The vertical coordination systems between livestock producers and processors have dramatically shifted toward long-term contract coordination or vertical integration in the pork sector; however, fed cattle producers still rely heavily on spot market or short-term contract linkages with meat packers. Concerns about the negative influences of contracts—enhancing packer market power and causing lower prices for independent producers—have clearly been much more strident in the beef industry. We postulate that the large size of pork producers in the Southeast and few processors available there, the greater specific investments for pork producers and branded pork processors, and the beef industry’s greater length and breadth of the multiple stage supply chain and later emphasis on brand merchandising programs provide the leading rationale for the different patterns of organizational change in these two industries. Related paradoxes—the great success of formula pricing contracts is likely to lead to its demise, and the concerns about contract linkages negatively affecting prices have been greater in the industry where there is less contracting.

Keywords: Contracts, Formula pricing, Beef, Pork
The U.S. Pork and Beef Sectors: Divergent Organizational Patterns, Paradoxes and Conflicts

The U.S. beef and pork sectors have experienced significantly different evolutionary patterns in their food chain organization in the last two decades. The vertical coordination systems between livestock producers and processors have dramatically shifted toward long-term contract coordination or vertical integration in the pork sector; however, fed cattle producers still rely heavily on spot market or short-term contract linkages with meat packers. Concerns about the negative influences of contracts—enhancing packer market power and causing lower prices for independent producers—have clearly been much more strident in the beef industry. In this paper, we postulate the rationale for the different patterns of organizational change in these two industries.

Consider first the challenges of satisfying changing consumer preferences, and how these meat industries have responded. Producers of slaughter animals have long been linked to processors by spot markets, with slowly increasing use of carcass merit pricing systems to provide signals and payoffs for the producers whose animals best serve processors’ needs. Cattle producers were rewarded with small bonuses for “Choice” quality grades that were based on marbling and age, weakly associated with eating quality. Yet research throughout the 1990s indicated consistent dissatisfaction reported by beef consumers (Lusk, et al. 1999). Similarly, for many years, pork carcass merit incentive programs emphasized paying for lower fat and increased muscle yield, yet the eating quality under normal cooking methods has deteriorated. As a result, processors now routinely inject fresh pork (and they are beginning to do the same for beef) products with liquid to compensate for insufficient tenderness and juiciness, or for overcooking by consumers. Thus, it seems that the incentive systems in these commodity industries have been blunt instruments of change. The challenge is magnified as consumer preferences become much more specific and varied. Japanese customers emphasize color and marbling; branded product processors, in order to satisfy the preferences of an increasing share of the domestic restaurant and retail markets, require very consistent breed, color, marbling, and size. Will pumping these products be sufficient solutions to some problems that have emerged, or are more extreme control measures and changed incentive systems for the quality of the initial raw material necessary to meet customer objectives and achieve a competitive advantage? How much do incentives have to change for livestock producers to shift away from standard productivity objectives like feed efficiency, growth rates, and pigs per litter, that often conflict with more customer-oriented genetic and production management choices?

Use of contracting systems in the pork sector to assure quality and consistency of supply, particularly in branded product programs has increased dramatically. For animals and wholesale products in both the beef and pork industries, contracting systems in place typically involve “formula pricing” as the method by which to determine payment. These systems generally rely on the spot market price discovered by spot market participants as the base contract price. However, continuing success of such contracts is sowing the seeds of its own destruction as spot markets become thinner and become perceived as not representative and more subject to potential manipulation—truly a paradox worth considering. Currently, less than 20 percent of the hogs marketed daily are negotiated trades, and the number of negotiated fed cattle is declining, although less dramatically. Other innovative contracting systems may have to replace formula pricing, or there may be a more rapid shift toward vertical integration of packers into production.

We continue with an overview of the structure and organization of the pork and beef sectors and a brief review of literature on contract theory and empirical studies. Then we document how and why the use of long-term contracts and formula pricing of live animals has grown dramatically in the pork sector, and contrast that with the beef sector where long term contracts are more limited in use. This paper builds on many prior studies of the pork sector coordination system, and fewer studies of the slower changing, but controversial coordination links in the beef sector in the U.S. (See Hayenga, et al., 2000 for a review).

