Factors Influencing Marketing Margins in Cattle and Beef Markets

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Justification

- Lack of research on marketing margins in backgrounding and feeding phases of cattle production
- Estimating marketing margins in the presence of long production lags
- Homogeneous product – tight margins
- Economies of scale – small and medium-sized farms
- Examine relationships among margins and volatility of input prices

Objectives

- Define the factors that influence marketing margins in the beef industry
  - Develop a conceptual model of marketing margins for backgrounding and feeding operations that explicitly incorporates realistic production lags
  - Quantify the impact of key variables on beef industry marketing margins

Preliminary Results: Feeding Margin

Variable Description	Parameter Estimate
Constant	4.264
Supply of fed cattle	-0.020**
Price of corn	18.399***
Wage rate index	-23.158***
Energy price index	-0.590***
Live Cattle price volatility	0.005
Corn price volatility	0.015***

***, **, * Denote significance at 1, 5, and 10 percent respectively.

Backgrounding Margin

Variable Description	Parameter Estimate
Constant	0.142
Supply of feeder cattle	0.001
Price of corn	7.232***
Wage rate index	-0.007
Feeder Cattle price volatility	-0.008***
Corn price volatility	0.004

***, **, * Denote significance at 1, 5, and 10 percent respectively.

Estimates of Short-run Elasticities

Variable	Feeding Margin	Backgrounding Margin
Fed cattle supply	-0.146	
Feeder cattle supply		0.082
Price of corn	0.200	0.185
Price volatility: Live Cattle	0.015	
Price volatility: Feeder Cattle		-0.078
Price volatility: Corn	0.134	0.087

Summary of Key Results

- Behavior of supply/demand equations and marketing margins generally conforms to theoretical foundations established in the literature
- Estimates related to corn price suggest a larger impact on feeder cattle than on other levels of the market
- Impact of input and output price volatility on margins also appears greatest on feeder cattle sector

Future Directions

- Further examine relationships among variables in the models developed here
  - Possible non-linearity in key variables such as corn price
  - Stability of the estimated parameters, especially in light of commodity market volatility since 2007
- Effect of assumptions related to length of production lags
  - Lags are not as determinate as modeled here. Is it possible to model variable production lags?

Extending the Research

- This research will provide the foundation for education materials and training modules
- Making small and medium sized producers aware of the factors that influence their margins is key
- Integration of results into solutions producers can employ on their own operations is a priority
- Hands-on training, computer based tools and other Extension related output will provide the platform to achieve these goals

Disseminating the Results

- Phase I:
- Build an online tool that incorporates study results into a more broad scope of risk management offerings, farm management concepts and financial analysis
  - Previous work on a decision aid for stocker/backgrounder operators proved fruitful and could be incorporated into the current studies offerings
  - http://www.new.aaec.ttu.edu/stocker2/

Disseminating the Results

- Phase II:
- Provide comprehensive educational modules related to the study findings
  - Mississippi Cattlemen's Association is planning "Cattlemen Colleges" to coincide with these events
  - Book-end modules with risk and financial management training
- Use video 'webcast' to broaden the reach
  - Archive videos on the web

Disseminating the Results

- Phase III:
- Take modules to other states
- Utilize the growth of mobile technology by building a smartphone application that incorporates study results
  - Experience gained in recent application development