



Self Study Guide

to Hedging

with

Livestock

Futures

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Introduction

The *Self Study Guide to Hedging with Livestock Futures* is an introduction to the mechanics of using futures to forward price your livestock. The booklet presents thirteen short units of study to help you become comfortable with the futures market and how you can use it.

Why learn about futures and hedging? Consider two producers, both of whom use excellent production methods. The first sells livestock when they're ready for market; if cash market prices happen to be low at that time, he may lose money despite his best effort and all his skill. The second combines production and marketing skills. He knows his costs, understands his basis and scans cash forward and futures markets for profitable opportunities throughout the production period. If a good opportunity presents itself, he acts. In effect, his reach for profitable market opportunities extends way beyond the day or week he happens to send his livestock to market.

Both this booklet and its companion, *Self Study Guide to Forward Pricing with Livestock Options*, are designed to enable the producer to combine production and marketing into a comprehensive business strategy. It all begins with understanding futures.

UNIT 1 The Development of Livestock Futures

Livestock producers face a great deal of risk. One is uncertain weather, which affects feed costs, the availability of feed and forage, rates of gain, conception rates, survivability of young animals and shipment. Another risk is staying on top of animal health requires the best management in agriculture.

Producers have managed such production risk with top-notch husbandry practices. But no amount of husbandry can address market risk—the uncertainty of process at market time, owing to shifting supply and demand factors. That’s where forward markets come in.

The Chicago Mercantile Exchange’s role:

The Chicago Mercantile Exchange (CME) developed livestock futures to provide producers with forward pricing opportunities for managing market risk—to lock in profits, enhance business planning, and facilitate financing—all the benefits that futures provide other sectors of the farm economy.

A forward-looking group of producers, packers, livestock commission firms, CME members and others began assembling the building blocks of livestock futures in the early 1960s. They had cash market backgrounds and were knowledgeable in all the down-to-earth facets of livestock marketing.

Many people said it couldn’t be done, that futures had never before been successfully implemented on nonstorable products. But people at the CME were willing to try it, and the livestock industry appeared ready for a central forward market with the advantages futures could bring. In 1964, the CME began trading live cattle futures; live hog futures were added in 1966, and feeder cattle were added in 1971. In 1997, lean hog futures and options replaced the live hog contracts.

How did futures develop?

The futures markets arose from the needs of producers and merchants to secure fixed prices and facilitate trade. During the mid-1800s, the needs of American farmers, merchants and millers gave rise to *forward contracts* for wheat and corn raised in the midwest farmlands for shipment by water and rail to the east. Soon, these forward contracts became standardized under the pressure to save time in negotiations—the individual load of grain would be subject to discount or premium depending on actual grade and arrival date.

By 18675, the Chicago Board of Trade, established in 1848, developed general rules for trading standardized forward contracts—the first *futures contracts*. These rules set the guidelines for trading conduct, the inspection of the grain and the deposit of good faith funds and daily settlement of accounts to eliminate the possibility of renegeing on a contract. From the earliest days of standardized forward contracts, trading by middle-men for the sake of speculation was common. It provided more competition and a pool of capital to take on the price risk shed by producers and merchants.

Key Points

- 1. Livestock futures provide producers with opportunities for locking in prices, enhancing business planning and facilitating financing.**
- 2. The futures markets evolved over time from the need to improve the existing marketing system.**
- 3. Under the exchanges, forward contracts became standardized futures contracts.**
- 4. The exchanges established rules for trading; the Federal Government established regulation.**

How did the CME begin?

The Chicago Butter and Egg Board was established in 1898 as a cash market for poultry and dairy products, which were seasonal in production, and moderately storable. By 1919, the need for futures trading predominated, and this marketplace became the Chicago Mercantile Exchange.

Many products were attempted at the CME since 1919, but livestock futures represented the new twist of trading *nonstorable* commodities. That set the stage for other CME innovations such as foreign currency futures and cash settlement as a substitute for delivery.

Regulating the futures markets

The rules set forth in 1865 by the Chicago Board of Trade formalized the practice of futures trading. In the years to follow, all the commodity exchanges continued to refine the rules of behavior required of their members.

The government began to play a role in regulating trading activity in 1922 when *The Grain Futures Act* was passed. The law required the exchanges to be licensed and to prevent price manipulation by their members. *The Commodity Exchange Act* of 1936 dealt with market abuses by traders and futures commission merchants (brokerage firms). Price manipulation became a criminal offense.

The Commodity Futures Trading Commission (CFTC), the independent federal body that oversees all futures trading in the United States, was created in 1974 by an act of Congress. Although the exchanges are self-regulating, the CFTC approves their trading rules, terms and procedures, and the introduction of new futures and options. The *National Futures Association (NFA)* came into being in 1981. Its purpose is to regulate the activities of its members—brokerage firms and their agents.

25 Years of Livestock Futures

In 1989, the Chicago Mercantile Exchange celebrated the 25th anniversary of trading live cattle futures. It was an innovative move in 1964—at that time futures were traded only on storable commodities like grains. It was a challenge to create a contract on a living animal.

The idea was inspired by the need for both cattle producers and meat packers to be able to hedge their risks.

On November 30, 1964, the CME opened trading of live cattle futures. On that first day, 191 contracts were traded; 25 years later a day’s volume was more than 17,000 contracts.

On February 28, 1966, the CME began trading live hog futures. On November 10, 1995, a switch to lean hog futures was begun, resulting in the lean hogs replacing live hogs by February 1997.

Futures Language

Bear: One who expects prices to fall

Bear Market: A falling market

Bull: One who expects prices to rise

Bull Market: A rising market

Cash Market: A marketplace for the physical commodity, such as an auction, elevator, or packer

Long Hedge: Balancing a “short cash” position (unmet need) with a long futures position

Long Position: Inventory of product; purchased futures contract

Short Hedge: Balancing a “long cash” position (inventory) with a short futures position

Short Position: Unmet requirement for product; sold futures contract

UNIT 2 The Concept of Futures Contracts

What is a futures contract?

A futures contract is a standardized agreement to buy or sell a commodity at a date in the future. The contract specifies:

- *Commodity* (live cattle, live hogs, feeder cattle)
- *Quantity* of the commodity (pounds of livestock as well as range or weight for individual animals)
- *Quality* of the commodity (specific U.S. grades)
- *Delivery point* (location at which to deliver commodity, or *cash settlement* in the case of feeder cattle)
- *Delivery date* (within month that contract terminates)

The only aspect of a futures contract that is not specified is the price at which the commodity is to be bought or sold. The price varies; it is determined on the floor of the exchange as floor brokers execute buy and sell orders from all over the country. The prices they offer and bid reflect the supply and demand for the commodity as well as expectations of whether the price will increase or decrease.

Who can trade futures?

Anyone can buy or sell futures contracts through the proper channels. For example, you can sell a live cattle futures contract even if you don't intend to deliver the actual cattle—even if you don't have any cattle to deliver. Although under the futures contract you are obligated to deliver, you can remove that obligation at any time before the delivery date by buying back, or *offsetting*, the futures contract.

Similarly, you could buy a live cattle futures contract without the intention of taking delivery of the cattle. You remove the obligation to take delivery by selling back the contract.

How do speculators use the futures market?

Speculators have no intention of buying or selling actual commodities. They try to make money by buying futures contracts at a low price and selling back at a higher price or selling high and buying back lower. In doing so, they take on the risk that prices may change to their disadvantage. So, speculators provide risk capital and depth to the marketplace and make it possible for hedgers to use the futures market to reduce risk.

How can producers use the futures market?

As the delivery month on a contract approaches, the pressure of possible delivery causes the futures price to line up with the cash market price of the commodity. Because futures prices thus reflect cash market prices, producers may use the futures market as a temporary substitute for a cash sale or cash purchase to be made later.

Key Points

- 1. The futures contract is a standardized agreement stating the commodity, quantity, quality, delivery point or cash settlement and delivery date.**
- 2. Price is discovered on the floor of the exchange by the interaction of buyers and sellers, representing supply and demand, from all over the country.**
- 3. The obligation to deliver on a sold contract is removed by buying back the contract before the delivery date.**
- 4. The obligation to take delivery on a purchased contract is removed by selling back the contract before the delivery date.**
- 5. The short hedge protects the seller of a commodity against falling prices.**
- 6. The long hedge protects the buyers of a commodity against rising prices.**

The Long and Short of it:

- If you are *long futures*, you've bought a futures contract.
- If you have a *long hedge*, you've bought a futures contract to protect against price increase. You plan to buy a commodity later.
- If you are *long cash*, you own and plan to sell a commodity later.
- If you are *short futures*, you've sold a futures contract.
- If you have a *short hedge*, you've sold a futures contract to protect against price decrease. You plan to sell a commodity later.
- If you are *short cash*, you need and plan to buy a commodity later.

Producers don't want to take the risk of changing prices in the cash markets, so they use the futures market to lock in a price ahead of actual merchandising. They transfer the risk to speculators. Most producers remove their obligation to deliver or take delivery on the futures contract just as speculators do, by offsetting their original futures position, but producers then sell or buy actual commodities in the cash markets.

What is hedging?

Hedging is buying or selling futures contracts as protection against the risk of loss due to changing prices in the cash markets. Hedging is a risk-management tool for the producer. If you are feeding livestock to market, you want to protect against falling prices in the cash markets. If you need to buy feeder cattle, you want to protect yourself against rising prices in the cash markets. Either way, hedging provides you that protection.

