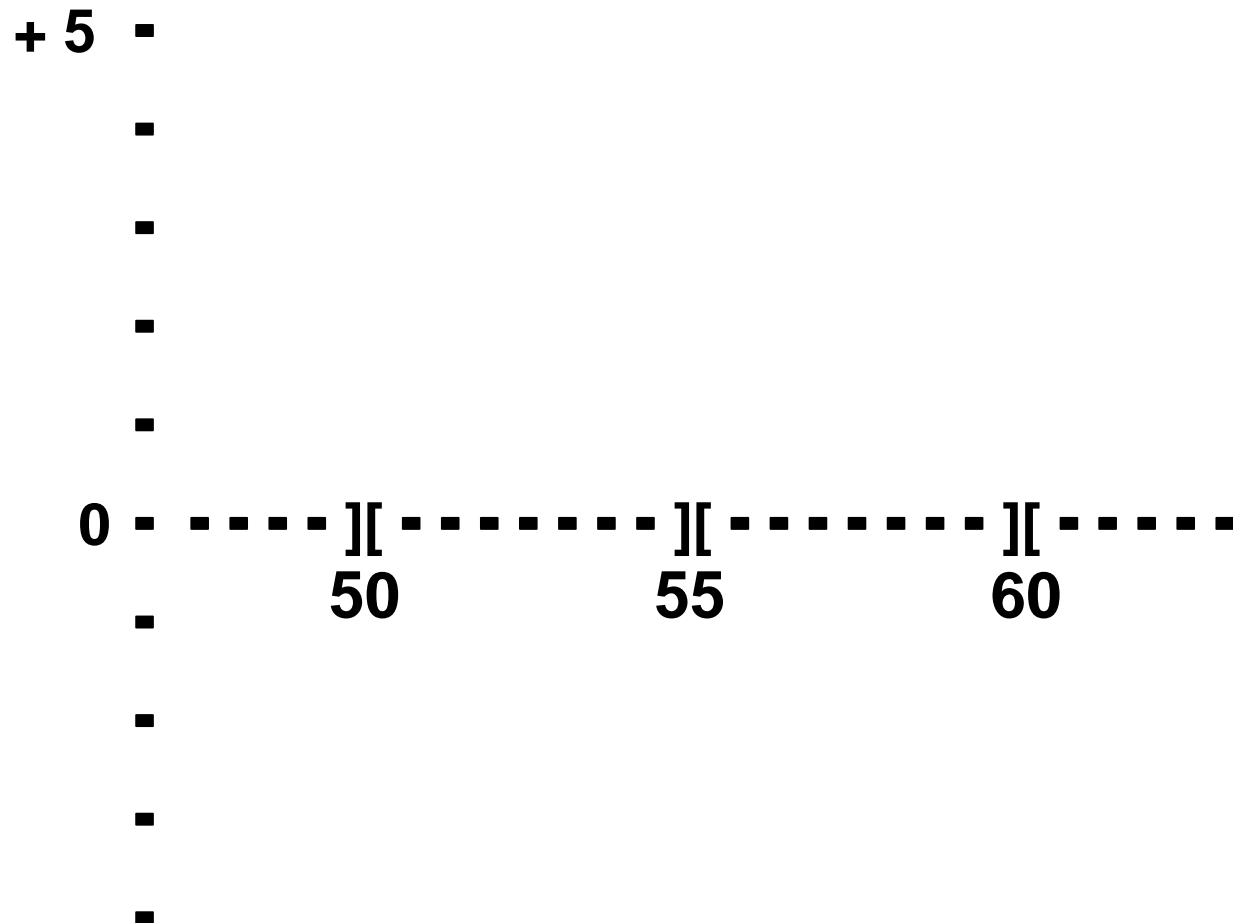
60 days before expiration

Short 1 55 Put @ 1.75

Stock Price	Sale Price	Put Value at Exp.	P /(L)
60.00			
55.00			
53.25			
50.00			
45.00			

Short 1 55 Put @ 1.75

P/(L)
+1.75
+1.75
-0-
(3.25)
(8.25)



AT EXPIRATION:

Stock price at or above the strike price:

Stock price below the strike price:

Stock options can be exercised on any business day prior to expiration. This is known at “early exercise.”

Early exercise is usually related to dividends. Puts are exercised on the ex-dividend date.

This calculation assumes that the price of the underlying is above the strike price at expiration and the put expires worthless.

Note: Return calculations assume that the same per-period profit can be earned repeatedly throughout the year, and this may not be possible.

