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Alternative Marketing Arrangements in the Beef Industry: Definition, Use, and Motives

Overview

During the 2002 Farm Bill debate, several pieces of legislation were aimed at restricting packers' livestock purchasing practices. A specific concern focused on marketing arrangements that gave packers control over livestock more than 14 days prior to slaughter, commonly known as "captive supply." As a compromise, in 2003 Congress requested a study of alternative marketing arrangements (AMAs) that are used as alternatives to the cash market. The resulting Grain Inspection, Packers and Stockyards Administration (GIPSA) Livestock and Meat Marketing Study was completed in early 2007 (Muth et al., 2007; Cates et al., 2007). However, during the time of the study, much of the proposed legislation has been reintroduced, and several are currently being discussed along with the 2007 Farm Bill. This fact sheet is part of a series summarizing the Livestock and Meat Marketing Study research, and it provides definitions of AMAs used in the industry at the time of the study, the reasons why buyers and sellers used the cash market or AMAs, and the extent to which AMAs were used. The purpose of this discussion is to illustrate perceived benefits of using AMAs to producers and packers. Furthermore, a discussion on the extent of AMA use provides a perspective on the depth of the issue and information as producers and packers look to the future.

Cash Market and Alternative Marketing Arrangements (AMAs)

Cash or spot market transactions refer to transactions that occur immediately or "on the spot." These include auction barn sales; video or electronic auction sales; sales through order buyers, dealers, and brokers; and direct trades (also commonly referred to as private treaty sales). The terms "cash market" and "spot market" are used interchangeably.

AMAs refer to all possible alternatives to the cash market, including arrangements such as forward contracts, marketing agreements, and packer ownership. Custom feeding and custom slaughter are also used by cattle producers and may or may not be used in conjunction with an AMA. Under custom feeding, cattle are either transferred under packer ownership or sold by a producer under one of the other types of marketing arrangements. Under custom slaughter, cattle are sold after they are transformed into beef products. For AMAs at the producer level, the individual(s) who owns the farm or facility may own the livestock, or a different party may own the livestock.

AMAs are also defined by the (1) ownership method of the animal or product, (2) pricing method, and (3) valuation method for livestock. Pricing method is further defined by formula base, if formula pricing is used, and internal transfer pricing method, if the product is transferred within a single company.

Description of AMA Characteristics Used in the Beef Industry

A brief summary of AMA characteristics is provided below; the methods are explained in more detail in Volume 3 of the Livestock and Meat Marketing Study.[1]

Ownership Method

The ownership method in a marketing arrangement refers to who owns the animal at the time of the transaction. These methods include horizontal (such as feeder-feeder) and vertical (such as feeder-packer) supply chain relationships as well as sole ownership (producer or packer). The ownership methods used by packers indicate who owned the cattle upon completion of the transaction. The three categories of ownership methods included in the study were

- sole ownership;
- joint venture—two or more businesses joining together under a contractual agreement for a specific venture such as use of specific animal genetics or brand names; and
- shared ownership—the original owner and the new owner both retain partial ownership of the cattle (i.e., a vertical arrangement between a cow-calf operation and feedlot or between a feedlot and packer).

Purchase Method

The purchase method used in a marketing arrangement describes the nature of the transaction. The purchase method specifies whether any third parties were used to facilitate the transaction, the transaction is for a single lot of cattle or one of many lots, and the timing of the transaction relative to delivery. The type of purchase method used is typically what classifies a transaction as an AMA. The types of cash market purchase methods included in the study were

- auction barns,
- video/electronic auctions,
- dealers or brokers, and
- direct trade.

