
The Terminology of Futures and Options

This chapter defines the terminology that hedgers and traders need to know. As experienced traders will see, however, not every term associated with futures and options is covered. Frankly speaking, one of the reasons why futures and options are frequently considered more complicated than they actually are is that technical words are used incorrectly or with conflicting meanings. There are, in fact, many technical terms that most hedgers and traders do not need to know. The following list of terms will be used throughout this book as defined in this chapter:

Futures contract	American-style exercise
Call option	European-style exercise
Put option	Effective purchase price
Long futures	Effective selling price
Short futures	Option buyer
Long call	Option writer
Short call	In-the-money, at-the-money, out-of-the-money
Long put	Premium
Short put	Intrinsic value
Strike price (exercise price)	Time value
Delivery date	Initial margin
Expiration date	Maintenance margin
Exercise (and exercise notice)	Margin call
Assignment (and notice of assignment)	Mark to the market

If you are familiar with these terms, you may skip ahead to Chapter 2. If you wish to read through the following definitions, keep in mind that they are written on a basic level. The nuances will be explained in later chapters.

This chapter will first discuss futures contracts, then call options, and then put options. At the end of the chapter some questions (with the answers following) will help reinforce your understanding.

FUTURES CONTRACTS

The Delivery Date

A *futures contract* is an agreement between two parties, a buyer and a seller, to exchange a standardized good, the commodity, for an agreed-upon price at a specific date in the future, the *delivery date*. The agreement is made through representatives of the parties, commodities brokers, on the floor of an organized futures exchange. The exchange guarantees the performance of both parties. The specifications and delivery procedures of the standardized good are detailed in the futures contract. Unless a futures contract is closed out before the delivery date, both the buyer and the seller are obligated to fulfill their sides of the transaction.

**Buyers of futures
are obligated to buy**

**Sellers of futures
are obligated to sell**

It is the standardized nature of a futures contract and the exchange guarantee that distinguish a futures contract from a forward contract, which is a unique negotiated agreement between two parties. An example of a forward contract occurs when Party A agrees to buy 12,600 bushels of soybeans from Party B on October 9. The advantage of a negotiated forward contract is that the buyer gets exactly what is needed when it is needed. The seller of a forward contract gets a desired price and a desired delivery schedule. One disadvantage of a forward contract is that both parties assume performance risk. In this example, Party A assumes

the risk that Party B will deliver soybeans of the specified grade on the specified date, and Party B assumes the risk that Party A will accept delivery and pay. Another disadvantage of forward contracts is that neither party can get out of the contract, even at a loss, without the permission of the other party. If Party A wants to cancel the contract but Party B refuses, Party A must find a third party, acceptable to Party B, to buy exactly 12,600 bushels of the specific grade of soybeans on October 9. This is known as an “illiquid” contract.

Futures contracts, however, have the advantage of being very liquid. Unless extraordinary market conditions exist in which a futures contract has reached its upper or lower price limit for a particular trading session, futures contracts can be traded freely. Also, futures contracts involve neither performance risk nor the expenses of negotiation. Futures contracts are generally far less costly to administer than are forward contracts.

Standardization is the major disadvantage of futures contracts. If a contract covers 5,000 bushels, for example, it is impossible to get 12,600 bushels delivered through the exchange's delivery mechanism. A buyer must purchase either two or three contracts in that case. Nevertheless, the growth of futures markets indicates that many market participants find that the advantages outweigh the disadvantages.

Margin Accounts and Margin Deposits

After entering into a futures contract, both the buyer and the seller must deposit funds in an account with the broker to demonstrate that they are financially capable of fulfilling the terms of the contract. The deposit is known as a *margin deposit* and the account is known as the *margin account*. The actual risk borne by the parties is usually substantially larger than the margin deposit. Users of futures and options need to be aware of margin account procedures because different strategies have different margin requirements.

