Module 8: Earn income from your shares

Version 3 – March 2023

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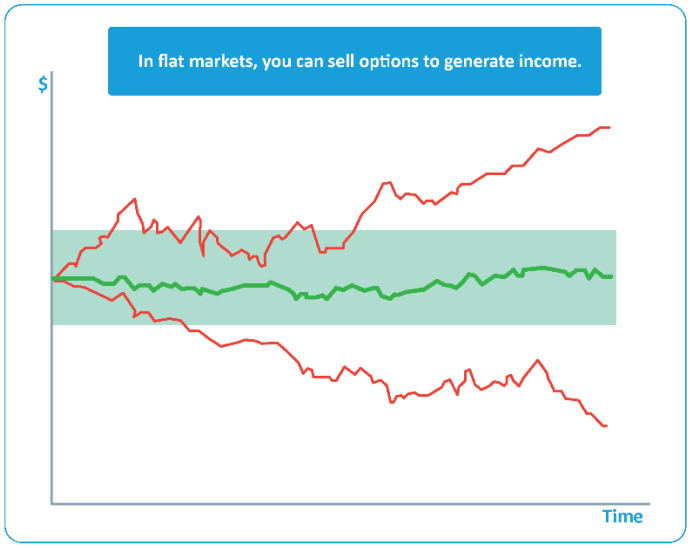
Topic 1: Introduction

Share prices don't just rise or fall - they may remain steady, sometimes for extended periods. During these times, you gain little benefit from your shares, apart from any dividends that are paid.

Investors holding a neutral market view typically consider two alternatives:

- Hold, in the hope the shares will eventually rise again
- Sell, and invest the proceeds elsewhere.



Options offer you a third alternative. By writing (selling) call options over your stock, you can earn income.

As well as generating income, writing calls over your stock offers other benefits.

Writing covered calls	
Income in flat markets	✓
Limited protection in falling markets	✓
Posibility of selling shares at higher price	✓

Writing a call provides some protection if the share price falls. The premium you receive provides limited compensation for the loss in the value of your shares.

Writing calls can also result in you selling your shares for more than the current market price.

We will also look more closely at writing calls over index options in Module 9 - Index Options. Your view and writing covered calls assumptions:

- Flat / moderately bullish on shares over life of the option
- Accept you may have to sell shares if exercised

- Accept profit potential is limited even if shares rally

If you change your mind on any of these consider unwinding the strategy.

The call writer's obligation

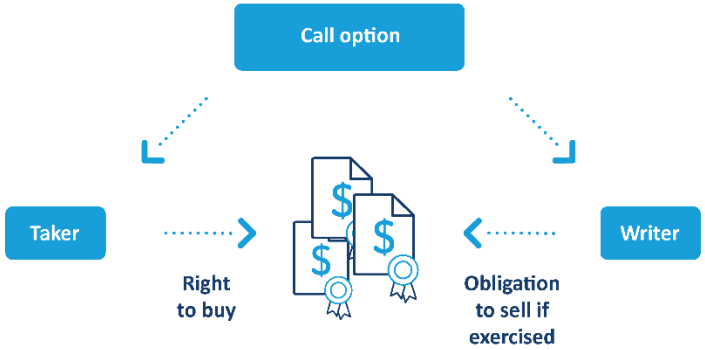
Assume XYZ shares are trading at $10.00 in early May. Let's look at the following option:

XYZ June $10.00 Call option @ $0.42

The ***taker*** of this option has the right to buy XYZ shares for $10.00 per share.

The ***writer*** of the option has:

- the obligation
- to sell
- 1000 shares in company XYZ
- for $10.00 per share
- if the option is exercised.



The taker pays the writer the premium of $0.42 per share i.e. $420 for the option.

The covered call writer holds the underlying shares - the written call is 'covered' by the shares. (If you write a call option without holding the underlying shares, you are 'uncovered' or 'naked'.)

To ensure you are able to meet the obligation you accept when you write an option, you are required to lodge collateral with ASX Clear Pty Limited, the ASX subsidiary that clears options trades. When writing a covered call, you lodge your shares.

