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RESEARCH ON IMPLICATIONS OF IRS POLICIES TO THE EFFECTIVENESS OF CATTLE FUTURES MARKETS:

Part I, Survey of Cattle Feeders

Wayne D. Purcell

February 1992

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A word of thanks is extended to the Texas Cattle Feeders Association and to the Kansas Livestock Association for providing addresses or mailing the survey. The survey was administered such that no individual responses could be identified and all individual responses were and are completely confidential. I hope cattle feeders and organizations like TCFA and KLA will find this work informative and useful.

Wayne D. Purcell
February 1992

Introduction

Trade in cattle futures provides a risk transfer mechanism and contributes to the process of price discovery. The two functions are often discussed as if they were separable, but they are in fact closely interrelated. The price that is being "discovered" for some later time period by the live cattle futures is the forward price being offered by the market. That forward price is, in turn, the price that producers can incorporate into a hedge to transfer their exposure to cash price risk.

There are two types of traders in cattle futures. Hedgers enter the markets with an objective of transferring exposure to the risk of variable cash prices to someone else. Speculators accept that risk, entering the markets with a profit motivation. The distinction between the two types of traders is not always apparent but it is very important. Any losses in futures trades that meet the criterion of a hedge are effectively deductible for income tax purposes. The hedger pays taxes on the net from the hedged cash program. Speculative losses are treated differently. Deductible losses are limited to \$3,000 for the individual and to \$0 for most types of corporate entities.¹

Over time, various court cases have generated some information on what types of transactions will be treated as a hedge. In a May 14, 1990 overview prepared for the Chicago Mercantile Exchange by a representative of the national firm Arthur Andersen & Co., hedging was defined as a transaction entered into by the taxpayer in the normal course of the taxpayer's trade or business, primarily (1) to reduce risk of a price change or currency fluctuation with respect to property which is held, or to be held, by the taxpayer, and (2) to reduce risk of interest rate or price changes or currency fluctuations with respect to borrowings made, or to be made, or obligations incurred, or to be incurred, by the taxpayer.² Within this generally accepted definition, however, there is room for uncertainty about precisely how a particular transaction would be treated by IRS and/or the tax courts. In general, IRS has restricted their concept of a hedge to a "hedge and hold" approach. That is, the futures position needs to be equal and opposite the current cash position or the planned cash position in both quantity and temporal contexts. Cattle feeders, with cattle on feed, are long cash cattle and a legitimate hedge would require a short position in live cattle futures. If the trading program is audited by the IRS, they would tend to look for short positions in the futures contracts that matched, in terms of numbers and timing, the cash cattle scheduled to be sold at later time periods.

The other futures transactions by cattle feeders that the IRS would likely view as a legitimate hedge would be long positions in feeder cattle futures to cover later purchases of feeder cattle. Relative to later needs, the cattle feeder is short in the cash feeder cattle and a properly matched, in terms of quantity and timing, set of long positions in feeder cattle would be considered a hedge.

Transactions that extend beyond this type of simplistic matching have tended to fall into the uncertain category. In January, to illustrate, a cattle feeder with 20,000 cattle to be sold in July and August might prefer to place short positions in the more actively traded April and June futures contracts. The short positions would then be "rolled" to the August futures later in the year when August becomes more actively traded and can handle the volume of trades the cattle feeder needs. Would IRS view such a program as a legitimate hedge? There are no clear guidelines.

¹A speculator in commodity futures can use losses to offset capital gains in other areas such as capital gains from a real estate transaction. If trade in commodity futures is the only activity that will involve speculative capital, then the losses are not deductible or are limited to \$3,000. Any added losses must be carried forward to the next tax year(s) where they again are subject to the \$3,000 limit.

²Paul M. Daugerda, "An Overview of General Principles of Taxation of Futures and Options," Arthur Andersen & Co., p. 9.

In 1981, a pilot program in trade in options on futures was launched at the major exchanges. Options trade increased rapidly, and options strategies have found favor with producers. But, the advent of trade in options brought with it added uncertainty about tax ramifications. One widely used approach or options strategy is to sell a call option (the right to be long), usually at some price above the current futures market, and buy a put option (the right to be short) at a price (called a strike price) often at or below the current futures market. There have been and are cases in which IRS rulings have disallowed any losses associated with selling the call options, requiring that such losses be treated as capital losses that do not qualify for business deductions. Producers tend to see such a program as being consistent with needs in gaining protection against declining prices, and both buying a put and selling a call are perceived to be consistent with expectations for declining prices.

An even broader area of concern emerges for the producer who owns feeding facilities but who is facing a situation in which, given the current costs of feeder cattle plus feed costs and the forward prices being offered in futures, could "lock in" only a large loss by placing the feeder cattle and selling the distant live cattle futures. The feeder must either (1) place the feeder cattle and speculate in the cash market and, in the process, risk the investment in facilities, or (2) leave the feedlot pens empty and absorb the costs of the fixed investment. Any attempt to gain protection against such an onerous market situation by selling nearby feeder cattle futures and buying distant live cattle futures has tended to be viewed as speculative transactions by the IRS.

The uncertainty regarding tax treatment of futures trades was accentuated by a 1988 Supreme Court ruling on the Arkansas Best case. Arkansas Best was a diversified holding company with stock in a national bank. In 1971, the bank was classified as a problem bank by federal regulators and attempts to sell holdings in the bank were proving difficult. In 1972, Arkansas Best bought more bank stock in an attempt to block sanctions against the bank by regulatory authorities. In 1975, Arkansas Best sold the stock at a loss and claimed the losses as a business deduction. The IRS disallowed the claims and their position was eventually supported by the Supreme Court ruling in 1988.

Writing about the ruling and the uncertainty it created in Corporate Risk Management, Gregory Millman offered the following:

For more than 30 years before Arkansas Best, hedgers knew if they bought futures or options for a business purpose, they could get hedge treatment on their tax returns. This meant they could match gains or losses on the contracts against ordinary income instead of taking capital treatment... But in Arkansas Best, the Supreme Court said a business purpose was not enough to make a financial transaction a hedge. The decision opened a Pandora's box of tax liability issues for hedgers who thought their actions had been legal.

