Fed Cattle Price Discovery Issues and Projections

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Price discovery is the process of buyers and sellers arriving at transaction prices. Several factors have caused price discovery to become a major concern to cattle producers and others in the past few years (see WF-551 "Understanding Livestock-Meat Industry Pricing Issues"). Research was initiated by the authors to examine price discovery issues in the beef industry. The overall objective was to determine how price discovery will change over the next ten years. Most information for this study came from a series of personal and telephone interviews with persons associated with selected cattle feeding, beef packing, and related industry firms and organizations (Schroeder et al. 1997).

Price Discovery Issues: Industry Perspectives

As many differences were identified among packers and among feeders during our interviews as there were between packers and feeders. Some packers and feeders thought price discovery was not really a problem or issue. Others thought it was a major problem.

Three issues may have received more unanimity than others related to price discovery. One was the need to better identify beef quality, ideally by a more objective means. Quality often, but not always, referred to tenderness and the "eating experience" of consumers. Second was the need for greater pricing accuracy, moving from average pricing to more value-based pricing. Third was the need for more complete and better market information.

One thread seemed to tie much of the discussions together. Economics will dictate where the beef industry goes and how it gets there. Economics will ultimately determine what beef's market share will be in 2005 and 2010, how important public grades and grading will be, and whether consumer brands for fresh beef become common. Economics will affect how much influence alliances will have, whether most cattle are marketed by some value-based pricing system, and what changes will occur in market information and futures markets.

Six price discovery issues which surfaced frequently are listed below.

(1) *More accurate, less subjective measurements of beef quality are needed.*

Most cattle feeders and packers agreed that any movement to less subjective grading would be beneficial. Cattle producers located in the northern regions felt that regional biases in cattle quality grading increase the need to develop less subjective grading systems. Regional grading biases were echoed by several beef packers. Many participants generally agreed that third party quality grading was essential. However, larger packers felt that they could quickly adjust to elimination of federal quality grading. The consensus was that mechanized, objective quality grading is preferable to current, subjective quality grading.

Several cattle feeders and packers indicated that there is a large market for lower-quality, cheaper beef products. The issue is that these lower quality beef products need to be accurately identified and targeted to the appropriate markets and lower prices paid for these animals at the time they are marketed. The problem was described as not so much one of excessively bad beef quality, but one of inaccurate and inconsistent identification and sorting of higher versus lower quality beef.

Many also voiced considerable concern regarding predictability of red meat yields (actual pounds of retail beef from each boxed beef or primal cut). Boxed beef yields from the same quality and yield grade of carcasses vary considerably and current technology does not accurately estimate boxed beef yields. Technological developments such as video imaging seem to hold considerable promise in this regard in the near future.

(2) *Price premiums and discounts for fed cattle do not adequately reflect cattle value differences.*

Cattle feeders with small operations located in areas with access to higher quality, more uniform cattle (e.g., Nebraska) had strong sentiments regarding this issue. They felt that the way to receive prices that reflect value was to sell cattle on a grade and yield, dressed-weight basis. As a result, a large percentage of cattle in Nebraska are sold on a dressed-weight basis. However, in areas with less uniform cattle (e.g., Texas), large custom cattle feeders tend to be less concerned about selling cattle on averages, as they have significant incentives to do so. Large cattle feeding operations that feed large numbers of their own cattle varied in their opinion on this issue depending upon their management strategy. Cattle feeders striving to be low-cost cattle feeders, tended to be less concerned about price differentials and more willing to sell cattle on averages than those attempting to target their cattle to specific markets.

Another way cattle feeders more closely tie cattle price to quality was through development of vertical alliances (i.e., partnership arrangements with one or more firms in the vertical marketing channel from producers to retailers). Some cattle feeders felt that if they could develop vertical alliances with cattle of known genetic bases, they could market retail branded beef from these cattle to higher-value markets and secure part of the premium themselves. Longer-term alliances were viewed as a way to accomplish this. Here again, some larger feeding operations that tended to be volume-driven were less interested in developing such arrangements.

