




Applying Price Risk Tools



Bridger Feuz -Marketing Specialist

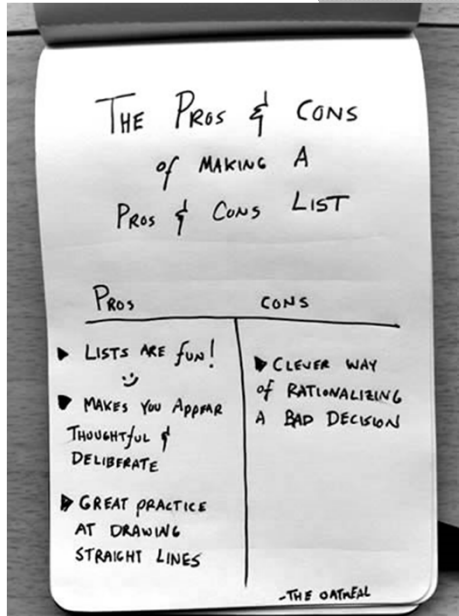
 



Outline

- Which tool is right for you?
- Mechanics
- Comparison
 - Worksheet
- Beef Basis



Feuz Ranch Example





Price Risk is a real risk to producers

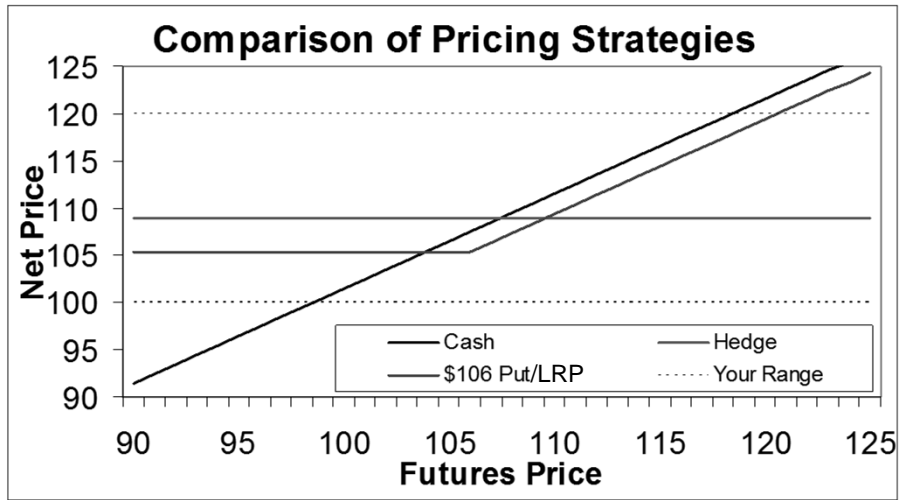
- Wyoming Auctions 650 Steer Calf Price
 - October 2006 \$114.85 per cwt
 - November 2006 \$103.00 per cwt
 - A difference of \$77 per calf sold
 - The prior 5 years the average difference was less than \$25 per head between Oct and Nov
 - Reason for drop in 2006, Grain Prices were increasing dramatically during that time frame

Which Tool is Right for You?

- Easiest
 - Remain in the cash market
- Practice
 - Become familiar with the tools available
- Comfort
 - Utilize the tool you are most comfortable with

Tools

- Futures Hedge
- Put Option
- LRP Insurance



Short Futures Hedge

Date	Cash	Futures	Basis
Aug 4	Exp. Net Sale Price \$120	Sell Nov FC \$115	Exp. \$5.00

Futures Hedge (Actual)

Date	Cash	Futures	Basis
Aug 4	Exp. Net Sale Price \$120	Sell Nov FC \$115	Exp. \$5.00
Nov 2	Sell 550 lb Steer \$118.91	Buy Nov FC \$111.55	\$7.36
		\$3.45	

$$\text{NSP} = 118.91 + 3.45 = 122.36$$

Futures Hedge (Higher Scenario)

