

Commodity Futures and Options

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for Grain Marketing

Hedging

Hedging is defined as taking simultaneous but equal and offsetting positions on the cash and futures markets. The basic idea behind hedging is to hold opposing positions in the two markets at the same time. One of the market positions protects you from an adverse price change in the other market. The cash market position (that is, holding or growing grain) is a necessary part of your role as a producer. This cash position puts you at risk from a decline in grain prices.

Taking an offsetting position in the futures market is a "hedge" against the potential for a harmful move in the cash market price. At the same time, the cash market position (holding or growing the grain) protects you from losses on the futures market. The first step in understanding this hedging process is to understand what futures markets are and how they work.

Futures Contracts

A **futures contract** is a standardized contract that is traded on a futures market exchange. The contract specifies the commodity, place of delivery, quality, and time of delivery. Table 1 presents a list of the major grain futures contracts that are currently traded on U.S. exchanges. Each commodity and **contract month** (which establishes the time period for delivery) represent a separate contract. Quality and place of delivery requirements are not presented in Table 1. However,

The risk associated with an adverse price change (**price risk**)* is a normal part of producing and selling grains. Improving your marketing skills offers one mechanism for recognizing price risk and developing strategies to reduce this source of risk in your overall business planning. **Hedging** by using commodity futures and **option** markets in conjunction with your local **cash markets** can provide additional opportunities to manage price risk.

Understanding how futures and options markets work is the first step to using these markets effectively. This publication serves two purposes: to provide a basic understanding of futures and options markets; and to illustrate how futures and options can be used in commodity marketing.

Terminology represents a significant obstacle to understanding the basic concepts associated with futures and options markets. The approach used in this publication is to introduce and define marketing terminology as the corresponding concept is discussed. Following the initial definition, the appropriate term is used when the concept is discussed further. If use of the new terminology creates confusion, please refer to the glossary provided at the end of the publication. Examples are also provided later in the publication to illustrate each alternative marketing strategy discussed.

* Note—words in **bold** are defined in the glossary on pages 10–12.

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Table 1. Grain Futures Contracts Currently Traded on US Exchanges

Exchange	Commodity	Contract Quantity	Contract Months
Chicago Board of Trade (CBT)	Corn	5000 Bu.	March, May, July, Sept., Dec.
Chicago Board of Trade (CBT)	Wheat (soft red winter)	5000 Bu.	March, May, July, Sept., Dec.
Chicago Board of Trade (CBT)	Oats	5000 Bu.	March, May, July, Sept., Dec.
Kansas City Board of Trade (KC)	Wheat (hard red winter)	5000 Bu.	March, May, July, Sept., Dec.
Minneapolis Grain Exchange (MPLS)	Wheat (hard red spring)	5000 Bu.	March, May, July, Sept., Dec.
Minneapolis Grain Exchange (MPLS)	Wheat (soft white)	5000 Bu.	March, May, July, Sept., Dec.
MidAmerica Commodity Exchange (MCE)	Corn	1000 Bu.	March, May, July, Sept., Dec.
MidAmerica Commodity Exchange (MCE)	Oats	1000 Bu.	March, May, July, Sept., Dec.
MidAmerica Commodity Exchange (MCE)	Wheat (soft red winter)	1000 Bu.	March, May, July, Sept., Dec.

these specifications are an explicit part of each contract.

Price is the only component of the futures contract that is not pre-established. Price is determined by the interaction of buyers and sellers in a location (called the **trading pit**) designated by the exchange. The exchange establishes the time periods when trading takes place; develops and enforces (in conjunction with certain regulatory authorities) other rules associated with trading; and provides additional services needed by the traders. The actual buying and selling that occurs in the trading pit is done by individuals (typically representing organizations) that have purchased the right to trade (called a **seat** on the exchange). Thus, the general public buys or sells futures contracts through a **broker** who has access to a seat on the exchange.

Although the procedures involved in actually trading futures contracts may appear fairly complex, an understanding of only a few basic

marketing concepts is needed to understand the idea of hedging. Through your broker, it is possible to sell a futures contract (take a **short position**) today with the understanding that you must **offset** the short position (that is, buy the contract) at a later date¹. If prices decline between the time you sell and buy the futures contract, you buy the contract at a price below your sale price. You receive the gain associated with this "sell high - buy low" transaction. If you initially sell a futures contract (take a short position) and the price increases, you must buy at the higher price. You suffer the loss associated with this "sell low - buy high" transaction.

As a futures trader, it is also possible to buy a futures contract (take a **long position**) with the understanding that you must offset with a sell at a later date². Impacts of price changes from this long position are just the opposite of those discussed for the short position defined above.

Since the idea of hedging is for losses in one market to be offset by gains in the other market, price changes in the two markets must be related.