While the Supreme Court reversed the old rule, it didn't clearly establish a new one. So far, neither has anyone else.³

Clarifications on the implications of the Arkansas Best ruling and changes, if changes are felt to be justified, will be sought in a variety of ways. The commodity exchanges, commodity groups, and broad interested parties such as the U.S. Chamber of Commerce are asking for clarifications from the IRS. Dialogue with members of Congress is addressing the possibility of modification of existing legislation to remove the perceived burden to business interests associated with the Arkansas Best ruling. The generally

³Gregory J. Millman, "Will Audits Spell Tax Disaster?", Corporate Risk Management, July 1991, p. 8.

consistent request in all the discussions is to allow business firms to enter futures transactions consistent with their business interests to protect the viability of their investment, and to have those transactions treated as hedges.

In the long run, new legislation or a significant modification of existing legislation will likely be considered. When discussion of legislation starts, there will be interest in the implications of what is and is not seen as legitimate hedging by IRS to the effectiveness of the markets. Does a narrow and restrictive interpretation interfere with the futures markets' capacity to offer a risk transfer mechanism and to contribute to the process of price discovery? Is the price discovery process being left primarily to speculators because those with cash interests are discouraged from participating in any way except strictly as "hedge and hold" hedgers? If cattle feeders are essentially blocked from participation in the price discovery process, what is the impact on the effectiveness and efficiency of the markets and to the economic wellbeing of producers and consumers?

This bulletin reports on the first phase of a sustained research effort designed to deal with such questions. It lays out the conceptual issues involved and reports the results of a survey of cattle feeders that was designed to determine whether concern about IRS rulings does in fact influence cattle feeders participation in the futures markets. As the first phase in a continuing effort, it also deals with "what next" in terms of research and offers a preliminary look at the results of research designed to determine the implications of constraining cattle feeders' activities in cattle futures to market efficiency and effectiveness. An important thrust throughout is what all this means to the price discovery process.

The Price Discovery Process

Price discovery is the dynamic process by which markets absorb available information on supply and demand, and through a competitive interaction by buyers and sellers, generate a price. The discovered price for distant live cattle futures is especially important to the cattle feeding sector. It is the price that cattle feeders watch for forward pricing or hedging opportunities and it is the price that will determine, to a significant extent, the cash prices that can be paid for feeder cattle.

The concept of market efficiency is widely used in the research literature as a measure of the overall effectiveness of the price discovery process. In general, an efficient market is a market that incorporates and registers the impact of all available information. The highest rating of efficiency, called strong-form efficiency, is reserved for the markets that are capable of incorporating both public and privately held information. To the extent that IRS policies block participation of cattle feeders, it is difficult to see how the feeder cattle and live cattle futures markets could be strong-form efficient. The privately held information in the hands of cattle feeders cannot flow directly into the price discovery process if cattle feeders do not fully participate in that price discovery process.

The level of market efficiency and the effectiveness of the price discovery process in the cattle futures markets are important to society. Cattle feeding is an inherently risky business, but any excessive variability that can be attributed to constraints on participation in the price discovery process are costly to the cattle feeder, to the cattle sector, and to the final consumer in the form of variable product supplies and prices. In 1991, quarterly beef production ranged from up 3 percent to down 3 percent compared to 1990. Choice steers in the direct Nebraska trade averaged \$80.09 per hundredweight in quarter 1, \$69.15 in quarter 3. Much of this variability was passed up through the system, putting processors' margins at risk and making prices to consumers variable within the year.

Figure 1 demonstrates the presence of the significant variability at the feedlot level. The monthly average per-head margins for cattle feeding in the Southern Plains, as estimated by the USDA, are plotted for 1980 through mid-1991.⁴ The range is in the magnitude of \$350 per head, from -\$200 to +\$150. In most instances, it is the variations in fed cattle marketings that prompt significant price variations and, as a result, significant variations in profits.

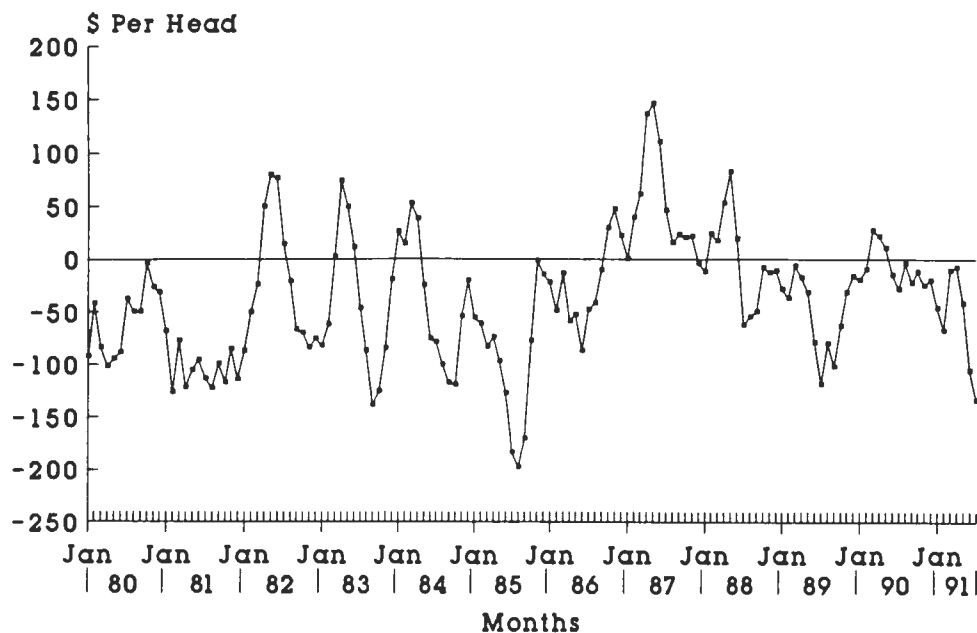


Figure 1. Net Profits Per Head in the Great Plains Feeding Area by Months, January 1980 - July 1991

The environment in which cattle feeders make decisions on how many cattle to place, whether to place, whether to forward price, etc. is very complex. It is not only the forward pricing opportunities being offered by the futures that influence those placements and related decisions but the prices (and therefore the feeding margins) being offered are important factors. Research efforts have shown that cattle feeders respond to changes in distant futures by changing placements of cattle.⁵ All of this is part of the price discovery process, but it could be that IRS policies block cattle feeder participation in this important process.

