G&T TRADER

Beginner's Guide to Stock Options

Chapters 1.1 - 1.7

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Stock Options
Chapter 1.1 / Introduction

Introduction

Welcome to this Academy introduction to stock options course. In this course, we will be focusing on what stock options are, their main benefits and how they can be used in your trading practices.

After completing the course you should be able to:

- Distinguish between call and put option contracts;
- Distinguish between buying and selling options; and
- Be ready to start applying some basic option strategies for income, protection and speculation purposes.

Stock options are financial instruments that stock investors can use in a wide variety of ways. Traders can choose to purchase an option on a stock instead of the stock itself. They can also buy options in order to protect a stock position. The common stock that is used as the basis for the option is referred to as the 'underlying asset'.

The two types of option contracts are known as calls and puts. As a buyer of a call option, you have the right to purchase a stock at a specific price, which is called the strike price, by a specific deadline, which is called expiration. The buyer of a put option has the right to sell a stock at the strike price on or before the expiration date.

Simply defined, a stock option is a contract between a buyer and a seller, where the buyer has the right to buy a stock and the seller has the obligation to sell that stock.

To illustrate the above, consider the following example:

A car insurance policy is a contract between a driver and an insurance company. The driver (i.e. the buyer of the insurance policy) has the right to get coverage in the case of an accident. Meanwhile, the insurance company (i.e. the seller of the policy) has the obligation to cover any damages as a result of the car accident.

So what are some of the advantages of trading stock options?

- As we mentioned earlier, the buyer of a call option has the right to purchase the underlying stock in the future, and may be able to purchase it at a lower price than the market rate at that time.

- Another benefit of options is that they can be used to protect the investor's own stock portfolio. Let's that markets are falling due to weaker economic growth in Germany and you own shares of Daimler AG. The bad news sends Daimler's shares down to €55. But what if you owned put options on Daimler that allowed you to sell the shares at €60 euros and protect your investment? This is just one example of how you can benefit from buying options.

- Traders can also benefit from large moves in the market, whether those are upwards moves or downwards moves.

- Finally, traders can receive income by selling an option for a premium against stocks that they own.

Stock options do have some disadvantages, however.

They cease to exist beyond the expiration date, whereas stocks can be held indefinitely. And while common stocks can distribute dividends and offer voting rights, stock options do not. They are merely agreements between buyers and sellers.

Most option contracts are standardised and are bought and sold in the open market. They are standardised so that each contract typically controls 100 shares of a common stock and has set strike prices and expiration dates. Option contracts are listed instruments and are traded on exchanges, such as the Chicago Board Options Exchange, Eurex and others.

Options are registered in a 'book entry' form. The book entry simply refers to securities that are held electronically and are not available as a physical certificate. A special organisation called a clearing house issues and guarantees the clearing and settlement of options. The clearing house will act as a middleman and will buy options from a seller. It will also sell options to a buyer to ensure efficiency and stability in the marketplace.

Let's go over some of the additional terminology.

Long vs. Short

When you purchase an option, you are the owner of that contract or you are 'long'. Being long simply means that you own something. When you sell an option, however, it means that you are 'short' or you don't own that contract. By selling options, a trader will receive a premium or money from the buyer. This is just like the analogy above, where a buyer of insurance pays a premium to the insurance company. The terms 'long' and 'short' are widely used by traders in markets such as stocks, commodities, futures, foreign exchange and even bonds.

Type

Type refers to whether the option is a call or a put.

Underlying Security

The underlying asset for which the value of the option is derived from is referred to as underlying stock or security. The underlying asset for a call or a put is generally 100 shares of stock.

Strike Price

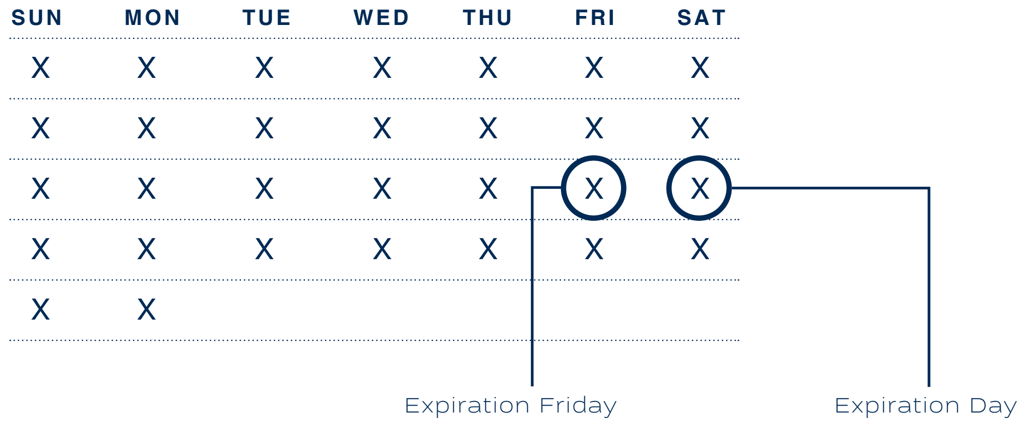
The strike price or exercise price states the price at which the buyer can purchase the shares. For a put option, it is the price at which the owner can sell the stock. Depending on the stock price per share, strike prices could be listed in increments of 0.5, 1, 2.5, 5 and 10 points.

Expiration Date

The deadline up to which options can be exercised is known as the expiration date. Equity options expire on Saturday following the third Friday of the expiration month. Therefore, the last day investors can sell or exercise their contracts is the third Friday of the expiration month.

Explainer graphic on the next page.

Expiration



Expiration day for expiring standard equity options is the Saturday following the third Friday of the expiration month.

Expiration Friday

- Third Friday of the month
- If Friday is a holiday then Thursday
- Last day expiring options trade
- Last day option may be exercised by contract buyer

Premium

The price per option contract describes the term premium. The purchase price is quoted in points. If we purchased a contract at 7.50 points, we would simply multiply by $100 to get the total investment for that contract. The calculation is 7.50 x $100 = $750.

The premium of a contract consists mainly of intrinsic and extrinsic value. The intrinsic value is also referred to as 'immediate' value. Let's assume that shares of the Chinese online retailer Alibaba are trading at $120, a contract with strike price of $110 will have $10 of intrinsic value while the 0.75 cents is the extrinsic value, which is also called the time value of that option.