If the call is exercised, ASX Clear has your shares, ready to deliver to the party who has exercised the option. While your shares are lodged with ASX Clear, you maintain beneficial ownership, and receive any dividends paid, but are unable to sell them.

If at expiry the share price is below the exercise price, the option will expire worthless and most likely not be exercised in which case you keep your shares. Although the shares may have fallen in value, the premium received partially, or possibly fully, offsets the loss.

If at expiry the share price is above the exercise price, and you have not closed out your position, the call will most likely be exercised and you will have to sell your shares for the exercise price. You still get to keep the premium.

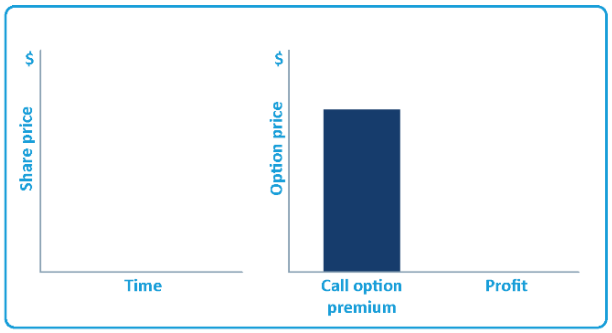
In the next topic we'll look in detail at your potential profits and losses.

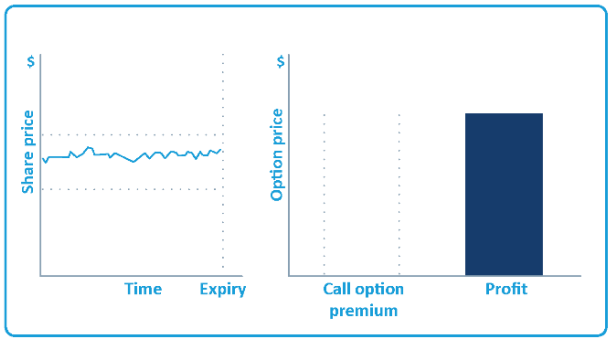
Topic 2: Why write covered calls?

Income

Writing calls enables you to earn income in flat markets.

If the share price stays steady, the option will lose value due to time decay. Time decay works in your favour when you write options.





A fall in volatility, which is consistent with a neutral market outlook, will also work in your favour.

You can either:

- close out the position at a profit by buying back the option for less than you received for writing it and negating your obligation to sell the shares, or
- see the option expire worthless (if the share price at expiry is below the strike price).

Example

You hold 1000 XYZ shares trading at $10.00, and write a June $10.00 call for $0.42.

	XYZ shares	Written XYZ June $10.00 Call
Opening value	$10.00	$0.42
Value at expiry	$10.00	$0.00
Profit / loss	$10.00	$0.42
Net profit / loss	$0.42	

Your best result is for the share price at expiry to be at or close to the exercise price:

- Your shares have maintained their value.
- The option will be worth little or nothing. If the share price is below $10.00, the option will expire worthless, and the premium of $0.42 is your profit from the call.

If you maintain a neutral outlook on XYZ, you could write another call expiring in a later month, generating more premium income. The table opposite shows the outcome if at expiry the share price is at $10.00.

Limited protection

The premium you receive provides some protection against a fall in the share price.

If the share price falls, the call will lose value, and you will make a profit from the option. This profit at least partially compensates for the loss in the value of your shares.

	XYZ shares	Written XYZ June $10.00 Call
Opening value	$10.00	$0.42
Value at expiry	$9.50	$0.00
Profit / loss	-$0.50	$0.42
Net position	-$0.08	

Assume at expiry XYZ shares are at $9.50.

The $10.00 call will expire worthless. The taker will not exercise the option, as it is cheaper to buy the shares on-market. You make a profit of $0.42 on the call, which offsets the fall in share price of $0.50.

The shares can fall to $9.58 before you make a loss overall.

Better sale price

Most call writers prefer to not be exercised, but to retain their shares.

