



MINNEAPOLIS GRAIN EXCHANGE

EXAMINING



FUTURES AND OPTIONS



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National Futures Association (Glossary of Terms)

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THE POWER OF CHOICE



How do commercial buyers and sellers of volatile commodities protect themselves from the ever-changing and unpredictable nature of today's business climate? They use a practice called hedging. This time-tested practice has become a standard in many industries. Hedging can be defined as taking offsetting positions in related markets.

But hedging is not only for commercial firms. In fact, hedging with MGEX (Minneapolis Grain Exchange) futures and options also can provide producers a competitive advantage by allowing them to "lock-in" a purchase price or a selling price.

This guide's purpose is to eliminate the mystery and confusion that often surround futures and options markets, and to help readers acquire the basic skills necessary to recognize and evaluate business opportunities that incorporate the use of these tools.*

This workbook explains:

- How cash and futures markets function
- What basis is and why it is important in hedging
- The advantages and disadvantages of hedging with options versus hedging with futures
- The most appropriate options strategy to accomplish a specific goal
- How to calculate the dollars and cents outcome of any given strategy, depending on the movement of the underlying futures price

**None of the material presented herein is intended to be, nor should it be construed, as trading advice. These materials are offered solely for the purpose of information and education.*

A BRIEF HISTORY OF THE MGEX

MGEX was first established in 1881 as a centralized marketplace for price discovery and price protection.

Initially called the Minneapolis Chamber of Commerce, the Exchange was established for several reasons. In the late 1800s, grain buyers and producers faced the difficult task of simply locating one another and, once they met, bitter disputes frequently erupted because there were no standardized weighing, measuring or grading practices. Furthermore, the cost of consumer goods, such as flour and bread, were at the mercy of violent price swings due to supplies that were either too large or too small.

Once established, the Exchange set standardized bushel weights that allowed for faster, more accurate measures, and quality and inspection procedures were instituted to minimize questionable trade practices.

Today, MGEX creates a fair and efficient trading environment for buyers and sellers at its landmark building in downtown Minneapolis. The Exchange enforces rules governing trade activity, collects margin deposits from clearing members and provides sampling and weighing services for its members. Additionally, MGEX operates its own clearinghouse that matches and clears trades for all Exchange trading activity.

MGEX is the only authorized futures market for hard red spring wheat. It also has five financially settled contracts: the National Corn Index (NCI), the National Soybean Index (NSI), the Hard Red Spring Wheat Index (HRSI), the Hard Red Winter Wheat Index (HRWI) and the Soft Red Winter Wheat Index (SRWI). Futures and options are traded in all of these contracts. MGEX also boasts the largest cash grain market in the world with wheat, barley, oats, rye, flax, corn and soybeans changing hands each day.

THE FUTURES MARKET

Before the development of futures markets, cash grain traders faced seasonal supply difficulties, including shortages in the winter and surpluses at harvest. To avoid subsequent violent price movements caused by these supply imbalances, traders began to contract for the future delivery of grain. These “forward contracts” evolved to become present day futures contracts and became the prevalent risk management tool for grain buyers and sellers.

FUTURES CONTRACTS

Futures contracts spell out the conditions of the transaction, such as quality, expiration date, and quantity of commodity in 5,000 bushel multiples (for example, 1 contract = 5,000 bushels). However, the contract price is negotiated among futures market participants. In all futures markets, prices are determined through open outcry auction in the trading pit or via electronic trading systems.

Bids and offers are out in the open for every trader to see, whether in the pit or via an electronic trading system, and every trader has an equal opportunity to participate in a trade. A trader who purchases a futures contract is said to be going “long” the futures and the seller “short” the futures.

The other components of a futures contract fall into two classes:

■ **Deliverable futures** contracts are legally binding agreements to deliver or take delivery of a specific quantity and quality of a specific commodity or instrument at a predetermined place and time in the future.

For example, if futures traders were instructed to buy one “September 09” hard red spring wheat futures contract, they would enter into an agreement to purchase 5,000 bushels of hard red spring wheat to be delivered in September 2009.

Futures contracts can result in the delivery of the physical commodity, or as in most cases, the contract can be offset by an offsetting purchase or sale. Actual delivery occurs in less than 1 percent of all contracts traded.

■ **Financially settled** (sometimes referred to as cash settled) futures contracts offer a no-delivery alternative for buyers and sellers of the contracts.

On the final trading day, all open positions are offset to an index specified by the listing exchange and defined in the contract trading rules. For more information on the five financially settled agricultural indexes offered by MGEX, contact MGEX or visit www.mgex.com.

THE PARTICIPANTS

■ **Hedgers** are risk averse and use futures as protection, or insurance, against unfavorable price moves. Hedgers protect themselves by taking an opposite position in the futures market to their exposed position in the cash commodity. By doing so, a loss in the cash market is offset by a corresponding gain in the futures market. Hedging will be explored in detail in Section III.

MGEX futures and options strategies can be customized in a number of ways and offer hedgers the ability to:

- Establish purchase and/or sales prices in advance of physical transactions
- Offer fixed forward pricing to customers
- Lock-in profit margins
- Establish a minimum selling price while maintaining the ability to participate in increasing prices
- Establish a maximum purchase price while maintaining the ability to participate in decreasing prices

■ **Speculators** trade to capitalize on potential profit opportunities generated by a fluctuating market and, by doing so, accept risk that hedgers wish to avoid. Speculators play a vital role in futures trading by providing market liquidity, which allows hedgers to buy and sell the contracts they desire at current market prices. Speculators attempt to buy low and sell high, or sell high and buy low. (Futures contracts can be sold without ownership, as long as the short position is offset by a purchase before the last trading day of the contract.)

■ **Floor traders** are market participants who physically trade in the pits at the exchange, either on the floor or on an electronic trading platform. Both hedgers and speculators can be floor traders.

- Locals trade solely for their own account and are most often classified as speculators.
- Brokers are licensed by the federal government to execute orders for customer accounts. They may be employed by a specific company to execute trades for the company or they may be part of a company (called a brokerage) that has many customers placing trades.

EXCHANGE SERVICES

■ Membership

MGEX is a not-for-profit membership association. There are 399 memberships, or seats, and the price fluctuates with supply and demand. Each member applicant is carefully screened for proper financial standing, character and integrity before a purchase is approved. Membership information, including current seat prices, is posted on the MGEX website.

An elected board of directors governs the exchange, and member committees oversee specific duties of exchange operations.

■ Clearinghouse

The MGEX clearinghouse is responsible for the daily settlement of all clearing firm accounts. Furthermore, the clearinghouse acts as a buyer to every seller, and a seller to every buyer in the market. It also collects margin.

The clearinghouse plays a key role when options are exercised and futures are delivered. For example, if a clearing member holding a long position exercises an option, the clearinghouse assigns the exercised option to a clearing member holding a short option position. The result of an option exercise is the creation of a futures position at the option's strike price. Once the futures market position is established, it can be offset by an opposing purchase or sale, or through the delivery process during the designated delivery period (the exception is for cash-settled contracts). If a futures contract seller decides to

deliver the physical product, the clearinghouse is responsible for assigning that delivery to the buyer in the market holding the oldest long position.

In the futures industry, margin must be deposited with the clearinghouse. Margin is a specific sum of money a trader must have in an account to insure the integrity of the contract. This money acts as a performance bond and protects the marketplace against a contract default. If a trader's account balance falls below the required minimum level, additional funds must be deposited. Conversely, accounts realizing a gain will see an increase in their margin balance. This daily process of account settlement is referred to as "marked to market."

Initial margin is the amount each participant must deposit in an account at the time an order is placed to buy or sell a futures contract. *Maintenance margin* is the minimum amount of money, per outstanding futures contract, that must be maintained in the margin account at all times. A call from the clearinghouse for additional funds is known as a *margin call*.

Commodity market margins differ from stock market margins. In the securities market, margin is considered a down payment for the purchase of common stock. Commodity market margins are deposited with a broker to provide contract integrity and are in no way intended as a down payment toward the purchase of actual commodities.

Because of the effectiveness of MGEX clearing procedures, no customer has ever incurred a loss due to default on any contract traded at the exchange.

■ Market Regulation

The market regulation department oversees futures trading to ensure that rules of the MGEX and regulatory agencies, such as the Commodity Futures Trading Commission (CFTC), are observed. It audits futures trades, investigates rule violations and reviews member firm financial statements.

The CFTC is the federal regulator and overseer of futures and options contracts on U.S. futures exchanges. MGEX works with the CFTC to monitor the marketplace to prevent commodity price distortions and market manipulations, and to protect customer rights.