Trading futures contracts requires the service of a broker with access to the exchange where futures contracts are traded. Your broker conducts trades on your behalf per your instructions. You pay a fee to the broker (a **commission**) for executing an order to buy or sell a futures contract. Like payment for any service, commissions vary by broker. Commissions are normally quoted for entering and closing a futures position (called a **round turn**).

Since all traders with a futures position can potentially suffer losses, all traders must put up a deposit (a

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margin) to ensure all losses will be paid. A margin is the money deposited by both the buyer and seller to guarantee performance under the terms of the futures contract. Minimum margins are established by each commodity exchange, but individual brokers may have higher margin requirements. A **margin call** is a request for additional money the futures trader may be required to deposit if adverse price moves significantly devalue the **initial margin** deposit. If the market moves against your position by an amount such that your initial margin may not cover additional losses (called the **maintenance margin**), the broker will ask for more money. That is, you receive a margin call from your broker.

Since the idea of hedging is for losses in one market to be offset by gains in the other market, price changes in the two markets must be related. This price relationship between the cash and futures market is measured by a concept called **basis**. Basis is the difference between the cash price at a specified location (your appropriate cash market) and the futures price. This relationship (or basis) is the most important concept in effective hedging.

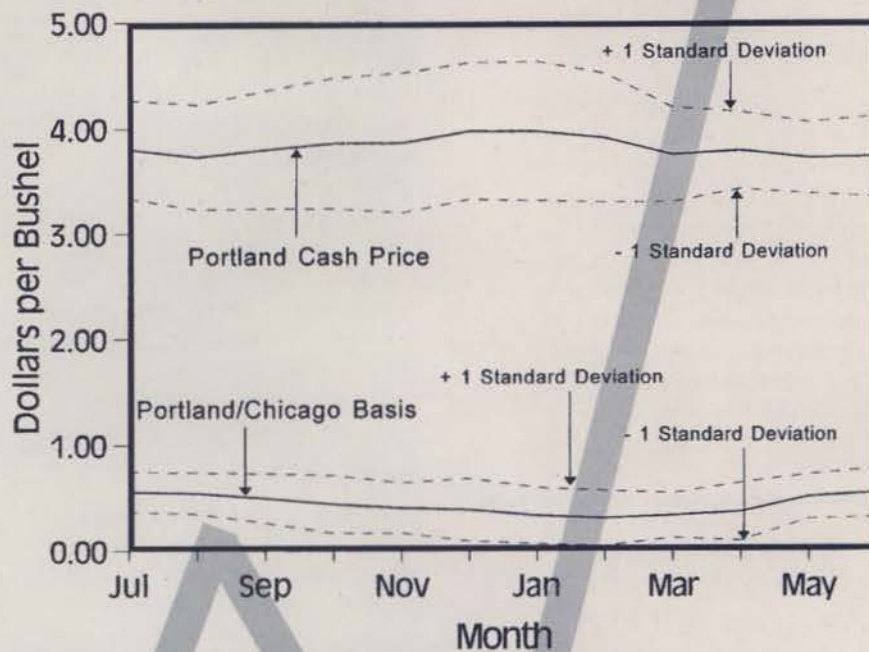
The whole purpose behind hedging is for adverse price moves in the cash market to be offset by favorable price moves in the futures market. If the two markets aren't related in some way, hedging doesn't work. Thus, measuring and understanding basis is the key to successful hedging.

Basis is normally calculated as your local cash price minus the appropriate futures price. Basis is often quoted as over (a positive basis) or under (a negative basis). "Over" or "under" refers to the cash price being above or below the futures price, respectively. Cash prices, future prices, and basis all vary, but basis tends to have less variability than either the cash price or the futures price (Figures 1a and 1b). This greater potential for predictability associated with basis is why price risk can be reduced by hedging. Hedging is designed to replace price risk with a lower basis risk.

The purpose of hedging is protection. **Speculating** is taking a futures position when the commodity is neither owned nor being produced. As a producer, you can easily move from the protection associated with a hedged position to a speculative position. Maintaining a position in the futures market without holding the physical commodity (growing or

