Risk Management Tools for Putting in Price Floors

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Risk Management

- Production Risks
  - Machines break
  - Worker strike
- Market Price Risks
  - Variability in the prices you pay for inputs
  - Variability in the prices you receive for your product

Hedging

- Taking an equal but opposite position in the futures or option market than in the cash market.
- Is effective because the cash and futures markets generally move together.
- Losses in one market are cushioned by gains in the other.

Basis

- The difference between the two market prices
- Not known with certainty, but may be more predictable than cash market price
- With non-storable commodities the difference between CP and FP is not represented by transportation and carrying costs

Contract Specifications

- Chicago Mercantile Exchange
  - Live Cattle
    - 40,000 lb..
    - 55% choice and 45% select grade live steers
  - Feeder Steers – cash settled
    - 50,000 lb
    - 700 to 849 pound feeder steers

Short Hedge: with a Futures Contract

Expected live cattle hedge price		
Sell October futures		**Feb 28**
Futures		**$145.00**
Basis		**-6.67**
C&I		**-0.20**
Expected hedge		**$138.13**
	Scenario 1	***Scenario 2***
Buy futures	**Oct. 1**	**Oct. 1**
Futures	**131.00**	**$151.00**
Basis	**-6.67**	**-6.67**
Cash	**124.33**	**144.33**
Futures Profit	**+14.00**	**-6.00**
C&I	**-0.20**	**-0.20**
Net price	**$138.13**	**$138.13**

Short Hedge: with a Futures Contract and basis change

Expected live cattle hedge price		
Sell October futures		**Feb 28**
Futures		**$145.00**
Basis		**-6.67**
C&I		**-0.20**
Expected hedge		**$138.13**
	Scenario 1	***Scenario 2***
Buy futures	**Oct. 1**	**Oct. 1**
Futures	**131.00**	**$151.00**
Basis	**-5.00**	**-5.00**
Cash	**126.00**	**146.00**
Futures Profit	**+14.00**	**-6.00**
C&I	**-0.20**	**-0.20**
Net price	**$139.80**	**$139.80**

Why use Options?

- Provide price insurance
- Option buyer has limited risk while retaining potential for unlimited profits
- Provide great flexibility
  - Can select the amount of protection
  - Different strategies offer different types of protection

Fundaments of Agricultural Options

- An option is a choice
- An option is NOT an obligation
- Contract between two parties that conveys to a buyer a right, but not an obligation, to buy (call) or sell (put) a specific commodity at a specific price within a specific time period for a premium.

Types of Options

- Call
  - Gives buyer right to buy underlying futures contracts
- Put
  - Gives buyer right to sell underlying futures contract

Option Positions

Call:
- Buy
- Sell

Put:
- Buy
- Sell

Option Components

- Buyer
- Seller
- Underlying commodity
- Strike price
- Expiration date
- Premium

Reasons to Buy Options

Action	Reason
Buy a put	Want to set a price floor. Provide protection from decreasing prices.
Buy a call	Want to set a price ceiling. Need protection from increasing prices.

What can happen to an Option?

Action	Reason
Do nothing	Option will expire on a known date
Exercise option	Exerciser will assume a futures position at the option strike price
Offset option	Must buy (sell) an option identical to the one that was previously sold (bought)

Strategies for Buying and Selling Agricultural Options

Buying a Call: Setting a Maximum Feeder Cattle Price

Buy $199 April call		Feb 20
Strike price		$199.00
Premium		+7.25
Basis		-6.67
C&I		+0.20
Expected Maximum		$199.78
	Scenario 1	Scenario 2
	Apr. 1	Apr. 1
Futures	$189.00	$209.00
Basis	-6.67	-6.67
Cash	182.33	202.33
Option Premium	+(0.00+7.25)	+(-10.00+7.25)
C&I	+0.20	+0.20
Net price	$189.78	$199.78