TEST SECTIONS I AND II

QUESTIONS

1) **Futures prices are discovered by...**

- a) MGEX
- b) Electronic auction
- c) Open outcry auction
- d) The C.F.T.C.
- e) Both b and c

2) **Futures contracts can be...**

- a) Delivered
- b) Used as protection against large price swings
- c) Countered by an offsetting purchase or sale
- d) Both a and c
- e) All of the above

3) **Futures markets are used to affect underlying commodity prices in what way?**

- a) Increase volatility
- b) Decrease volatility
- c) Push prices higher
- d) Push prices lower

4) **Hedging in the futures market...**

- a) Is highly speculative
- b) Involves taking a position in the futures market which is opposite to one's cash market position
- c) Involves taking a position in the futures market which is identical to one's cash market position
- d) Both a and b

5) **Of the following, who could benefit from hedging with futures contracts?**

- a) Farmers
- b) Country elevator operators
- c) Flour millers
- d) Soybean oil mill
- e) All of the above

6) **Speculators...**

- a) Increase liquidity
- b) Facilitate hedging opportunities
- c) Profit from buying low and selling high
- d) Facilitate price discovery
- e) All of the above

7) **Of the following, which is NOT a function of the MGEX clearinghouse?**

- a) Aiding in the process of price discovery
- b) Acting as a buyer to every seller and seller to every buyer
- c) Collecting margin
- d) Daily settlement of clearing firm accounts
- e) Both c and d

8) **Futures contracts evolved from...**

- a) Stock markets
- b) Financial contracts
- c) Performance bonds
- d) Forward contracts
- e) Option markets

9) **A futures market participant might receive a margin call if...**

- a) He is long futures contracts and prices rise
- b) He is long futures contracts and prices fall
- c) He is short futures contracts and prices rise
- d) He is short futures contracts and prices fall
- e) Both a and d
- f) Both b and c

10) **Initial margins on futures contracts function...**

- a) As a performance bond
- b) As a down payment
- c) The same as stock market margins
- d) As an extension of credit
- e) As maintenance margin

ANSWERS

1) e

Forces of supply and demand influence pit traders who use the method of open outcry auction to determine fair market prices. This may also be done via auctions conducted on an exchange's electronic trading system. Neither the exchange, nor the regulating body dictate prices.

2) e

Futures contracts have many uses, including all answers listed in this question.

3) b

Prior to the introduction of futures markets, academic research showed that cash market prices were subject to large price movements. Contracting for the future delivery of a commodity tends to make prices less volatile.

4) b

Exposure to risk in the cash markets is countered by a directly opposite position in the futures market.

5) e

Any group interested in protecting the price of grain from falling or rising will find hedging a practical tool.

6) e

Speculators play a vital role in a futures market.

7) a

Clearing is not involved in the price discovery process.

8) d

The first members of MGEX traded forward contracts in the late 1800s.

9) f

A futures market loss, caused by both b and c, may trigger a margin call.

10) a

Margin insures the integrity of each trade.

HEDGING WITH FUTURES AND THE BASIS

Virtually every business faces the risk of price fluctuation, whether it's the price of raw materials it purchases or the price of products it produces. To offset price risk, businesses rely on hedging strategies to control costs and protect profit margins.

Hedging is the process of taking a futures market position to counterbalance vulnerabilities in the cash market. It is based on the premise that cash and futures prices move in concert with one another. This is true because cash and futures prices are influenced by the same external factors. Therefore, purchasing futures contracts that oppose one's cash market position will diminish the volatility of net return.

BASIS

Basis is the difference between the cash price of a commodity at a certain location and its futures price.

For example:

If the...

Cash price = \$4.00

And the...

Futures price = \$4.25

Then the...

Basis = -25 cents (cash – futures = basis)

Basis reflects:

- Transportation costs between local market places and the pricing point specified by the futures contract;
- Storage and/or handling costs until the delivery month of the futures contract;
- Quality factors such as protein premiums, foreign material, test weight, damage etc.;
- Overall supply and demand for commodities; and
- Market expectations.

Basis is a reflection of local or regional supply and demand factors rather than world conditions. Basis may fluctuate and change direction with some frequency, but basis risk is much less volatile than price risk because basis represents the difference between two prices that move in the same general pattern. *Therefore, most hedgers look to offset price risk even if it means taking on basis risk.*

The level of the basis is often referred to as "strong" or "weak." A strengthening basis becomes more positive. For example, if your local basis goes from 10 cents over the futures to 30 cents over, the basis is strengthening. Conversely, a weakening basis becomes more negative, such as when it moves from 30 cents over the futures to 10 cents over.

The following examples illustrate how basis and hedging are used by specific agricultural groups.

■ The short hedge

A short hedge typically locks in a sales price for a commodity. For example, on March 1, prices reach a level where a farmer knows he can make a profit on his spring wheat crop that is yet to be planted. Rather than take the chance that prices will fall, he decides to hedge a portion of the crop using futures. To lock in a price he establishes a “short hedge” by selling MGEX hard red spring wheat futures contracts.

On October 1, the farmer decides to lift his hedge and sell his now harvested wheat in the cash market. Futures prices have declined during this period so he’s able to buy back his futures contracts at a price less than what he originally sold them for, establishing a profit that offsets the lower price he will receive in the cash wheat market.

In this case, futures prices fell further than cash prices, which increased the futures market profit and strengthened the basis. A strengthening basis benefits the short hedger. Conversely, a weaker-than-expected basis reduces the effectiveness of a short hedge.

■ The long hedge

A long hedge typically locks in a purchase price for a commodity. For example, a producer has contracted to take delivery of a shipment of cattle three months in the future. He made the contract based on current feed prices, which would allow him to finish feeding the cattle and make a decent profit. To protect against higher feed prices between now and when the cattle are delivered, he buys one MGEX National Corn Index futures contract.

When the cattle arrive, the producer lifts the hedge by selling the futures contracts he had purchased earlier, and he simultaneously purchases the corn he needs in the cash market. If prices had increased during this period, the gain on the futures market position offsets the higher cash market price. In addition, in this case, futures prices rose further than cash prices, which increased the futures market profit and weakened the basis. A weakening basis benefits the long hedger. Conversely, a stronger-than-expected basis reduces the effectiveness of a long hedge.

TEST SECTION III

QUESTIONS

1) What is the basis change in the following examples?

From:	To:	Basis change:
20 cents under the futures	15 cents under	+ 5 cents
10 cents over	5 cents over	_____
5 cents over	5 cents under	_____

2) It is November 1. A producer has agreed to take delivery of feeder cattle in March. Based on the current futures prices for March corn, he knows he can make a profit on the cattle, and he knows he will need 10,000 bushels to provide the feed for the cattle. He could enter into a cash contract that would ensure him \$3.50/bu. He decides to hedge instead and his broker confirms his order to buy two MGEX March National Corn Index futures contracts filled at \$3.40/bu.

On March 1, the producer offsets (sells) his NCI futures position at \$3.60/bu and purchases his corn locally at \$3.55/bu.

	CASH	FUTURES	BASIS
a) Nov. 1	Cash price is _____	Buy ____ March contracts at _____	_____
b) March 1	Buy cash corn at _____	Sell ____ March contracts at _____	_____
c) Result	_____ loss/gain	_____ loss/gain	_____ change
d) Is this a short or long hedge? _____ Did the basis strengthen or weaken? _____			
e) Actual cash purchase price	\$ _____		
Futures gain or loss	\$ _____		
Gross price paid	\$ _____/bu		

3) It is April 1. A farmer anticipates he will have 10,000 bushels of spring wheat to sell in October, and the cash price today is \$6.60/bu. The farmer decides to hedge. His broker confirms his order to sell two MGEX December spring wheat futures contracts filled at \$6.40/bu.

On October 1, the farmer buys back two futures contracts at \$6.10/bu and sells his wheat to a local elevator for \$6.45/bu.

	CASH	FUTURES	BASIS
a) April 1	Cash price is _____	Sell ___ December contracts at _____	_____
b) Oct. 1	Cash price is _____	Buy ___ December contracts at _____	_____
c) Result	_____ loss/gain	_____ loss/gain	_____ change
d) Is this a short or long hedge? _____ Did the basis strengthen or weaken? _____			
e) Actual cash sale price	\$ _____		
Futures gain or loss	\$ _____		
Gross price received	\$ _____/bu		

4) It is October 1. A farmer has 100,000 bushels of soybeans in on-farm storage. He wants to capture the carry in the market and he could enter into a cash contract that would ensure him \$8.00/bu for April delivery. However, he looks at his record of basis and realizes the basis component of this price is extremely weak. As a result, he decides to hedge only the futures component of the price and he places an order to sell 20 MGEX May National Soybean Index contracts at \$8.60/bu.

On April 1, the farmer offsets (buys) his NSI futures position at \$8.70/bu and sells his soybeans locally at \$8.35/bu.