The *short, or selling hedge*, is used when you plan to sell a commodity such as hogs or cattle and want to protect yourself against falling prices. You sell futures contracts and, when you are ready to market your livestock, you buy back the futures contracts and sell the livestock in the cash markets simultaneously. If there has been a drop in cash market prices, it would mostly be offset by a gain in the futures transaction.

The *long, or purchasing hedge*, is used when you plan to buy a commodity such as feeder cattle and want to protect yourself against rising prices. You buy futures contracts and, when you are ready to purchase the feeder cattle, you sell back the futures contracts and buy the livestock in the cash markets simultaneously. An increase in cash prices would mostly be offset by a gain in the futures transaction.

How do you make a trade?

You buy or sell futures contracts through a brokerage firm that executes the trade for you. Once you've opened an account with a brokerage firm, you call the broker and place your order. You must deposit a performance bond with the broker to "pre-pay" any loss you may incur on the futures contract. If the value of the contract goes against your position by a certain amount, you may be asked to deposit more funds before the start of the next day's trading session. You also pay the broker a commission for every "round-turn" (sell-buy or buy-sell pair of transactions.)

How do you offset a hedge?

A short hedger who has sold a futures contract offsets the hedge by *buying back* the same futures contract at the time he sells his livestock in the cash market. The long hedger who has bought a futures contract offsets the hedge by *selling back* the same futures contract at the same time that he buys livestock in the cash market. Again, these offsetting futures trades are made through a broker.

Study Questions

1. A futures contract does not specify:
A The delivery point
B The delivery date
C The delivery price
2. You sold a December lean hog futures contract. You can remove the obligation by:
A Buying back the December contract
B Selling back the December contract
C Buying a February lean hog contract
3. You offset a long position in the futures market by:
A Buying back futures
B Selling back futures
C Buying more futures
4. The short hedge protects the producer who plans to sell a commodity against:
A Performance bond deposits
B Rising prices
C Falling prices
5. A long hedge is:
A Protection against a price increase for a commodity needed in the future.
B Initiated by buying a futures contract
C Both A and B

Answers

1. **C** The price of a futures contract is not specified in the contract; it is determined as traders bid and offset.
2. **A** You offset a sold contract by buying back the contract.
3. **B** You offset a long position (purchased contract) by selling back futures.
4. **C** The short hedge protects the producer against falling prices.
5. **C** A long hedge is both protection against price increase and initiated by buying a futures contract.

UNIT 3 Who's Who in the Futures Market

The commodity exchange

A commodity exchange is a not-for-profit organization that formulates rules for the trading of commodity futures contracts, provides a place to trade and supervises trading practices. Its members are people whose business is trading. The exchange establishes the terms of the standardized contracts that are traded subject to CFTC approval. It disseminates price and market information and provides the mechanics to guarantee contract settlement and delivery.

The Chicago Mercantile Exchange

The Chicago Mercantile Exchange is the second largest futures contract market in the United States. The CME has a 38 member Board of Directors and a staff of 900. The CME itself does not buy or sell contracts; the actual trading takes place through one of the more than 2,700 Exchange members, or seat holders, authorized to buy and sell contracts in “trading pits” on the trading floor.

The Clearing House

The CME, through its Clearing House, is the guarantor of all futures transactions. Each business day, brokerage firms submit trade records. After trades have been verified and matched, the Clearing House becomes the opposite party to every transaction. In effect, it becomes the buyer for every seller and the seller for every buyer. Traders, therefore, need never worry about who was originally on the other side of their transaction.

Another function of the Clearing House is to collect and monitor performance bonds. Initial performance bonds are good faith deposits of sufficient funds from both buyers and sellers to cover adverse day-to-day price movements. At the close of each day, each futures position is revalued at the contract's settlement, or closing price, and the net gain or loss from the previous day's close is calculated. Losses are taken from the performance bond account of the “losing” party and credited to the performance bond account of the “profiting” party. If an account balance falls below a specific maintenance level, the account holder is required to deposit more funds to bring it back up to the original level. In this way, a minimum balance is always maintained to guarantee against the next day's possible losses. (More on performance bonds in Unit 12.)

Key Points

- 1. Commodity exchanges provide the location and the rules for trading to take place.**
- 2. The Clearing House of the exchange acts as a seller to every buyer and a buyer to every seller. It acts as the central depository requiring good-faith deposits (performance bonds) that act to guarantee contract performance by all parties.**
- 3. Everyone who trades has to have an account with a brokerage firm.**
- 4. Hedgers transfer risk to speculators, who take on risk in pursuit of a profit.**

The brokerage firm

A brokerage firm places orders to buy and sell futures or options contracts for its customers—companies and individuals. Everyone who trades has to have an account with a brokerage firm. The brokerage firm conducting customer trades with the CME is either a clearing member of the CME or a firm registered with a clearing member. All trades are settled through clearing firms, who interact through the Exchange's Clearing House.

The brokerage firm places orders for customers, collects performance bond monies, provides basic accounting records, disseminates market information and counsels customers in futures and options trading strategies. These firms charge a commission on the transactions.

Traders

The traders are members of the Exchange. They buy and sell contracts on the floor of the Exchange via *open outcry*—a form of public auction. This means that all trading is done publicly so each trader has a fair chance to buy and sell.

One class of traders are *private speculators* called “locals,” such as the scalper who tries to make a living by buying and then quickly selling, or selling and then quickly buying, hoping for more profits than losses at the end of the day. Other locals are the *day trader*, who buys and sells throughout the day, closing his position before the end of trading; and the *position trader*, who takes a relatively large position in the market and may hold his position for a day or longer.

The second class of trader is the *floor broker* who acts as an agent for customers who are individuals and companies. The floor broker is paid a fee for executing customer orders.

Speculators

Speculators are people or firms who try to make money by buying and selling futures and options. They speculate that prices will change to their advantage. They don't intend to buy or sell the actual commodities. Speculators take on market risk and provide liquidity.

Hedgers

People or firms who use futures and/or options as a substitute for buying or selling the actual commodities are called hedgers. They buy or sell contracts to offset the risk of changing prices in the cash markets. Hedgers transfer risk to speculators.

UNIT 4 The Development of Contract Specifications

How are futures contract specifications determined?

Much research is done before a futures contract is introduced, or an existing one is modified, to ensure that the contract will coincide with current industry practices and norms. Industry experts and contract users are consulted, along with academic experts and other experts like government graders.

Because the terms and conditions of a futures contract are set to encompass the mainstream of the commodity in the marketplace, *convergence* between futures prices and major cash market values can readily occur. That's because sellers of futures can easily find product to deliver when futures prices are high relative to cash prices, and buyers of futures can easily find an outlet for the product they might receive on delivery, making them comfortable to "stand for delivery" when futures prices are low relative to cash prices. All that makes futures prices reflective of the main cash markets. A stable and predictable *basis* (cash – futures difference, covered in Unit 5) for most hedgers results, so they find it conducive to use the contract. And that means few deliveries are needed to achieve convergence—just the *possibility* of delivery is usually enough.

Cash market practices and norms change over time, so the futures contract terms need to keep pace. The process of altering futures contract specifications is lengthy because of separate studies and the required approvals by the Exchange and later by the CFTC. This process can easily last a year or more. Once a change that has an effect on prices has obtained final approval by the CFTC, it can only be implemented on contract months yet to be listed—to avoid changing the rules in the middle of the game. So, a wait of another year or so is normal—for a total of about two years from the beginning of the process until a change is operational.

How does a cash settlement work?

The CME Feeder Cattle and Lean Hog contracts represent a real innovation in the specification of contract terms. Instead of relying on physical delivery to achieve convergence, these contracts employ a device called *cash settlement*.

In the cash settlement procedure, all long contracts that remain outstanding after the last day of trading are automatically offset by the CME Clearing House against all remaining short contracts at a price set equal to the *CME Composite Weighted Average Price for feeder steers* and to the *CME Lean Hog Index™ for lean hogs*. All the contracts are thus canceled and, via the normal performance bond system, money moves from losing accounts to profiting accounts, based on the final one-day price change—hence the term cash settlement. It's as if all the remaining contracts were simply offset by open outcry on the last day of trading, and all at the value of the CME Composite Weighted Average Price or the CME Lean Hog Index.

Key Points

1. **Futures contract specifications are developed to reflect industry standards.**
2. **Futures contract specifications change over time to reflect changing industry standards.**
3. **Know how your livestock compare to the specifications of the CME contracts.**

The CME Composite Weighted Average Price for feeder steers is calculated by the Chicago Mercantile Exchange from the United States Department of Agriculture (USDA) data. The data and the formula used to calculate the price are made available to the public. The CME Composite Weighted Average Price includes auction, direct and video sales of 700-799 pound feeder steers in 12 states over the previous seven calendar days. A price is calculated daily, but is used for cash settlement only eight times a year—on the last day of trading of each contract month.

The CME Lean Hog Index™ is a two-day weighted average of lean hog values collected from the Western Corn Belt, Eastern Corn Belt and Mid-South regions. The data is collected by the U.S. Department of Agriculture (USDA). The Index represents the most active trade in "lean-value" or "grade and yield" hogs.

The USDA supplies the CME with the following data every CME business day:

- Total number of hogs sold in all 3 regions,
- Average hog carcass weight,*
- Average base price equivalent to the CME Lean Hog contract specifications.*

To calculate the Index, the CME first multiplies the number of hogs sold times the average carcass weight to determine the total pounds of hogs sold. Then, the CME multiplies all three USDA figures (volume x weight x cost) to determine the total value in cents.

