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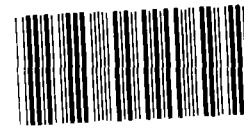
GAO

Report to Congressional Committees

November 1987

COMMODITY FUTURES TRADING

Purpose, Use, Impact, and Regulation of Cattle Futures Markets



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**Resources, Community, and
Economic Development Division**

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November 10, 1987

The Honorable E (Kika) de la Garza
Chairman, Committee on Agriculture
House of Representatives


The Honorable Patrick J. Leahy
Chairman, Committee on Agriculture,
Nutrition, and Forestry
United States Senate

This report responds to a provision in the Futures Trading Act of 1986, which required us to conduct an investigation of the cattle futures markets. The report specifically discusses the cattle futures markets' reaction to the U.S. Department of Agriculture's March 1986 announcement of the details of the Dairy Termination Program, also known as the Whole Herd Buyout Program; the economic purpose of the cattle futures markets and their effect on cattle prices; the effect of the increased use of forward contracting; the effectiveness of the system for delivering cattle under the live cattle futures contract; and the effectiveness of public and private regulation of the cattle futures markets.

This report does not cover the interrelationship between the futures and various securities markets. However, since the October 1987 decline in these markets, congressional requesters have asked our Office to evaluate, in future reports, the structure, operation, interrelationship, and regulation of the markets and the events surrounding the markets' decline.

We are sending copies of this report to the Chairman of the Commodity Futures Trading Commission, the Secretary of Agriculture, and other interested parties.

This work was performed under the direction of Brian P. Crowley, Senior Associate Director. Other major contributors are listed in appendix V.



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Executive Summary

Purpose

In recent years the beef cattle industry has debated the usefulness of cattle futures markets and the impact they may have on the cash cattle markets where the actual buying and selling of cattle usually take place. This debate crystallized in the spring of 1986, when both cash and futures market prices for cattle dropped abruptly in reaction to a Department of Agriculture (USDA) announcement implementing its Dairy Termination Program—a program intended to reduce milk production. Some believe that the cattle industry would be better off without the cattle futures markets.

The Futures Trading Act of 1986 directed GAO to study the cattle futures markets and their effect on cash market prices for cattle. In so doing GAO sought information from cattlemen, cattle and futures industry experts, government regulators, and economic advisers on several issues of concern, including the (1) economic purpose and impact of the cattle futures markets; (2) cattle markets' reaction to the Dairy Termination Program announcement; (3) effect on cattle prices of meatpackers' procuring slaughter-ready cattle through forward contracting (contracting that is specific as to quantity, quality, and location, but which sets delivery and transfer of ownership and often pricing at some time in the future); (4) effectiveness of the system for delivering cattle under the live cattle futures contract; and (5) effectiveness of public and private regulation of the cattle futures markets.

Background

The U.S. cattle industry's three major segments—cow-calf/ranching, cattle feeding, and meatpacking—each directly participate in cash cattle markets. Those in each segment and others can attempt to avoid (hedge) the risk of prices moving against them in the cash markets by entering the cattle futures markets. Futures contracts—standard agreements to buy or sell a specific amount of a commodity at a specific future time for a specified price—are traded on organized exchanges, according to exchange rules, with regulatory oversight by the Commodity Futures Trading Commission (CFTC). Futures market participants include (1) hedgers (i.e., producers, processors, and merchants), who use futures contracts as temporary substitutes for intended transactions in the cash market and (2) speculators, who seek to profit by anticipating changes in price levels.

The Chicago Mercantile Exchange, the dominant futures exchange for livestock-related commodities, offers two separate cattle futures contracts, one on feeder cattle and the other on live, or slaughter-ready, cattle. It also offers options contracts based on each of the two. In 1986

over 5 million cattle futures and options contracts were traded. (See ch. 1.)

Several factors combined in recent years to hurt some cattle industry participants: interest rates rose, land values and cattle prices declined, and per capita beef consumption stabilized. Although some factors have improved recently, the industry still faces problems. In this environment, many in the industry and the Congress remain concerned about the cattle futures markets' usefulness and effect on cattle prices.

Results in Brief

Little of the information GAO obtained indicated that the cattle industry and the public would be better off without the cattle futures markets. Rather, the preponderance of the information suggests that although some improvements could be made and additional research may be needed, these markets are working fairly well and are serving the traditional economic purpose of enhancing price discovery and facilitating risk shifting. Furthermore, GAO found little information indicating that cash cattle prices were lower than they would be in the absence of the cattle futures markets. GAO believes it would be inadvisable to abolish these markets and that a wiser course would be for the cattle and futures industries to continue efforts to develop specific improvements in cattle futures trading—thus further ensuring that such trading is done fairly, with integrity, and to the optimal benefit of all.

The drop in cash and futures prices for cattle following USDA's Dairy Termination Program announcement was not unusual or unwarranted, given that the livestock and beef markets were then relatively weak and that the announcement was more "bearish" than expected and lacked certain program details.

The cash market is by far the dominant means by which packers procure slaughter-ready cattle. Packers use forward contracting to only a small degree, and little evidence exists that such contracting has a price-depressing effect on the cash or futures markets.

Although the delivery system for the live cattle futures contract was improved in recent years, some problems in the number and location of delivery points and in the grading of delivered cattle still exist. Settling outstanding live cattle futures contracts at the time of contract expiration in cash, rather than by physical delivery, is being discussed as a solution.

Exchange and CFTC regulation of the cattle futures markets appears to be working well. Manipulation of the cattle futures markets has never been proved, and other violations have been detected at a lesser rate than in other commodity futures markets.

GAO's Analysis

Industry Use of Futures

Large commercial trading in cattle futures comes almost entirely from the feeding and packing segments. Although some cow-calf operators hedge their price risk in the futures markets, many are too small or have other reasons for not trading in these markets. Larger feeders trade cattle futures extensively, while packers' trading varies. (See chs. 2 and 4.)

Economic Impacts of Cattle Futures

GAO's review of empirical research and its interviews with industry and academic experts showed that the cattle futures markets serve an economic purpose by enhancing price discovery and by facilitating risk shifting. Little of the information GAO obtained supported contentions that the cattle futures markets bias cattle prices downward, create unwarranted price variability, or adversely affect the price relationship between feeder and fed (slaughter-ready) cattle or the industry's competitive structure. (See ch. 4.)

Reaction to the Dairy Termination Program

Under this program, USDA paid farmers to sell over 1.5 million dairy cattle for either slaughter or export. In the days following USDA's March 28, 1986, announcement of program details, beef cattle prices fell in both the cash and futures markets. Because prices fell before the dairy cattle began to be slaughtered, many in the industry questioned whether the cattle futures markets had caused the price drop and whether the markets had been manipulated. Both the Exchange and CFTC pointed out that the program had created the expectation of increased supply in a market in which prices were already falling. More dairy cattle were also to be slaughtered over a shorter period than the market had expected. Further, after the announcement, uncertainty remained about specific details and the outcome of two lawsuits.

None of the information GAO obtained suggested that the price drop was due to market manipulation. In addition, although USDA program officials had worked with congressional and industry groups in drafting

program legislation and certain implementing details, some misunderstandings later emerged. USDA officials had not anticipated the announcement's effect on the cattle markets or coordinated plans with CFTC officials. (See ch. 3.)

Packer Forward Contracting

Some in the cattle industry believe that packer forward contracting depresses both cash and live cattle futures prices because it (1) allows packers to become less dependent on and less active in the cash market and (2) moves packers, in the futures market, from the buying to the selling side, which they believe creates added selling pressure and downward bias in futures prices. In 1986 the 10 largest U.S. packers, on average, obtained only about 9 percent of their cattle through forward contracts.

Others argue that forward contracting reduces both supply and demand by the same amount, resulting in little or no effect on competition or cattle prices. As long as the extent of packer forward contracting does not increase substantially and thereby severely decrease the level of cash market transactions, GAO tends to agree with this view. (See ch. 3.)

Present Delivery System

Problems centering on the number and location of delivery points and difficulties in grading delivered cattle still exist with the live cattle futures contract. These problems have been cited as reasons why some packers are not buyers of live cattle futures contracts. Several solutions have been proposed, including changing the futures contract on live cattle to cash settlement. Because live cattle would no longer be delivered, problems with grading and delivery points would be eliminated, as would be the possibility of shortages of deliverable supplies. One difficulty that remains, however, is in developing an accurate settlement price. The Exchange and the cattle industry are working on solutions to this and other delivery problems. (See chs. 3 and 6.)

Recommendations

GAO recommends that to mitigate problems like those encountered with the Dairy Termination Program announcement, the Secretary of Agriculture take action to ensure a greater degree of coordination between USDA and CFTC officials in those cases where a USDA program could have a significant effect on commodity markets. (See ch. 3.) Other recommendations related to USDA and CFTC activities are in chapters 2 and 3.

Agency Comments

USDA and the Exchange generally agreed with the report's overall findings and conclusions. CFTC expressed concern about a proposal related to its special calls for trader information (see ch. 2), and all three respondents made suggestions to clarify certain issues and improve the report's technical accuracy. GAO made changes where appropriate. (See apps. II, III, and IV for the text of the agencies' comments.)

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Abbreviations

AMI	American Meat Institute
CED	Community and Economic Development Division
CFTC	Commodity Futures Trading Commission
CME	Chicago Mercantile Exchange
cwt.	hundredweight
FCM	futures commission merchant
FMI	Food Marketing Institute
GAO	General Accounting Office
GGD	General Government Division
JFM	<u>The Journal of Futures Markets</u>
LTRS	Large Trader Reporting System
MidAm	MidAmerica Commodity Exchange
NCA	National Cattlemen's Association
NFA	National Futures Association
P&SA	Packers and Stockyards Administration
RCED	Resources, Community, and Economic Development Division
USDA	U.S. Department of Agriculture

Introduction

Agriculture is one of the nation's largest industries, accounting for almost 18 percent of the gross national product. The cattle industry is the largest segment of American agriculture in terms of cash receipts to U.S. farmers. In 1985 cattle accounted for almost \$29 billion, or 20 percent, of the estimated \$142 billion that U.S. farmers and ranchers received for agricultural commodities. Of the \$361 billion consumers spent for U.S. farm foods in 1986, \$106 billion, or 29 percent, was for red meat, including beef, veal, and pork.

The cattle industry has, like much of the rest of American agriculture, suffered financial stress in recent years, although in 1987 this stress eased somewhat as a result of reduced cattle supplies and higher cattle prices. Through much of the 1980s, high interest rates, low cattle prices (resulting from reduced demand for beef), and declining land values put pressure on the equity position of many cattlemen; and the industry was characterized by narrow profit margins or negative returns in all segments of beef cattle production.¹ Although the price of cattle in 1986 was twice what it was in the 1950s and 1960s, price increases during this period did not keep pace with the general rate of inflation, and the real price of cattle has declined.

A portion of the cattle industry's problems has been attributed to changes in the industry's structure (discussed later in this chapter), changes in consumer attitudes toward beef, and competition from the poultry and other food industries that have developed new products and experienced gains in production efficiencies. Some people, including many within the cattle industry, however, believe that the cattle futures markets, in which contracts representing a specified cumulative weight and quality of cattle to be delivered at a future date are traded in centralized commodity exchanges, also may have contributed to low cattle prices. In this regard, industry groups such as the National Cattlemen's Association (NCA)² have questioned the role of the cattle futures markets

¹Beef production in the United States can be broken down into three major segments: the cow-calf/ranching segment, the cattle feeding segment, and the slaughtering/processing (or packing) segment. Production of young cattle for sale as stocker or feeder animals is the primary objective of the cow-calf/ranching segment. The calves, thus produced, are weaned from their mothers at about 425 pounds; most are then placed into growing operations where they add 300 to 400 pounds while on pasture and roughage. At about 650 to 800 pounds, they are sent to feedlots for finishing, where they reach slaughter weights of 850 to 1,200 pounds.

²NCA, a nonprofit trade association, acts as a spokesman for all segments of the nation's beef cattle industry. It was formed on September 1, 1977, through consolidation of the American National Cattlemen's Association and the National Livestock Feeders Association. It represents 245,000 cattlemen, many of whom are affiliated with NCA not as direct, dues-paying members but as members of some 51 affiliated state cattle associations and 20 national beef breed organizations.

and the impact they may be having on the cash cattle markets in which cattle are actually bought and sold.

Concern about the cattle futures markets was heightened by the abrupt, downward reaction of these markets to the U.S. Department of Agriculture's (USDA) March 28, 1986, announcement of the details of its Dairy Termination Program. This program, required by the Food Security Act of 1985 (P.L. 99-198), was designed to reduce the total number of dairy cows, thus reducing the United States' total milk production. Under the program, which some refer to as the Whole Herd Buyout Program, participating dairy farmers would agree to sell their dairy cattle for slaughter or export and to stay out of the dairy business for at least 5 years. Farmers agreeing to do this were to be compensated from moneys received through assessments to dairy farmers remaining in the business.

USDA's announcement of the total number of cattle to be slaughtered and the timing and extent of the initial slaughter apparently differed from industry expectations of what would occur. As a result, beef cattle prices, both cash and futures, dropped sharply because of the extra dairy meat that would be coming to market. According to NCA, the nation's cattlemen lost an estimated \$25 million during the first week of the program, and the devalued cattle inventory made operating capital more difficult to obtain.

Acknowledging the cattle industry's concerns, and the concerns expressed by several senators interested in the operation of the cattle futures markets and their effect on cash cattle prices, the Senate Committee on Agriculture, Nutrition, and Forestry, by letter dated July 23, 1986, asked us to conduct an investigation of these markets. Subsequently, the Futures Trading Act of 1986 (P.L. 99-641, Nov. 10, 1986) incorporated the request into the law and specified that we provide both the Senate Committee on Agriculture, Nutrition, and Forestry and the House Committee on Agriculture with a preliminary report in January 1987 (Commodity Futures Trading: Preliminary Information on the Viability of the Cattle Futures Markets, GAO/RCED-87-83, Jan. 16, 1987) and a final report within 1 year after enactment of the act.

Changing Structure of the U.S. Cattle Industry

Changes have occurred over the years in the structure of the U.S. cattle industry and in the way cattle are marketed. In the mid- to late 1800s, for example, cattle were marketed by dealers who purchased the animals from ranchers and sold them to packers throughout the nation. Cattle often had to be herded great distances, causing weight losses and injuries. With the expansion of the railroads, cattlemen were able to move their herds shorter distances to railheads for shipment to larger terminal markets that had begun to spring up. Packing plants, located adjacent to these terminal markets, purchased about 90 percent of their cattle through 80 such markets during the 1920s.

The importance of terminal markets subsequently declined as the result of the growth of livestock auction markets from 1930 to 1950. All-weather rural roads and trucks were major factors in changing livestock marketing channels. In contrast to the large terminal markets, which received some livestock from considerable distances, many auction markets draw their supplies largely from the communities in which they are located and allow cattle producers a greater role in cattle sales. About 200 auctions are estimated to have been operating in 1930. The number of auctions peaked in 1949 at over 2,400. Since then, the number of auctions has generally been on the decline, partially because in the late 1940s cattle feeders began "finishing" cattle in feedlots on grain. Until then, most cattle marketed in the United States were fed on grass and forage. The evolution of the feedlot and the relocation of packing plants near feedlots facilitated the growth of the direct sale of cattle from feeders to meatpackers.

Over the years herd-size emphasis has moved from medium-sized cattle herds to those that are either very small or very large. Almost 75 percent of the nation's beef cows are now in herds of less than 200, and their owners do not generally depend on the cattle as their sole source of income. (A herd size of 250 is thought by one livestock market researcher to be the minimum a full-time cattle producer needs to earn a living.) The nation's total herd size increased from the mid-1800s until 1975, when it peaked at 132 million head. The trend has been downward since then, standing at 110 million head in January 1985 and slightly over 100 million head in January 1987. More than 41 million head were slaughtered in 1984, producing 24 billion pounds of beef and veal. Just over 37 million head were forecast to be slaughtered in 1987.

The U.S. average annual per capita beef consumption rose from 66 pounds in the 1950s to a peak of 88 pounds in the mid-1970s. This trend has since reversed, with the average annual per capita consumption in

the 1980s running at 80 pounds. Changes in consumer preferences and increased competition from other meats and food products help explain why per capita beef consumption has stabilized at a level below the peak in the mid-1970s. Although herd size and per capita beef consumption have dropped, total beef supplies (resulting from herd liquidations and increased slaughter weights) remained relatively steady through 1986. Supplies, however, have been dropping in 1987. If this trend continues, assuming that beef demand does not drop further, prices would be expected to rise. Increased prices, however, could lead to a drop in the quantity of beef demanded if consumers opt to purchase cheaper, alternative meats or other food products.

Cattle Market Mechanisms

Cash markets (involving terminal, auction, and direct sales), forward markets, and futures markets are the mechanisms in use today to facilitate commerce in the cattle industry. Cash markets (sometimes called physical or spot markets) refer to all transactions (cash contracts) whereby farmers or ranchers sell their commodity (in this case, cattle) to buyers for a specific price that is dependent on delivery location and quality. Physical delivery and transfer of ownership take place in a relatively short period of time.

