

Using the Futures Market to Manage Risk

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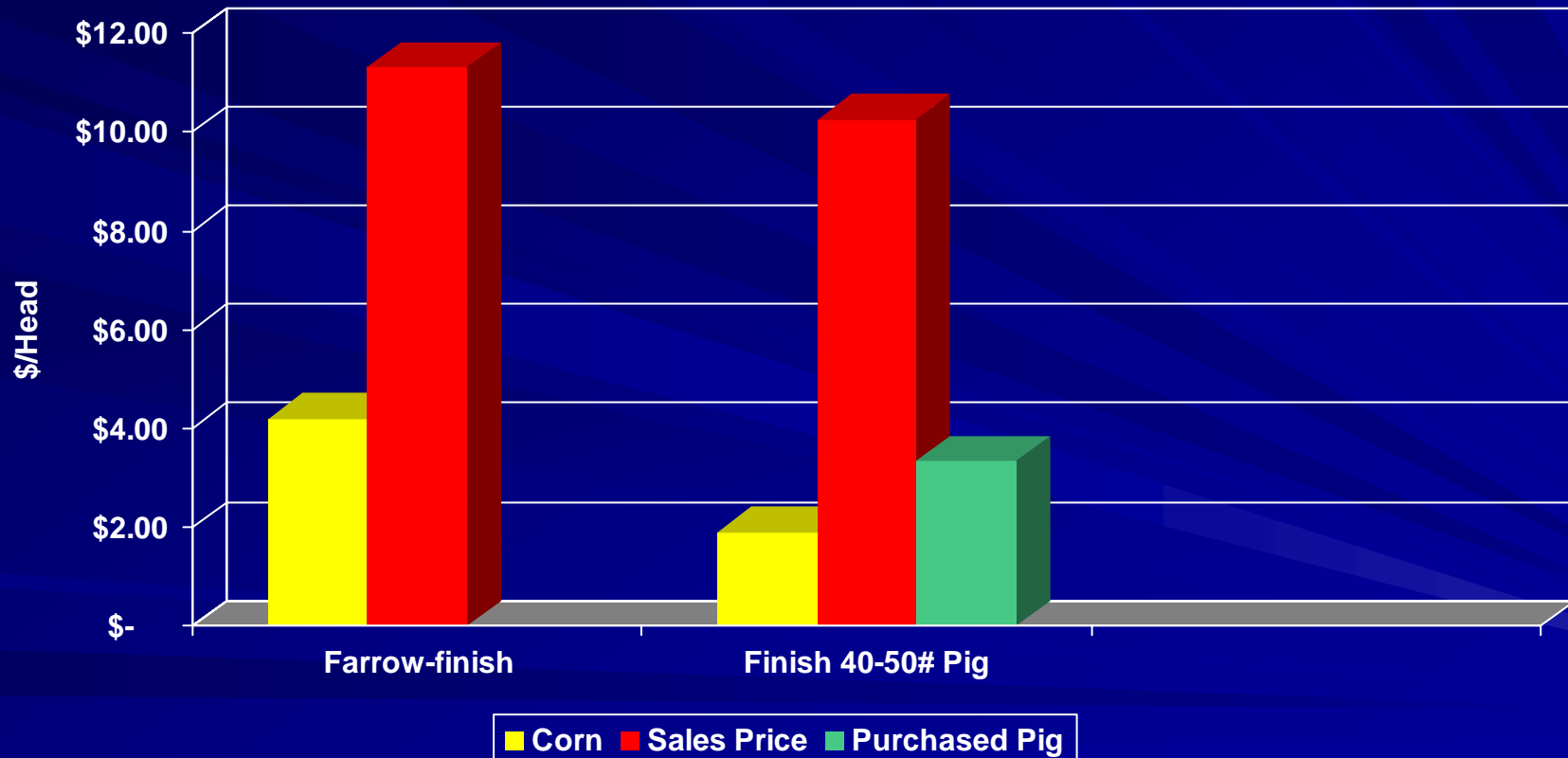
What is Risk?

- Risk is NOT uncertainty
- Risk is uncertainty about something that has a negative impact on a person's goals or objectives



Impacts of Various Price Changes on Profits (\$/Head)

10% Change in the Price of Corn, Market Hogs and Feeder Pigs



Source: UGA Farrow-Finish and Feeder-Pig Finishing Budgets



How does using futures allow you to manage risk

- Cash and futures markets move in the same direction
- Equal & opposite positions in cash and futures markets
- Remaining price risk is basis which is much lower



Why Will Using the Futures Market Work?