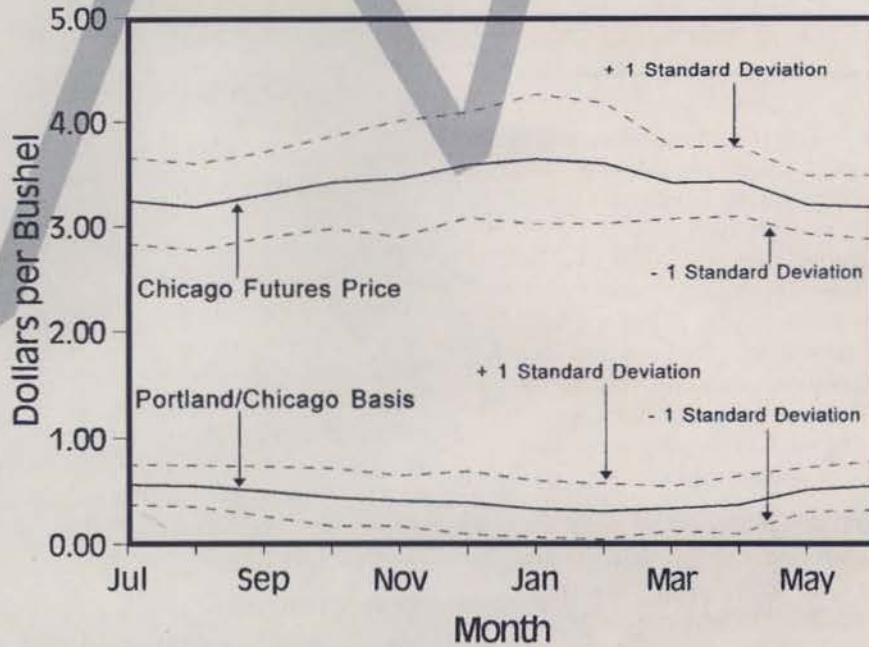
storing grain) to offset losses in the futures market is speculating. Although grain producers have the right to speculate in futures, speculating may not be part of your marketing strategy. Thus, it is important to clearly recognize the difference between hedging and speculating.

Figure 1a. Variability of Portland basis versus Portland cash price.*



*Average for marketing years 1989-90 to 1993-94.

Figure 1b. Variability of Portland basis versus Chicago futures price.*



*Average for marketing years 1989-90 to 1993-94.

Commodity Options

A **commodity option** is a two-party agreement which gives the buyer (or **holder**) the right, but not the obligation, to take a futures position. This potential position can be either a short or a long position in a designated futures contract (called the **underlying futures contract**). The futures position will also be provided at a specified price (called the **strike price**), and the right exists until a pre-established date (called the **expiration date**).

You purchase the option from the option seller (or **writer**). The writer of an option has the obligation to provide the option holder with the futures position at the agreed upon price. As the buyer, you purchase the option at the going market price (called the **premium**). If cash prices move unfavorably, you may use the option to obtain the protection associated with a favorable futures position.

As the holder of the option, you are not obligated to take a futures position.

Thus, options are similar to purchasing insurance. You pay the premium, but you may or may not need the protection.

Remember, the option seller is obligated to provide you with the futures position at the strike price. However, you don't want the protection associated with a futures position if cash prices move favorably. As the holder of the option, you are not obligated to take a futures position. Thus, options are similar to purchasing insurance. You pay the premium, but you may or may not need the protection.

Two types of options are available for each underlying futures contract. The purchase of a **put option** gives the holder the right to a short

futures position at the strike price. The seller of the put must provide the holder with the short futures position. The purchase of a **call option** gives the holder the right to a long futures position at the strike price. In this case, the seller of the call option must provide you as the holder with a long futures position.

Purchasing a put option (the right to sell a futures position) protects you as the holder of the put against falling cash prices. If prices fall, you have the right to a short futures position at the higher strike price. A short futures position at a high price means you can offset with a buy at the current lower market price and receive the gain. Purchasing a call option (the right to buy a futures position) protects you as the holder of the call against rising prices. If prices rise, you have the right to a long futures position at the lower strike price. A long futures position at a low price means you can offset with a sell at the current higher market price and receive the gain.

The market value of an option (the premium) is determined by two factors. The first (called **intrinsic value**) is determined by the strike price relative to the current market price of the underlying futures contract. As an example, assume you purchase a December wheat put (the right to a short position on December wheat futures) with a strike price of \$3.50. If the current market price of the December wheat futures contract is below \$3.50 (say \$3.40), you have the right to a short futures position at the strike price of \$3.50. Since you can offset the short futures position with a buy at the current market price of \$3.40, this put option can be turned into a 10 cent per bushel gain. Basically, this particular put option gives you (as the holder) the right to sell at a price 10 cents above the current market price. Thus, the obvious value (or intrinsic value) of the put is 10 cents per bushel. For a put option, anytime the strike price is above the current market price of the underlying futures contract, the put has intrinsic value.

A call option (the right to a long futures position) has intrinsic value

when the strike price is below the current market price of the underlying futures contract. Basically, you (as the holder of the call) have the right to buy at a price below the current market price.

An option with intrinsic value is called **in-the-money**. An option that doesn't have intrinsic value is called **out-of-the-money**. A put option with a strike price below the underlying futures price (basically, the right to sell low) is out-of-the-money. A call option with a strike price above the underlying futures price (basically, the right to buy high) is also out-of-the-money. If the strike price and underlying futures price are equal, the option is called **at-the-money**.