Forward markets add a longer time dimension to cash markets. Like a cash contract, a forward contract is specific as to delivery location and commodity quality and amount. However, a forward contract sets the delivery and transfer of ownership at some time in the future. The price may or may not be set on the contracting date. Forward contracts for agricultural products are relatively illiquid, that is, they cannot be readily traded. A given forward contract is specific as to quantity, quality, and location; and although these conditions make it attractive to the original buyer and seller, they are not necessarily attractive to other buyers and sellers. The specific parties must agree to any contract modifications. It is therefore relatively difficult to trade a forward contract if market conditions change and either party wants out.

Futures contracts are standardized forward contracts, and futures markets are the organized trading of those contracts. Each contract is identical in that it represents an obligation to make or take delivery of a fixed amount and quality of a given commodity in a specified location at some point in the future, although in only a very small percentage of the volume of transactions does actual delivery ever occur. Potential delivery months are prespecified, as is the time within the delivery month when delivery may be made. The only item to be negotiated when buying or

selling a futures contract is price. Contract standardization (in terms of weight and quality for cattle) facilitates centralized trading. Although transactions in the cash and forward markets remain dispersed, futures trading is not. Futures contracts are traded on exchanges according to the exchanges' rules, with regulatory oversight by the Commodity Futures Trading Commission (CFTC). All trades are by open outcry at the exchange, with the buyers and sellers bidding for contracts from, and offering futures contracts to, all assembled traders.

Two additional features—the clearinghouse and margins—help to further distinguish futures markets from forward markets. All commodity exchanges have a clearinghouse, which checks all recorded trades to make sure that the buyer and seller agree on the price and on the number of contracts traded. If a disagreement occurs, the clearinghouse ensures that disputed items are resolved before the opening of trading on the following day.

When a trade “clears,” the clearinghouse steps in to take the other side of each contract. That is, the individual buyer and seller no longer have obligations to each other but to the clearinghouse. Impersonalizing futures trading through the clearinghouse's third-party role serves to enhance market liquidity. For example, to fulfill contractual obligations, a buyer either must accept delivery of the actual commodity in the designated month (a situation that occurs only infrequently) or must sell the same number of contracts before the contract expires. The latter transaction, called offset, gives the individual an even balance in the records of the exchange, and that trader is then out of the market. The trader does not have to find the individual originally dealt with since the contract is standardized and is with the clearinghouse, not with another individual. Thus, a futures contract is much more liquid than a forward contract.

To trade futures contracts, both buyer and seller must deposit sums of money—called margins—with their brokers who, in turn, are financially obligated to the clearinghouse either directly or through another party who is a member of the clearinghouse to guarantee performance on their contractual obligations. Although initial margins are small relative to the contract's value, the daily accounting of positions by the clearinghouse means that an individual in the position of losing money may be required to deposit additional margin moneys. Further, margin levels are set by the commodity exchanges and clearinghouses and can be adjusted upward or downward, as market conditions dictate.

Futures markets in agricultural and other physical commodities are believed to be important for discovering the price of those commodities. Many transactions involving such products in cash and forward markets are priced in relation to the futures prices with due allowance for time, place, and quality differences. Both cash and forward market transactions remain important, however, because they are the primary means by which commodity ownership is actually transferred. Futures contracts are generally settled without actual delivery, as is discussed in more detail in chapter 3.

History and Purposes of Futures Trading

Futures trading is far from new, with the basic idea—trade now, settle later—in evidence as early as 2000 B.C.

Organized futures markets emerged in the United States in the mid-1800s as a result of the inherent price risks faced by both producers and consumers in agricultural cash markets. Cash markets, at the time, were unstable, often experiencing wide price swings as a result of a glut of low-priced commodities at harvest time and high-priced commodities at some point later on. Early U.S. futures contracts and trading involved cotton, wheat, and various other grains. Trading in live cattle and hog futures contracts on an organized commodity exchange is a comparatively new development, not getting underway until the mid-1960s.

A basic purpose of a futures market, regardless of the type of commodity, is to help cash markets to be more competitive and efficient. It attempts this by performing two functions: price discovery, through information collection and dissemination, and risk transfer. These terms, defined here, are discussed in more detail in chapter 4.

Price discovery is the process through which buyers and sellers, i.e., traders, exchange bids and offers to reach agreement on, or discover, specific prices for trades. Traders are constantly adjusting their expectations of futures prices as new information becomes available throughout the day. Broad dissemination and publication of exchange-generated prices helps establish cash and forward contract prices for commodities in localized markets more quickly and accurately.

Risk transfer, through hedging, provides an opportunity for shifting price risks associated with commodity ownership from individuals and entities who are unwilling to bear such risks to those who are willing to carry these risks in return for a possible profit. Those who seek to shift price risk are known as hedgers, and those willing to assume this risk in

return for potential profit are known as speculators. Unlike hedgers, speculators by definition have no interest in the physical commodity itself; they are interested solely in speculating on the extent and direction of future price changes. Speculation is an indispensable part of all futures market activity. By standing ready to purchase or sell futures contracts based on price alone, speculators increase the liquidity, efficiency, and competitiveness of futures markets.

Cattle Futures Trading at the Chicago Mercantile and MidAmerica Commodity Exchanges

Currently, 2 of the 12 futures exchanges in the United States provide for trading cattle futures contracts: the Chicago Mercantile Exchange (CME) and the MidAmerica Commodity Exchange (MidAm), both located in Chicago, Illinois. CME has by far the higher cattle futures volume of the two exchanges, as will be shown later.

Chicago Mercantile Exchange

CME, organized in 1919 as the successor to the Chicago Butter and Egg Board, first traded futures on eggs, butter, cheese, potatoes, and onions. During World War II, trading at CME virtually ceased because of government-instituted price controls. Subsequently, CME members began developing and promoting new futures contracts to broaden the exchange's scope. CME currently trades futures on agricultural commodities, foreign currencies, interest rates, and stock indexes. CME is the world's second largest futures exchange, with trading volume in 1986 of about 60 million contracts and a membership made up of about 2,700 traders.

CME introduced live cattle futures trading in 1964, becoming the first exchange to offer a futures contract based on a live commodity. Before then, futures contracts had been developed only for commodities that were generally storable and nonperishable. At the time live cattle futures were introduced, cattle prices were low and profit margins were narrow or nonexistent. Both the cattlemen and CME hoped that a live cattle futures market would help alleviate these conditions. CME added a live hog contract in 1966, a feeder cattle contract in 1971, and options³

³Options present another economic opportunity for cattlemen and others who trade in the cattle futures markets. Someone who buys a cattle futures option, for example, acquires the right, but not the obligation, to a long or short position in the applicable futures contract at a fixed price on or before an expiration date. For the right granted by the option, the option buyer pays a sum of money (premium) to the option seller who keeps the premium whether the option is exercised or not. Unlike futures contracts, buying options does not involve the payment of margins; once the buyer pays the premium, no further payments are required.

on live cattle futures in 1984 and on feeder cattle futures beginning in 1987.

CME's "live" cattle futures contract is based on 40,000 pounds of fed, or slaughter-ready, steers averaging 1,050 to 1,200 pounds per animal, or about 33 to 38 head of cattle per contract. Individual animals weighing less than 950 pounds or more than 1,300 pounds are not deliverable. Each futures contract that is traded, live cattle or not, has a specific life. The last day of trading on CME's live cattle futures contracts is the 20th of the delivery month, or the preceding business day, if the 20th is not a business day. The delivery, or contract, months for live cattle futures are February, April, June, August, October, and December. A seller of a contract may, if he or she wishes, deliver cattle against an outstanding position on any business day of the delivery month, with notice being given 3 business days prior to actual delivery at the stockyards. Cattle can be delivered against live cattle futures contracts at CME-approved stockyards in Sioux City, Iowa; Omaha, Nebraska; Peoria and Joliet, Illinois; Greeley, Colorado; Dodge City, Kansas; and Amarillo, Texas. After the last day of trading for any contract, the holder of any short or long positions must make or take delivery.

CME's "feeder" futures contract is based on 44,000 pounds of feeder steers weighing between 600 and 800 pounds per animal, or about 55 to 73 head of cattle per contract. Physical delivery of feeder cattle is no longer done under this contract. Beginning in 1986, all trading positions remaining open at the expiration of a given feeder cattle futures contract are settled in cash, based on an average of actual cash market prices of feeder cattle, rather than by delivering or receiving feeder cattle. Contract months for the feeder cattle contract are specified as January, March, April, May, August, September, October, and November.

CME specifications for its cattle futures and options contracts are summarized in appendix I.

MidAmerica Commodity Exchange

MidAm was incorporated as the Chicago Open Board of Trade in 1880 and adopted its current name in 1973. This exchange is the third oldest in the United States and specializes in mini-contracts designed for the needs of smaller users. These mini-contracts are exactly the same as contracts offered at other exchanges, except that the amount of a commodity represented by a mini-contract is from one fifth to one half the

amount represented by other exchanges' contracts. The smaller contracts were designed to make the commodity futures markets more accessible to a broader spectrum of hedgers and speculators.

In early 1986, MidAm became an affiliate of the Chicago Board of Trade, which is the United States' highest volume futures exchange. This affiliation came about, at least partially, because of MidAm's low contract volume and high operating expenses. MidAm continues to operate as an independent entity but is now located within the facilities of, and receives management expertise from, the Chicago Board of Trade. MidAm's trader membership in early 1987 was about 1,200.

Since 1978 MidAm has offered a live cattle futures contract, exactly half the amount of, but otherwise identical to, CME's live cattle contract. MidAm's cattle contract is 1 of 23 mini-contracts that it trades. Other mini-contracts involve grains, live hogs, precious and industrial metals, foreign currencies, and financial instruments. A feeder cattle contract is not offered at MidAm, nor are options on its live cattle contract.

Volume of Cattle Futures and Options Trading

The volume of trading in cattle futures contracts and options at CME and MidAm is shown in table 1.1.

Table 1.1: CME and MidAm Trading Volume for Cattle Futures Contracts and Options, 1982-86

Contract/option	Contract/ option amount (lbs.)	Number of contracts/options traded (in thousands)				
		1982	1983	1984	1985	1986
CME live cattle futures contract	40,000	4,441	4,248	3,553	4,437	4,691
CME feeder cattle futures contract	44,000	604	537	317	456	411
MidAm live cattle futures contract	20,000	107	88	81	65	59
CME live cattle option ^a	40,000	•	•	21	327	718

^aCME trading in these options began in 1984.
Source: Futures Industry Association, Inc.

As table 1.1 shows, trading in CME's live cattle futures contract rose the past couple of years, reaching almost 4.7 million contracts in 1986. Options on live cattle futures contracts at CME have also increased since they were approved for trading in 1984, reaching just over 718,000 in 1986. Trading in CME's feeder cattle futures contract and MidAm's live cattle futures contract generally declined during the 1982-86 period,

although trading in the feeder cattle contract rebounded in 1985 from a low point in 1984.

Although not shown in the table, open interest⁴ in CME's live and feeder cattle futures contracts has increased over the past year. At the end of August 1987, for example, open interest in live cattle contracts was 85,244, up 32 percent from 64,662 a year earlier. For feeder cattle contracts, open interest at the end of August 1987 was 21,099, up 88 percent from 11,201 in August 1986. At the end of October 1987, open interest in live cattle contracts had declined to 74,442. Open interest in feeder cattle contracts, however, had risen to 22,725.

Of 49 commodity futures contracts traded on U.S. futures exchanges in 1986 with trading volume over 100,000 contracts, CME's live cattle contract ranked tenth and CME's feeder cattle contract ranked fortieth. To provide a degree of perspective in terms of livestock, CME's live hog contract ranked twenty-first with 1.9 million contracts being traded in 1986.

CFTC Oversight of Cattle Futures Markets

CFTC is a small, independent federal regulatory body established by the Congress in 1974 to oversee futures trading. It has regulatory responsibility over the activities of all futures markets, including those for cattle, and oversight responsibility over the self-regulatory activities of the exchanges themselves. As an overseer and regulator, CFTC is responsible for ensuring the economic purpose of futures markets by encouraging their competitiveness and efficiency; ensuring their integrity; and protecting market participants against manipulation, abusive trade practices, and fraud in the marketplace. CFTC, through its actions, enables the commodity futures markets to better serve their unique function in the nation's economy of providing a mechanism for price discovery and a means of offsetting price risk. How CFTC does this—specifically, how it oversees and complements CME's self-regulatory activities with regard to the cattle futures markets—is the subject of chapter 5.

Objectives, Scope, and Methodology

The Senate agriculture committee's letter asking us to study the cattle futures markets and the subsequent law mandating such a study each contained similar questions related to the (1) cattle futures markets'

⁴The total number of futures contracts of a given commodity that have not been offset by opposite futures transactions or fulfilled by delivery of the commodity, i.e., the total number of open transactions. Each open transaction has a buyer and seller, but for calculation of open interest, only one side of the contract is counted.

reaction to USDA's March 28, 1986, announcement of Dairy Termination Program details; (2) cattle futures markets' effects on price relationships, price discovery, and competitiveness in the cattle industry; (3) packers' use of forward contracting; and (4) delivery system being used for the live cattle futures contract.

In addition to reviewing these four areas, we examined the system by which the cattle futures markets are regulated and whether the markets serve an economic purpose and are in the public's best interest.⁵ These areas are related to those listed above, and both the Congress and the cattle industry have expressed interest in them.

We conducted our review from August 1986 through August 1987 mainly in Washington, D.C., and Chicago, where we met with and obtained information from officials at CFTC, CME, MidAm, and USDA. At CFTC we spoke with market surveillance staff and examined applicable records, such as weekly surveillance reports, monthly commitments of trader reports, and large trader data. With CME officials, we discussed their market surveillance and compliance programs and analyzed various CME reports of violations in the exchange's cattle and other futures markets. We also spoke with some cattle futures traders and reviewed CFTC's recent rule enforcement reviews at CME and a number of CME rule changes made to improve cattle futures trading. We met with MidAm officials to discuss cattle futures issues and MidAm's live cattle futures contract. We met with officials from USDA to discuss their implementation of the Dairy Termination Program, USDA grading of cattle delivered under cattle futures contracts, and USDA oversight of the meatpacking industry. We also discussed the cattle industry and cattle futures markets with USDA economists.

We traveled to Colorado, Kansas, South Dakota, Texas, and Utah to discuss cattle futures with a wide range of cattlemen, including cow-calf operators, stockers, feeders, and packers. We also held telephone discussions with cattlemen from other parts of the country.

We met on numerous occasions with NCA officials and with the NCA Cattle Futures Task Force, which was established in January 1987. We met with NCA state-affiliate organizations and other similar organizations during our visits outside Washington and Chicago. In Washington, we

⁵Previous GAO reports on how futures markets are regulated include Securities and Futures: How the Markets Developed and How They Are Regulated (GAO/GGD-86-26, May 15, 1986); and Controls Over Export Sales Reporting and Futures Trading Help Ensure Fairness, Integrity, and Pricing Efficiency in the U.S. Grain Marketing System (GAO/RCED-85-20, Apr. 9, 1985).

met with the president of the American Cowman's Association, the American Farm Bureau Federation's Cattle Futures Trading Study Committee, CFTC's Agricultural Advisory Committee, and representatives of the American Meat Institute (AMI) and the Food Marketing Institute (FMI). In addition, we spoke in person or by telephone with representatives of six agricultural lending institutions.

To help us in considering various economic issues associated with cattle futures, we assembled a six-member advisory panel of economists, each of whom is knowledgeable concerning futures trading and cattle marketing. We met with the panel for 2 days in April 1987 and discussed various facets of the assignment with individual panel members at other times.⁶

Our review was conducted in accordance with generally accepted government auditing standards. CFTC, USDA, and CME were given an opportunity to comment on a draft of this report. (See apps. II, III, and IV.) USDA and CME generally agreed with the report's overall findings and conclusions. CFTC expressed concern about a proposal related to its special calls for trader information. (See ch. 2.) All three respondents made suggestions to clarify certain issues and improve the report's technical accuracy, which we incorporated where appropriate.

This report does not cover the interrelationship between the futures and securities markets; the interrelationship of the futures markets, exchange rates, trade balances, and budget deficits; or the use of programmed trading. However, following the October 19, 1987, decline in many markets, congressional requesters asked our Office to evaluate, in future reports, the structure, operation, interrelationship, and regulation of the securities and futures markets and the events surrounding the markets' decline.

⁶This panel included Dr. Wayne D. Purcell, Virginia Polytechnic Institute and State University; Dr. Mark S. Rzepczynski, University of Houston; Bruce A. Ginn, Jr., Livestock Business Advisory Service Consulting Group; Drs. Charles M. Oellermann and Robert Young, Senate Committee on Agriculture, Nutrition, and Forestry; and Dr. John W. Helmuth, House Committee on Small Business. Dr. Rzepczynski has since joined the staff of CME's research department in a capacity unrelated to cattle futures, and Dr. Helmuth accepted a position at Iowa State University.