Pork and Beef Sector Overview

Pork sector evolution
Hog production in the past quarter century has become industrialized in the sense that most hogs are now produced in highly specialized factory-like confinement facilities, and approximately half are owned by people who often specialize entirely in farrowing, finishing, or farrow-to-finish hog production. Whereas a 500-sow unit was considered large 25 years ago, units of 2,400 to 5,000 sows are more common now. Leading producers own and control many units of that size as they franchise their production systems to many growers and locations. Approximately 70 percent of U.S. hogs are in operations with at least 5,000 hogs (U.S.DA, NASS, Hogs and Pigs, 2001). The largest 150 operations produced 51 percent of U.S. hogs in 2000 (Lawrence and Grimes, 2001).

Rhodes and Grimes documented this transformation of hog production and coordination systems in nine periodic national surveys of hog producers over a period of 20 years (1974-1994), focusing on contract production (Rhodes 1995). Contract production is often mistakenly assumed to be vertical coordination into hog production by feed companies or packers. In actuality, the majority of U.S. contract production occurs as horizontal contracting among producers. A producer with more assets, management skills, and/or willingness to take risks provides the hogs (breeding stock or pigs) and the feed to another producer who raises them. The producer-grower has incentives that generally arise from a lack of capital, management skills, and/or unwillingness to take large risks. This horizontal contracting needs to be distinguished from vertical coordination by packers, which increased in the 1990s when a few packing plants built both plants and their own hog production units or contracted with hog production units to supply hogs for the plants. Packer production contracts increased to approximately 20 percent of industry volume recently when Smithfield Foods purchased two large production companies holding numerous production contracts.

Beef sector evolution

Unlike hogs that are almost exclusively produced in environmentally controlled confinement buildings and typically have one owner throughout their lifetime, beef cattle are geographically dispersed and have multiple owners. Calves are produced on cow-calf operations and then sent to either interim “stocker” operations in which they grow to 318-386 kg. (700-850 pounds), or sent directly to feedlot operators until they reach slaughter weight. Calves are produced in relatively small cowherds in all 50 states wherever grazing of forage or crop residue is available. In 2000, there were over 830,000 beef cowherds; approximately 650,000 herds with fewer than 50 cows produce 30 percent of the nation’s calves (U.S.D.A., NASS, Cattle, 2001). While the overall number of beef cow operations has declined, there has not been a significant consolidation in this segment of the industry. In the 1960s the economies of specialization and scale in cattle feeding and the increased feed grain supply in the High Plains led to the rapid industrialization and relocation of cattle feedlots. In 2000, 68 percent of U.S. fed cattle was marketed by 258 feedlots with a capacity of 16,000 head or larger (U.S.D.A., NASS, Cattle on Feed, 2001). In a survey, Ward, et al. (2001), found that feedlot operators owned only 38 percent of the cattle in their feedlots. The remainder was owned primarily by the original breeder and to a lesser extent outside investors. The cow-calf and outside investors’ relationships with feedlot operators may be long term or very short term, depending on cattle feeding profitability and feedlot operator’s performance and fee structure. Thus, over half of a feedlot operator’s cattle may be under short-term, relatively ephemeral relationships.

Cow-calf operations have relatively small, but somewhat flexible investments in grazing land (often rented or leased) and specialized, but liquid, investment in their breeding animals. Feedlots have relatively low sunk costs in feedlots and grain handling facilities, but high throughput. Thus, the beef sector has less specialized investments in facilities and equipment than the pork sector ($31 versus $58/hundredweight sold (Iowa State University Extension, 2001).

Relevant Theory

There have been a series of theoretical conjectures regarding the nature and type of vertical linkages between firms at adjacent stages in a production-processing-distribution system, though theory to date tends to focus on links between individual pairs of firms in adjacent stages, not multiple stages in a complex system like the food chain that is difficult to characterize and manipulate mathematically. In addition, the competitive responses of firms in the markets and industries may be indirectly considered in the theory to
date, but seldom explicitly in a more macro industry behavioral theory. The empirical verification of these conjectures has been limited, with few cross-section studies of many industries, and a greater number of anecdotal case studies that are used to weakly support or refute some theoretical conjectures (Knoeber, 1998).