To get the CME Lean Hog Index™ value, the Exchange adds two consecutive daily total values (today's and the previous day's), then divides this number by the sum of the two days' poundage. This results in a two-day weighted index of lean hog values quoted in cents per pound.

*Volume weighted across all 3 regions

How do you obtain futures contract specifications?

You may call the CME for current contract specifications and trading highlights (Call 312-930-8210 and ask for *Facts* brochures). Users who want the complete *futures contract specifications* for full delivery procedures or discounts for various quality, weight, or locational substitutions may call the CME Clearing House at 312-930-3170.

UNIT 5 The Importance of Basis

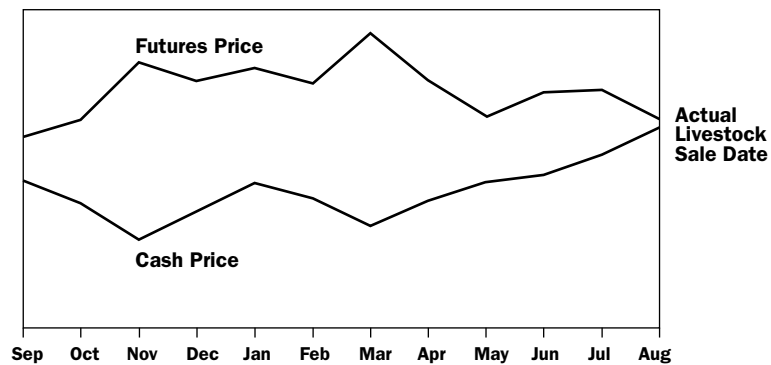
What is basis?

The relationship of the local cash market price and the futures price at marketing time is called basis. Knowing the likely basis means you can translate an available futures price for deferred delivery into an expected cash price that will result from a hedge. The basis is calculated by subtracting the price of the appropriate futures contract from the local cash market price.

BASIS = CASH PRICE – FUTURES PRICE (*When livestock are marketed*)

For example, if the cash price for lean hogs is \$58.00/cwt and the futures price is \$60.00/cwt, then the basis is $\$58.00 - \$60.00 = -\$2.00$, or $\$2.00$ under. With a cash price of \$59.50 and a futures price of \$58.50, the basis is $\$59.50 - \$58.50 = \$1.00$, or $\$1.00$ over.

Basis: The Relationship Between Cash and Futures Prices



Key Points

- 1. Basis is the cash market price minus the futures price at the completion of production.**
- 2. For the short hedger, the more positive (stronger) the basis, the higher the price received for livestock.**
- 3. For the long hedger, the more negative (weaker) the basis, the lower the price paid for livestock.**
- 4. Knowing the expected basis enables you to translate a futures price into an expected local cash price, compare that to your expected breakeven and decide whether or not to hedge.**

Why is basis important?

As a hedger, you want to lock in a favorable forward price. You use your knowledge of the expected basis to translate a given futures price (for a deferred delivery period corresponding to the expected market period for your livestock) into a likely cash price at that time. If it is, you establish a futures position as a hedge until the livestock actually move to market, your total price risk is reduced to the amount by which the *actual basis* differs from the *expected basis*.

The short and long hedge examples presented in Units 6 through 9 will show you how important basis is to the price you receive or pay for livestock. You will need to forecast what the basis will be at the time you offset the hedge and sell or purchase livestock in the cash market.

For the short hedger, the more positive (stronger) the basis when the hedge is offset, the greater the actual price received for livestock. For the long hedger, the more negative (weaker) the basis when the hedge is offset, the lower the actual price paid for livestock.

Basis and the Hedger

	Short Hedger	Long Hedger
Stronger Basis	Higher price received	Higher price paid
Weaker Basis	Lower price received	Lower price paid

How does basis differ between cash settled contracts and deliverable contracts?

Both the Lean Hog and Feeder Cattle futures contracts are settled in cash, not livestock. That means that if a buyer or seller does not offset their position prior to the expiration of these contracts, they will be settled in cash to the current index/weighted average price for that commodity. Positions can be held until expiration without the worry of delivery. Because the futures price converges to the cash index on the day following the expiration of the futures contract, perfect convergence occurs. Producers still have to compare the quality of their own livestock and their local market conditions to the CME contract specifications, to determine their own basis.

The CME Live Cattle contract is a deliverable contract. Cattle meeting contract specifications can be delivered to any one of the several stockyard locations, or, at the request of the buyer, directly to the packing house for slaughter on a grade and yield basis. The delivery costs for the cattle include transportation and marketing costs such as commissions, yardage and weight shrinkage.

The possibility of delivery on the futures contract generally causes the futures price during the delivery month to align with the cash price at the futures delivery locations. Basis differs from one location to another. Depending on the circumstance of the local market and its distance and direction from the futures delivery points, the basis may be consistently positive (over) or negative (under). The quality of the cattle delivered in relation to the par specifications also can vary your basis.

Study Questions

1. If the cash price for feeder cattle is \$80.00/cwt and the nearby futures price is \$82.00/cwt, the basis is:
A \$2 over
B \$2 under
C \$80 under
2. If the basis is \$1.00 over and the local cash price for hogs is \$60.00/cwt, the nearby futures price is:
A \$59.00/cwt
B \$60.00/cwt
C \$61.00/cwt
3. A stronger basis means a basis that is:
A Zero
B More negative
C More positive
4. For the long hedger, basis is the difference between the cash price paid for feeder cattle and the:
A Price at which futures were bought
B Price at which futures were sold back
C Neither A nor B
5. Which of the following is NOT true about basis:
A Basis varies from location to location
B Basis is always positive
C Basis has a seasonal pattern

Answers

1. **B** Cash price minus futures equals basis.
 $\$80.00 - \$82.00 = -\$2.00$, or \$2.00 under.
2. **A** Cash price minus basis equals futures.
 $\$60.00 - \$1.00 = -\$59.00$
3. **C** A stronger basis is more positive.
4. **B** Basis is the difference between the cash price paid for feeder cattle and the futures price at which the futures were sold back.
5. **B** Basis can be negative or positive.

What is your local basis?

The best way to predict your local basis is to compile a history of it yourself. You could, for example, keep a record of local cash prices for the months you normally sell livestock and compare that price to the current corresponding futures price, the nearby contract. By doing this for several years and averaging the results, you will have developed a valuable history of basis information that localizes the futures market to your own livestock market. If local cash market conditions change—if local packing plants open or close, for instance, then historical basis averages may need to be adjusted accordingly.

There are, of course, ways to find out your average historical basis without having to record it for several years. Check with your county extension office, your local hedge broker and the Chicago Mercantile Exchange to see if they have historical basis information for your location and type of livestock. Market advisors and lenders may also provide it.

You can even glean a basis estimate from available cash forward contracts and/or basis contracts. Keep in mind that operations that offer such forward contracts may estimate the basis *conservatively*.

Finding Local Basis Information

- Compile it yourself over several years
- County extension office
- Your local broker, lender, market advisory service
- Compare cash forward contract prices and basis contracts to futures prices for like delivery periods
- The Chicago Mercantile Exchange Commodity Marketing Department (312) 930-4597

UNIT 6 The Short Hedge

How does the short hedge work?

If you are feeding cattle or hogs for the market, you can use a short hedge to offset the risk of prices falling by the time you're ready to sell. First, you sell futures contracts to cover the livestock you plan to market. When the livestock are ready for market, you buy back the futures contract and sell in the cash market simultaneously. The short hedge allows you to lock in a price for the cattle or hogs to the extent that the basis turns out as expected.



Example – Selling Live Cattle Futures

Suppose you plan to have 40 head of steers ready for the cash market in October. It's now April, and you are uncertain about the outlook for cattle prices. The October futures price is \$70.70/cwt, and you expect the basis to be \$2.00 under. You sell an October live cattle futures contract @ \$70.70/cwt.

	Cash Market	Futures	Basis
April	Expected 68.70	Sell Oct 70.70	Expected -2.00

Key Points

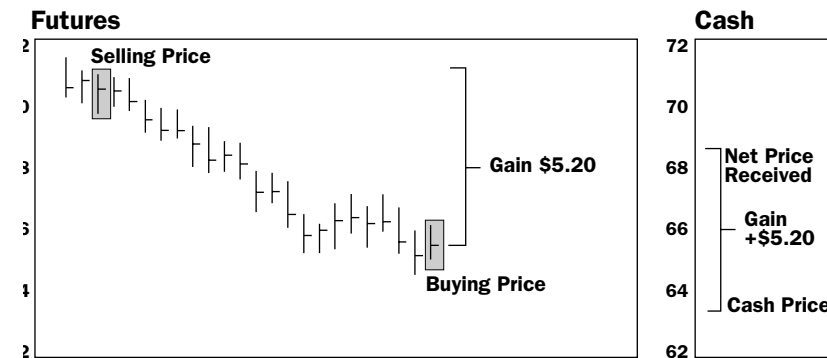
- The short hedge protects the livestock seller against falling prices.**
- Selling futures contracts allows you to lock in a sale price for your livestock, to the extent that basis turns out as expected.**
- You complete the short hedge by simultaneously buying back the futures contracts and selling the livestock in the cash market.**
- If prices fall, the lower cash price is offset by a gain in the futures market.**
- If prices rise, the loss in the futures market is offset by a higher cash market price.**
- It's the realized basis that determines how advantageous the hedge results are.**

What happens if cattle prices fall?