Return If Put Expires

$$\frac{\text{Income}}{\text{Investment}} \times \text{Time Factor}$$

$$\frac{\text{Put} + \text{Interest}}{\text{Margin Acct Deposit}} \times \frac{\text{Days/Year}}{\text{Days to EXP}}$$

Return if Put Expires Worksheet

Put Price less Commission		_____
Plus Interest on T-Bill	+	_____
= Income	=	_____
Divided by Cash = Strike Price	÷	_____
= % Income	=	_____
Times 365/_____ (Days to Exp)	x	_____
= Annualized Static Return	≈	_____

Commissions not included

1. Start with cash; sell a cash-secured put.
2. At expiration:
 - If put is assigned: Sell a covered call against the long stock
 - If put expires: Sell another put on same or different stock
3. Do more than one at a time (spread risk)
4. Have a stop-loss point on all positions.

Sometimes a position is willingly held until expiration;

Other times, there may be a benefit to taking action prior to expiration.

Your position during expiration week:

Long 200 shares of XYZ

Short 2 XYZ June 40 calls

XYZ is trading at \$43.00.

If no action is taken, the calls will be assigned and the shares will be sold at \$40.

Markets on XYZ options:

XYZ June 40 calls:

3.00 – 3.10

XYZ July 40 calls:

3.75 – 3.85

Question: Should you wait for assignment or “roll” your June calls to July?

What is rolling?

1. Buy in short calls
2. Sell other calls in a deferred expiration
3. Same strike or different strike price
4. Executed as one trade

To roll your position:

- Buy the June 40 Calls (to close) \$
- Sell the July 40 Calls (to open) \$

Net debit or credit?

XYZ is trading at \$43.00.

To roll your position:

- Buy the June 40 Calls (to close) \$
- Sell the July 45 Calls (to open) \$

Net debit or credit?

Does it make sense economically?

Are you comfortable holding your XYZ shares an additional 4 weeks?

Do you want the calls to be assigned and, as a result, sell the shares?

How will you invest the proceeds from the sale of the stock?

Sometimes leaving well enough alone (doing nothing) is the “best” path.

Other times taking “early” action may provide you with new investment opportunities.

Covered calls are appropriate for a neutral to moderately bullish forecast.

Know your goal (to increase returns, to sell the stock or to reduce market exposure).

Have an exit strategy (let the underlying be called, or repurchase call, or roll to a later expiration date, or close the position at the pre-determined stop-loss point).

THANK YOU FOR ATTENDING.