Traditional industrial organization theory (Katz, 1989; Perry, 1989; Williamson, 1989) attributes motivations for vertical linkages (contracts or vertical integration) to avoiding market power at adjacent stages in a vertical food system (or obtaining the adjacent stages’ higher profits), reducing price volatility by relying on different input or product markets, technological complementarities between adjacent stages or minimizing transactions costs. Coase (1937) argued that there were transaction costs that could be reduced or avoided if the firm chooses to carry the intermediate product closer to the customer; but internalizing these intermediate steps has costs as well, and must be compared to the relative cost of achieving the same result in spot market stage linkages. Incomplete markets and contracts have been postulated as reasons for vertical integration. Agency theory based on principal-agent behavioral conjectures focuses on opportunism and shirking by contract partners as motivations for integrating rather than contracting (Mussel, 2001). Williamson (1989) argues that increasing asset specificity within a firm or vertically related firms favors contracts over market transactions. Firms with more significant relationship-specific investments (RSI) benefit from predictable throughput and prices (Hennessey and Lawrence, 2000). This risk reduction is increasingly important as investments increase in facilities, novel genetics or, more importantly, branded products. Brands are costly to develop and, because they carry the reputation of the firm, they are significant assets to protect. While opportunism and hold-up are increased concerns as RSIs increase, Williamson (1985) suggests that, as assets become more specialized in use, the increasing costs of using the spot market will encourage individuals to negotiate contracts. These costs are particularly high when food safety and product quality problems occur, and tighter contractual relationships are one method to enforce greater process control (Hennessey and Lawrence, 2000).

Hayenga, Rhodes, Grimes and Lawrence (1996) reviewed the vertical linkage theory and empirical work in agricultural economics and identified two studies whose conclusions stood out. A George Morris Centre (1993) report concluded “that the organizational form (structure) of the vertical relationship depends on the nature of the tasks performed by each party, the specific human and physical assets used in production/marketing, how well performance can be measured, the absence or existence of trust between parties, and the risks involved in the production process and in the relationship.” Sauvee (1994) examined the relationships among the evolving theoretical developments, and attempted to integrate them in an analysis of the U.S. broiler industry—the leading example of a tightly controlled chain in the U.S. He concluded that the ability to explain why heterogeneous vertical business linkages emerge, remain and compete in the food chain is far from being achieved.

Pork and Beef Sector Contrasts

Empirically, the degree and type of formal vertical linkages has differed greatly between the pork and beef sectors. Hayenga et al. (1996) noted that 87 percent of U.S. hogs were sold in the spot market in 1993, 2 percent were owned by packers and the remaining 11 percent were purchased on contract. By 2000 the share of spot market hogs had dropped to less than 20 percent while packer ownership climbed to 18 percent and the use of marketing contracts grew rapidly to over 60% (Hayenga et al, 2000; Lawrence and Grimes, 2001). Hog marketing contracts between producers and packers are typically 3-10 years in length or perpetually renewing, and clearly establish a long-term relationship regarding delivery schedules, carcass specifications, and quality assurance. The pork industry rapidly adopted the use of “grid” pricing (carcass merit prices based on lean percentage and weight) during the early 1990s (Lawrence, et al., 1996).

Pork producers identified price level and price risk as the two greatest advantages to having a marketing contract. Two potential concerns about contracts—being locked out of higher prices and not being treated fairly by packer—were considered unimportant (Lawrence and Grimes, 2001).

In addition to quality traits that impact eating experience, consumers value food safety and the ability to trace product to the point of origin. In some, but not all, cases the processor or retailer is willing to pay for the additional cost of certain food safety measures in order to reduce their liability. At least a portion of the value added to beef and pork products must be captured by the producers to induce a change in their
production and marketing practices. Thus, there are incentives to find supply chain management techniques that provide enough incentives to producers to offset cost of production differences and overcome the producers’ desire to remain “independent.”

Packers’ primary motivations for the use of long-term marketing agreements are their need for a consistent supply of quality animals and higher quality animals to meet consumer demand. This was true for both pork and beef packers; they expected these reasons to be even more important in the future (Hayenga, et al. 2000). Pork producers identified improved price levels and price risk as the two greatest advantages to having a marketing contract (Lawrence and Grimes, 2001). Beef producers recognized higher carcass premiums, access to carcass data, and less time spent marketing cattle as advantages to marketing agreements (Ward et al. 2001). Ward and Bliss (1989) and Schroeder et al. (1998) reported that reduced risk and enhanced financing opportunities were benefits to feedlots from marketing agreements. However, Ward et al. (2001) report that feedlots saw less advantage from risk reduction or financing options, but noted that feedlots did not feel pressured by packers to enter contracts. Thus there appear to be incentives for both parties to enter market contacts.

