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 Your Local Cash Price

• KCBT *Futures*	$6.30
• Plus HRW 11% Basis	$- .58
• Minus Trading cost per bushel	$ .02
• Estimated Local Cash Price	$5.70
• KCBT *Puts* Strike Price	$6.30
• Plus HRW 11% Basis	$- .58
• Minus Trading cost per bushel	$ .02
• Minus Premium Cost for Put	$ .40
• Estimated Floor Price Using a Put	$5.30

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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?”

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Terminology Can Be a Barrier to Using Futures & Options Markets

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

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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 an adverse price move (up or down) there is one or more individuals that believe prices will actually move in the opposite direction.
- Speculators provide liquidity for Hedger

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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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First Stage of Production	Second Stage of Production
Long Commodity	**Short Commodity**
• Has/Produces Commodity	• Needs/Consumes Commodity
• Farmer/Rancher	• Feeder/Miller/Etc.
• Short Futures = Sell Futures Contract(s)	• Long Futures = Buy Futures Contract(s)
• Locks In Price	• Locks in Price
• Equal & Opposite	• Equal & Opposite
• True Hedger	• True Hedger
• Price **Decreases**	• Price **Increases**

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

- **Sell Futures = Short**
- Long cash, then Short Futures
  - Futures move **lower**
    - Make money in the futures
    - Cash price **decreases**
  - Futures move **higher**
    - Lose money in the futures
    - Margin calls
    - Cash price **increases**

- **Buy Futures = Long**
- Long Futures then Short Cash
  - Futures move **higher**
    - Make money in the futures
    - Cash price **increases**
    - Futures move **lower**
    - Lose money in the futures
    - Margin calls
    - Cash price **decreases**

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:
  - 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
- Additional detail on line (John Hewlett)

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Lock in Price - Futures Goes Up

• **Sell** wheat futures contract, **lock in**	$8.00
• Expected basis at sale	-.56
• Brokerage and Interest	-.04
• Projected cash price at sale	$7.40
At Harvest/Sale/Offset	
• **Purchase** wheat futures contract	$8.50
• Cash price at sale	$7.94
• Actual Basis ($7.94 - $8.50)	$ -.56
• Loss per bushel on futures contract	$ .50
• 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 + $5.00)	$ 156.00

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The Broker/Speculator 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

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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**

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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.

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Margin Accounting for Livestock

Basic Margin Accounting

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

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

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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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

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Introduction | Input Data | Futures | Options | SummaryResults | Margin Account | Cost of Prod. | Save, Load, Delete Scenarios

	Cash	Grains -- Futures & Options		
		Results are based on No. of Bu. in a Futures/Options contract		
Conditions at Time Price/Yield/Revenue Risk Protection Purchased	Cash Sale	Hedge Locks Price	Puts Sets Floor	Calls Sets Ceiling
Futures/Options Strike Prices/Predicted Cash	$5.50	$6.30	$6.30	$6.70
Marketing Brokerage, Margin, Interest & Other Misc.		$0.02	$0.42	$0.27
Expected Basis -- Preproduction	($0.80)	($0.80)	($0.80)	($0.80)
Net Predicted Cash Floor (Ceiling) Price Per Bushel	$5.50	$5.48	$5.08	$6.17
Percent of Production Price Protected		83.33%	83.33%	83.33%
Expected Revenue/Acre Net of Marketing & Insurance Cost--Preproduction	$330.00	$328.80	$304.80	$370.20
Conditions at Time of Harvest/Sale/Offset/Exercise				
Spot Futures Price for Futures & Options Markets at Sale		$6.30	$6.30	$6.30
RMA Avg. Futures Price for Insurance Products @ Harvest/Sale/Offset		NA	NA	NA
Net Combo Indemnity Received Per Acre		NA	NA	NA
Results for Futures/Options/Insurance @ Time of Harvest/Sale/Offset				
Cash Price at Sale Time	$5.50	$5.50	$5.50	$5.50
Actual Basis @ Harvest--Per Bushel		-$0.80	-$0.80	-$0.80
Gain/Loss (+/-) on Basis @ Harvest/Sale/Offset--Per Bu.		$0.00	$0.00	$0.00
Profits/Losses From Hedge Prorated Over Actual Production (Per Bu.)	Hedge	-$0.02		
Profits/Losses From Puts Prorated Over Actual Production (Per Bu.)	Puts		-$0.35	
Profits/Losses From Calls Prorated Over Actual Production (Per Bu.)	Calls			-$0.23
Net Cash Price Per Bushel Harvested Yield @ Harvest/Sale/Offset	$5.50	$5.48	$5.15	$5.28
Net Revenue Per Acre Based on Actual Bushels Harvested	$330.00	$329.00	$309.00	$316.50
Cost of Production Per Bushel -- Based on APH Yield	$3.50	$3.50	$3.50	$3.50
Expected Net Income Per Acre--Preproduction	$120.00	$118.80	$94.80	$160.20
Actual Net Income Per Acre (Actual Yield * Actual Net Price)	$120.00	$119.00	$99.00	$106.50

Information @ Time Hedge, Put, Call established	
Spot Harvest Time Futures-Initial	$6.30
Put Strike Price Selected	$6.30
Put Premium Paid	$0.40
Call Strike Price Selected	$6.70
Call Premium Paid	$0.25

Information @ Time of Harvest/Sale/Offset	
Actual Cash Price Received @ Harvest/Sale	$5.50
Spot Harvest Futures at Harvest/Sale	$6.30
Acutal Basis at Harvest/Sale	($0.80)
Cost of Production Per Unit- Bu, Cwt, Lbs, Etc	$3.50
Actual Yield at Harvest	60.0

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Spring Wheat Example: Futures, Options & Margin Accounting

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

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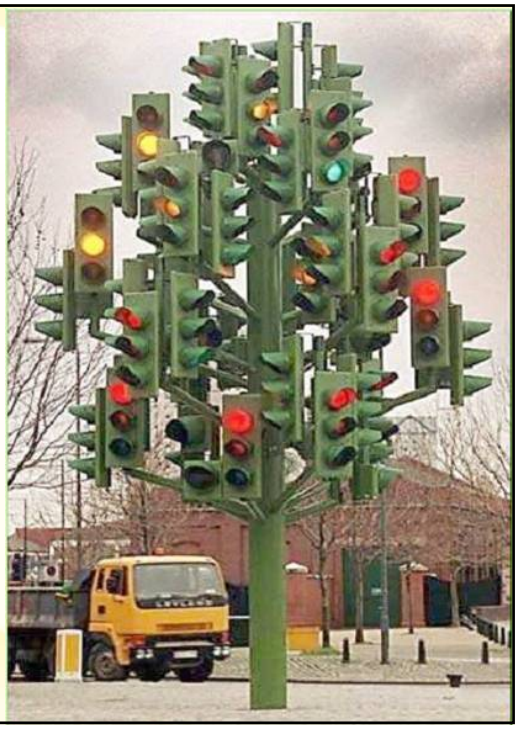
Questions



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