In addition to an option's value (or premium) being influenced by intrinsic value, options also have **time value**. An out-of-the-money option has no intrinsic value today, but the market price of the underlying futures contract changes over time. For example, say you have a December \$3.30 wheat put and the current market price of December wheat futures is \$3.40. Since the underlying futures contract price (\$3.40) is above the put option's strike price (\$3.30), the put is out-of-the-money.

However, there is some chance that the price of the underlying futures contract may decline over time. If the price of the underlying futures contract decreases to a level below \$3.30, the put option becomes in-the-money and has intrinsic value. Thus, the probability that the price of the underlying futures contract will change by enough to put the option in-the-money determines time value.

Time value is difficult to measure precisely because the potential for a change in the underlying futures price is unknown. However, the amount of time until expiration and how far the option is out-of-the-money both influence time value. As the time to expiration decreases and the amount by which the option is out-of-the-money increases, time value becomes smaller. Conversely, as the time to expiration increases

and the amount by which the option is out-of-the-money decreases, time value goes up.

If an option is in-the-money, the option holder has the right to acquire this value. The option holder can request and get the designated futures position at the strike price (**exercising an option**), and turn this futures position into a gain. However, the options market recognizes the option's value. This value is represented by the premium. Thus, the holder currently owns an option and can simply sell the option for the premium. Selling the option is easier and the option holder also gets any time value reflected in the premium. If the option is out-of-the-money, the holder simply lets the option expire worthless and loses the premium paid when the option was purchased.

Futures and Options Based Marketing Alternatives

Hedging with a Futures Contract for Downside Price Protection

When using a hedge, your grain is still sold in your traditional cash market. To place the hedge, you sell an appropriate amount of futures contracts (grain futures contracts are available in 1,000 or 5,000 bushel increments) to offset your current or expected cash market position. The futures positions are "bought back" (or offset) when the grain is sold on the cash market. The initial sale in the futures market can be made pre-harvest or post-harvest and can even take place before planting. Futures contracts are generally available about one year in advance.

The amount to hedge is a management decision. No general rule works in all situations, though loosely following these guidelines may be helpful: If hedging is a new marketing strategy, start small and see how the process fits into your management style and financial situation. Since hedging means your potential loss on the futures market position is offset by gains on the cash market, you cannot hedge more grain than you expect to harvest or actually harvest. The amount of

grain available to hedge before harvest is more uncertain than amounts after harvest. Depending upon your yield variability, pre-harvest hedge amounts are likely to be smaller than quantities hedged post-harvest. You may find it useful to use a sliding scale based on expected production. For example, hedge 20 to 40 percent prior to planting, another 20 to 40 percent after your stand is clearly established, and another 20 to 40 percent just prior to harvest.

The net price you receive by hedging is a combination of the cash market and futures market transactions. The general idea is that what is lost or gained in one market is offset by a gain or loss in the other market. Whether your price objective is achieved depends on your ability to predict basis. Examples of using futures markets in grain marketing are presented in the next section. The advantages versus disadvantages of using a hedging strategy to market your grain are below.

Advantages

1. Extends time period to make a pricing decision.
2. Risk of an adverse price change is eliminated.
3. Generally a very liquid market, allowing the producer to reverse positions quickly.
4. Forces you to place additional attention on your marketing efforts.

Disadvantages

1. Risk of an adverse change in basis.
2. Margin requirements increase interest costs and may cause cash flow problems.
3. Contracts are in 1,000 or 5,000 bushel increments only.
4. Eliminates gains from rising prices.
5. Requires understanding of futures markets and basis relationships.

Hedging Examples Using Futures Contracts

The examples are designed to show how your net price as a hedger is determined by a combination of the futures market and the cash market. Several important issues are left out including how much to hedge, when to place and lift the hedge, the broker's commission, and margin

calls. The focus of the examples is on how the outcome of a hedge is related to both a cash position and a futures position. Additionally, the examples try to illustrate what forces bring about different hedging outcomes.

Assume it is late spring and you have established a harvest price objective of \$3.50 per bushel. Currently, the September futures contract is selling at \$3.60 and the normal September basis is -\$0.10 (10 under). The examples (A through D) summarize how the hedging outcome changes under different circumstances.

