

# Using Futures to Hedge (Price Risk Management)

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## Pricing Alternatives

Pricing (marketing) is not about  
affecting your local price, it is about  
taking a good price when it is offered



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## What You Can Do With Futures Info.

- Predict local cash price
- Calculate Basis information
- Get perspective on global view of commodity
- Reduce your price risk
  - Lock in a price for one or more commodities
  - Protect financial health
  - Avoid uncomfortable discussion with your lender and other business partners (spouse)
- Develop a sound marketing plan



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## Predicting Local Price With Futures

- |                                       |               |
|---------------------------------------|---------------|
| • KCBT <i>Futures</i>                 | \$7.60        |
| • Basis HRW,                          | \$- .58       |
| • Trading cost per bushel             | <u>\$ .02</u> |
| • Predicted Local Cash Price          | \$7.00        |
|                                       |               |
| • KCBT <i>Puts</i> Strike Price       | \$7.20        |
| • Basis HRW,                          | \$- .58       |
| • Trading cost per bushel             | \$ .02        |
| • Minus Premium Cost for Put          | <u>\$ .60</u> |
| • Established Floor Price Using a Put | \$6.00        |



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## Basis is What Makes Futures Work

- Basis = Cash - Futures
  - What cash price minus what futures price
    - Local cash price for quality/grade of product
    - Terminal market cash price for quality/grade
- Must know your local basis
- Adjusting Basis to your area
  - Local may be 100 miles or more away
  - Does this reflect “your local market?”

## Terminology Can Be a Barrier to Using Markets

- Short and Long Positions
- Puts, Calls, Options
- Initial Margin, Maintenance Margin
- Margin calls
- Market Orders
- Bid, Ask
- Spreads, Fences, Straddles
- Hedger, Speculator

## Equal and Opposite

- All transactions in a futures market requires two individuals
- For every Sell there is a Buy
- For every Short there is a Long
- For every individual seeking protection from adverse price moves there is one or more individuals offering protection and therefore believes prices will actually move in a direction a producer does not want.





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## True Hedger Perspective

- True hedger has equal and opposite positions in the futures and cash markets
  - Long cash then short futures
    - Producer selling grain or calves
  - Long futures then short cash
    - Feeder buying calves or grain to use as feed
- Objective is to reduce/eliminate risk of adverse price moves
  - Needs to find someone to take the risk



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<u>First Stage of Production</u> <b>Long Commodity</b>	<u>Second Stage of Production</u> <b>Short Commodity</b>
<ul style="list-style-type: none"> <li>• Has/Produces Commodity</li> <li>• Farmer/Rancher</li> <li>• Short Futures = Sell Futures Contract(s)</li> <li>• Locks In <u>Price</u></li> <li>• Equal &amp; Opposite</li> <li>• True Hedger</li> <li>•  Price <b>Decreases</b></li> </ul>	<ul style="list-style-type: none"> <li>• Needs/Consumes Commodity</li> <li>• Feeder/Miller/Etc.</li> <li>• Long Futures = Buy Futures Contract(s)</li> <li>• Locks in <u>Price</u></li> <li>• Equal &amp; Opposite</li> <li>• True Hedger</li> <li>•  Price <b>Increases</b></li> </ul>

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**Take Position in Futures = Locks In a Price**

<ul style="list-style-type: none"> <li>• <b>Sell Futures = Short</b></li> <li>• Long cash, then Short Futures               <ul style="list-style-type: none"> <li>– Futures move <u>lower</u> <ul style="list-style-type: none"> <li>• Make money in the futures</li> <li>• Cash price <b>decreases</b></li> </ul> </li> <li>– Futures move <u>higher</u> <ul style="list-style-type: none"> <li>• Lose money in the futures</li> <li>• Margin calls</li> <li>• Cash price <u>increases</u></li> </ul> </li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• <b>Buy Futures = Long</b></li> <li>• Long Futures then Short Cash               <ul style="list-style-type: none"> <li>– Futures move <u>higher</u> <ul style="list-style-type: none"> <li>• Make money in the futures</li> <li>• Cash price <b>increases</b></li> </ul> </li> <li>– Futures move <u>lower</u> <ul style="list-style-type: none"> <li>• Lose money in the futures</li> <li>• Margin calls</li> <li>• Cash price <u>decreases</u></li> </ul> </li> </ul> </li> </ul>
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Note that futures and cash prices move together (parallel)

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## Mechanics of the Futures Market