Premium (Cost) = Intrinsic Value (value if exercised) + Extrinsic Value (time)

Bid/Ask Price

Just like the stock market, the option market is a live auction with Bid and Ask prices. To purchase an option you will pay the Ask price. When you sell that option, you will sell it at the Bid price.

Moneyness

The term moneyness describes the option's strike price in relationship to the stock price. A call option is considered to be 'in-the-money' (ITM) when the strike price is below the stock price. An option for which the strike price is the closest to the stock price is an 'at-the-money' (ATM) option. And a call option with a strike price above the current stock price is known as 'out-of-the-money' (OTM).

Call is IN THE MONEY (ITM)
Stock price is above strike price

Call is AT THE MONEY (ATM)
Stock price is the same as strike price

Call is OUT OF THE MONEY (OTM)
Stock price is below strike price

Stock Price $50

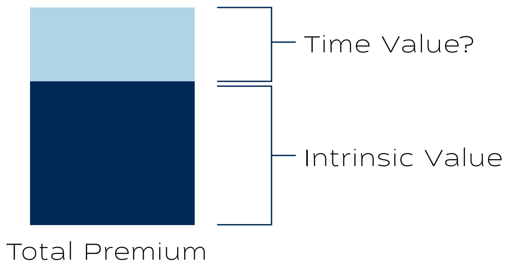
Jan	40 call	ITM
Feb	40 call	
Apr	40 call	
Jan	45 call	
Feb	45 call	
Apr	45 call	
Jan	50 call	ATM
Feb	50 call	
Apr	50 call	
Jan	55 call	OTM
Feb	55 call	
Apr	55 call	
Jan	60 call	
Feb	60 call	
Apr	60 call	

A put option is considered to be ITM when the stock price is below the strike price. Conversely, a put will be considered OTM when the stock price is above the strike price. An ATM put will be the closest to the stock price.

Options with intrinsic value are ITM, while options with no intrinsic value are OTM. Options with no time value premium left are said to be trading at parity. If contracts have neither, they will be ATM.

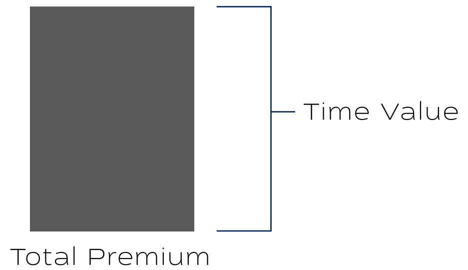
IN-THE-MONEY CALLS AND PUTS

- Have intrinsic value
- May have time value



AT-THE-MONEY & OUT-OF-THE-MONEY CALLS AND PUTS

- No intrinsic value
- All time value



Leverage and Risk

Options allow you to trade with leverage. This means that with an investment of $750 you can control an investment in 100 shares of Alibaba that would otherwise cost you $11,000. If the price of the underlying stock were to move favorably, the leverage could magnify the gains. However, if the stock were to move unfavorably, the leverage could amplify the losses very quickly.

As a buyer of an option, you will have a predetermined risk. In a worst-case scenario, the premium that you paid to own that option will be lost at expiration. However, if you sell a call on a stock you don't own, your risk can be unlimited since there is no ceiling on how high a stock price can go. We will touch upon this strategy in our section on short calls.

Exercise versus Assign – Earlier we mentioned that a buyer of an option has a right to exercise his option. As a buyer, you may choose to sell that option back, exercise it or do nothing. If you decide to exercise, you can purchase the shares of a stock. In contrast, the person who sold the call to you – in other words, the seller or writer of that option – has no rights. A seller of a short option can be legally assigned to buy a stock from someone or to sell his or her stock.

American versus European Options

The two styles of options are American-style and European-style. The difference between the two is how these options are exercised. In this respect, the American-style option can be exercised at any time on or before expiration. The European-style option, however, can only be exercised at expiration. Stock options are American-style. Most index options are European-style.

Benefits

In an ever-changing market environment, options can provide investors with a great degree of flexibility. Traders can quickly adapt to the movements in the market, whether these are up, down or sideways and deploy option strategies according to the market outlook. By buying a put option, an investor can get some insurance against falling markets. Other strategies help you to bring income into your portfolio by selling calls. In the next chapter, we will focus on a long call as a strategy for bullish markets.

Stock Options
Chapter 1.2 / Long Call

One of the most common option strategies is buying a call option on a stock.
By purchasing call options, investors can reduce the downside risk of owning a stock, gain leverage and diversify. Many investors like buying call options, since they require little upfront capital and closely follow the price of the stock. Let's walk through the steps of this bullish strategy.

Background

Since the main driver of your option is the stock price; you must carefully select a stock that you feel bullish about. In the example below, we choose Facebook, which is at $75.60. Let's assume that we expect the stock price to appreciate and recover back to $80.

Choosing An Expiration Date

If the stock price moves as planned in the short run, you can sell back the option ahead of the expiration date. It is always a good idea to have more time left in the contract, than to run out of time and not give a chance for the stock price to move your way. Therefore, if you believe that in two to three weeks the shares of Facebook will reach $80, you may look at an option with expiration of at least two months.

Choosing A Strike Price

There are variations of selecting a strike price. Many novice investors tend to purchase calls with strike prices that are out-of-the money. OTM options are cheaper than ITM options. The cheaper the option, the more leverage it will have and the more erratic the price movements will be.

In our example, we will use December $72.5 strike price as a more conservative use of leverage. The cost, or the premium for owning the option, is $4.65 or $465 per contract.

The highlighted left side of the graph shows ITM options, which are all $75 or lower.

