Managing Buy Sell Margins for Feeder Cattle

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Definitions

• **Stocker price** = price of lightweight calf approximately 300 to 500 lbs

• **Feeder price** = price of yearling sold following stocker program
Key to Profitability

• Value of gain exceeds cost of gain

• Value of gain
  o Total value of yearling feeder less total value of stocker calf divided by the total weight gained
Comparison of Value of Gain

Based on Purchase Month for 450 lbs. M-1 Steers Sold at 750 lbs., 200 days, Based on TN prices

Graph showing the comparison of value of gain over different selling years, with values ranging from 0 to 120 ($/cwt), and selling years from 2001 to 2010.
Price Risk

• Is there risk in the market?
  o 1973-2010 – three times there was a negative buy sell margin for fall bought 450 lbs steers sold at 750 lbs the next summer

• Fall 2006 & 2008
  o Corn price rose sharply
  o $25 to $30 negative margin
Value of Gain

• Equal to selling price when buying price and selling price are equal

• Value of gain increases when feeder price increases

• As the buy sell margin decreases, value of gain increases
## Value of Gain at Various Buying (400 lb steer) and Selling (750 lb steer) Prices

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<th>Stocker Price</th>
<th>$1.00</th>
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<th>$1.10</th>
<th>$1.15</th>
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</tbody>
</table>

Source: “Why Steers? Why Now?” Kevin Moore & Jim Gerrish, Univ. of Missouri-Columbia
Why Not Always Lock in the Price?

- By locking in the price early, either with futures hedge or forward contract
- Average returns are lower
- By taking out low prices, one also takes out high prices
- Research by McLemore and Rawls, Tennessee and Fuez, Utah State University
Purpose

• To Demonstrate the Buy/Sell Margin Calculator
• To Illustrate some price risk management strategies which help one to manage sale price, buy/sell margin and value of gain
Buy/Sell Margin Calculator

Using historical data for the previous 10 years, it allows one to review what the buy/sell margin and value of gain have been for differences in feeder cattle such as:

- Sex, weight, grade or grade mix and specific months of purchase and sale of cattle
Ways to Improve Buy/Sell Margin and Value of Gain

• Buy bull calves at a discount
• Buy calves that will upgrade
  o Buy 50% No. 1 and 50% No. 2
  o Sell 75% No. 1 and 25% No. 2
• Buy heifers instead of steers
  o Lightweight heifers are discounted more than heavier weight heifers
• Depending on the year it is not uncommon for Fall bought heifers to sell very close to the purchase price in Spring
• Purchase as singles and sale in loads
  o Downside = more health issues

Extension
Managing the Buy/Sell Margin and Sale Price

• Evaluate the marketing method
  o Direct or private treaty sale
  o Video/Board Sale/Internet
  o Commingled Sale

• Factors affecting shrink, sort, transportation, price slide, commission and guaranteed payment
Managing the Buy/Sell Margin, Value of Gain & Sale Price

• Both the buy/sell margin and sale price affect value of gain (VOG)

• Correlations with VOG
  o Buy/sell margin & VOG = 0.52
  o Sale price and VOG = 0.72
Managing Risk of Sale Price

1. Hedge in futures market
2. Forward contract (private or auction)
3. Put option
   - Sets floor price
4. Synthetic put
   - Use of hedge or forward contract and a call option
5. Fence
   - Set a floor price with a put option and ceiling price with sale of a call option
   - A way to set a higher floor price at a lower premium cost
6. LRP Insurance
What Did the Market Offer on August 4?

- Futures hedge

  May feeder cattle $137.00
  Basis 7.00
  Commission & Interest 0.50
  Lock in $129.50

- Subject to basis risk and margin calls
- Consider seasonal pattern of the May contract
Season Patterns for May Feeder Cattle Contract
Put Option:  
Set a Floor, Leave Upside Open

May Feeder Cattle Put Option

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Strike Price</td>
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<td>Basis</td>
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<tr>
<td>Premium</td>
<td>2.00</td>
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<tr>
<td>Commission &amp; Interest</td>
<td>0.50</td>
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<tr>
<td>Floor Price</td>
<td>$108.50</td>
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</tbody>
</table>

• If futures drop below $118, premium increases in value and gives protection
• Basis risk, expensive?
Synthetic Put

- Sell May futures to set floor
- Buy May call option to benefit should market rise

Sell May futures $137.00
Hedged price 129.50
Buy $154 call 2.00
Commission & Interest 0.50
Floor price $127.00

- Purchase of call would allow some recovery of margin at futures above $154
Fence:
Set a Floor & a Ceiling

- Buy May put to set a higher floor price
- Sell a May call which sets a price ceiling

Buy May $130 Put @ $4.80 premium
Sell May $150 Call @ $2.90 premium

Net Premium Cost = $4.80 - $2.90 = $1.90
Fence: Set a Floor & a Ceiling

- Floor Price
  - Put strike price: $130.00
  - Net premium: 1.90
  - Basis: 7.00
  - Commission & Interest: 0.50
  - Floor price: $120.60
Fence:
Set a Floor & a Ceiling

- Ceiling Price
  - Call strike price: $150.00
  - Net premium: 1.90
  - Basis: 7.00
  - Commission & Interest: 0.50
  - Ceiling price: $140.60
Fence:
Set a Floor & a Ceiling

• Remember, the sale of options must be margined just like a hedged futures position

• One must also be willing to accept the ceiling price

• The fence allows one to have a higher floor price at lower cost
Options Considerations

- Options are sometimes thinly traded on distant contracts
- Orders with broker need to be well defined
- Premiums can be expensive
Livestock Risk Protection (LRP) Insurance

- Price insurance only
- Feeder cattle – insures against a decline in the CME Feeder Cattle Cash Index price
- Fed cattle – Insures against a decline in the weekly 5 Area Direct Slaughter Steer price
- www.rma.usda.gov/livestock/
Livestock Risk Protection (LRP) Insurance

- Sold by crop insurance agents
- Would have added $50 to $100 per head to feeder cattle value at times in ’08 & ’09
- Similar to options for feeder cattle and fed cattle
- Flexibility on the number insured and the price/cost is more certain
- Must be bought from 3:30 p.m. to 9 a.m. Central
Livestock Risk Protection (LRP) Insurance

• Assume 70 head weighing 700 lbs or 49,000 lbs
• Select coverage price of $114

Value = 490 cwt x $114 = $55,860

Value $55,860
Rate x 0.007974
Premium $445.42
13% Subsidy 57.90
Actual Premium $387.52 or $0.79/cwt
Livestock Risk Protection (LRP) Insurance

• What do you have?

• You will be paid an indemnity if Feeder Cattle Cash Index is below $114 on policy ending date

• You are subject to basis risk – $7+/−
Livestock Risk Protection (LRP) Insurance

**Pros**
- Insurance offered daily
- Deal with crop insurance agent
- No margin calls
- Flexibility in number

**Cons**
- Must pay up front
- Policy only has value on the ending date
- Must be purchased between 3:30 p.m. and 9:00 a.m. Central
Livestock Risk Protection (LRP) Insurance

• **Size limits for feeder cattle**
  o 1,000 head per contract
  o 2,000 head per crop year
• **Sales stopped by USDA if futures move the limit or other market disturbing news**
• **Selling cattle more than 30 days prior to ending date will void the policy**
• **Limited coverage for distant months**
• **Basis risk**
• **Relationship with agent important**
Take Home Message

You can manage the buy/sell margin and the value of gain
• Through purchase decisions
• Study of buy/sell margins
• Timing of purchases
• Use of price risk management tools

Or you can roll the dice!
The End

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