The types of AMA purchase methods included in the study were the following:

- Forward contracts—the future purchase of a specified quantity of livestock through an oral or written agreement that was entered into at least 2 weeks prior to delivery
- Marketing agreement—purchases in which a packer agreed to purchase livestock through a long-term ongoing oral or written arrangement with specific terms
- Packer owned—the transfer of packer-owned livestock from either a custom feedlot or packer-owned feedlot

Pricing Method

The pricing method used in a marketing arrangement specifies how the price for the individual lot was established. Some pricing methods can be used in combination with almost all purchase methods (cash market and AMAs), while others are used for only one purchase method. The pricing methods included in the study were the following:

- Public auction pricing—prices are determined by auction bids
- Individually negotiated pricing—prices are determined by negotiations between a buyer and seller, excluding the negotiation of a formula used in formula pricing

[1]The fed cattle and beef volume of the GIPSA Livestock and Meat Marketing Study can be accessed at http://archive.gipsa.usda.gov/psp/issues/livemarketstudy/LMMS_Vol_3.pdf.

- Formula pricing—prices are determined using another price as the base for the purchase of livestock; formula can include grid or nongrid values. Formula bases include the following:
  - individual or multiple plant average price or cost of production
  - USDA live or dressed quote or boxed beef price
  - Chicago Mercantile Exchange (CME) cattle futures
  - retail price
  - subscription service price (for example, Cattle-Fax, Urner Barry, and others)
  - other market price
- Internal transfer pricing—prices that are used to account for the value of packer-owned cattle transferred from a feedlot to the slaughter plant

Valuation Method

The valuation method used in a marketing arrangement specifies how the transaction price was applied to the cattle in the lot. Valuation methods indicate average or individual pricing and whether carcass characteristics were considered in the final transaction price. The valuation methods included in the study were

- liveweight purchase (net of shrink) and
- carcass weight purchase
  - with grid premiums and discounts associated with the quality of animals within the lot
  - without grid premiums or discounts

Data Sources

Two data collection efforts were conducted for the Livestock and Meat Marketing Study. The first was a mandatory transactions data collection for individual purchase, sales, and profit and loss data from the largest packers and processors from October 2002 through March 2005. The second data collection was a mail survey of producers, packers, processors, and downstream sectors, including wholesalers, exporters, retailers, and food service operators. The data collection methods for the study are described in more detail in Volume 2 of the final report.[2]

Transactions Data

The largest beef packers provided individual transactions data on purchases of fed cattle and sales of beef products. Twenty-nine beef packing plants provided usable purchase transactions data. The cattle included in the transactions data represent approximately 85% of the total number of steers and heifers slaughtered under federal inspection during the time period (USDA/NASS). The transactions data collected from beef packing plants provides information about the volume of cattle and beef products traded through different marketing arrangements.

Survey Data

The voluntary survey was national in scope and collected information from cow-calf producers, stockers/backgrounders, and feedlot operators; beef packers; meat processors; and downstream meat industry participants. The surveys collected information on the following:

- characteristics and volumes of livestock and meat inputs and outputs
- participation in certification programs, branding programs, and alliances
- use of cash markets and AMAs
- terms of purchase and sale transactions
- reasons for using the cash market or AMAs
- characteristics of operation (e.g., number of employees, annual sales)

Sixty-four beef packing plants and 293 cattle producers returned completed surveys (30.7% and 40.2% weighted response rates, respectively).[3]

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[2] Volume 2 of the final report can be accessed at http://archive.gipsa.usda.gov/psp/issues/livemarketstudy/LMMS_Vol_2.pdf.

[3] Weighted response rates account for survey participants that were ineligible or of unknown eligibility. For detailed information on the survey population and unweighted response rates, see Volume 2, Section 4 of the final report (available at http://archive.gipsa.usda.gov/psp/issues/livemarketstudy/LMMS_Vol_2.pdf).

Beef Packers' Use of AMAS

Based on the transactions data, most cattle were under sole ownership (97% of the volume of cattle purchased by small plants and 80% of the volume of cattle purchased by large plants). The remainder of the volumes were typically under shared ownership, but joint ventures or other unspecified types of ownership method were also used.