Cattle Industry Lacks Unanimity in How It Uses and Views Cattle Futures

The U.S. cattle industry is not united in how it uses or perceives cattle futures. Although numerous publications and programs in recent years have done much to increase general knowledge of futures markets, many farmers, ranchers, and cattle feeders are still uncertain about what futures markets are and whether they can be used effectively. Some futures market terms, such as "hedging," "basis," and "going short," are a mystery to many cattlemen. Cattlemen's sentiments toward cattle futures can often be associated with the industry segment within which they operate, the size of their operation, and/or the knowledge they have of futures trading and risk shifting.

This chapter briefly describes how each segment of the cattle industry typically uses and views cattle futures. It discusses also how the cattle futures markets are perceived and used by wholesale/retail/food service companies that purchase and distribute the beef that cattlemen produce and how the futures markets are perceived by agricultural lending institutions that provide loans to cattlemen. It also provides a profile of large traders in the live cattle futures markets in June 1987 and discusses CFTC's "special call" early in 1987 for information on traders in the live-stock futures and options markets.

Major Segments of Cattle Industry: How Each Uses and Views Cattle Futures

The ownership and handling of cattle involve the risk of significant price instability due to weather, changes in public policies and programs, and many other factors affecting supply and demand. One purpose of futures trading is to allow producers, processors, and users of livestock to protect themselves from adverse price changes in the future. This category of futures trading is known as hedging and is distinguished from futures speculating whereby individuals assume hedgers' risks because of the potential profit they hope to gain from subsequent price movements.

Basic Uses of Cattle Futures Markets

Cattlemen are generally advised to hedge their operations in the cattle futures markets "selectively," not routinely. That is, those owning cattle are urged to use the cattle futures markets to price their cattle when they believe such markets offer them a higher net price than what they would otherwise receive in the cash markets at the time of sale, or when they are either unable or unwilling to bear the risks of an unhedged position. On the other hand, those buying cattle are urged to use the futures markets to price the cattle they need when such markets offer them a lower net price than what they would otherwise expect to pay

for cattle in the cash markets. To use futures markets effectively, however, one must understand the mechanics of trading. For example, before deciding to hedge in futures markets, it is important to understand the "basis," that is, the amount by which the local cash price differs from the futures price at the time the cattle are to be marketed and the hedge lifted. Hedging can reduce the risk of price change if the variation in the basis is less than the variation in local cash prices. If this is not the case, then hedging in the futures markets will tend to increase risks for potential hedgers, such as cattle producers, rather than decrease them.

When a cattleman hedges all or a part of his production in the cattle futures markets, he takes a position that is opposite to his cash position.¹ A cattle feeder, for example, who owns cattle might—to protect himself from the possibility of decreasing cattle prices—sell one or more live cattle futures contracts on what is known as the "short" side of the market at a favorable price to cover all or part of the animals he has on feed. These contracts run to a specified maturity date, usually several months in advance. As that date approaches, the cattle feeder has two choices. He can (1) offset the contracts he initially sold by buying live cattle futures contracts on the opposite, or "long," side of the market or (2) deliver the cattle to one of the seven delivery points identified in chapter 1. In most cases, the cattle feeder will, at the time he sells his cattle in the cash market, offset the futures contracts he sold initially by buying a similar number of contracts. As explained further in chapter 3, though, at times the futures price during the expiration or delivery month is sufficiently above the local cash price that it may benefit the cattle feeder to deliver cattle against the futures contracts that he sold.

Conversely, a meatpacker, for example, in need of fed, or slaughter-ready, cattle might—to protect itself from the possibility of increasing cattle prices—buy one or more live cattle futures contracts to cover all or part of its inventory needs. Unless it takes delivery against the contracts bought, which happens somewhat infrequently, the meatpacker will, at the time it actually buys its cattle in the cash market, offset the futures contracts it bought on the long side of the market by selling a similar number of contracts on the short side.

¹Cattlemen are "long" in the cash market if they hold cattle in inventory and are at risk if prices decrease. To offset this risk, these cattlemen can sell one or more futures contracts on the "short," or selling, side of the futures market—thus creating a short hedge. On the other hand, cattle producers, processors, and others are said to be "short" in the cash market if they need cattle in the future and are at risk if prices increase. To offset this risk, they can buy one or more futures contracts on the "long," or buying, side of the futures market—thus creating a long hedge.

In discussions with cattlemen from the various beef production segments (that is, the cow-calf/ranching, cattle feeding, and meatpacking segments), we learned that each is essentially a separate entity or industry, with its own set of circumstances, problems, and perceptions. For example, the way in which each segment generally perceived the cattle futures markets seemed to be tied very closely with the perceived applicability or usefulness of the markets to that particular beef production segment. Cow-calf operators, for example, often considered the markets not useful to them in their operations, and therefore, many of them had a negative view toward the markets. They participated in futures markets infrequently or not at all. Cattle feeders and packers, on the other hand, were often found to be using the cattle futures markets for hedging and/or speculating purposes, and many of them considered the markets to be an essential part of the cattle feeding and packing businesses.

Description of the Cow-Calf/Ranching Segment

The cow-calf/ranching operation is an enterprise that uses grazing land, breeding cows, and a small number of bulls to produce calves. Such operations are relatively widespread and economically important in most U.S. regions. The wide range of climatic, topographic, and agronomic conditions under which cow-calf enterprises are operated helps to account for the diversity in resource use, production practices, and profitability that characterize this beef production segment.

Cow-calf/ranching operations vary considerably in size from a few animals to many hundreds or sometimes thousands. The land required to support each cow-calf unit (one cow and one calf) can vary from 4 acres in high rainfall areas of the East or Midwest to as many as 200 acres in the more arid West and Southwest. The farms and ranches themselves number almost 1 million, according to a USDA estimate, and vary in size from less than 100 acres to many thousands of acres.

The cow herd is usually bred in the summer. Because a cow's gestation period is 9 months, the "calf-crop" arrives the following spring. Generally a cow will give birth to a single calf, although twins occur on rare occasions. A 90-percent conception rate is considered good. A cow that misses its annual pregnancy, even if it is still young, is usually culled, or taken, from the herd and sent to slaughter.

Calves spend the first 6 months after birth with their mothers. At birth, their nourishment comes exclusively from nursing. Over time, however, the calves increasingly supplement their diets with grass and occasionally with grain. At 6 to 8 months of age, the calves, usually weighing

about 425 pounds, are weaned from their mother's milk. Some calves are put into feedlots immediately after weaning, but most calves pass through either or both of two intermediate stages: cow-yearling and/or stocker operations.

If calves are weaned and carried to heavier weights before they are sold, the cow-calf operation becomes a cow-yearling operation. Such an operation requires much forage and is found on farms and ranches that have more grazing than can be utilized by the brood cows.

Stocker operations involve putting weaned calves, either from cow-calf or cow-yearling operations, on summer grass, winter wheat, or some type of harvested roughage. The cow-calf or cow-yearling operators may pay the stocker operator for providing this post-weaning "room and board," or they may sell the animals to the stocker operator. Either way, this phase of the calves' lives may last from 6 to 10 months, until the animals reach a desirable feedlot weight of 650 to 800 pounds. At this point, when the animals are to be placed in feedlots, they are referred to as feeder cattle. Again, as the cattle pass from the stocker operation to the feedlot, the cattle's ownership may or may not change.

The production of calves is actually the first stage of the rather lengthy production process resulting in retail beef. About 2-1/2 years usually elapse between the breeding of beef cows and heifers and the time the resulting beef is ready for retail sale. A cow-calf operator's decision to expand production may not result in additional retail beef for another 4-1/2 years. The action cow-calf operators take to expand production (that is, retaining and breeding heifers that otherwise would have been available for slaughter) causes beef production to decrease before it increases. Conversely, the action taken to reduce production (that is, retaining fewer heifers for breeding and/or culling more brood cows than would be culled if production were to be maintained, and sending such animals to slaughter) causes beef production to increase before it begins to decline.

Average production costs of and prices received for feeder cattle are major influences on cow-calf operators' profits. Total cattle inventories vary over time, with the cow-calf operators' profitability being the driving force. Cow-calf operators make the decisions that will either increase or decrease cattle inventories. In this regard, during the past 15 or so years, profitability in the cattle business has been extremely variable. Favorable returns in the late 1960s and early 1970s led to an increase in cattle inventories that peaked at 132 million head in 1975.

This resulted in larger beef supplies, lower prices, and limited profitability. Limited and even poor profitability through 1986 led many cow-calf operators to liquidate inventories to a point where, as was mentioned in chapter 1, the number of cattle in January 1987 was just over 100 million head.

In terms of profitability, cow-calf operators appear to be particularly vulnerable, as compared with others in the cattle industry. Cow-calf operators are at the front end of the marketing stream. The prices they get for the calves they produce depend largely on the prices stockers receive for the feeder cattle sold to cattle feeders or upon the prices cattle feeders receive for the fed cattle sold to meatpackers. If stockers or cattle feeders are realizing favorable profits, for example, a tendency exists to bid calf and feeder cattle prices up as demand for feedlot replacement cattle escalates. The prices the cattle feeders receive depend on the prices the packers receive for the beef sold to retail and food service companies. The prices the packers receive, in turn, depend on consumer demand for beef as reflected in retail beef prices, which have fallen in real terms since 1979. Although stockers, cattle feeders, and packers can lower the prices they are willing to pay for their input, on the basis of the prices they receive for their output, cow-calf operators are not in a similar situation. They have no one to pass their costs along to. While they must attempt to control and minimize the costs of their calf production, they are generally vulnerable to and lack control over the variability of the market at the time they sell their calves unless they are willing to attempt to manage their risks through such alternatives as hedging in cattle futures, purchasing options on cattle futures, or forward contracting.

How the Cow-Calf/Ranching Segment Uses and Views Cattle Futures

Of the cattle industry's various segments, the cow-calf/ranching segment is the one that trades cattle futures contracts least and views the futures markets with the most disfavor. In a 1986 poll of NCA's membership regarding cattle futures (discussed in more detail in ch. 6), cow-calf operators and stockers were more apt to be opposed to cattle futures trading than were either cattle feedlot operators or feedlot customers. Our discussions with cow-calf operators and stockers in the various states we visited and others with whom we spoke via the telephone disclosed some use of the cattle futures markets for hedging and speculating purposes by this group. Those who were trading futures contracts generally had larger size operations than those who were not. Some with whom we spoke had traded cattle futures in the past but were not doing so currently. Members of some state cattlemen's associations, such as

those in Kansas and Texas, seemed more favorably disposed toward cattle futures and more inclined to be trading them than members of similar associations in other states, such as Colorado, California, and South Dakota.

Those from the cow-calf/ranching segment who were not trading cattle futures were often adamant about not doing so and about the idea that others within and outside the cattle industry should not be allowed to do so as well. From discussions with them, the following were among the reasons why they and others in the cow-calf/ranching segment do not trade cattle futures.

- A basic distrust exists within this group regarding cattle futures.
- The purpose of futures trading and how such trading might be applied to a given cow-calf/ranching operation have not always been understood.
- Those within the cow-calf/ranching segment are often production-oriented, rather than marketing-oriented. Many are so busy on the production side of their operations, that they have very little time or interest to spend on the marketing side.
- Many within the cow-calf/ranching segment are inclined to resist change. They prefer to run their respective operations as they and their forefathers always have.
- Many in this group seldom have enough calves at a given time to warrant hedging them against either a feeder or live cattle futures contract. In this regard, CME has stated, "A cattle producer marketing less than 35 head of fed cattle . . . or 65 head of feeder cattle . . . should not attempt to obtain price insurance directly through the CME livestock futures contracts." While cattle producers could hedge their operations through the MidAm's live cattle futures contract, which is half the size of CME's live cattle contract, 70 percent of the U.S. farms that raised beef cattle had herd sizes below 30 head, according to 1982 agricultural census data (the latest available). However, the number of cattle on these farms represented only 22 percent of the nation's total beef cattle herd. What these statistics show is that while most cattle producers have too small an operation to use cattle futures for hedging purposes, the smaller number of large producers that could conceivably hedge their operations with cattle futures is, in fact, responsible for the bulk of U.S. beef cattle production.
- It is difficult to hedge the calves produced in a cow-calf operation against either a feeder or a live cattle futures contract. The two types of contracts are not directly applicable to a cow-calf operation. The product of the cow-calf operator (i.e., calves) is different than the product of

the stocker (i.e., feeder cattle) or the product of the cattle feeder (i.e., fed, or slaughter-ready, cattle).²

- Oftentimes, the basis, the difference between local calf prices and futures prices, is difficult to predict.
- Cattle futures often do not offer a “profitable” hedge to operators in the cow-calf/ranching segment.
- Some within the cow-calf/ranching segment would rather take their chances on the prices they will receive in their respective cash markets, than limit their profit opportunities by hedging in the futures markets.

In addition, several cow-calf operators told us that the number of buyers who were interested in their calves had, for whatever reasons, decreased and that the few who were left frequently used the cattle futures markets as a leverage against them. The cow-calf operators explained that the buyers keep track of which way cattle futures prices are moving and are generally much more inclined to visit and offer them a lower price for their calves when futures prices are down than they are to visit and offer them a higher price when futures prices are up.

A number of those in the cow-calf/ranching segment who would like to see cattle futures trading abolished told us that they believed that things would get better for them if this were done. They seemed convinced that cattle prices would become more reflective of true supply and demand conditions and that the prices they would receive for their calves would rise. This latter opinion was opposite of that voiced to us by many cattle feeders.

Description of the Cattle Feeding Segment

The cattle feeding segment, the second stage in beef production, is largely unique to the United States. No other country finishes the number or proportion of cattle on concentrate feeds as is done in this country. Although cattle feeding in this country spans over 100 years, the industry expanded only gradually until the late 1950s. Since then, expansion has increased rapidly because of (1) abundant, low-cost feed grains and (2) strong consumer demand for the type of beef that can best be produced in a confined, grain-concentrate feeding program.

²In commenting on a draft of this report (see app. IV), CME stated that for purposes of analyzing use of the cattle futures markets, it may have been better for us to have broken out stocker operators as an additional segment of the industry, rather than include them as a part of the cow-calf/ranching segment, as we did. CME stated that the “cow-calf segment” produces calves (for which there is no futures or options contract) and the “stocker segment” produces feeder cattle (for which there is both a futures and an options contract). Therefore, CME indicated that the cow-calf segment is the only segment without the direct means of hedging price risk.

Cattle feeders generally purchase feeder cattle from cow-yearling or stocker operations and place the cattle in feedlots. The feedlot is an enterprise whose function is to keep cattle in pens and to feed them high protein feed to promote rapid weight gains. Almost all feeder cattle are steers (castrated males) and heifers (females that have not yet calved). At any time, significantly more steers than heifers are in feedlots, because a portion of the heifers are retained on farms and ranches for herd maintenance. Cows that have calved and bulls generally are not placed in feedlots.

Feedlots vary greatly in size from those with a capacity of fewer than 100 head to those with a capacity of more than 100,000 head. Feedlots are generally divided into two groups based on size. The most numerous group is the farmer feedlot, which is defined as any feedlot with a one-time capacity of fewer than 1,000 head. According to industry estimates, about 98 percent of the nation's 130,000 feedlots are farmer feedlots, but because of their relatively small size, they account for less than 25 percent of total fed-cattle marketings. Farmer feedlots are predominately found in the nation's Corn Belt.

The second type of feedlot is the commercial feedlot, which includes any feedlot with a one-time capacity of 1,000 head or more. These feedlots, some of which are affiliated with or owned and operated by meatpackers, account for about 2 percent of the nation's feedlots but, because of their larger average size, are the source of more than 75 percent of all fed-cattle marketings. Commercial feedlots are generally located in the western Corn Belt and Plains states as well as in the Southwest.

The typical farmer feedlot tends to be but one aspect of a diversified farming operation, whereas the commercial feedlot usually requires the full attention of its owner or manager as it is the primary enterprise. In addition, while virtually all cattle in farmer feedlots are owned by the farmer, almost half of all commercial feedlot cattle are owned by someone other than the feedlot owner. This arrangement, called custom feeding, shifts both the price risk and a major portion of the capital requirement from the feedlot to the customer. For those feedlot operators unable to raise sufficient capital to fill their pens during a given feeding cycle, selling feedlot services to outsiders becomes an attractive, lower-risk alternative.

For steers, feeding usually continues until they weigh from 1,000 to 1,200 pounds. Feeding of heifers continues until they weigh 850 to 1,000 pounds. Should feed prices fall or the price for fed, or slaughter, cattle

rise, animals will often be kept on feed slightly longer to a heavier weight. There is a limit, though, to extending the feeding period. If cattle are overfattened, they can be substantially discounted at marketing time and the incremental cost of the added gain may be substantial.

Virtually all fed cattle are purchased by packers in one of three ways: (1) direct sales, (2) terminal market sales, or (3) auction sales. Commercial feedlots sell most of their cattle directly to packers. Farmer feedlots sell almost two thirds of their cattle directly to packers, using terminal and auction markets for the remaining one third.

