General Information Series

1

Agricultural Futures for the Beginner

Describes various applications of futures contracts for those new to futures markets. Different trading examples for hedgers and speculators are provided along with an overview of the futures margining process, answers to some of the most frequently asked questions about futures, and a glossary of most commonly used futures terms.

2

Agricultural Options for the Beginner

Written for the novice, gives an overview of the advantages of using options on futures, includes common option terminology, and provides basic trading examples.

3

Buyer's Guide to Managing Price Risk

Covers the basics of hedging with futures contracts from a buyer's perspective, basis, and more advanced trading techniques including rolling hedges.

Contents

Buyer's Guide to Managing Price Risk

Over the years, many countries have instituted government-run purchasing groups to maintain internal minimum price levels for the agricultural commodities they produce and import. Likewise, we've seen governments participate in export subsidy programs to defend market share and increase exports. In both cases, the net effect has been a market shielded from the up and down price movement of agricultural commodities.

While these practices are continuing to a certain extent, there has been a global trend toward privatizing distribution channels. With this change comes new price risks from both the purchase and sale side of the market.

The good news is that price risks such as these can be successfully managed using the Chicago Board of Trade (CBOT®) futures markets. Companies are protecting themselves from changes in price rather than relying on government-instituted pricing programs. They are doing this by "locking in" a price level several months or even a year ahead of their cash market transactions using Chicago Board of Trade futures markets. By learning more about incorporating futures into your procurement plan, you'll become a price maker rather than a price taker.

Your Price Risk

Grain buyers need mechanisms that will help them discover the market price for a commodity at the time they make purchase and sale decisions. Once the market price is identified, they then need to find mechanisms that will reduce the risk of changing prices between the time of the transaction and the actual delivery of the goods.

Suppose an importer decides in July to buy 100,000 bushels of U.S. corn for delivery the following February. Corn for February delivery is currently priced at $2.75 per bushel (or $108.26 per metric ton). (1 metric ton = 39.368 bushels of corn; $2.75 x 39.368 = $108.26.)*

The importer needs the corn to fulfill a forward contract sale he has made with a domestic corn miller. The importer prices the corn at $3.05 per bushel—$2.75 per bushel for the grain plus $.20 per bushel for the importer's transportation costs and another $.10 per bushel for the importer's profit.

However, by the time the importer purchases the grain to arrive in February, the market price has risen to $3.25 per bushel. The importer's total costs and profit have risen to $3.55 per bushel while the importer's advance contract with the corn miller only nets the importer $3.05 per bushel. Without any additional risk management efforts, this importer would make $.50 per bushel less because of the price fluctuation between the time of the commitment and when the importer actually purchased corn.

* A list of conversion factors can be found in the Appendix.

To control this price risk, grain buyers in the United Sates and other countries can use several tools. For instance, there are a variety of cash forward contracts that can be written in CIF, CNF, or FOB terms that will give you an opportunity to lock in a price. You can also use the futures market to hedge your purchase. Oftentimes using futures results in better prices and more flexibility than forward contracting. If you decide to use futures, it requires an understanding of both the cash and futures markets.

This booklet is designed to give importers and other buyers of grain a basic introduction to risk management alternatives available through the use of futures contracts.

Using Futures Contracts to Offset Price Risk

One of the greatest benefits of the futures market is the ability to offset price risk by establishing a price level for a given commodity up to three years before you actually purchase it—with the added flexibility of changing your position as your needs change.

Let's assume it's September 1 and an importer is planning to buy 8,900 metric ton of corn for delivery this coming February. With current prices on the low side, the importer decides it is a good time to lock in a price for the corn. Converting 8,900 metric tons of corn to 5,000-bushel contracts* equates to 70 CBOT corn contracts. (8,900 metric tons/127 metric tons per CBOT corn futures contract = 70.078 or 70 contracts.) So the importer buys 70 CBOT March corn futures contracts at the current price of $2.50 per bushel—the equivalent of $98.42 per metric ton. There are 39.368 bushels of corn in 1 metric ton.

By the time the final cash market purchase is finalized six weeks later, corn prices have risen significantly. But because the importer hedged his purchase in the futures market, he was protected from the price increase. He books 8,900 metric tons of corn CNF at $125 per metric ton for delivery in mid-February and offsets his futures position by selling 70 CBOT March corn futures contracts at the current price of $2.80 per bushel (or $110.23 per metric ton.) As a result of his futures position, the importer lowered the net purchase price by $.30 per bushel.

* CBOT corn futures contract equals 5,000 bushels.

Local Cash Price	Futures Market Price
Sep 1	
	Buys 70 CBOT Mar corn futures contracts @ $2.50/bu ($98.42/mt)
mid-Oct	
Buys corn CNF @ $125/mt ($3.175/bu) for mid-February delivery	Sells 70 CBOT Mar corn futures contracts @ $2.80/bu ($110.23/mt)
	Futures gain $.30/bu ($11.81/mt) sold futures @ $2.80/bu – bought futures @ $2.50/bu

Net Result

Cash purchase price	$3.175/bu	($125.00/mt)
Futures gain	–$ .30/bu	($ 11.81/mt)
Net purchase price	$2.875/bu	($113.19/mt)

More Than What Meets the Eye

For the importer to determine whether he was going to use the futures market to lock in a buying price, there were two things he needed to know.

First, the importer must know the futures price for the commodity he will be buying. For each commodity, whether it is corn, soybeans, soybean oil, soybean meal, wheat, oats, or rice, there are several futures prices listed. Each price listed represents the price of delivery for a commodity during the given month. You can find Chicago Board of Trade futures prices through your quote service, broker, or on the World Wide Web at Internet address http://www.cbot.com.

Note: Some of the results in the examples throughout this book are due to rounding.

Usually, the futures price month you should be interested in is the month closest to, but not before, the time you actually plan to buy the commodity. In our example, the importer needs to take delivery of corn by the following February. Since March is the closest month to, but not before, the time the importer plans on taking delivery of the corn, he tracks the March futures price daily. (The Chicago Board of Trade does not trade a February corn futures contract.) This price will change daily depending on various market factors.

The second item the importer needed to know in order to determine whether he was going to use futures to lock in a buying price is the expected basis.

The basis is merely the difference between the price of grain at his location and the Chicago Board of Trade futures price. The reasons for the price difference are transportation costs between delivery locations, storage costs/availability, and the variations between local and worldwide supply and demand for the commodity he is buying.

CBOT Contract Months

For each commodity traded on the Chicago Board of Trade, there are different contract months coinciding with a crop's marketing year. Listed below are the contract months for each CBOT futures contract.

Corn: December, March, May, July, September; marketing year begins with the December contract and ends with the September contract

Oats: July, September, December, March, May; marketing year begins with the July contract and ends with the May contract

Rough Rice: September, November, January, March, May, July; marketing year begins with the September contract and ends with the July contract

Soybeans: September, November, January, March, May, July, August; marketing year begins with the September contract and ends with the August contract

Soybean Meal: October, December, January, March, May, July, August, September; marketing year begins with the October contract and ends with the September contract

Soybean Oil: October, December, January, March, May, July, August, September; marketing year begins with the October contract and ends with the September contract

Wheat: July, September, December, March, May; marketing year begins with the July contract and ends with the May contract

In any event, this price difference plays an important part in the amount the importer will actually pay for corn when using the futures market. In October, when the importer booked the corn for mid-February delivery, the cash price was $125 per metric ton, the March futures price was $2.80 per bushel ($110.23 per metric ton), and the basis was $14.77 per metric ton.