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ANSWERS



Covered Calls

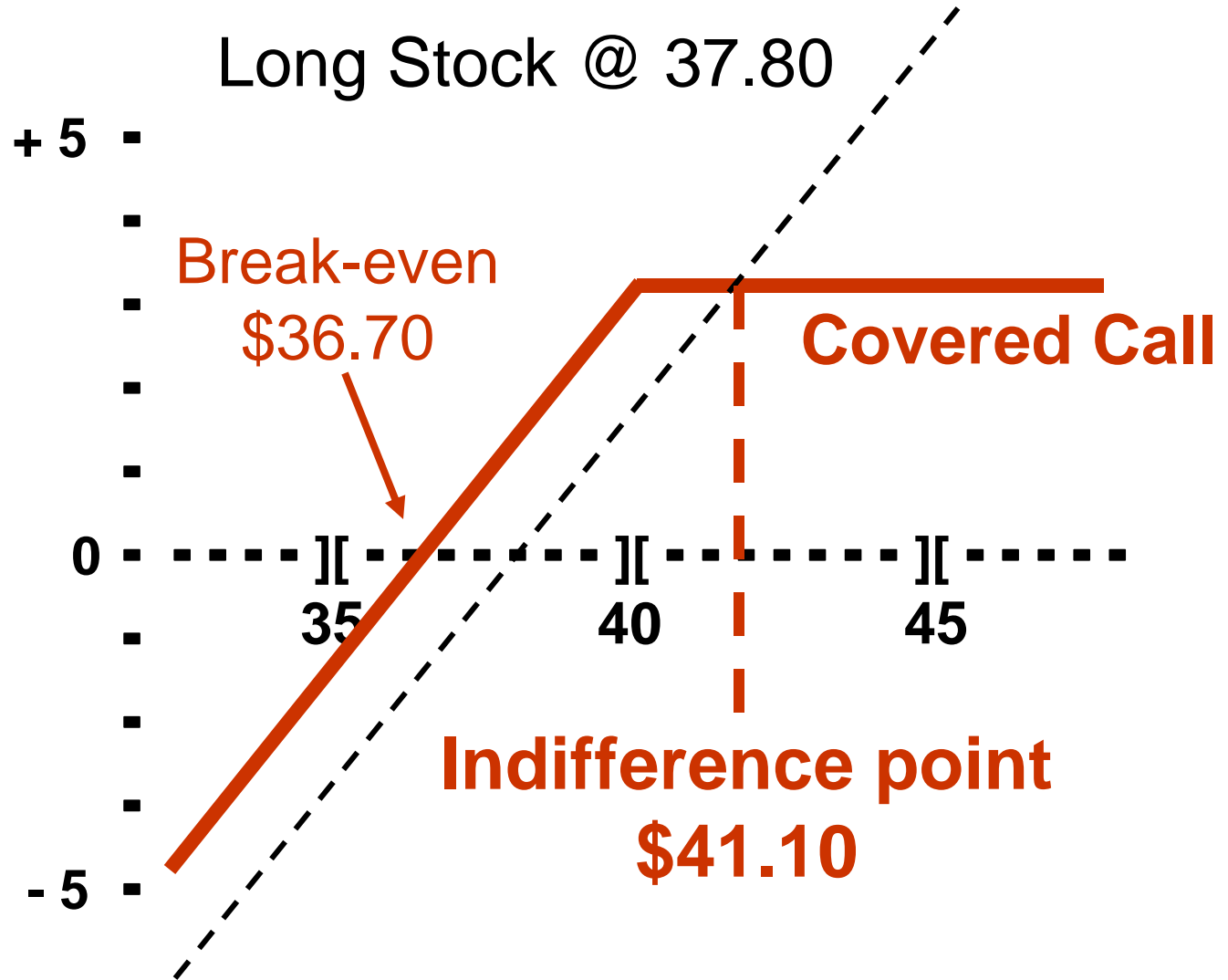
Buy Stock @ 37.80
Short 40 Call @ 1.10



Stock Price	Long Stk at 37.80	-1 40 Call at 1.10	P /(L)
42.00	+4.20	(0.90)	+3.30
40.00	+2.20	+1.10	+3.30
37.80	-0-	+1.10	+1.10
36.70	(1.10)	+1.10	-0-
35.00	(2.80)	+1.10	(1.70)

The Covered Call

P /(L)
+3.30
+3.30
+1.10
-0-
(1.70)



AT EXPIRATION:

Stock price at or below the strike price:

Call expires

Stock position is kept

Stock price above the strike price:

Call is assigned

Stock is sold at the strike price

Static Return Worksheet

Call Price less Commission		<u>1.10</u>
Plus Dividends	+	<u>0.23</u>
= Income	=	<u>1.33</u>
Divided by Stock Price plus Comm	÷	<u>37.80</u>
= % Income	=	<u>3.5%</u>
Times 365/ <u>75</u> (Days to Exp)	x	<u>4.8</u>
= Annualized Static Return	≈	<u>16%</u>

before commissions

Commissions not included

If-Called Return Worksheet

$$\begin{aligned} \text{Call Price} - \text{Comm} + \text{Div} &= 1.10 + 0.23 &= \underline{1.33} \\ \text{Strike Px} - \text{Stock Px} &= 40.00 - 37.80 &= \underline{2.20} \\ &= \text{Income} + \text{Gain} &= \underline{3.53} \\ \text{Divided by Stock Price plus Comm} &&\div \underline{37.80} \\ &= \% \text{ Income} &= \underline{9.3\%} \\ \text{Times } 365 / \underline{75} \text{ (Days to Exp)} &&\times \underline{4.8} \\ = \text{Annualized If-Called Return} &&\approx \underline{44\%} \end{aligned}$$

Commissions not included

before commissions

Stock price forecast

- **Neutral to bullish**

Investment objective

- **Seek additional income (but do not want to sell the stock).**
- **Want to sell the stock above the current market price of the stock.**
- **Want a limited amount of downside protection.**

If you do not want to sell the stock, what will you do if the stock price rises “too much”?

- **Will you buy back the covered call and close out the obligation?**
- **Will you “hold and hope” (hope the stock price declines below the strike and the call expires)?**
- **Will you roll the call to a higher strike price and/or further out expiration? (more on this later)**

What is the stock price declines “too much”?

