Example: Ranya opens the following spread position with the underlying stock trading at $43:

Long ABCD Apr 40 call @ 6
Short ABCD Apr 50 call @ 2

One month later, the price of the underlying stock has risen to $51. Her long and short calls are currently priced in the market at:

Long ABCD Apr 40 call @ 12
Short ABCD Apr 50 call @ 5

If Ranya closes out her position now, she will gain $3 per share. What originally cost her $4 per share ($6 – $2) now will pay out $7 per share ($12 – $5). The difference between her premiums has widened, exactly what she wanted with her debit spread.

At this point, she has little incentive to keep her spread position. It can only deteriorate with time. Why? The intrinsic value of her spread is at its maximum. It cannot widen any farther if the stock continues to rise, and it can drop to zero very quickly if the price should fall. Time value, too, will deteriorate as the weeks and months pass.

5.4. OPTIONS STRATEGIES

You may ask yourself: why acquire an option rather than buy or sell a stock outright? The answer is simple: leverage.

Leverage is the use of debt to finance an activity. You use leverage when you borrow money from a bank to purchase a mortgage on a house. You use leverage when you borrow from a broker to buy securities on margin. Leverage allows you to acquire assets at a fraction of their cost, freeing up the balance of your assets for other activities, such as feeding your family or making additional investments.

Options provide a unique source of leverage because you do not need to set aside a portion of your assets to acquire them. Options are an indirect form of borrowing. When you buy an option, you put a down payment on a security that you may or may not be required to pay the balance of in the future.

As a result, you can buy a lot more options on stocks than you can buy the stock itself. If you can buy 10 options on a stock for the price of a single share of the same security, you have leveraged that asset by 10 to 1. Leverage alters the risk profile for the investor: higher gains are possible since funds are applied to more investments than would otherwise be possible. Higher losses, too. When you buy options, the price of options adds up quickly. When you write options, your risks are large because you may be obligated to purchase a lot of securities if the price of the security goes against you. Options can be a risky business.

Options may serve many purposes. They can be used for purely speculative purposes or to hedge other assets. We have mentioned briefly some options strategies already. Let's look at them now in greater detail.

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5.4.1. SPECULATIVE STRATEGIES

When you buy or sell an option, you are speculating on the direction of the market and laying your assets on the table in the hope of making quick profits. Specifically, if you hold a put or call, you are anteing up a fixed portion of your assets hoping to win the jackpot. In contrast, if you write a put or a call, you choose to generate current income at substantial risk.

From a financial perspective, a **covered put** or **call** is less risky than a **naked put** or **call**, as we have seen. A covered call is the ownership of a security (long the security) combined with a written call option. An investor writes a covered call to *earn income* in the form of the premium. Because the investor owns the security, he is not put in the awkward position of having to find funds to buy the security in the market if the call is exercised. The extra income also allows the owner of the security to absorb more losses if the stock price falls. A covered call is still a risky position because the investor is still vulnerable to a large drop in the market price of the security.

The same result applies to the combination of a shorted security and a written put option. As we noted before, writers of covered options do not expect much price volatility in the underlying stock.

These strategies speculate on the direction of the market. Straddles speculate on the volatility of the market. Long straddles speculate that a stock is highly volatile and its direction unpredictable. Short straddles speculate that a stock will not be volatile. As always, the long position risks the premium paid; the short strategy risks one's shirt.

These speculative strategies are a calculated gamble. The probability of huge losses and gains is not usually very great. Speculators obviously weigh the risks and rewards with various degrees of expertise. But speculators do serve one very useful purpose from the market's point of view. They provide liquidity to the market. By escalating the market demand for options, they make it possible for hedging strategists to find a player to take the opposite position from their own at a price that is relatively fair and efficient, based on the principles of supply and demand.

5.4.2. HEDGING STRATEGIES

Unlike speculative strategies, hedging strategies are made, not to increase income, but to reduce risk. More specifically, a **hedge** is a transaction made to reduce the risk of an already existing investment position by taking an offsetting position. Of course, a hedge cannot limit the risk of loss without compromising the likelihood of gain.

5.4.2.1. Hedging with Protective Puts and Calls

Suppose you bought 1,000 shares of Apple stock months ago at $400 per share and the stock has since climbed to $500. You want to keep the stock because you like Apple and think its price will continue to rise, but at the same time, you don't want to risk losing what you have gained. You can hedge your risk on a long position by **buying a protective put**. In the same way that you buy insurance for protection, you buy a put for protection.

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To protect your Apple position, you might buy 10 slightly out of the money puts at $495 for $2 per share. If Apple starts declining, you have purchased the right to sell your shares of Apple at $495 per share, protecting your gains. Though paying the premium for the 10 puts has dampened your potential gains, you still have unlimited growth potential if Apple continues to rise.

To protect short sale gains, you can **buy a call**. Pretend you have shorted 1,000 shares of Apple at $500 per share and it has since fallen to $400. You believe it will fall farther in the future, so you don't want to close your short position, but you would like to protect your gains. You can go long 10 AAPL Jul 405 calls @2 to protect your position. Now if the price of Apple rises to $500, you will have the right to buy 1,000 shares at $405. You can use these shares to cover your short position.