Since the late 1980s the use of fed cattle marketing agreements, referred to as “captive supplies” (defined as cattle owned or under the packer’s control for more than 14 days prior to slaughter), has been a controversial issue, yet their volume has changed relatively little (U.S.D.A, GIPSA, 2000). Captive supplies in 1998 included packer ownership (3.7%) and marketing contracts (17.7%). Contracts include long-term formula priced marketing agreements and fixed-price forward contracts for delivery based on futures prices (a short-term agreement that terminates with a given pen of cattle). In addition, there has been a reduction in fed cattle spot market volume because of an increase in non-negotiated purchases of cattle as more are bought on a value-based premium and discount matrix, or “grid,” with a base price established by formula on prevailing prices in the week of delivery or the week prior to delivery. The base price in some grids is negotiated in the spot market, but more commonly the base price is a formula based on the regional cash market that is increasingly thinner as more cattle are traded through grids.

For cattle producers, the grid provides market incentives for some down-stream attributes (quality grade, yield grade, carcass weight, certified breed (e.g. Angus), etc.) through premiums and discounts (Ward, Feuz, and Schroeder, 1998). These grid-pricing formula agreements fall into a “gray area,” in that the cattle are not under the packers’ control 14 or more days prior to slaughter. Feedlots can choose between competing grids and a live weight (or in the meat) bids from the same or competing packers, so cattle can be shifted quickly among competitors, and there is little potential for packers’ using these purchases to exert any market power. However, these grid sales are not spot market transactions because the buyer and seller did not establish the price at the time of the sale arrangement.

Total non-cash fed cattle deliveries as a percentage of total weekly market volume have increased over the last decade in major cattle feeding states. For example, in Colorado, Kansas, and Texas, non-cash fed cattle deliveries represented typically less than 30 percent of fed cattle weekly volume during the early 1990s and often exceeded 60 percent in the late 1990s (Hayenga et al, 2000). Thus, while the extent of formal captive supplies has remained stable near 20 percent of fed cattle slaughter, the volume of spot market transactions continues to decline.

Pork and beef are competitors at the wholesale and retail level and five of the six largest pork processors also are the five largest beef processors (Tyson-IBP, Excel, ConAgra, Farmland, and Smithfield). So why is the use and rate of increase in marketing contracts greater in hogs than in cattle (Table 1)? First, following Williamson (1985 and 1989), the greater degree of RSI in pork production facilities would suggest a greater incentive for pork producers to contract. Pork producers have greater capital investment per pound of output than beef producers and have made significant re-investment in facilities and technology during the mid-late 1990s. This was particularly true for producers outside the Corn Belt where there were few competing packers and very large hog producers, and the potential costs associated with holdup from an opportunistic packer (or an opportunistic large producer) were relatively high. Similarly, pork packers began adding branded fresh products to their existing line of branded processed products. The significant investment in new product development, advertising and promotion, and related reputation risk for packers’ branded merchandising programs resulted in spot market transactions being inadequate to secure the quality and consistency of product needed. In the Midwest, packers used long-term contracts to lock up supplies of the top quality hogs and the farrow-to-finish operations that produced them. Competing packers quickly followed suit to forestall being caught with a
dwindling supply of quality hogs, and be at a competitive disadvantage with discriminating export customers
or branded product merchandising customers.

Table 1. Cattle and hog procurement methods, 1999.

<table>
<thead>
<tr>
<th>Procurement Method</th>
<th>Fed Cattle %</th>
<th>Hogs %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash market purchase, live basis</td>
<td>36</td>
<td>8</td>
</tr>
<tr>
<td>Cash market purchase, carcass basis</td>
<td>29</td>
<td>19</td>
</tr>
<tr>
<td>Formula-priced contract based on cash market</td>
<td>20</td>
<td>32</td>
</tr>
<tr>
<td>Fixed price contract based on cash market</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>Fixed agreement based on feed price</td>
<td>--</td>
<td>6</td>
</tr>
<tr>
<td>Risk sharing contract purchases</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>Other purchase methods</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Self production</td>
<td>5</td>
<td>18</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

*May not total 100 due to rounding.