Packers purchased the majority of their cattle through direct trade and marketing agreements (Table 1). Comparatively, the total number of cattle traded using marketing agreements was approximately half of the total number of cattle traded using direct trade. Overall, the cash market was the dominant purchase method. Percentages of cattle procured through auctions or brokers and dealers, forward contracts, and packer ownership were all similar and relatively small.

Table 1. Summary of Purchase Methods for Cattle (October 2002–March 2005)

	Number of Lots	Number of Head
Auction barns and dealers/brokers	44,237	2,426,488
Direct	338,254	33,396,016
Forward contract	23,047	2,626,217
Marketing agreement	158,705	16,748,315
Packer fed/owned and other	27,167	2,869,405
Auction barns and dealers/brokers	44,237	2,426,488
Total	591,410	58,066,440

Individually negotiated pricing was the most common method used to establish prices for fed cattle purchases (Table 2). Approximately one-third of the cattle purchased were priced using a formula. Live cattle prices reported by USDA were the most common formula base prices. Comparing the purchase method and pricing method data implies that a portion of the direct trade transactions were priced using a formula. The most common method of valuing cattle was on a carcass weight with a grid (43%), followed by liveweight (39%) and carcass weight without a grid (13%) (Table 3). Additionally, comparing the purchase method and valuation method data implies that a portion of the direct trade transactions were valued on carcass weight with a grid. The apparent overlap in usage of purchase methods, pricing methods, and valuation methods further emphasizes the need to decouple marketing arrangement terminology. Figures 1, 2, and 3 illustrate the percentage of lots and the percentage of cattle procured with the different purchase, pricing, and valuation methods.

Table 2. Summary of Pricing Methods for Cattle (October 2002–March 2005)

	Number of Lots	Number of Head
Negotiated pricing	334,208	33,172,882
Formula pricing	184,853	19,397,596
Other (auctions, internal transfer, and other/missing)	72,349	5,495,962
Total	591,410	58,066,440

Table 3. Summary of Valuation Methods for Cattle (October 2002–March 2005)

	Number of Lots	Number of Head
Liveweight	209,570	22,813,110
Carcass weight, without grid	72,975	7,487,502
Carcass weight, with grid	279,779	24,974,407
Other or missing	29,086	2,791,422
Total	591,410	58,066,440

Figure 1. Percentage of Cattle Purchased, by Purchase Method (October 2002–March 2005)