- Futures price are set by daily trading in the specified commodity
- Exchange specifies: **See contents of CD**
  - The quantity and quality for each commodity traded
  - Price limits, ranges and ticks
  - Delivery points, times and days, if applicable
  - Hours, days, and months a contract is traded
  - Minimum initial and maintenance margins
- CD contains links to material for Exchanges



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## Lock in Price - Futures Goes Up

- |   |               |
|---|---------------|
| • <b>Sell</b> wheat futures contract, lock in | \$8.00        |
| • Expected basis at sale                      | -.56          |
| • Brokerage and Interest                      | <u>-.04</u>   |
| • Projected cash price at sale                | \$7.40        |
| <u>At Harvest/Sale/Offset</u>                 |               |
| • <b>Purchase</b> wheat futures contract      | \$8.50        |
| • Cash price at sale                          | <u>\$7.94</u> |
| • Actual Basis (\$7.94 - \$8.50)              | \$ -.56       |
| • Loss per bushel on futures contract         | <u>\$ .50</u> |
| • Net Price realized (\$7.94 - .50 -.04)      | \$7.40        |



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## Lock in Price - Futures Goes Down

- **Sell** Feeder Cattle Contract for \$ 150.00
  - Expected Basis at sale \$ 6.00
  - Projected cash price at sale \$ 156.00
- At Weaning/Sale/Offset
- **Purchase** Futures Contract \$ 145.00
  - Gain on futures of (\$150 - \$145) \$ 5.00
  - Cash price at sale time \$ 151.00
  - Actual Basis (\$151 - \$145) \$ 6.00
  - Net price received (\$151.00 + \$6.00) \$ 156.00

## The Brokers Role

- Buys something they don't want
- Sells something they don't have
- Has a seat on an Exchange they can't sit on  
and
- They are absolutely necessary

## Mechanics of Selling or Buying

- Contact Broker and execute an order
- Many different types of orders can be placed
- Type of order you put in will depend on your marketing strategy and **your marketing plan**

## Sample of “Market Orders”

- **Market order (MKT)**
  - An order placed at any time during the trading session to immediately execute the entire order at the best available offer price (for buy orders) or bid price (for sell orders).
- **Market-if-touched (MIT)**
  - An order that automatically becomes a market order if the price is reached. An MIT order to buy becomes a limit order if and when the instrument trades at a specific or lower trigger price; an MIT order to sell becomes a limit order if and when the instrument trades at a specified or higher trigger price.
- **Market-on-close (MOC)**
  - An order submitted at any time within a trading session, but only executed on the close.
- **Market on open (MOO)**
  - A market order entered before an opening, to be executed immediately upon the open of the trading session.



## Margin Accounting for Livestock

### Basic Margin Accounting

Commodity Traded	<b>Feeders</b>	Initial margin per contract	<b>\$3,000</b>
Exchange Used	<b>CME</b>	Maintenance margin required	<b>\$2,500</b>
Contract Month Traded	<b>Oct-13</b>	Initial Position (Buy or Sell)	<b>S</b>
Number of Contracts Traded	<b>2</b>	Initial Margin Paid to Broker	<b>\$6,000</b>
Contract Size in Cwt, Bu, lbs, etc. (for one contract)	<b>50,000</b>	Date of Initial Position (M/D/Y)	<b>12/3/2012</b>
Initial contract price	<b>\$1.5800</b>		

<<< Shading means number is calculated/protected

Date	Current Price Quote	Previous Price Quote	Change From Previous Quote	X	Units Under Contract	=	Change in Margin From Last Quote	+	Previous Ending Margin Balance	=	Margin Account Balance	+	Margin Call Required	=	Final Margin Account Balance
12-Nov	\$1.1250	1.5800	\$ 0.4550		100,000	=	45,500.00	+	6,000.00	=	51,500.00	+	-	=	51,500.00
13-Jan	\$1.6400	1.1250	\$ (0.5150)		100,000	=	(51,500.00)	+	51,500.00	=	0.00	+	5,000.00	=	5,000.00
17-Jan	\$1.5900	1.6400	\$ 0.0500		100,000	=	5,000.00	+	5,000.00	=	10,000.00	+	-	=	10,000.00
28-Jan	\$1.6400	1.5900	\$ (0.0500)		100,000	=	(5,000.00)	+	10,000.00	=	5,000.00	+	-	=	5,000.00
2-Feb	\$1.5600	1.6400	\$ 0.0800		100,000	=	8,000.00	+	5,000.00	=	13,000.00	+	-	=	13,000.00
8-Mar	\$1.5400	1.5600	\$ 0.0200		100,000	=	2,000.00	+	13,000.00	=	15,000.00	+	-	=	15,000.00