Local cash price	$3.175/bu	($125.00/mt)
Futures price..... –	$2.80/bu	($110.23/mt)
Basis	$ .375/bu	($ 14.77/mt)

What is interesting to note is that the offers you receive for agricultural commodities always have a basis relationship with the Chicago Board of Trade futures price. It is a common practice within a free market environment for importers and others in agribusiness to gauge their offers back to a futures price.

If you study basis over any period of time, you'll see that it is fairly stable and predictable. Even though prices can vary greatly from year to year, the basis varies relatively little. With hedging, you are most concerned with the basis when you plan to accept or make delivery of a commodity. In our example, the importer needed to predict the basis for mid-February since that is the month he will be taking delivery of corn.

The only way you'll be able to determine whether it makes sense to use the futures market to hedge against price risk, whether to use a forward contract of any type (CNF, CIF, FOB), or to take advantage of current prices, is to track basis throughout the year. (See the Tracking Basis sidebar on the next page).

As you read through the same example beginning on page 9, see how the basis influences the importer's decisions. Watch what happens to the price as the basis changes.

Tracking Basis:
A Key to Timing Your Purchases

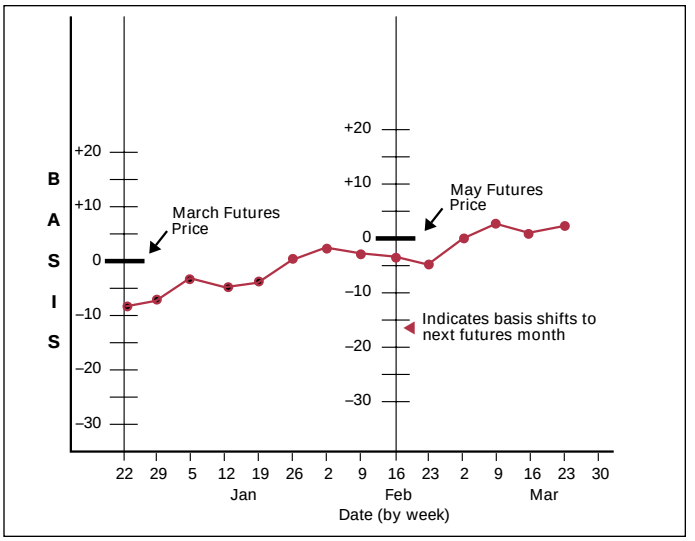
By tracking basis throughout the year, you can determine:

- **when it's the best time to buy or sell grain**
- **when to use the futures market to hedge a purchase or sale**
- **which futures month to place a hedge**
- **when to accept a supplier's offer**
- **forward bids to your customers**
- **resale bids**

A basis history graph is easy to construct. First, calculate your local basis everyday by subtracting the futures price* from the cash market price your suppliers quote you. Local Cash Price – CBOT Futures Price = Local Basis. Typically, when calculating basis you'll use the price of the nearby futures month (the futures contract month closest to expiration). For instance, if today is February 1 and the nearest CNF quote for corn is 15 days, subtract the March corn futures price from that CNF quote. However, if it's February 20 and the quote for 15-day delivery results in delivery during the first week of March, you should be using the May futures contract to calculate basis.

On the day you are ready to make your first entry, draw a vertical line from the date hash mark at the bottom of the page extending about three-quarters of the way up the page. Now draw a horizontal bar that intersects the vertical line at about its midpoint. This horizontal bar represents the futures price at zero basis. Make sure you leave enough space above and below this bar to fill in the other horizontal bars needed to indicate plus/minus basis points if necessary.

Assuming your local cash price for corn CNF is $3.10 on January 22 and the nearby futures month, March, is trading at $3.07, then basis equals 3 cents over (+.03). Now you are ready to plot your first basis point (shown as +.03 Mar futures on the graph below).



Continue to plot your basis each day (if possible) until the basis shifts to the next futures month (May), at which point you will need to construct a second vertical line parallel to the earlier vertical line and calculate the basis versus the next futures month. *Notice how the horizontal bar that represents the May futures price at zero basis is drawn on the vertical line at exactly the spot that shows the spread difference between the different futures months (March vs. May, May vs. July, etc.) at the time that*

continued on page 10

Basic Hedge Examples

Long Hedge

Example #1 On September 1 an importer wants to secure a shipment of 8,900 metric tons of corn for delivery in mid-February. The importer typically purchases CNF.

Step 1 At the time he gets the following offers for corn mid-February delivery from his suppliers:

Supplier 1: $118/mt

Supplier 2: $120/mt

Supplier 3: $116/mt

Step 2 Chicago Board of Trade March corn futures are currently trading at $2.50 per bushel. Converting this price to metric tons equates to $98.42 per metric ton ($2.50 x 39.368 bushels per metric ton).

Step 3 The importer calculates the basis for each offer by subtracting the futures price from each offer (current cash price). In this case he uses the March futures price since this is the month closest to, but not before, the time he expects to take delivery:

Cash Price - Futures Price = Basis

Supplier 1: $118/mt - $98.42/mt = $19.58/mt over March corn futures

Supplier 2: $120/mt - $98.42/mt = $21.58/mt over March corn futures

Supplier 3: $116/mt - $98.42/mt = $17.58/mt over March corn futures

Step 4 The importer reviews his historical basis records for mid-February, which is the time period when he plans to take delivery of the corn. The average basis for mid-February is $15 per metric ton over Chicago Board of Trade March corn futures, with the strongest

(or highest level) being $17 per metric ton over CBOT March corn futures and the weakest (or lowest level) being $13 per metric ton over CBOT March corn futures.

Since the lowest CNF offer of $116 had a basis of $17.58 per metric ton over March corn futures—higher than the highest historical level for mid-February—the importer decides to hold off entering into a CNF contract. Instead, he *locks-in* a price level by purchasing Chicago Board of Trade March corn futures at $2.50 per bushel ($98.42 per metric ton). What this means is that he has (1) locked in a price level, but (2) still has basis risk—the risk that the basis may increase or strengthen before he enters into a CNF contract. The importer is willing to live with that decision because he knows, according to his records, the basis is historically high and he expects the basis to fall or weaken—which will work to his benefit. Also, as we said before, basis is far more predictable than price. So, as a hedger he's willing to maintain the basis risk while eliminating price risk.

Tracking Basis (continued)

you switched futures contract months. In this example, the May futures contract is trading at a 4-cent premium or carry to March. The dots represent the basis values throughout time, and are connected to make one continuous line.

Ideally, you would want to build your historical basis data using cash market prices from your location or destination. However, in some locations the frequency of available cash prices may not be consistent. In these instances, you would track historical basis levels at your location when local cash quotes are available, but also track basis levels from the primary origination point (Gulf FOB prices for example) for the products you purchase. Tracking the origination basis is still a prudent practice even if your local cash prices are frequent.

*The Chicago Board of Trade provides historical price information for its futures contracts. If you would like to order historical CBOT price data, call or write Chicago Board of Trade, c/o Market Data Services, Suite 2313, 141 W. Jackson Blvd., Chicago, IL 60604; Phone: 312-341-7063.

Step 5 Because the importer plans to purchase 8,900 metric tons of corn, he needs to buy enough CBOT futures contracts to equal 8,900 metric tons. Converting 8,900 metric tons to 5,000-bushel contracts equates to 70 CBOT March corn futures contracts. (8,900 metric tons/127 metric tons per CBOT corn futures contract = 70.078 contracts.)

To review, the importer locked in a buying price for corn by purchasing futures contracts rather than booking the corn CNF at a time when the basis was strong. This type of hedge, where one buys futures to lock in a buying price, is referred to as a *long hedge*.

Time Passes

The importer continues to survey his suppliers to fulfill his cash market requirements. By **mid-October** the basis changes in his favor.