How Cattle Feeders Use and View Cattle Futures

The cattle feeding segment appeared to us to be the one that trades cattle futures most and views the futures markets with the most favor. In our discussions with various cattle feeders throughout the country (both individuals and representatives of cattle feeding associations), we found some who were not trading cattle futures. For example, one smaller feeder who no longer traded cattle futures told us that, in his opinion, only the larger feeders can effectively hedge their operations through the use of the cattle futures markets. He said that the markets seldom allowed him an opportunity to lock in a profit. Representatives of the South Dakota Livestock Association told us that their association was split down the middle on whether cattle futures should continue to be traded. Of 11 representatives we met with from this association, only 2 said that they were currently trading cattle futures.

The majority of cattle feeders we spoke with, though, were trading cattle futures. Most used the markets for hedging purposes, although at least a couple said that they also used them for speculating. A number of them told us that the cattle futures markets were valuable to them in terms of price discovery and risk shifting and/or that the markets were an essential part of their businesses in that they did not buy cattle to feed unless they could hedge the cattle through cattle futures or options on these futures.

We asked various cattle feeders who trade cattle futures what the effect would be on their operations if cattle futures were abolished. The following effects were among those given.

- Some feeders would reduce the number of cattle they feed.
- Lending institutions would increase their equity requirements.

- Prices paid to cow-calf/yearling operators and stockers for feeder cattle would decline as a result of feeders bidding prices down to a point where they are compensated for their increased risk.
- Without cattle futures trading, meatpackers would gain a price information advantage.

Description of the Beef Packing and Processing Segment

The third stage in beef production, beef packing and processing, involves the meatpacker who buys the cattle, slaughters them, and sells virtually every item that comes from the slaughtered animal. The packer has two major sources of revenue: (1) sales of meat (either in carcass or boxed form) and (2) sales of hide and offal (trimmed fat, variety meats, bones, blood, glands, etc.).

Most of the packers' cattle are purchased directly from feedlots by employees known as packer buyers. These buyers travel to cattle-feeding areas and bid for desirable cattle. Should a bid be accepted, the packer generally has 7 days within which to pick up the cattle. This arrangement gives the packer some flexibility and allows scheduling of slaughter several days in advance.

Over the past several decades, meatpacking has moved away from multistory, multispecies plants near terminal markets. The shift has been toward fewer but larger, single-story, specialized plants located near cattle production centers—as opposed to consumption centers where many were previously located. Technological innovation in transportation and refrigeration facilitated such changes by making it possible to transport meat in lieu of live cattle.

The beef packing industry has nearly always been a high-volume, low-margin business relative to other processing and manufacturing concerns. As in other industries, the larger packing firms account for a substantial share of total cattle slaughter and processing. Increasing packer concentration, as evidenced by packer mergers and buy-outs in the past couple of years, is beginning to draw attention and cause concern within the other segments of the cattle industry.

In May 1987 the five largest meatpackers, in descending order, were reported in The National Provisioner, a trade publication, to be Iowa Beef Processors, Inc. (a subsidiary of Occidental Petroleum Corporation); ConAgra, Inc. (recently merged with Monfort of Colorado, Inc.); Swift Independent; Excel (a subsidiary of Cargill, Inc.); and National Beef. The top four packers were reported at that time to slaughter about

58 percent of U.S. steers and heifers.³ Except for Iowa Beef Processors, Inc., which was not feeding cattle, the packers named above each had a cattle-feeding affiliate with a one-time capacity ranging anywhere from 50,000 to 235,000 head.

One of the more dramatic developments in beef packing in recent years has been the move to boxed beef. Twenty years ago, nearly all beef leaving the packers was cut into forequarters and hindquarters. Now, more than half is cut up (fabricated) into primal (e.g., chuck, loin, and round) or subprimal (e.g., top round, bottom round, and rump) cuts by the packer, sealed in vacuum bags, and shipped out in cardboard boxes (boxed beef).

One author⁴ recently suggested that the beef packing industry seems to be made up of two different types of companies. One type includes the slaughterers with large, efficient plants (often exceeding 500,000 head annual slaughter) that specialize in a narrow range of cattle and sell much of their output as boxed beef to medium and large supermarket chains. The other type of packer company is generally smaller in size; slaughters cattle of varied quality; and caters to the smaller, specialized market niches, such as restaurants selling U.S. Prime beef and retail stores handling lower quality, lean beef.

How Packers Use and View Cattle Futures

The meatpacking segment did not appear to us to be as united, as a segment, in its trading of cattle futures and its view of futures markets as did the cow-calf/ranching or cattle feeding segments. In discussions with 9 of the nation's 10 largest meatpackers (1 such meatpacker with an annual slaughter in excess of 500,000 head of cattle declined to talk with us), we received varied reactions to the relative worth of cattle futures trading. The six meatpackers who said they liked the cattle futures markets generally did so because they saw the markets as effective price discovery and risk-shifting mechanisms. Several of them mentioned that they used cattle futures to hedge forward purchases and sales, cattle they have on feed, and/or meat inventories.

³For comparative purposes, we reported in Beef Marketing: Issues and Concerns, CED-78-153, Sept. 26, 1978, that the top four packers were responsible for not more than 23 percent of the commercial slaughter during the 10 years from 1967 to 1976 (the actual range during the period was from 19 percent to 23 percent).

⁴Bruce Marion, The Organization and Performance of the U.S. Food System (Lexington, Mass.: Toronto: Lexington Books, 1986), p. 128.

The three meatpackers who were not as favorably disposed toward cattle futures as the others, nevertheless had traded them. One of these meatpackers told us that his company used cattle futures only to hedge its forward contracts, preferring to transact the bulk of its business in the cash market. He said that he did not know whether cattle futures adversely affect the cash markets. Another meatpacker said that his company, too, used cattle futures to hedge its forward contracts. He added, however, that, as a meatpacker, he is constantly buying and selling cattle and beef and really does not need to hedge his operations with cattle futures. Still another meatpacker who had only recently begun hedging his company's forward contracts with cattle futures, said that he, too, preferred transacting business in the cash markets. He was of the opinion, however, that cattle futures can be an effective risk-management tool.

One economist advised us that the idea that packers do not need the cattle futures markets because they are always buying cattle and selling beef is not a good one. He stated that this approach totally ignores the idea of an "anticipatory hedge," where the packers anticipate periods of tight supplies (based on cattle-on-feed data, etc.) and place long hedges accordingly. He suggested that if packers used the markets in this way, the buying of futures contracts to establish the long hedges would boost futures prices and create incentives to place more cattle against the anticipated period of short supplies—which is what is needed.

AMI and FMI Views on Cattle Futures

We contacted representatives of both the American Meat Institute and the Food Marketing Institute to obtain their organizations' views on cattle futures. AMI and FMI were named in the resolution NCA passed in January 1987 to work with the NCA Futures Task Force in developing improvements to the cattle futures markets. We were particularly interested in the extent to which companies represented by AMI and FMI use and how they view cattle futures.

AMI has about 450 general members who are in the meatpacking and processing business. AMI's members, according to an AMI economist, are split regarding cattle futures and their use. According to the economist, some AMI members are very much in favor of cattle futures; they trade futures extensively; and they believe that the markets are a necessary, vital part of their businesses. Other AMI members, however, do not like or trade cattle futures and believe that the markets may have a negative impact on their businesses. Still other AMI members are ambivalent toward cattle futures, with no strong feelings either way. Because of the

AMI members' differing views about cattle futures, AMI had no formal opinion or position on cattle futures. However, any changes to the cattle futures markets to make them a more effective marketing and risk-management tool would be welcomed, according to the AMI economist.

FMI conducts programs in research, education, and public affairs on behalf of 1,500 members—food retailers and wholesalers and their customers in the United States and overseas. Because FMI was named in NCA's January 1987 resolution, it took an informal survey of about 20 food retailers to determine the extent to which they were trading cattle futures. Of the retailers FMI surveyed, only one said that it was trading or occasionally had traded cattle futures. A senior vice president at FMI told us that he did not know why food retailers do not trade cattle futures more extensively. He said he believed that it may be related to the way in which food retailers advertise and sell. He said that retailers are often more concerned about a supply commitment than a price commitment. He said retailers tend to develop their advertising only about 2 to 3 weeks in advance, at which time they attempt to secure both supplies and prices. He indicated that retailers do not have to assume much long-term price risk and perhaps that is why more of them are not using the cattle futures markets for hedging purposes.

The FMI senior vice president was unsure if retailers' participation in the cattle futures markets could be easily increased. He said that even if a boxed-beef contract were developed, as some have proposed, he was not sure that FMI's members would rush to use it.

According to other information we obtained, the cattle futures markets apparently offer some benefits to food retailers and perhaps even wholesalers. For example, the most likely candidates for futures trading, according to one Chicago brokerage house vice president, were supermarket chains with 50 or more traditional stores or with 25 superstores. The vice president believes that in less than 10 years, 25 percent of the top 50 chains in the United States will be involved to some degree in the futures markets. He reportedly said that these markets represent another tool for the retailer to use and that "Futures trading provides an edge against competition, enhances purchasing power and protects against erratic markets."⁵

⁵"Retailers Beef-Up Net Via Futures Market," Supermarket News, Vol. 37, No. 3 (Jan. 19, 1987), p. 38.

Agricultural Lenders' Views on Cattle Futures

We contacted representatives of six financial institutions involved in agricultural lending to obtain their views on cattle futures. Cattlemen had previously told us that some lending institutions, particularly the larger ones, were knowledgeable about cattle futures and encouraged cattlemen to use them but that many other lenders (often the smaller ones) knew very little about futures trading and often took a misguided, guarded approach when working with cattlemen who were either using or attempting to use the cattle futures markets to hedge their operations.

Representatives of all the financial institutions we contacted seemed to believe that cattle futures are an effective risk-management tool. According to the representatives, all but one of the institutions encouraged their customers who were involved in cattle production to use cattle futures for hedging purposes. Some of them encouraged such action more strongly than did others. The representatives of those who did said that customers who were hedged typically were required to put up less equity than customers who were not because they represented less risk to the institution. These findings are fairly consistent with a more comprehensive survey of agricultural lenders that NCA conducted in late 1986. The results of the NCA survey are detailed in chapter 6.

Profile of Cattle Futures Traders Developed From CFTC Data

During our work at CFTC, we attempted to obtain a profile of cattle futures traders. We were interested in who was using the markets and whether the traders were large or small; speculators or hedgers; and, if hedgers, to which segment of the cattle industry they belonged. We discovered that such a profile was not readily determinable, although we were able to develop some information on large traders from CFTC's Large Trader Reporting System (LTRS). Information on both large and small traders in the cattle futures markets, which CFTC is developing as a result of a "special call" for information it initiated early in 1987, was expected to be available in the fall of 1987. This information should help to enlighten those interested in, or concerned about, who is trading in the cattle futures markets. We are concerned, though, that its credibility might be diminished in the minds of some who believe that CFTC's advance notice of the call may have a negative influence on the call's results.

Profile of Large Traders

Large traders are the focus of much attention from surveillance personnel at both CFTC and CME. Both entities have developed large trader reporting systems that provide them with information on who, above a

specified level, is in the markets. CFTC defines a large trader in cattle contracts as reportable if the trader has 100 or more cattle futures contracts. Those traders with less than 100 contracts are categorized as nonreportable. CFTC classifies each large trader as commercial if the trader is in the cattle industry or noncommercial if the trader is not in the cattle industry. The commercial traders must certify annually to CFTC that their commercial business activity is akin to the futures contracts that they are trading.

All large traders are tracked daily in CFTC's LTRS. According to CFTC's assistant director for market surveillance, large traders hold about 40 percent of the total open interest in the feeder and live cattle futures markets at any given time. Smaller traders hold the other 60 percent of total open interest. Because these smaller traders fall outside the LTRS, CFTC does not generally know their occupational composition and daily positions.

We used CFTC large trader data as of June 25, 1987, to develop a profile of large traders in the live cattle futures market. The data showed a total of 183 large traders at that time. Of the total, 107, or 58 percent, were noncommercial traders (speculators) and 76, or 42 percent, were commercial traders (hedgers). As table 2.1 shows, speculators and hedgers alike are found on both the short (selling) and long (buying) sides of the live cattle futures market.

Table 2.1: Positions of Large Traders in Live Cattle Futures Market as of June 25, 1987

Trader category	Number with "short" trading positions	Number with "long" trading positions
Commercial	58	31
Noncommercial	53	81

Note: The four numbers do not total 183 because a given trader may hold both short and long positions

Of the 76 commercial traders (hedgers) with 100 or more contracts in the live cattle futures market on June 25, 1987, 66, or 87 percent, were in the cattle feeding business. The remaining 10 hedgers (13 percent) were meatpackers. Three of the cattle feeders also ran cow-calf operations.

CFTC Special Call

CFTC has increasingly received questions about who trades cattle futures and whether trading in those markets is largely speculative or the result of hedging by commercial users. Because of intense cattle industry and

congressional interest and the importance of this issue, CFTC, on January 6, 1987, issued a special call for information that will detail the composition of everyone, including both large and small traders, trading livestock futures and options as of a specified date. The call required all futures brokers to report to CFTC by April 1, 1987, all trading positions held as of March 13, 1987, in the live cattle and hog futures and options markets and in the feeder cattle futures market. According to CFTC, the special call—authorized by CFTC regulations—is to provide information on how many participants were in the livestock markets and the extent to which these participants were hedgers or speculators. The 1987 special call was the first in the livestock markets since May 1970.

A number of cattlemen we spoke with questioned why CFTC announced the date of the special call in advance. The cattlemen suggested that the information to be obtained from the special call may be compromised because the advance notice gave market participants an opportunity, if they were so inclined, to change their trading positions on March 13 from what they might otherwise have been. CFTC officials told us that they had always given advance notice for special calls. They doubted that traders would alter their trading positions simply because of the advance notice of the special call that was interested primarily in information on trader names and types of businesses. CFTC officials also said that special calls are costly in terms of the time and resources they require of both themselves and all brokers. According to CFTC, advance notice provides everyone with valuable preparation time that can help reduce the potential for inaccurate or lost data.

Initial data on the identity and positions of all traders as of March 13 have been collected. Subsequently, occupational data on a representative sample of these traders were requested and responses were expected in July 1987. CFTC expected to collate the results and publish its special call findings in the fall of 1987.

Summary and Conclusions

The U.S. cattle industry lacks unanimity in its perception and use of cattle futures. The industry is actually made up of three smaller segments that each uses and views cattle futures differently on the basis of its own set of circumstances. The cow-calf/ranching segment, for example, is the segment that trades cattle futures least and views the cattle futures markets with the most disfavor. The cattle futures markets are, perhaps, less understood by this segment of the industry than by the other segments. Thus, the calls to do away with cattle futures are most often heard from those within the cow-calf/ranching segment. Those in

the cattle feeding segment are more inclined to trade cattle futures and view the cattle futures markets with favor. The cattle feeders recognize the risk they face during the several months that they have cattle on feed, and they tend to want to shift the risk of unfavorable price changes by hedging in cattle futures. Cattle feeders can use both the feeder and live cattle futures contracts to hedge their operations.

The meatpacking segment of the industry was more ambivalent toward cattle futures than either the cow-calf/ranching or cattle feeding segments. Meatpackers can use the live cattle futures contract to hedge their operations. The larger meatpackers we spoke with were using live cattle futures to hedge at least part of their forward purchases and sales, cattle they were feeding, and/or meat inventories.

Food wholesalers and retailers, according to an FMI informal survey, were generally not trading cattle futures, apparently because of the short time frame in which beef is typically procured, advertised, and sold. Others, however, apparently believe that the cattle futures markets can and do offer potential benefits to food wholesalers and retailers who want to shift their risks and even attempt to gain a competitive advantage by trading in cattle futures.

Agricultural lenders with whom we spoke saw cattle futures as an effective risk management tool and one that they encourage cattlemen to use. They said they typically required cattlemen who used cattle futures for hedging purposes to put up less equity on their loans than cattlemen who did not.

The profile of large traders that we developed from CFTC data in June 1987 confirmed the presence of cattle feeders and meatpackers in the live cattle futures market at that time. The results from CFTC's special call for March 1987 participation data should provide additional information about the makeup of the cattle futures markets in terms of both large and small traders.

The cattle futures markets have been the focus of much interest, attention, and skepticism in recent years. We believe that the results of CFTC's special call will be timely and help to enlighten the public about the makeup of these markets. Acknowledging that time, effort, and cost are involved in such a call, we believe, nevertheless, that such calls should be done more frequently than every 16 or 17 years, as was the case with the livestock markets. The cattle futures markets are important, and those who watch over them should know, on a more regular basis,

exactly who is participating in them. Such information can be used to enlighten the public and, perhaps, calm certain fears and skepticism about the markets. It can also be used in considering the need to adjust or otherwise improve the various futures contracts.

Concern was expressed about CFTC's announcing the date of the special call in advance. We do not know what effect an advance notice might have on the outcome of a special call, with traders perhaps adjusting their relative positions in the market because of it. We believe, however, that advance notice of a special call does little to quiet the concerns of the markets' critics and raises questions in the minds and perceptions of many about the reliability of the call's results. By announcing a special call in advance, CFTC hopes to ensure more accurate call results. If, however, such accuracy is achieved at the expense of credibility, then little, if anything, will have been gained by conducting the call in the first place.