Figure 2 shows a type of variability that is directly related to the price discovery process. The margins being offered by the appropriate distant live cattle futures prices over variable costs, as estimated by the USDA in the Situation and Outlook reports, are plotted by months from 1980 through mid-1991. Some observers argue that the USDA estimates of costs are higher than can be realized by a large and efficient cattle feeder, but whether the average of the series is at the correct level is not the critically important point here. The important point is that the series is highly variable with prolonged periods, as long as 15

⁴Livestock and Poultry Situation and Outlook, Commodity Economics Division, Economics Research Service, USDA.

⁵An example is Stephen R. Koontz and Wayne Purcell, Influence of Trade in Live Cattle Futures on the Stability of Short-Run Cash Slaughter Cattle Prices, Va. Ag. Exp. Sta. Bul. 88-3, Winter 1988, 36 pp.

consecutive months, when the distant futures prices are not offering prices that cover even the projected variable costs of feeding. During such periods, the cattle feeder presumably either (1) does not place cattle and absorbs the fixed costs of the feedlot investment, or (2) places cattle at varying percentages of feedlot capacity acting strictly as a cash market speculator. Whichever strategy is pursued, cattle feeders are not in the market as hedgers because the feeding margins being offered are negative.

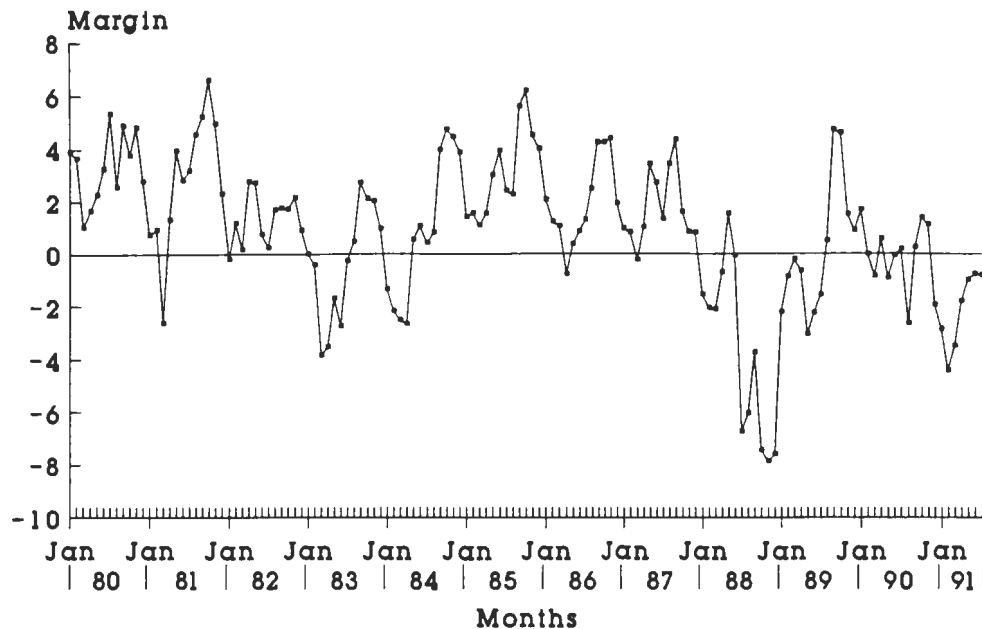


Figure 2. Margin Over Variable Costs Offered by the Midpoint of Distant Futures Prices, January 1980 - July 1991

And, as suggested earlier, cattle feeders would not be expected to enter the market to contribute to the price discovery process because that participation is discouraged by IRS policies. The cattle feeder, apparently, must either function as a cash market speculator or sit on the sidelines as an observer and wait for other participants in the futures market to correct any market imbalances. Losses incurred as a cash market speculator are deductible. Losses incurred as a speculator in futures if cattle feeders choose to get involved in the price discovery process are not deductible and this could be a powerful obstacle to participation by cattle feeders in the price discovery process.

A Working Hypothesis

It is hypothesized that IRS policies interfere with the efficiency and effectiveness of the cattle futures markets and that such interference results in a more volatile cash cattle market and increased variability in prices and product availability to consumers.

Conceptualization of the Problem

Figure 3 provides a conceptualization of the patterns that tend to develop with regard to the margins being offered by the markets. The zero line represents a zero margin over average total costs of feeding, suggesting that the long-run equilibrium situation is one in which there are zero excess profits and all costs of the efficient cattle feeder are being covered. In a competitive industry with little or no product differentiation and no barriers to entry, the markets would be expected to move back to such a base line equilibrium.