DEC 14 (41) 100									28.41% (±5.813)
8.75 Z	+.50	8.50 M	8.65 X	DEC 14	67.5	.44 A	.45 Q	.45 C	-.11
6.50 C	+.15	6.40 X	6.50 X	DEC 14	70	.82 A	.84 X	.83 Q	-.20
4.60 M	+.05	4.55 X	4.65 C	DEC 14	72.5	1.46 T	1.48 M	1.45 B	-.29
3.10 B	+.10	3.05 C	3.10 M	DEC 14	75	2.42 M	2.45 M	2.41 B	-.35
1.91 B	-.07	1.89 T	1.92 T	DEC 14	77.5	3.75 X	3.80 M	3.77 C	-.36
1.11 Z	-.07	1.10 N	1.12 C	DEC 14	80	5.45 T	5.50 M	5.45 B	-.50
.61 Q	-.05	.60 Q	.62 A	DEC 14	82.5	7.40 A	7.55 C	7.65 M	-.34
.33 C	-.04	.33 Z	.34 M	DEC 14	85	9.65 C	9.80 X	10.13 X	0

Breakeven Point

The price point at which the investor will not make nor lose money is referred to as breakeven. Simply put, you are flat on your investment. To find out where the stock price needs to be, just add the premium of the option to the strike price:

Strike Price + Option Premium Cost = Breakeven Point

Or

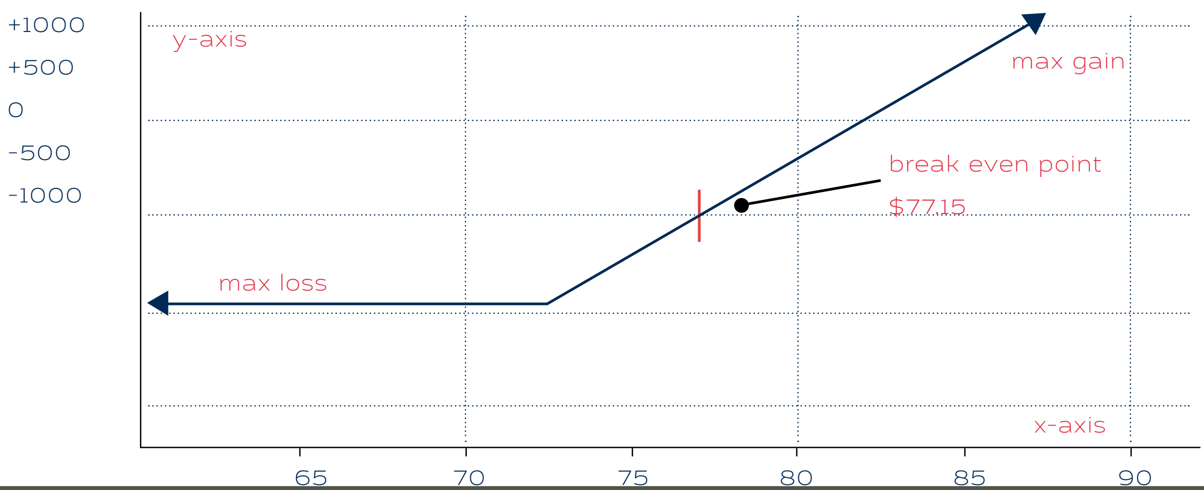
$72.5 + $4.65 = $77.15 is the breakeven point in the Facebook example

Maximum Gain

In theory, the maximum gain (MG) for a call option is unlimited. Shares of Facebook could appreciate to infinity. However, to realise the gains you will need to sell the option before it expires. Some investors will set themselves a target of 30%-50% return on investment.

Maximum Loss

While the maximum gain could be unlimited, the maximum loss (ML) of the call option is limited to the premium paid. In the preceding example, the premium is $465 for purchasing the call. The y-axis of the graph shows the profit/loss of the call, while the x-axis indicates the stock price and the breakeven point at $77.15. See example below



Exercise and Assignment

As a buyer of a call option, you have the right to exercise the contract and purchase 100 shares of Facebook at any time on or before the expiration date. To do so, you must notify your broker.

The risk of assignment is non-existent in a long call.

Summary

Buying a call option could be a speculative activity. This is because we think the stock price will rise. Take time to familiarise yourself with the stock's direction before purchasing a call as a substitute to a stock.

Others steps that novice investors and traders can take to manage their risk more effectively include carefully selecting expiration and strike prices. Options that have more time to expire will decay or devalue slower. Meanwhile, options that have more value, typically deeper ITM options, will move more in line with the stock price.

Stock Options
Chapter 1.3 / Long Put

A put option is contract that gives the buyer the right, but not the obligation, to sell a stock at a certain price. As in a long call, a long put also has a directional bias, but here we expect the underlying stock price to fall. The put option will appreciate in value as the underlying shares decline.

Aside from capitalising on bearish market moves, investors also buy put options to protect their portfolios or individual stock positions against bearish markets. Just like protecting your house with home insurance, you can buy puts to protect your stock portfolio.

Background – Lets assume that you have a bearish stance on Amazon and, despite of the recent rebound of the shares, you believe the stock is going to fall back down over the next few weeks.

The steps to purchasing a put option are similar to the long call strategy, but reversed. First, we study the movements of the share price over the last nine months. Notice that the stock price has been up and down, but overall it has decreased in value from a high of $400 in January.

Expiration Date

The selection of the expiration date depends to a degree on whether the stock price movements are short-term (few days to a few weeks) or longer (weeks to months). Following the red lines along the price, let's assume that it took four to five weeks for the price to move from top to bottom. This could suggest that we need to purchase a put with at least two months until expiration, which would take us 55 days until January 2015.

Strike Price

The selection of a strike price also depends on how quickly you expect the price to fall or how aggressive you want to be. Just as in a long call, a more conservative approach to buying a put option will be to select one or two strike prices that are in the money. For the above example, we will select a strike price of $340. Notice that ITM put options have strike prices that are above the stock price of $332. Conversely, OTM options are below the stock price and ATM options are closest to the stock price. See graph below, shaded area represents ITM options.