Step 1 By mid-October, the importer receives the following offers from his suppliers for CNF delivery in mid-February of 8,900 metric tons of corn:

Supplier 1: $125/mt

Supplier 2: $129/mt

Supplier 3: $126/mt

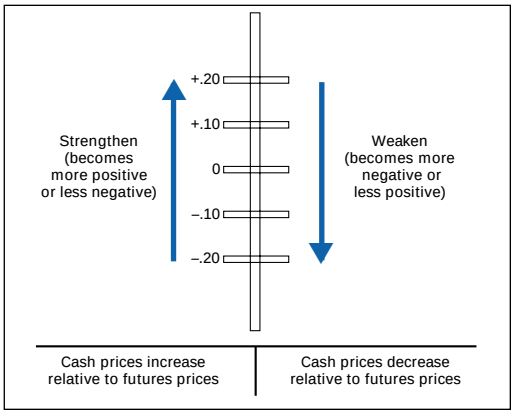
Step 2 Chicago Board of Trade March corn futures are currently trading at $2.80 per bushel. Converting this price to metric tons equates to $110.23 per metric ton ($2.80 x 39.368 bushels per metric ton).

Step 3 The importer then calculates the basis for each of the new quotes by subtracting the current March futures price from each offer:

Strengthening, Weakening Basis

Basis is the difference between the local cash price for an agricultural commodity and the current futures market price for the same commodity.

The basis changes as the factors affecting cash and futures markets change. Two terms used to describe a changing basis are strengthening and weakening. If basis becomes more positive or less negative, the basis is described as strengthening; and if the basis becomes less positive or more negative, the basis is described as weakening. A strengthening basis occurs when the cash price increases relative to the futures. In this instance, the cash price is becoming strong relative to the futures. A weakening basis occurs when the cash price decreases relative to the futures over time. In this instance, the cash price is becoming weak relative to the futures.



Example 1: Weakening Basis

	Cash	–	March Corn Futures	=	Basis
Jan 30	$3.20	–	$2.90	=	+$.30
Feb 15	$3.10	–	$2.85	=	+$.25
Mar 1	$3.25	–	$3.05	=	+$.20

From January 30 to February 15, the basis weakened, moving from +$.30 per bushel to +$.25 per bushel over the March corn futures contract. Then, from February 15 to March 1, the basis continued to weaken, moving from +$.25 to +$.20 over March futures. What is interesting to note is that cash and futures prices decreased from January 30 to February 15 and increased from February 15 to March 1. Even so, the basis continued to weaken.

Example 2: Strengthening Basis

	Cash	–	July Wheat Futures	=	Basis
Jun 1	$4.25	–	$3.90	=	+$.35
Jun 15	$4.50	–	$4.10	=	+$.40
Jul 1	$4.40	–	$3.95	=	+$.45

From June 1 to June 15 the basis strengthened, moving from $.35 per bushel over July futures to $.40 per bushel over July futures. Then, from June 15 to July 1, the basis continued to strengthen, moving from $.40 per bushel over July futures to $.45 per bushel over July futures. Again, what is interesting to note is that cash and futures prices increased from June 1 to June 15 and decreased from June 15 to July 1. Even so, the basis continued to strengthen. A weakening basis works to a buyer's advantage while a strengthening basis works to a seller's advantage.

Cash Price - Futures Price = Basis

Supplier 1: $125/mt - $110.23/mt = $14.77/mt over March corn futures

Supplier 2: $129/mt - $110.23/mt = $18.77/mt over March corn futures

Supplier 3: $126/mt - $110.23/mt = $15.77/mt over March corn futures

Step 4 The importer notes that the basis value from the first supplier is not only the weakest basis but it is below the historical average. He decides it's time to lock in this basis level and accepts the CNF offer of $125 per metric ton for mid-February delivery from Supplier #1.

Step 5 Once the importer is committed to a cash position, it is time to close his futures position. By initially purchasing 70 CBOT March corn futures, the importer must fulfill his futures contract obligation in one of two ways:

1. The importer can use the most common way of fulfilling a futures contract obligation—offset by taking an opposite position in the futures market. Since the importer initially bought 70 CBOT March corn futures contracts, he would need to sell 70 CBOT March corn futures to offset his position.

2. Accept delivery of 350,000 bushels of corn—the equivalent of 70 CBOT corn futures contracts—to a Chicago Board of Trade delivery site. If you're new to the futures market, you should be aware that only about 1 percent of all futures transactions result in delivery. The primary reason for not taking delivery is that it's typically cheaper to offset. If the importer goes through the futures delivery process, he will be issued a warehouse receipt and then is responsible for paying storage fees, securing transportation, and paying load out. He also will have a cash

market position at the delivery location in addition to being committed in the CNF contract.

Based on this information, he calls his broker and offsets the futures position by selling 70 March corn futures contracts at the current price of $2.80 per bushel ($110.23 per metric ton).

Futures Delivery Process

While all futures positions are either offset before a futures contract expires or are delivered against the contract, the vast majority are settled by offsetting trades, and only about 1 percent result in delivery. Yet the fact that buyers and sellers can take or make delivery helps assure that futures prices reflect the actual cash value of the commodity.

Exchanges generally do not make or take delivery of the actual commodity. Rather, they provide the mechanism that enables sellers to make delivery to qualified buyers. The information below outlines the three-day delivery process required by the rules of the Chicago Board of Trade.

Day 1 (Position Day) A customer's clearing firm notifies the Board of Trade Clearing Corporation that its customer wants to deliver on a futures contract.
Day 2 (Notice Day) Prior to the market opening on Day 2, the Board of Trade Clearing Corporation matches the buyer with the oldest reported long position to the delivering seller. The Board of Trade Clearing Corporation then notifies both parties. The clearing firm representing the seller prepares and sends an invoice to the clearing corporation for distribution to the clearing firm representing the buyer. The seller's clearing firm also must prepare a copy of the invoice for the clearing corporation. The buyer's clearing firm receives the seller's invoice from the clearing corporation.
Day 3 (Delivery Day) The buyer's clearing firm presents the delivery notice with a certified check for the amount due at the office of the seller's clearing firm. Upon receiving a check from the buyer's clearing firm, the seller's clearing firm gives the warehouse receipt to the buyer's clearing firm. Note: A warehouse receipt is delivered representing the commodity and not the actual commodity.

The final net purchase price in bushels is summarized below.

Local Cash Price	Futures Market Price	Basis
Sep 1		
Offered corn CNF delivery @ $116/mt	Buys 70 CBOT Mar corn futures contracts @ $2.50/bu ($98.42/mt)	$17.58/mt
mid-Oct		
Buys corn CNF @ $125/mt ($3.175/bu)	Sells 70 CBOT Mar corn futures contracts @ $2.80/bu ($110.23/mt)	$14.77/mt
Basis gain		$ 2.81/mt
Futures gain $.30/bu (sold futures @ $2.80 – bought futures @ $2.50)		

Net Result		
Cash purchase price	$3.175/bu	($125.00/mt)
Futures gain	–$ .30/bu	($ 11.81/mt)
Net purchase price	$2.875/bu	($113.19/mt)

So What Happened?

On September 1, the basis was historically strong so the importer decided to wait and not enter into a CNF contract. Instead, he took advantage of current price levels by purchasing March corn futures contracts and waited for the basis to weaken. By mid-October, the basis for mid-February delivery had weakened to $14.77 metric tons over March futures and the importer decided it was time to buy corn from Supplier #1 for $125 per metric ton. Simultaneously, the importer offset his futures position by selling 70 March corn futures contracts at $2.80 per bushel. By using historical basis information and protecting his price level using futures, the importer achieved his objectives. He was protected from a price increase and waited to purchase the physical corn until the basis weakened.