Recommendation to the Chairman, CFTC

We recommend that the Chairman, CFTC, use the special call procedure more frequently, particularly with regard to futures markets, such as those for cattle, that are the focus of considerable interest and attention. We are not recommending a specific time frame for these calls because we believe that their timing is a function of the particular futures market and any problems in, or questions being raised about, that market. With respect to such markets, we believe that the information and enlightenment to be gained from special calls warrant that they be done more frequently than every 15 or so years.

Agency Comments and Our Evaluation

CFTC did not comment on our recommendation that the special call procedure be used more frequently. It did comment, however, on a proposal in a draft of this report that the Chairman, CFTC, direct that notice of special calls in the cattle futures markets, to the extent practicable, not be made in advance. (See app. III.)

In commenting on this proposal, CFTC described its efforts to help the approximately 500 industry respondents prepare for the special call so that information, which was to be collected on over 25,000 individual accounts, would be retrieved, coded, compiled, and transferred electronically to CFTC by the most efficient means. CFTC said that despite the industry's cooperation, significant delays had been experienced because certain tapes and coding have required correction. It said that although this is to be expected whenever large amounts of data are processed on

a nonroutine basis, it believed that without the advance coordination, the problems would be heightened appreciably and the delay between the date of a special call and its completion would be unacceptable.

CFTC said that in view of this, it believed that a proposal for unannounced special calls requires a stronger justification than the possible misgivings of some members of the public, particularly because little or no reason exists to believe that advance notice compromises the purpose of such an endeavor. CFTC added that, among other things, the data are collected directly from the brokers and the special call is made for informational purposes (primarily concerning small traders because information on large traders is already collected daily) rather than for regulatory purposes. According to CFTC, it does not believe that a significant number of small traders would have any reason to alter their positions if they were aware of the special call or its date. It said, however, that the costs of not providing advance notice appear to be extremely high.

We acknowledge that preparation for a special call requires some advance notice if the endeavor is to proceed efficiently. Accordingly, we are not making a recommendation concerning advance notice of special calls. Nevertheless, we believe that criticism and doubts about the results of CFTC's special calls will not be alleviated until and unless CFTC (1) more convincingly communicates to the public the rationale behind its practice of announcing special calls in advance and/or (2) develops alternative ways to gather market participant data that would not involve the advance preparation the current practice entails.

Cattle Futures Markets Are the Subject of Congressional and Cattle Industry Concern

The cattle futures markets have been and continue to be the source of considerable congressional and cattle industry concern. For our study, we divided this concern into six areas and attempted to make the following determinations:

- Whether the cattle futures markets' reaction to USDA's March 28, 1986, announcement of Dairy Termination Program details was accurately based on supply/demand conditions.
- Whether packer forward contracting has a downward effect on cash and futures prices of cattle.
- The effectiveness of the live cattle futures market's present delivery system.
- The extent to which the cattle futures markets serve an economic purpose and are in the public's best interest.
- The effect of the cattle futures markets on price relationships, price levels, price volatility, and competition in the cattle industry.
- The effectiveness of CFTC and CME regulatory systems guarding against price manipulation or other trading abuses in the cattle futures markets.

The first three areas, related to issues of major concern about the futures markets themselves, are discussed in this chapter. The next two predominately economic issues are addressed in chapter 4. Chapter 5 discusses the final area, regulation of the markets. Although market regulation was outside the purview of the original request, we examined the way in which the cattle futures markets are regulated at CFTC and CME because this is relevant to most discussions about futures trading and important to those who are concerned about possible market manipulations and other trading abuses.

Reaction of Cattle Futures Markets to USDA's Announcement of Dairy Termination Program Details

USDA's March 28, 1986, announcement of details of the Dairy Termination Program, designed to decrease the U.S. dairy herd and thus reduce milk production, was made at a time of relatively weak livestock and beef markets, and it pushed cattle prices down even further. The announcement of a larger than anticipated number of dairy cattle to be slaughtered and a lack of details about an impact-lessening provision of the program augmented the effect achieved by the announcement's timing. USDA's apparent underestimation of the cattle markets' reaction to the announcement was reflected in a failure to discuss or coordinate its implementing plans with CFTC.

Dairy Termination Program Details—USDA's Announcement of Them and the Ensuing Impact

The Food Security Act of 1985, signed into law on December 23, 1985, contained a provision requiring USDA to develop a program to reduce, over the 18 months from April 1, 1986, to September 30, 1987, the total number of dairy cattle in the United States. The program's objective was to reduce milk production by 12 billion pounds and, thus, help reduce the tons of surplus nonfat dry milk, butter, and cheese the federal government—in an effort to keep dairy prices up—purchases and stores. Participating dairy farmers were to agree to sell their dairy herds for either slaughter or export and to stay out of the dairy business for at least 5 years. Those farmers agreeing to participate were to be compensated, in part, from assessments levied against farmers remaining in the business.

Under the act's provisions, USDA was required to take certain actions designed to minimize the buy-out program's impacts on beef, pork, and lamb producers. These actions included

- determining the total number of dairy cattle to be slaughtered or exported as a result of the program;
- specifying procedures to ensure that greater numbers of dairy cattle be slaughtered during the April-August 1986 and the March-August 1987 disposal periods than during the September 1986-February 1987 period;
- limiting the total number of dairy cattle to be slaughtered under the program, in excess of the historical dairy herd cull rate, to no more than 7 percent of the national dairy herd per calendar year; and
- purchasing and distributing for domestic use and export 400 million pounds of red meat over and above those quantities USDA normally purchases and distributes.

On January 30, 1986, USDA announced that dairy producers wishing to participate in the program were to submit bids from February 10 through March 7 to enter into contracts to terminate milk production for 5 years. Producers were asked to submit bids for one or more of the three disposal periods.

USDA issued a number of public releases outlining certain actions or procedures regarding the program. In one dated March 10, 1986, USDA made available its Final Regulatory Impact Analysis regarding the dairy portion of the Food Security Act of 1985. Contained in this analysis was the following statement:

“The total number of cattle which will need to be marketed for slaughter as a result of the buy-out program is unknown until bids are analyzed. However, with the target of reducing milk production by participants by 12 billion pounds of milk and an estimated production per cow in 1985-86 of 13,370 pounds, this equates to about 900,000 cows plus associated young stock to be slaughtered as a result of the program—assuming average producing cows comprise the herds bought out.”

USDA calculated that since there were 15.9 million dairy cattle as of January 1, 1986, the 7-percent rate of slaughter provision of the law would not be much of a constraint—as long as the slaughter was not unduly bunched. USDA additionally calculated that since each 100,000 dairy cows would yield a meat product retail weight of about 50 million pounds, the additional red meat purchases required by the act would directly offset the slaughter of about 800,000 of the 900,000 cows that had been referred to previously.

On Friday, March 28, 1986, a day on which the cattle futures markets were closed, USDA announced certain implementing details of its Dairy Termination Program. In one of two related news releases, USDA announced that 13,988 bids to participate in the program had tentatively been accepted at a total program cost of \$1.8 billion. A reduction of milk production of 12.3 billion pounds was expected from these bids. The news release also announced that the number and distribution of cattle to be slaughtered as a result of the program met the act’s requirements and provided for the “orderly marketing” that had been sought at the time the legislation was drafted. In attachments to the news release, USDA provided various data, including those shown in table 3.1.

Table 3.1: Dairy Termination Program — Dairy Cattle to Be Slaughtered/Exported

Disposal period	Number of			Total
	Cows	Heifers	Calves	
1 4/1/86-8/31/86	633,176	215,970	165,900	1,015,046
2 9/1/86-2/28/87	103,984	41,899	30,737	176,620
3 3/1/87-8/31/87	214,459	82,920	61,358	358,737
Total	951,619	340,789	257,995	1,550,403

In the other news release, USDA announced that it would begin purchasing the required 400 million pounds of red meat to help offset the impact of the increased slaughter of dairy cattle under the Dairy Termination Program. It further announced that purchases of canned beef and ground beef would begin immediately and that purchases of other red-meat items would be timed to coincide with slaughter under the program and to assist markets.

The program's details that were announced, according to a CFTC official, exacerbated the negative effects of an already excessive meat supply and helped drive down even further already declining cattle futures and cash prices. Closing futures prices for April live cattle were subsequently limit down¹ for 3 of the next 5 days, and prices for April feeder cattle were limit down for 2 of the next 5 days. Figure 3.1 shows certain cattle and beef prices shortly before and after USDA's March 28 announcement of Dairy Termination Program details.

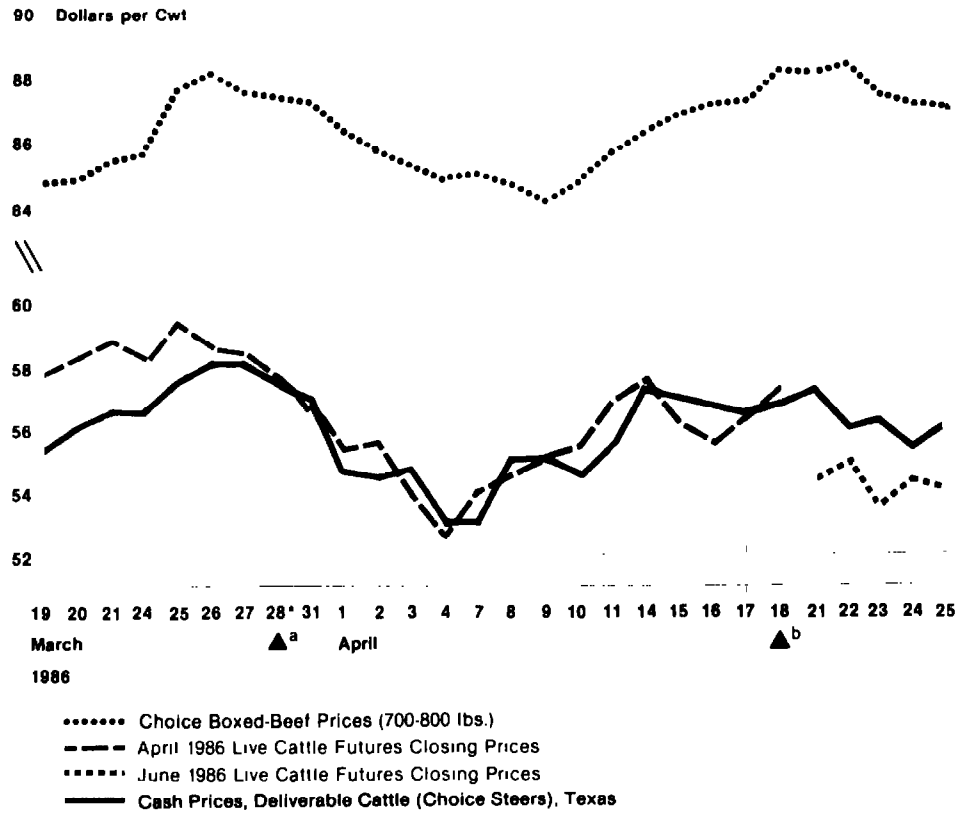
As can be noted in figure 3.1, live cattle futures, live cash cattle, and boxed-beef prices showed similar price movements before and after the March 28 Dairy Termination Program announcement. We also found that, although not reflected in the figure, feeder cattle futures prices moved in a similar pattern over that time period. According to CFTC market surveillance officials, the similarity in price movements between the various cattle markets would indicate that the prices were apparently affected by the same factors—i.e., the perceived supply/demand conditions at that time. According to these officials, the fact that these different prices moved in the same fashion would also tend to dispute the notion some had at the time that the meatpacking industry was manipulating feeder and live cattle prices.

The sharp decline in prices at the time caused a great deal of concern to many beef cattle producers. Those who were not hedged and who were attempting to market their cattle during the immediate period following the announcement were hit hard by the lower prices. CFTC and USDA officials told us that the situation would have been particularly bad for those producers who had delayed their marketings up to this point hoping that prices would get better but who then were forced to market their heavy "overly finished" cattle in the immediate aftermath of the program's announcement. The officials did not have information on how many producers may have been in this situation. On the sixth trading day following the announcement, both April feeder and live cattle futures prices began to increase, with recovery to near preannouncement levels within 5 or 6 trading days.

¹Exchanges establish daily price limits for trading in futures contracts. For cattle, the daily price limit is \$1.50 per hundred-weight (cwt.). Once a futures price has declined by its daily limit, there cannot be trading at any lower price until the next day of trading. Conversely, once a futures price has increased by its daily limit, there cannot be trading at any higher price until the next day of trading. The price is allowed to increase or decrease by the limit amount each day. There are no daily limits for cash markets.

Chapter 3
Cattle Futures Markets Are the Subject of
Congressional and Cattle Industry Concern

Figure 3.1: Prices of Choice Boxed Beef, Live Cattle Futures, and Choice Steers Before and After the USDA Dairy Termination Program Announcement



*Holiday
 aAnnouncement Date
 bLast Trading Day of April Contract

Source: Developed from data supplied by CFTC market surveillance personnel.

Since then, prices have generally trended upward. As of August 13, 1987, for example, prices for live cattle futures contracts from October 1987 through August 1988 ranged from \$64.20/cwt. to \$66.87/cwt., while the cash price (deliverable cattle, Texas) stood at \$66.12/cwt. However, following a significant decline in the stock market beginning in mid-October 1987 and a "bearish" cattle-on-feed report issued by USDA on October 23, 1987, cattle prices declined. As of October 30, 1987, prices for live cattle futures contracts from December 1987 through October 1988 ranged from \$60.00/cwt. to \$62.52/cwt., while the cash price (deliverable cattle, Texas) was \$65.85, down slightly from the August 13 price.

USDA's Handling of Dairy Termination Program Came Under Attack

In the days and months following the March 28 announcement of the Dairy Termination Program details, USDA's handling of the program came under sharp attack. Because of the decline in cattle prices following the USDA announcement, beef cattle producers complained that (1) the 1.55 million dairy cattle to be slaughtered or exported was higher than many had anticipated and (2) two thirds of the cattle were to be disposed of during the first disposal period, which was much more than had been expected. In a lawsuit filed April 8, 1986, NCA charged that USDA was allowing too many dairy cows to be slaughtered too quickly under the program and that the announcement of such action had caused cattle prices to fall as much as \$6/cwt. in the week following the announcement. In an April 1986 pretrial hearing, NCA won a court-induced agreement whereby USDA would, among other remedies, invite dairy farmers who had signed up for the first disposal period to delay slaughter of their herds until the second or third period. The slaughter of nearly 125,000 head of cattle was delayed as a result of this action.

NCA officials told us that USDA's March 28 announcement lacked certain details concerning USDA's requirement, under the Dairy Termination Program, to purchase and distribute an additional 400 million pounds of red meat. NCA officials said that such details would have been helpful to them and others who were trying, at the time, to assess what was happening in the cattle markets. Although USDA subsequently announced additional details, the NCA officials said that the fact that they were lacking on March 28 added to the confusion, uncertainty, and fear many cattlemen were feeling. Perhaps the lack of details about USDA's additional red meat purchases also helps to explain why the cattle futures and cash markets reacted the way they did at the time.

USDA came under attack from some congressional members as well. For example, in a September 1986 hearing before the Subcommittee on Livestock, Dairy, and Poultry, House Committee on Agriculture, subcommittee members were critical of USDA's handling of the program. They charged that USDA had announced the program's implementation without first developing an orderly marketing plan as the legislation required and that the Congress, in passing the legislation, had made it clear that USDA was to take every step possible to minimize any adverse consequences of the program for the red meat industry.

USDA Underestimated Cattle Markets' Reaction to Program Announcement

USDA officials were surprised by the cattle markets' reaction to the announcement of the Dairy Termination Program's details on March 28, 1986. USDA officials told us that they had not anticipated the steep decline in cattle prices resulting from the program announcement and that they had not discussed or coordinated the announcement and its possible effects with CFTC officials.

According to an April 10, 1986, news article, USDA officials pointed out that the 1.55 million cattle to be slaughtered or exported under the program represented only a fraction of the total beef herd of over 100 million head. While acknowledging that cattle futures and cash prices had dropped sharply following the March 28 announcement, USDA officials attributed the price declines largely to the overreaction of cattle producers and futures traders and pointed out that lower quality dairy beef traditionally competes with imported beef—mainly for use in ground beef and processed meat products—rather than with cattle raised for higher grade beef.

USDA officials told us that they had worked closely with congressional committee staff and with staff from various cattle industry groups in helping to draft the program legislation. They added that they had a very short time frame (3 months) in which to develop and implement the program and that they had attempted to communicate to the public many aspects of the program, one example of which was the Final Regulatory Impact Analysis released on March 10, 1986. They said that they were perplexed by the criticism they later received from the cattle industry that (1) more cattle were to be slaughtered than had been anticipated and (2) too many of the cattle were to be slaughtered or exported during the first disposal period. The officials pointed out that the March 10 impact analysis statement had stated that some 900,000 cows plus associated young stock were to be disposed of as a result of the program. The officials said that anyone familiar with cattle and knowledgeable of the ratios that typically exist between cows, heifers, and calves should not have been too surprised by the actual figures announced on March 28. They also pointed out that, until the announcement, they believed that the beef cattle industry, although not especially pleased with the program, had been in favor of disposing of as many cattle in the first and third disposal periods as possible, leaving the second period relatively unencumbered.