Most beef packers interviewed felt that buying cattle on averages was detrimental to the industry. All packers indicated a willingness to buy cattle based on quality. Buying cattle based on dressed weight rather than grade and yield seemed to be more prominent . Packers felt more cattle would move away from being bought on a live basis, i.e., on averages, over time, but it would be slow to happen because of some cattle feeders' resistance to change.

(3) *Inadequate market information inhibits efficient price discovery.*

Almost every cattle feeder interviewed, many of the beef packers, and even retailers indicated a need for increased and more reliable market information. An issue not addressed was the willingness to pay for more or better information. Different individuals and firms stressed different needs. Cattle feeders felt more information was needed on short-run week-to-week supply and demand conditions. In particular, they wanted more information regarding formula and contract cattle being delivered to packers.

Many of the industry participants across different sectors indicated a need for better price reporting of wholesale boxed beef products. They felt current price reports were not representative of boxed beef trades primarily because of an insufficient volume of trades reported, especially for close-trim products. Recommendations included using less-than-truckload prices to increase the volume of trade and increased efforts on capturing more of the total boxed beef trade in price reports.

Inadequacy of public retail price reporting received even greater concerns by those who need this information. Concerns included the need for volume-weighting retail prices to reflect actual trade rather than just published prices, and a desire that retail specials be better reflected in retail price reports.

(4) *Live cattle futures basis risk is excessive.*

Some cattle feeders felt live cattle futures market basis risk (i.e., basis is cash price minus futures market price) has become excessive since contract specification changes were implemented with the June 1995 contract. They indicated problems with the delivery process for the live cattle contract, especially for cattle that do not meet contract specifications. Stipulated discounts for cattle not meeting specifications are not market determined, which causes divergence of futures and cash prices at times. These participants advocated cash settlement of live cattle futures.

Concerns regarding live cattle futures tended to be regional. Cattle feeders in the northern states were generally less concerned than cattle feeders located in Texas and Kansas. This may be in part because of differences in quality distributions of cattle fed in northern states relative to the south. Many cattle fed in the north may fit futures contract quality specifications more closely.

(5) *Formula pricing arrangements adversely affect cash fed cattle markets.*

Cattle feeders who do not participate in formula marketing agreements had strong sentiments against such agreements. This was true regardless of feedlot operation size. These feeders voiced considerable concerns that existence of formula pricing arrangements made it difficult for them to discern fed cattle supply and demand on a week-to-week basis. As a result, they indicated that this contributes to panic selling of fed cattle by cattle feeders who have limited access to this information. Some of these cattle feeders called for a need for weekly information on how many cattle each packing plant had secured for delivery under formula. Some cattle feeders indicated that when formula cattle deliveries were at high levels, certain packing firms did not bid for cattle in the cash market and they felt this depressed live prices.

Cattle feeders involved in formula marketing agreements generally had much different perspectives than their counterparts who did not participate in such agreements. Cattle feeders marketing via formulas indicated that formula pricing taught them the advantages of sorting cattle, including sorting several times prior to marketing. They indicated formula prices better reflect true value and eliminate pricing on averages. They felt that pricing fed cattle on formulas helped them improve their feeder cattle purchasing strategies. Some participants in formulas voiced concerns that if only better quality cattle are sold on formula and the formula price is based on live cattle cash market trade, then poorer quality cattle are establishing the base price for better quality cattle.

(6) *Group marketing of fed cattle may offer solutions to some price discovery problems.*

Cattle feeders who had smaller operations, especially those not located in strategic locations relative to several competing packing plants, felt that group marketing efforts could help reduce some of the problems associated with fed cattle price discovery. Some perceived countervailing the power of large packers as one potential benefit of joint marketing. Generally, large feeding operations had less enthusiasm regarding these arrangements. Many felt that group fed cattle marketing efforts would fail because nothing would bind participants to the group and actual benefits may not be a large as some organizers perceive.

Packers tended to be less excited about group marketing efforts. Several issues they felt important to consider included the fact that group marketing would not solve the problems associated with pricing on averages for the industry as a whole. They voiced concern that cattle producers need to be cautious about getting tied into group marketing efforts that promise big returns by branding beef products and owning them all the way to retail. They felt that considerable capital, infrastructure, and marketing expertise is needed to develop and sustain this kind of effort.