If you look at the actual numbers below, the final price per metric ton is $113.20—one cent higher than shown in the previous calculation. This results from the fact that 8,900 metric tons of physical corn were purchased while only 8,890 were hedged (70 contracts x 5,000 bushels x 56 pounds) ÷ 2,204.6 pounds/metric tons = 8,890.50 metric tons).

Look at the actual numbers:

Pays supplier	$1,112,500 for 8,900 metric tons of corn ($125/mt x 8,900/mt = $1,112,500)
Receives	$105,000 from broker for futures gain ($.30/bu x 5,000 bu x 70 contracts)
Net cost	$1,007,500 or $113.20/mt

Are There Situations Where Futures May Not Be Appropriate?

Sure. That's why it is important to know and understand basis so you can make the most of current market conditions.

Recall that based on historical records, the importer anticipated a basis level of $15 per metric ton over March corn futures. Assume the importer on September 1 received an offer of $109 per metric ton from one of his suppliers.

If the March corn futures contract is currently trading at $2.50 per bushel or $98.42 per metric ton, the basis would be calculated as follows:

$109/mt - $98.42/mt = $10.58/mt over March corn futures

Because the basis is historically weak, the importer would likely take the forward CNF offer, and not place the long futures hedge.

Short Hedge

Instead of being exposed to rising price levels, there may be situations where you'll want protection from falling prices. In this case, you may need to sell futures, that is establish a short futures position. The following is an example of a *short hedge*.

Example #2 FlourCo. is a flour miller which imports approximately half of its wheat requirements. In October, the company is making plans to import enough wheat to meet its first quarter milling needs—6,800 metric tons of soft red winter wheat to be delivered in January.

The following market conditions exist at the time:

CNF Price Quote:	$174.53/mt
CBOT March wheat futures:	$164.61/mt ($4.48/bu)*
Current Basis:	$ 9.92/mt over Mar wheat futures

According to FlourCo.'s records, the average historical basis for early January is $11.76 per metric ton over (higher than) the price of Chicago Board of Trade March wheat futures.

Based on this information, if you were FlourCo. would you enter into a CNF contract, or would you wait?

With an historically low or weak basis of $9.92 per metric ton over March wheat futures, you'd probably jump at the chance to buy wheat at that basis level. So, FlourCo. enters into a CNF contract of $174.53 per metric ton to take delivery of 6,800 metric tons of wheat this coming January.

Weeks after FlourCo. entered into the fixed price contract, market conditions had changed such that the company is now concerned wheat prices could fall below the price established in the CNF contract. If that occurs, FlourCo. may

* 1 metric ton of wheat = 36.743 bushels. A complete list of conversion factors can be found in the Appendix.

be forced through competitive pressures to pass on the price decline to its ultimate customer, which would cut into FlourCo.'s profit margin.

To hedge against this risk, FlourCo. decides to use Chicago Board of Trade wheat futures contracts for protection against falling price levels. Because FlourCo. is *long* physical wheat via the CNF contract, it would hedge its price risk by selling futures—that is, establish a short hedge.

Step 1 Determine the number of contracts needed to hedge. Because FlourCo. has forward contracted 6,800 metric tons of wheat, the company needs to sell enough CBOT wheat futures contracts to equal 6,800 metric tons. Converting 6,800 metric tons to 5,000-bushel contracts equates to 50 CBOT March wheat futures contracts. (6,800 metric tons/136 metric tons per CBOT wheat futures contract = 50 contracts.)

Step 2 FlourCo. initiates the short hedge by selling 50 CBOT March wheat futures contracts at the current price of $4.50 per bushel. Converting this price to metric tons equates to $165.34 per metric ton ($4.50 x 36.743 bushels per metric ton).

Step 3 By the first week of January, CBOT March wheat prices have declined to $4.00 per bushel. FlourCo. takes delivery of the wheat purchased through the CNF contract, and offsets its futures by buying 50 CBOT March wheat futures contracts at $4.00 per bushel. To review, there are two ways FlourCo. could offset its futures position:

1. The importer can use the most common way of fulfilling a futures contract obligation—offset by taking an opposite position in the futures market. Since FlourCo. initially sold 50 CBOT March wheat futures contracts, the company would need to buy 50 CBOT March wheat futures contract to offset its futures position.

2. FlourCo. can deliver warehouse receipts representing 250,000 bushels of wheat—the equivalent of 50 CBOT wheat futures contracts. If you're new to the futures market, you should be aware that only about 1 percent of all futures transactions result in delivery. The primary reason for not delivering wheat is that it's typically cheaper to offset.

A summary of FlourCo.'s futures and cash transactions follows:

Local Cash Price	Futures Market Price	Basis
Oct		
Purchases 6,800 mt of wheat CNF @ $174.53/mt ($4.75/bu)	CBOT Mar wheat futures contracts @ $4.48/bu ($164.61/mt)	+$9.92/mt
Nov		
	Sells 50 CBOT Mar wheat futures contracts @ $4.50/bu ($165.34/mt)	
Jan		
Accepts delivery of 6,800 mt wheat CNF	Buys 50 CBOT Mar wheat futures contracts @ $4.00/bu ($146.97/mt)	

Net Result		
Purchases 6,800 mt wheat CNF	$4.75/bu	($174.53/mt)
Futures gain	–$ .50/bu	($ 18.37/mt)
Net purchase price	$4.25/bu	($156.16/mt)

So, What Happened?

In mid-October, FlourCo. thought the offer of $174.53 per metric ton was attractive and really liked the historically weak basis of $9.92 per metric ton over March wheat futures. Therefore, the company didn't waste any time entering into a CNF contract, which locked in both a price and a basis level. Unfortunately, a few weeks later, wheat prices started to fall and the company was concerned that it may be forced through competitive pressures to pass on the price decline to its ultimate customer, cutting into FlourCo.'s profit margin.

The company hedged itself by selling wheat futures contracts. As a result of the hedge, FlourCo. lowered its net purchase price to $156.16 per metric ton.

What if market prices had risen instead of falling? FlourCo. would have had to add the futures market loss to the CNF contract price for a higher net overall purchase price. Of course, FlourCo. could have passed the higher price on to its customers since FlourCo.'s competitors would more than likely be in a situation where they would also be purchasing wheat at higher price levels.

Hedging Cash Risks and Trading Basis—Review

As shown in our first example, if someone is intending to buy grains or oilseeds sometime in the future and needs protection against unforeseen price increases, he or she will want to consider purchasing futures contracts. This type of position is referred to as a long hedge or a *buying hedge*. Traders will also refer to this type of position as being *short the basis* (short cash). Short the basis simply means you're "intending to buy" the physical commodity sometime in the future, and while you wait for the right time to make the purchase, your ultimate profit or loss will be affected by what happens to the basis. Thus, you are short the basis.

Buyers will usually enter into a long hedge if they believe the quoted basis for a cash forward contract is likely to weaken. They will protect themselves against unforeseen price increases by purchasing futures contracts and look for the right opportunity to buy cash grain at a later date—hopefully at a weaker basis. Once the cash purchase is made, buyers will offset their long hedge by selling the appropriate number of futures contracts to cancel their initial futures position.

If a company intends to sell a commodity sometime in the future, they'll want to consider selling futures contracts in an effort to protect themselves against unforeseen price declines. This type of position is referred to as a short hedge or *selling hedge*. By holding a short futures position, traders will typically refer to that position as being *long the basis* (long cash). That's because they currently own the physical commodity, but their profit or loss may be determined partly by what happens to the basis between now and the time they sell product.

In our second example, FlourCo. was long the physical wheat via the CNF contract. Weeks after the company entered into the contract wheat prices fell. FlourCo. was then concerned it would be forced to pass the price decline on to its customers, thus cutting into its profit margin. To hedge itself, FlourCo. established a short hedge.