Initial Margin, Maintenance Margin, and Margin Call

Initial margin is the minimum account equity required to establish a position. Initial margin requirements for futures and futures options frequently are expressed in absolute dollar terms. The initial margin for a soybean futures position, long or short, for example, might be \$900. If a position loses money, the account equity, i.e., the margin, will decrease. *Minimum margin* is the level, expressed as an absolute dollar amount, at or above which the account equity must be maintained. If account equity falls below the minimum margin level, the brokerage firm will notify the trader in a *margin call* that the account equity must be raised to the maintenance level. *Maintenance margin* is the level of account equity to which an account balance must be raised when a margin call is received. Maintenance margin is typically less than initial margin. Upon receiving a margin call, a trader may either deposit additional funds or securities or close the position.

Mark to the Market

A process that ensures that buyers and sellers of futures contracts are in compliance with the minimum margin requirements established by the exchange is known as *marking to the market*. By this process, the margin account balances of both the buyer and the seller are adjusted daily to reflect changes in the price of the futures contract.

Assume, for example, that on day 1 John buys one wheat futures contract from Ramona. Assume also that this contract covers 5,000 bushels of wheat, the price is \$3.00 per bushel, and the margin requirement is \$1,000. This means that both John and Ramona must deposit \$1,000 in accounts with their brokers.

Now consider the risks that John and Ramona are assuming. John has agreed to buy 5,000 bushels at \$3.00 each for a total commitment of \$15,000. In theory, if the price of wheat were to drop to zero, John would be obligated to pay \$14,000 in addition to the \$1,000 already in his account, and his total loss would be \$15,000.

Ramona's risk is different. If Ramona has 5,000 bushels of wheat ready to deliver, she has no risk other than opportunity risk, the risk that the price of wheat could rise and a higher price could have been received. In this case, in which Ramona has 5,000 bushels of wheat, she simply waits until the delivery date and then delivers her wheat in accordance with exchange-specified procedures. Upon delivery she receives \$15,000.

If Ramona does not have any wheat, however, she is assuming an unlimited risk, because the price of wheat could rise indefinitely.

Now consider how a change in the price of the futures contract and marking to the market affect John's and Ramona's account balances. If on day 2 the price of wheat rises 10 cents to \$3.10, the value of 5,000 bushels rises to \$15,500. Ignoring the fact that John will feel good and Ramona will feel bad, the price rise has increased John's creditworthiness and decreased Ramona's. John's commitment to purchase wheat at \$3.00 is now backed by his \$1,000 deposit plus the \$500 increase in value of the futures contract. Ramona, however, has only \$500 of "free and clear margin," because \$500 of her \$1,000 deposit is now an unrealized loss.

MARK TO THE MARKET

**Cash transfers
are made daily**

Something now happens in the futures business that does not happen in a normal purchase and sale transaction. Given the 10-cent price rise indicated above, the exchange will instruct Ramona's broker to transfer \$500 cash from her account to John's broker for deposit to John's account. Such cash transfers occur every

day in the futures business. When prices rise, cash is transferred from holders of short positions to holders of long positions. When prices fall, the opposite happens.

These daily cash transfers are an important element of the credit-worthiness of the futures system. First, they assure that every futures position is backed by the exchange-required minimum deposit of cash or cash equivalents. Second, they provide assurance to every trader with an unrealized profit by covering that unrealized profit with cash.

In the example above in which \$500 is transferred out of Ramona's account, her equity, or margin account balance, is reduced to \$500. As long as her balance is above the exchange's minimum requirement, no action need be taken. If an account balance drops below the minimum, however, then the broker will notify the customer that additional funds must be deposited or the position must be closed. This notification is known as a margin call. If the customer does not deposit the required funds and does not close the position, the broker has the authority to close the position without the customer's permission.

Should a trader who receives a margin call deposit more money or close the position? This is a decision that only the trader can make, and there is no right or wrong answer. The important point is that every open futures position is backed by at least the exchange's minimum margin requirement. If Ramona deposits sufficient additional funds, the exchange minimum is met. If she closes her position by purchasing a contract in the marketplace, another party will make the required deposit. In either case, both the long and short sides of all open futures contracts are backed by at least the minimum margin balance required by the exchange.