Price Discovery: Future Prospects

Improved price discovery and vertical coordination in the beef industry are essential for beef to maintain market share in the future. Market prices need to better signal buyer preferences from the consumer level all the way to cow-calf producers. This study detailed important forces influencing how price discovery and vertical coordination have evolved in the beef sector. The purpose of this section is to use key findings of this study to provide projections for the next decade.

Changes are occuring and economic forces will dictate the direction of future changes. Change will occur as untapped profit opportunities are discovered by innovative beef market participants. Precisely who in the industry will step forward and be the leaders of change is not always apparent, but all market participants will be affected.

One theme that pervades all change in the beef sector is that the industry desperately needs to produce products perceived to possess greater value to consumers. Value means the product must be priced competitively, must be convenient, and must provide a consistently desirable eating experience for consumers. These attributes, though simple conceptually, have proven immensely difficult for the beef industry to manage. A myriad of beef products and product qualities are produced from cattle and the target markets represent such a diverse set of consumer demands, that there is no simple solution to the industry's struggle for market share. This diversity of beef products and array of target markets suggests the industry and beef products are likely to become progressively more segmented in the future. In order for beef product segmentation at the consumer level to succeed, segmentation will increase at all levels of the cattle and beef production chain as each level strives to become more customer focused.

Significant forces influencing price discovery and vertical market coordination in the beef industry over the next decade are:

- Technology to *improve* our ability to identify and sort beef products according to varying quality attributes and value will be developed and adopted commercially by processors. Several such technologies are already being developed, including beef tenderness tests, video imaging, and product identification tracking. Technology will create quantitative and/or mechanical quality determination procedures, reducing subjective meat quality assessment. This is a necessary step toward better identifying and paying for quality attributes of fed cattle.
- Federal beef quality grades are likely to be less important in ten years. Many different means will be adopted to measure and describe beef quality differences, depending upon the targeted consumer. Because standardized quality grades are not likely to adequately measure all the different needs of varied consumers, standardized grades will have less general value. However, in transition, federal quality grades are *valuable* to the industry and should be *maintained*. Though the current grading system does not adequately describe beef tenderness and the eating experience consumers can expect, a significant overhaul of the quality grading system may be in order rather than attempting to fine tune the current system.
- Our ability to predict meat quality from visual inspection of live cattle will not improve much over the next decade. Thus, live cattle price differentials will not adequately reflect cattle and beef value differences. This will lead to more fed cattle being sold on a dressed weight, carcass quality and yield grade basis.
- Formula and grid-based pricing will become more common in procurement of fed cattle by packers. Pricing methods that more accurately reflect value differences will replace systems not based on product value. Grids may continue to have a variety of base prices and a range of premiums and discounts. It will continue to be important for USDA to continue to collect and report grid prices.
- More cattle will be produced under alliances that directly link cow-calf producers all the way to retail and food service outlets. Alliances provide opportunities for clearer price signals, encouraging producers to produce beef products targeted to specific consumers. However, only a relatively small portion of the industry will find alliances profitable, as they involve considerable risk, coordination, infrastructure, and control, and generally offer only modest opportunities for additional profit. Alliances will not replace the predominant pricing methods for fed cattle, but information exchanged in alliances will supplement price signals in the market place. Alliances may also contribute to better understanding between feeders and packers and a reduction in the disruptive adversarial relationship that plagues the beef industry.
- The result of more fed cattle being sold on a dressed weight, carcass quality and yield grade basis, greater use of price grids, and increased alliances will shift the center of price discovery more to the wholesale level. This suggests greater need for continued efforts to improve boxed beef and byproducts price reporting by USDA.
- Producer group marketing and closed cooperative efforts will increase, but they will not represent a significant portion of the fed cattle market. The most probable beneficiaries of producer group marketing activities will be smaller and mid-sized operations. Group efforts for these producers may offer significant opportunities for information sharing and capturing of volume-premiums associated with grouping cattle for large beef processors.
- Certified beef marketing programs may expand modestly in the future. However, the success of these programs will depend critically upon the certification program integrity and whether the certified beef is perceived to be differentiated from other beef products.
- An increased share of beef will be brand marketed in the future. However, who will take the lead in branding beef products may vary. Some alliances may introduce branded products; some producer groups may initiate branded products; some certified programs already involve branded products; many restaurants differentiate themselves by the beef they sell with their name serving as a brand; some packers may brand beef products; and more retailer product branding could occur. Large beef processors appear to be a natural place for branding to expand, but large packers will not brand much beef until the profitability of doing so is clear and they can make the large investment in capital required for a branded beef program. Relative to current large packer operations, successful beef product branding requires much more