Buying a Put: Setting a Minimum Live Cattle Price

Buy $145 October Put		Feb 20
Strike price		$145.00
Premium		-6.25
Basis		-6.67
C&I		-0.20
Expected Minimum		$131.88
	Scenario 1	Scenario 2
	Sep. 15	Sep. 15
Futures	$135.00	$155.00
Basis	-6.67	-6.67
Cash	128.33	148.33
Option Premium	+(10.00-6.25)	+(0.00-6.25)
C&I	-0.20	-0.20
Net price	$131.88	$141.88

Option Strategies

Fence

Long Put and Short a Call

Risk/Reward – creates a hedged minimum and maximum price

Maximum Loss: Unlimited if price increases above call strike price

Maximum Gain: Unlimited if price decreases below put strike price

The idea behind a fence is to work similarly to a futures hedge, but allow the put to be subsidized by a call.

Option Strategies

Covered Call

Long Futures (or cash) and short a call

Risk/Reward

Maximum Loss: Unlimited on the downside

Maximum Gain: Limited to the premium received from the sold call option

The idea behind a Covered Call (also a Covered Write) is to generate consistent income from the sold options. Can be done by holding cash position over a long period of time and every month or so sell out-of-the-money call options.

Conclusions

- Options give more flexibility and allow various marketing strategies
- Know your local basis
- If buying options you must pay a premium
- If selling options you must post margin
- Write down a specific marketing objective
- Be a disciplined marketer

Livestock Risk Protection

LRP – Livestock Risk Protection

- Offered through USDA's Risk Management Agency
- Protects producers of feeder cattle, fed cattle and hogs from *unexpected* declines in market price
- Similar to put options
  - Need to choose coverage price
  - Need to determine ending period that is at least 13 weeks in the future
  - LRP is a European option
- 13% of premium is subsidized
- LRP coverage ranges from 70% - 95% of expected ending price

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How does one buy LRP?

- File an LRP insurance application with agent.
  - Crop insurance agents do not have to offer
  - Certified agents list is available at www3.rma.usda.gov/apps/agents
- Producers should file application ASAP
  - Filing does not establish right to coverage
- Once approved, file an SCE

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Considerations with LRP?

- Coverage prices is based on Chicago Mercantile Exchange (CME) feeder cattle price index for the date the LRP contract terminates.
  - Available at www.cme.com
  - Moving 7 day weighted average of feeder cattle prices in 12-state region
  - 700-849 lb., M & L #1, feeder steers
- Based on daily forecast of *5-area weekly weighted average direct slaughter cattle price* for steers graded 35 to 65 percent choice
  - 5 area includes Texas/Oklahoma, Kansas, Nebraska, Colorado, Iowa/Minnesota
  - Report is #LM_CT150 on AMS website
    - www.ams.usda.gov/mnreports/LM_CT150.txt
- Same basis considerations as futures and options

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When is indemnity paid?

- Payment is based on difference between Coverage Price & AEV
  - Not actual cash price received
    - Means still have basis risk
  - AEV listed on RMA website

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What are benefits of LRP?

- Guarantee a minimum price
- No tie to specific packer to receive guarantee
- Small numbers can be hedged
- Premium subsidized at 13%
- No brokerage or margin
- Receive higher prices in bull market
- Available in months where no futures/options
- All coverage prices available daily
- Actual selling dates and weights can differ from selected LRP ending dates
- Premiums are tax deductible, not true if mix speculative with hedging in a futures account

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What are the concerns regarding LRP?

- Based on futures market price
  - Already takes into account all expected price changes
- Only out-of-the-money coverage prices
- Limits on the number of animals per SCE and per crop year
- If sell animal earlier than 30 days prior to ending period, you forfeit premium, cannot exercise or cancel LRP contract
  - If sell cattle more than 30 days early have price risk due to LRP
  - Cannot take an offsetting position
- AEV are based on cash price indexes that more closely follow prices in areas other than Wisconsin
  - Increases basis risk
- Does not pay for production issues
  - slower than expected rates of gain
  - disease
  - If animal dies and reported to insurance company within 72 hours, you can maintain coverage for that animal
- Can be suspended at any time

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Thank you!

- Any Questions?
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