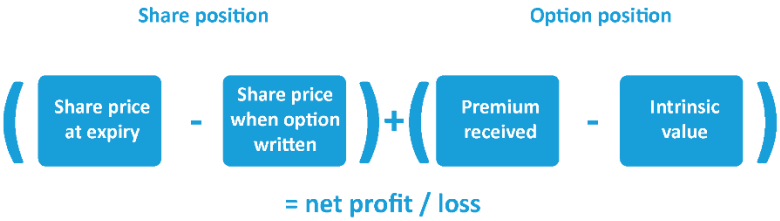
If, however, you are happy to lose your shares, you can write calls as a way of possibly achieving a better price than you could get for selling on market.

Assume XYZ shares are at $10.20 at expiry. Unless you have closed out your position, the call will be exercised and you will have to sell your shares at $10.00. You retain the premium, so your effective sale price is $10.42 (exercise price + premium received).

No matter how high the share price goes, this is the most you can get for your shares.

Profits and losses

In working out your profit/loss, you must take into account both the shares and the option position.



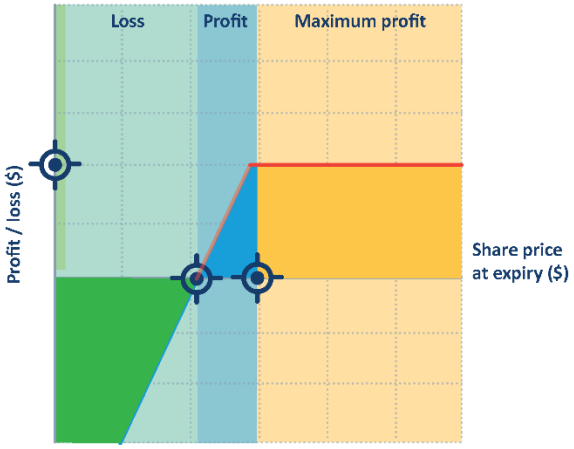
The simplest way is to work out the profit/loss on the option and stock positions separately:

- profit/loss on the shares is the difference between the share price at expiry and the share price when you wrote the option
- profit/loss on the option at expiry is the premium you received less the option's intrinsic value.

Adding the two gives you your net profit/loss.

	XYZ shares	XYZ $10.00 call option
Value on opening	$10.00	$0.42
Value at expiry	$10.00	$0.00
Profit / loss	$0.00	$0.42
Net profit / loss	$0.42	

Assume on opening XYZ is at $10.00 and the XYZ $10.00 call is written for $0.42. At expiry the stock is $10.00. Complete the drag and drop activity opposite to calculate the profit earned on the position.



At expiry:

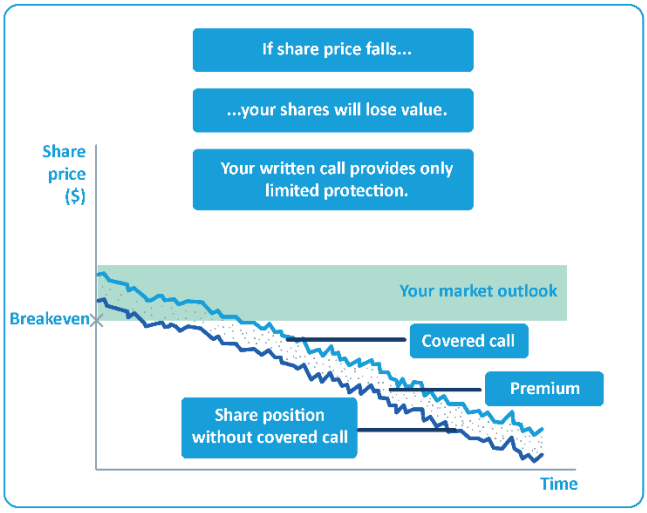
- Breakeven point = share price when option written less premium received
- Maximum potential loss = share price when option written less premium received
- Maximum potential profit = premium received + exercise price - share price when option written

Topic 3: Risks

Share price falls significantly

The main risk of the covered call is that there is a significant fall in the share price.

The written call offers only limited downside protection.