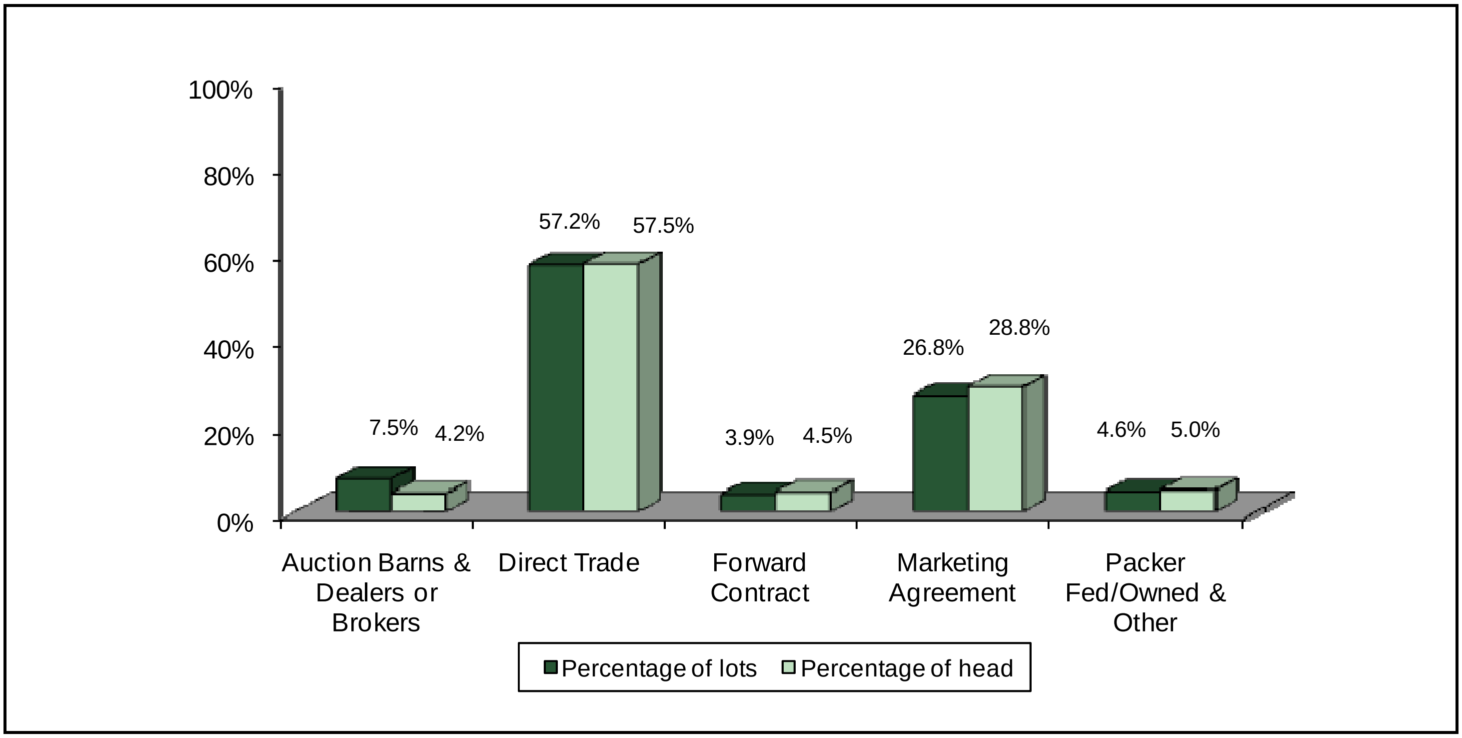


Figure 2. Percentage of Cattle Purchased, by Pricing Method (October 2002–March 2005)