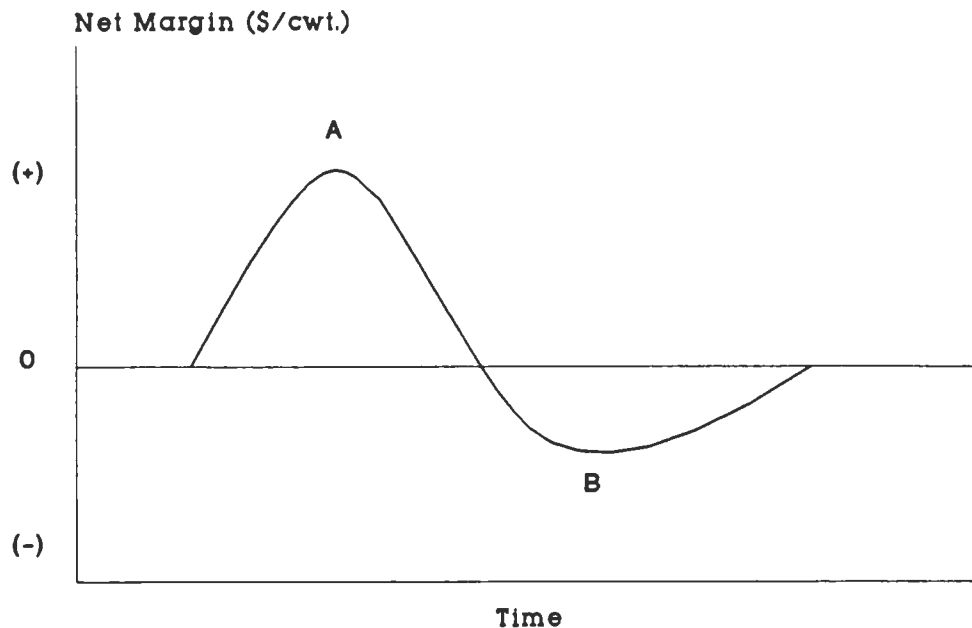


Figure 3. Conceptualization of the Pattern in Feeding Margins Offered by the Cattle Markets

In the area marked by A, positive margins are being offered. Cattle can be forward priced at a profit with the forward price covering all costs of feeding. If the industry is characterized by excess feeding capacity, then the market is more likely to only occasionally offer forward prices above variable costs of feeding. Then, the positive margins in Figure 3 are based on variable costs with some contribution being made to overhead. Whichever the case at any point in time, cattle feeders' reactions would tend to be the same. Confronted with positive margins, cattle feeders will tend to place cattle. The Koontz-Purcell research cited earlier in footnote 5 clearly documents this reaction. If they are a user of the futures markets, the cattle feeder can sell distant live cattle futures to forward price cattle and/or buy feeder cattle futures to gain protection against rising costs of feeder cattle. Either or both actions tend to constrain or decrease any large positive margins being offered by the market. Buying feeder cattle futures helps to "discover" a higher feeder cattle price in nearby futures and the cash feeder cattle market and selling live cattle futures helps to "discover" a lower fed cattle price for the later time period. The positive margins will start to decrease and will eventually disappear.

As placements start to increase, anticipation of increased future supplies starts to filter through the industry and the futures market starts to discover a lower price for the distant live cattle futures. But this process takes time, and the time required can be longer if the cattle feeders do in fact only enter the market as hedgers. Even if the margins being offered by the markets are becoming large negative numbers and the cattle feeder, drawing on proprietary knowledge, recognizes a developing market imbalance, the feeder cannot get involved in helping to discover a more nearly appropriate set of prices (and margins) without risking treatment as a speculator. What is needed is quick action to sell the nearby feeder cattle futures and to buy the distant live cattle futures, but this would be a speculative transaction given current IRS interpretations. IRS policy thus tends to block the entry of well informed cattle feeders and their highly relevant proprietary information into the price discovery process.

It is true that speculators would be expected to react to a market imbalance in the form of large and negative margins. Speculators could sell the nearby feeder cattle futures and buy the distant live cattle futures and profit if the market does in fact move back toward the zero-margin equilibrium. Positions data provided by the Commodity Futures Trading Commission indicates packers participate in the live cattle futures only at a very modest level and packers might buy the distant live cattle futures as long hedgers when such negative margins appear. Before either the speculator or the packer will enter, they have to recognize that the market is in a state of imbalance. The zero-margin base is correct in a conceptual context, but it will be impossible to always precisely and accurately identify what set of prices will be consistent with that equilibrium margin. The important point is that cattle feeders, using their own proprietary information on costs and performance, are in the best position to recognize a major imbalance when it starts to emerge. It is therefore hypothesized that the negative margin imbalances would be less sustained and of smaller magnitude if cattle feeders participated in the price discovery process.

Cattle feeders' initial reactions might be that they approve of the occasionally excessive and positive margins. But those excesses bring with them a penalty. Even short-run positive and large margins tend to bring a surge in placements. Bidding up the prices for cash feeder cattle and, to the extent the increased placements are hedged, selling the distant live cattle futures starts to diminish the margins but time is required for this realization to spread through the market. Significant short-run variations in fed cattle prices are the typical result. Figure 4 shows year-to-year percentage changes in quarterly placements of cattle and the associated year-to-year percentage changes in quarterly average fed steer prices at the Omaha terminal market. The percentage declines in price can be as large as 25 percent.

Such large variations work to the detriment of the producer and the final consumer. Volatile selling prices raise producers' costs over time in the form of increased buffer capital requirements and higher interest rates because of the risk of loss. Consumers are exposed to more variability in product availability and price than might otherwise be necessary. The working hypothesis suggests that if cattle feeders were involved in the markets in the price discovery mode as well as the hedging mode, such fluctuations would be tempered. Whether that hypothesis is valid is a researchable issue that needs empirical examination.

Before turning to a research plan, it is worthwhile to suggest that the issue of cattle feeder involvement is even more important during periods of negative margins, in the area around B in Figure 3. If only large negative margins are being offered, then the cattle feeder is forced to either be a speculator in the cash commodity or to allow pens to remain empty (or partly empty) and absorb the fixed costs of the investment. The plot in Figure 2 suggests this decision situation is often the case: the margins being offered are often negative and the cattle feeder must make the difficult choice of being a cash market speculator or absorbing fixed costs on the investment.

When feeding margins are negative, the market needs that realization to be quickly and efficiently incorporated into the discovered prices. Actions to sell nearby feeder cattle futures and/or buy distant live cattle futures would push the feeding margins back toward an equilibrium position and eliminate the

imbalance in the markets. To the extent that IRS policy blocks cattle feeders' involvement in the price discovery process, the imbalance will be allowed to persist until it attracts speculative action and/or long hedges by packers into the markets.