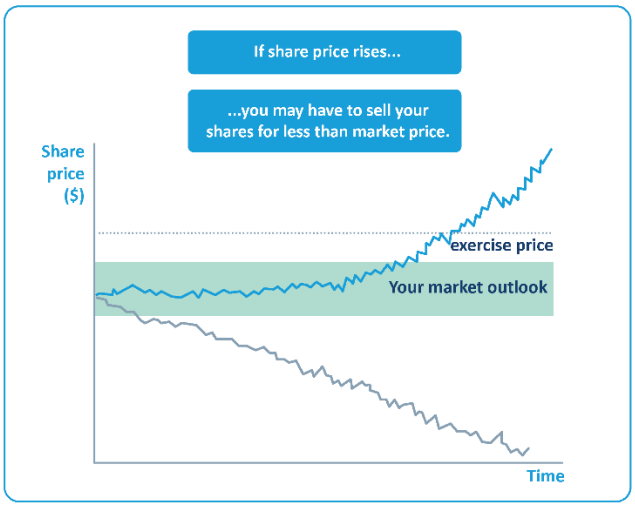
Compare this to the bought put option, which offers more comprehensive protection. (The protective put is covered in Module 7, 'Protect your shares').

However, if the share price does fall, you will be better off having written a covered call than simply holding your shares uncovered.

Share price rises significantly

If the share price rises significantly, you will not incur a loss, but there may be an opportunity cost.

No matter how high the share price rises, you are obligated to sell your shares at the exercise price.



It can be frustrating to have to sell your shares for less than their market price at expiry. At the time of writing the option you need to be happy with the price you would achieve if you are exercised, and accept the possibility that you may miss out on gains the share price might make.

Unwanted exercise

Any time the share price is above the strike price of the call, you are exposed to the possibility of exercise (American exercise style options).

Although a call option will not usually be exercised until expiry, in-the-money calls may be exercised early if the stock is about to go ex-dividend. (For more information refer to Early exercise of options).

As the writer of the call you have no say - it is the option taker's right to exercise at any time.

If your option is in the money and you are concerned about being exercised, it may be wise to close out your position by buying back the call.

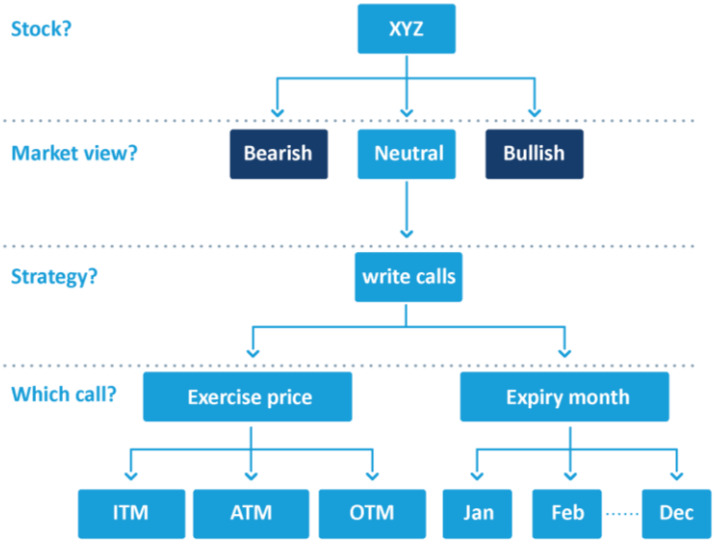
Topic 4: Which call should I write?

Once you have decided to write a call, the next step is deciding which call to write.

You have a choice of exercise price and expiry month.

For each option the decision involves weighing the size of the premium you will receive against the risk involved.

Assume you hold 1000 XYZ shares trading at $10.00 in early May.

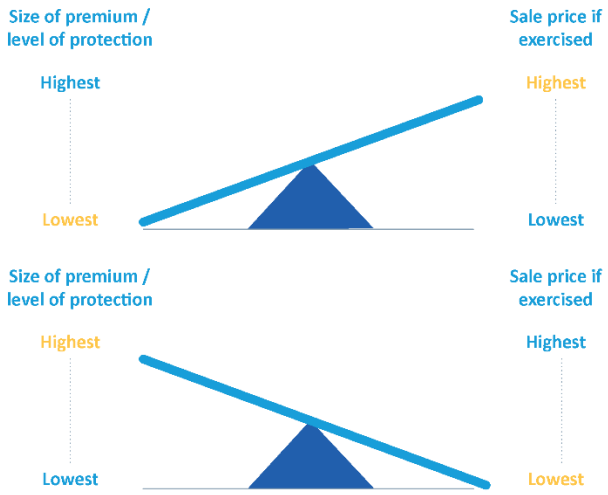


You consider the following calls:

- June $9.50 call @ $0.73 [in the money (ITM)]
- June $10.00 call @ $0.42 [at the money (ATM)]
- June $10.50 call @ $0.21 [out of the money (OTM)]

The lower the exercise price, the larger the premium you receive. If the share price falls, the larger premium offers more protection - the share price has to fall further before you suffer a loss overall.

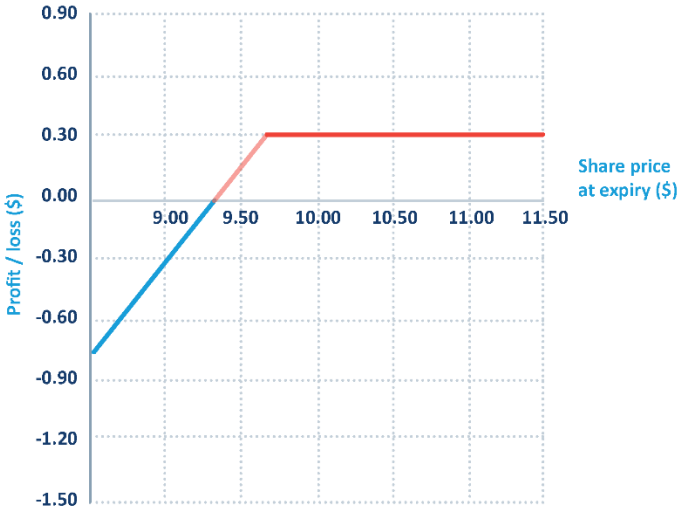
However, the lower the exercise price, the lower your effective sale price if you are exercised.



A call with a higher exercise price will result in a better sale price for your shares if you are exercised.

However, the higher exercise price means a smaller premium, providing less protection if the share price falls.

XYZ $9.50 call @ $0.73



The $9.50 call gives you the largest premium, and therefore offers the most protection.

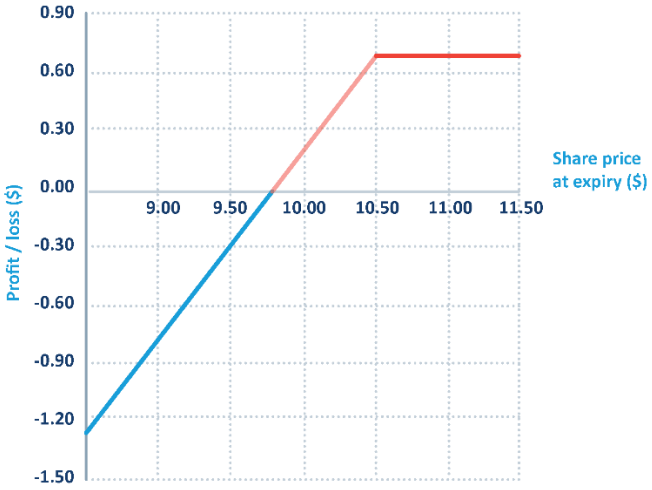
The share price can fall to $9.27 before you make a loss.

However the option is already in the money, and involves the greatest risk of exercise. Unless the share price at expiry is below $9.50, you will be exercised and lose your shares.

Your effective sale price if exercised is $10.23.

You are most likely to consider this option if your view on the stock is neutral to slightly bearish

XYZ $10.50 call @ $0.21



The $10.50 call involves the least risk of exercise. The share price would have to rise above $10.50 before you face the possibility of exercise.