Futures and Cash Prices Move in the Same Direction



— Weekly Cash Price — Weekly Nearby Futures



Source: Livestock Marketing Information Center-
Weekly Hog Prices and Weekly Futures Closes



Uses of Futures in the Hog Business

■ Farrow-Finish

- Lean Hog (LH) Futures – CME
- Corn Futures - CBOT
- Soybean Meal - CBOT

■ Feeder Pig Producer

- Corn
- LH futures that determines sales price

■ Finishing feeder pigs

- Corn
- LH futures that determines our sales price
- LH futures that determines our purchase price



Textbook Example

A producer has a load (or multiple loads) of 275 pound hogs to sell in the first part of April



Hedging Example-Up Market

Date	Cash Market	Futures Market	Basis
February 1	Target price through hedge: Futures - Basis or \$70.50 - \$3.25 - \$67.25/cwt	Sold one April lean hog futures contract at \$70.50/cwt	\$-3.25/cwt (estimate)
April 10	Sold 197 head of hogs at XYZ market, base Carcass price - \$71.75/cwt	Bought one April lean hog futures contract at \$75.00/cwt	\$-3.25/cwt (estimate)
<p>Futures results: Sold \$70.50 Bought \$75.00 resulting in loss of \$-4.50/cwt</p>			
<p>Actual price received: Cash price + gain or loss in Futures $\\$71.75 - \\$4.50 = \mathbf{\\$67.25/cwt}$ Net Price</p>			



Hedging Example-Down Market

Date	Cash Market	Futures Market	Basis
February 1	Target price through hedge: Futures - Basis or \$70.50 - \$3.25 - \$67.25/cwt	Sold one April lean hog futures contract at \$70.50/cwt	\$-3.25/cwt (estimate)
April 10	Sold 197 head of hogs at XYZ market, base Carcass price - \$62.25/cwt	Bought one April lean hog futures contract at \$65.50/cwt	\$-3.25/cwt (estimate)
Futures results: Sold \$70.50 Bought \$65.50 resulting in Profit of \$5.00/cwt			
Actual price received: Cash price + gain or loss in Futures $\$62.25 + \$5.00 = \mathbf{\$67.25/cwt}$ Net Price			



Other Reasons/Uses of Futures

- Most “Marketing Contracts” do not have a fixed price → They just allow you to market hogs at SOME price.
- Many market hog and feeder pig prices utilize LH futures in determining a sales price
- Corn and soybean meal price risk can also be managed using futures contracts



Example II

A feeder pig finisher buys 40-50# feeder pigs for 65% of four months out futures with a 45/25 window.

Will buy 880 head feeders in April to sell as market hogs in July-August.



Hedging Buying Example Up Market

Date	Cash Market	Futures Market	Basis
February 1	Target price through hedge: Futures at \$60 X .65 = \$39.00/hd	Buy one Aug lean hog futures contract at \$60/cwt	\$0.00
April 10	Buy 880 head of feeders from BJBH, LH futures \$70X.65 = \$45.00/hd	Sell one April lean hog futures contract at \$70.00/cwt	\$0.00

Futures results: Bought \$60.00
Sold \$70.00
resulting in profit of **\$10.00/Cwt. on 400 Cwt = \$4,000**

Actual price paid: Cash price - gain
 $\$45.00 \times 880 = \$39,600 - \$4,000 \text{ (gain)} = \$35,600/880 = \$40.45/\text{hd net}$
Purchase Price



Hedging Buying Example Down Market

Date	Cash Market	Futures Market	Basis
February 1	Target price through hedge: Futures at \$60 X .65 = \$39.00/hd	Buy one Aug lean hog futures contract at \$60/cwt	\$0.00
April 10	Buy 880 head of feeders from BJBH, LH futures \$50X.65 = \$32.50/hd	Sell one April lean hog futures contract at \$50.00/cwt	\$0.00

Futures results: Bought \$60.00
Sold \$50.00
resulting in loss of \$10.00/Cwt. on 400 Cwt = \$4,000

Actual price paid: Cash price + loss
 $\$32.50 \times 880 = \$28,600 + \$4,000 \text{ (loss)} = \$32,600/880 = \$37.05/\text{hd net}$
Purchase Price



How Many Contracts Do I Need for Feeder Pigs Based on Futures Prices?

1. Determine the impact of \$1/Cwt change in futures.
2. Divide 400 by this change.
3. This number is the number of pigs one LH futures contract will “cover”.



How Many Contracts Do I Need for Feeder Pigs Based on Futures Prices?

$$\text{Number of Pigs/Contract} = \frac{400 \text{ (Cwt. in 1 LH futures)}}{1 \times \% \text{ of futures used for pig price}}$$



Example II Revisited

A feeder pig finisher buys 40-50# feeder pigs for 65% of four months out futures with a 45/25 window.

$$\text{Number of Pigs/Contract} = \frac{400}{1 \times .65}$$

$$\text{Number of Pigs/Contract} = 615$$



A Dose of Reality

- Hedging will not always guarantee the highest/lowest price
- Actual basis will vary
 - Quality of hogs
 - Time
 - Other factors
- Contract numbers will not always work out evenly
- Your lender needs to be “on board” with what you are doing



Summary

- Producers can use the futures market to manage price risk
- It is important to know the type, amount, time and price needed for hogs to be marketed
- Although basis' may vary, this still reduces risk more than remaining totally unprotected
- Futures can also be used to manage input price risk
 - SEW Pigs
 - Feeder Pigs
 - Corn/Soy Meal