A. Price decreases and basis doesn't change:

<u>Date</u>	<u>Local Cash Market</u>	<u>Futures Market</u>	<u>Basis</u>
4/10	Expected price in Sept. \$3.50 (have wheat growing)	Sept. Futures \$3.60 (sell Sept. Futures)	Expected Sept. Basis -\$0.10
9/05	Actual cash price \$3.20 (sell cash wheat)	Sept. Futures \$3.30 (buy Sept. Futures)	Actual Sept. Basis -\$0.10
<u>Marketing Strategy Outcome</u>			
→Cash Price = \$3.20			
→Gain on Futures = \$0.30 (+)			
Actual Price = \$3.50			

This example represents a perfect hedge. Though hedging costs (generally about 2 or 3 cents per bushel) are ignored, you are better off by hedging because the gain on the futures market (30 cents) exactly offsets the loss on the cash market (a decline of 30 cents). In this example, the basis is exactly as expected (10 cents under). Since the basis doesn't change, your actual price is equal to your expected price.

B. Price increases and basis doesn't change:

<u>Date</u>	<u>Local Cash Market</u>	<u>Futures Market</u>	<u>Basis</u>
4/10	Expected price in Sept. \$3.50 (have wheat growing)	Sept. Futures \$3.60 (sell Sept. Futures)	Expected Sept. Basis -\$0.10
9/05	Actual cash price \$3.80 (sell cash wheat)	Sept. Futures \$3.90 (buy Sept. Futures)	Actual Sept. Basis -\$0.10
<u>Marketing Strategy Outcome</u>			
→Cash Price = \$3.80			
→Loss on Futures = \$0.30 (-)			
Actual Price = \$3.50			

This example represents another perfect hedge. Though hedging costs (generally about 2 or 3 cents per bushel) are again ignored, you receive the expected price. However, you would have been better off in the cash market. In this case, the loss on the futures market (30 cents) exactly offsets the gain on the cash market (an increase of 30 cents). Again, the basis is exactly as expected (10 cents under). Since the basis doesn't change, your actual price is equal to your expected price. Loss of the potential 30 cent gain on the cash market represents the cost of protecting yourself against the chance that price may have declined.

C. Price decreases and basis gets larger (strengthening basis):

<u>Date</u>	<u>Local Cash Market</u>	<u>Futures Market</u>	<u>Basis</u>
4/10	Expected price in Sept. \$3.50 (have wheat growing)	Sept. Futures \$3.60 (sell Sept. Futures)	Expected Sept. Basis -\$0.10
9/05	Actual cash price \$3.20 (sell cash wheat)	Sept. Futures \$3.20 (buy Sept. Futures)	Actual Sept. Basis \$0.00
<u>Marketing Strategy Outcome</u>			
→Cash Price = \$3.20			
→Gain on Futures = \$0.40 (+)			
Actual Price = \$3.60			

Though hedging costs (generally about 2 or 3 cents per bushel) are again ignored, you receive an actual price above the expected price. You are better off by hedging because the gain on the futures market (40 cents) more than offsets the loss on the cash market (30 cents). The basis is 10 cents stronger than expected (0 cents rather than 10 cents under). An actual basis that is stronger than expected clearly benefits the producer using the hedging alternative. That is, your actual price is higher than your expected price.

D. Price decreases and basis gets smaller (weakening basis):

Date	Local Cash Market	Futures Market	Basis
4/10	Expected price in Sept. \$3.50 (have wheat growing)	Sept. Futures \$3.60 (sell Sept. Futures)	Expected Sept. Basis - \$0.10
9/05	Actual cash price \$3.20 (sell cash wheat)	Sept. Futures \$3.40 (buy Sept. Futures)	Actual Sept. Basis - \$0.20
Marketing Strategy Outcome			
→ Cash Price = \$3.20			
→ Gain on Futures = \$0.20 (+)			
Actual Price = \$3.40			

Though hedging costs (generally about 2 or 3 cents per bushel) are again ignored, you receive an actual price below the expected price. You are better off by hedging, since some of the loss on the cash market is offset by hedging. However, the gain on the futures market (20 cents) does not completely offset the loss on the cash market (30 cents). The basis is 10 cents weaker than expected (20 cents under rather than 10 cents under). An actual basis that is weaker than expected clearly hurts the producer using the hedging alternative. That is, your actual price is below your expected price even though you hedged.

Using an Options Contract for Downside Price Protection

When using options, your grain is still sold in your traditional local cash market. You buy put options which are converted to money (if they have value) when the grain is sold on the cash market. The options are allowed to expire if they have no value. Options represent a potential position in the futures market, so they are in 1,000 or 5,000 bushel increments. The net price you receive for the grain is a combination of the cash market and options market transactions.

Options allow the producer to establish a minimum price without giving up all of the gain if cash prices rise. Your ability to predict basis determines whether your price objective is achieved. The amount paid for the price protection (the premium) is known at the time of purchase. Unlike hedging with a futures contract, there is no margin account to maintain. The advantages versus disadvantages of using options to market your grain are below.

The amount paid for the price protection (the premium) is known at the time of purchase.