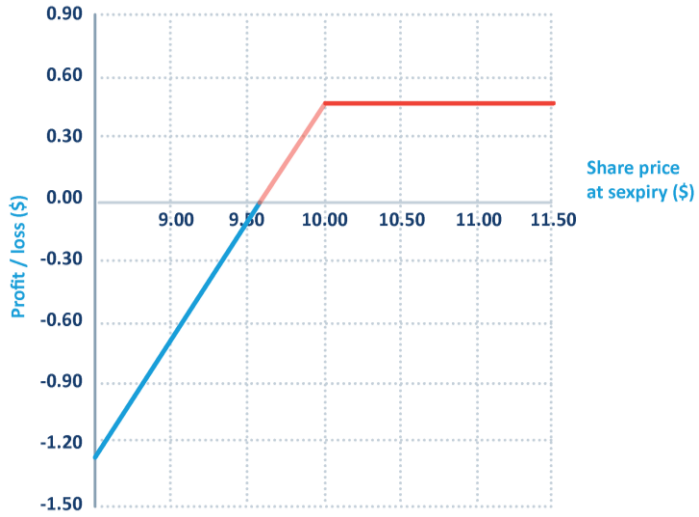
If exercised, this option results in the highest effective sale price of $10.71.

However, the out-of-the-money option generates the least income - the premium is $0.21.

If the share price falls, the $10.50 call offers the least protection.

You are most likely to consider this option if your view on the stock is neutral to slightly bullish.

XYZ $10.00 call @ $0.42



If the share price stays steady, the at-the-money call gives you the best result. Although it does not pay the largest premium, the $10.00 call has the most time value, so in a flat market it produces the largest profit.

It offers moderate protection if the share price falls, and an effective sale price of $10.42 if the share price rises.

You are most likely to consider this option if your view on the stock is neutral to slightly bullish.

Expiry month

Longer dated options earn greater premium income.

But they extend your risk of losing your shares due to exercise.

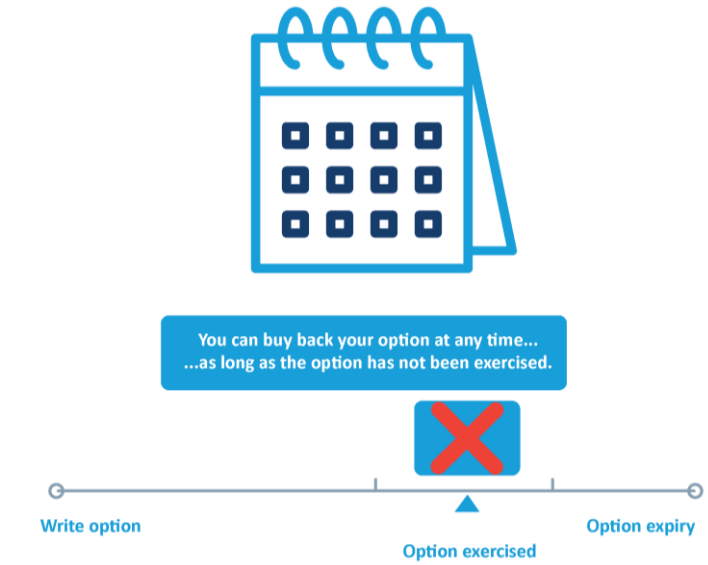
Also, over the longer term, the stock may break out of its neutral trend which would work against your strategy.

Hold 1000 shares @ $10.00, write 1 XYZ 1000 Call			
Expiry month	Option premium	Breakeven point	Realised price if exercised
June	$0.42	$9.58	$10.42
July	$0.54	$9.46	$10.54
August	$0.65	$9.35	$10.65

Topic 5: Exiting the position

So far we have looked at the result if your option position is in place until expiry.

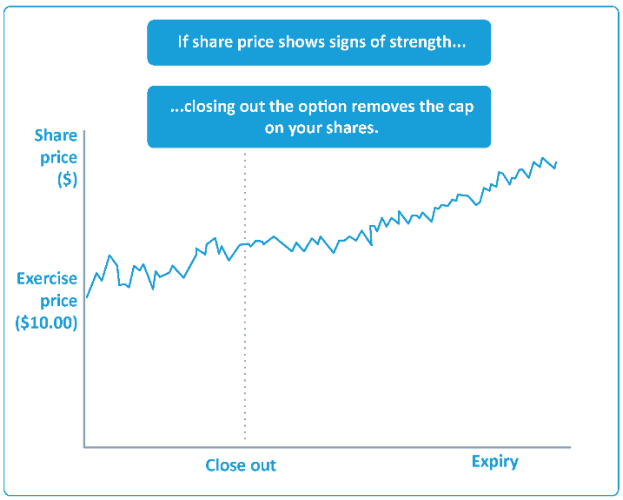
You don't have to hold your position until the option expires. You are free to close out or roll your position at any time.