By October, the futures price has fallen to \$65.50/cwt, and the cash price is \$63.50/cwt. The basis turned out to be -\$2.00 as expected. You buy back the futures contract and realize a gain of \$5.20/cwt (\$70.70 - \$65.50). Then, you sell the cattle in the cash market at \$63.50/cwt. The net price you receive is the cash price of \$63.50 plus the \$5.20 futures gain, or \$68.70/cwt.

	Cash Market	Futures	Basis
April	Expected 68.70	Sell Oct 70.70	Expected -2.00
October	Sell 63.50	Buy back 65.50	Actual -2.00
		5.20	
	Cash price	+ futures gain	= net price received
	\$ 63.50	\$5.20	\$68.70/cwt (as expected)

The lower price in the cash market is offset by the gain you realize in the futures market.



Short Hedge Calculations

Determining the Futures Gain or Loss

$$\begin{array}{r} \text{Futures Selling Price} \\ - \text{Futures Buying Price} \\ \hline \text{Futures Gain/Loss} \end{array}$$

Determining the Net Price Received

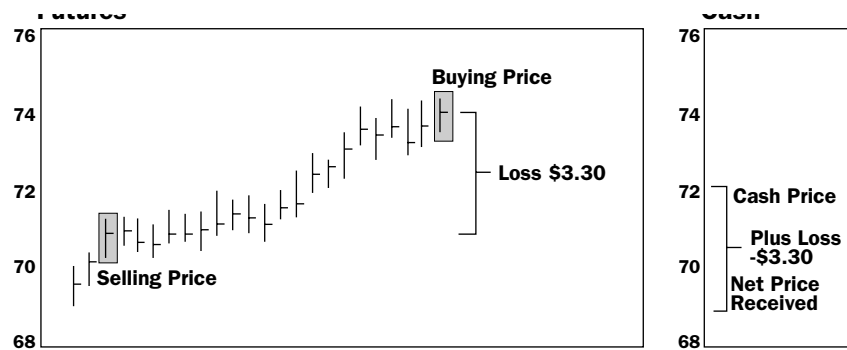
$$\begin{array}{r} \text{Cash Price} \\ + \text{Futures Gain/Loss} \\ \hline \text{Net Price Received} \end{array}$$

What happens if cattle prices rise?

Suppose the cash price in October turns out to be \$72.00/cwt, and the October futures price turns out to be \$74.00/cwt. Again, the basis is under \$2.00 as expected. You buy back the futures contract at \$74.00/cwt and experience a loss of \$3.30/cwt (\$70.70 – \$74.00). Then you sell the cattle in the cash market at \$72.00/cwt. This time the net price you receive is the cash price of \$72.00 plus – \$3.30, the loss in the market, or \$68.70/cwt.

	Cash Market		Futures		Basis
April	Expected	68.70	Sell Oct	70.70	Expected –2.00
October	Sell	72.00	Buy back	74.00	Actual –2.00
					–3.30
	Cash price	+	futures loss	=	net price received
	\$72.00		–\$3.30		\$68.70/cwt (as expected)

The loss you experience in the futures market is offset by the higher price in the cash market. The net price you receive is the same as the previous example.



What if the basis is stronger?

Notice that the difference between the price at which you sold futures and the net price you received equaled the actual basis. The actual basis used in the previous example was \$2.00 under. In each case, the net price received was the futures selling price of \$70.70 plus – \$2.00, or \$68.70/cwt.

But, suppose in October the futures price is \$65.50/cwt and the cash price is \$64.00/cwt, so the basis turns out to be \$1.50 under. The net price you receive is the cash price of \$64.00 plus the futures gain of \$5.20, or \$69.20/cwt. Comparing this example to the two others, the 50-cent stronger basis resulted in a 50-cent improvement in net price received.

	Cash Market		Futures		Basis
April	Expected	68.70	Sell Oct	70.70	Expected –2.00
October	Sell	64.00	Buy back	65.50	Actual –1.50
					5.20
	Cash price	+	futures gain	=	net price received
	\$64.00		\$5.20		\$69.20/cwt (\$.50 higher than expected)

Study Questions

- The first step in executing a short hedge is to:
 - Purchase a futures contract
 - Sell a futures contract
 - Buy back a futures contract
- When prices fall, the short hedger can offset the lower cash price with:
 - A gain in the futures transaction
 - A loss in the futures transaction
 - A gain in basis
- Once you sell a futures contract at a certain price, you will:
 - Receive that price plus the actual basis if the market goes higher.
 - Receive that price plus the actual basis if the market goes lower.
 - Both A and B
- You sold lean hog futures at \$59.50/cwt and brought them back at \$54.00/cwt. You experienced a:
 - Loss of \$5.50/cwt
 - Gain of \$5.50/cwt
- You sold cattle futures at \$69.00/cwt, bought them back at \$66.00/cwt, and sold in the cash market at \$65.00/cwt. The net price you received is:
 - \$65.00/cwt
 - \$66.00/cwt
 - \$68.00/cwt

Answers

- B** You begin a short hedge by selling a futures contract.
- A** The lower cash price is offset by a gain in the futures market, realized when the hedger buys back the futures contract at a lower price.
- C** Once you sell a futures contract, whether the market moves up or down, the net price you receive will be the selling price plus the actual basis at the time you buy back the contract.
- B** \$59.50 futures selling price
– \$54.00 futures buying price
= \$ 5.50 futures gain
- C** \$69.00 futures selling price
– \$66.00 futures buying price
= \$ 3.00 futures gain
+ \$65.00 cash price
= \$68.00 net price received

UNIT 7 Locking in Selling Price—Selling Futures Contracts

If you decide to hedge your livestock, you need to be sure that you can handle the required performance bond deposit for the futures contract and be ready to meet any performance bond calls that may occur. You may need to speak to your lender about financing the performance bond deposit and potential performance bond calls. You also want to keep in mind that the broker will require a commission for each contract sold and bought back.

Example – Locking in a Selling Price for Hogs

Suppose it's June, and you expect to have 220 hogs ready for market in October. As you look at the market, you're fairly certain that prices are heading down, and you would like to lock in a price for October delivery now. You would need to sell one October lean hog futures contract to cover the 220 hogs. You make arrangements with your lender for a performance bond deposit of \$800 (the requirement at that time) and funds for possible performance bond calls.

How do you figure an expected selling price?

The October futures price is \$62.00/cwt, and the local cash forward price for October hogs is \$58.50/cwt, or \$3.50 under. Based on your experience, you can expect the basis to be \$2.00 under in October. Using this information, you can figure an expected selling price. Add the October futures price and the expected basis—futures price of \$62.00/cwt plus -\$2.00 basis and you get an expected selling price of \$60.00/cwt.

Futures Price	\$62.00/cwt
Expected Basis	+ -\$ 2.00/cwt
Expected selling price	\$60.00/cwt

The \$60.00/cwt price would lock in a profit for your business, so you decide to sell one October lean hog futures contract.

What if the actual basis is \$2.00 under as expected?

In October, futures prices have fallen to \$59.40/cwt and cash prices to \$57.40/cwt. The basis is \$2.00 under—just as you expected. You buy back the lean hog futures contract at \$59.40 and experience a gain of \$2.60 (\$62.00 - \$59.40). Then you sell the hogs in the cash market at \$57.40/cwt. The total price you received is \$60.00 (\$57.40 + \$2.60).

Cash Market	Futures	Basis
June	Expected 60.00	Sell Oct 62.00
October	Sell 57.40	Buy back 59.40
		2.60
	Cash price +	futures gain = net price received
	\$57.40	\$2.60 \$60.00/cwt (as expected)

Key Points

1. When you sell futures contracts, you will have to make a performance bond deposit.
2. Until you offset the futures contracts you sold, you may have to meet performance bond calls.
3. Your broker will charge you a commission for each contract sold and bought back.
4. With the short hedge, the expected selling price is the futures price plus the anticipated basis.

Short Hedge Calculation

Determining an Expected Selling Price
 Futures Selling Price
 + Expected Basis
 Expected Selling Price

If the basis is under, it is a negative number. For example, \$2.00 under is -\$2.00. Adding a negative basis is like subtracting.

NOTE: Calculations in this unit are based on the 40,000 pound (400 cwt) lean hog contract.

What are the results?

Looking at the overall picture, you've done \$1,040 better by hedging (\$2.60 futures gain x 400 cwt). You pay the broker the commission of, say, \$75 for the contract sold and bought back, so your actual gain is \$965. A total of \$800 has been tied up hedging your account since June, but that money is now returned to you (or your lender).

What if the basis is weaker than expected?

Suppose the futures price in October is \$55.00/cwt, and the cash price is \$52.75/cwt. Now the basis is \$2.25 under which is weaker than you expected. You buy back the futures contracts at \$55.00 and realize a gain of \$7.00 (\$62.00 - \$55.00). You sell your hogs in the cash market at \$52.75/cwt. The net price you receive is \$59.75 (\$52.75 + \$7.00). *The 25-cent weaker basis resulted in a 25-cent lower net price than your expected price.*

Cash Market	Futures	Basis
June	Expected 60.00	Sell Oct 62.00
October	Sell 52.75	Buy back 55.00
		7.00
	Cash price +	futures gain = net price paid
	\$52.75	\$7.00 \$59.75/cwt (\$25 lower than expected)

What if the basis is stronger than expected?