CALL OPTIONS

A *call option* is a contract between the call buyer (or owner) and the call writer (or seller). A call option gives its owner the right, but not the obligation, to buy some underlying instrument from the call writer at a specified price until a specified date. The writer, however, is obligated to deliver the underlying if instructed to do so. It is "the right, but not the obligation," of the buyer that distinguishes an option contract from a futures contract. A futures contract, remember, obligates both the buyer and the seller. The underlying instrument may be a stock, a bond, a physical commodity, or a futures contract. In this book, it is assumed that one futures contract is the underlying instrument for each option. Options that have one futures contract as the underlying instrument sometimes are described as "options on futures" or "futures options."

This distinguishes them from “stock options,” “index options,” and other types of options.

Strike Price and Expiration Date

The *strike price* (or *exercise price*) is the price specified in the option contract at which the underlying futures contract is traded if the call is exercised. The *expiration date* is the date specified in the option contract, and it is the date after which the right contained in the option ceases to exist. The expiration date for options on futures is generally the Saturday following the Friday before the last full week before the first notice day for delivery of the underlying futures contract. For example, if July 1, a Wednesday, is the first notice day for July futures, options on those July futures will expire 11 days earlier, on Saturday, June 20. Options expire on a Saturday for technical reasons related to trade clearing and error resolution. The last day options can be traded and exercised is typically a Friday, which is the last business day before the Saturday expiration.

Premium

The term *premium* simply refers to the price, or cost, of an option. An option's premium is paid by the option buyer and is received by the option seller. At futures exchanges in the United States, option buyers have no margin requirement after they pay for an option. Option sellers, however, do have margin requirements, and those requirements change as prices of the underlying futures contracts change.

Rights and Obligations

**Call owners have
the right to buy**

**Call writers have
the obligation to sell**

The buyer of one September 2.80 Wheat Call has the right, but not the obligation, to purchase one September Wheat Futures contract from the call writer at a price of \$2.80 (per bushel) at any time up to the expiration date. The call writer, in contrast, has an obligation to deliver one September Wheat Futures contract. The obligation is a contingent obligation until the call owner exercises the right to buy. If the call owner exercises, however, the call writer must deliver the contract.

Long Call and Short Call

The call buyer is described as having a *long call* position. “Long,” in this context, means “own.” As experienced traders know, it can also mean “bullish,” as in “long the market.”

The call writer is described as having a *short call* position, and in this context, “short” means “open written position” or “obligation.” It can also mean “bearish.”

Exercise (and Exercise Notice) and Assignment (and Notice of Assignment)

Exercise occurs when the call owner declares the right to buy a futures contract from the call seller and makes the proper notifications. *Assignment* occurs when a call writer is notified that a call owner has exercised the right to buy and that a futures contract must be sold. The process by which exercise and assignment occur is as follows. When a call owner decides to exercise, the first step is to notify the brokerage firm. The brokerage firm then submits an *exercise notice* to the clearing corporation of the exchange where the option is traded. It is the clearing corporation that guarantees the performance of option contracts. The clearing corporation then makes a random selection of a brokerage firm with a short call position that matches the long call being exercised. That brokerage firm in turn selects at random a customer with a short call position and notifies that customer, through an *assignment notice*, that the option has been assigned. At this point, a futures transaction has occurred: The call owner is the buyer of the futures contract, and the call writer is the seller. The price of this transaction is the strike price of the option (plus or minus commissions).

A call option ceases to exist after one of two events occurs. First, if the call owner exercises the right to purchase, the call writer must fulfill the terms of the contract. After exercise, the option no longer exists, but a futures contract has been purchased. If an August 8500 Feeder Cattle Call is exercised, for example, the exerciser purchases an August Feeder Cattle Futures contract at 85 cents per pound and must make the appropriate margin deposit. Second, a call ceases to exist if it is not exercised before expiration. In this case, the option is said to “expire worthless.”