	CASH	FUTURES	BASIS
a) October 1	Cash price is _____	Sell ___ May contracts at _____	_____
b) April 1	Sell cash soybeans at _____	Buy ___ May contracts at _____	_____
c) Result	_____ loss/gain	_____ loss/gain	_____ change
d) Is this a short or long hedge? _____ Did the basis strengthen or weaken? _____			
e) Actual cash sales price	\$ _____		
Futures gain or loss	\$ _____		
Gross price paid	\$ _____/bu		

ANSWERS

1)

from .20 under to .15 under = +.05

from .10 over to .05 over = -.05

from .05 over to .05 under = -.10

2)

a) Nov. 1 cash price: \$3.50; Buy 2 contracts at \$3.40; basis is +10 cents/bu

b) March 1 cash price is \$3.55; Sell 2 contracts at \$3.60; basis is -5 cents/bu

c) Result: 5 cents/bu loss; 20 cents/bu gain; -15 cents/bu basis change

d) This is a long hedge; the basis weakened.

e) Actual cash purchase price: \$3.55

Futures gain: 20 cents/bu

Gross price paid: \$3.35/bu

3)

a) April 1 cash price: \$6.60; Sell 2 contracts at \$6.40/bu; basis is +20 cents

b) October 1 cash price: \$6.45; Buy 2 contracts at \$6.10/bu; basis is +35 cents

c) Result: 15 cent/bu loss; 30 cent/bu gain; basis: +15 cents/bu

d) This is a short hedge; basis strengthened

e) Actual cash sale price: \$6.45

Futures gain: 30 cents

Gross price received: \$6.75/bu

4)

a) October 1 cash price: \$8.00; Sell 20 May contracts at \$8.60; basis is -60 cents

b) April 1 cash price is \$8.35; Buy 20 contracts at \$8.70; basis is -35 cents

c) Result: 35 cents/bu gain; 10 cents/bu loss; basis: +25

d) This is a short hedge; the basis strengthened.

e) Actual cash sale price: \$8.35

Futures loss: 10 cents

Gross price paid: \$8.25/bu

THE POWER OF OPTIONS

Hedging with futures provides protection against volatile price movements by “locking in” desired price levels. At the same time, however, hedgers do not fully benefit if prices move in their favor. Furthermore, exposure to a loss in the futures market subjects the hedger to possible margin calls. As a result, options have become popular hedging tools because they provide hedgers with limited risk, unlimited profit potential and no possibility of margin call (this is true only for option buyers).

Option buyers have the right, but not the obligation, to buy or sell a futures contract at a predetermined price within a specified time period. A **call** option gives the purchaser the right, but not the obligation, to buy a futures contract. A **put** option gives the options contract owner the right, but not the obligation, to sell a futures contract.

Option components include:

■ Quantity

The number of bushels defined in a contract—typically 5,000 bushels per contract in grain futures.

■ Delivery Month

The month in which delivery is to be made in accordance with a futures contract. Options typically expire in the month preceding the delivery month of the underlying futures contract.

■ Underlying Futures

The specific futures contract that conveys the right to be bought (in case of a call) or sold (in case of a put) by exercising an option.

■ Strike Price (exercise price)

The price at which buyers of calls (puts) may choose to exercise their right to purchase (sell) the underlying futures contract.

■ Premium

This is the price of an option, and it is determined through open outcry or electronic trading.

CALLS

A call option may be bought or sold. If you believe the market will rise, you can buy a call and assume the right to purchase futures at the strike price. If you believe prices will fall or remain stable, you might sell or “write” a call. An option seller is obligated to abide by the contract if the buyer chooses to purchase futures by “exercising” his call option.

PUTS

A put option may be bought or sold. If you believe the market will fall, you may buy a put option and obtain the right to sell at the strike price until expiration. If you forecast the market will remain steady or rise, you may sell, or write, a put and assume the obligation to buy at the strike price if the buyer exercises his option at any time until expiration. (See diagram on the next page.)

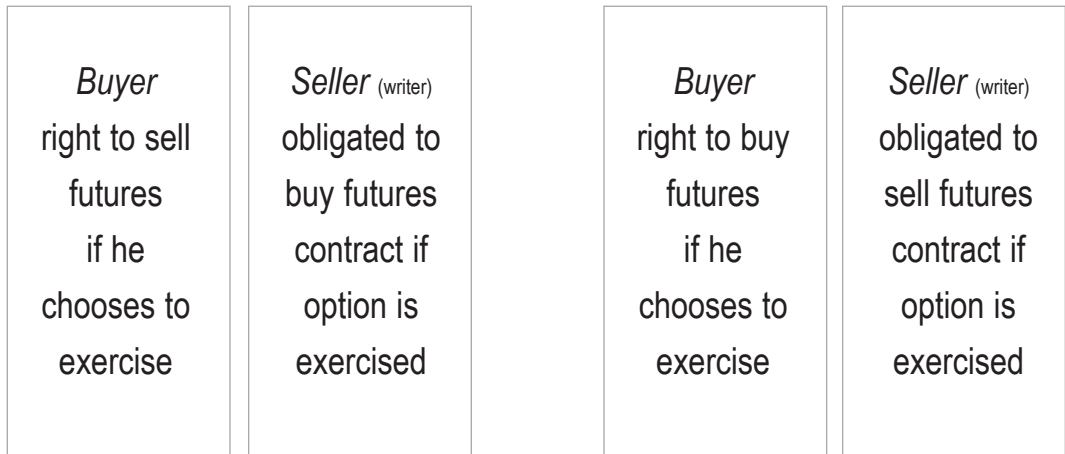
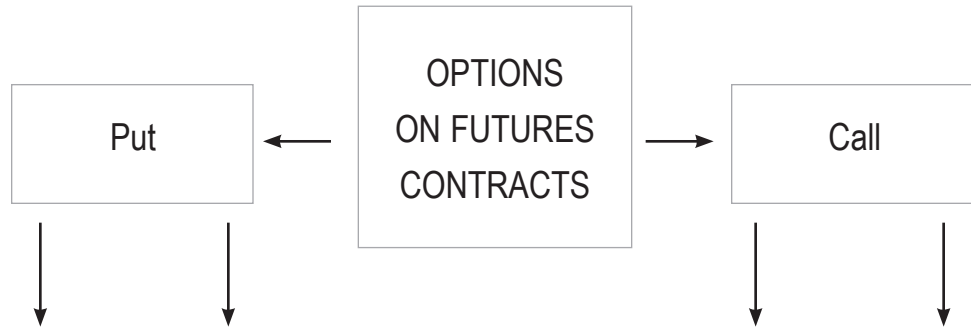
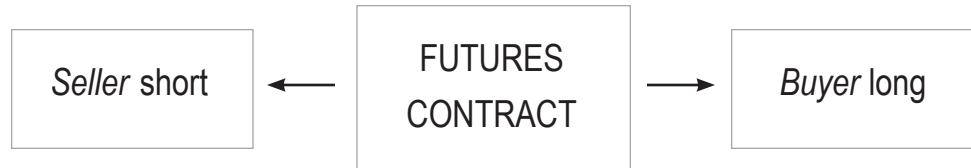
NAKED OPTIONS

A naked option transaction is one that is not offset by an opposite cash or futures market position. Selling “naked” calls and puts involves assuming unlimited risk in exchange for a premium. On the other hand, buying naked calls and puts risks only the amount of premium paid for the option. Therefore, option purchasers are not required to post margin money on long positions.

OPTION BUYER’S ALTERNATIVES

Once an option is purchased, an option buyer, or holder, has three alternatives prior to expiration: 1) make an offsetting sale and receive the current premium, 2) exercise the right to acquire a long or short position in the futures market, or 3) do nothing and let the option expire. To choose the most appropriate strategy, we must first develop a clear understanding of how options are priced. The following pages take a closer look at option pricing.

COMPARISON OF FUTURES CONTRACT TO OPTIONS ON FUTURES CONTRACTS



- BUYER PAYS PREMIUM
- SELLER COLLECTS PREMIUM

—Source: “Introduction to Commodity Trading,” Chicago Board of Trade Commodities Institute

OPTION PRICES

Similar to an insurance policy, buyers of options on futures are charged a premium. In return for this premium they receive protection against adverse price moves while retaining the opportunity to benefit if prices move in a favorable direction.

An option premium is comprised of two elements: intrinsic value, and time value (extrinsic value).

■ Intrinsic value

Intrinsic value is the amount of money that can be realized by exercising an option. A call option has intrinsic value if its strike price is below the futures price. If its strike price is above the futures price, it has no intrinsic value. Conversely, a put option has intrinsic value if its strike price is above the futures price, and no intrinsic value if its strike price is below the futures price.