- **Will you close the entire position, possibly at a loss?**
- **Will you “hold and hope” (hope the stock price rises back up above the break-even point)?**
- **Will you roll the call to a lower strike price and/or further out expiration? (more on this later)**

The “Pure Income” Approach

Buy 100 shares QRS @ 58.10

Sell 1 XYZ 50 Call @ 8.90

Net Investment = 49.20

Max profit = 0.80

Assumptions: 60 days to expiration
No dividend

This is an in-the-money call!

This call will be assigned if the stock price is > 50 at expiration.

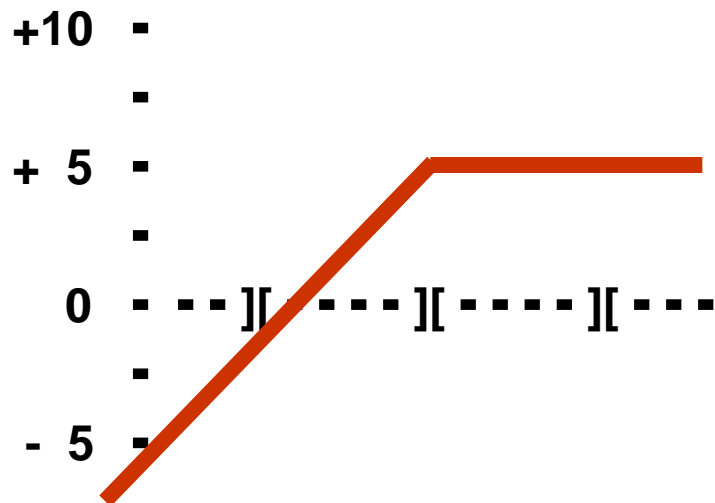
“Pure Income” Static Return

Call Price less Commission		<u>8.90</u>
Less in-the-money amount	–	<u>8.10</u>
= Time Value = Income	=	<u>0.80</u>
Divided by “Net Investment”	÷	<u>49.10</u>
= % Income	=	<u>1.6%</u>
Times 365/ <u>60</u> (Days to Exp)	x	<u>6.0</u>
= Annualized Static Return	≈	<u>9.6%</u>

before commissions

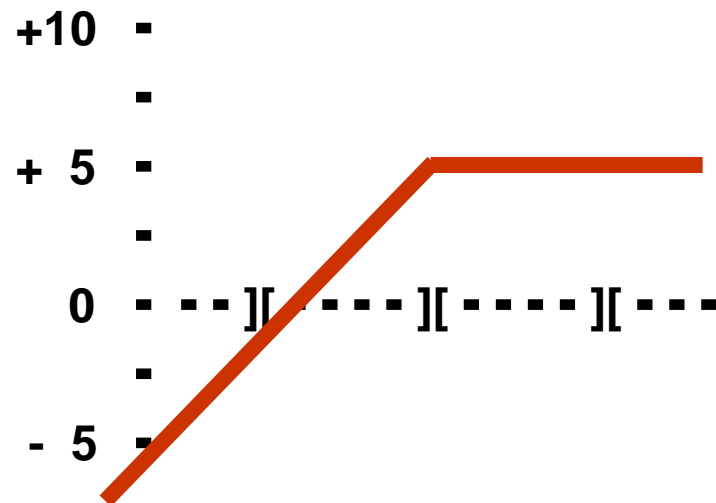
Commissions not included

Bonus – A Similar Strategy



Covered Call

Does this look like another strategy?