Advantages

1. Extends time period to make a pricing decision.
2. Risk of an adverse change in price is eliminated.
3. Producer obtains some of the gain from rising prices.
4. Eliminates margin requirements.
5. Generally a very liquid market allowing the producer to quickly reverse positions.

Disadvantages

1. Risk of an adverse change in basis.
2. Cost of options (premium) may be greater than the value of the price protection.
3. Options sold only in 1,000 and 5,000 bushel increments.
4. Requires understanding of options, futures markets, and basis.
5. Choices are substantial and can be confusing.

Examples of Using a Put Option

The following examples (E and F) are designed to show how options can also be used to offset adverse price changes in the cash market. However, with options you obtain protection without giving up all of the gain associated with a favorable cash price movement. The net price to you as the producer is still a combination of the futures market and the cash market. Several important issues are left out including how much grain to protect, when to place and lift the protection, selecting a strike price, and the broker's commission.

The focus of the examples is on how the outcome of an option-based marketing strategy is related to both a cash position and an option

position. Additionally, the examples try to illustrate the outcome when cash prices fall and when cash prices increase. Although basis changes are not reflected, changes in the basis influence the option-based strategies in essentially the same way basis changes affect the futures-based strategies (see examples C and D).

Assume it is late spring and you have established an October price objective of \$3.50 per bushel. Currently, the December wheat futures contract is selling at \$3.80 and the normal basis during October is - \$0.10 (10 under). December puts with a strike price of \$3.80 are currently selling for \$0.20 per bushel. Remember that buying a December wheat put with a \$3.80

*With options
you obtain protection
without giving up
all of the gain associated
with a favorable
cash price movement.*

strike price gives you the right (but not the obligation) to a sell a December futures contract at \$3.80 per bushel. The following examples (E and F) summarize what happens to the option-based marketing strategy when the cash price decreases or increases.

E. Price decreases and basis doesn't change:

Date	Local Cash Market	Futures Market	Basis
4/10	Expected price in Oct. \$3.50 (have wheat growing)	Dec. \$3.80 Put premium = \$0.20 (buy Dec. \$3.80 put)	Expected Oct. Basis - \$0.10
10/15	Actual cash price \$3.20 (sell cash wheat)	Dec. Futures = \$3.30 Can exercise put and sell ← Dec. wheat futures at \$3.80 (buy Dec. futures at \$3.30)	Actual Oct. Basis - \$0.10
Marketing Strategy Outcome			
→ Cash Price = \$3.20			
→ Gain on Futures = \$0.50 (+)			
→ Cost of \$3.80 Put = \$0.20 (-)			
Actual Price = \$3.50			

Though hedging costs are ignored (generally about 2 or 3 cents per bushel), you are able to use the option for protection. Having the right to enter into a futures position at \$3.80 has value if the price of the futures contract declines. In this case, the put has a value of 50 cents per bushel because of the right to sell a December wheat futures contract at \$3.80 (50 cents above the current market price). The 50 cent gain on the futures position can also be realized by selling the put, since the current premium would be equal to at least the 50 cent intrinsic value³. The gain on the futures market position (50 cents) offsets the loss on the cash market (30 cents) plus the original cost of the put (20 cents). In this case, the basis was exactly as expected (10 cents under).

F. Price increases and basis doesn't change:

Date	Local Cash Market	Futures Market	Basis
4/10	Expected price in Oct. \$3.50 (have wheat growing)	Dec. \$3.80 Put premium = \$0.20 (buy Dec. \$3.80 put)	Expected Oct. Basis - \$0.10
10/15	Actual cash price \$3.90 (sell cash wheat)	Dec. Futures = \$4.00 Can exercise put and sell ← Dec. wheat futures at \$3.80 (buying Dec. futures at \$4.00 means a loss of \$0.20) No exercise-put is worthless	Actual Oct. Basis - \$0.10
Marketing Strategy Outcome			
→ Cash Price = \$3.90			
→ Gain on Futures = \$0.00			
→ Cost of \$3.80 Put = \$0.20 (-)			
Actual Price = \$3.70			

Though hedging costs are ignored (generally about 2 or 3 cents per bushel), you are able to acquire some of the gain in the cash price. Having the right to enter into a short futures position at \$3.80 has no value if the futures price is above \$3.80. In this case, the put has no value and expires worthless. The original cost (the premium) is forfeited. The cash price increases by 40 cents per bushel, but you are only able to capture an additional 20 cents. The cost of the put (20 cents) offsets the remainder of the cash market gain. In this case, the basis is exactly as expected (10 cents under).

Summary

The use of commodity futures and options provides additional marketing alternatives to include in your list of marketing strategies. It is important to keep in mind that skillful use of these marketing alternatives requires a thorough understanding of how markets for futures and options work. Knowledge of basis patterns for your particular cash market is also critical to successful use of futures and options based marketing strategies.