control over the type of cattle procured, careful beef quality measurement and sorting, extensive coordination between product merchandisers and commodity procurement, and national brand promotion programs. This more intensive management and control is costly and a large packer whose comparative advantage is large volume, low-cost processing sees little benefit relative to the increase in costs and risks associated with large-scale branding. This will slow development of branded beef.

- Asymmetry of market information is one characteristic of the beef industry and was considered problematic by cattle feeders. The USDA has been very responsive to industry demands by developing new information and reports. Even more information is needed, especially regarding close trim and all boxed beef prices, export prices, hide and offal values, and short-run captive supplies. However, at times industry participants resist public reporting requests. If industry participants do not cooperate and provide information as requested, mandatory reporting may be the inevitable policy solution. The need for more market information regarding captive supplies is not an indictment against this marketing method or against packer concentration; it simply represents a need to balance information flows when these marketing alternatives are prevalent.
- Market institutions need to evolve with the industry. The live cattle futures contract will see increased pressure to move to a dressed weight specification. This was not necessarily a position held by most industry participants interviewed for this study. However, overwhelming evidence suggests that live cattle cash trade will decline and dressed weight pricing will increase in the future. Carcass weight pricing will likely become the predominant fed cattle pricing method in ten years, although a significant percentage of fed cattle will still be priced on a live weight basis. In addition, the dressed beef contract will likely be cash settled because of the inherent difficulties in delivering dressed beef. Developing a cash settled dressed beef contract will require improved boxed beef and carcass price reporting by the USDA.
- Electronic trade of fed cattle (either on a live or carcass basis) may have had a role at one time in the beef industry. However, it appears less likely it will play a role for large, integrated, vertically coordinated firms targeting beef to specific consumer segments. An electronic market is likely to suffer from insufficient volume and therefore, is not likely to succeed.
- Negotiating terms of trade for fed cattle will increase. Larger operations, group efforts by producers, producer cooperative ventures, alliances, and product branding all require more negotiation of terms of trade than previous marketing methods. Beef product specifications, base prices, formulas for premiums and discounts, volume needs, and control and verification of production practices all associated with targeting products that focus on specific consumer demands increase the need for, and benefits of, negotiations among market participants. Increased negotiations require better market information, technology to more accurately measure negotiated meat product specifications, increased knowledge of how to control product quality, and more coordination among stages of the marketing and production system.
- When technology and incentives for improved meat product market segmentation develop, the highly concentrated packing and increasingly concentrated cattle feeding industry structures will lead to rapid adoption throughout the industry. Conversely, if technology is slow to develop or market price differentials are inadequate to induce change, the beef industry will continue to lose market share.

Change in the way beef is produced and marketed, in the institutions used to coordinate the market, in the way product quality is determined, in the way markets are segmented and consumer demands are met, and in the information and skill needs of industry participants are inevitable. These changes will not come without costs, risks, resistance, and some failures. The beef industry has traditionally been slow and reluctant to change in accordance with market conditions. Many reasons contribute to the industry's sluggishness, including significant biological production lags, decentralized production with divergent comparative advantages of producers in different geographic regions, commodity-focused mentality of the industry, risk, and market structure. Ultimately, the beef sector will not maintain its market share unless the industry faces the changes necessary to meet consumer demand over the next decade.

References

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