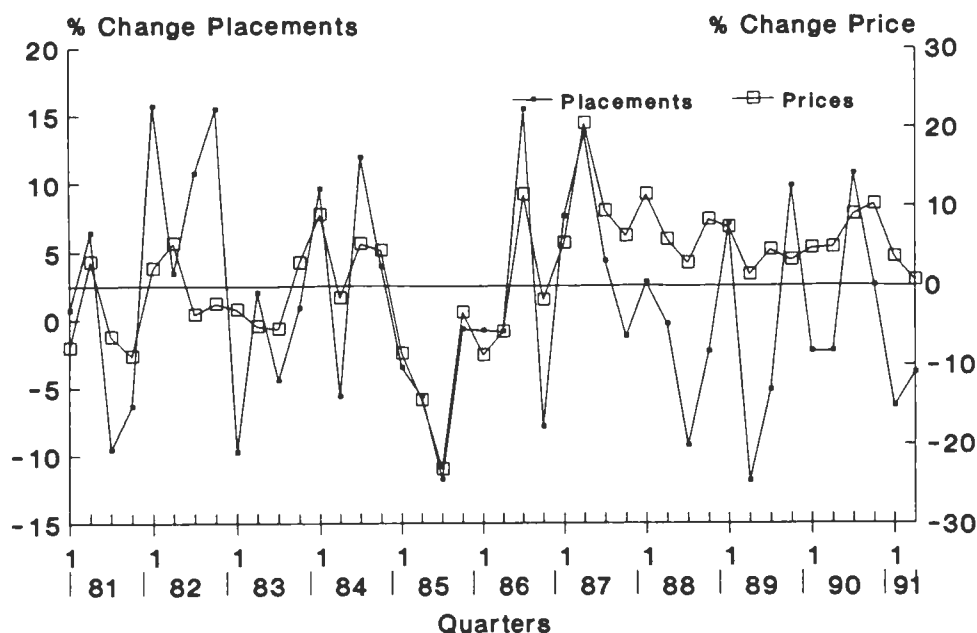


Figure 4. Year-to-Year Percentage Changes in Quarterly Cattle Placements and Fed Steer Prices, Omaha, 1980-91

This is the reason for the hypothesis that IRS policy does in fact block cattle feeders' participation in the price discovery process and thereby slow the corrective process. As noted above, whether this is the case is a researchable question. But observation of what happens in the marketplace tends to justify the hypothesis. In the summer months of 1991, with the feeding margins being offered by the markets varying in a -\$5.00 to -\$12.00 per hundredweight range, cattle feeders reduced placements and let pens remain empty. Placements in the 13 major feeding states during July, August, and September were 15 percent below the same period in 1990. Slowly, more reasonable feeding margins were restored. A February 1992 live cattle futures that traded as low as \$71 in early August of 1991 rallied to the \$76 level and higher in the fourth quarter as the monthly cattle on feed reports released by the USDA made publicly clear what the feedlots had already known--that the markets were in a state of imbalance.

There is reason, then, to hypothesize that IRS policies that block cattle feeders participation in the cattle futures markets reduces the efficiency and effectiveness of the markets and imposes a cost on everyone in the sector from the original producer to the final consumer. A solid base of research will be needed as discussion and dialogue dealing with the possible need for legislative action proceeds. There is a body of research on the broad topic of price discovery.⁶ The needs are in terms of looking specifically at the implications of IRS policy to the effectiveness of that process.

⁶An extensive annotated bibliography of available research on price discovery is offered by John Rowsell in Chapter 4 "Annotated Bibliography," Structural Changes in Livestock: Causes, Implications, Alternatives, Research Institute on Livestock Pricing, Agricultural Economics, Virginia Tech, Blacksburg, February 1990, pp. 166-178.

A Research Plan

The issue needs to be investigated in phases, with each successive phase based on what has already been learned. Any economic costs imposed by IRS policies that block cattle feeders from participating in the price discovery process will be present only if those policies do in fact become barriers to participation.

Phase 1 of the research plan thus involved a survey to determine whether cattle feeders' participation is influenced by IRS policy and whether cattle feeders would be likely to get involved in price discovery processes if IRS policy were changed. The results of that survey are reported in this bulletin. In general, the results confirm the hypothesis that fear of being treated as a speculator, with non-deductible losses, does in fact block and/or constrain cattle feeders' involvement in the price discovery process.

Phase 2 of the research plan involves an analysis of the behavior of various groups of traders. If given special status, because they are in the cash business, such that any losses in futures trades would be deductible, cattle feeders who choose to participate would enter the market in a different way than the historical hedge and hold positions. They would, for example, tend to sell nearby feeder cattle futures and/or buy distant live cattle futures when their market analysis indicates that the markets are in a state of imbalance and are showing large negative margins. But that is also the market positions that large speculators would be expected to take. What is the record in terms of what large speculators have brought to the price discovery process? Do they extend the imbalances in areas A or B of Figure 3 or do they start, as the imbalances worsen, to take positions to correct the situation? Research designed to identify and measure the impact of the large speculators will give a base for inferring the impact that cattle feeders would be expected to exert if they reacted to the imbalances, especially the negative imbalances, and got involved in the price discovery process. This research effort is underway in early 1992 and preliminary findings are reported at the end of this bulletin.

Phase 3 will be completed if Phase 2 indicates it is likely that cattle feeder participation would reduce the time duration and/or magnitude of market imbalances as represented by extreme feeding margins. Efforts to measure the nature and magnitude of any costs and benefits from cattle feeder participation and to assess how any such costs and benefits will be distributed to system participants will be required. Special attention will be paid to the economic implications for cattle producers (including cattle feeders) and to consumers in the form of changes in price and/or product availability.

The Survey Results⁷

After accounting for incorrect addresses and returns, approximately 150 survey forms were delivered to Kansas feedlots and to members of the Texas Cattle Feeders Association during the third quarter of 1991. A total of 53 were completed partially or totally and returned, with roughly a 50-50 split between responses from Texas and Kansas respectively.

Figure 5 shows the distribution of the responses by size of feedlot. The larger categories dominated the responses with 7, 19, and 22 from the 5,000-10,000, 10,000-20,000, and the greater than 20,000 head sizes respectively. Information on the size of the feedlots allows analysis to determine whether responses and attitudes differ by size of operation.