After you develop a thorough understanding of the basic ideas, experience becomes the best teacher. Experience is something that develops over time, and marketing experience generally comes with some mistakes. Keep in mind that mistakes on small quantities have the same positive impact on learning as larger investments, but small mistakes are cheaper.

Endnotes

- 1 A trader in a short position actually has two alternatives. To offset the short position (as discussed), or to actually deliver the commodity under provisions of the futures contract. Since the process of delivery involves additional transactions costs and generally does not change the outcome, the alternative of delivering is ignored in this discussion. Some contracts have a cash settlement, implying an open futures position can be settled when delivery is called for using a designated cash price rather than a futures price.
- 2 A trader in a long position actually has two alternatives. To offset the long position (as discussed), or to actually accept delivery of the commodity under provisions of the futures contract. Since the process of accepting delivery involves additional transaction costs and generally

does not change the outcome, the alternative of accepting delivery is ignored in this discussion. Some contracts have a cash settlement, implying an open futures position can be settled when acceptance is called for using a designated cash price rather than a futures price.

- 3 To clearly identify the gain associated with the option, the example presents the gain as captured by exercising the option and offsetting the short futures position. From a practical standpoint, this gain would generally be obtained by selling the option at the current premium. Since the current intrinsic value is 50 cents (the \$3.80 strike price less the \$3.30 underlying futures contract price), the option's premium will likely be more than 50 cents to reflect any remaining time value.

Glossary of Terms

At-the-Money

A term used to describe a put or call option with a strike price that is equal to the current market price of the underlying futures contract. An at-the-money option has no intrinsic value, so the entire premium represents time value.

Basis

The difference between the cash price and the futures price (the local cash price minus the futures price). The outcome of all futures and options based marketing strategies is a combination of what happens to a cash position and a futures position. Thus, how the two markets behave relative to each other determines the actual price from hedging. Basis provides a single value that reflects this relative relationship between the two markets. In a broader sense, basis can measure the relationship between any two market prices. Therefore, the term is sometimes used to describe the relationship between two cash markets (for example, the local cash price and the Portland cash price).

Basis Risk

The risk associated with not being able to predict the basis accurately. The outcome of a hedged position is determined by the actual basis relative to the expected basis. Thus, the accuracy of the basis prediction (expected basis) determines the actual hedge price relative to the expected hedge price. Basis risk that is lower than the risk associated with a cash position is necessary for hedging to reduce price risk.

Broker

An agent that conducts or arranges for actual futures and options trades per a customer's instructions. The broker is represented by a firm that has access to the trading floor, and charges a commission for this service.

Call Option

The right (but not the obligation) to buy a specified futures contract at a stated price on or before a designated date.

Cash Market

A market which focuses on buying and selling the physical commodity for immediate or near term delivery. Since the focus of a cash market is the physical commodity, your grain will eventually be delivered and sold to a cash market.

Commission

The fee charged by the broker for conducting futures and options trades on your behalf. Such fees vary widely, and generally depend on trading volume and any additional services provided by the brokerage firm.

Commodity Option

The right (but not the obligation) to a specified commodity futures contract position at a stated price during a designated time period. An option can either be the right to a short futures position (a put) or the right to a long futures position (a call).

Contract Month

The calendar month when a futures contract matures (also called the delivery month). The contract month establishes a time frame for potential delivery of the commodity (which influences the value of the contract) and determines the last trading day of the futures contract.

Exercising an Option

The process used by the holder of an option to convert the right to a specified futures position at a stated price into an actual futures position.

Exercise Price

See Strike Price.

Expiration Date

The date when the option holder loses the right to exercise the option. The expiration date for commodity options is determined

by the contract month of the underlying futures contract. Expiration dates vary, but for grains the date usually occurs sometime late in the month just prior to the contract month of the underlying futures contract.

Extrinsic Value

See Time Value.

Futures Contract

A transferable and legally binding agreement whereby the seller agrees to deliver and the buyer agrees to accept delivery of a standardized amount and quality of a commodity at a specified location during a designated time period. The obligation created by the sale or purchase of a futures contract can be fulfilled in two ways. A seller can offset the promise by taking the opposite position (a buy) on the same futures contract, or deliver the commodity per the agreement. A buyer can offset the promise by taking the opposite position (a sell) on the same futures contract, or accept delivery of the commodity per the agreement.

Grantor

See Writer.

Hedging

The practice of offsetting price risk associated with the cash market by simultaneously holding an equal and offsetting position in the futures market.

Hedging Costs

Transaction costs associated with trading in the futures market as a result of hedging or using options. These generally include broker's commissions and the interest cost associated with having money deposited in your margin account. Although hedging costs vary depending on commissions, interest rates, and the period of time you maintain a position, hedging costs are generally about 1 to 4 cents per bushel.