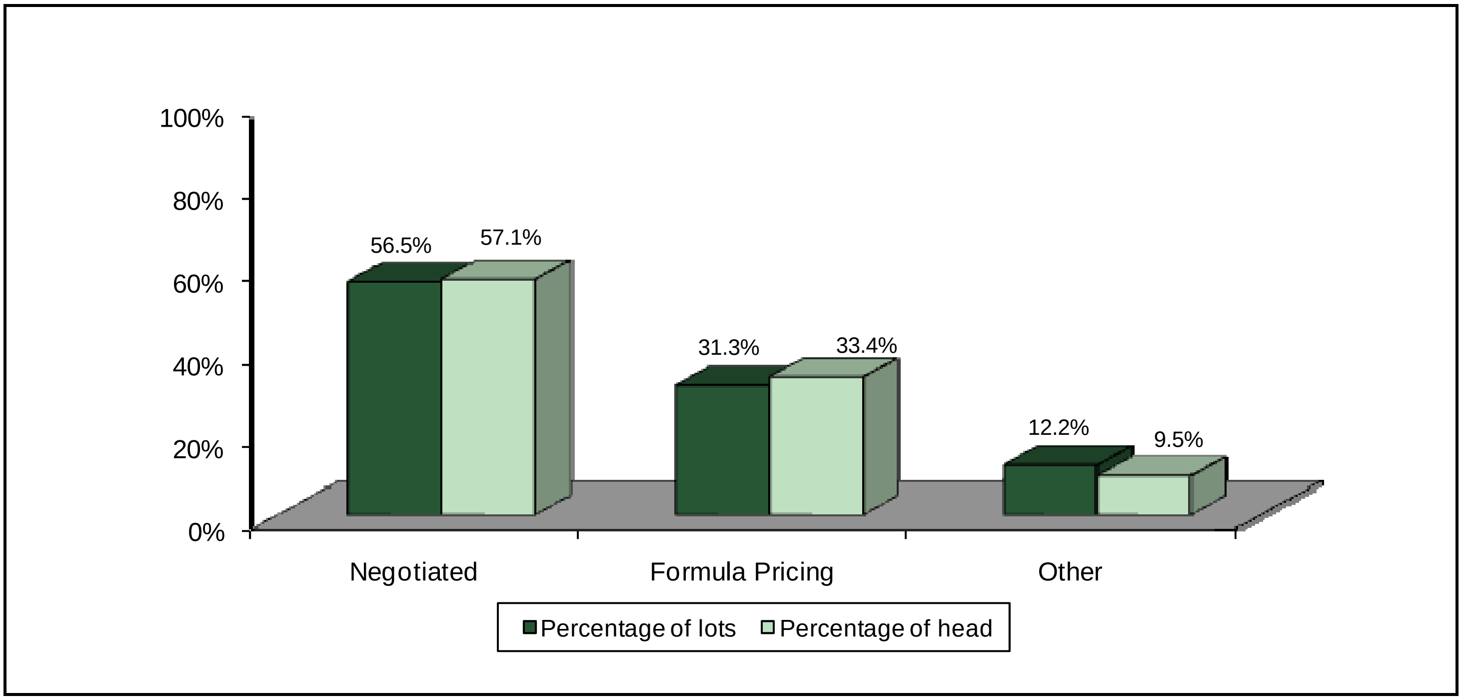
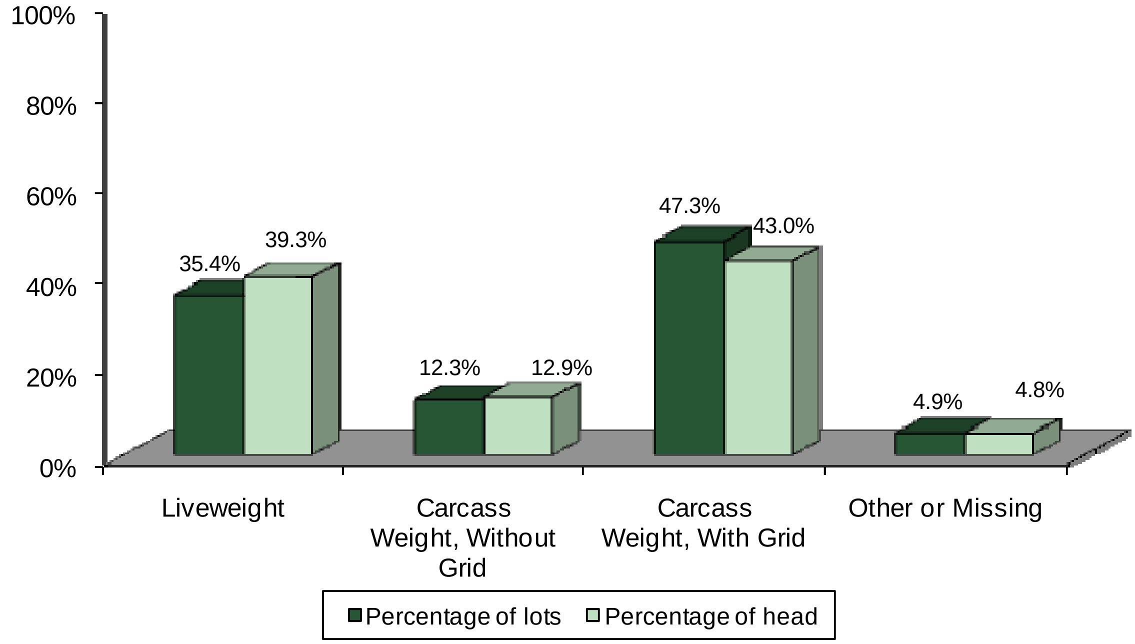