Below strike: Long stock

Above strike: Cash

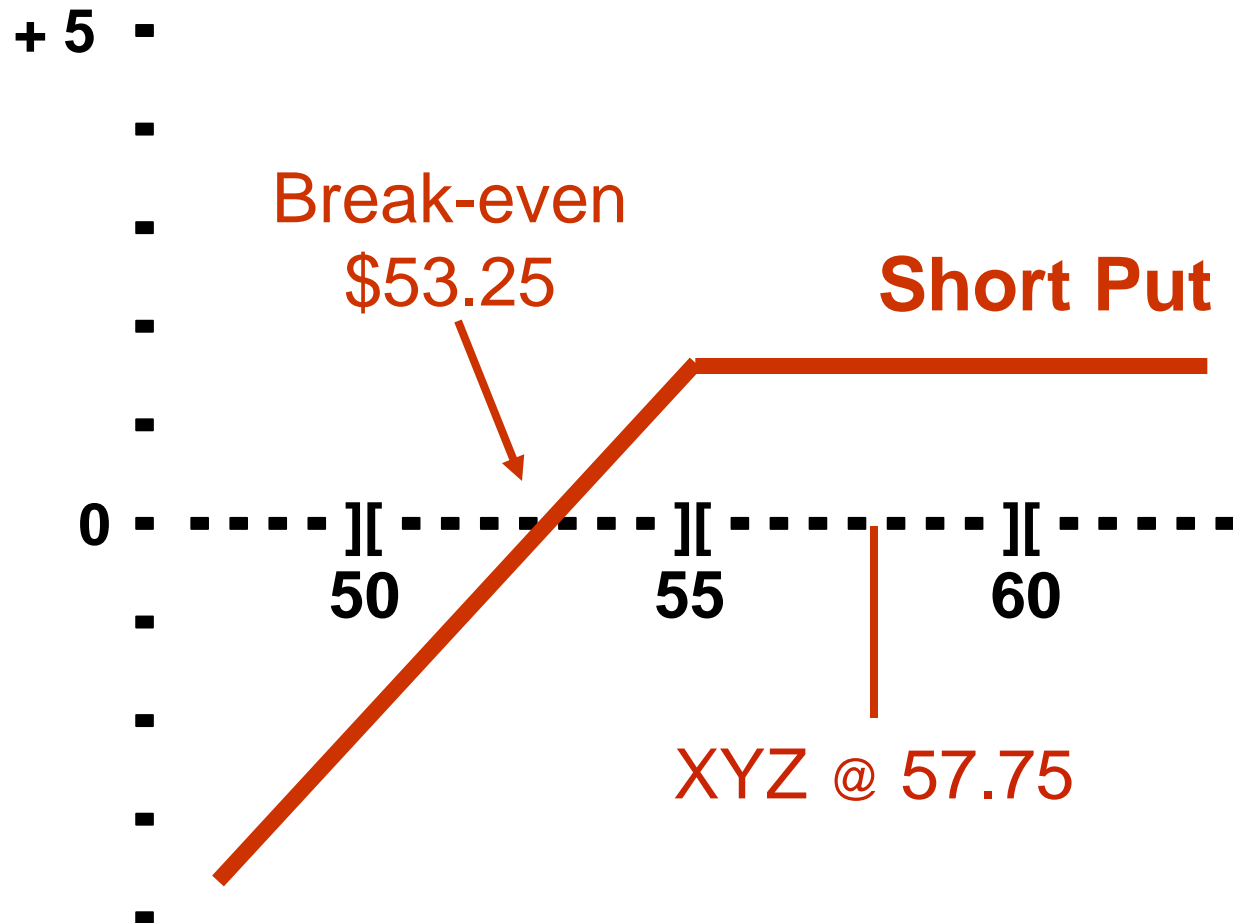
Short put!

Short 1 55 Put @ 1.75

Stock Price	Sale Price	Put Value at Exp.	P /(L)
60.00	1.75	0	+1.75
55.00	1.75	0	+1.75
53.25	1.75	1.75	-0-
50.00	1.75	5.00	(3.25)
45.00	1.75	10.00	(8.25)

Short 1 55 Put @ 1.75

P/(L)
+1.75
+1.75
-0-
(3.25)
(8.25)



AT EXPIRATION:

Stock price at or above the strike price:

Put expires

T-Bill matures – have cash

Stock price below the strike price:

Put is assigned

Stock is purchased at the strike price

Return if Put Expires Worksheet

Put Price less Commission		<u>1.75</u>
Plus Interest on T-Bill	+	<u>-0-</u>
= Income	=	<u>1.75</u>
Divided by Cash = Strike Price	÷	<u>55.00</u>
= % Income	=	<u>3.1%</u>
Times 365/ <u>60</u> (Days to Exp)	x	<u>6.0</u>
= Annualized Static Return	≈	<u>18%</u>

before commissions

Commissions not included

To roll your position:

- Buy the June 40 Calls (to close) \$ **3.10**
- Sell the July 40 Calls (to open) \$ **3.75**

Net debit or credit? **Net credit of \$0.65**

This is rolling out to a later expiration

This brings more cash (income)

What if you are more bullish?

XYZ is trading at \$43.00.

To roll your position:

- Buy the June 40 Calls (to close) \$ **3.10**
- Sell the July 45 Calls (to open) \$ **1.40**

Net debit or credit?

Net debit of \$1.70

This is rolling up and out:

to a higher strike and a later exp.

This is generally done for a net debit.

Sometimes leaving well enough alone (doing nothing) is the “best” path.

Other times taking “early” action may provide you with new investment opportunities.

You must be the judge!

Trading/investing is an art, not a science.