**Option owners
exercise**

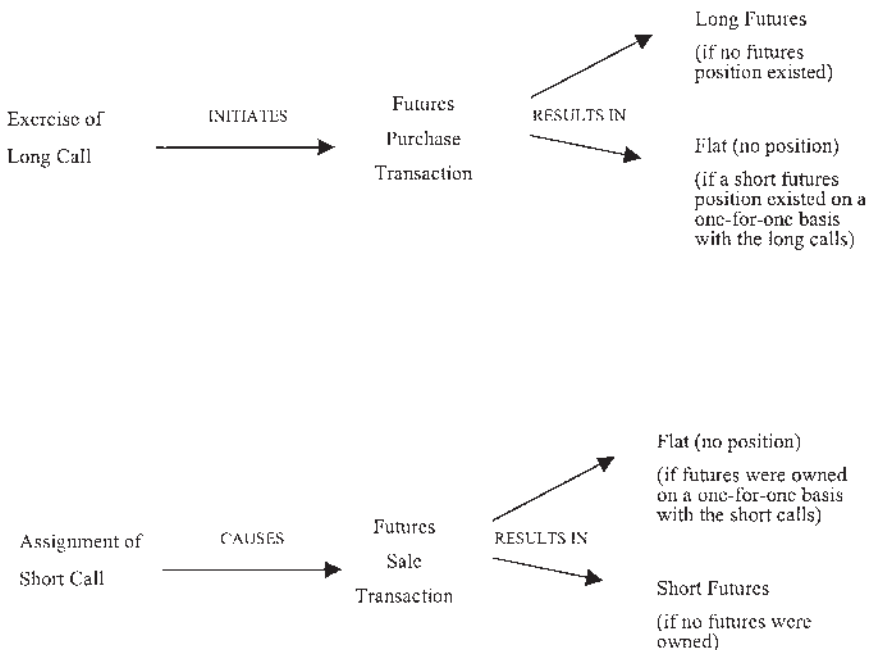
**Option writers
are assigned**

Position after Exercise and Assignment

Both the call owner and the call writer will have changed positions and margin requirements after a call is exercised. Figure 1–1 summarizes the changes. For the call owner, an exercised call creates a futures purchase transaction (one contract per option). If there was initially no futures position, exercising a call creates a long futures position at the strike price of the call, and an appropriate margin must be deposited. If, however, a short futures position existed on a one-for-one basis with the long calls, exercising a call purchases futures contracts that offset the short futures position, and the result is no position.

For the call writer, assignment of a call means that a futures sale transaction is created. If the call writer had no futures position, assignment of a short call creates a short futures position at the strike price of the call, and appropriate margin must be deposited. If, however, a long futures position existed on a one-for-one basis with the short calls, the assigned call writer sells futures contracts that offset the long futures position. The result is no position.

Figure 1–1 Call Options: Changed Positions after Exercise or Assignment



Effective Purchase Price and Effective Selling Price

The price at which the call was bought and sold is significant, because it is an important factor in the ultimate price of the futures transaction. The *effective purchase price* is the price of purchasing a futures contract that takes into account the price of the option. The *effective selling price* is the price of selling a futures contract which takes into account the price of the option. The following example illustrates this point.

If a 2.50 Corn Call that was purchased for .20, or 20 cents, is exercised, the effective purchase price of the corn futures transaction is 2.70. This price is calculated by adding the call price to its strike price on a per-unit basis. For the assigned call writer, the effective selling price of the futures is also 2.70: .20 was received for selling the call, and a short futures position at 2.50 is created when assignment occurs. The general formula — strike price plus call premium — applies equally to the call writer as the effective selling price and to the call buyer as the effective purchase price.

FOR CALLS
Effective purchase price =
strike plus call premium =
effective selling price

American-Style Exercise and European-Style Exercise

An option subject to *American-style exercise* is one in which the right granted by the option may be exercised at any time before the expiration date. An option subject to *European-style exercise*, however, may be exercised only on the last trading day before established deadlines. In the United States, all futures options are American-style.