There was a large spread in response to a question on the variable costs of gain. At the extremes, the responses were from \$37 to \$67 per hundredweight with the average in the high \$40s. Figure 6 shows the distribution for the responses to the question on the variable costs of cattle finishing during August and September of 1991. The cost information allowed analysis to see whether responses varied between high-cost and low-cost feeders.

⁷A copy of the survey form is provided in the appendix.

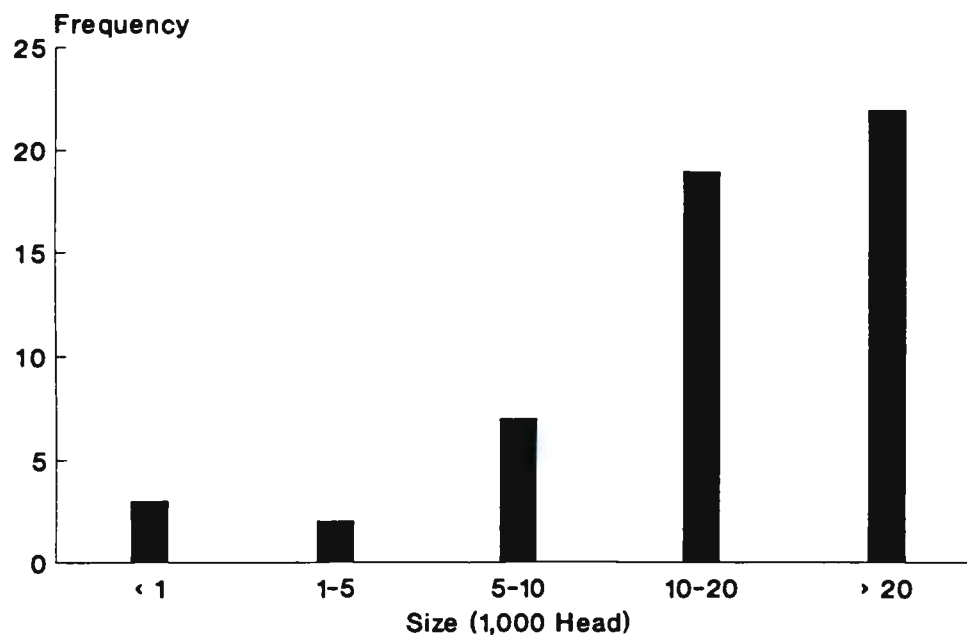


Figure 5. Size of Responding Feedlots in One-Time Feeding Capacity

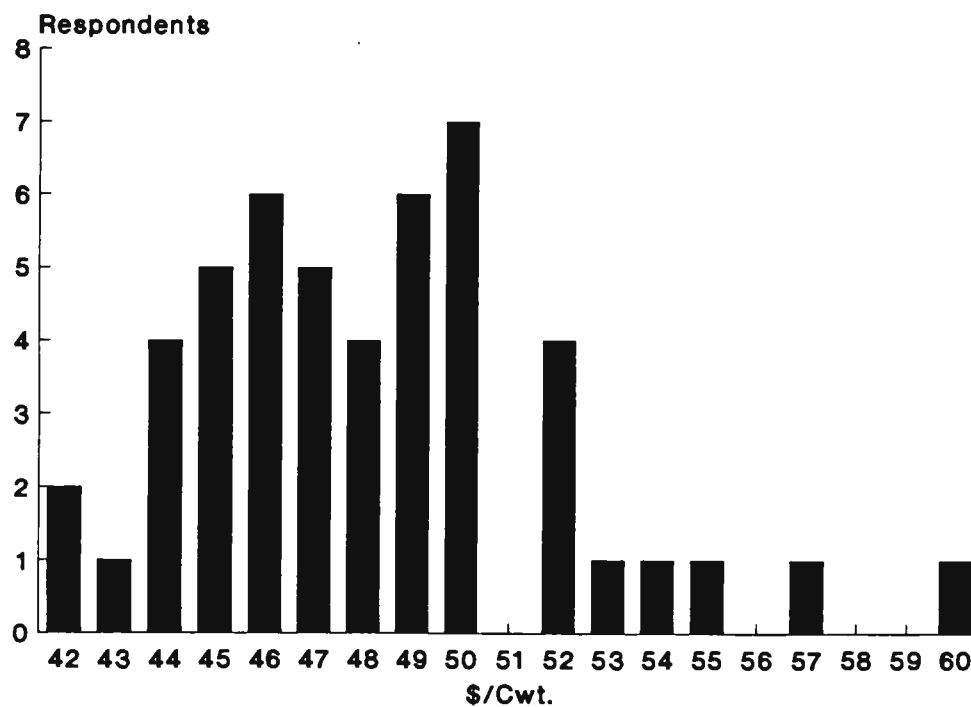


Figure 6. Distribution of Average (Variable) Costs of Gain for Cattle Finishing in August and September 1991

Figure 7 suggests that slightly fewer cattle being fed for customers are forward priced using the futures or options. There are fewer instances of large percentages (such as 50, 75, or 90 percent) being forward priced on custom fed cattle. Strategies and attitudes toward tax policy in futures might be a function of whether the cattle are owned or are being custom fed, and a question was included to allow that possibility to be analyzed.