Glossary of Terms

Holder

The buyer (or owner) of a commodity option. The holder has the right (but not the obligation) to enter into the specified futures position at the stated (strike) price.

In-the-Money

A commodity option that has value if exercised immediately. A put is in-the-money if its strike price is above the current market price of the underlying futures contract. A call is in-the-money if its strike price is below the current market price of the underlying futures contract.

Initial Margin

The initial deposit necessary to open a long or short futures position. See Margin.

Intrinsic Value

The value of a commodity option if immediately exercised. Intrinsic value for an in-the-money put is equal to the strike price minus the current market price of the underlying futures contract. Intrinsic value for an in-the-money call is equal to the current market price of the underlying futures contract minus the strike price. At-the-money and out-of-the-money options have no intrinsic value.

Long Position

The designation given to a situation where one has purchased a futures contract. An individual in a long position has an obligation to offset the long position with the sale of the same futures contract, or accept delivery of the commodity.

Maintenance Margin

The minimum amount of money per contract that must be kept on deposit as losses occur. See Margin.

Margin

Money deposited by buyers and sellers of futures contracts and sellers of options to ensure performance. The initial margin

is the amount that must be deposited at the time an order to buy or sell a futures contract or sell an option is placed. If losses occur, the initial margin is reduced by the amount of the loss. When the initial margin less the loss reaches a minimum level (maintenance margin), a margin call is triggered and additional money must be deposited to keep the position.

Margin Call

A call from a broker for additional funds to bring the margin up to some specified level. See Margin.

Nearby Futures Contract

The futures contract month with a maturity closest to the current date, or closest to some other specified date.

Offset

The commonly used mechanism for eliminating a futures position by taking an opposite position in the same futures contract. A short position (sold a futures contract) can be offset with a long (buying the same futures contract). Conversely, a long position (bought a futures contract) can be offset with a short (selling the same futures contract).

Option

See Commodity Option.

Out-of-the-Money

A commodity option that has no value if exercised immediately. A put is out-of-the-money if its strike price is below the current market price of the underlying futures contract. A call is out-of-the-money if its strike price is above the current market price of the underlying futures contract.

Premium

The market price (or value) of the option, which is determined by the sum of intrinsic and time value. Grain option premiums are quoted in cents per bushel.

Price Risk

The risk associated with an unexpected and unfavorable change in the cash market price.

Put Option

The right (but not the obligation) to sell a specified futures contract at a stated price on or before a designated date.

Round Turn

The process of entering the futures market with a long or short position and then offsetting your initial position with an opposite transaction. For futures contracts, brokers commissions are quoted based on a round turn for each contract.

Seat

A position on an exchange that gives the holder the right to conduct actual trades on the trading floor. The number of seats is limited and owners can sell their seat to a qualified buyer.

Short Position

The designation given to a situation where one has sold a futures contract. An individual in a short position has an obligation to offset the short position with a buy on the same futures contract, or deliver the commodity.

Speculating

Buying and selling futures or options contracts for the purpose of earning a profit by correctly anticipating commodity price changes. Speculating in commodity futures and options is generally considered a high risk investment strategy. Speculation occurs whenever a futures or options position is maintained without an offsetting position in the cash market.

Strengthening Basis

Occurs when the basis is getting larger. Since basis can be a positive or negative number, a strengthening basis means a larger positive number or a smaller negative number. Basis gets stronger whenever the cash price increases relative to the futures price.

Glossary of Terms

Strike Price

The price at which the holder of a commodity option has the right to enter into the specified futures position should the holder choose to exercise (also called the exercise price or striking price). The holder of a put has the right to a short futures position at the strike price. The holder of a call has the right to a long futures position at the strike price.

Time Value

The amount buyers are willing to pay for an option in anticipation that a change in the price of the underlying futures contract over time will bring about an increase in the option's value (also called extrinsic value). The premium (which represents the option's market value) is composed of time value and intrinsic value.

Thus, the amount by which the premium exceeds the option's intrinsic value represents time value. For at-the-money and out-of-the-money options (which have no intrinsic value), the entire premium represents time value.

Trading Pit

An area of the exchange's trading floor where the actual trading of a specific futures contract or option takes place.

Weakening Basis

Occurs when the basis is getting smaller. Since basis can be a positive or negative number, a weakening basis means a smaller positive number or a larger negative number. Basis gets weaker whenever the cash price decreases relative to the futures price.

Writer

The seller of an option (also called the grantor). For a put, the writer has the obligation (but not the right) to give the option holder a short position on the underlying futures contract at the strike price. For a call, the writer has the obligation (but not the right) to give the option holder a long position on the underlying futures contract at the strike price.

Underlying Futures Contract

The specific futures contract that the option conveys the right to sell (for a put) or buy (for a call).