One USDA official told us that he was uncertain why the cattle industry and others had apparently failed to notice USDA's March 28 news release that provided general details about USDA plans to purchase 400 million

pounds of red meat and to coincide these purchases with the program's cattle slaughter. He said that this particular news release was one of four that were issued at the same time on March 28 and that, perhaps, it was overshadowed by the news release that provided certain Dairy Termination Program implementing details and by the two other unrelated releases.

In its comments on a draft of this report, USDA said that the initial reaction to the Dairy Termination Program announcement was greater than it had anticipated, but only temporarily. (See app. II.) USDA said that in the short run, market reactions are difficult to predict, which is one of the reasons for having futures markets. According to USDA, the futures market is a vehicle that the beef cattle industry can use through appropriate hedging to protect against downside price risk inherent in situations, such as the announcement of the Dairy Termination Program details, that affect markets.

CFTC and CME Views of Cattle Futures Markets' Reaction to Dairy Termination Program Announcement

Both CFTC and CME have expressed their views regarding the cattle futures markets' reaction to USDA's March 28, 1986, announcement of the Dairy Termination Program's details. The main question each considered was whether the futures markets had reacted rationally and according to supply/demand conditions.

CFTC's Views

CFTC's views of the cattle futures markets' reaction were contained in an April 24, 1986, letter from the Chairman, CFTC, to Representative Glenn English. Representative English on April 7, 1986, had requested a review of the trading in cattle futures during the week of March 31 through April 4, 1986. The Chairman stated that, in the CFTC staff's judgment, the livestock and beef markets were in a fundamentally weak position prior to the program announcement because of two factors. First, slaughter rates were up at the time as compared with rates a year earlier. Second, despite the smallest cattle inventory in the United States since 1963, beef prices were at their lowest level since 1979 as beef demand continued a substantial declining trend of several years' duration. The Chairman said that, in the immediate aftermath of the USDA announcement, the cattle futures markets reflected the concern that the substantially increased red meat supplies during the coming summer resulting from the forced slaughter of dairy cows could not be absorbed by prevailing demand without lower prices.

With respect to an analysis of futures market activity, the Chairman stated that CFTC's surveillance economists had analyzed daily computer printouts of activity in live cattle futures for the 4 days prior to USDA's March 28 news release and for the 2 weeks following it. All large traders' positions were analyzed for large short (selling) positions that either had been established just prior to the USDA announcement or may have contributed to the ensuing price declines, and particular attention was paid to the week immediately after the announcement when several limit-down days occurred. Large net sales of live cattle futures also were scrutinized for unusually large positioning or trading volumes during that period. The Chairman stated that no unusual movements or extraordinary levels of futures positions were disclosed and that the conduct of large traders during the week ending April 4 was best summarized as a general liquidation of futures positions—particularly by those with long positions.

The Chairman pointed out that traders liquidating long positions after March 28 obviously had no advance knowledge of the USDA announcement and had no interest in spreading rumors exaggerating its price-depressing influence. According to the Chairman, CFTC's review of large trader data disclosed that the only significant new short selling during the few days following USDA's announcement was by a few cattle feeders who apparently decided to hedge a greater portion of the cattle in their feedlots.

The Chairman indicated that the overall market activity at the time of the March 28 announcement was similar to previously observed reactions to unexpected, adverse news regarding significant supply or demand factors. She stated that the most profound and immediate price adjustments were registered in the futures market and that the simultaneous weakness in cash markets was exacerbated as buyers withdrew to assess the probable outcome of the news on prices. Futures open interest declined as traders left the market to cut their losses and to reassess their positions. Finally, within a fairly short time, futures prices firmed at levels reflecting traders' aggregate judgment of the new supply and demand conditions. The Chairman stated that similar patterns of futures price responses in an upward direction are not uncommon when the breaking news involves unanticipated decreases in supplies or increases in demand. She said that, in summary, CFTC believed that the price movements and large trader activity in the cattle and related futures markets around the time of USDA's March 28, 1986, announcement appeared to be consistent with prospective changes in cash market supply conditions.

CFTC officials told us that USDA had not coordinated its program announcement with them. USDA officials agreed. This lack of coordination apparently occurred even though the two agencies strive to maintain a liaison and have designated personnel for this purpose. We do not know whether the March 1986 announcement of the implementation of the Dairy Termination Program would have been handled any differently or whether the negative impact of the program on the beef cattle markets would have been lessened had USDA coordinated its plans with CFTC beforehand. We believe, however, that where two federal agencies have related responsibilities in a given area, as USDA and CFTC had in this case, the two agencies should consult and coordinate with one another on actions that either may be taking that could affect the other. This is particularly true when such actions could have a negative effect on a given industry, as was the case with the Dairy Termination Program and its effect on the red meat industry.

We also asked CFTC officials if, at the time of the announcement, CFTC had considered suspending trading in the cattle futures markets. Suspension of trading, according to the officials, was considered unnecessary because they

- believed that it was well known, at least in general terms, when the program was coming and what it was all about;
- anticipated that the program's effect, once the details were announced, would be comparable to the effects of other kinds of adverse news about excessive cattle supplies or declining beef demand; and
- believed that the long weekend following the announcement (the program was announced on Good Friday, a day on which the markets were closed) would be sufficient time for the markets to absorb and adjust to the news before reopening the following Monday.

The officials told us that CFTC has to be very careful in exercising its emergency powers and that suspending trading in the various markets has been done only infrequently. To suspend trading in a given circumstance, they said, could hurt those who have positions in the market at the time and could create a bigger problem than the one being addressed.

Analysis of CFTC Large Trader Data

We made a limited analysis of CFTC large trader data for the period from March 27 through April 4, 1986. We were particularly interested in the trading activity of large traders both before and after the March 28

announcement. Our analysis keyed on those traders who were the largest in terms of position and percentage of open interest and, thus, most capable—through their actions—of influencing the cattle futures markets.

Our analysis disclosed nothing to contradict any of CFTC's statements about the cattle markets' reactions to the March 28 announcement. We did not find any evidence to suggest that any trader or group of traders moved the market in any particular fashion during the period we reviewed. Specifically, we noted

- no evidence of any trader taking an inexplicable large short position at the end of the week leading up to the announcement, which might have indicated that a trader had advance knowledge of the announcement's details and
- no inexplicable trading movements or unusually large movements in traders' positions during the period.

In addition, CFTC weekly surveillance reports at the time indicated that no delivery problems would occur with respect to the expiration of the April 1986 feeder and live cattle futures contracts. None of these reports cited the behavior of any of the cattle traders as being particularly questionable or problematic during the period.

CME's Views

We asked CME whether the cattle futures markets' reaction to USDA's March 28 announcement was accurately based on supply and demand conditions. In a December 15, 1986, response, CME stated that the live-stock and beef markets had weakened in the weeks immediately preceding the March 28 announcement. Beef production rose during March 1986 to a level that was 6.4 percent above the level a year earlier. The live cattle futures market had begun to reflect the increase in beef production, with April 1986 live cattle futures prices dropping roughly \$1.00/cwt., from \$59.30/cwt. to \$58.32/cwt., during the last week in March 1986.

CME stated that the program as announced on March 28 was much more "bearish" than market expectations. First, the market had anticipated slaughter of roughly 1 million head of cows, heifers, and calves. The announced number was almost 1.6 million, or about 60 percent above what the market expected. Second, according to CME, the market expected the animals to be disposed of in an evenly and orderly fashion throughout the 18-month program period. When USDA announced that 1

million head would be marketed during the first disposal period, there was the sudden realization that as many animals were to be disposed of during the program's first 5 months as the market had expected to be disposed of over the entire 18-month period. Hence, the 10-percent drop in the April live cattle futures price during the week following the announcement did not seem particularly surprising or out-of-line to CME.

CME stated that, at the time of the announcement, much uncertainty remained about certain aspects of the program. It said, for example, that it was not known if the 1 million cattle to be marketed during the first disposal period would, in fact, be spread evenly over each of the 5 months.

According to CME, the uncertainty continued during the first couple of weeks following the March 28 announcement as a result of (1) two lawsuits—one filed by a humane society objecting to a face-branding aspect of the program and the other by NCA calling for orderly marketing—and (2) other actions being taken by the American Farm Bureau, the Congress, and others. CME stated that many different factors affected the cattle markets simultaneously, some driving the markets up and others driving them down.

Given the actual increase in beef production just before USDA's program announcement, coupled with the significantly greater than expected number of dairy animals to be disposed of during the first disposal period, CME did not consider the actual drop in cattle prices to be abnormal or the price volatility throughout April, as the markets attempted to digest and interpret the numerous uncertainties, to be surprising.

CME made two additional points. First, that even greater price volatility was displayed in the related boneless beef market, which has no associated futures contract, during the weeks immediately following the March 28 announcement of Dairy Termination Program details. CME, again, did not consider such volatility surprising and stated in its December 15 response that "in any event, it was the actual and anticipated expansion in beef supplies that was driving the cattle and boneless beef markets down and up during the immediate aftermath of the USDA announcement." CME's final point concerned the beef demand situation. CME stated that, since the early 1980s, significant changes had occurred in the structure of the demand for beef. Studies have shown, for example, that a 1-percent increase in beef supply might require a 1.5- to 2.5-percent drop in the price to be absorbed by the market,

whereas 5 to 10 years ago, it might have required only a 1- to 1.5-percent price drop. According to CME, the bottom line is that a given increase in supply will generate a much greater price drop today than it would have in 1980 or earlier.

Effects of Packer Forward Contracting

Some within the Congress and the cattle industry have expressed concern about the possible effects that meatpacker forward contracting of fed, or slaughter-ready, cattle may have on the cash and futures markets. Others in the cattle industry are convinced that packer forward contracting has little or no effect on cash cattle prices, and CFTC and CME contend the same relative to cattle futures prices. Although some are concerned that packer forward contracting has increased in recent years, the cash market is by far the dominant means by which packers procure slaughter-ready cattle.

Concern has also been expressed about the increasing level of concentration in the meatpacking industry. Those who are concerned about packer forward contracting will become even more concerned should the extent of such contracting rise and should the number of packers continue to diminish. If this happens, responsible federal agencies (including USDA, CFTC, the Federal Trade Commission, and the Department of Justice) may need to coordinate efforts to maintain a fair, open, and competitive marketplace.

Concerns About Forward Contracting

Some cattlemen told us that they think that meatpackers should be long hedgers in the live cattle futures market because they are buyers of fed cattle. However, meatpackers who engage in forward contracting may hedge on the short side of the live cattle futures market because the forward contracting process gives them effective "ownership" of the cattle prior to when they actually receive delivery. Having become an "owner" of fed cattle, the packer has an incentive to hedge on the short side of the live cattle futures market to reduce the risk of a price decline. Some cattle producers are convinced that short hedging by meatpackers causes a possible downward bias in live cattle futures prices because there are more short hedgers in the market than long hedgers. Some feeders are concerned that packer forward contracting reduces competition in the cash market by allowing packers to contract a large percentage of their kill requirements and thus reduce their need to actively bid for cattle in the cash market.

As a result of these concerns, we were directed to determine the (1) effect on futures and cash prices, if any, of using packer forward contracting and (2) ability of the cash markets to accurately reflect prevailing conditions of supply and demand if packer forward contracting were to become the prevailing method meatpackers use to acquire slaughter-ready cattle.

To make these determinations, we contacted the 10 largest U.S. meatpackers, over 30 cattle feeders, CFTC, and CME. The structure of the meatpacking industry was changing at the time of our study. Several of the meatpackers we met with were purchased by other firms either right before or soon after our meetings. Officials from 9 of the 10 packers agreed to talk with us. An official of one firm declined; however, he said that his firm was not engaged in forward contracting. The cattle feeders we met with ranged from major commercial feedlots capable of feeding thousands of cattle to smaller farmer feeder operations that typically feed several hundred head of cattle.

Packer forward contracts add a time dimension to cash contracts by allowing cattle feeders to price their cattle prior to final production and packers to price their cattle supply prior to purchase and subsequent slaughter. Like a cash contract, a forward contract is specific as to location, quality, and amount. A forward contract, though, sets the delivery of cattle at some time in the future. In a cash transaction, cattle delivery generally occurs within several days of the agreement.

Although use of forward contracting by meatpackers was thought by some to be on the rise, the cash market is still by far the dominant market. According to data from the meatpackers we contacted, on average about 9 percent of their 1986 slaughter was forward contracted; the rest was purchased in the cash market. Data were not readily available to show whether the extent of forward contracting was on the rise or not. None of the packers we spoke with, however, predicted that forward contracting would become the dominant method of obtaining cattle in the future.

Forward Contracting Process

Two types of packer forward contracts exist: the basis contract and the fixed price contract. The only difference between them is that the fixed price contract establishes the sale price when the contract is signed, while the basis contract allows the feeder a period of time to lock in the final sale price.

The process for establishing a forward contract was basically the same for all the packers we spoke with. For a basis contract, the process begins when the packer and feeder agree on a basis, that is, some set amount above or below the futures price on a date chosen by the feeder. The feeder has a period of time to lock in the final price to be received for the fed cattle. Usually the pricing period runs from the date of the contract until the first day of the month in which the cattle are to be delivered. Until the feeder locks in a price, the packer is under no risk from a price change. Once the feeder locks in a price by contacting the packer, the packers we spoke with generally hedged their forward purchases (because of the risk they then faced of prices moving down on them) by selling an appropriate number of live cattle futures contracts. The packers lift, or offset, their futures hedges by buying an appropriate number of contracts when they receive the cattle for slaughter.

The cattle delivered on forward contracts must meet the packers' contract specifications regarding carcass weight, quality, and grade. Packers base their contract specifications on carcass performance because carcass grading is less subjective than live grading. All the packers we spoke with discount the cattle not meeting the contract specifications. Some packers pay premiums for cattle exceeding the contract specifications.

Extent of Packer Forward Contracting

Some of the cattle feeders we spoke with were concerned that meatpackers were forward contracting a large portion of their slaughter. To determine the extent of such contracting, we contacted each of the 10 federally inspected packers with steer and heifer slaughter rates greater than 500,000 head of cattle a year. These 10 packers accounted for about 70 percent of the total 1986 steer and heifer slaughter. According to data from these packers, they, on average, used forward contracting to acquire about 9 percent of the cattle they slaughtered in 1986. The extent of forward contracting by the individual packers varied greatly. Three of the 10 packers did not forward contract; forward contracting by the other 7 packers ranged from less than 1 percent to as much as 42 percent of their 1986 slaughter. The packers have different philosophies regarding forward contracting. Some promote their forward contracting program while others forward contract only at the request of cattle feeders they may be doing business with who want to lock in a sales price and transfer their risk without having to directly use the live cattle futures market themselves.

Most fed cattle are physically transferred in the cash market. Not all packers forward contract cattle, and even those packers aggressively promoting their forward contracting program still purchase most of their cattle in the cash market. Some packers we spoke with predicted that packer forward contracting may increase, but none predicted a great upsurge in the level of forward contracting or that such contracting would become the prevalent method of marketing fed cattle. Most feeders generally agreed that packer forward contracting would not replace the cash market as the means packers use for acquiring most fed cattle.

Reasons for Forward Contracting

The packers who used forward contracting told us of a number of reasons why. One important reason is that forward contracting allows them to obtain a predictable fed-cattle supply. Knowing exactly the number of cattle to be delivered in the future facilitates planning their slaughter operations. Another reason for forward contracting is that it encourages the production of high-quality cattle, as a result of premiums being paid for cattle exceeding contract specifications. Some packers simply offer forward contracting as a service to those feeders with whom they do business. They do not actively seek feeders for forward contracting.

A number of the cattle feeders we spoke with said that feeders new to the business and those not familiar with how to use the cattle futures markets can receive the most benefit from forward contracting. It allows these feeders an opportunity to lock in a sale price and to transfer price and basis risk without having to trade futures contracts themselves. It shields the feeders from the margin requirements of futures trading. Additionally, lenders may have lower equity requirements for feeders who have established a sale price through forward contracting prior to final production. In some forward contracts, the packer agrees to pay a down payment on the contract, which the feeder can use to purchase additional cattle.

Some feeders forward contract any dairy cattle they may own to ensure a market and a price for these cattle when they are ready for slaughter. Dairy cattle typically do not gain weight as quickly or yield as highly graded beef as do other types of cattle and thus are not as readily marketable as beef cattle are.

Reasons for Not Forward Contracting

Two of the packers we contacted, who did not use forward contracting, said that they preferred to deal in the cash market. They did not object to packer forward contracting but, because it involves hedging with futures to really work, stay away from forward contracting and its related involvement with futures.

A number of the feeders we spoke with either did not forward contract or forward contracted only a small portion of their sales. Some feeders do not forward contract because they believe they can do better hedging directly in cattle futures themselves. In addition, some feeders do not forward contract because they believe the packer has too much control at the time of delivery in terms of determining grades and yields and establishing price premiums and discounts.

Possible Effects of Forward Contracting on the Cash Market

Some in the cattle industry contend that packer forward contracting adversely affects the cash markets for cattle. Those opposed to packer forward contracting describe a scenario where packers forward contract a large portion of their slaughter requirements, allowing them to then bid less aggressively in the cash market or possibly even temporarily drop out of the market. They argue that packer forward contracting increases the packers' leverage in the fed cattle market and that the result is reduced competition and lower cattle prices.