SAMPLE QUESTION 1

Sandy owns a portfolio of stocks. She likes the stocks she has chosen and does not want to sell them, but she is worried about a decline in the entire market. What can she do?

Answer: Buy a put on a broad index. If the market decreases and the value of Sandy's stocks declines, the put would become increasingly profitable and would offset some of her losses. Of course, if the market does not decline, Sandy's profits would experience a reduction by the cost of buying the put that went unused.

SAMPLE QUESTION 2

Apple stock makes up a large portion of Jon's portfolio. This worries his financial advisor, who tries to convince him to diversify. But Jon loves Apple and refuses to sell, convinced that Apple can only continue to rise. What can Jon's financial advisor do to protect his customer from a decline in Apple's stock?

Answer: Buy puts on Apple. If the price of Apple declines, Jon will be able to sell his Apple stock at the strike price. If Apple continues to increase in value, both Jon and his advisor will be happy because they will benefit from the increase in Apple's price. Remember, though, that they must pay the premiums on the puts even if the puts are not exercised.

SAMPLE QUESTION 3

Wally has been bearish on XYZ and has a short position of 1,000 shares. He has already made significant gains on this short position. He has heard that XYZ has just hired a new CEO, and he is worried that the stock price may start to rise, cutting into his gains. Over the long run, he is still bearish on the stock. What can he do to protect his gains without closing out his short position?

Answer: Buy 10 calls on XYZ. Buying 10 calls on XYZ allows him to protect his short sale gains if the price of XYZ increases because he will be able to cover his short position by purchasing 1,000 shares of XYZ at a fixed strike price. This investment also allows him to hold open his short position and profit further if XYZ continues to decline.

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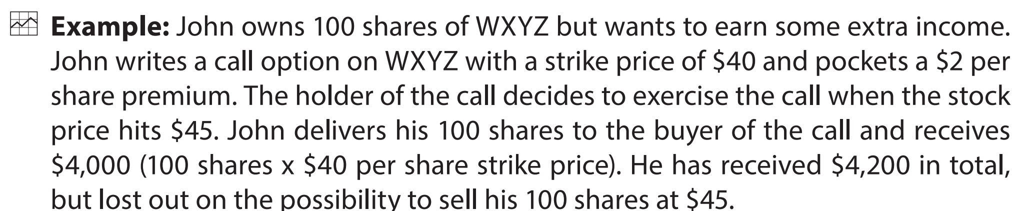
5.4.2.2. Hedging with Covered Calls and Puts to Increase Income

You may also hedge a position by *shorting* a call or put and using the income gained to lessen possible losses. This is not the best protection, however. The best protection always comes from buying an option, just as you have to buy insurance.

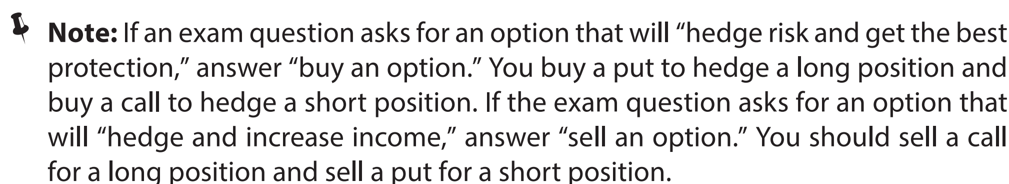
When an investor is **long a security**, it means that the investor owns the security. When an investor owns the underlying security and decides to sell a call option on it, the option is called a **covered call**. If the option buyer were to exercise the option and ask for delivery, the call writer already owns the security and does not have to cough up additional money to buy it in the market.

Writing covered calls can *increase income* in a portfolio. Remember, however, that the investor will not be able to participate in the upside gains in the stock, because when the stock price exceeds the strike price, the holder of the call will exercise the call, and the investor will be forced to sell the stock at the strike price.



Example: John owns 100 shares of WXYZ but wants to earn some extra income. John writes a call option on WXYZ with a strike price of $40 and pockets a $2 per share premium. The holder of the call decides to exercise the call when the stock price hits $45. John delivers his 100 shares to the buyer of the call and receives $4,000 (100 shares x $40 per share strike price). He has received $4,200 in total, but lost out on the possibility to sell his 100 shares at $45.

When the investor does not own the security and writes a call option, it is called a **naked call**. It is a naked call because the investor has sold something she doesn't own and is vulnerable to the market. If the price of the security goes through the roof and the call is exercised, she will have to come up with considerable cash to buy the shares in the market and deliver them to the holder of the call at the strike price. The writer of a naked call has the added risk of not being able to financially meet her contractual obligations.



Note: If an exam question asks for an option that will "hedge risk and get the best protection," answer "buy an option." You buy a put to hedge a long position and buy a call to hedge a short position. If the exam question asks for an option that will "hedge and increase income," answer "sell an option." You should sell a call for a long position and sell a put for a short position.

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