Date	Cash	Futures	Basis
Aug 4	Exp. Net Sale Price \$120	Sell Nov FC \$115	Exp. \$5.00
Nov 2	Sell 550 lb Steer \$125.00	Buy Nov FC \$120.00	\$5.00
		-\$5.00	

$$\text{NSP} = 125.00 - 5.00 = 120.00$$

Hedging Summary and Risk

- A short hedger will receive the expected net price regardless of whether futures prices move higher or lower
- However, if basis weakens, then the short hedger will receive a lower net price than expected
- If basis strengthens, then the short hedger will receive a higher net price than expected
- Hedging removes price level risk
- Hedging does not remove basis risk, local price risk relative to the market level

Options and Futures

- Futures contracts are an obligation
 - Must deliver or offset
 - Liable for margin calls
 - “Locked into” a price
- Options on futures contracts are the right to take a position in the futures market at a given price called the “strike” price, but beyond the initial premium, the option holder has no obligation to act on the contract
 - Lock-in a price but can still participate in the market if prices move favorably
 - No margin calls
 - Pay a “premium” for the option (similar to price insurance)

Buy a Put Option for Price Protection

- Put option: the right to sell a futures contract at a given price (right to a short position at a given strike price)

The Mechanics of Put Option

- A producer buys a Put to protect against declining prices
- Chooses Strike Price and Pays the premium
- Determines the minimum expected price

Minimum Expected Price Examples

Min Exp Price = Strike Price – Premium +/- Basis

\$107.50 = \$108 - \$2.50 + \$2.00 feeder cattle

\$93.20 = \$98 - \$3.30 - \$1.50 live cattle

Buying a Put Nov 2010 FC (Actual)

Date	Cash	Options	Basis
Aug 4	Exp. Min. \$114.82	Buy \$112 FC Put Pay \$2.18	Exp. \$5.00
Nov 2	Sell 550 lb Steer \$118.91	Nov FC 111.55 \$112 Put has \$1.30 value	Actual \$7.36
		-\$0.88	

Net Sale Price = \$118.91 - \$0.88 = \$118.03

Buying a Put Nov 2007 FC (Higher Scenario)

Date	Cash	Options	Basis
Aug 4	Exp. Min. \$114.82	Buy \$112 FC Put Pay \$2.18	Exp. \$5.00
Nov 2	Sell 550 lb Steer \$125	Nov FC 120 \$112 Put as \$0 value -\$2.18	Actual \$5.00

Net Sale Price = \$125 + \$2.18 = \$122.82

Put Option Summary

- Put Options can be used to establish a price floor, a minimum price
 - Worst case you lose your premium
 - Can take advantage of higher market prices

LRP Feeder Cattle Insurance

- Livestock Risk Protection Insurance
 - Establishes a floor selling price
 - Pays producer if National cash price index falls below insured level
 - Does not insure your cash price
 - Basis risk must still be considered
 - Very similar to purchasing a put option
 - Options are fixed in size (50,000 lbs)
 - LRP is flexible (1-1,000 hd)
 - LRP purchased through Crop Insurance Rep.

LRP "Terminology"

- Expected Ending Value (EEV)
 - The expected National cash index
 - This is based on the underlying futures market price at the time
- Coverage Prices
 - Range from 70% to 95% of EEV
 - Determines level of protection
 - Similar to choosing a strike price for a put option

LRP "Terminology"

- Cost Per CWT
 - $\text{Cost/cwt} = \text{Coverage Price} \times \text{Rate}$
 - Premium cost of coverage
 - Similar to a Put Premium
- Actual Ending Value (AEV)
 - Cash Index Price on Coverage End Date
- Indemnity
 - Paid if AEV is Less than Coverage Price
 - $\text{Indemnity} = \text{Coverage Price} - \text{AEV}$