For example:

If the futures price is \$3.50,

And the call option strike price is \$3.30,

Then the intrinsic value is 20 cents (futures price – call strike price = intrinsic value)

Or:

If the futures price is \$2.80,

And the put option strike price is \$3.00,

Then the intrinsic value is 20 cents (put strike price – futures price = intrinsic value)

■ Time Value

Time value is the amount that an option premium exceeds its intrinsic value. It reflects two primary elements:

- Time remaining until expiration

Holding all else equal, an option premium will be higher the longer the time before its expiration. This is because futures prices have a longer time period during which to fluctuate and there is a higher probability for options to move in-the-money. An option is in-the-money if it has intrinsic value. Time value of an option decays to zero as expiration approaches.

- Volatility

All else kept equal, the more volatile the futures price, the higher the option's premium. There is a higher demand for price protection if there are wide price swings in the futures market. Therefore, the price of obtaining insurance via options becomes more costly. Time value is calculated as premium minus intrinsic value.

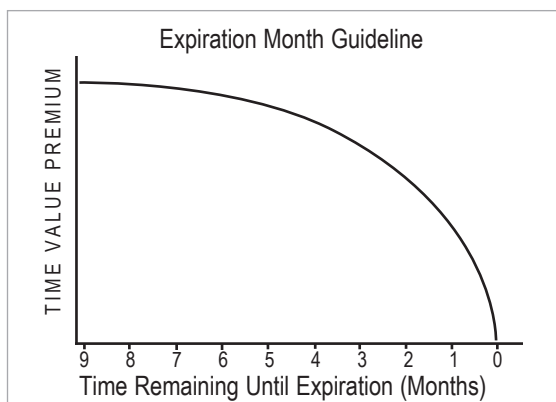
For example:

Let's say March futures are trading at \$7.00/bu and March \$6.50 calls are purchased for 60 cents per bushel.

- Premium = 60 cents/bu
- Strike price = \$6.50
- Underlying futures price = \$7.00
- Intrinsic value (futures – strike) =
 $\$7.00 - \$6.50 = \$0.50$
- Time value = (premium – intrinsic) =
 $\$0.60 - \$0.50 = \$0.10$

The call options buyer has acquired the right to buy March futures at \$6.50. March futures are currently priced at \$7.00, and the buyer paid 60 cents for this right.

Remember, a call option only has intrinsic value if the strike price is less than the futures price. Conversely, a put option only has intrinsic value if the strike price is above the futures price.



OPTIONS CLASSIFICATIONS

There are three options categories:

■ In-the-money

An in-the-money option always has intrinsic value. For example, a call option is in-the-money if the option strike price is below the underlying futures price. A put option is in-the-money if the option strike price is above the underlying futures price.

■ At-the-money

If the option strike price and the underlying futures price are equal, the option is at-the-money. An at-the-money option has no intrinsic value.

■ Out-of-the-money

An out-of-the-money option has no intrinsic value. A call option is out-of-the-money if the option strike price is above the underlying futures price. A put option is out-of-the-money if the option strike price is below the underlying futures price.

Options exercise

Option buyers may exercise their right to acquire a long (long call) or short position (long put) in the futures market at the option strike price if that option is in-the-money. An option can be exercised at any time prior to that option's expiration date. Options contracts typically expire in the month preceding the delivery month of the underlying futures contract. The exception is options on financially settled futures contracts which generally expire simultaneously to the underlying futures contracts.

Deltas

An option's delta represents the amount its premium will change for a given change in the underlying futures price. A deep in-the-money option whose value is comprised solely of intrinsic value (no time value) may have a delta close to 1.0. This means the relationship between the underlying futures price of an option and its premium is one-to-one. For each 1-cent move in the futures the option premium will move 1 cent as well.

For instance, let's say we are given an option with delta = 1.0, at a time when the futures price is \$6.80 and the premium is 50 cents/bu. If the futures price increases to \$6.90, the premium for an option with delta = 1.0 would increase to 60 cents/bu. Similarly, a delta of 0.5 indicates that a 10-cent change in the underlying futures price will result in a 5-cent change in the premium price.

In most cases, option premiums have a delta less than one but greater than zero. This is because at-the-money and out-of-the-money options are less sensitive to fluctuations in futures contracts than in-the-money options. In general, the further an option is out-of-the-money, the smaller its delta. An understanding of deltas can be useful when choosing an option strategy.

EXAMPLES

Exercising in-the-money options at expiration

If an individual holds a March call option with a strike price of \$6.40, he owns the right to buy March futures at \$6.40/bu. If the March futures price rises to \$6.50 at options expiration, he holds the right to buy a contract for \$6.40 that can be immediately sold for \$6.50. The option holder has the opportunity to gain the option's intrinsic value of 10 cents/bu. Further, if the premium paid was less than 10 cents/bu, the buyer has profited from the transaction.

Out-of-the-money options at expiration

Suppose a July put option with a strike price of \$5.80 was purchased. At the option's expiration, the July futures price is \$6.80, and the option is \$1.00 out of the money. As a result, the option holder lets this option expire and forfeits the premium paid.

Long Call

Buying a call option results in a long call position. Producers, for example, take long call positions when they buy calls to replace cash grain supplies. It establishes a long position in the market with limited downside risk.

If a long call position is taken, how is its value determined at expiration? Let's say a call option was purchased for 10 cents with a strike price of \$6.00. Any futures price at \$6.00/bu or less will result in a loss equal to the 10-cent premium. At a futures price of \$6.10, the transaction breaks even. Subsequent gains are unlimited if futures prices continue to rise.

For example:

Futures are:	profit/loss
\$5.90/bu	10-cent/bu loss
\$6.00/bu	10-cent/bu loss
\$6.10/bu	breakeven
\$6.20/bu	10-cent/bu gain
\$6.30/bu	20-cent/bu gain

Long Put

A long put is used in many forward pricing strategies. For example, a producer might buy a put during March to lock in a price for his crop to be harvested in the fall. This position protects the producer from downward moves in the market while still leaving open the opportunity to benefit should prices rise.

If a long put position is established, how is its value determined at expiration? Let's say a put option was purchased for 10 cents with a strike price of \$6.00. Any futures price at \$6.00/bu or more will result in a loss equal to the 10-cent premium. At a futures price of \$5.90, the transaction breaks even. Subsequent gains are unlimited if futures prices continue to fall.

For example:

Futures are:	profit/loss
\$5.70/bu	20-cent/bu profit
\$5.80/bu	10-cent/bu profit
\$5.90/bu	breakeven
\$6.00/bu	10-cent/bu loss
\$6.10/bu	10-cent/bu loss

Short Call

Let's say a market participant took the opposite side of the long call trade. He receives a premium of 10 cents/bu to sell a \$6.00 call. He profits by the full amount of the premium as long as the futures price remains at or below \$6.00. Potential losses are unlimited if futures prices rise.

For example:

Futures are:	profit/loss
\$5.90/bu	10-cent/bu profit
\$6.00/bu	10-cent/bu profit
\$6.10/bu	breakeven
\$6.20/bu	10-cent/bu loss
\$6.30/bu	20-cent/bu loss

Short Put

Selling a put with a premium of 10 cents/bu at a strike price of \$6.00 looks like this:

For example:

Futures are:	profit/loss
\$5.70/bu	20-cent/bu loss
\$5.80/bu	10-cent/bu loss
\$5.90/bu	breakeven
\$6.00/bu	10-cent/bu profit
\$6.10/bu	10-cent/bu profit

Remember, option sellers must maintain a minimum margin balance in their account!

TEST SECTION IV

QUESTIONS

1) **A long call option is:**

- a) The right to buy the underlying futures contract
- b) The right to sell the underlying futures contract
- c) The obligation to buy the underlying futures contract
- d) The obligation to sell the underlying futures contract

2) **Every option transaction involves:**

- a) Exercise
- b) Delivery
- c) Both a put and a call
- d) A buyer and a seller
- e) All of the above

3) **A \$5.60 call option is purchased; to offset it, the buyer would:**

- a) Sell a \$5.60 call
- b) Sell a \$5.60 put
- c) Exercise the option
- d) Let the option expire
- e) None of the above

4) **An option premium is:**

- a) Determined by the exchange
- b) Set at expiration
- c) Determined when exercised
- d) Negotiated by buyer & seller through open outcry or electronic trading

5) **The difference between an option's premium and its intrinsic value is:**

- a) The price of the underlying futures contract
- b) The strike price
- c) The margin
- d) Time value

6) **An individual paid 20 cents for a March \$5.50 call when the underlying futures price was \$5.60.**

The option was:

- a) In-the-money
- b) Out-of-the-money
- c) At-the-money

7) **An option buyer can:**

- a) Exercise the option
- b) Sell the option
- c) Let the option expire
- d) All of the above

8) **As the underlying futures price goes up:**

- a) The value of the call option rises
- b) The value of the put option rises
- c) The value of the call option falls
- d) Both a and b

9) **Both option buyers and sellers must back option positions by posting margins.**

- a) True
- b) False

10) **To protect against rising corn prices, a feedlot manager could:**

- a) Buy a call
- b) Buy a put

11) **When a put option is exercised, the seller of a put:**

- a) Is short the underlying futures contract
- b) Is long the underlying futures contract
- c) Pays the premium
- d) Is short the put
- e) Is long the put

12) **A call has a strike price of \$6.50.**

The underlying futures price is \$7.00.