Suppose the futures price in October is \$63.00/cwt, and the cash price is \$61.25/cwt. So, the basis is \$1.75 under, which is *stronger* than you expected. You buy back the futures contracts at \$63.00 with a loss of \$1.00 (\$62.00 - \$63.00). You sell your hogs in the cash market at \$61.25/cwt. The net price you receive is \$60.25 (\$61.25 + -\$1.00). *The 25-cent stronger basis resulted in a 25-cent higher net price than your expected price.*

Cash Market	Futures	Basis
June	Expected 60.00	Sell Oct 62.00
October	Sell 61.25	Buy back 63.00
		7.00
	Cash price +	futures gain = net price received
	\$61.25	-\$1.00 \$60.25/cwt (\$25 higher than expected)

Note in the last two examples it didn't matter if prices rose or fell. The difference in the net price received was the variation in basis. You can see how important it is to forecast the basis well when figuring your expected selling price.

Study Questions

1. If the performance bond deposit is \$800 per lean hog contract and you sell four contracts, the total deposit is:
A \$800
B \$3,200
C \$6,400
2. The cash forward price offered for hogs will generally reflect a basis that is:
A About the same as your expected basis
B Stronger than your expected basis
C Weaker than your expected basis
3. If your live cattle futures selling price is \$70.00 and you expect the basis to be -\$1.50, your expected selling price is:
A \$68.50/cwt
B \$70.00/cwt
C \$81.50/cwt
4. If the actual basis is \$1.00 weaker than you expected, your net price received is:
A \$1.00 higher than your expected price
B \$1.00 lower than your expected price
C The same as your expected price
5. You sold live cattle futures at \$70.00, bought them back at \$72.00, and sold in the cash market at \$67.00/cwt. The net price you received is:
A \$65.00/cwt
B \$69.00/cwt
C \$70.00/cwt

Answers

1. **B** You deposit \$800 for each of the four contracts, or \$3,200 total.
2. **C** The cash forward price offered will generally reflect a weaker basis than the basis you can expect.
3. **A** \$70.00 futures price - \$1.50 = \$68.50 expected selling price
4. **B** If the basis is weaker than you expected, the net price would be lower than your target selling price.
5. **A** \$70.00 futures selling price - \$72.00 futures buying price = -\$2.00 futures gain + \$67.00 cash price = \$65.00 net price received

UNIT 8 The Long Hedge

How does a long hedge work?

If you are planning a purchase of feeder cattle in the future, you will be at a disadvantage if prices increase. You can use a long hedge to control that risk. First, you buy futures contracts to cover the cash livestock you plan to buy. When you are ready to purchase the feeder cattle, you sell back the futures contract and buy in the cash market simultaneously. The long hedge allows you to lock in a purchase price for the feeder cattle.



Example – Buying Feeder Cattle Futures

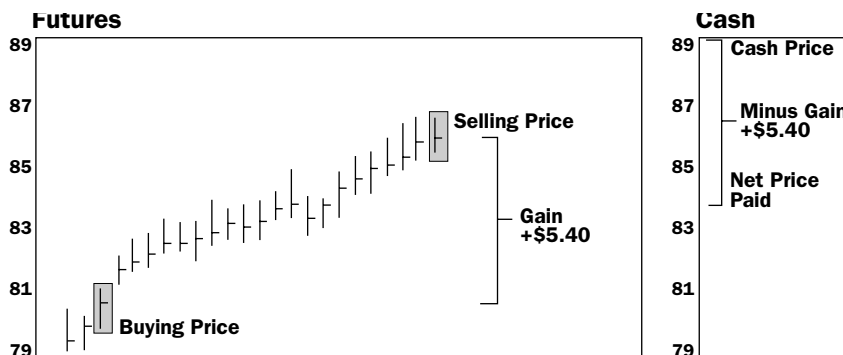
Suppose you plan to buy 70 head of yearling steers to place in the feedlot in March. It's now December, and you are uncertain about the outlook for feeder cattle prices. The March futures price is \$80.60/cwt, and you'd like to lock in a price now. So, you buy a March feeder cattle futures contract (beginning with the January 1993 contract, one feeder cattle futures contract = 50,000 pounds), expecting the basis to be \$3.00 over.

	Cash Market	Futures	Basis
December	Expected 83.60	Buy Mar 80.60	Expected +3.00

What happens if feeder cattle prices rise?

In March, the futures price has gone up to \$86.00/cwt, and the cash price is \$89.00/cwt. So, the basis is \$3.00 over. You sell back the futures contract and realize a gain of \$5.40/cwt (\$86.00 – \$80.60). Then, you buy the yearling steers in the cash market at \$89.00/cwt. The net price you paid is the cash price of \$89.00 minus the \$5.40 futures gain, or \$83.60.

	Cash Market	Futures	Basis
December	Expected 83.60	Buy Mar 80.60	Expected +3.00
March	Buy 89.00	Sell back <u>86.00</u> 5.40	Actual +3.00
	Cash price -	futures gain =	net price received
	\$89.00	\$5.40	\$83.60/cwt (as expected)



Key Points

- The long hedge protects the livestock buyer against rising prices.**
- Buying futures contracts allows you to lock in a purchase price for your livestock.**
- You complete the long hedge by selling back the futures contracts and buying the livestock in the cash market simultaneously.**
- If prices rise, the higher cash purchase price is offset by a gain in the futures transaction.**
- If prices fall, the loss in the futures market is offset by a lower cash market purchase price.**
- With a long hedge, it's the realized basis that determines how advantageous the hedge results are.**

Long Hedge Calculations:

Determining the Futures Gain or Loss

$$\begin{array}{r} \text{Futures Selling Price} \\ - \text{Futures Buying Price} \\ \hline \text{Futures Gain/Loss} \end{array}$$

Determining the Net Price Paid

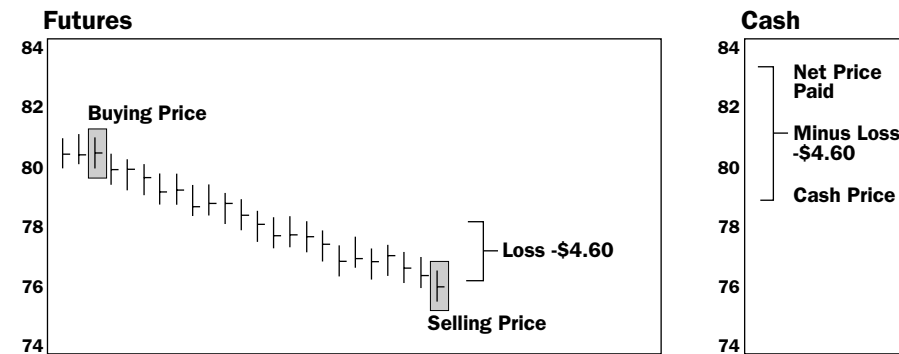
$$\begin{array}{r} \text{Cash Price} \\ - \text{Futures Gain/Loss} \\ \hline \text{Net Price Paid} \end{array}$$

What happens if feeder cattle prices fall?

Suppose the March cash price is \$79.00/cwt, and the futures price is now \$76.00/cwt. The basis is \$3.00 over. You sell back the futures contract at \$76.00/cwt and experience a loss of \$1.60 (\$77.60 – \$76.00). Then you buy the yearling steers in the cash market at \$79.00/cwt. This time the net price paid is the cash price of \$79.00 minus –\$1.60, the loss in the futures market, or \$80.60/cwt.

	Cash Market	Futures	Basis
December	Expected 83.60	Buy Mar 77.60	Expected +3.00
March	Buy 79.00	Sell back <u>76.00</u> – 1.60	Actual +3.00
	Cash price –	futures loss =	net price received
	\$79.00	– \$1.60	\$80.60/cwt (as expected)

The loss you experience in the futures market is offset by the lower price in the cash market. The net price you paid is the same as in the previous example.



What if the basis is stronger?

Notice that the difference between the price at which you bought futures and the net price you paid equaled the basis. The actual basis used the examples above was \$3.00 over. And, in each case, the net price paid was the futures price of \$77.60, plus \$3.00, or \$80.60/cwt.

But, suppose in March the futures price is \$83.00/cwt, and the cash price is \$86.50/cwt. So, the basis is \$3.50 over. The net price you would have paid is the cash price of \$86.50 minus the futures gain of \$5.40, or \$81.10/cwt. Comparing this example to the two others, a 50-cent stronger basis resulted in a 50-cent increase in net price paid.

	Cash Market	Futures	Basis
December	Expected 80.60	Buy Mar 77.60	Expected +3.00
March	Buy 86.50	Sell back <u>83.00</u> 5.40	Actual +3.50
	Cash price –	futures gain =	net price paid
	\$86.50	\$5.40	\$81.10/cwt (\$.50 higher than expected)

Study Questions

- The long hedger completes the hedge by:
 - Buying back the futures contract and buying in the cash market
 - Selling back the futures contract and buying in the cash market
 - Both A and B
- When prices fall, the long hedger offsets the loss in the futures market with:
 - A narrower basis
 - A higher cash price
 - A lower cash price
- Which formula is NOT how to calculate the net price paid after a long hedge?
 - Cash price + futures gain/loss
 - Cash price – futures gain/loss
 - Futures buying price + actual basis
- You bought feeder cattle futures at \$77.00/cwt and sold them back at \$76.00/cwt. You experienced a:
 - Loss of \$1.00/cwt
 - Gain of \$1.00/cwt
 - Gain of \$76.00/cwt
- You bought feeder cattle futures at \$75.00/cwt, sold them back at \$77.00/cwt, and bought in the cash market at \$76.00/cwt. The net price you paid is:
 - \$78.00/cwt
 - \$76.00/cwt
 - \$74.00/cwt

Answers

- B** You complete a long hedge by selling back futures contracts and buying in the cash market.
- C** The loss in the futures market is offset by a lower cash purchase price.
- A** The net price paid can be calculated by adding the buying price to the actual basis or by subtracting the futures gain or loss from the cash price.
- A** \$76.00 futures selling price – \$77.00 futures buying price = \$ 1.00 futures loss
- A** \$77.00 futures selling price – \$75.00 futures buying price = \$ 2.00 futures gain + \$76.00 cash price – \$ 2.00 futures gain = \$74.00 net price paid

UNIT 9 Locking in a Purchase Price—Buying Futures Contracts

With the long hedge as with the short hedge, you'll be required to post a performance bond for each futures contract you buy. You also need to be prepared to meet any subsequent requirements that may arise. You may be using your own money for the required performance bond or arranging a hedging line of credit with your lender. You'll also need to pay a commission to your broker for each contract traded.