Futures Market Spreads

The difference in price from one futures month to another is commonly called a *spread.* The spread reflects what the market is willing to pay someone to store or *carry* a commodity from one month to the next. For example, if you owned cash grain and stored it you'd be charged for storage, interest, insurance, and other miscellaneous costs.

To calculate what it costs to carry grain at a particular location, you could use the following formula:

$$\frac{\text{(value of grain x interest rate x number of days you will hold the grain)}}{\text{360 (or the number of days in bank year)}} + \text{cost of storage*}$$

For example, the cost of carry for corn could be calculated as:

$$\frac{\text{(\$3.00 x 10\% x 30 days)}}{\text{360 days}} + .025 = \text{\$.05/bu per 30 days}$$

*Total storage costs

Calculating Futures Carry

It is these same costs that are reflected in the spreads between futures contract months of the same marketing year. In a normal futures market indicating adequate supplies of cash grain and sufficient storage capacity, the price of the futures contract closest to expiration (nearby contract month) is lower than the price of the futures contract further from expiration (the deferred months). Each futures delivery month price is usually higher then the previous month by approximately the amount of the cost to store and finance the grain from one month to the next.

To calculate full carry (or the total cost of carry charges between months) in the futures market, you'd use the same variables to calculate the interest rate charges, but include a base storage cost as well. The base storage cost reflects the additional expenses associated with being a warehouse eligible (or regular) for futures delivery, which are then reflected in the futures carry.

In the case of corn priced at $3.00 per bushel—with a base storage cost of $.045 cents per bushel per month for an exchange-approved warehouse and an interest rate of 10 percent—the carrying charges would be $.07 cents per bushel per month:

$$\frac{\text{(\$ corn/bu x interest rate)}}{\text{number of months in year}} + \text{base storage cost}$$

$$\frac{\text{(\$3.00 x 10\%)}}{12} + \text{\$.045} = \text{\$.07/bu/month}$$

As you can see from the corn prices on page 24, the nearby month is the lowest while the deferred months are progressively higher. Given these prices, the market is currently willing to pay $.05 to store corn from December to March, or as they say in the trade, "March is at a 5-cent carry to December."

Note that the entire $.07/month carrying charge is not reflected in the price spreads. In fact, carry reflected in futures markets seldom surpasses 80 percent to 85 percent of full carry. Because it's cheaper to store grain at

continued on page 24

Advanced Trading Strategies

Once you've mastered the basics of hedging, there are additional twists you can add to your marketing efforts.

One common technique is a practice called *rolling*, where you can actually move a hedge from one futures month to another. This is accomplished by closing out a current futures position and initiating another position in a deferred contract month. More specifically, you may be forced to roll a hedge as a result of some unfinished business, or you may decide to roll a hedge just to improve your profit margins.

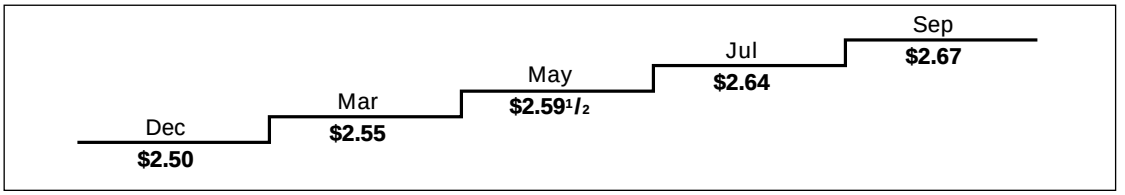
Here's how it works. Assume you sold cash soybeans through a forward sale contract on November 15 and bought January soybean futures contracts to protect yourself in case prices increase. By December 18, you still have not purchased the soybeans to fulfill your cash forward sale. First position day (the first day of the futures delivery process) is approaching, and grain traders are beginning to buy and sell cash beans versus the March futures contract. Because hedges need to be rolled when the nearby basis shifts to the next futures month, you roll the long hedge from January to March—selling January and buying March—on December 18.

Nov 15 **Sold cash beans/buy Jan futures**

Dec 18 **Sell Jan futures/buy Mar futures**

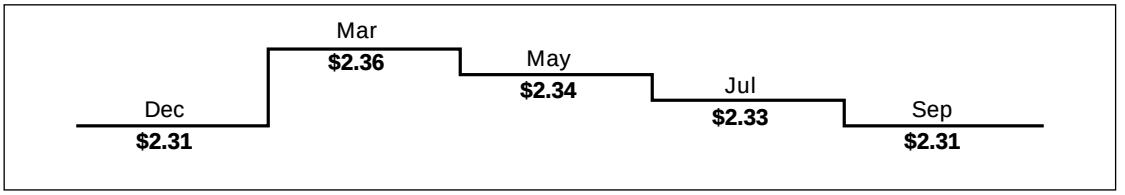
Rolling also works if you're long cash soybeans. The difference is you're short futures to protect yourself in case prices fall. When you roll the short hedge, you offset your initial futures position by buying the nearby futures month and roll the hedge into the next month by selling the deferred month. Because the emphasis of this book is managing price risk from a buyer's perspective, we will limit our coverage to rolling long hedges.

The key to rolling hedges is timing. Although most market participants want their positions rolled prior to first position day, they will look for the most opportune time to roll their hedges. This may result in rolls occurring at the



locations other then a warehouse regular for futures delivery, cash market participants away from the delivery location drive the spreads to narrower values. By purchasing the nearby futures contract month and selling the deferred month, grain merchandisers can "capture" storage costs. This act, combined with some speculators doing the same thing (buying the nearby and selling the deferred) if they believe the spread will narrow, keeps the spread from reaching full carry.

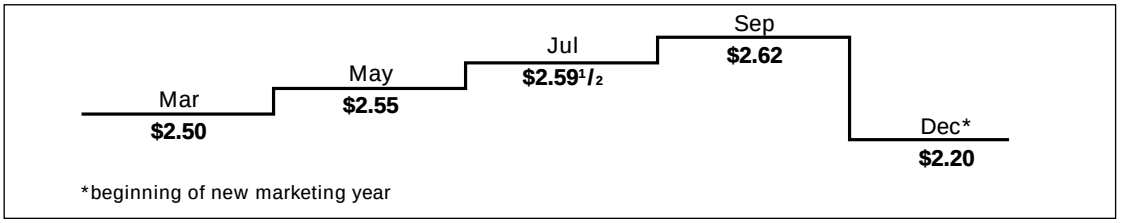
There are also times when the nearby futures price is greater than the price of the deferred futures month. Say March futures are at $2.50 and the May futures are at $2.46. In this instance, the March contract is "inverted" $.04 to the May futures. Inverted markets usually occur when demand for grain is particularly strong—in other words, the market wants grain now and is willing to pay for it.



Old-Crop/New-Crop Spreads

Each harvest begins a new marketing year with its own supply and demand fundamentals. As a result, the futures price for the last delivery month one marketing year may differ sharply from the futures price for the first delivery month of the next marketing year. Let's assume that the supply of last year's corn crop—*old crop*— is expected to be roughly equal to the needs of feeders, processors, and exporters during the summer and fall months, but a bumper *new crop* is expected to be harvested in the fall. If that is the case, you could see the December futures contract price significantly lower than the September contract.

On the other hand, if old-crop supplies are barely adequate for the remainder of the year and a small new crop is in the prospect, the possibility of a potential shortage is likely to lend strength to both old- and new-crop prices.



last possible minute or several weeks prior to first position day—the first day of a three-day futures delivery process in which the seller and buyer make or take delivery of the actual commodity on a futures contract.

