Cattle Markets, Price Discovery, and Emerging Issues

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Price Discovery – What It Is and What It Isn't

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Concerns regarding price discovery in fed cattle markets are widespread throughout the industry, as evidenced by the prominence of the subject in the agricultural media these days. As you read various articles or hear various discussions about price discovery it is important to know that the terms "price discovery" and "price determination" are often used interchangeably. Given policy proposals and discussions regarding fed cattle price discovery, it is important to have a clear understanding that these different terms have specific meanings. Knowing the differences in these terms can improve understanding and assessment of changing institutional arrangements and related price behavior in fed cattle markets.

Price discovery refers to the means by which a buyer and seller arrive at a price for a specific transaction. All of the buyer's bids and all of the seller's asks or offers during the negotiation are part of the price discovery process. While not discussed in detail here, many factors may affect the buyer's bids and seller's offers during bargaining (these factors are covered in a different article in this series). Factors that may impact price discovery include such things as size, location, and competitiveness of buyers and sellers, buyer and seller behavior when negotiating price, available market information, risks, and costs faced by buyers and sellers (Ward and Schroeder 2002). Once the transaction is complete, the agreed upon price between the buyer and the seller provides a signal, and a potential piece of information to other buyers and sellers about what those particular cattle were worth. Price discovery, then, is concerned directly with the mechanics by which individual transaction prices (and other terms of trade) are established rather than with broader, and generally more theoretical, issues of how supply and demand fundamentals affect the general price level (Tomek and Kaiser 2014).

Price determination refers to the general price level that prevails after the discovery of a number of transaction prices. As individual buyers and sellers respond to new supply and demand factors during their negotiations, observed transaction prices adjust, and as these individual prices are revealed a general

level of market price emerges. In short, price determination is concerned not with the outcome of any particular transaction but rather with the general price level that prevails based on fundamental conditions in the broader market. It is these fundamental forces of supply and demand for a particular product or commodity that drive price determination (price level). In effect, then, price determination represents a macro-level perspective on the equilibrium price while price discovery represents a micro-level perspective on the variability of prices around that equilibrium.

The use of Alternative Marketing Arrangements (AMAs) and volume of negotiated cash trade have been connected with price discovery concerns in recent policy discussions. AMAs are contracts used between buyers and sellers to transact fed cattle being delivered to specific packing plants. These AMAs generally specify numbers of cattle to be delivered and often have quality and delivery time specifications spelled out in the contracts. These AMAs often use the previous week's reported price as a base from which (with some agreed upon adjustments) to determine value of the delivered cattle (Peel et al., 2020). As such, there is no negotiation of price, or price discovery, for those cattle. As the volume of cattle sold via AMAs has increased, so have concerns regarding price discovery. These concerns often center around how the use of AMAs affects reported cash price levels (price determination), and/or how this affects the frequency of marketing opportunities to buyers for feedlots not using AMAs. (The economics of AMAs will be discussed in more detail in a different article in this series.) This frequency of marketing opportunity may impact individual bargaining behavior and therefore price discovery (Bastian 2019; Sabasi et al. 2013).

Often when price levels are low, concerns may be expressed about price discovery. Over twenty years ago, Schroeder et al. (1998) noted the tendency for price discovery concerns to proliferate in a low-price environment. However, it is important to understand first how the supply of cattle and related beef production have changed in relation to the demand for beef and consequently demand for cattle into packing plants. For example, when supplies of beef increase, we often see price levels decrease as individual transactions prices tend to be pushed downward as buyers are feeling pressure to pay less for cattle given lower beef prices (i.e., price determination is pushed lower). The opposite is true when demand for beef strengthens and/or beef supplies contract, pushing beef prices higher and supporting higher individual transaction prices for fed cattle (i.e., price determination is pushed higher).

With respect to the fed cattle market, it is worth noting clearly what improving price discovery can and cannot do. Most importantly, improving price discovery cannot be expected to improve the overall level of prices (price determination) if prevailing supply and demand fundamentals are consistent with low prices. Conditions in the cattle and beef industry in 2020 and 2021 have been challenging for all market participants, and it is understandable that dissatisfaction with market outcomes has been widespread. Improving price discovery is a worthwhile goal. It has the potential to benefit all market participants – both producers and consumers; but it will not provide higher prices when market fundamentals do not support higher prices. The important question is whether proposed policies provide the proper incentives for both buyers and sellers to improve price discovery (not price determination).

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