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## Margin Accounting KCBT Example

### Basic Margin Accounting

Commodity Traded	<b>Wheat</b>	Initial margin per contract	<b>\$1,250</b>
Exchange Used	<b>KCBT</b>	Maintenance margin required	<b>\$1,000</b>
Contract Month Traded	<b>March</b>	Initial Position (Buy or Sell)	<b>S</b>
Number of Contracts Traded	<b>5</b>	Initial Margin Paid to Broker	<b>\$6,250</b>
Contract Size in Cwt, Bu, lbs, etc. (for one contract)	<b>5,000</b>	Date of Initial Position	<b>7/27/2010</b>
Initial contract price Per Unit	<b>\$7.3500</b>		



<<< Shading means number is calculated/protected

Date	Current Price Quote	Previous Price Quote	Change From Previous Quote	X	Units Under Contract	=	Change in Margin From Last Quote	+	Previous Ending Margin Balance	=	Margin Account Balance	+	Margin Call Required	=	Final Margin Account Balance
5-Aug	\$8.0000	7.3500	\$ (0.6500)		25,000	=	(16,250.00)	+	6,250.00	=	(10,000.00)	+	15,000.00	=	5,000.00
10-Aug	\$7.2000	8.0000	\$ 0.8000		25,000	=	20,000.00	+	5,000.00	=	25,000.00	+	-	=	25,000.00
25-Aug	\$7.3000	7.2000	\$ (0.1000)		25,000	=	(2,500.00)	+	25,000.00	=	22,500.00	+	-	=	22,500.00
10-Sep	\$7.8000	7.3000	\$ (0.5000)		25,000	=	(12,500.00)	+	22,500.00	=	10,000.00	+	-	=	10,000.00
30-Sep	\$7.0000	7.8000	\$ 0.8000		25,000	=	20,000.00	+	10,000.00	=	30,000.00	+	-	=	30,000.00
7-Oct	\$7.4000	7.0000	\$ (0.4000)		25,000	=	(10,000.00)	+	30,000.00	=	20,000.00	+	-	=	20,000.00
29-Oct	\$7.9000	7.4000	\$ (0.5000)		25,000	=	(12,500.00)	+	20,000.00	=	7,500.00	+	-	=	7,500.00
7-Nov	\$8.1500	7.9000	\$ (0.2500)		25,000	=	(6,250.00)	+	7,500.00	=	1,250.00	+	3,750.00	=	5,000.00
20-Nov	\$7.1500	8.1500	\$ 1.0000		25,000	=	25,000.00	+	5,000.00	=	30,000.00	+	-	=	30,000.00
1-Dec	\$8.0000	7.1500	\$ (0.8500)		25,000	=	(21,250.00)	+	30,000.00	=	8,750.00	+	-	=	8,750.00



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<u>Hedger</u>	<u>Interest</u>	<u>Speculator</u>	<u>Interest</u>
• Volatility	Y	• Volatility	Y
• Basis	Y	• Basis	NA
• Cash Markets	Y	• Cash Markets	NA
• Liquidity	Wants	• Liquidity	Provides/Wants
• Location	Basis	• Location	NA
• Time frame	Cycles	• Time frame	Varies
• Price Patterns	Y	• Price Patterns	Y
• Fundamentals	Y	• Fundamentals	Y

## Cost of Production

- Should you estimate your costs of production
- Yes, But.....
- Should be part of your marketing plan
- Cost of production provides you with your Break-even costs necessary to cover
  - Operating Costs (Variable Costs)
  - Ownership Costs (Fixed Costs)
- It should NOT be the only criteria used as to when you lock in a price

## The Next Slide

- If you are loaded this PowerPoint for the first time, the next slide will appear blank, except for the wording at the bottom of the slide.
- The contents of the slide, interactive software, only appears in the slide show mode.

## Contract Specs for Each Exchange

- CME

<http://www.cmegroup.com/rulebook/CME/>

- CBOT

<http://www.cmegroup.com/rulebook/CBOT/>

- KCBT

<http://www.kcbt.com/products.html>

- MGE

[http://www.mgex.com/spring\\_wheat.html](http://www.mgex.com/spring_wheat.html)



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## Questions