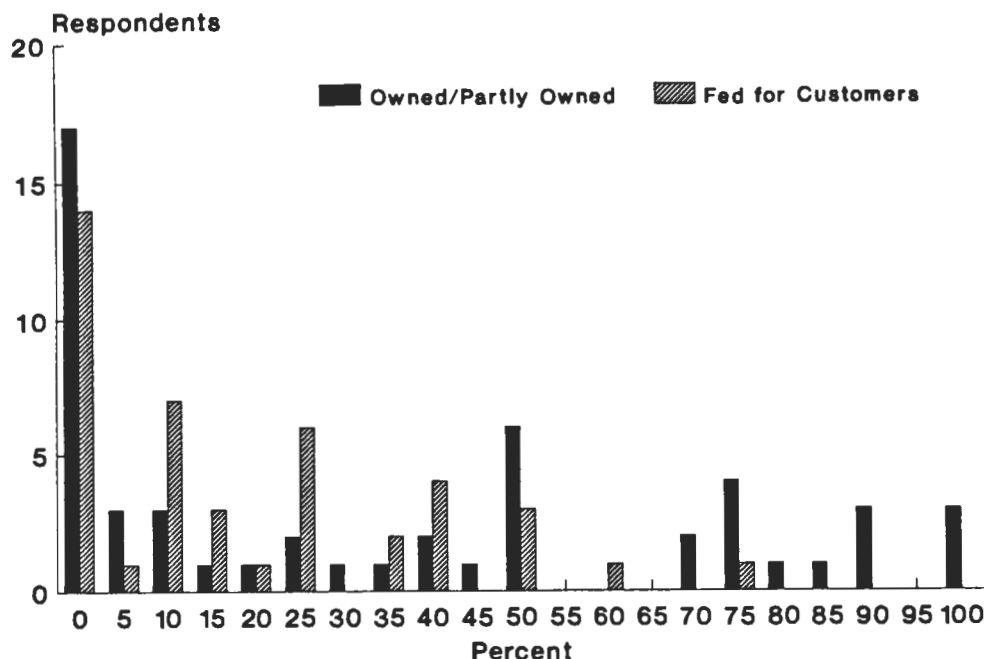


Figure 7. Percent of the Cattle Forward Priced Using Futures/Options Across the Past 5 Years by Ownership Status

Cattle feeders who have contracted cattle to packers, either by cash contracts or by basis contracts, might view IRS policies surrounding futures trades differently. Including a question about contracting allowed the possibility of different response patterns tied to experience with contracts to be examined. Figure 8 shows the percentage of cattle contracted to packers via either cash forward or basis contracts.

Figure 9 shows frequencies on how cattle feeders respond to market conditions with forward pricing opportunities that offer only negative margins. The specific question was as follows:

What do you tend to do when the futures contract you would hedge cattle in, after adjusting for basis, is only offering a price equal to the cost of the feeder cattle you can buy plus the expected cost of the feed, or even less? In other words, the feeding margin being offered is negative. If you mark more than one, rank them in importance with 1=most important, 2=next most important, etc.

- _____ *Buy and place the cattle because the situation will often get better.*
- _____ *Let the pens stay empty until the situation improves.*
- _____ *Reduce the number placed until the situation improves but try to continue operating.*
- _____ *Keep buying and operating and count on things to average out over time.*
- _____ *Other. Please explain.* _____

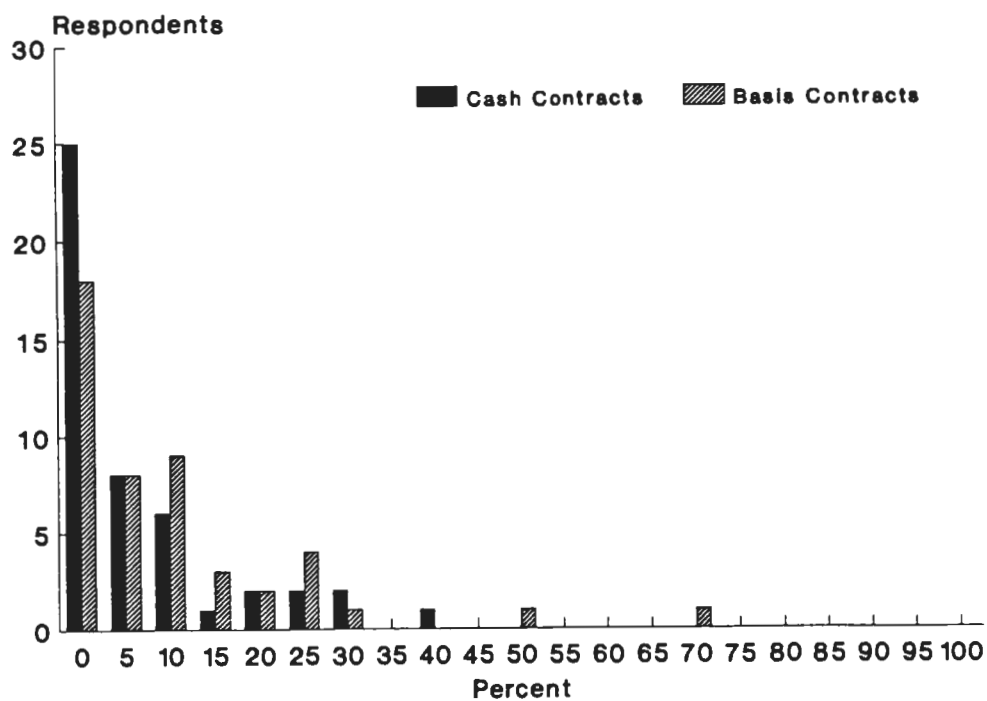


Figure 8. Percent of Cattle Contracted to Packers Via Cash Price Contracts or Basis Contracts Across Past 5 Years