The intrinsic value is _____.

13) **A call has a strike price of \$6.80.**

The underlying futures price is \$6.80.

The intrinsic value is _____.

14) **A call has a strike price of \$7.00.**

The underlying futures price is \$6.86.

The intrinsic value is _____.

15) A put has a strike price of \$5.30.
The underlying futures price is \$5.60.
The intrinsic value is _____.

16) A put has a strike price of \$6.90.
The underlying futures price is \$6.17.
The intrinsic value is _____.

17) A put, with a strike price of \$6.10, was bought
at 5 cents. The underlying futures price is currently
\$6.00.
The intrinsic value is _____.

18) Purchasing a Call
If you purchase a call option with a strike price of
\$5.80 and a premium of 15 cents, what is your profit/
loss scenario?

Futures are at:	profit/loss
\$5.60/bu	_____
\$5.70/bu	_____
\$5.80/bu	_____
\$5.90/bu	_____
\$6.00/bu	_____
\$6.10/bu	_____

19) Selling a Put
If you sell a put option with a strike price of \$5.80,
and a premium of 15 cents, what is your profit/loss
scenario?

Futures are:	profit/loss
\$5.60/bu	_____
\$5.70/bu	_____
\$5.80/bu	_____
\$5.90/bu	_____
\$6.00/bu	_____

ANSWERS

- 1) **a.** A long call position gives the holder the right to buy futures. Sellers of call options have an obligation to sell the underlying futures contract at the option strike price.
- 2) **d.** Puts and calls are completely independent transactions; an option transaction requires a buyer and a seller.
- 3) **a.** Offset means to make an opposing purchase or sale of the same option.
- 4) **d.** Premium is determined by competition between buyers and sellers.
- 5) **d.** Premium – intrinsic value = Time value
- 6) **a.** In-the-money. A call option whose strike price is below the futures price is in-the-money regardless of the premium amount.
- 7) **d.** All of the above options are available to the purchaser.
- 8) **a.** The value of the call option appreciates.
- 9) **b.** An option buyer can only lose the amount of the premium price, and therefore he is not required to post margin.
- 10) **a.** Buy a call to establish a maximum purchase price should cash prices rise.
- 11) **b.** The put option seller acquires a long position in the futures market at the put option strike price. The put option buyer is assigned a short futures position at the put option strike price.
- 12) **50 cents**
- 13) **0**
- 14) **0**
- 15) **0**
- 16) **73 cents**
- 17) **10 cents (premium paid does not affect current intrinsic value)**
- 18) **Purchase a Call**

Futures are:	gain/loss
\$5.60	15 cents/bu loss (premium payment)
\$5.70	15 cents/bu loss (premium payment)
\$5.80	15 cents/bu loss (premium payment)
\$5.90	5 cents/bu loss (gain less premium payment)
\$6.00	5 cents/bu gain (gain less premium payment)
\$6.10	15 cents/bu gain (gain less premium payment)

19) Selling a Put

Futures are:	gain/loss
\$5.60	5 cents/bu loss (futures - strike price + premium)
\$5.70	5 cents/bu gain (futures - strike price + premium)
\$5.80	15 cents/bu gain on sale (premium)
\$5.90	15 cents/bu gain on sale (premium)
\$6.00	15 cents/bu gain on sale (premium)

OPTIONS STRATEGIES

The material in this section illustrates which hedge options strategies can be employed to achieve specific price objectives. Options derive their value from their versatility, and success in options trading lies in knowing which strategy helps reach specific objectives.

Before a strategy can be devised, however, hedgers must first decide how the option will be used and how much they're willing to pay for it.

DELIVERY MONTH

In general, the choice between different delivery months is determined by the time frame required to achieve objectives. For example, if in May a producer knows he will sell his crop in the fall, he may choose to buy December puts to protect against a price decline before fall.

STRIKE PRICE

There is no formula or rule of thumb when choosing an appropriate strike price. Since option premiums reflect both time remaining until expiration and intrinsic value, different options have different levels of risk and reward. When choosing an option strike price, some things to consider are:

- What price trends do I expect in the future?
- Am I bullish or bearish?
- How much risk am I willing to assume for greater potential reward?
- If I'm a hedger, would I like to pay less for a little protection, or more for greater protection?

It is up to the option buyer to decide how much to spend, and how much insurance the option will provide. For example, an in-the-money put option has a strike price higher than the current market price. Therefore, he must pay more for the right to sell at a price higher than the current price. The deeper an option is out-of-the-money, the smaller its chances of moving in-the-money and becoming exercised. It follows that out-of-the-money option premiums are smaller than in-the-money premiums.

In a sense, option premiums and option classifications are analogous to insurance policies with various deductible amounts. A higher deductible means a lower insurance premium and insurance coverage. Similarly, the further an option is out-of-the-money, the option premium is reduced and the buyer's coverage decreases.

For Example:

Options with a range of strike prices provide various strategic alternatives to the trader. Here is an example that illustrates the complexities of choosing an option strike price:

It is harvest and a producer decides to purchase an MGEX NCI put option for protection against a possible spring corn price decrease. If the May futures price is currently \$3.40 and a producer purchases an out-of-the-money put for 8 cents/bu with a \$3.30 strike price, he will be protected from any price decrease below \$3.22 ($\$3.30 - .08$). But, if he pays 15 cents/bu for an at-the-money put with a strike price of \$3.40, he will be protected from any price decrease below \$3.25 ($\$3.40 - .15$). At-the-money or in-the-money options give better coverage for the farmer's underlying cash market position. The out-of-the-money option, however, is cheaper than the in-the-money option – the most that can be lost if prices increase rather than decline is the 8-cent premium.

Choosing an appropriate strike price is up to the individual option buyer or seller. It is important to be aware of alternatives and how they affect the potential risks and rewards.

HEDGING WITH OPTIONS

The following examples illustrate basic strategies using options as a hedge. In these examples, the basis is assumed to be zero.

■ Forward pricing with put options

In March, a producer expects to harvest 5,000 bushels of spring wheat in August. He is concerned that prices may fall between March and August and would like protection from a price decline, while still benefiting if prices should rise.

Currently, the MGEX September hard red spring wheat futures price is \$6.50/bu. The producer decides to purchase the September at-the-money put (\$6.50 strike price = \$6.50 futures price) for a premium of 15 cents.

- If prices fall...

Then the producer will earn at least \$6.35 for his wheat by exercising his right to sell at \$6.50 less the 15-cent premium. This is true because falling prices increase the value of the put option, and the option profit offsets the lower price he receives for his cash wheat.

- If prices rise...

Then he will allow his put option to expire because the right to sell at \$6.50 when the futures price is in excess of \$6.50 is worthless at expiration. But since the cash price has improved, the producer will realize the profit from the price increase less the premium amount.

For example:

Assume the futures price rose to \$6.80/bu, and the producer allows the option to expire.

Selling price = \$6.80

Premium paid = -0.15

Net selling price = \$6.65

Let's compare the possible outcomes of our options hedge with other familiar alternatives. Assuming the basis remains unchanged at zero, purchasing the put option places a minimum sale price of \$6.35 per bushel on the

wheat crop, but does not limit the potential profit. Hedging in the futures market "locks in" the \$6.50 target price, which would not have allowed the producer to gain in the second scenario. Doing nothing exposes the producer to market fluctuations.

■ Replacing a crop with call options

A producer has completed harvest and now has a decision to make. Should he store his grain and hope for higher prices, or should he sell the crop? The first step he takes is to check the local basis. As it turns out, the basis is strong this particular year, holding at 10 cents under the futures. In the previous four years, it had never been stronger than 20 cents under and had been as low as 33 cents under.

Futures prices, on the other hand, are not strong. As a result, he decides to sell his grain to capture the strong basis and replace it with a call option to give him the opportunity to benefit should futures prices follow their seasonal tendency to go higher after harvest. The farmer is willing to pay this premium because he knows the cost of storage and interest will roughly equal the option premium. Regardless of what prices do, the farmer has reduced his risk to the cost of the option. If he had decided to store his crop, he would have been open to unlimited downside risk in the cash price.