Exp	Strike	Bid	X	Ask	X
DEC 14 (27) 100					
DEC 14	315	3.45	C	3.70	C
DEC 14	320	4.65	C	4.95	C
DEC 14	325	6.25	Q	6.50	N
DEC 14	330	8.25	Q	8.40	N
DEC 14	335	10.70	Q	10.80	N
DEC 14	340	13.55	C	13.95	N
DEC 14	345	16.95	C	17.45	C
DEC 14	350	20.55	X	22.15	X
JAN 15 (55) 100					
JAN 15	315	6.80	X	7.00	C
JAN 15	320	8.35	C	8.55	C
JAN 15	325	10.15	X	10.40	X
JAN 15	330	12.30	Q	12.55	C
JAN 15	335	14.80	Q	14.95	Z
JAN 15	340	17.55	A	17.85	C
JAN 15	345	20.70	Q	20.90	N
JAN 15	350	24.05	C	24.50	C

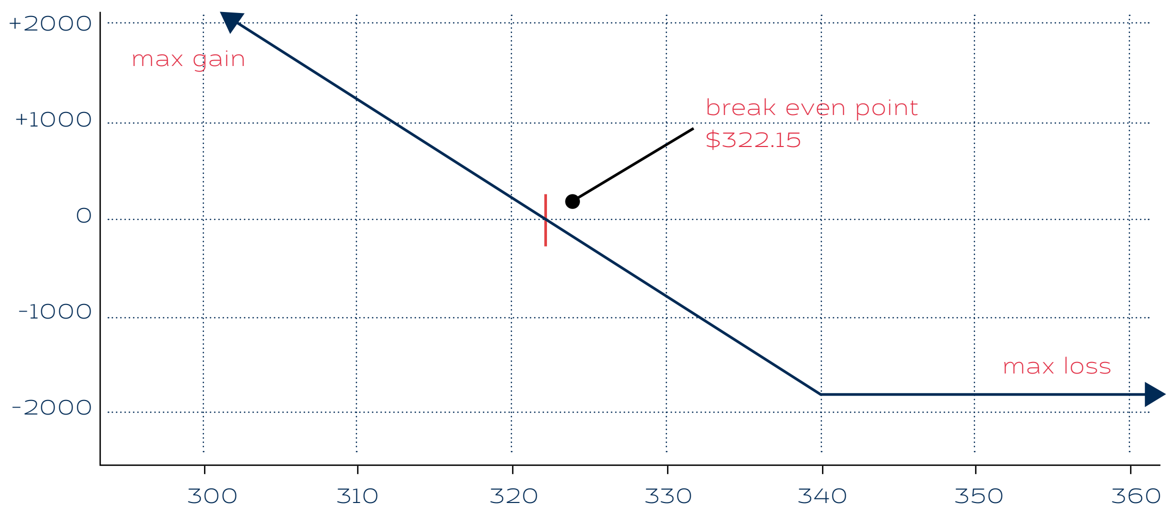
Breakeven Point

To calculate where the strategy breaks even, you must take into consideration the strike price of $340 and the premium (Ask) price of $17.85. After subtracting the cost for the put option from the strike price, you arrive at the point of breaking even at expiration.

Strike Price – Premium = Breakeven Point

Or

$340 - $17.85 = $322.15



Maximum Gain

The maximum gain of the put option could be substantial if the stock price falls quickly over a short period of time. Still, the gain is not unlimited but capped as the stock can only fall down to zero before becoming worthless. After the stock has moved in your direction, the earlier you sell the put option the more money you will be able to receive back for it. This is because you have an option with a lot of intrinsic value and some extrinsic value still left.

Maximum Loss

The maximum loss of the contract is limited to the initial investment of $1,785. It is important to note that investors do not have to take maximum loss if they find out that the strategy is not working out as planned. They can sell back the contract early instead of losing the entire investment.

Exercise and Assignment

As with calls, the holder of a put option has the right to exercise the contract at any time before expiration. So when the option is exercised, you have the right to sell Amazon shares at $340 each. By doing so, you will have a short position of 100 shares. This is why most investors will choose to close or sell the put option well before expiration.

The risk of assignment is non-existent since the owner of the put option is in control.

Summary

For holders of long put options, the benefit could be substantial so long as the stock drops in price. It is therefore a bearish strategy. To manage this trade properly, investors need to allow enough time and consider buying options that will follow the stock price more closely. Options that are more sensitive to the stock price movement are ‘in-the-money’. You may recall that ITM options are those where the strike price is above the stock price.

Stock Options
Chapter 1.4 / Short Calls

While the buyer of a call option has a bullish stance on a stock, the seller of a call takes the opposite view. He is bearish on that stock or, at least, does not believe the stock will appreciate in value. When you sell a call on stock you do not own in your portfolio, you are selling a 'naked' call. Let's walk through an example.

Background – Similar to a long put, you want a stock that is bound to move down or, at least, stay sideways. Even if the stock stays sideways, the seller benefits from the decay of the call option and can collect on the whole premium by expiration date. We will use Netflix to illustrate the strategy.

Choosing Expiration Date

One key difference between a buyer and a seller of an option is the time. The buyer loses the time component of the option due to the time decay. One the other side, the seller of the call option gains from the rapid time decay. On expiration date, the intrinsic value will go to the buyer while the extrinsic value goes to the seller. The shorter the expiration time, the quicker the option will devalue. All things being equal, investors normally favor options that expire within one or two months. Therefore, we will choose December expiration, which means there are 26 days to expiration.

Choosing Strike Price

To manage the risk of getting assigned early, sellers of naked calls will often choose to sell out-of-the-money options. The OTM contracts give some buffer or safety to the sellers since the stock price is away from these strikes. Some traders will also look at recent levels from whence the stock has pulled back (price resistance) and sell strikes near them. With Netflix, we will select a $380 strike price with a premium of $5.

Exp	Strike	Last X	Bid X	Ask X
DEC 14 (26)	100			33.88% (±26.264)
DEC 14	335	38.05 Z	28.35 C	29.60 C
DEC 14	340	27.00 H	24.60 A	26.65 A
DEC 14	345	25.12 I	21.05 A	22.30 C
DEC 14	350	18.00 Q	17.85 X	18.75 X
DEC 14	355	15.40 C	15.05 C	16.30 A
DEC 14	360	12.64 X	12.35 Q	13.00 Q
DEC 14	365	10.15 I	10.05 X	10.55 Q
DEC 14	370	8.00 Q	8.00 Q	8.50 Q
DEC 14	375	6.38 C	6.30 X	6.80 Q
DEC 14	380	5.00 C	5.00 X	5.20 Q
DEC 14	385	3.90 Z	3.90 Q	4.20 Q
DEC 14	390	3.08 C	3.00 Q	3.15 Q