Some packers and others from whom we obtained information on this matter disagreed. One packer we talked with stated that it would not make sense for a packer to forward contract if such an action reduced prices, as has been suggested, and thereby resulted in its competitors being able to buy fed cattle in the cash market at lower prices than what it was forward contracting them for. Others pointed out that because packer forward contracting reduces both cash market supply and demand by the same amount, there should be no tangible effect on cash prices.

CFTC, for example, advised us in a December 3, 1986, letter that

"... although packers who receive contracted cattle may buy fewer head in the immediate cash market, there are an equally smaller number of cattle competing for sales in the cash market because those contracted cattle have already been sold. Thus, any diminished packer demand is exactly offset by a diminished supply of market-ready cattle, which should nullify any effect of forward contracting on cash prices."

CME agreed, advising us in its December 15, 1986, letter that

"... every steer or heifer that is forward contracted reduces both spot [cash] market supply and demand by one animal. Packer demand is reduced, but spot [cash] market supply is also reduced."

We tend to agree with these statements as long as the extent of forward contracting remains at a low level relative to the level of all fed cattle transactions. If, however, the extent of forward contracting were to become the primary means through which fed cattle are bought and sold, the cash market could become relatively "thin" and suffer from the common problems of a thin market, such as greater price volatility and market illiquidity. Given the low level of forward contracting currently, though, it seems unlikely that this will be a problem any time soon.

Possible Effects of Forward Contracting on the Live Cattle Futures Market

Some cow-calf operators, stockers, and cattle feeders told us that they think that packers should be long hedgers but, instead, are short hedgers because of their forward contracting. They said that under this scenario, packer forward contracting results in both the feeder and the packer being on the short side of the market with only speculators to support the long side.² They added that packer short hedging creates a downward bias in the live cattle futures market because short hedgers outnumber long hedgers and more selling than buying pressure is exerted.

According to CME's December 15, 1986, letter, packer short hedging does not create a downward bias. CME stated that

"First, the short position taken by the packer is often a substitute for a short position that would have been taken anyway by the feeder. In fact, feeders will often take short positions prior to forward pricing their cattle with the packer. Second, to the extent that these positions are put on in an orderly manner, there should not be significant reduction in the futures price, since there are long speculators ready to take the other side of the transaction. Third, the packer and the feeder will eventually have to unwind these short positions by taking offsetting long positions in the futures which might then place upward pressure on the futures market."

CFTC advised us in its December 3, 1986, letter that when packers short hedge their forward purchases in the futures market,

²In this regard, long speculators are considered by many to be as important to the cattle futures markets as are long hedgers. Some concern exists that speculators have been driven from these markets in the past and that it is as important to attract speculators to these markets as it is to attract long hedgers.

"... the effect turns on whether there is sufficient liquidity in the live cattle futures market to absorb such short hedging without depressing futures. We are aware of no convincing evidence that packer forward contracting has had such a price depressing effect. Further, if a packer decides to hedge its fixed-price forward purchase contracts with sales of futures contracts, someone must purchase those contracts in the futures market. The purchaser could be another hedger who either is establishing a long hedge or covering a short hedge. Alternatively, a speculator may be willing to buy those contracts."

Another concern that came to our attention results from feeders often waiting until the last day or week of the pricing period to price their cattle. Some claim that when the feeder finally locks in a price, the packer will have already beat him to the punch by having sold short in the futures market and having caused futures prices to decline just before the feeder makes his pricing decision. CME has looked for this kind of trader behavior, but it concluded in its December 15 letter that packer short sales did not appear to have any obvious effect on futures prices. According to a CME official, it is unlikely that packers entering the market to hedge their forward purchases would be doing so on such a large scale as to drive the market down. The official said that CME requires that all hedges must be applied and removed in an orderly manner and that this requirement helps prevent the actions of any one trader from getting out-of-hand.

Packer short hedging was one of the concerns most frequently raised by the cow-calf operators, stockers, and feeders we spoke with. The live cattle futures market, according to most of these producers, needs more long hedgers, but the current delivery system does not encourage long hedgers. Most of the packers and many of the feeders we spoke with said that because of grading and location problems associated with the current delivery system, it is not advantageous for packers to be long hedgers. The packers expressed concern over taking delivery of inferior cattle or receiving cattle at a delivery point not near the main cattle supply. Those in the industry have suggested some changes to the delivery system to create incentives for long hedgers. These changes are discussed later in this chapter.

Concern About Increased Packer Concentration in Combination With Packer Forward Contracting

As mentioned earlier, the cattle industry's meatpacking segment is becoming more concentrated. Such concentration is becoming of increasing concern to many of those in the industry's cow-calf/ranching and cattle feeding segments. A number of packer mergers have taken place during 1987, with the four largest meatpackers in May 1987 responsible for about 58 percent of the nation's steer and heifer slaughter. Those

who are concerned about packer forward contracting and who believe that such contracting reduces the number of meatpackers who are active in the cash cattle markets, will undoubtedly become even more concerned should the number of packers continue to diminish. We do not have any evidence of adverse effects as a result of the recent increase in packer concentration, and we recognize that mergers may continue to occur as packers seek to achieve greater efficiencies and economies of scale. Nevertheless, because of the concerns we had heard, we discussed the situation with officials of USDA's Packers and Stockyards Administration (P&SA). P&SA, among other things, administers the provisions of the Packers and Stockyards Act of 1921, as amended. This act regulates the business practices of those engaged in livestock and live poultry marketing and meat and poultry packing in interstate and foreign commerce. The act's basic objective is to ensure that the marketplace remains competitive. The act prohibits packers and livestock dealers from (1) engaging in unfair, discriminatory, or deceptive practices; (2) manipulating or controlling prices, creating a monopoly, or restraining commerce; or (3) conspiring to apportion territory or manipulate prices.

P&SA officials told us that they were well aware that the meatpacking segment of the cattle industry was becoming increasingly concentrated and that this is a matter of concern to them. The officials said that no institutional mechanism existed to deal with the situation, although they acknowledged P&SA's regulatory role in the cash markets, as well as the roles played by CFTC, which has responsibility for regulating futures markets; the Federal Trade Commission, which has responsibility for promoting competition in commerce; and the Department of Justice, whose Antitrust Division is responsible for promoting and maintaining competitive markets by enforcing federal antitrust laws. They stated that P&SA regularly provides information to, and coordinates its activities with, CFTC, the Federal Trade Commission, and/or the Department of Justice.

Effectiveness of Live Cattle Futures Market's Present Delivery System

Deliveries against feeder and live cattle futures contracts have not occurred in a large percentage of cases since these contracts began to be traded. Those holding short positions are likely to initiate deliveries only when futures prices are above cash prices by more than the cost of making delivery. Before making a decision to deliver, however, the cattle feeder must also consider whether the quality of the cattle meets contract specifications. Assuming that cattle quality is not a problem, the cattle feeder would deduct the delivery and grading costs from the

futures price, compare the result with the price at the local market, and then select the alternative that will return the higher net price.

When deliveries have occurred, problems have been encountered by those making delivery as well as by those taking delivery in terms of both the grading of cattle and the number and location of live cattle delivery points. These problems have continued even after the institution of a certificate of delivery system in the live cattle futures market in 1983. Many in the cattle industry believe that these problems affect the live cattle futures market by discouraging prospective long hedgers from participating or by prematurely forcing out those already in the market because of the real or perceived threat they face of having to take delivery of inferior cattle at some inconvenient delivery point. Cash settlement, which was instituted in the feeder cattle futures contract in 1986, has been debated as a solution to the delivery problems of the live cattle futures contract. However, the calculation of a final cash settlement price that would be both free of manipulation and reflective of the cattle's cash market value is a concern that remains to be resolved.

Certificate of Delivery System Instituted for Live Cattle

A certificate of delivery system, which involves the exchange of certificates rather than live cattle, was instituted in the live cattle futures contract in December 1983 primarily to ensure the delivery of fresh animals and to make the contract more attractive to prospective hedgers (such as meatpackers) on the long, or buy, side of the market during the delivery month. The former system, under which deliveries were assigned to the oldest longs in the market, frequently resulted in substantial redeliveries of live cattle by longs who did not want to take delivery. The redeliveries occurred when a long who had been assigned delivery would thereupon go short in the market by selling a futures contract or contracts and then proceed to redeliver the same pen or pens of cattle on which he had been assigned delivery. The cattle had to be reinspected at the time of each delivery. The movement of the cattle within the stockyards often bruised and damaged them, and because they were generally fed differently while at the stockyards, they deteriorated in grade and yield.

Another criticism of the former system was that the shorts in the market had total control over the delivery process, that is, they initiated delivery and chose the delivery point. As a result, hedgers on the long, or buy, side of the market were likely to offset their positions before the contract expiration month because of the uncertainties of where, when,

or how many deliveries they might be assigned to receive. Understandably, long hedgers such as packers were particularly reluctant to accept deliveries at delivery points that were substantial distances from their processing plants.

The certificate of delivery system addressed the major criticisms of the former system by virtually stopping physical redeliveries of cattle and providing longs with incentives to use the markets. Under the new system, the short who wants to make delivery has to tender a certificate of delivery 3 days prior to actual delivery. Under the former system, the delivery notice was tendered the day preceding delivery. A long who is interested in taking delivery now issues a demand notice against the tender, and delivery is made. If a certificate of delivery is not matched by a demand notice, the oldest long position with respect to a given contract is assigned delivery.

Longs assigned delivery because of the age of their position have the option of taking delivery or, if that is not in their best interest, establishing a short futures position and retendering the delivery certificate. The retendering long is assessed a retender fee of \$1.50/cwt., or \$600 on a 40,000-pound live cattle futures contract. The retender fee represents the costs of storage, transportation, and shrinkage the long might have incurred if he had accepted delivery. The retender fee is attached to the certificate and goes to the long who eventually takes delivery or to the short who tendered the certificate in the first place and who ultimately reclaims it. A certificate can only be retendered twice; longs who are assigned a certificate that has been retendered twice must, therefore, take delivery.

Under the former delivery system, cattle were physically redelivered at the delivery point. Under the certificate system, only the certificates of delivery are retendered; the cattle are not moved until after the final assignment occurs. The components of the certificate of delivery system discussed to this point—that is, the option to demand delivery, the option to retender if an assigned delivery is at an undesirable location, and assurance of receiving fresh cattle that have not been physically redelivered several times—all make the live cattle contract very favorable to a long who is in the market. To balance the long's advantage under the new system, the reclaim provision was instituted so that the short can reclaim his original tender (and any accumulated retender fees) if the first long to whom it was assigned retenders it and if other longs do not issue a demand notice against it. The short can then issue a new certificate of delivery for the same set of cattle.

According to a CFTC review, the new certificate of delivery system has not resulted in a reduced number of physical deliveries. From time to time, basis incentives (such as when the futures price is above the cash price) still lead shorts to initiate delivery. Nevertheless, the new system has resulted in improvements over the former system. Physical redeliveries of cattle have been virtually stopped. The demand provision has been used frequently by long hedgers, particularly meatpackers. And in rare instances when significant numbers of certificates have been reclaimed, the effect, according to CFTC, has been to narrow the basis at delivery points, which leads to a closer convergence of cash and futures prices during the contract expiration month.

Cash Settlement in CME's Feeder Cattle Contract

On January 10, 1986, the September 1986 feeder cattle futures contract—the first contract incorporating cash settlement—was listed for trading. With cash settlement, cash and futures prices are forced to converge at the time the contract expires, not as a result of physical delivery, but rather by setting the “final futures settlement price,” which is used for offsetting futures contracts that are still outstanding at contract expiration, equal to the prevailing average cash price.³ An average of actual cash market prices of feeder cattle, known as the U.S. Feeder Steer Price, is the final settlement price on the day following the last day of trading on a given contract. Thus, all positions remaining open at contract expiration are settled in cash on the basis of this final settlement price rather than by delivering or receiving feeder cattle. Cattle Marketing Information Services, Inc., a nonprofit cattle-marketing advisory firm in Denver, Colorado, doing business as Cattle-Fax, was selected by CME and approved by CFTC to calculate the prevailing national feeder steer price. Cattle-Fax collects auction prices and direct sale prices for 600- to 800-pound feeder steers selling in 27 states. The sales price information thus obtained represents roughly 60 percent of the national 600- to 800-pound feeder steer trade volume. The price Cattle-Fax calculates is a 7-day average price based on the auction and direct sale prices it has collected in the 27 states, with prices generally being weighted according to volume.

³Under physical delivery, cash and futures prices tend toward convergence during the contract expiration month. If, for example, the futures price exceeds the cash price by more than the cost of futures delivery, traders with short positions will choose to deliver on their futures contracts, while longs will want to avert delivery given these prices. Longs will try to offset their futures positions by selling futures contracts, but no one will be willing to buy from them at the current high futures price. This excess of sellers over buyers of futures contracts will put downward pressure on the futures price. Additionally, futures delivery by shorts will reduce supply in the cash market, which will lead to an increase in the cash price. Thus, the threat of physical delivery will tend to move futures and cash prices toward one another at contract expiration.

At the time of the change to cash settlement, CME cited a number of reasons why a cash-settled feeder cattle contract was preferable to a physical delivery contract. For example, cash settlement

- eliminates the uncertainties and disputes associated with the grading of feeder cattle deliveries;
- eliminates the incremental costs incurred in making or taking delivery on a contract; and
- promotes a more stable and more predictable cash/futures price relationship at contract expiration, therefore making the contract a more useful hedging mechanism for cattlemen. (This occurs because convergence between the cash price used for final settlement and the futures price is predictable. Only unexpected shifts in the relationship between a hedger's local price and the national average cash price will significantly affect the variability of the basis.)

Several futures traders told us that, before cash settlement was incorporated in the feeder cattle contract, the feeder cattle contract basis (difference between cash and futures prices) had been much more variable than the basis on the live cattle contract. They said that a highly variable, less predictable basis is detrimental because it reduces the effectiveness of hedging. Thus, cash settlement was designed to decrease basis variability and thereby attract more hedgers to the feeder cattle futures contracts.

One trader told us that, before cash settlement, the feeder cattle contract had been used by longs to procure quality cattle and was therefore susceptible to potential "squeezes." He explained that such squeezes occur during times when there are limited supplies available to deliver on futures contracts. Shorts wanting to cancel their delivery obligations at such a time are vulnerable to being "squeezed" or, in other words, being forced to buy their way out of their futures positions by bidding up prices.

The cash settlement system for feeder cattle has received mixed reviews, at least according to the cattlemen with whom we spoke. Some who had formerly used the feeder cattle contracts to procure cattle did not favor the change. Some said that not enough time had passed to allow much of a judgment as to how cash settlement was working. Others said that cash settlement had reduced basis variability and eliminated problems associated with physical deliveries.

In an August 14, 1987, report on cash settlement in feeder cattle futures (covering the period January through May 1987), CFTC's Division of Economic Analysis showed, among other things, that (1) basis variability had diminished in the one local market examined; (2) trading volume, although declining initially, exceeded year-earlier levels during 4 of the first 5 months of 1987; and (3) open interest exceeded the year-earlier period for 3 of the first 4 feeder cattle futures expiration months in 1987—representing possible evidence of generally greater trader interest in the new cash settlement contract than in the former physical delivery contract for feeder cattle. The report noted that trading volume and open interest were also up in 1987 in the live cattle futures market. The report suggested that the strong markets and relatively high prices of feeder and fed cattle in early 1987, as compared with those in 1986, contributed to the greater use of the cattle futures markets.

Present Delivery System for Live Cattle Contract Still the Subject of Debate

Even though most people we talked with said that the live cattle futures market is now better as a result of the certificate of delivery system instituted in 1983, many said that some delivery system weaknesses still need to be addressed. The weaknesses cited generally centered on the number and location of live cattle delivery points and grading problems that are experienced at the time of delivery. One solution proposed to us would be to specify packing plants as delivery points under the live cattle futures contract and to change the time when the animals are graded from when the animals are alive and "on the hoof" to when they are dead, skinned, and "on the rail." However, the solution most frequently offered to take care of these problems was to settle the live cattle futures contract with cash.

Delivery Problems Still Exist

The number and location of delivery points has traditionally been a source of controversy with respect to agricultural futures contracts; the cattle contracts are no exception. Under the existing live cattle contract, cattle can be delivered at approved livestock yards at seven locations. Cattlemen generally would like to see delivery points close to their operations so as to minimize the costs and problems they might incur should they want or be required to make or take delivery against a futures contract. In addition, because of lower transportation costs, the difference between cash and futures prices (that is, the basis) is generally more predictable the closer one is to a specified delivery point and would, therefore, be more likely to provide the cattle producer with hedging opportunities.

Many of the cattlemen we spoke with complained about a lack of consistency in procedures and in grading results among the various delivery points used with the live cattle futures contract. The cattlemen said that the timing of delivery and the care and treatment of the cattle, once delivered, often varies from one delivery point to another. Some cattle feeders told us of the difficulties involved in grading live animals—that the task is a very subjective one. A packer attributed some of the grading problems to the inexperience of some USDA graders.