Example – Locking in a Purchase Price for Feeder Cattle

Suppose it's October, and you plan to purchase 135 head of feeder steers to place in the feedlot in January. All indications are that prices are heading up, and you'd like to lock in a purchase price for January. You would need to buy two feeder cattle futures contracts to cover the purchase of 135 head. The performance bond deposit happens to be \$700 per contract, which your cash flow can handle.

How do you figure an expected purchase price?

The January futures price is \$78.00/cwt. Based on historical basis data in your area, you expect the basis in January to be \$2.20 under. Using this information, you can calculate an expected purchase price. Add the January futures price and the expected basis (futures price of \$78.00/cwt plus -\$2.20 basis) and you get an expected purchase price of \$75.80.

Futures Price	\$78.00/cwt
Expected Basis	+ -\$ 2.20/cwt
Expected purchase price	\$75.80/cwt

The \$75.80/cwt price would lock in an agreeable price for you, so you decide to buy two January feeder cattle futures contracts.

What if the actual basis turns out as expected?

In January, futures prices have risen to \$80.90/cwt and cash prices to \$78.70/cwt. The basis is \$2.20 under—as you expected it to be. You sell back the two feeder cattle futures contracts at \$80.90 and realize a gain of \$2.90 (\$80.90 - \$78.00). Then you buy the feeder steers in the cash market at \$78.70/cwt. The net price you pay is \$75.80 (\$78.70 - \$2.90).

	Cash Market	Futures	Basis
October	Expected 75.80	Buy Jan 78.00	Expected -2.20
January	Buy 78.70	Sell back <u>80.90</u>	Actual -2.20
			2.90
	Cash price -	futures gain =	net price paid
	\$78.70	\$2.90	\$75.80/cwt (as expected)

Key Points

1. When you buy futures contracts, you will have to make a performance bond deposit.
2. Until you offset the futures contracts you bought, you may have to meet performance bond calls.
3. Your broker will charge you a commission for each contract bought and sold back.
4. With the long hedge, the expected purchase price is the futures price plus the expected basis.

Long Hedge Calculation

Determining the Expected Purchase Price	
Futures Buying Price	
+ Expected Basis	
Expected Purchase Price	

What are the results?

Looking at the overall picture, you've paid \$2,900 less than the local cash price by hedging (\$2.90 futures gain x 1,000 cwt). You pay your broker the commission of, say, \$150 (\$75 for each of the two contracts). Your actual improvement on the cash price is \$2,750 (\$2,900 - \$150). When you offset your futures position, the funds deposited in your brokerage account are again available to you.

What if the basis is weaker than expected?

Suppose the futures price in January is \$84.00/cwt, and the cash price is \$81.00/cwt. The basis is \$3.00 under—80 cents weaker than expected. You sell back the futures contracts at \$84.00 and realize a gain of \$6.00/cwt (\$84.00 - \$78.00). You buy the feeder steers in the cash market at \$81.00/cwt. The net price you pay is \$75.00 (\$81.00 - \$6.00). *The 80-cent weaker basis resulted in an 80-cent lower net purchase price than your expected price.*

	Cash Market	Futures	Basis
October	Expected 75.80	Buy Jan 78.00	Expected -2.20
January	Buy 81.00	Sell back <u>84.00</u>	Actual -3.00
			6.00
	Cash price -	futures gain =	net price paid
	\$81.00 -	\$6.00	\$75.00/cwt (\$.80 lower than expected)

What if the basis is stronger than expected?

Suppose the futures price in January is \$72.00/cwt, and the cash price is \$71.00/cwt. So, the basis is \$1.00 under, which is stronger than you expected. You sell back the futures contracts at \$72.00 with a loss of \$6.00/cwt (\$72.00 - \$78.00). You buy the feeder steers in the cash market at \$71.00. The net price you receive is \$77.00 (\$71.00 - -\$6.00). *The \$1.20 stronger basis resulted in a \$1.20 higher net purchase price than you expected.*

	Cash Market	Futures	Basis
October	Expected 60.00	Buy Jan 78.00	Expected -2.20
January	Buy 71.00	Sell back <u>72.00</u>	Actual -1.00
			6.00
	Cash price -	futures gain =	net price received
	\$71.00 -	-\$6.00	\$77.00/cwt (\$1.20 higher than expected)

Note in the last two examples it didn't matter if prices rose or fell. The difference in the net price received was the variation in basis. You can see how important it is to forecast the basis well when figuring your expected selling price.

Study Questions

1. A hedging line of credit may be arranged with your lender to:
 - A Pay in full for the futures you buy
 - B Make the performance bond deposit and meet performance bond calls
 - C Both A and B
2. Your broker will charge you commission on your long-hedge futures trades:
 - A When you make a performance bond deposit
 - B When you buy a futures contract
 - C When you sell back a futures contract
3. If the feeder cattle futures price is \$86.00/cwt and you expect the basis to be \$1.75 under, your expected purchase price is
 - A \$83.75/cwt
 - B \$84.25/cwt
 - C \$87.75/cwt
4. If the actual basis is \$.50 stronger than you expected, your net price paid is:
 - A \$.50 higher than your expected price
 - B \$.50 lower than your expected price
 - C The same as your expected price
5. You paid \$3,000 less than the cash price by hedging. If the commission due to the broker is \$225, the net improvement over the cash price is:
 - A \$3,225
 - B \$3,000
 - C \$2,775

Answers

1. B You don't have to pay in full for the futures contract when you buy it, but you are required to make the performance bond deposit and meet any subsequent requirements. A hedging line of credit can be arranged for this purpose.
2. C The commission is usually charged after your position in the futures market is offset.
3. B \$86.00 futures buying price - \$ 1.75 expected basis = 84.25 expected purchase price
4. A If the basis is stronger than you expected, the net price you would pay would be higher than your expected price.
5. C \$3,000 gain over cash price - \$ 225 commission = \$2,775 net gain over cash price

UNIT 10 Opening a Hedging Account

If you plan to hedge the sale or purchase of livestock, you will be selling and buying futures contracts through a brokerage firm.

What kinds of brokers are there?

There are basically two kinds of brokers—full service brokers and discount brokers. The kind you choose depends on the type of service you want in making your hedging decisions.

What is a full-service broker?

If you want help using market information to make hedging decisions, you may want to have a full-service broker. This type of broker will take the time to understand your situation, will be available for discussion and advice when you call to place an order and may even call you to suggest what your next move should be. The brokerage firm may also send out market information and newsletters, and have telephone hot lines to keep you informed. Commissions with a full-service broker, which usually are paid at the end of a sell-buy (or buy-sell) transaction, depend on level of service and quantity traded. Commissions vary from broker to broker.

What is a discount broker?

If you feel the commission you pay per transaction is the most important criterion for selecting a broker, a discount broker may be right for you. Generally, discount brokers specialize in order execution only. You'd simply call the discount brokerage firm and place your order.

How do you choose a broker?

Suppose you decide to go with a full-service broker. Here are a few hints on how to go about finding the one that's right for you.

1. Talk to other producers and get referrals. Find out which brokers have happy clients. Find out which brokers are considered to be outstanding.
2. Look for brokers who have strong farm orientation, understand hedging and have hedging accounts.
3. Call or visit the brokers you are considering. You want someone who is down to earth, is interested in your operation and pays attention to your goals. You want a relationship that is compatible. Working through important hedging decisions is personal and sometimes emotional, and you want a broker that you can talk to and trust.

Will you use your own money for hedging?

You may choose to use your own money to support your hedging activities. Whether a short hedger or a long hedger, you'll want to be sure that you have enough money to place the required performance bond deposits on the contracts you sell or buy and be able to meet any subsequent requirements.

Key Points

1. **A full-service broker provides market information and advice as well as placing trades for you.**
2. **A discount broker takes orders and places trades for you, and may provide limited services**
3. **Commissions depend on level of service and quantity traded.**
4. **A hedge broker should have hedging experience and be familiar with agriculture.**
5. **Your lender should understand the mechanics of hedging.**

General Services To Look for with a Full-Service Broker.

Market Background

The type of orders to use when entering or exiting the market and awareness of successful market practices.

Information Center

Cash and futures prices and anticipated price movement.

Hedging Strategies

Types of strategies available that are consistent with your cash marketing plans and hedge objectives.

Market Guidance

Monitoring local basis movements, supply and demand factors, market dos and don'ts, monitoring your account in conjunction with your lender.

Hedging Advice

Assistance in the overall planning of your hedge program from your production, break-even, and target prices, to trading.

How do you arrange hedging funds?