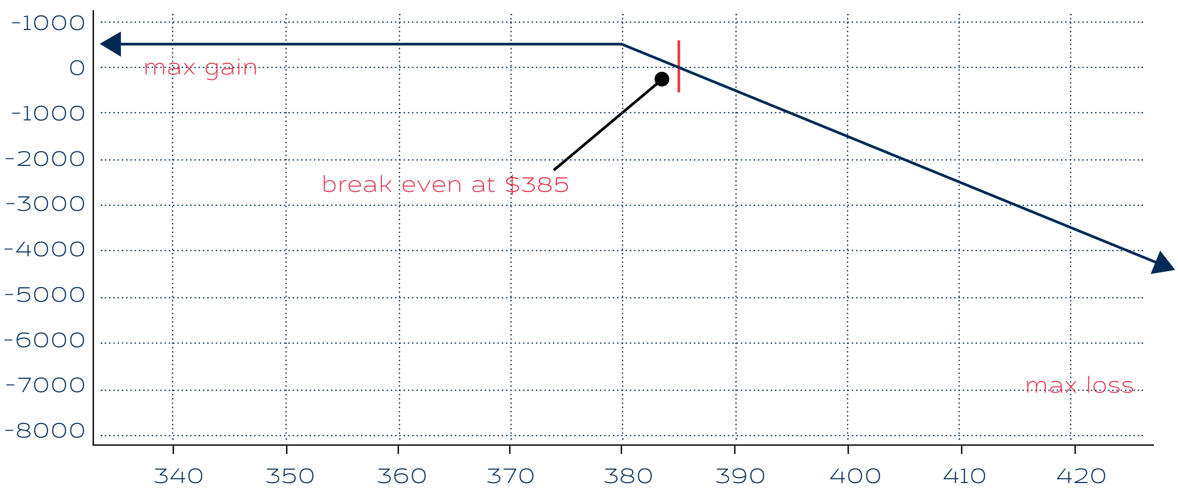
Breakeven Point

The breakeven point for the strategy is at $385, at expiration. The stock can rise above the strike price by $5, which is the amount of premium received from selling the call option.

Breakeven = Strike Price + Premium

Maximum Gain

Maximum gain for the naked call is limited to the amount of premium received or $500. For the full amount to be collected by the writer (ie the seller), the stock must close below the strike price at expiration.



Maximum Loss

Investors selling naked calls can suffer great losses. In theory, the price of the underlying stock can appreciate to infinity and you may be required to buy the option back for a large amount of money. This is why your broker may require a large amount of margin or collateral before you can sell a naked call.

Exercise and Assignment

As a seller, you do not have the right to exercise the option. The right to exercise belongs to the buyer of that call. You might be 'assigned', however, following the exercise of the call option. Typically this means that your broker will notify you and will require you to deliver the underlying stock.

Summary

When you sell a call, you take on a bearish stance and expect the stock to move down or stay flat during the contract time. You can also benefit from the decaying time premium, which deteriorates quickly as the option gets closer to expiration. The strategy can be altered to manage some of the risks associated with options. Some investors could take on a bigger risk by selling ATM in return for a bigger premium. More conservative investors could select OTM options, which would give them a smaller premium but lower probability of assignment.

Stock Options
Chapter 1.5 / Short Puts

While a put buyer has a bearish market outlook on an underlying stock, the seller or writer of a put has a bullish stance. This reversed mindset allows investors to profit by selling put options on stocks that they do not own. Moreover, as a writer of a naked put, you are assuming the obligation to buy the stock at the strike price. Lets go over the parameters of this strategy.

Background

You may approach the strategy by first selecting a stock you don't mind owning in your portfolio. Suppose you always wanted to purchase shares of Apple, but never got around to it. Now you feel a little discouraged, since the stock price has risen more than 8% in one month. You didn't buy the shares at $110 and you certainly don't feel good about buying them at $118. But let's assume that you wouldn't mind owning the shares at $115 or $116.

Selecting the Expiration Date

As in the short call example, you may be better off writing a shorter-term contract, since these tend to decay more rapidly than contracts with longer-term expirations. You may select an option with 20-40 days to expiration. As a result, you may select the December contracts with 25 days to go. With longer-term options, investors may face increased risk of being assigned. This is because stock prices tend to have wider swings over a longer time span. Next, let's select the strike price.

Selecting the Strike Price

It is just as important to select the 'right' strike price, as it is to select the 'right' expiration date. These two components of the strategy help investors manage the risk of a trade. If your risk appetite is fairly moderate, you may want to sell two or three strikes OTM, such as at the December $116 strike price. More aggressive investors can look at $118, which is ATM. Selling ITM options can result in immediate assignment and you have to be prepared to purchase the shares.

Exp	Strike	Bid	X	Ask	X
DEC 14 (25) 100					
DEC 14	114	1.00	A	1.03	N
DEC 14	115	1.27	Q	1.28	M
DEC 14	116	1.56	Q	1.58	Z
DEC 14	117	1.92	X	1.96	C
DEC 14	118	2.35	Q	2.38	A
DEC 14	119	2.83	M	2.87	Q
DEC 14	120	3.35	X	3.45	X
DEC 14	121	4.00	C	4.05	A
DEC 14	122	4.65	X	4.75	C
DEC 14	123	5.35	X	5.50	A

Maximum Gain

The maximum gain that you can make on selling your option is limited to the amount of premium sold. For selling the December $116 strike price, you would receive a premium of $156 per contract. Remember, to collect on the whole amount, the stock needs to close above the strike price on expiration day.