We'll look at several examples in this text of how you can improve your margins by rolling hedges. While you're studying these examples, it's important to keep a couple of points in mind:

- **Long hedges should be rolled in inverted markets.**
- **Sometimes hedges must be rolled regardless of spreads.**

This last point is the most important. While your marketing goal may be to roll your long hedges in an inverted market, sometimes it just doesn't happen. In fact, it's even more likely that long hedgers will find themselves in this situation. That's because normal market prices typically show a carry rather than an inverse. Grain buyers usually do not risk holding long futures positions as the futures delivery period approaches. If you're holding a long futures position during the futures delivery period, you're at risk of having to take delivery on a futures position. As a result, long hedgers find themselves, much of the time, managing spread risk rather than benefiting from it.

Note: To simplify the following examples, we used the first day of the calendar month. In most situations, however, a market participant will roll a hedge before the delivery period begins—prior to first position day. This is especially true if you're long futures. Because the delivery process of a futures contract specifies the short initiates delivery, the long is always at risk of having to take physical delivery on a futures contract if he or she holds the futures position after first position day. Short hedgers, on the other hand, may hold a position beyond first position day if they feel the spread will be moving in their favor. However, they need to be aware that spread risk can increase after first position day.

Rolling Hedge Examples

Rolling in an Inverted Market to Improve Profit Margins

Example #3 On May 1 an importer forward sells 1,250 metric tons of U.S. soybean oil to a refiner at $.33 per pound ($.04 over CBOT August soybean oil futures). The importer has no available storage and anticipates purchasing and delivering the soybean oil to the refiner in late July.

On May 1, prices are:

	Futures	Cash	Cash basis equivalents
July	$.30/lb ($661.38/mt)	$.33/lb ($727.52/mt)	+.03/lb ($66.14/mt)
August	$.29/lb ($639.33/mt)	$.33/lb ($727.52/mt)	+.04/lb ($88.19/mt)
Inverted market	–$.01/lb ($ 22.05/mt)		

Since the importer sold 1,250 metric tons of soybean oil at $.04 per pound over August futures, his objective is to purchase the soybean oil at a weaker basis than $.04 per pound over August futures or its equivalent versus another futures contract month, for instance, $.03 per pound over July futures.

If soybean oil prices go up between May 1 and the time the importer actually purchases the soybean oil, he'll be in trouble. So, he either needs to forward contract the purchase of soybean oil or hedge his position using futures. In studying the market, spread relationships, and historical basis patterns, the importer decides he'll be better off by hedging.

The importer is faced with another decision: Should he hedge his position in the July futures contract or the August futures contract?

Under normal market conditions, the importer would probably hedge his position in the August contract because it corresponds more closely to the timing of his cash market transaction. But before he makes that decision, he

* 1 metric ton of soybean oil = 2,204.6 pounds. A complete list of conversion factors can be found in the Appendix.

studies the market. The importer notices the futures market is inverted—August futures are trading a cent per pound lower than July futures. He also reviews historical prices, basis patterns, and current supply and demand factors, and comes to the opinion that the market should increase its inversion through late July.

The importer knows that he can adjust his eventual buy basis by the amount the market inverts. To do that, he hedges himself by first purchasing the July futures contract then rolling the hedge into the August futures contract when the market inverts more—sometime near the beginning of July.

Since one CBOT soybean oil contract equals 27.216 metric tons, the importer buys 46 July soybean oil contracts on May 1 at $.30 per pound to cover his exposure. (1,250 metric tons/27.216 metric tons per CBOT soybean oil futures contract = 45.93 or 46 contracts.)

On July 1, market prices are:

July futures	$.32/lb	($705.47/mt)
August futures	$.29/lb	($639.33/mt)
Inverted market	– $.03/lb	($ 66.14/mt)

As expected, the spread continues to invert with August futures trading $.03 per pound under July futures. The importer rolls the long hedge on July 1—selling 46 July soybean oil futures and purchasing 46 August soybean oil futures. This offsets his hedge at –$.03 per pound, giving him a $.02 per pound gain (spread difference between initiation and roll).

By July 15, the market has risen substantially. The importer proceeds to purchase cash soybean oil to fulfill his sales commitment at the current price of $.38 per pound or $.05 per pound over August futures, and simultaneously offsets his futures position. He sells 46 August soybean oil futures at the current price of $.33 per pound.

Subtracting the $.02 per pound spread gain from the buy basis of +$.05 per pound weakened the net buy basis to $.03 per pound over August futures. Netting the adjusted buy basis and sell basis results in a net basis gain of $.01 per pound.

Adj. buy basis	+.03/lb Aug	(+$66.14/mt Aug)
Sell basis	+.04/lb Aug	(+$88.19/mt Aug)
Net gain	.01/lb	($22.05/mt)

Example #3: Summary

May 1 cash forward sale price +$.04/lb Aug . . .	$.33/lb	($727.52/mt)
July 15 cash purchase price +$.05/lb Aug	$.38/lb	($837.75/mt)
Loss on cash	**$.05/lb**	**($110.23/mt)**
Gain from July futures trade . . . . . (buy July $.30; sell July $.32)	$.02/lb	($ 44.09/mt)
Gain from August futures trade . . . . . (buy Aug $.29; sell Aug $.33)	$.04/lb	($ 88.19/mt)
Total gain on futures position	**$.06/lb**	**($132.28/mt)**
Net gain	**$.01/lb**	**($ 22.05/mt)**

The importer rolled his long hedge in an inverted market which allowed him to improve his buy basis by $.02 per pound. If the importer had not hedged his position, he would have lost $.01 per pound on the sale since the basis strengthened between the time he entered a forward sale contract and actually purchased the needed soybean oil.

When the market inverts, as it did in this example, you want to proceed with caution. An inverted futures market signals strong demand, and often the basis may significantly strengthen before you are able to buy the oil—offsetting some or all of the gain made from the inversion.

Example #4 Let's look at the previous example, but instead of prices increasing over time, assume they decrease. On May 1, an importer forward sells 1,250 metric tons of soybean oil to a refiner at $.04 per pound over August soybean oil futures. The importer has no available storage and anticipates purchasing and delivering soybean oil to the refiner in late July.

On May 1, prices are:

	Futures	Cash	Cash basis equivalents
July	$.30/lb ($661.38/mt)	$.33/lb ($727.52/mt)	+.03/lb ($66.14/mt)
August	$.29/lb ($639.33/mt)	$.33/lb ($727.52/mt)	+.04/lb ($88.19/mt)
Inverted market	–$.01/lb ($ 22.05/mt)		

The importer's market objective is to buy soybean oil at a weaker basis than $.04 per pound over August or its equivalent. In studying and reviewing historical price patterns and basis patterns, the importer anticipates the market will continue to invert—July soybean oil futures increasing in price relative to August soybean oil futures. Knowing that he can adjust his eventual buy basis by the amount the market inverts from the time he establishes a long hedge, the importer goes ahead and buys 46 July soybean oil futures at $.30 per pound. (1,250 metric tons/27.216 metric tons per CBOT soybean oil futures contract = 45.93 or 46 contracts.)

By selling soybean oil at a cash price versus August futures and establishing an offsetting long hedge in July futures, the importer will benefit from any additional spread inversion. His sale basis becomes $.03 per pound over July futures or $.04 per pound over August futures. He intends to roll the long July

futures position into the August contract when he feels the market will invert further—sometime near the beginning of July.

On July 1, market prices are:

July futures	$.295/lb	($650.36/mt)
August futures	$.265/lb	($584.22/mt)
Inverted market	–$.03/lb	($ 66.14/mt)

As expected, the market continues to invert with August trading $.03 per pound under July futures. The importer rolls the long hedge on July 1—selling 46 July soybean oil futures and purchasing 46 August soybean oil futures. This offsets his hedge at –$.03 per pound, giving him a $.02 per pound gain (spread difference between initiation and roll) to be applied against the eventual buy basis.