Figure 3. Percentage of Cattle Sold, by Valuation Method (October 2002–March 2005)



Regional Differences in the Use of AMAs

Analyses of the transactions data were also conducted based on the region where the plant was located. Three regions were defined as follows:

- High Plains: Colorado, Kansas, Nebraska, Texas
- Cornbelt/Northeast: Iowa, Illinois, Michigan, Minnesota, Pennsylvania, Wisconsin
- West: Arizona, California, Idaho, Utah, Washington

The plant regions were defined to be small enough to reveal geographical differences, while maintaining confidentiality of individual firm information.

Packing plants in all three regions purchased the majority of their cattle through direct trade and marketing agreements. However, the level of use of each marketing arrangement varied across regions. Plants in the High Plains procured 61% of cattle by direct trade, 30% through marketing agreements, and a very small percentage through auctions and forward contracts. Cornbelt/Northeast plants bought the majority of their cattle by direct trade, but some were purchased through auctions and marketing agreements. Plants in the West bought a lower percentage by direct trade compared with the other regions and a higher percentage through marketing agreements and auction barns.

Individual negotiated pricing was the most common method used to determine purchase prices for fed cattle. Specifically, 60% of cattle purchased by plants in the High Plains used individually negotiated pricing, with a similar percentage in the Cornbelt/Northeast and a substantially lower percentage in the West. Formula pricing was used for the purchase of about half of the cattle in the West and 34% of the cattle in the High Plains. The price most commonly used as the formula base varied by region. Packing plants in the West region most often used live quotes reported by USDA for the formula base and a smaller percentage used subscription service prices. A moderate percentage of the formula-priced cattle in the High Plains region were based on a dressed price reported by USDA. The most frequently used formula base in the Cornbelt/Northeast was a subscription service price.

Packing plants in the Cornbelt/Northeast purchased the largest percentage of cattle on a liveweight basis (47% of all purchases, compared with 40% in the High Plains and 25% in the West). Packing plants in the West purchased more than half of their cattle using carcass weight with grid valuation, while packing plants in the High Plains and Cornbelt/Northeast used this valuation method for 42% and 44% of their purchases, respectively. Carcass weight without grid valuation accounted for a small percentage of purchases by packing plants in all three regions.

Motivations for Choice of Marketing Method

Cattle producers and packers have a number of different economic incentives associated with using the cash market and AMAs. Producers choose to use specific marketing arrangements because those arrangements facilitate market access, reduce the cost of selling, increase the price received, and reduce price variability. Likewise, packers choose to use specific marketing arrangements because those arrangements reduce the cost of procurement, improve the quality or consistency of animals and products purchased, improve risk management, and result in efficiencies in procurement and marketing.

The results of the industry survey on the specific reasons why producers and packers choose to use AMAs or to only use the cash market are discussed below.

Beef Producers' Reasons for Using AMAs or the Cash Market

Producers **using AMAs** were asked to identify the three most important reasons for choosing an alternative to the cash market. Operations that used AMAs to sell calves and cattle placed more emphasis on market access, as well as on higher prices. The most frequently cited reasons for using AMAs included the following: (1) "Allows for sale of higher quality calves and cattle" (52%), (2) "Can sell calves and cattle at higher prices" (39%), (3) "Reduces risk exposure" (35%), and (4) "Reduces price variability for calves and cattle" (34%). It is important to note that both producers using only the cash market and those using AMAs identified selling calves at higher prices as a reason for using each method (Table 4).