In-the-Money, At-the-Money, and Out-of-the-Money

The relationship of the futures price to the strike price determines whether an option is in-the-money, at-the-money, or out-of-the-money. An *in-the-money call* has a strike price below the current futures price. If a futures is trading at 6.00, for example, the 5.75 Call is in-the-money. To be precise, it is 25 cents in-the-money. This call, however, is not necessarily trading for 25 cents. In fact, it is very likely to be trading for more than 25 cents. Why options trade for more than the in-the-money amount is discussed in Chapter 4.

AMERICAN OPTIONS
Early Exercise: YES

EUROPEAN OPTIONS
Early Exercise: NO

An *out-of-the-money call* has a strike price above the current futures price. For example, with futures trading at 6.00, the 6.25 Call option is out-of-the-money. Specifically, this call is out-of-the-money by 25 cents.

At-the-money means the futures price is equal to the strike price. This term has both a strict definition and a looser common usage. Theoretically, the 6.00 Call is at-the-money only when the underlying futures is trading exactly at 6.00. The rest of the time, it is either in-the-money or out-of-the-money. In practice, however, the 6.00 Call is designated as an at-the-money call when the futures price is closer to that strike price than it is to another strike price. With a futures trading at 5.94 or 6.08, for example, it is common practice to refer to the 6.00 Call as the at-the-money call.

In-the-money, *at-the-money*, and *out-of-the-money* are dynamic terms. As futures prices rise, out-of-the-money calls become at-the-money and then in-the-money. As futures prices fall, the opposite happens: In-the-money calls become at-the-money and, subsequently, out-of-the-money.

Intrinsic Value and Time Value

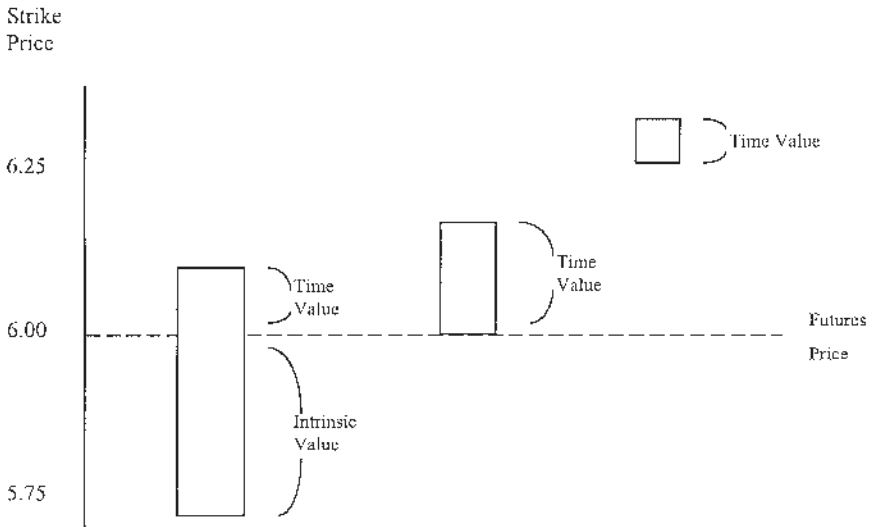
As was noted earlier, the term *premium* refers to the price of an option. This premium, or price, consists of two parts: intrinsic value and time value. *Intrinsic value* refers to the in-the-money amount of an option's price, and *time value* refers to any portion of an option's price that exceeds intrinsic value. Consider a situation in which the following prices exist:

	Price (per bushel)
Futures	6.00
5.75 Call	.32
6.00 Call	.18
6.25 Call	.09

An analysis of each option's premium (or price) will illustrate the concepts of intrinsic value and time value. First, examine the 5.75 Call, which is an in-the-money call. The futures price of 6.00 is 25 cents above the strike price. Consequently, the 5.75 Call is 25 cents in-the-money and therefore has 25 cents of intrinsic value. The premium (or price) of the 5.75 Call, however, is 32 cents. The difference of 7 cents is the time value.