Secondly, consistent with Omta, Trienekens and Beers’ (2001) analysis of chain development, the beef
sector supply network has greater length (multiple production stages) and breadth (thousands of
geographically disperse producers) than does the pork sector. Pork genetic and nutrition management in
confinement systems, leading to raw material uniformity, is usually highly concentrated among fewer
decision-makers, while cattle decisions in multiple stages are also more strongly affected by climatic
influences, contributing to substantially higher costs of coordinating the chain and achieving similar end
results. The cost of individually coordinating the vast number in the cattle supply chain has outweighed the
marginal benefits from increased network control. Historically, in a commodity market with little
differentiation, auction markets provided an important assembly function in feeder cattle marketing
between cow-calf herds and stocker or feeding operations. The genetic diversity in the cattle sector is
much wider than in that of the pork sector and feedlots are uncertain from year to year, or even pen-to-
pen what quality of feeder cattle they will be able to buy. As a result feedlots and packers are less willing
to enter long-term contracts that contain quality specifications because feedlots do not control their supply
chain. Feedlots have in the past preferred to maintain some degree of flexibility between packers because
the diversity of cattle they are feeding may require them to switch between packers to match cattle to the
packer with the greatest need for a particular type of cattle. Now, feedlot operators and packers are
moving increasingly to non-spot market transactions (grids) to reduce risks of quality deficiencies for
packers, and provide clearer incentives for feedlot operators to find and procure better quality cattle. As
the value of greater predictability of meat traits increases and is passed back to feedlots, the cost-benefit
relationship of coordinating a disperse cowherd will be re-evaluated.

To date, producers have made animals leaner, have become certified in residue prevention, and have
taken other steps to address changing consumer trends based on incentives tied to evaluation systems
designed to work at high speed in packing plants. Current grading systems in hog and cattle slaughter
plants are able to estimate the value of individual carcasses based on red meat yield, carcass weight, and,
in cattle, marbling. Increasingly packers and their customers are expanding the definition of meat quality
and introducing measurement systems to include traits such as color, texture, pH, water-holding capacity,
tenderness and juiciness. Technology is not currently available to measure many of these traits at line
speed in plants. In some products processors have adopted in-plant measures (moisture enhanced,
mechanically tenderized, etc.) to remedy raw product problems. If customers place significant value on
specific attributes that are costly to monitor visually, current marketing systems will have to find ways to
transmit the needed information or direct marketing contracts providing such assurances will become more
cost effective.

Beef and pork packers are searching for ways to identify and procure higher quality animals with
improved quality, consistency, and assurance of food safety that they identified as the greatest advantage
of marketing contracts (Table 2). Short-term supply/price risks and plant efficiency and operating costs
were the next most important reasons for long-term marketing contracts. Both pork and beef packers
listed “buying animals at lower prices” as the least important reason for entering contracts; yet,
independent producers and politicians often perceive lower prices for independent producers as a major pitfall of increased industry contracting in the U.S. Only 1.5 percent of the investigations closed by U.S.D.A regulators since 1995 were of alleged anti-competitive behavior of various types, and fines levied for these violations totaled $117,000 compared to $236 billion in gross farm receipts for meat animals (U.S.D.A, GIPSA, 2001). In the same report, the U.S.D.A. regulatory agency’s review of prior studies indicates that there is a small inverse relationship between fed cattle prices and captive supplies, but the studies have not shown that captive supplies caused lower prices (p. 34).

Packers are striving to secure quality in their raw product and are using in-plant measures to improve consumer satisfaction. However, consumers are now valuing attributes other than meat quality (Hayenga, et al., 2000). Consumers are willing to pay an additional 20 to 30 cents per pound for beef and pork from a system of production that results in a branded, customized product, and the premium is expected to grow over the next five years. Packers are typically motivated by their customers’ (retail, food service, processors) responses to ultimate consumer demands. Packers’ customers ranked taste and tenderness, consistency, food safety, and inventory management as important as price (Hayenga et al 2000). They also expected that these quality measures will be more important in five years, and that consistency and safety will be of greater importance than price in 2005. About half of these customers said they would not be capable of bearing all of these costs of a more coordinated supply chain, while almost as many said that they would. The firms most willing to bear the cost associated with identity preservation have valuable processed meat brands. The payoff for traceback is perceived to be much greater for firms in the chain than for consumers, perhaps because of the liability issues that have proven to be extremely expensive for some firms in the meat industry, and the expanded use of costly investments in branded product merchandising programs.