If your option is in the money, the decision to exit your position may be taken out of your hands if your option gets exercised. While most calls are not exercised until expiry, the option taker can exercise the option at any time.

Buy back your option

The written call option caps your upside. To benefit fully from a rising share price you must spend money buying back the option.



Assume you have written the June $10.00 call @ $0.42. After two weeks:

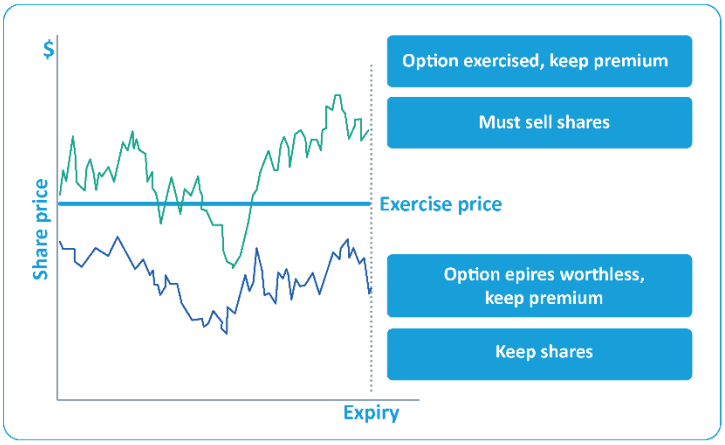
- the share price has risen from $10.00 to $10.25
- the option has increased in value to $0.52.

You close out your position by buying back the option. You incur a loss of $0.10 on the option trade, but your shares are now uncovered, so will benefit from any further increase in price.

As expiry approaches remaining time value diminishes rapidly. Closing out close to expiry sacrifices a little time value, but may appeal if you are worried about losing the stock due to the option being exercised.

At expiry

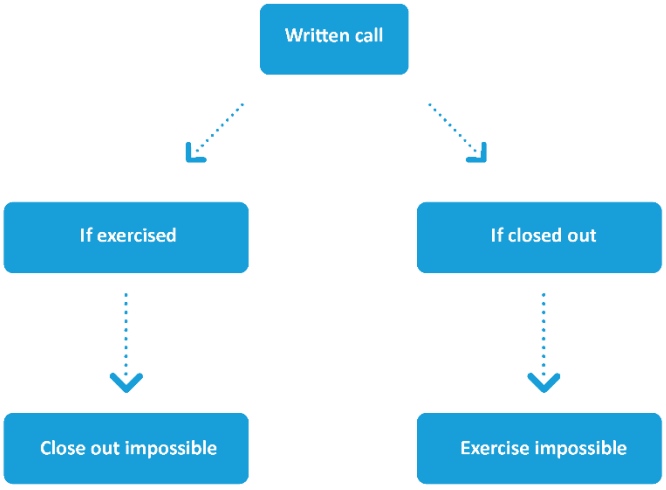
If the share price is below the exercise price, you need take no action. The call will most likely expire worthless, and your profit on the option would be $0.42, the entire premium.



If the share price is above the exercise price, and you have not closed out your position, you will almost certainly be exercised.

In such a case you will have to deliver the shares, for which you will receive $10.00.

Once you are exercised, it is too late to buy back your option!



If your call is in the money approaching expiry, and you wish to avoid exercise, you must take action to buy back the option.

Once you have closed out your position, you cannot be exercised.