Table 4. Reasons Producers Sell Cattle Using AMAs[a]

	%
Allows for sale of higher quality calves and cattle	51.6
Can sell calves and cattle at higher prices	38.5
Reduces risk exposure	34.5
Reduces price variability for calves and cattle	33.8
Secures a buyer for calves and cattle	26.5
Provides detailed carcass data	20.3
Facilitates or increases market access	19.7
Reduces costs of activities for selling calves and cattle	12.8
Improves week-to-week production management	9.4
Allows for product branding in retail sales	4.7

[a] Respondents were asked to select the three most important reasons.

Producers that used **only spot market** transactions (84.9% of respondents)[4] were asked to identify the three most important reasons for using the spot market. The most frequently cited reasons emphasized the business philosophy of the manager (Table 5). More than 50% identified "Allows for independence, complete control, and flexibility of own business" as a reason for using only the spot market. "Can sell calves and cattle at higher prices" was selected by 41% of operations.

Interestingly, beef packers frequently cited "Can purchase fed cattle at lower prices" as a reason for only purchasing cattle on the spot market. The ability to both buy low and sell high in the spot market is consistent with producers' belief that the cash market "Enhances ability to benefit from favorable market conditions" (selected by 38% of operations). However, believing that spot markets provide both lower buying prices and higher selling prices appears inconsistent.

[4] Eighty-five percent of small producers and 24% of large producers reported selling all of their cattle using cash market methods.

Table 5. Reasons Producers Only Sell Cattle on the Cash or Spot Market[a]

	%
Allows for independence, complete control, and flexibility of own business	54.1
Can sell calves and cattle at higher prices	40.9
Enhances ability to benefit from favorable market conditions	37.5
Does not require managing complex and costly contracts	24.8
Allows for adjusting operations quickly in response to changes in market conditions	23.1
Reduces costs of activities for selling calves and cattle	22.8
Does not require identifying and recruiting long-term contracting partners	19.9
Allows for sale of higher quality calves and cattle	16.3
Reduces risk exposure	11.8
Facilitates or increases market access	11.6
Reduces price variability for calves and cattle	8.4
Can easily sell small number of animals (write-in response)	4.2
Reduces potential liability and litigation concerns	4.0
Convenience (write-in response)	3.0
Eliminates possible negative public perceptions about use of contracts	2.8

[a] Respondents were asked to select the three most important reasons.

Beef Packers' Reasons for Using AMAs or the Cash Market

Packers **using AMAs** were asked to identify their reasons for choosing an alternative to the cash market. Almost 58% chose "Improves week-to-week supply management." Fifty-four percent of plants chose "Secures higher quality fed cattle," and 46% chose "Allows for product branding in retail stores." Thus, it appears that AMAs allow plants to focus on operational efficiency improvements. Also, AMAs appear to be important for economic plant management and to be used for quality improvement and to satisfy buyer requirements. However, respondents did not indicate that AMAs allow plants to pay reduced prices or decrease price risk (Table 6).

Table 6. Reasons Packers Purchase Cattle Using AMAs[a]

	%
Improves week-to-week supply management	57.7
Secures higher quality fed cattle	53.8
Allows for product branding in retail sales	46.2
Allows for market access	42.3
Improves efficiency of operations due to animal uniformity	42.3
Reduces costs of activities for buying fed cattle	34.6
Increases flexibility in responding to consumer demand	19.2

[a] Respondents were asked to select the three most important reasons.

Packers that used **only spot market** transactions (59.6% of respondents)[5] to purchase cattle were asked to identify the three most important reasons for using the spot market (Table 7). More than 51% identified "Allows for independence, complete control, and flexibility of own business" as an important reason. About 44% chose "Secures higher quality fed cattle," and more than 38% chose "Allows for adjusting operations quickly in response to changes in market conditions." The main reason for using only the spot or cash market appears to be opportunistic. Procuring fed cattle in cash markets allows those plants to respond to market conditions and to take advantage of market opportunities. However, cash procurement also allows plants to focus on their own operations without concerns about strategic partner behavior or issues of working with a strategic partner. Furthermore, some respondents perceived that cattle can be purchased more cheaply in the cash market and that high-quality cattle can also be obtained.