The 18-cent premium of the at-the-money 6.00 Call consists entirely of time value. The premium of the out-of-the-money 6.25 Call —

Figure 1–2 Call Options: Intrinsic Value and Time Value



<u>In-the-Money Call</u>		<u>At-the-Money Call</u>		<u>Out-of-the-Money Call</u>	
5.75 Call:	.32	6.00 Call:	.18	6.25 Call:	.09
Intrinsic value:	.25	Intrinsic value:	-0-	Intrinsic value:	-0-
Time value:	.07	Time value:	.18	Time value:	.09

9 cents — also consists entirely of time value. Figure 1–2 illustrates intrinsic value and time value for in-, at-, and out-of-the-money calls.

Competition in the market makes it extremely unlikely that in-the-money options will trade for less than intrinsic value. Assume, for example, a soybean futures price of 6.10. If the 6.00 Call were trading for .05, traders could buy the call, exercise it immediately, and sell the futures for 6.10. Since the effective purchase price of the futures in this example is 6.05 (strike, 6.00, + call premium, .05), the result would be an immediate profit of 5 cents (not including transaction costs). A profit opportunity of this nature would attract many professional traders. Competition between professional traders would force the call price up and/or the futures price down, reducing the 5-cent profit to an amount slightly greater than transaction costs. Since transaction costs for professional traders are very low, options rarely trade below intrinsic value. When they do, it is very near to the expiration date and the amount below intrinsic value is only one-eighth or one-quarter of a cent.

**Put owners have
the right to sell**

**Put writers have
the obligation
to buy**

PUT OPTIONS

A *put option* gives the put buyer (or owner) the right, but not the obligation, to sell a futures contract to the put writer (or seller). The put writer, in contrast, has an obligation to buy the contract. The obligation is a contingent obligation until the put owner exercises. If the put owner exercises, however, the put writer must buy the contract. In the case of put options subject to American-style exercise, the right to sell may be exercised at any time before the expiration date. In the case of European-style options, the right to sell may be exercised only on the last day of trading before established deadlines. Do not forget that option

owners can close their position on any business day by selling their options in the marketplace. As was stated earlier, all futures options in the United States are subject to American-style exercise.

The put buyer is described as having a *long put* position, and the put seller is described as having a *short put* position. The process by which puts are exercised and assigned is identical to that for calls described above.

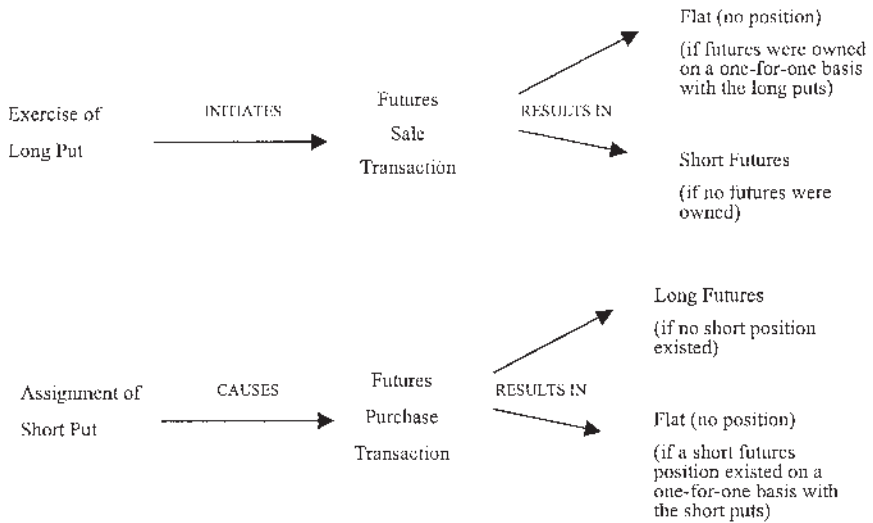
Position after Exercise and Assignment

As with calls, put owners and put writers will have changed positions after a put is exercised. Figure 1–3 summarizes the changes. For the put owner, an exercised long put creates a futures sale transaction, and a short futures position is created if there is no existing long futures position. If, however, the put owner has a long futures position on a one-for-one basis with the puts, the put exercise sells the futures contracts and leaves the former put and futures owner with no position.