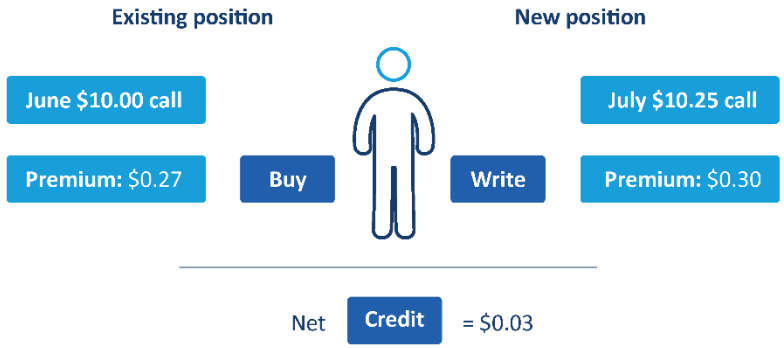
Although a call option will not usually be exercised until expiry, in-the-money calls may be exercised early if the stock is about to go ex-dividend. It is important to be aware of the ex-dividend dates for any stock you write calls over.

Roll your position

If you maintain your neutral outlook, you can consider rolling your position. You close your existing position and simultaneously open another with a later expiry and possibly a different strike price.

Assume you have written the June $10.00 call @ $0.42. A few days before expiry:

- the shares are at $10.25
- your option is worth $0.27.



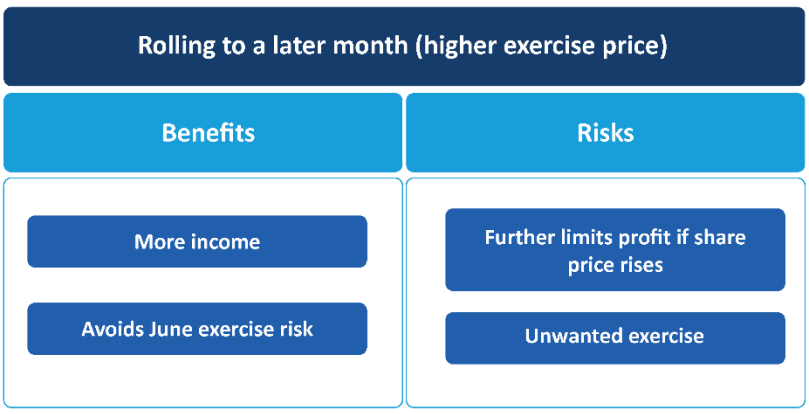
You roll your position by:

- buying back the June $10.00 call for $0.27, and
- writing a July $10.25 call for $0.30

The roll results in a credit of $0.03 ($0.30 - $0.27).

This is known as rolling up and out - you have rolled up to sell the stock $0.25 higher but obligated yourself for an extra month.

Rolling your position has earned you additional premium of $0.03.



You are obligated to sell the shares for an extra month. The share price has risen and you have rolled to a higher strike. The call is at the money, so you are exposed to the possibility of exercise unless the share price falls below $10.25.

You should only roll your call if your view on the share price remains consistent with the strategy.

Summary

Writing a call is one of the few ways you can make money from your shares when the market is flat.

Time decay and a fall in volatility work in favour of the written call. Writing a call:

- generates premium income
- provides limited protection
- can result in a sale price higher than the share price at the time of writing the option

If the call is exercised, you must deliver the shares, for which you receive the exercise price.

There is the possibility of exercise any time your option is in the money. If at expiry you have not closed out your position, you may be exercised and you must sell your shares at the exercise price.

Profits and losses

There is a cap on profit potential with the covered call strategy. In the case of a strong share price rally, the strategy underperforms the simple buy and hold stock strategy.

The most profit you can make is the premium you receive plus the difference between the exercise price and the share price when you write the call. You make this profit if at expiry the share price is above the exercise price.

If the share price falls, you are still exposed to the loss in value of your shares, but the premium you receive reduces that loss.

In deciding which call to write:

- ITM calls give you the largest premium and greatest protection.
- OTM calls result in the highest realised price if exercised.
- ATM calls provide the most income if the share price stays steady.

Option prices used in this module

Practical examples of option strategies are given throughout this module. Option prices used in the examples were calculated using a binomial pricing model.

Unless specified otherwise, prices are based on the following:

- Underlying stock price: $10.00
- Volatility: 25%
- Risk free interest rate: 6%
- Days to expiry: 52
- The stock does not go ex-dividend during the life of the option

Keeping these assumptions constant in all examples should make it easier to compare the different strategies presented.