Feeder Cattle Actual Ending Value

- CME Feeder Cattle Cash Index Price
 - National Average 650-850 lb. Steers
 - Medium and Large Frame 1-2 beef steers
- If insuring lighter steers, heifers, Brahman or dairy calves a price adjustment is used

Price Adjustment Factor

Weight	Steers Weight 1	Heifers Weight 1	Brahman Weight 1	Dairy Weight 1
< 600 lbs	110%	100%	100%	100%
Weight	Steers Weight 2	Heifers Weight 2	Brahman Weight 2	Dairy Weight 2
600-900 lbs	100%	90%	90%	80%

Feeder Cattle LRP Example

- Aug 4, 2010, Expect to sell 100 head of 550 lb steer calves in 13 weeks
- Expect to Sell Nov 2, 2010
- Expected Ending Value = \$126.42/cwt
 - (Nov FC 114.93 X 1.10)
- Coverage Price = \$120.94/cwt
 - EEV X Coverage Level = \$126.42/cwt X 95.67%
- Rate = 0.01712
- Cost/Cwt = \$2.07/cwt
 - Coverage Price X Rate = \$120.94/cwt X 0.01712

Feeder Cattle LRP Actual Result

- Coverage Price \$120.94
- Actual Ending Value \$122.67
 - CME FC Index \$111.52 X 1.10 = \$122.67
- Actual Ending Value is higher than Coverage Price
 - No indemnity paid
- Net Price is $\$118.91 - \$2.07 = \$116.84$

Feeder Cattle LRP (Lower Scenario)

- Coverage Price \$120.94
- Actual Ending Value \$115.50
 - CME FC Index \$105 X 1.10 = \$115.50
- Actual Ending Value is lower than Coverage Price
 - Indemnity paid of \$5.44
 - $(\$120.94 - \$115.50)$
- Net Price is $\$112 + \$5.44 = \$117.44$

Worksheet Comparison Example

- August 4
 - 100 Steers will weigh 600 lbs in November
 - November Feeder Cattle Contract is trading at \$135
 - Our Local Expected Basis is \$5.00
 - Put Option is \$133 @ \$3.00 premium
 - LRP @ 95.76% coverage rate = 0.02

Worksheet Comparison Example

- November 2

▫ Sell prices	\$130	\$136	\$140	\$145
▫ Feeder Contract	\$125	\$131	\$135	\$140
▫ Option Value	\$8	\$2	\$0	\$0
▫ CME FC Index	\$125	\$131	\$140	\$145
- What prices were received for each strategy?



Beef Basis

- www.beefbasis.com
- Decision support tool
 - Forecast Basis and Price
 - Direct comparison of price risk tools



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Feeder Cattle Basis Forecast Compare Selling Strategies
Hedge Analysis

State: <<SELECT>		Expected Sale Date:																																																						
Weight: <input type="text"/> lbs/head	Head: <input type="text"/>	<table border="1" style="font-size: x-small; border-collapse: collapse;"> <tr> <td colspan="2">January</td> <td colspan="2">2014</td> </tr> <tr> <td>Sun</td><td>Mon</td><td>Tue</td><td>Wed</td><td>Thu</td><td>Fri</td><td>Sat</td> </tr> <tr> <td>29</td><td>30</td><td>31</td><td>1</td><td>2</td><td>3</td><td>4</td> </tr> <tr> <td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td> </tr> <tr> <td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td> </tr> <tr> <td>19</td><td>20</td><td>21</td><td>22</td><td>23</td><td>24</td><td>25</td> </tr> <tr> <td>26</td><td>27</td><td>28</td><td>29</td><td>30</td><td>31</td><td>1</td> </tr> <tr> <td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td> </tr> </table>	January		2014		Sun	Mon	Tue	Wed	Thu	Fri	Sat	29	30	31	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	
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Instructions:

- 1) Select values from each of the pull-downs, enter values in each of the text boxes.
- 2) Hover cursor over entry labels for explanation of values to be entered.
- 3) When all values have been entered, click the run button.
- 4) Results are displayed here.

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