For the put writer, assignment of a short put creates a futures purchase transaction. If no position existed initially, assignment of a short put creates a long futures position. If, however, a short futures position existed on a one-for-one basis with the short puts, the put assignment purchases futures contracts that offset the existing short position. The result in this case is no position.

Effective Purchase Price and Effective Selling Price

The price at which a put is transacted is significant, because it is an important factor in the ultimate price of the futures transaction. Consider a 2.50

Figure 1-3 Put Options: Changed Positions after Exercise or Assignment

Put that is purchased for .15, or 15 cents. For the put owner who exercises this put and, consequently, sells futures, the effective selling price is 2.35. The futures contract is sold at 2.50 in accordance with the terms of the put option contract, but .15 was paid for the put, and this reduces the net amount received to 2.35. Similarly, for the assigned put writer, the 15 cents received lowers the effective price paid for the futures from 2.50 to 2.35. The general formula — strike price minus put premium — applies equally to the put writer as the effective purchase price and to the put buyer as the effective selling price.

FOR PUTS
Effective purchase price =
strike minus put premium =
effective selling price

In-the-Money, At-the-Money, and Out-of-the-Money Puts

The relationship to the strike price of in-the-money puts and out-of-the-money puts is the opposite of that for calls. An *in-the-money put* has a strike price above the current futures price and an *out-of-the-money put* has a strike price below the current futures price. Consider a situation in which a futures is trading at 3.80. The 4.00 Put is in-the-money; specifically, it is 20 cents in-the-money. The 3.60 Put is out-of-the-money by 20 cents. The

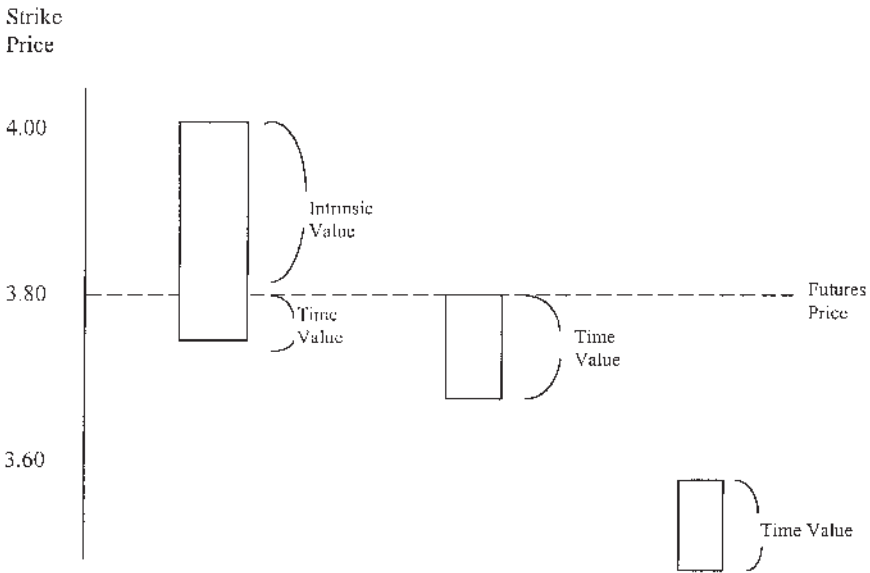
3.80 Put is at-the-money. The term *at-the-money* applies to puts in a similar way that it applies to calls. If the futures price is at or very close to the strike price of the option, that option is referred to as an *at-the-money put*.

Intrinsic Value and Time Value

As with calls, *premium* refers to the price of a put, and it consists of two parts: intrinsic value and time value. Consider a situation in which the following prices exist:

	Price (per bushel)
Futures	3.80
3.60 Put	.06
3.80 Put	.13
4.00 Put	.25

Figure 1-4 Put Options: Intrinsic Value and Time Value



<u>In-the-Money Put</u>		<u>At-the-Money Put</u>		<u>Out-of-the-Money Put</u>	
4.00 Put:	.25	3.80 Put:	.13	3.60 Put:	.06
Intrinsic value:	.20	Intrinsic value:	-0-	Intrinsic value:	-0-
Time value:	.05	Time value:	.13	Time value:	.09

The 4.00 Put is 20 cents in the money. It therefore has 20 cents of intrinsic value and 5 cents of time value. The 3.80 Put premium of 13 cents consists entirely of time value, and the 6-cent price of the out-of-the-money 3.60 Put also consists entirely of time value. Figure 1–4 illustrates intrinsic value and time value for in-, at-, and out-of-the-money puts.