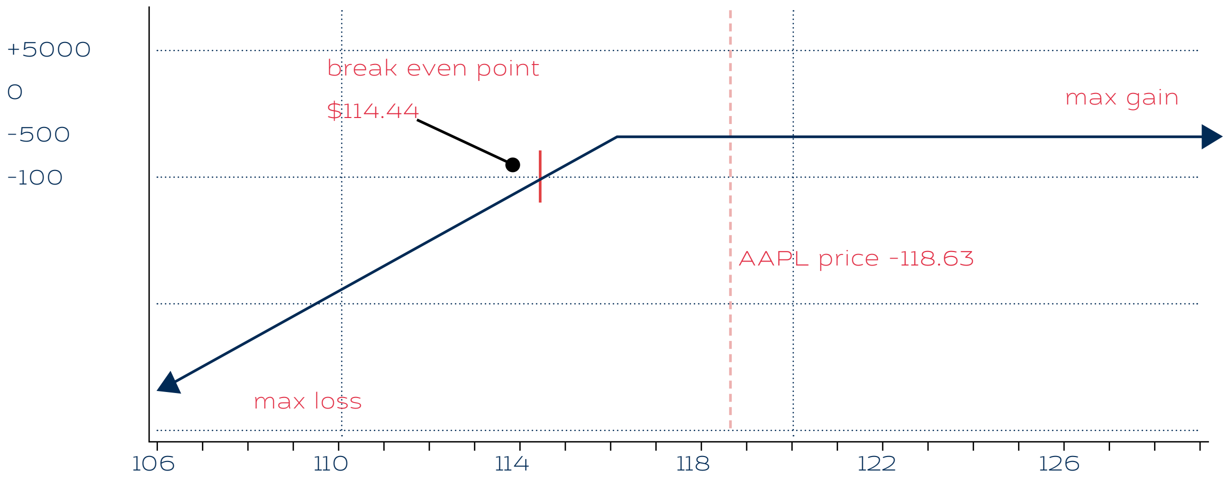
Maximum Loss

Investors selling naked calls should not proceed with the strategy unless they fully understand the potential loss they face. If shares of Apple close below the strike price, let's say at $100, you would be required to buy the shares at the strike price of $116. This would result in a loss of $1,600, partially offset by the collected premium of $156.

Breakeven Point

To find out the breakeven point for the strategy, you need to subtract the premium received from the strike price you sold. Below $114.44, the trade would lose money at expiration.

Breakeven Point = Strike Price – Premium Received
$114.44 = $116 - $1.56



Exercise and Assignment

You may recall that only options that are ITM or have intrinsic value may be exercised. For a put option to be in-the-money, the stock price needs to be below the strike price of $116. This would give the holder of the put the right to exercise that contract. By exercising, the put owner would take advantage of selling the stock at a higher price ($116) while the stock may be trading at $113.

Certainly, if the short put you sold becomes in the money, you do have some choices prior to the assignment. You could buy back the December $116 contract and avoid being assigned. Or, if you are still bullish on the shares of Apple, you can assume the obligation and purchase the shares. Once assignment takes place, you cannot make any other arrangements. The brokerage firm will typically send out notification of assignments.

Summary

Selling naked puts is a bullish strategy. The strategy may work well for investors looking for an income or wanting to take position in a stock at a lower price. The goal of the strategy is to retain the initial premium at expiration or before. This will happen when the stock has moved up in price and the option is nearing expiration.

By selling a put option, investors will assume the obligation to purchase the stock at the strike price. It is, therefore, important that sellers set aside sufficient cash and are ready to cover that investment. Investors with limited cash availability, who still want to capitalise on the strategy, could consider selling OTM (two to three strikes). By choosing OTM puts, traders can allow for the stock price to move up and down without the immediate threat of being assigned. The selection of which strike price to sell is important and depends very much on the risk you are willing to take for the reward.

Stock Options
Chapter 1.6 / Covered Call

Investors that own or buy shares of a stock and sell (write) a call against these shares enter into a covered call. Purchasing the shares and simultaneously selling a call against them is known as a buy-write. If you already have the shares in your account and you wanted to sell calls against them, you would be to buy the stock and at a later point (legging-in) into a covered call. Neither of the two entries have real advantage over the other. Some investors prefer to leg-in into a covered call to time the strategy a little better.

Most traders will sell calls against the shares they own in a 1:1 ratio, ie they own 300 shares and sell three calls. Keeping this proportion will ensure that they are 'covered'. In some cases, writers of the strategy will sell fewer calls, ie they own 300 shares and sell one call option, but almost never will they write more. The last could result in a 'naked call' situation, which we described in section 1.4 as one of the riskiest option strategies.

The main objective of the option strategy is to collect a premium or income over time. In some ways, the strategy is similar to leasing or renting your house with the renter having the option of to buying it from you. Now, let's move through the steps of a covered call.

Background

The strategy is best suited for investors that have a slightly bullish or neutral outlook on the stock. If too bullish on a stock, you would be better off holding onto the shares without possibility of limiting your gains.

Let's assume that you own 200 shares of Delta Airlines in your portfolio. The stock price has appreciated over the last two months and now you believe that the stock price will remain fairly flat over the next two to three weeks.

You decide to sell two January $47 call options against your 200 shares. By selling the calls, you will receive $2.22 in cash for each contract you sold, or 2 x $2.22 x 100 = $444. As the money is credited to your account, you will assume an obligation to sell the shares at the strike price of $47.

Selecting Expiration Date

As mentioned earlier, sellers of options prefer to write shorter-term contracts since the value of these contracts diminishes quicker. The farther away an option contact is to expiration, the more time value that contract has. Investors who are looking for a larger premium (income) and are comfortable with longer-term obligations can sell options with expirations of three to five months. This approach could be especially helpful if the stock you have sold options on is declining in value. The premium that you receive from selling the option will partially offset the loss in the stock position.

Most covered call writers will wait until the time value of the option is near zero, which happens closer to expiration. They will then write another call on the same underlying asset. In the example above, we will select January 2015 with 42 days until expiration. Expirations of up to three months are considered short-term.

Selecting Strike Price

When it comes to selecting a strike price to sell, investors should remember that each option, whether it is in-the-money, out-of-the-money or at-the-money, has its own characteristics and trade-offs. It is important to note also that, as a seller of an option, you will only receive the extrinsic value portion of the option. The intrinsic value will go to the buyer.

Premium = Intrinsic Value + Extrinsic Value

Let's examine the pros and cons of the January 39 calls offering sellers $8.35 of premium. The calls are ITM by $8.12 (Stock Price- Strike Price or $47.12- $39). This means that investors selling these ITM calls will get very little time value and a low return on their money ($8.35-$8.12= $.23).

	Last	X	Bid	X	Ask	X	Exp	Strike
DEC 14 (14) 100								
JAN 15 (42) 100								
	8.30	Q	8.35	X	8.50	X	JAN 15	39
	7.40	M	7.35	X	7.60	X	JAN 15	40
	6.47	C	6.45	X	6.70	X	JAN 15	41
	5.60	C	5.55	X	5.85	X	JAN 15	42
	4.90	Z	4.65	X	5.00	X	JAN 15	43
	3.95	A	4.05	X	4.25	X	JAN 15	44
	3.42	C	3.40	Q	3.50	X	JAN 15	45
	2.78	Q	2.76	X	2.86	A	JAN 15	46
	2.27	Q	2.22	A	2.33	X	JAN 15	47
	1.75	Q	1.67	X	1.81	A	JAN 15	48
	1.30	Q	1.25	X	1.43	X	JAN 15	49
	1.04	X	1.01	A	1.08	A	JAN 15	50
	.22	H	.19	A	.25	X	JAN 15	55
	.05	A	.02	X	.10	X	JAN 15	60

Selling ITM Options

Some benefit to selling these deep ITM options could be offered to investors who expect the shares to decline in value. In that case, the premium received will act as a 'cushion'. Suppose Delta shares drop to $40 from their current level of $47, creating a loss of $7 per share. Since we own 200 shares, the loss will equal $1400 or 15%. The premium we collected of $8.35 acts as a cushion and will more than cover the loss of $7 per share.