Some producers may want to set up a hedging line of credit with a lender. In this case, a security agreement and hedge assignment with the lender will have to be signed—your broker may have to sign the agreement as well. This agreement includes clauses such as:

- the lender agrees to supply funds for hedging only, not speculation;
- hedging profits are applied against your loan balance;
- the lender will receive frequent reports on trading activity;

If you set up a hedging line of credit, be sure that your lender:

- is willing to work with you and your broker in a team effort;
- understands the mechanicals and fundamentals of hedging;
- is willing and able to provide the line of credit for hedging, including possible performance bond calls.

What happens when you open an account with your broker?

You will be required to fill out and sign a number of forms when you open your account with the broker.

1. *Personal information* will be required when you open the account, including annual income, net worth, liquid assets and number of years of experience as a hedger. This information is confidential.
2. The CFTC requires that the broker provide you with *risk disclosure information*. You sign to indicate that you have read and understand it. For futures, you are made aware that you might lose your entire performance bond deposit and performance bond calls. You are warned that if you can't meet a performance bond call, your broker may liquidate your position at a possible loss to you.
3. You will need to sign the *brokerage firm's agreement*, which states what you each agree to. Basically, you give the firm permission to enter trades according to your instructions. You agree to deposit the required performance bond, meet performance bond calls and pay commissions. The brokerage firm agrees to place orders according to your instructions and subject to the rules of the exchanges and CFTC regulations.
4. You also sign a *hedge account designation* which states that all of your transactions will be hedges according to CFTC regulations. The form will list all the commodities for which you may be considered a hedger.

Study Questions

1. A discount broker's commission will be lower than a full-service broker because the discount broker:
A Has more clients
B Provides fewer services
C Is less knowledgeable about hedging
2. If you are an inexperienced hedger, your best choice may be to go with:
A A full-service broker
B A discount broker
C Either A or B
3. Your lender may be asked to meet a performance bond call on your short hedge position when:
A The futures price falls below your selling price
B The futures prices rises above your selling price
C Both A and B
4. The security agreement and hedge assignment with the lender will most likely allow you to use the funds for:
A Hedging and speculating
B Speculating only
C Hedging only
5. When you open an account with a broker, you sign risk disclosure forms because:
A Your lender requires it
B The CFTC requires it
C Your broker requires it

Answers

1. **B** The discount broker provides fewer services, so the commission is lower.
2. **A** The full-service broker will probably provide more assistance to the inexperienced hedger.
3. **B** When the futures prices rises above your selling price, you may have performance bond calls.
4. **C** The lender will most likely want to restrict your activity to hedging only.
5. **B** The CFTC requires that the broker inform you of trading risks.

UNIT 11 Placing Orders with Your Broker

You can choose several different kinds of orders to place through your broker. The four most common are presented here.

The Market Order

An order for the sale or purchase of a futures contract to be filled as soon as possible at the best possible price. For example, you say to your broker, “*Sell four July hog futures contracts at the market.*” His or her floor broker in the CME trading pit will sell the four contracts promptly at the best price that can be obtained. In an active, high-volume market, market orders can usually be executed without substantial price concessions.

The Price Limit Order (Limit Order)

When you place a price order, you are instructing your broker to fill the order at a certain price or better. For example, you say, “*Sell four July hogs at \$60.*” The floor broker in the pit will wait until the futures price is \$60 or above before executing the trade.

The Stop Order

In this case, you instruct your broker to place your order at a certain price level. A sell stop must be *below* the market; a buy stop must be *above* the market. For example, suppose the July lean hog futures price is at \$60, and you say, “*Sell four July hogs at \$59.50 stop.*” This order is not executed unless the market falls to \$59.50 or below, at which point the stop order *becomes a market order* and is executed.

The stop order can be hard to understand. Why not sell at the higher price, instead of allowing prices to fall before selling? Let’s say that July hogs are at \$60. If you placed a price order at \$60, you would sell at that time. If you placed a stop at \$59.50, the order wouldn’t be filled. But suppose the market rises to \$62. *You can replace your stop order* with one at \$61.50. Again, the market rises, this time to \$64. You replace the stop order with one at \$63.50. Finally, the market turns down, and your order is filled at \$63.50 or below—much better than the price order above at \$60.

The objective with a sell stop order (for entering a short-hedge position) is to be unhedged when prices appear to be rising and hedged when they appear to be declining. The objective with the buy stop order (for entering a long-hedge position) is to be unhedged when prices appear to be falling and hedged when they appear to be rising.

The Stop Close Only Order

This is a stop order that is executed only within the last minute of trading, during the close. You say, “*Sell four July hogs at a stop close only of \$59.50,*” where this price is under the futures price at the time you place the order. You want the order to be filled only if the market is going to close at or below \$59.50. The floor broker will wait until the last minute of trading, or less, before filling this order.

Key Points

1. A market order will be filled promptly at the best possible price.
2. A price order to sell is filled at the stated price or above; a price order to buy is filled at the stated price or below.
3. A stop order to sell is placed below the market and is filled at the stated price or below.
4. A stop order to buy is placed above the market and is filled at the stated price or above.
5. A stop close only order is a stop order that is filled during the last minute, or less, of trading.

For the short hedger planning to sell livestock

Taking a short position: Sell 5 June lean hogs
Go short 5 June lean hogs

Offsetting a short position: Buy 5 June lean hogs

For the long hedger planning to sell livestock

Taking a long position: Buy 2 January feeder cattle
Go long 2 January feeder cattle

Offsetting a long position: Sell 2 January feeder cattle

Will orders always be filled?

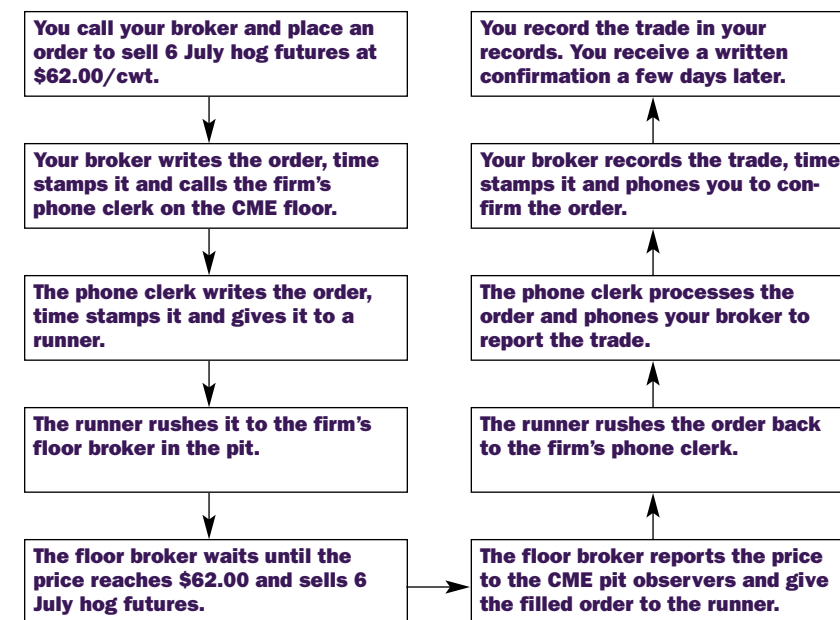
The possibility always exists with price, stop and stop close only order that the order won’t be filled the day you place it, or at all. The market may never penetrate the price you’ve specified in your order.

What’s the proper trading language to use?

When you place an order with your broker, be very careful with the language you use. Saying it wrong can result in situations that are totally unexpected. It’s best to place the order in simple language. Just to be sure, repeat the order to the broker and have the order read back to you. It’s not unheard of for a producer who wants to offset a short hedge position to say “*sell*” when he means “*buy*” and end up with twice as many short contracts.

What happens when an order is placed?

This flow chart shows the movement of an order from the time you place it until you receive confirmation that the trade is completed.



Study Questions

1. If the market is at \$80.25, you can place a stop order to buy May feeder cattle futures:
A Above \$80.25
B Below \$80.25
C At \$80.25
2. Go short three live cattle futures means:
A Buy three contracts
B Buy back three contracts
C Sell three contracts
3. A stop close order is filled only :
A When you say so
B During the first minute of trading
C During the close
4. A price order to sell two lean hog futures at \$59.00 will be filled only:
A If the market reaches \$59.00 or above
B If the market is below \$59.00
C During the close
5. When you place an order, the person who actually makes the trade for you is the brokerage firm’s:
A Runner
B Phone clerk
C Floor broker

Answers

1. A A buy stop is placed above the market. If the market is at \$80.25, your buy stop must be placed above \$80.25.
2. C Go short means to sell futures.
3. C The stop close only order is filled during the close only if the price is reached.
4. A A price order to sell is filled at the stated price or above if the stated price is reached.
5. C The floor broke in the pit actually makes the trade for you.

UNIT 13 Developing a Marketing Plan

Probably the most important step in planning the marketing of your livestock is determining what it costs you to produce a pound of product. How do people know what price they need to retrieve for their product unless they know what it costs them to produce it? A market price is meaningless without knowing your costs.

What are your break-even costs?

One of the best projects you could carry out would be to review your production records for the past three to five years. Keeping accurate records of these costs will assist you in making future projections. Actual production costs are never known until the process is completed. So, it is necessary for decision-making purposes to project, before production begins, what the break-even cost is likely to be. This allows you to find what price is needed to meet your financial goals.