SUMMARY OF DEFINITIONS: A QUIZ

This chapter concludes with the following quiz. Match the terms with their correct definitions – that is, fill in the number of the appropriate definition in the space provided next to each term. Note that some terms may have the same meaning as other terms, and some definitions may be used twice. The answers appear immediately after the definitions.

Terms

Long futures	_____	In-the-money put	_____
Short futures	_____	At-the-money put	_____
Long call	_____	Out-of-the-money put	_____
Short call	_____	Initial margin	_____
Long put	_____	Minimum margin	_____
Short put	_____	Maintenance margin	_____
Strike price	_____	Margin call	_____
Delivery date	_____	Premium	_____
Exercise price	_____	Intrinsic value	_____
Expiration date	_____	Time value	_____
Exercise	_____	Effective purchase price: long call	_____
Exercise notice	_____	Effective selling price: short call	_____
Assignment	_____	Effective purchase price: short put	_____
European-style option	_____	Effective selling price: long put	_____
American-style option	_____		
In-the-money call	_____		
At-the-money call	_____		
Out-of-the-money call	_____		

Definitions

1. A form presented to the clearing corporation of an exchange by a broker demanding that the terms of an option contract be fulfilled
2. A position which involves the obligation to buy a standardized good for an agreed-upon price at a specific date
3. A put option with a strike price above the current futures price
4. The process by which a short option position is selected as the one to make good on its contingent obligation
5. A call option with a strike price equal to the current futures price
6. The total price of an option
7. The portion of an option's total price that is in excess of the intrinsic value
8. Strike price minus premium
9. A call option with a strike price below the current futures price
10. A put option with a strike price equal to the current futures price
11. A call option with a strike price above the current futures price
12. Strike price plus premium
13. A position that involves the obligation to buy an underlying instrument at a specified price on or before a specified date if an assignment notice is received
14. An option that may be exercised only on the last trading day before established deadlines.
15. The portion of an option's total price that is equal to the in-the-money amount
16. A put option with a strike price below the current futures price
17. The deposit required when establishing a futures position that demonstrates the financial ability to fulfill the terms of that position
18. A position which involves the right, but not the obligation, to buy some underlying instrument at a specified price before a specified date
19. The level, expressed as an absolute dollar amount, at or above which account equity must be maintained
20. A position which involves the right, but not the obligation, to sell some underlying instrument at a specified price before a specified date

21. The price specified in an option contract
22. Demand that the terms of an option contract be fulfilled
23. A notice from a brokerage firm that the account equity must be raised to the maintenance level or the position will be closed
24. An option that may be exercised at any time before the expiration date
25. The date specified in a futures contract when the standardized good must be transferred from the seller to the buyer
26. The date after which an option ceases to exist
27. A position that involves the obligation to sell some underlying instrument at a specified price before a specified date if an assignment notice is received
28. The level of account equity to which an account balance must be raised when a margin call is received
29. A position which involves the obligation to sell a standardized good for an agreed-upon price at a specific date in the future

Answers

3	In-the-money put	2	Long futures
10	At-the-money put	29	Short futures
16	Out-of-the-money put	18	Long call
17	Initial margin	27	Short call
19	Minimum margin	20	Long put
28	Maintenance margin	13	Short put
23	Margin call	21	Strike price
6	Premium	25	Delivery date
15	Intrinsic value	21	Exercise price
7	Time value	26	Expiration date
12	Effective purchase price: long call	22	Exercise
12	Effective selling price: short call	1	Exercise notice
8	Effective purchase price: short put	4	Assignment
8	Effective selling price: long put	14	European-style option
		24	American-style option
		9	In-the-money call
		5	At-the-money call
		11	Out-of-the-money call