By July 15, the importer decides it's time to purchase the cash soybean oil to fulfill his forward cash contract commitment at the current price of $.31 per pound (or $.05 per pound over August) and simultaneously offsets his futures position. He sells 46 August soybean oil futures contracts at the current price of $.26 per pound.

Subtracting the $.02 per pound spread gain from the buy basis of +$.05 per pound weakened the net buy basis to $.03 per pound over August futures. Netting the adjusted buy basis and sell basis gives you a net basis gain of $.01 per pound.

Adj. buy basis	+.03/lb Aug	(+$66.14/mt Aug)
Sell basis	+.04/lb Aug	(+$88.19/mt Aug)
Net gain	.01/lb	($22.05/mt)

Example #4 Summary

May 1 cash forward sale price +$.04/lb Aug . .	$.33/lb	($727.52/mt)
July 15 cash purchase price +$.05/lb Aug	$.31/lb	($683.43/mt)
Profit on cash	**$.02/lb**	**($ 44.09/mt)**
Loss from July futures trade . . . . . (buy July $.30; sell July $.295)	$.005/lb	($ 11.023/mt)
Loss from August futures trade . . . . . (buy Aug $.265; sell Aug $.26)	$.005/lb	($ 11.023/mt)
Total loss on futures position	**$.01/lb**	**($ 22.05/mt)**
Net gain	**$.01/lb**	**($ 22.04/mt)**

When you review the actual cash prices, it appears the importer may have been better off not hedging in the futures market. He lost money on the futures position and made up the difference by purchasing cash soybean oil at a lower price than expected. Even so, the importer profited from the position by $.01 per pound and was protected if prices rose. No one can predict the future, and at the time, the only market expectation the importer was comfortable with was that the market was going to invert. Prices could have just as easily risen as illustrated in the first example.

Example #5: In January, MaizeCo., an international corn processor, intends to purchase 3,400 metric tons of No. 2 yellow corn for delivery in late August. A supplier offers MaizeCo. a CNF contract at $.20 per bushel over CBOT September corn futures, or $2.67 per bushel.

On January 10, prices are:

	Futures	
March	$2.3175/bu	($91.24/mt)*
May	$2.3925/bu	($94.19/mt)
July	**$2.4525/bu**	($96.55/mt)
September	**$2.47/bu**	($97.24/mt)
July/Sep carry spread	**+$ .0175/bu**	($ .69/mt)

After reviewing market conditions and historical spreads, MaizeCo. feels the basis level offered on the forward CNF contract is rather strong, and projects the current carry between July and September futures months will invert. Based on these market expectations, MaizeCo. decides to wait until the basis weakens to purchase physical corn, but hedges its price risk in the July futures contract. Then, when the market inverts (probably near the beginning of July) MaizeCo. will roll its futures position into the September contract. If MaizeCo.'s market expectations are correct, it will be able to improve its buy basis by the amount of the inversion.

On January 10, MaizeCo. buys 27 CBOT July corn futures at $2.4525 per bushel (3,400 metric tons/127 metric tons per CBOT corn futures contract = 26.77 or 27 contracts.)

* 1 metric ton of corn = 39.368 bushels of corn. A complete list of conversion factors can be found in the Appendix.

On July 1, market prices are:

July futures	$2.3125/bu	($91.04/mt)
September futures	$2.2925/bu	($90.25/mt)
Inverted market	–$ .02/bu	($ .79/mt)

As the company expected, the spread inverted with September futures trading $.02 per bushel under July futures. The company rolls the long hedge on July 1—selling 27 July futures and buying 27 September futures. This offsets the spread at –$.02 per bushel, giving the company a $.0375 per bushel gain ($.02 spread rolled + $.0175 spread initiated).

By August 15, corn can be purchased at $.18 per bushel over September futures. MaizeCo. decides it's time to buy cash corn and fulfills its procurement needs. Simultaneously, MaizeCo. offsets its futures hedge—selling 27 September futures contracts at $2.49 per bushel.

Subtracting the $.0375 per bushel spread gain from the buy basis of +$.18 per bushel gives MaizeCo. a purchase basis of +$.1425 per bushel September.

Buy basis	+$.18/bu Sep	($7.09/mt Sep)
July 1 roll (sell Jul; buy Sep)	–$.0375/bu	($1.48/mt)
Adj. buy basis	+$.1425/bu Sep	($5.61/mt Sep)
Original CNF offer	+$.20/bu Sep	($7.87/mt Sep)
Improvement over original CNF offer	+$.0575/bu	($2.26/mt)

MaizeCo., which was short the basis, reached its market objective of weakening its buy basis $.0375 per bushel by rolling its hedge in an inverted market, and picked up another $.02 from an improvement in the basis (+$.20 per bushel as compared to +$.18 per bushel) from the original CNF offer quoted on January 10.

Example #5: Summary

Jan 10 CNF offer for August delivery priced +$.20/bu Sep	$2.67/bu	($105.11/mt)
Aug 15 cash purchase price +$.18/bu Sep	$2.67/bu	($105.11/mt)
Loss on cash	**$0**	**$0**
Loss on July futures trade (buy July $2.4525; sell July $2.3125)	$ .14/bu	($ 5.51/mt)
Gain on September futures trade (buy Sep $2.2925; sell Sep $2.49)	$ .1975/bu	($ 7.77/mt)
Gain on futures position	**$ .0575/bu**	**($ 2.26/mt)**
Total improvement over Jan 10 CNF offer	**$ .0575/bu**	**($ 2.26/mt)**

Final Analysis of Rolling Hedges in an Inverted Market

If you're short the basis and have hedged your position using futures, your goal is to roll in an inverted market. If you're correct and the market inverts, you can weaken your buy basis by the amount of the inversion. Of course, if the spreads between futures contract months don't invert as expected or remain unchanged, you will lose money rolling long hedges. The key is good spread analysis and managing long hedges so they're rolled at the tightest possible carry and, therefore, at the least cost. Don't forget, though, if the market inverts in response to a strong demand for grain, it's entirely possible that the basis may strengthen significantly—offsetting some or all of the gain made from the inversion.

Exchange for Physical

In the previous example, the importer offset his futures position—sold 27 July corn futures contracts to close his initial long position of 27 July corn futures contracts. While this is the most common method to close a futures position, buyers and sellers of commodities can offset their futures positions by entering into an *exchange for physical* transaction (EFP).

By its simplest definition, an EFP is a transaction generally used by two hedgers who want to "exchange" futures for cash positions outside the futures trading pit. Consequently, hedgers do not have to enter the futures pit to price a cash trade, thereby eliminating the time lag between the cash transaction and the futures order.

Also known as *against actuals*, or *versus cash*, EFPs are the only type of futures transaction allowed to take place outside the trading pit and all EFP transactions are reported in open interest and volume reports. Instead, EFPs take place between brokerage houses for customers holding corresponding physical transactions. Basically, a futures position(s) is transferred from the account of one hedger to the account of another hedger.

Example #**6** On June 1, assume Trigo S.A., a miller which imports wheat, is offered a basis contract with an exporter, ExportCo., for delivery CNF of 3,400 metric tons of wheat at $12.86 per metric ton ($.35 per bushel) over CBOT September wheat futures. CBOT September wheat futures are currently trading at $3.50 per bushel. Delivery is scheduled for late August. Trigo S.A. accepts the CNF contract after reviewing its basis expectations. By entering this contract, ExportCo. has the option to flat-price the CNF basis contract anytime between June 1 and the shipment date.