When calculating your production costs, be sure to include both variable and fixed costs. Variable costs are those that can be managed (changed) before or during the production period—feeder purchases, feed costs, death loss, marketing changes, insurance and labor expenses, to name a few. Fixed costs are those that cannot be changed during the production period, such as expenses for buildings and equipment.

There are many services available to help you determine your break-even cost. Farm consulting services, Cooperative Extension Service, your lender and feed company can all assist you.

Key Points

1. **Prices are meaningless unless you know what it costs you to produce a product.**
2. **Price goals should be determined by profit objectives.**
3. **“Breaking even” means different things to different people. What it means to you financially depends on what you include in your break-even costs.**
4. **A marketing plan should be written and include steps that need to be taken to reach your goal.**

Break-even calculation for a typical belt cattle feeding enterprise

(for illustration purposes only)

Cattle purchased in November and Marketed in May

Variable costs

600 lb. steer	\$477.00
Transportation to feedlot	5.28
Corn	72.45
Silage	27.43
Protein	34.43
Hay	9.80
Labor	15.72
Management	7.86
Veterinary	5.32
Interest	26.00
Death loss	4.77
Transportation	2.31
Marketing expenses	3.35
Miscellaneous	10.73

Fixed costs

Power, Equipment, Shelter, Depreciation	24.81
Total Cost	\$727.26

Total break-even/cwt (1,050 lb. steer)	\$69.26
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Source: USDA Livestock and Poultry Situation

What are your financial goals?

A Live Cattle Example

What do you want to accomplish financially? You'll want to recover your break-even costs and make a profit. The amount of profit will depend on your situation, marketing opportunities and your marketing decisions.

After researching your livestock production costs and sales for the previous three to five years, you should have an idea of what goals are realistic for you. If you haven't been forward pricing, perhaps hedging offers you an opportunity to price a greater amount of your production in the higher range of the prices available for the year.

Suppose your break-even is \$69.00/cwt, and you'd like to realize a gain of \$3.00/cwt in your cattle feeding enterprise. You estimate that the local basis at the time you're ready to market the cattle will be \$2.50 under. This means that you'll have to sell futures at \$74.50/cwt to realize your goal.

$$\begin{array}{r}
 \$ 74.50 \text{ Futures price} \\
 + \text{--} \$ 2.50 \text{ Estimated basis} \\
 \hline
 \$72.00 \text{ Target selling price}
 \end{array}$$

You need to ask whether this is a realistic goal. Will you have an opportunity to hedge at \$74.50/cwt to meet your target selling price? Will you be ready to act if this opportunity materializes?

How can you determine what prices are possible?

A Lean Hog Example

When you set your marketing goals, you'll want to be sure that your target is within reach. A quick method of determining what the range of prices might be during your production period is to start with the USDA estimate of the season average price range for livestock, which is released each quarter. Suppose the USDA forecasts the range in the season average cash hog prices to be \$53.00 to \$59.00/cwt. Compare this range to the other forecasts from university studies, advisory services and brokerage firms.

Your marketing objective is to take advantage of the market prices that conform to your profit goals. Futures prices fluctuate in a broad range prior to contract delivery, responding to supply and demand factors that keep changing along the way. You want to be ready for favorable opportunities—prices at the high end of the market expectations that meet or beat your break-even. Suppose recent futures contracts have traded at some point as high as \$4.00/cwt over the top end of the USDA forecast price ranges for the applicable marketing periods. That means futures prices could top \$63.00 between now and your target sale date, that is, \$4.00 higher than the USDA forecast average high of \$59.00/cwt. If they do, you want to be ready.

What is a workable marketing plan?

Suppose that the break-even for your hog operation is \$57.00/cwt, and that your goal is to get a net price for your hogs of \$60.00/cwt to realize a gain of \$3.00/cwt.

A workable approach is to *scale up* your sales beginning at or above your break-even. You can hedge portions of your production at various price levels. If you want to sell cash hogs at no less than \$58.00/cwt and your expected basis is \$1.00 under, then you could hedge, say, 20% of production when the futures price reaches \$59.00/cwt; then hedge 20% more at \$60/cwt.

Sample Hog Marketing Plan

Portion of Production			Target Selling Price (Futures adjusted by basis)	Futures	Factor*
Hedge	20%	at	\$58/cwt	\$59/cwt	11.60
Hedge	20%	at	\$59/cwt	\$60/cwt	11.60
Hedge	20%	at	\$60/cwt	\$61/cwt	11.60
Hedge	20%	at	\$61/cwt	\$62/cwt	11.60
Hedge	20%	at	\$62/cwt	\$63/cwt	11.60
Hedged	100%	at		average price of \$60.00	
Average price			\$60.00/cwt		
Break-even			-\$57.00/cwt		
Return			\$ 3.00/cwt		

*Percent of production hedged times target selling price.

The value of this approach is the discipline of studying your costs—formidable whether you hedge or not—plus the advantages of monitoring the markets. Even if futures prices never get high enough to enable you to complete your marketing plan, you may still wind up hedging a portion above break-even—and that’s better than taking a loss on all your livestock.

What’s more, you’ll likely begin to see the opportunities the options provide: setting a just floor price, for instance, while leaving upside opportunity wide open. And that sets the stage for the companion CME booklet, *Self-Study Guide to Forward Pricing with Livestock Options*.

Study Questions

- An understanding of break-even costs is important to the hedger because:
 - It allows him to learn what price is needed to earn a given level of profit.
 - It allows him to earn a greater profit.
 - Both A and B
- Break-even costs for livestock will fluctuate. This means that:
 - You always need the same price to make the same profit.
 - The price required to earn the same profit will fluctuate.
 - You always need higher prices.
- If break-even for your hog enterprise is \$55.00/cwt and your local basis is estimated to be \$2.00 under, which futures price would bring you a \$1.00/cwt profit?
 - \$56.00/cwt
 - \$57.00/cwt
 - \$58.00/cwt
- The USDA season average price range for live cattle is \$66 to \$72, and the recent futures contracts traded as high as \$4 over the top of the USDA range for the applicable time periods. A rough estimate of a possible price high is:
 - \$76
 - \$80
 - \$72
- Your marketing plan is to sell 30% of your hogs at \$60.00/cwt, 30% at \$61.00/cwt, and 40% at 62.00/cwt. The average target selling price is:
 - \$61.00/cwt
 - \$61.10/cwt
 - \$61.50/cwt

Answers

- A** Knowing break-even costs allows the hedger to know what price is needed to make a profit.
- B** When your break-even fluctuates, the price required to earn the same profit will change.
- C** With a futures price of \$58.00/cwt and a basis of -\$2.00, the cash price would be \$56.00/cwt, allowing \$1.00/cwt profit.
- A** USDA forecast high is \$72. With recent futures trading \$4 over the USDA forecast, a possible high price would be \$72 + \$4 = \$76
- B** 30% of \$50 = \$15.00
30% of \$51 = \$15.30
30% of \$52 = \$20.80
\$51.10 target selling price

Avoiding some difficulties

If you decide to hedge your production or purchases, you may discover a side of yourself that you didn’t know existed. Hedging with futures can be beneficial to a marketing program, but it isn’t magic. Yet some producers go off the deep end in response to hedging. Being honest with yourself, keeping a business head on your shoulders and not going overboard can help you avoid falling into some of the following traps.

1. Thinking You Know Everything

One type of producer in the individual who has been involved in the livestock business for many years. He feels he has a very good insight into where the price of livestock is going. He is the type of individual who might put on a “Texas Hedge” (buying live cattle futures contracts when he already owns cattle). Instead of reducing risk, he will increase it.

2. Hedging Without a Goal

The second producer is the individual who wants to hedge, but doesn’t know his production costs. In order to use the futures markets successfully, a producer must accurately know his costs. Without costs, this producer doesn’t know whether he’s making a good move or a bad one.

3. Slipping into Speculation

An individual may also switch from hedging to speculating. He may be hedging his cattle production, but can’t resist what he thinks are good moves in the hog futures. If the producer is selling hog contracts without raising hogs, he’s speculating. Watch out!

4. Too Nervous for Futures

Another type of producer is the one who hedges and then sleeps like a baby—he sleeps for an hour, then cries for an hour. Even if he has a profit locked in, emotionally he cannot stand day-to-day fluctuations in the market. Margin calls almost drive him around the bend. This type of producer may be more comfortable with cash forward contracting or livestock options.

5. Bailing Out Too Soon

One producer may give in to the temptation to offset and profit from a short hedge after a market decline, but before livestock are marketed, anticipating that prices will rebound. But the market keeps skidding, and now he is without protection. Another producer hedges at a reasonable level, but watches the market rally, causing performance bond calls that he (or his lender) finally can’t stand. He pulls the plug and offsets the hedge at a loss, only to watch in horror as the market drops and he suffers a cash market loss as well. This kind of producer would be better off to hedge only a fraction of production, use cash forward contracts or use options.

Conclusion

Livestock producers are lucky to have so many marketing alternatives, ranging from sticking with the cash market to forward pricing with futures, cash forward contracts, basis contracts or options. Futures are the foundation of all forward pricing methods, and the CME hopes this booklet has been an eye-opener for you.

You can continue to learn by attending a CME or other seminar on marketing, by continuing to read about marketing, by joining a marketing club or attending adult education classes. The CME Commodity Marketing and Education Department welcomes contact from producers and their business partners with questions or suggestions about forward pricing livestock. Simply call 312-930-4597, or write to the Chicago Mercantile Exchange, Commodity Marketing Department, 30 South Wacker Drive, Chicago, Illinois 60606-7499.



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