Here's what would happen to his position if prices rise or fall in the following months:

- If prices fall...

Then the producer would be out his premium for the call option, but no more than that. By holding a cash position, not only would the producer have incurred storage and interest costs, but he also would be exposed to downside risk.

- If prices rise...

Then the producer benefits from market gains without incurring storage and interest costs. Once prices rise past the premium paid for the option, the producer profits from any additional gains.

TEST SECTION V

QUESTIONS

1) It is August and a producer expects to harvest a crop in November. The current price is \$7.80/bu. To protect against falling prices, he decides to purchase put options with a strike price of \$7.80 for a premium of 20 cents/bu. Between August and November prices fall to \$7.30 and the premium rises to 55 cents/bu. The producer decides to offset his option position and simultaneously sell his crop (basis = 0). What is his net price?

2) In the previous problem, if prices rise above the \$7.80 strike price at expiration, the producer will:

- a) exercise the option
- b) let the option expire and receive the current price less the option premium
- c) acquire a short position in the November futures contract
- d) earn the option premium

NOTE: An alternative to letting your option expire without value, would be to sell the option back and capture some of the premium value prior to expiration.

3) If a producer purchases a September put option with a strike price of \$6.20, for a premium of 9 cents/bu, and the local basis is 20 cents under at the time he sells his crop...

Calculate the TOTAL RETURN at each of the following futures prices at expiration.

Sep. futures prices	TOTAL RETURN
\$6.50	
\$6.00	
\$5.50	

ANSWERS

- 1) Cash: August \$7.80, November \$7.30; Loss 50 cents/bu
 Options: Buy put for premium of 20 cents/bu;
 Sell put for premium of 55 cents/bu; gain of 35 cents/bu
 Selling price = \$7.30 (cash)
 Option market gain = \$0.35
 Net selling price = \$7.65

- 2) b. The producer would let the option expire and receive the current selling price less the option premium paid.

3)	Futures price =	6.50	Futures price =	6.00	Futures price =	5.50
	Basis =	-.20	Basis =	-.20	Basis =	-.20
	Premium =	-.09	Premium =	-.09	Premium =	-.09
	Option value =	.00	Option value =	+.20	Option value =	+.70
	TOTAL RETURN =	6.21	TOTAL RETURN =	5.91	TOTAL RETURN =	5.91

CONCLUSION

Mastering the use of futures and options can be time consuming. This booklet is designed to provide a point from which a workable understanding of futures and options markets can be launched.

If you understand the contents of this workbook, you already have achieved an advantage over the majority of your competitors, but your skills must be honed by gathering information from different sources such as futures exchanges, brokerage firms, specialists and seminars. You can find prices, contract specifications, rules and regulations, margin requirements and other useful market information on contracts traded at the Minneapolis Grain Exchange at www.mgex.com.

It also is important to establish a working relationship with a broker experienced in the complexities of futures and options trading. A broker will answer your questions, inform you of new opportunities and keep you abreast of market developments.

Futures and options provide numerous strategic choices for those who understand their uses. Acquiring this information can be one of the most worthwhile investments you will ever make.



Actuals See Cash Commodity.

Aggregation—The policy under which all futures positions owned or controlled by one trader or a group of traders are combined to determine reporting status and speculative limits.

Arbitrage—The simultaneous purchase and sale of similar commodities in different markets to take advantage of a price discrepancy.

Arbitration—The process of settling disputes between members or between parties by a person or persons chosen or agreed to by them. NFA's arbitration program provides a forum for resolving futures-related disputes between NFA Members or between Members and customers.

Associated Person (AP)—An individual who solicits orders, customers or customer funds on behalf of a Futures Commission Merchant, an Introducing Broker, a Commodity Trading Advisor or a Commodity Pool Operator and who is registered with the Commodity Futures Trading Commission.

At-the-Money Option—An option whose strike price is equal—or approximately equal—to the current market price of the underlying futures contract.

Backwardation—A futures market in which the relationship between two delivery months of the same commodity is abnormal. The opposite of Contango. See also Inverted Market.

Basis—The difference between the current cash price of a commodity and the futures price of the same commodity.

Bear Market (Bear/Bearish)—A market in which prices are declining. A market participant who believes prices will move lower is called a "bear." A news item is considered bearish if it is expected to result in lower prices.

Bid—An expression of willingness to buy a commodity at a given price; opposite of Offer.

Board of Trade—See Contract Market.

Broker—A company or individual that executes futures and options orders on behalf of financial and commercial institutions and/or the general public.

Bucketing—Directly or indirectly taking the opposite side of a customer's order into the broker's own account or into an account in which the broker has an interest, without open and competitive execution of the order on an exchange.

Bull Market (Bull/Bullish)—A market in which prices are rising. A market participant who believes prices will move higher is called a "bull." A news item is considered bullish if it is expected to result in higher prices.

Call Option—An option that gives the buyer the right, but not the obligation, to purchase ("go long") the underlying futures contract at the strike price on or before the expiration date.

Carrying Broker—A member of a futures exchange, usually a clearinghouse member, through which another firm, broker or customer chooses to clear all or some trades.

Carrying Charge—The cost of storing a physical commodity such as grain or metals over a period of time. The carrying charge includes insurance, storage and interest on the invested funds as well as other incidental costs. In interest rate futures markets, it refers to the differential between the yield on a cash instrument and the cost of the funds necessary to buy the instrument. Also referred to as Cost of Carry.

Cash Commodity—The actual physical commodity as distinguished from the futures contract based on the physical commodity. Also referred to as Actuals.

Cash Market—A place where parties (i.e., grain elevator, bank, etc.) buy and sell the actual commodities. See also Forward (Cash) Contract and Spot.

Cash Settlement—See financial settlement.

Charting—The use of graphs and charts in the technical analysis of futures markets to plot price movements, volume, open interest or other statistical indicators of price movement. See also Technical Analysis.

Churning—Excessive trading that results in the broker deriving a profit from commissions while disregarding the best interests of the customers.

Circuit Breaker—A system of trading halts and price limits on equities and derivatives markets designed to provide a cooling-off period during large, intraday market declines.

Clear—The process by which a clearinghouse maintains records of all trades and settles margin flow on a daily mark-to-market basis for its clearing members.

Clearinghouse—An agency or separate corporation of a futures exchange that is responsible for settling trading accounts, collecting and maintaining margin monies, regulating delivery and reporting trade data. The clearinghouse becomes the buyer to each seller (and the seller to each buyer) and assumes responsibility for protecting buyers and sellers from financial loss by assuring performance on each contract.

Clearing member—A member of an exchange clearinghouse responsible for the financial commitments of its customers. All trades of a non-clearing member must be registered and eventually settled through a clearing member.

Closing Price—See Settlement Price.

Closing Range—A range of prices at which futures transactions took place during the close of the market.

Commission—A fee charged by a broker to a customer for executing a transaction.

Commission House—See Futures Commission Merchant.

Commodity Exchange Act (CEA)—The federal act that provides for federal regulation of futures trading.

Commodity Futures Trading Commission (CFTC)—The federal regulatory agency established in 1974 that administers the Commodity Exchange Act. The CFTC monitors the futures and options on futures markets in the United States.

Commodity Pool—An enterprise that funds contributed by a number of persons are combined for the purpose of trading futures or options contracts. The concept is similar to a mutual fund in the securities industry. Also referred to as a Pool.

Commodity Pool Operator (CPO)—An individual or organization which operates or solicits funds for a commodity pool. A CPO is generally required to be registered with the CFTC.

Commodity Trading Advisor (CTA)—A person who, for compensation or profit, directly or indirectly advises others as to the value of or the advisability of buying or selling futures contracts or commodity options. Providing advice indirectly includes exercising trading authority over a customer's account. A CTA is generally required to be registered with the CFTC.

Confirmation Statement—A statement sent by a Futures Commission Merchant to a customer when a futures or options position has been initiated. The statement shows the price and the number of contracts bought or sold. Sometimes combined with a Purchase and Sale Statement.

Contango—A futures market in which prices in succeeding delivery months is progressively higher. The opposite of Backwardation.

Contract Market—A board of trade designated by the CFTC to trade futures or options contracts on a particular commodity. Commonly used to mean any exchange on which futures are traded. Also referred to as an Exchange.

Contract Month—The month in which delivery is to be made in accordance with the terms of a futures contract. Also referred to as Delivery Month.

Convergence—The tendency for prices of physical commodities and futures to approach one another, usually during the delivery month.

Cost of Carry—See Carrying Charge.

Covered Option—A short call or put option position that is covered by the sale or purchase of the underlying futures contract or physical commodity.

Cross-Hedging—Hedging a cash commodity using a different but related futures contract when there is no futures contract for the commodity being hedged and the cash and futures market follow similar price trends (e.g. using soybean meal futures to hedge fish meal).