[5] Seventy-eight percent of small packers and 10% of large packers reported purchasing all of their cattle using cash market methods.

Table 7. Reasons Packers Only Purchase Cattle on the Cash or Spot Market[a]

	%
Allows for independence, complete control, and flexibility of own business	51.4
Secures higher quality fed cattle	44.3
Allows for adjusting operations quickly in response to changes in market conditions	38.6
Can purchase fed cattle at lower prices	27.1
Enhances ability to benefit from favorable market conditions	21.4
Reduces costs of activities for buying fed cattle	17.1
Does not require managing complex and costly contracts	17.1
Reduces risk exposure	12.9
Allows for market access	12.9
Does not require identifying and recruiting long-term contracting partners	12.9

[a] Respondents were asked to select the three most important reasons.

Comparison of Reasons Between Producers and Packers

Based on the reasons for using different marketing methods described above, two types of firms operate in the beef production and beef packing industries. One group includes producers and packers who value independence and choose to procure and sell mainly through the cash market. These businesses do not want to be dependent or tied to other business entities and want the ability to buy and sell when they see opportunities. The second group includes producers and packers who value integration and coordination. The business models of this second group focus on the internal operations of their firms and the coordination of their firms with business partners. These businesses do not appear to rely on the opportunities in the cash market for success. Instead, they maintain closer working relationships with upstream and downstream firms.

Producers and packers use AMAs for a variety of different reasons. AMAs and the cash market are part of a portfolio of procurement and sales alternatives that producers and packers use to achieve their business objectives.

Summary

The majority of cattle sold in the United States are sold using cash market methods. However, marketing agreements and other AMAs are an integral part of cattle producers' selling practices and beef packers' procurement practices. The observed patterns of AMA use differ across regions; however, marketing agreements accounted for 29% of the cattle purchased across all regions, while forward contracts and packer-ownership comprised less than 5% each.

AMAs can be more complicated to use than cash marketing arrangements. One of a variety of different ownership methods can be employed in combination with one of several different methods in which cattle are bought or sold, priced, or valued. While some AMA components fit seamlessly with several other alternative and cash components, others are specialized. Producers and packers both choose marketing arrangements from the portfolio of cash and alternative arrangements based on what they perceive to benefit them the most or that fit their business practices the best.

Most cattle are held under sole ownership in which the owner (producer or packer) makes the marketing decisions. A few cattle are held under shared ownership, and almost no cattle are held under joint ventures. The majority of the shared ownership arrangements are between producers and downstream partners.

Individual negotiations are the most frequently used method of establishing prices. Formula pricing is the second most frequently used means and is used for both cash market and AMA transactions. Almost all formulas use a cash market price for the base price.

Carcass weight valuation with grid price premiums and discounts is the most frequently used form of valuation, followed by liveweight valuation and finally carcass weight without a grid valuation. This is a change from previous research in which liveweight was the predominant valuation method, followed by carcass weight valuation. Grid pricing is important for communicating price signals through the system, rewarding quality, and penalizing substandard carcasses.

AMAs are used for a variety of reasons. Producers and packers find AMAs beneficial for maintaining quality, increasing operational efficiencies, and decreasing risk exposure. AMAs improve supply chain management and help lower costs. Despite the advantages that some

producers and packers find in using AMAs, others prefer to use the cash market. These producers and packers value cash markets for the independence and profitable opportunities that they provide. Additionally, many firms that use AMAs rely on cash markets to price the commodities they buy and sell.

The Livestock and Meat Marketing Study also examined price differences across marketing arrangements and the effects of the use of AMAs on cash market prices; the costs and benefits of AMAs, particularly as they relate to quality, costs of production, and risk; and the effect of possible restrictions on the use of AMAs. Additional fact sheets in this series describe the results of these analyses.

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