Writing OTM Calls

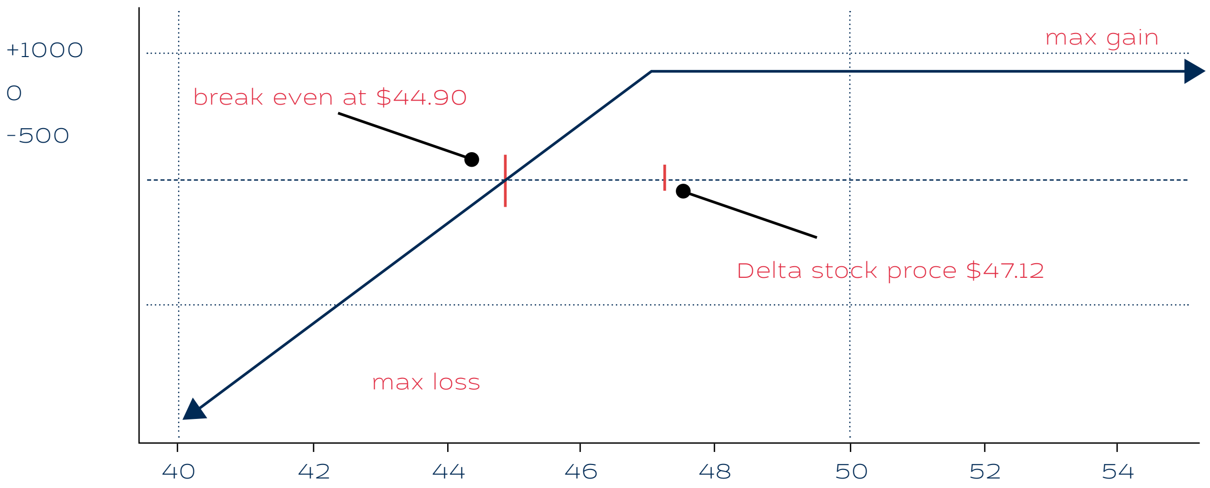
Similarly, an option that is far OTM, as in the case of the January 2015 55 strike call, will offer little benefit to investors since it has a premium of just $0.19 per contract.

Selling ATM Calls

Many option traders will consider ATM options since they provide a premium with the largest time value. The January 2015 $47 call options are almost entirely made of time value ($2.22-$.12 = $2.10). As we expect the shares of Delta Airlines to remain fairly unchanged over the course of the next few weeks, selling the January $47 call options could prove to be a natural choice.

Maximum Gain

The maximum gain of a covered call is limited to the amount of premium that you receive from selling the call. In the above case, you will receive $2.22 from selling the January $47 call. You may also gain from the stock price appreciating up to the level of the strike price sold. This is also known as 'return if exercised'. For example, if you sold a January price of $48 instead of $47, you would receive a premium of $1.67. If the stock gets called away from you at $48, you would receive an additional $.88 cents ($47.12-$48) for a total gain of $2.54. This translates into a 5% return on investment ($254/$4712 = 0.054).



Maximum Loss

The maximum loss for the covered call strategy could be substantial should the stock become worthless or trade down to zero. Investors would lose their initial investment while getting to keep the premium received. In the case of Delta, if we purchased the 200 shares at $47.12 and the stock became worthless, we would have a loss on the investment of $9,424. The premium received of $444 would partially offset that loss, creating a net loss of $8980.

Breakeven Point – To calculate the breakeven point, simply subtract the premium from the purchase price of your shares. In our example, at expiration Delta shares must be below $44.90 before investors start losing money.

Breakeven = Share Cost Basis – Premium Received

Assignment and Exercise

As a seller of a covered call, you are not obliged to stay in the trade for the whole 42 days. To get out of the trade, you would simply buy back the January $47 call and sell the shares.

Investors can be assigned at any time during the term of the contract, if the call option is ITM. However, it is not often that a buyer of a call option will exercise his call option early on. That buyer will most likely exercise their contract towards the end of expiration. Nevertheless, anything can happen in the market and you may be called out of the position early.

Being called out of a position is not the worst that can happen to you. If you still like the shares, you can buy into them again and repeat the process. When you get called out earlier, you will reach your maximum gain earlier rather than at expiration.

Summary – The covered call strategy is considered to be one of the most conservative and lucrative option strategies among option investors. Whether you purchase the shares and simultaneously sell a call option, or you had the shares in your account and decided to leg-in, it is important to be ‘covered’ before moving forward with the strategy.

By selling a call against a stock position, investors could enhance the total return on that position by earning additional income. In order to make it feasible after brokerage commission and fees, investors should look for return on investment of at least 3%-5%. As the goal for many traders is to write calls every 30-40 days, you need to ensure that is profitable.

The covered call strategy has limited upside potential – this is just the premium received and, at times, some capital appreciation. The premium from ATM options has the largest time value than ITM or OTM. Covered call writers position themselves to profit from stable or slightly bullish stock prices. The strategy is not appropriate if you expect large movements in the market. As a rule of thumb, short-term options (20-40 days) rather than longer-term options tend to work better since their premium decays faster. You may need to practise the above variations in order to fine-tune them and understand which one works best for you.

Stock Options
Chapter 1.7 / Protective Puts

If you recall the analogy in the introduction section of this course, we indicated that buying options is similar to buying an insurance product. You may recollect that the buyer of that policy, whether it's car insurance, life insurance or another type of insurance, pays a premium to protect their assets or family against a potential loss.