According to USDA, its graders are applying the grading standards for live cattle accurately and consistently. (See app. II.) It said that all of its graders/reporters are fully qualified and are experienced in the acceptance of futures livestock or, if inexperienced, are under the direct supervision of experienced and seasoned graders. USDA said group correlations with all graders are held regularly to ensure that the grading is accurate and that contract specifications are applied correctly. It also said that supervisors routinely visit every delivery point to review the delivery process and to make any needed corrections.

On the matter of delivery points, CME said that an ideal futures contract would be one with a single delivery point. CME claims that with multiple delivery points, the futures price typically converges with the cash price at the lowest-price delivery point. Hence, the futures price reflects different cash market prices from one month to the next as cash market price relationships fluctuate. This injects a measure of unpredictability and instability into the futures price during the delivery month and creates uncertainty among longs as to where they will be assigned delivery.

Conversely, CME points out the need for adequate deliverable supply so that the futures contract will be relatively immune from price distortions due to localized shortages of cattle. Given the cattle market's structure, a single delivery point or even two or three delivery points could not provide adequate deliverable supply. CME, thus, has opted for what it considers the lesser of two evils, that is, greater uncertainty for longs regarding where they will receive delivery but the assurance that price distortions due to localized shortages will not create unwelcome basis surprises.

**Cash Settlement Offered as
Solution to Delivery Problems:
Advantages and Disadvantages**

Many cattlemen told us they would like to see cash settlement instituted for the live cattle contract, as was done for the feeder cattle contract. This, they say, would eliminate some delivery problems that are being

experienced under the certificate of delivery system. CME has investigated the feasibility of such a change and has cited the following advantages associated with cash settlement. It

- eliminates the risk of parties unexpectedly having to make or take delivery on a contract;
- eliminates the uncertainties and disputes associated with grading cattle deliveries;
- eliminates the worries and/or costs in (1) making delivery (i.e., putting together a deliverable load and having it graded, transported, and subjected to commission fees) or (2) taking delivery (i.e., uncertainties about delivery location and actual dressed grade of carcasses); and
- promotes a much tighter convergence of cash and futures prices at contract expiration, which should significantly reduce basis instability.

According to many cattlemen we spoke with, cash settlement would additionally accomplish the following:

- Encourage more participation in the live cattle contract by long hedgers and speculators who, even with the certificate of delivery system, tend to stay out of the market or offset their futures contracts before the expiration month because of their fear of being forced to take an unwanted delivery.
- Eliminate the possibility of any trader or group of traders dominating supplies during the delivery month, thus influencing futures or cash prices. According to CFTC, this is the most notable potential advantage of cash settlement in live cattle futures. Cash settlement would prevent possible price manipulation in the expiring month resulting from limited supplies of cattle.
- Allow options on live cattle futures contracts to expire at the same time as the futures contracts. CFTC currently requires options to expire ahead of the related physical-delivery futures contract to guard against potential manipulation due to a shortage of deliverable supplies. If the contract were cash-settled, this threat would be eliminated and both the options and futures contract could expire simultaneously—thus aiding hedgers who, under the present delivery system, are sometimes forced to remove their hedges before they are ready.

However, certain problems and/or disadvantages have to be dealt with if the cash settlement mechanism is to be adopted for the live cattle contract. CFTC told us, for example, that one problem would be to devise a

price index that reflects the mainstream of appropriate cash transactions and that cannot be unduly influenced or manipulated. Such a calculation is more difficult with respect to the live cattle futures market where such a price would have to be generated from information received from a relatively small number of pricing sources, including packers, than it is in the feeder cattle futures market where the price is generated from information received from a larger number of pricing sources, including cattle feeders and auction markets.

On this same subject, CME told us in its December 15, 1986, letter that in designing a cash-settled futures contract, it is essential that the procedure used to calculate the final settlement price is comfortably immune from manipulation and will generate a price that closely reflects the value of cattle in the cash market. CME stated that it had studied numerous options for determining the final settlement price for the live cattle contract but concluded that all the procedures examined contained serious problems. These problems involved the potential for (1) distortion of the cash settlement price on the upside, (2) price manipulation, and (3) the price to represent only the seller's side of the transaction. According to CME,

"While the problem of price manipulation and/or distortion was eliminated in the procedure used to determine the final settlement price for cash-settled Feeder Cattle, the Exchange has not yet been able to devise a similar procedure for the Live Cattle contract, due to the different price reporting practices in the fed cattle market."

USDA told us in commenting on a draft of this report that its "Agricultural Marketing Service reports [price and other market information] at all of the major slaughter markets and direct marketing areas throughout the United States." (See app. II.) It said that if a cash settlement for live cattle were to be established, USDA would be in a position to cooperate with the commodity exchanges and CFTC in arriving at a settlement price.

In its December 1986 letter, CME said that, assuming that a nondistortable cash price could be devised, the following two disadvantages to cash settlement remain.

- Cash settlement eliminates the use of the delivery alternative. Thus, longs or shorts who might otherwise want to take or make delivery would not be able to do so.

- A cash-settled contract eliminates the use of futures deliveries as a merchandising mechanism for acquisition or disposal of cattle.

In its comments on a draft of this report (see app. IV), CME said that while these are disadvantages, the basic purpose of a futures market is to facilitate the shifting of price risk and not the disposal or acquisition of the actual commodity in question. CME also commented that, in contrast to the belief of some cattlemen that cash settlement would prevent the possibility of price manipulation, it believes that cash settlement shifts the arena for attempted price manipulation from the futures market to the various cash markets and cash market quotation mechanisms.

Some within both the cattle and futures industries told us that they believed that cash settlement for the live cattle futures contract is not needed as much as it was for the feeder cattle contract. They said that the basis in the live cattle market is more stable than the basis was in the feeder cattle market. They claimed that because of this, delivery problems in live cattle have not been as troublesome as they were in feeder cattle and that the volume of live cattle futures contracts traded is much greater than it was and is for feeder cattle contracts.

Some have said that cash settlement reduces price movement in futures markets. These people are concerned that if such movement is reduced too much, the particular futures market will become less desirable to speculators and trading volume will correspondingly decrease. Others have said that the physical delivery feature of a futures market keeps that market "honest" and provides a link between the futures and cash markets that ultimately forces the convergence of futures and cash prices relative to each futures contract.

The existing delivery points would stand to lose if cash settlement is adopted for the live cattle futures contract. Each of the seven approved delivery points receives revenue from driving, feeding, bedding, weighing, insuring, and rendering other services with respect to delivered cattle. Such revenue would be lost under cash settlement. Some delivery points, such as the one in Amarillo, Texas, have installed special facilities for weighing and grading cattle delivered under CME's live cattle futures contract. Cash settlement would mean a loss of any further revenue on this type of delivery-point investment.

Cash settlement in the live cattle futures contract is one of several items being considered in some detail by the NCA Cattle Futures Task Force and CME's Cattle Futures Task Force. (See ch. 6.)

Conclusions

The U.S. cattle industry, particularly those cattlemen who were unhedged and who were attempting to market their cattle at the time, was affected by USDA's March 28, 1986, announcement of Dairy Termination Program details. The announcement was made when livestock and beef markets were in relatively weak positions. Slaughter rates were up and beef prices were down, only to be pushed down even further by the announcement that more cattle than anticipated were to be slaughtered and that two thirds were to be slaughtered during the first of the three disposal periods. Further, the announcement did not provide enough details about the program provision requiring USDA to purchase and distribute 400 million pounds of red meat over and above the level it would normally purchase and distribute.

Analyses by CFTC and CME suggest that the cattle futures markets reacted the way they should have to the March 28 announcement. CFTC concluded that price movements and large trader activity in the cattle and related futures markets around the time of the announcement appeared to be consistent with prospective changes in cash market supply conditions. CME did not consider the actual drop in cattle prices nor the price volatility throughout April 1986 to be abnormal, given the details of the announcement and circumstances surrounding it.

We are concerned about USDA's apparent underestimation of the cattle markets' reaction to the announcement and its failure to discuss and coordinate its plans with CFTC. We do not know if such coordination would have led to changes in the way the Dairy Termination Program was implemented or to a lessening of the program's negative impact on the red meat industry. We believe, however, that these are distinct possibilities and that it makes good sense for federal agencies with related responsibilities in a given area to consult and coordinate with one another at the time of program change or other common-interest actions.

Although concern exists that meatpackers' use of forward contracting has been on the rise in recent years, the cash market is by far the dominant means by which packers procure fed cattle. None of the packers we contacted predicted a great upsurge in forward contracting or that such contracting would become the dominant means of procuring fed cattle.

Some in the cattle industry believe that packer forward contracting adversely affects the cash cattle market by allowing packers to become less dependent on and less active in the cash market, thus reducing competition and prices. They believe also that packer forward contracting affects the live cattle futures market by moving packers from the long

to the short side of the market, thus creating additional selling pressure and downward bias in prices in this market.

Others in the cattle industry, however, generally point out that packer forward contracting reduces both supply and demand in the cash market by the same amount and that the effect is either little or no change in fed cattle prices. Regarding the effect of forward contracting on the live cattle futures market, CFTC and CME contend that no convincing evidence has been found that such contracting has a price-depressing effect. Unless the extent of packer forward contracting substantially increases, we would tend to agree.

The cattle industry's meatpacking segment is becoming more concentrated, and this is becoming of increasing concern to many of those in the cow-calf/ranching and cattle feeding segments of the industry. Those who are concerned about packer forward contracting, and who believe that such contracting reduces the number of meatpackers active in the cash cattle markets, will undoubtedly become even more concerned in the future should the extent of such contracting increase above current levels and the number of packers continue to diminish. We believe that if these trends continue, P&SA should keep abreast of this situation, monitor it, determine its impact on the cattle markets, and take whatever actions are necessary to ensure a continued, fair, open, and competitive marketplace. Such actions might involve coordination and the exchange of information with the Federal Trade Commission; the Department of Justice; and, to the extent necessary, CFTC.

Although the delivery system for the live cattle futures market was improved as a result of the certificate of delivery system that was instituted in late 1983, problems centering on the number and location of live cattle delivery points and difficulties and inconsistencies in grading still exist. Many in the cattle industry are concerned that such problems keep prospective long hedgers from the market or force those who are in the market to offset their futures positions before the contract month because of the threat they might otherwise face of having to take delivery of inferior cattle at some inconvenient delivery point. Long hedgers, as well as long speculators, are considered by many to be necessary ingredients of a well-functioning futures market.

Cash settlement was the solution most frequently mentioned to us as a means of resolving delivery problems in the live cattle futures market. Advantages and disadvantages have been cited by those for and against

cash settlement. One key concern has to do with calculating a final settlement price that will be immune from manipulation and reflective of the value of fed cattle in the cash market. Further experience in calculating the cash settlement price for feeder cattle may provide insight on ways to calculate the cash settlement price for fed cattle.

Recommendations to the Secretary of Agriculture

We recommend that to help mitigate problems like those encountered at the time of the Dairy Termination Program announcement, the Secretary of Agriculture direct USDA futures-traded commodity program officials to discuss and coordinate their plans with appropriate CFTC officials. This should ensure a greater degree of sensitivity among program officials to the possible effects that the programs they are implementing or modifying might have on related commodity markets. Greater knowledge, insight, and perspective about a given situation can perhaps be gained, with both agencies being given the collective opportunity to better plan program implementation and do those things necessary to minimize any detrimental effects.

We recommend also that the Secretary of Agriculture ensure that P&SA monitor closely the increasing level of concentration in the U.S. meatpacking industry, determine its impact on cattle markets, and take any actions necessary to ensure a continued fair, open, and competitive marketplace. Such actions might involve seeking information and advice from, and coordinating with, the Federal Trade Commission; the Department of Justice; and, to the extent necessary, CFTC.

Agency Comments

In its comments (see app. II), USDA said that although the benefits of enhanced discussion and coordination between USDA and CFTC were not fully elaborated, its program officials and CFTC officials had increased their contacts and discussion following the initial announcement of the Dairy Termination Program. According to USDA, these contacts have paved the way for better communication in the future.

USDA did not comment on our recommendation relating to P&SA's monitoring of the increasing level of concentration in the U.S. meatpacking industry.

Economic Impacts of Cattle Futures Markets

Economists generally believe that futures markets provide benefits to the industries that have them. Principally, they (1) enhance the means by which prices for a commodity are discovered and (2) allow a means by which producers, processors, and users of a commodity can pass the price risks inherent in their businesses to traders who are willing to assume them. With specific regard to the cattle industry, the cattle futures markets are said to—in conjunction with the above benefits—allow those in the industry to

- have more time during which they can choose a price for their cattle,
- obtain more stable revenues,
- obtain continuous information on how the market values cattle up to 14 months in the future, and
- increase their chances of obtaining cattle loans from lenders knowledgeable about cattle futures.

Some cattlemen and others, however, are not convinced that benefits such as these accrue to the cattle industry from the cattle futures markets. These individuals believe, rather, that the markets may be detrimentally affecting the industry. Specifically, they question whether the cattle futures markets

- serve an economic purpose and are in the industry's and public's best interests,
- bias cattle prices downward,
- increase cattle price variability,
- adversely affect the price relationship between feeder and fed cattle, and
- adversely affect the industry's competitive structure.

To assess the merits of these concerns, we obtained information from several sources. We reviewed available literature on the cattle industry, cattle futures markets, and futures markets in general. We queried economists at CFTC, CME, USDA, and other institutions. We additionally convened a six-member panel of economists with whom we met for 2 days in April 1987 and discussed various facets of cattle futures trading. Members of this panel, who are listed in chapter 1, provided us with additional advice as we proceeded with our study. We did not perform empirical analyses of our own with respect to any of the concerns mentioned above because of time and other resource constraints.

The preponderance of the information we obtained showed that the cattle futures markets do serve an economic purpose by enhancing price

discovery and by facilitating risk shifting. Little of the information we obtained supported contentions that the cattle futures markets bias cattle prices downward, create unwarranted price variability, or adversely affect either the price relationship between feeder and fed cattle or the cattle industry's competitive structure.

Economic Purpose Served by Cattle Futures Markets

As discussed previously, cattle feeders and meatpackers appear to trade more extensively in the cattle futures markets than do cow-calf operators or stockers. Perhaps because of feeling largely excluded from these markets and most of the benefits that come from them, many within the cow-calf/ranching segment have charged that the cattle futures markets serve no useful economic purpose.

According to CFTC, the basic economic purpose of a futures market is to help related cash markets work better by helping them to be more competitive and efficient. Some experts say that hedging in futures markets should also enhance profits. A futures market does these things by (1) enhancing price discovery, through collecting and disseminating information, and (2) facilitating risk transfer. Thus, our review of the economic purpose served by the cattle futures markets focused on these two functions and the extent to which the cattle industry benefits from them.

Price Discovery

Price discovery occurs when buyers and sellers in a market exchange bids and offers to reach agreement on specific prices for trades. For example, a high price will attract many sellers but few buyers. The excess of sellers over buyers at the high price will put downward pressure on price, and price will continue to decline until any surplus is eliminated. Prices are typically discovered many times during a day as traders react to new information.

The concept of price discovery differs from price determination. Price is "determined" by various economic factors such as the cost of inputs used in production, production technology, consumers' income and tastes, prices of related goods, and the structure of the market. Price discovery refers instead to the process by which the market price is found, not the underlying factors that establish price.

Theoretically, at least, futures markets are expected to enhance price discovery for several reasons. Through futures market transactions, traders provide information to other market participants about their

own expectations regarding prices both in the near term and in the more distant future. Traders base these expectations on information they have about supply and demand conditions and on their perceptions about other traders' beliefs. Traders have their risk capital "on-the-line" and, therefore, have a powerful incentive to be well informed about supply and demand conditions. As traders reveal their personal expectations about upcoming prices, they provide the market with information about underlying supply and demand conditions now and anticipated in the future. This type of information existed prior to the advent of futures markets, but it was very decentralized—being spread out among the many traders in the various cash markets. Futures prices that ultimately prevail reflect the interaction of all participating traders' judgments about underlying economic circumstances.

Prices discovered in futures markets are visible to all interested parties. Information reflected in futures market trading is disseminated widely on the floor of the exchange, on wire services, and in news reports. By providing a public forum in which this information can be assimilated and disseminated, futures markets should enhance price discovery and foster competition in cash and forward markets because information about national market conditions is accessible to all market participants from one centralized source. Cow-calf operators, cattle feeders, or meatpackers—by obtaining futures market prices for nearby futures contracts—have a much better idea of cash market trends throughout the country than they would have otherwise.

The information we obtained indicated that the cattle futures markets enhance price discovery but do not necessarily dominate it, that is, prices are not always discovered in the futures market before they are discovered in the cash market. First, according to nearly all futures industry experts with whom we spoke, futures trading enhances the price discovery process for any given commodity because both the futures and cash markets reflect information about changing supply and demand conditions. Second, and perhaps more importantly, a number of empirical studies have tested whether newly available information is first reflected in either futures or cash prices or whether new information is simultaneously reflected in both prices. Although the related literature was somewhat ambiguous about whether futures markets lead cash markets in discovering price or vice versa, a finding that the cattle futures markets play an important but not dominant role in price