Even though Trigo S.A. has locked in the basis level of $12.86 per metric ton ($.35 per bushel) over September futures, it is still exposed to the risk of rising prices. Several days later, Trigo S.A. decides to purchase 25 September wheat futures contracts at $3.45 per bushel to cover its price risk exposure on

3,400 metric tons of wheat (3,400 metric tons/136 metric tons per CBOT wheat futures contract = 25 contracts).

By August 1, September wheat futures have risen to $3.85 per bushel. Export Co., which has not hedged up to this point, decides it is time. The company hedges its price exposure from falling prices by selling 25 September wheat futures contracts at $3.85 per bushel. If ExportCo. did not hedge itself and prices fell, it runs the risk of selling wheat at a lower price since the CNF/basis contract left the price open.

On August 15, September wheat futures are trading at $3.60 per bushel. ExportCo. notifies Trigo S.A. that it wants to price the wheat basis contract at a flat price of $3.60 per bushel.

Instead of closing out their positions in the futures market, ExportCo. and Trigo S.A. enter into an EFP. The two companies exchange names of their brokerage houses and account numbers. ExportCo. calls its brokerage house, ABC Trading, and instructs it to “take versus cash” 25 September wheat futures contracts at $3.60 per bushel from account number 123 with ZYX Trading, Trigo S.A.’s brokerage firm. At the same time, Trigo S.A. calls its brokerage firm (ZYX Trading) and instructs it to “give versus cash” 25 September wheat futures contracts at $3.60 per bushel to ABC Trading account number 098. The trade takes place at $3.60 per bushel even though the market is now trading at $3.62 per bushel.

The final invoice price between the two parties is $3.95 per bushel, or $.35 per bushel over September futures. By using an EFP, both parties are protected from futures moving against them before their orders reach the trading pit.

The following summarizes the transactions:

	Trigo S.A.	ExportCo.
June 1	Commits to buy 3,400 mt @ $12.86/mt ($.35/bu) over CBOT Sep wheat futures	Commits to sell 3,400 mt @ $12.86/mt ($.35/bu) over CBOT Sep wheat futures
June 5	Buys 25 CBOT Sep wheat futures @ $3.45/bu ($126.76/mt)	
Aug 1		Sells 25 CBOT Sep wheat futures @ $3.85/bu ($141.46/mt)
Aug 15	Gives up 25 CBOT Sep wheat futures @ $3.60/bu to ExportCo.	Takes 25 CBOT Sep wheat futures @ $3.60/bu from Trigo S.A.

EFP offsets futures positions. Invoice paid by Trigo S.A. and received by ExportCo @ $3.95/bu ($3.60/bu EFP + $.35/bu basis).

Net Result

Trigo S.A.

Cost	$3.95/bu	($145.13/mt)
Futures gain	–$ .15/bu	($ 5.51/mt)
(buys Sep $3.45/bu; EFP $3.60/bu)		
Net cost	$3.80/bu	($139.62/mt)

ExportCo.

Receives	$3.95/bu	($145.13/mt)
Futures gain	+$ .25/bu	($9.19/mt)
(sells Sep $3.85/bu; EFP $3.60/bu)		
Net received	$4.20/bu	($154.32/mt)

Your Next Step

As world demand continues to grow for agricultural products, the importance of managing price risk using the appropriate tools becomes increasingly valuable. For well over 100 years, the Chicago Board of Trade has provided the international marketplace with the information and the tools necessary to compete effectively in such a demanding arena. Ultimately, you will need to find a futures commission merchant to assist you in the execution of your risk management program. To help identify a broker that best suits your needs, order a copy of the CBOT *Futures Commission Merchants Directory*. To receive your free copy, call: 312-435-3558.

The exchange also offers a variety of free publications on futures and options. If you'd like to receive a free copy of our publications catalog, call or write:

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Appendix
Most Commonly Used Terms

basis—the difference between the price of cash grain at a specific location and the price of a related futures contract; i.e., cash price - futures price = basis.

carry (or carry charges or cost of carry)—the cost to store a physical commodity, which includes storage, interest, and insurance.

carry market—the price relationship between futures contract months of the same marketing year in which the price of the nearby futures contract month is the lowest while the deferred months are progressively higher.

deferred—the futures contract further from expiration.

delivery—in context of the futures markets, the transfer of a cash commodity from the seller of a futures contract to the buyer of a futures contract. Only about 1 percent of all futures positions are settled through the delivery process. The vast majority are settled by offsetting trades.

delivery day—in context of the futures delivery process, the third and last day in the delivery process when the buyer's clearing firm presents the delivery notice with a certified check for the amount due at the office of the seller's clearing firm.

exchange for physicals (or EFP or against actuals or versus cash or expit)—a transaction generally used by two hedgers who want to "exchange" a futures position for a cash position outside the futures trading pit.

inverted market—the price relationship between futures contract months of the same marketing year in which the price of the nearby futures contract month is higher than the deferred months.

long hedge (or buying hedge)—buying futures contracts for protection against rising prices. Buyers of commodities establish long hedges to lock in a buying price for a commodity they are planning to purchase.

long the basis—long the physical commodity and short futures.

nearby—the futures contract closest to expiration.

new crop—this year's crop.

notice day—in context of the futures delivery process, the second day of a three-day delivery process when the clearing corporation matches the buyer with the oldest reported long position to the delivering seller and notifies both parties.

offset—taking a second futures position opposite to the initial or opening position. Approximately 99 percent of all market participants will close their futures positions by offsetting them rather than actually taking or making delivery of the underlying commodity.

old crop—last year's crop.

position day—in context of the futures delivery process, the first day of a three-day process of making or taking delivery of the actual commodity on a futures contract.

rolling—moving a hedge from one futures month to another. This is accomplished by closing out a current futures position and initiating another position in a deferred contract month.

short hedge (or selling hedge)—selling futures contracts for protection against falling price levels. Sellers of commodities establish short hedges to lock in a selling price for a commodity they are planning on selling.

short the basis—short the cash commodity and long futures.

spread—the difference in price from one futures month to another. The spread reflects what the market is willing to pay someone to store or carry a commodity from one month to the next.

strengthening—a term used to describe a change in the basis in which the basis becomes more positive or less negative. A strengthening basis occurs when the cash price increases relative to the futures. Sellers of commodities will benefit from a strengthening basis.

weakening—a term used to describe a change in the basis in which the basis becomes less positive or more negative. A weakening basis occurs when the cash price decreases relative to the futures. Buyers of commodities will benefit from a weakening basis.

Conversion Factors

Since Chicago Board of Trade corn, wheat, soybean, and oat futures are quoted (1) in U.S. dollars per bushel, (2) soybean meal futures are quoted in U.S. dollars per short ton, (3) soybean oil futures are quoted in cents per pound, and (4) rice futures are quoted in cents per hundredweight, we've included several conversion tables to help you convert these measurements into metric tons.

Weight	Conversion
1 short ton	2,000 pounds
1 metric ton	2,204.6 pounds
1 long ton	2,240 pounds

60 lbs/bu; soybeans and wheat

1 short ton	33.333 bushels
1 metric ton	36.743 bushels
1 long ton	37.333 bushels

56 lbs/bu; corn and sorghum

1 short ton	35.714 bushels
1 metric ton	39.368 bushels
1 long ton	40 bushels

Futures Contracts Sizes in Metric Tons

CBOT Corn (5,000 bu)	127.007 metric tons
CBOT Soybeans (5,000 bu)	136.079 metric tons
CBOT Soybean Meal (100 ton)	90.719 metric tons
CBOT Soybean Oil (60,000 lbs)	27.216 metric tons
CBOT Wheat (5,000 bu)	136.079 metric tons
CBOT Rough Rice (2,000 cwt)	90.719 metric tons

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