Similarly, by owning put options you can 'hedge' your portfolio of stocks. To 'hedge' or 'fence' means that you would give up some of the upside of owning the stocks in exchange for downside protection. You may decide to buy put options on individual stocks such as Apple, Google or Total, or you may purchase options on an exchange-traded fund that tracks a certain index such as the S&P 500 (SPY). The latter strategy maybe more effective to protect an overall stock portfolio from sell-offs in the market.

Most investors realise that even the best stock in the market will go through periods of volatility and a decline in value. Shares of the British oil company British Petroleum declined 22% from July 2014 to December 2014, for example. Such a loss is difficult to repair and sometimes can leave a big 'dent' in your portfolio.

Background

As a stock investor, you will need to use risk management strategies in order to eliminate or decrease the risk of owning shares. These risks are implied and could occur at any time, but they occur specifically during earnings announcements or other market news. In 2014, shares of American company IBM suffered a 10% drop in price following its quarterly results. If you owned 200 shares, this decline would have translated into a $3,600 loss.

How do we protect ourselves in a similar situation? Some investors apply stop-loss orders to their stock holdings. This is one way to protect yourself, but there is no guarantee that you would be stopped at the specified price. Suppose you set a stop loss at $175. When the stock gap is down by $10, as in the case of IBM, you would sell at the opening price the next morning of $170.

A more effective way to protect your investment might be to consider buying put options on IBM. You can purchase the options ahead of time, especially when you are expecting some volatility around a certain event. But before you purchase protective puts, you must consider how much 'insurance' you would need, for what period of time, and how much you are willing to pay for the protection. Let's walk through the steps of buying a protective put using IBM.

Selecting Expiration Date

As with the strategies discussed earlier, selecting expiration is one of the first steps you need to take. The rationale here is very much the same: overall we are bullish about the shares of IBM in the long term but we expect some 'bumps' along the way in the short term (close to the expectations of a covered call). In most cases, investors will purchase options with expiration dates two to three months in advance. As the earnings report came on 17th October, we would have considered a December expiration.

Selecting Strike Price

While the in-the-money puts will provide immediate protection to investors, the cost for purchasing these could be substantial and it may create a 'drag' effect on the overall position should the stock go up instead of down. The net position (stock and put option) could be described as stepping on the gas pedal of your car while trying to break at the same time.

Exp	Strike	Bid	Ask
OCT 14 (4) 100			
NOV 14 (39) 100			
DEC 14 (67) 100			
DEC 14	155	.85	1.00
DEC 14	160	1.19	1.36
DEC 14	165	1.73	1.95
DEC 14	170	2.58	2.79
DEC 14	175	3.75	4.05
DEC 14	180	5.45	5.85
DEC 14	185	7.75	8.15
DEC 14	190	10.70	11.20
DEC 14	195	14.05	14.85
DEC 14	200	16.15	19.05

While the stock was trading at $183 prior to earnings, buying one or two strike prices OTM would require much smaller investment. For example, the $175 strike, which is two strikes out of the money, costs $4.05 per contract. At the same time, two strike prices ITM costs $14.05. The ITM option, although more expensive, could be more appropriate for investors that have large gains in IBM and want to protect those more closely.

The table below shows IBM offered at $183 while the $175 put option is offered at $4. Let's take a look at the long stock/long put profit potential on 100 shares.

STOCK PRICE	LONG STOCK PROFIT($)	OPTION PRICE	LONG PUT PROFIT($)	NET PROFIT
160	-2300	15	+1500	-800
165	-1800	10	+1000	-800
170	-1300	5	+500	-800
175	-800	0	-400	-1200
180	-300	0	-400	-700
185	+200	0	-400	-200
190	+700	0	-400	+300

All the prices above are assumed to be at expiration without any time value left; it is worst-case scenario. You will notice that although the put option with a strike price of $175 provides some protection, it does not completely eliminate the losses. If IBM falls to $160, the put contract will help us to offset the losses of the shares, from $2,300 down to $800. This is still a substantial reduction for the small cost of $400 per contract.

As mentioned above, if investors want to increase their protection they can vary the strategy. For example, they can purchase two put contracts with a strike price of $175 each or buy one ITM option, such as the $190 strike price option, which is more expensive but could provide better protection. This decision will depend on whether or not you have a lot of profit in the underlying stock that you want to protect or a smaller profit. For the latter, you will probably not need the insurance of 'expensive' protection.

Maximum Gain

The gain is unlimited since the stock position is the main driver behind the protective put strategy. In theory, shares of IBM could rally to infinity. If the stock is to rise, rather than decline in value, the option could be sold or left in the account through to its expiration. The put option is only used for insurance.

Maximum Loss

The loss of the protective put strategy is limited. This is where we would benefit from the purchased insurance. Should IBM decline below the $175 strike price, investors have the right to exercise the contract and sell the shares at $175 at any time before expiration.

Breakeven Point

the breakeven point for the strategy largely depends on the stock price purchase. As in the case of IBM example, the breakeven will look like this:

Breakeven = Stock Purchase Price + Put Premium
$187 = $183 + $4

Exercise and Assignment

Investors can exercise the option and any time before expiration should the stock decline below the strike price of $175. As in any long option position, there is no risk of assignment.

Summary

Many of us own insurance on most assets that we own. Few stock investors, however, consider protecting their stock portfolio against losses, especially if the stock is appreciating. When the stock market takes a downturn, investors start to panic and sell their shares, fearing they are going to lose any accumulated profits.

One of the best times to buy protective puts is when the volatility in the market is fairly low. Prices of stocks are consistently gaining and there is a bullish trend. Such market environment will be considered as low volatility and most investors will not look for ways to manage risk. However, since demand for stock protection is almost nonexistent during these bullish times, it could be the best time to purchase puts. Part of the reason is that no one really expects the market to drop, which makes put options fairly cheap. On the contrary, when volatility increases, investors start to fear and sell their positions or look to buy protection. The combination of fear and demand for puts can boost the put premium.

Although there are slight variations of this two-part strategy among investors, protective put buyers will typically buy OTM options with at least two to three months to expiration. Longer-term put options do not really make sense for two reasons: firstly, you are bullish on the stock long term and, secondly, the cost of the long-term insurance is expensive and will reduce your profits. Should your long-term view of the stock change to bearish, you might be better off selling the shares and moving on. Guarding your investments by using risk management techniques will help you to keep the profits of your winners and protect you against the losses of your underperformers, in your portfolio.

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