Customer Segregated Funds—See Segregated Account.

Day Order—An order that if not executed expires automatically at the end of the trading session on the day it was entered.

Day Trader—A speculator who will normally initiate and offset a position within a single trading session.

Default—The failure to perform on a futures contract as required by exchange rules, such as a failure to meet a margin call or to make or take delivery.

Deferred Delivery Month—The distant delivery months in which futures trading is taking place, as distinguished from the nearby futures delivery month.

Delivery—The transfer of the cash commodity from the seller of a futures contract to the buyer of a futures contract. Each futures exchange has specific procedures for delivery of a cash commodity. Some futures contracts, such as stock index contracts, are cash settled.

Delivery Month—See Contract Month.

Derivative—A financial instrument, traded on or off an exchange, the price of which is directly dependent upon the value of one or more underlying securities, equity indices, debt instruments, commodities, other derivative instruments, or any agreed upon pricing index or arrangement. Derivatives involve the trading of rights or obligations based on the underlying product but do not directly transfer property. They are used to hedge risk or exchange a floating rate of return for a fixed rate of return.

Designated Self-Regulatory Organization (DSRO)—When a Futures Commission Merchant (FCM) is a member of more than one Self-Regulatory Organization (SRO), the SROs may decide among themselves which of them will be primarily responsible for enforcing minimum financial and sales practice requirements. The SRO will be appointed DSRO for that particular FCM. NFA is the DSRO for all non-exchange member FCMs. See also Self-Regulatory Organization.

Disclosure Document—The statement that must be provided to prospective customers that describes trading strategy, fees, performance, etc.

Discount—(1) The amount a price would be reduced to purchase a commodity of lesser grade; (2) Sometimes used to refer to the price differences between futures of different delivery months, as in the phrase "July is trading at a discount to May," indicating that the price of the July future is lower than that of May; (3) Applied to cash grain prices that are below the futures price.

Discretionary account—An arrangement by which the owner of the account gives written power of attorney to someone else, usually the broker or a Commodity Trading Advisor, to buy and sell without prior approval of the account owner. Also referred to as a Managed Account.

Dual Trading—Dual trading occurs when (1) a floor broker executes customer orders and, on the same day, trades for his own account or an account in which he has an interest, or (2) a Futures Commission Merchant carries customer accounts and also trades, or permits its employees to trade, in accounts in which it has a proprietary interest, also on the same day.

Electronic Order—An order placed electronically (without the use of a broker) either via the Internet or an electronic trading system.

Electronic Trading Systems—Systems that allow participating exchanges to list their products for trading after the close of the exchange's open outcry trading hours (i.e. Chicago Board of Trade's Project A, Chicago Mercantile Exchange's GLOBEX and New York Mercantile Exchange's ACCESS).

Equity—The value of a futures trading account if all open positions were offset at the current market price.

Exchange—See Contract Market.

Exchange for Physicals (EFP)—A transaction generally used by two hedgers who want to exchange futures for cash positions. Also referred to as Against Actuals or Versus Cash.

Exercise—The action taken by the holder of a call option if he wishes to purchase the underlying futures contract or by the holder of a put option if he wishes to sell the underlying futures contract.

Exercise Price—See Strike Price.

Expiration Date—Generally the last date on which an option may be exercised. It is not uncommon for an option to expire on a specified date during the month prior to the delivery month for the underlying futures contract.

Extrinsic Value—See Time Value.

Financial Settlement—A method of settling certain futures or options contracts whereby the market participants settle in cash (rather than delivery of the commodity).

First Notice Day—The first day on which notice of intent to deliver a commodity in fulfillment of an expiring futures contract can be given to the clearinghouse by a seller and assigned by the clearinghouse to a buyer. Varies from contract to contract.

Floor Broker—An individual who executes orders on the trading floor of an exchange for any other person.

Floor Trader—An individual who is a member of an exchange and trades for his own account on the floor of the exchange. Also referred to as a Local.

Forward (Cash) Contract—A contract on which a seller agrees to deliver a specified cash commodity to a buyer sometime in the future. All terms of the contract are customized, in contrast to futures contracts whose terms are standardized. Forward contracts are not traded on exchanges.

Frontrunning—A process whereby a futures or options position is taken based on non-public information about an impending transaction in the same or related futures or options contract.

Fully Disclosed—An account carried by the Futures Commission Merchant in the name of the individual customer. The opposite of an Omnibus Account.

Fundamental Analysis—A method of anticipating future price movement using supply and demand information.

Futures Commission Merchant (FCM)—An individual or organization that solicits or accepts orders to buy or sell futures contracts or commodity options and accepts money or other assets from customers in connection with such orders. An FCM must be registered with the CFTC.

Futures contract—A legally binding agreement to buy or sell a commodity or financial instrument at a later date. Futures contracts are standardized according to the quality, quantity and delivery time and location for each commodity. The only variable is price.

Futures Industry Association (FIA)—The national trade association for Futures Commission Merchants.

Grantor—A person who sells an option and assumes the obligation to sell (in the case of a call) or buy (in the case of a put) the underlying futures contract at the exercise price. Also referred to as an Option Seller or Writer.

Guaranteed Introducing Broker—A firm or individual that solicits and accepts commodity futures orders from customers but does not accept money, securities or property from the customer. A Guaranteed Introducing Broker has a written agreement with a Futures Commission Merchant that obligates the FCM to assume financial and disciplinary responsibility for the performance of the Guaranteed Introducing Broker in connection with futures and options customers. Therefore, unlike an Independent Introducing Broker, a Guaranteed Introducing Broker must introduce all accounts to its guarantor FCM but is not subject to minimum financial requirements. All Introducing Brokers must be registered with the CFTC.

Hedging—The practice of offsetting the price risk inherent in any cash market position by taking an equal but opposite position in the futures market. A long hedge involves buying futures contracts to protect against possible increasing prices of commodities. A short hedge involves selling futures contracts to protect against possible declining prices of commodities.

High—The highest price of the day for a particular futures contract.

Holder—The purchaser of either a call or put option. Option buyers receive the right, but not the obligation, to assume a futures position. The opposite of a Grantor. Also referred to as the Option Buyer.

In-the-Money Option—An option having intrinsic value. A call is in-the-money if its strike price is below the current price of the underlying futures contract. A put is in-the-money if its strike price is above the current price of the underlying futures contract.

Independent Introducing Broker—A firm or individual that solicits and accepts commodity futures orders from customers but does not accept money, securities, or property from the customer. Unlike a Guaranteed Introducing Broker, an Independent Introducing Broker is subject to minimum capital requirements and can introduce accounts to any registered Futures Commission Merchant.

Initial Margin—The amount a futures market participant must deposit into a margin account at the time an order is placed to buy or sell a futures contract. See also Margin.

Intrinsic Value—The absolute value of the in-the-money; that is, the amount that would be realized if an in-the-money option were exercised.

Introducing Broker (IB)—See Guaranteed Introducing Broker and Independent Introducing Broker.

Inverted Market—See Backwardation.

Last Trading Day—The last day on which trading may occur in a given futures or option.

Leverage—The ability to control large dollar amounts of a commodity with a comparatively small amount of capital.

Limit—See Position Limit, Price Limit and Variable Limit.

Liquidate—To take a second futures or options position opposite the initial or opening position. To sell (or purchase) futures contracts of the same delivery month purchased (or sold) during an earlier transaction or make (or take) delivery of the cash commodity represented by the futures market. Also referred to as Offset.

Liquidity (Liquid Market)—A characteristic of a security or commodity market with enough units outstanding to allow large transactions without a substantial change in price.

Local—A member of an exchange who trades for his own account or fills orders for customers.

Long—One who has bought futures contracts or owns a cash commodity.

Low—The lowest price of the day for a particular futures contract.

Maintenance Margin—A set minimum margin (per outstanding futures contract) that a customer must maintain in his margin account to retain the futures position. See also Margin.

Managed Account—See Discretionary Account.

Managed Funds Association (MFA)—The trade association for the managed funds industry.

Margin—An amount of money deposited by both buyers and sellers of futures contracts and by sellers of option contracts to ensure performance of the terms of the contract (the making or taking delivery of the commodity or the cancellation of the position by a subsequent offsetting trade). Margin in commodities is not a down payment, as in securities, but rather a performance bond. See also Initial Margin, Maintenance Margin and Variation Margin.

Margin Call—A call from a clearinghouse to a clearing member, or from a broker or firm to a customer, to bring margin deposits up to a required minimum level.

Mark-to-Market—To debit or credit on a daily basis a margin account based on the close of that day's trading session. In this way, buyers and sellers are protected against the possibility of contract default.