Table 2. Packer motivation for increased pork and beef marketing contracts, 1999.a

<table>
<thead>
<tr>
<th>Motivation</th>
<th>Pork</th>
<th>Beef</th>
</tr>
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<tbody>
<tr>
<td>Reduce plant operating costs by improving plant scheduling</td>
<td>3.5</td>
<td>2.9</td>
</tr>
<tr>
<td>Secure higher quality animals</td>
<td>4.0</td>
<td>4.0</td>
</tr>
<tr>
<td>Secure more consistent quality of animals</td>
<td>4.3</td>
<td>4.0</td>
</tr>
<tr>
<td>Assure food safety</td>
<td>3.8</td>
<td>3.0</td>
</tr>
<tr>
<td>Long run price risk management</td>
<td>3.0</td>
<td>2.8</td>
</tr>
<tr>
<td>Week-to-week supply/price management</td>
<td>3.5</td>
<td>2.2</td>
</tr>
<tr>
<td>Reduce costs of searching for animals to procure</td>
<td>3.5</td>
<td>2.3</td>
</tr>
<tr>
<td>Able to purchase animals for lower price</td>
<td>2.3</td>
<td>1.8</td>
</tr>
</tbody>
</table>

*aScale of 1 to 5, 1=not important to 5=very important

Most cattle and hog producers, however, still pride themselves on being independent businessmen who prefer independent decision-making in their production management and marketing decisions. For these producers, contracts that specify delivery times, nutritional and genetic programs, and production practices are seen as intrusive. Secondly, there is a growing concern regarding who will pay for the increasing amount of required documentation, restrictions on input use, and prescribed production practices. Are consumer expressions of concerns backed up with a sufficient consumer willingness to pay the necessary cost to bring about product and system improvements, or are they only willing to pay “commodity prices” for the valued-added products? If there is a higher cost of compliance with tougher safety or quality standards, but only some and not all processors value them, producers will be reluctant to adopt them without assurances that they can recover their added costs.

1 Senate File 142 107th Congress, 2001. “To amend the Packers and Stockyards Act, 1921, to make it unlawful for a packer to own, feed, or control livestock intended for slaughter.” A version was passed by the Senate as part of the 2002 Farm Bill debate.
Summary

We postulate that the large size of pork producers in the Southeast and few processors available there, the greater specific investments for producers and branded pork processors, and the greater length and breadth of the multiple stage supply chain and later emphasis on brand merchandising programs in the beef industry provide the leading rationale for more contract and vertical integration linkages between processors and production in the pork industry.

Examples of integrated or highly coordinated supply chains are emerging. Smithfield Foods is the largest example of vertically integrated production-processing operations, but Premium Standard Farms and Farmland (a farmer owned cooperative) are other pork examples. PM Beef is a beef supply network that is process verified by the U.S.DA. Future Beef Operations is a new highly coordinated beef production system that includes a new processing plant with ownership by producers and a retailer, plus select suppliers of feedlot services, nutrition and health inputs, feeder cattle, and genetics. Smaller innovative supply networks include Niman Ranch Pork and Laura’s Lean Beef, claiming “welfare-friendly” systems or “naturally raised” products. Each of these supply networks is seeking to more accurately serve consumer demands by using formal coordination agreements ranging from integrated ownership to marketing contracts. The coordination linkages clearly define the needed production changes and the incentives to do so.

Thus, conflicts and paradoxes exist in the red meat value chain. First, there is the age-old conflict between consumers expecting more from their food and producers wanting to be rewarded for their contribution to the final product. Consumers today want more information about, among other things, where and how the meat was produced, is it safe, and will it be of acceptable eating quality. Producers, on the other hand, typically resist following prescribed management practices that may increase their costs unless they are rewarded for the extra effort. Producers also fear holdup by opportunistic buyers if they incur specialized investment that may exclude them from other markets. Marketing contracts and other formal vertical linkages have emerged to address the first paradox because they can more accurately deliver products that consumers demand and provide both packers and producers a vehicle to address opportunism concerns. However, the success and adoption of marketing contracts have contributed to a conflict in the beef and pork sectors. Both buyers and sellers have relied heavily on the negotiated spot market to determine the value of animals they trade. The spot market is becoming thinner and less representative of the majority of animals slaughtered daily as more packers and producers enter into marketing contracts. The conflict over this price discovery issue threatens the success of many marketing contracts. Innovative price discovery methods must be developed to avoid the thin market problems that will increase the perceived cost of the most prevalent formula-priced systems.

References


