Understanding Price Determination vs. Price Discovery

Clement E. Ward
Professor and Extension Economist
Department of Agricultural Economics
Oklahoma State University

Common Questions

How can there be $30/cwt. price swings, sometimes within just a several-month period?

Are these large price swings caused by concentration? captive supplies? incomplete market information?

Definitions

Price determination is the interaction of the broad forces of supply and demand which “determine” or cause the market price level.

Price discovery is the process of buyers and sellers “discovering” or arriving at transaction prices for given qualities and quantities of cattle at a given time or place.

Figure 1. Price Determination

Diagram showing supply (S) and demand (D) curves to illustrate price determination.
Figure 2. Price Discovery

Broad Supply Factors for Beef

- Input prices (for replacement heifers, cows and bulls, forage and feed grains, interest rates)
- Technology (breeding programs, nutrition management, animal health management)

Broad Demand Factors for Beef

- Prices of competing protein or main-dish products (pork, poultry, fish and seafood)
- Consumer disposable income
- Consumer tastes and preferences (including health and nutrition preferences, type and size of products, seasonings and flavorings, consistency, convenience in preparation)
Factors Affecting Price Discovery

- Market structure (number, size, location, and competitiveness of buyers and sellers)
- Market behavior (buyer procurement and pricing methods)
- Market information and price reporting (amount, timeliness, and reliability of information)
- Futures markets and risk management alternatives

One Example of Price Discovery Research -- Feeder Cattle

- weight
- lot size and uniformity
- health (vaccinations, sick, bad eyes, lame, etc.)
- condition and fill
- muscling and frame size
- horns
- breed and breed combinations
- time of sale
- location of sale
- marketing method (auction, direct, satellite auction)
- buying activity (number of buyers or number of bids)

Another Example of Price Discovery Research -- Fed Cattle

- boxed beef cutout value
- live cattle futures market prices
- cattle quality (including sex, weight, quality grade, yield grade, and breed)
- sale lot size
- number of days between purchase and delivery of cattle
- number of packers bidding on cattle
- number of packing plants or firms
- individual feedlots
- day of the week
- time of year
- region of the country
- extent and type of captive supplies
**Conclusion**

- The general level of prices reflects supply and demand factors
- Week-to-week, day-to-day, and individual transaction prices fluctuate above and below the general market price
- Concentration, captive supplies, incomplete market information have little effect on the general market level -- but can significantly affect price variation or price discovery