Market Order—An order to buy or sell a futures or options contract at whatever price is obtainable when the order reaches the trading floor.

Maximum Price Fluctuation—See Limit Move.

Mediation—A voluntary process in which the parties to a futures-related dispute work with a neutral third party to find a mutually acceptable solution.

Minimum Price Fluctuation—See Tick.

Naked Option—See Uncovered Option.

National Futures Association (NFA)—Authorized by Congress in 1974 and designated by the CFTC in 1982 as a "registered futures association," NFA is the industry wide self-regulatory organization of the futures industry.

National Introducing Brokers Association (NIBA)—NIBA is a non-profit organization for guaranteed and independent introducing brokers.

Nearby Delivery Month—The futures contract month closest to expiration. Also referred to as the Spot Month.

Net Asset Value—The value of each unit of participation in a commodity pool. Basically a calculation of assets minus liabilities plus or minus the value of open positions when marked to the market, divided by the total number of outstanding units.

Net Performance—An increase or decrease in net asset value exclusive of additions, withdrawals, and redemptions.

Notice Day—Any day on which a clearinghouse issues notices of intent to deliver on futures contracts.

Offer—An indication of willingness to sell a futures contract at a given price; opposite of Bid.

Offset—See Liquidate.

Omnibus Account—An account carried by one Futures Commission Merchant (FCM) with another FCM in which the transactions of two or more persons are combined and carried in the name of the originating FCM rather than of the individual customers; opposite of Fully Disclosed.

Open—The period at the beginning of the trading session officially designated by the exchange during which all transactions are considered made "at the open."

Open Interest—The total number of futures or options contracts of a given commodity that have not yet been offset by an opposite futures or option transaction nor fulfilled by delivery of the commodity or option exercise. Each open transaction has a buyer and a seller, but for calculation of open interest, only one side of the contract is counted.

Open Outcry—A method of public auction for making bids and offers in the trading pits of futures exchanges.

Open Trade Equity—The unrealized gain or loss on open positions.

Opening Range—The range of prices at which buy and sell transactions took place during the opening of the market.

Option Buyer—See Holder.

Option Contract—A contract which gives the buyer the right, but not the obligation, to buy or sell a specified quantity of a commodity or a futures contract at a specific price within a specified period of time. The seller of the option has the obligation to sell the commodity or futures contract or buy it from the option buyer at the exercise price if the option is exercised. See also Call Option and Put Option.

Option Premium—The price a buyer pays (and a seller receives) for an option. There are two components in determining this price—extrinsic (or time) value and intrinsic value.

Option Seller—See Grantor.

Out-of-the-Money Option—A call option with a strike price higher or a put option with a strike price lower than the current market value of the underlying asset (i.e., an option that does not have any intrinsic value).

Out Trade—A trade that cannot be cleared by a clearinghouse because the data submitted by the two clearing members involved in the trade differs in some respect. All out trades must be resolved before the market opens the next day.

Overbought—A technical opinion that the market price has risen too steeply and too fast in relation to underlying fundamental factors.

Oversold—A technical opinion that the market price has declined too steeply and too fast in relation to underlying fundamental factors.

Par—The face value of a security.

Pit—The area on the trading floor of some exchanges where trading in futures or options on futures is conducted by open outcry.

Pool—See Commodity Pool.

Position—A market commitment, either long or short, in the market.

Position Limit—The maximum number of speculative futures contracts one can hold as determined by the CFTC and/or the exchange where the contract is traded.

Position Trader—A commodity trader who either buys or sells contracts and holds them for an extended period of time, as distinguished from the day trader.

Prearranged Trading—Trading between brokers in accordance with an expressed or implied agreement or understanding. Prearranged trading is a violation of the Commodity Exchange Act.

Premium—Refers to (1) the amount a price would be increased to purchase a better quality commodity; (2) a futures delivery month selling at a higher price than another; (3) cash prices that are above the futures price; (4) the price paid by the buyer of an options; or (5) the price received by the seller of an option.

Price Discovery—The process of determining the price of a commodity by trading conducted in open outcry at an exchange.

Price Limit—The maximum advance or decline, from the previous day's settlement price, permitted for a futures contract in one trading session. Also referred to as Maximum Price Fluctuation.

Purchase and Sale Statement (P&S)—A statement sent by a Futures Commission Merchant to a customer when a futures or options position has been liquidated or offset. The statement shows the number of contracts bought or sold, the prices at which the contracts were bought or sold, the gross profit or loss, the commission charges, and the net profit or loss on the transaction. Sometimes combined with a Confirmation Statement.

Put Option—An option that gives the option buyer the right, but not the obligation, to sell the underlying futures contract at a particular price (exercise or strike price) on or before a particular date.

Pyramiding—The use of unrealized profits on existing futures positions as margin to increase the size of the position, normally in successively smaller increments.

Quotation—The actual price or the bid or ask price of either cash commodities or futures or options contracts at a particular time.

Range—The difference between the high and low price of a commodity during a given trading session, week, month, year, etc.

Registered Commodity Representative (RCR)—See Broker, Associated Person.

Regulations (CFTC)—The regulations adopted and enforced by the CFTC in order to administer the Commodity Exchange Act.

Reparations—The term is used in conjunction with the CFTC's customer claims procedure to recover civil damages.

Reportable Positions—The number of open contracts specified by the CFTC at which one must begin reporting total positions by delivery month to the authorized exchange and/or the CFTC.

Round Turn—A completed futures transaction involving both a purchase and a liquidating sale, or a sale followed by a covering purchase.

Rules (NFA)—The standards and requirements to which participants that are required to be Members of National Futures Association must subscribe and conform.

Scalper—A trader who trades for small, short-term profits during the course of a trading session, rarely carrying a position overnight.

Segregated Account—A special account used to hold and separate customers' assets from those of the broker or firm.

Self-Regulatory Organization (SRO)—Self-regulatory organizations (i.e., the futures exchanges and National Futures Association) enforce minimum financial and sales practice requirements for their members. See also Designated Self-Regulatory Organization.

Settlement Price—The last price paid for a futures contract on any trading day. Settlement prices are used to determine open trade equity, margin calls and invoice prices for deliveries.

Short—One who has sold futures contracts or plans to purchase a cash commodity (e.g., a food processor).

Speculator—A market participant who tries to profit from buying and selling futures and options contracts by anticipating future price movements. Speculators assume market price risk and add liquidity and capital to the futures markets.

Spot—Usually refers to a cash market price for a physical commodity that is available for immediate delivery.

Spot Month—See Nearby Delivery Month.

Spreading—The simultaneous buying and selling of two related markets in the expectation that a profit will be made when the position is offset.

Stop Order—An order that becomes a market order when the commodity reaches a particular price level. A sell stop is placed below the market, a buy stop is placed above the market.

Strike Price—The price at which the buyer of a call (put) option may choose to exercise his right to purchase (sell) the underlying futures contract. Also called Exercise Price.

Swap—In general, the exchange of one asset or liability for a similar asset or liability for the purpose of lengthening or shortening maturities, or raising or lowering coupon rates, to maximize revenue or minimize financing costs.

Technical Analysis—An approach to analysis of futures markets which examines patterns of price change, rates of change, and changes in volume of trading, open interest, and other statistical indicators. See also Charting.

Tick—The smallest allowable increment of price movement for a contract. Also referred to as Minimum Price Fluctuation.

Time Value—The amount of money options buyers are willing to pay for an option in anticipation that over time a change in the underlying futures price will cause the option to increase in value. In general, an option premium is the sum of time value and intrinsic value. Any amount by which an option premium exceeds the option's intrinsic value can be considered time value. Also referred to as Extrinsic Value.

Uncovered Option—A short call or put option position which is not covered by the purchase or sale of the underlying futures contract or physical commodity. Also referred to as a Naked Option.

Underlying Futures Contract—The specific futures contract that the option conveys the right to buy (in case of a call) or sell (in case of a put).

Variable Limit—A price system that allows for larger than normally allowable price movements under certain conditions. In periods of extreme volatility, some exchanges permit trading at price levels that exceed regular daily price limits.

Variation Margin—Additional margin required to be deposited by a clearing member firm to the clearinghouse during periods of great market volatility or in the case of high-risk accounts.

Volatility—A measurement of the change in price over a given time period.

Volume—The number of purchases and sales of futures contracts made during a specified period of time, often the total transactions for one trading day.

Warehouse Receipt—A document guaranteeing the existence and availability of a given commodity in storage; commonly used as the instrument of transfer or ownership in both cash and futures transactions.

Wire House—See Futures Commission Merchant.

Writer—See Grantor.

Yield—The measure of the annual return on an investment.

Yield Curve—A chart in which yield level is plotted on the vertical axis, and the term to maturity of debt instruments of similar creditworthiness is plotted on the horizontal axis.

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