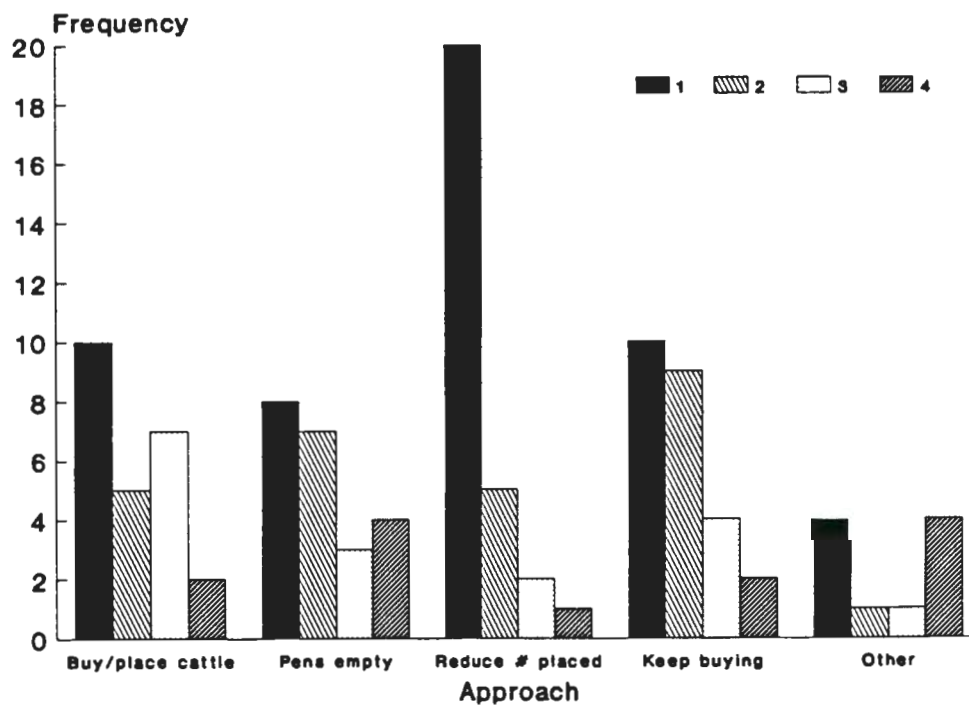


Figure 9. Responses to Market Conditions Which Offer Only Negative Feeding Margins by Rank of Importance (1=Most Important)

Twenty of the 52 feeders responding to this question ranked the alternative of reducing the number placed number 1 in importance. But other alternatives received significant attention. The two alternatives involving "continued placing of cattle in anticipation that conditions will get better" and "keep buying and operating and count on things to average out over time" were each ranked first in importance by 10 respondents.

Eight respondents indicated they would tend to leave the pens empty. Both this response and the response including the feedlots tend to reduce placements are consistent with the observed industry behavior. If feedlots are not allowed to get involved in the price discovery process by actions such as selling nearby feeder cattle futures and buying the distant live cattle futures, the only way the feedlots can ensure that the negative margins will get corrected is by reducing placements. Not buying feeder cattle allows cash feeder cattle prices to weaken relative to the live cattle futures, and the cash feeder cattle market and the nearby feeder cattle prices will tend to come down together. As the realization that placements are being reduced filters through the industry, the projections for fed cattle supplies 4-6 months into the future are reduced. The distant live cattle futures tend to move up as supply projections are reduced, and the margin being offered by the market tends to move from perhaps large negative numbers back toward zero or even to positive levels.

This phenomenon was very much in evidence in the third and fourth quarters of 1991. Placements in the 7-major feeding states were down 10 to 20 percent in June, July, August, and September relative to year earlier levels as the industry reacted to large losses on cattle coming out of the feedlots and to the prolonged existence of negative feeding margins being offered by the futures markets. Based on USDA estimates of breakeven prices for cattle placed in July, the midpoint of the prices offered by the appropriate live cattle futures contract was offering a margin of -\$8.00 per hundredweight for July placements (assuming a zero cash-futures basis). This is the source of the concern that was introduced earlier. The self correction process can be slow when cattle feeders are not involved in the price discovery process and must restrict their futures trading activities to those involving hedging. When the margins being offered are negative and short hedges are not feasible, the feedlots are out of the futures markets, are functioning as observers, and are involved in the price discovery process only indirectly as they adjust placements and wait for the markets to register the impact of their actions.

It bears repeating that the hypothesis underlying this discussion suggests the correction process would be quicker and more efficient if the cattle feeder were taking positions directly in the futures, positions that reflected their awareness of the market imbalances. When they cannot or do not take such positions, speculators have to decipher what is happening in terms of supply response and take market positions to start the correction process. That process could be delayed and slow as the speculator waits for risk/reward guidelines to be met and seeks to figure out what the nature and magnitude of the supply response in the feedlot complex will be.

There was a statistically significant negative correlation ($r = -.34$, $P = .08$)⁸ between size of the feedlot and the response involving reducing placements and trying to continue operating. Further examination of the response pattern indicates that the larger feedlots are more nearly inclined to keep the level of operation constant and rely on the situation improving and/or averaging out over time. There was a positive correlation ($r = .35$, $P = .08$) between the tendency to forward price cattle in futures or options and the tendency to keep buying and count on things to average out over time. A negative correlation ($r = -.40$,

⁸In reporting results of a statistical correlation analysis, r = the Pearson simple correlation coefficient and P = the statistical probability level. A non-zero level of r means the events tend to be associated, with the level of association greater as the absolute size of the correlation coefficient increases. The statistical probability P can be interpreted as a measure of how likely the observed correlation might just be due to chance. The smaller the value of P , the more important the relationship is in a statistical context and the less likely it is just due to chance.

$P = .09$) exists between the tendency toward being a high cost producer and the option of letting the pens stay empty. That is, the higher the costs of the feedlot, the less likely they were to opt for a strategy that allowed the pens to be empty when the market is offering only negative margins. There was a very strong positive correlation ($r = .52$, $P = .02$) between the tendency to use basis contracts with packers and the inclination to let the pens stay empty.

The most significant finding is that the reactions of the feedlots tend to confirm the hypothesized pattern. Of 52 responses, 28 ranked reducing placements or halting placements first in importance. Changing the placements does appear to be the cattle feeding sector's way of correcting a market imbalance involving negative margins.

Figure 10 records the distribution of the responses in terms of the feeders' belief as to the percentage of days the futures market offers forward pricing opportunities sufficient to cover variable and total costs of feeding respectively. Most respondents indicated 10 percent or fewer of the days offer prices sufficient to cover total costs. There was a modest positive correlation ($r = .37$, $p = .11$) between the tendency to keep operating and rely on things to average out over time and answers involving larger percentages of the days on which total feeding costs are covered. This relationship is consistent. There is a tendency for the lower cost operators, who would see more frequent positive feeding margins being offered, to rely on things to average out over time.

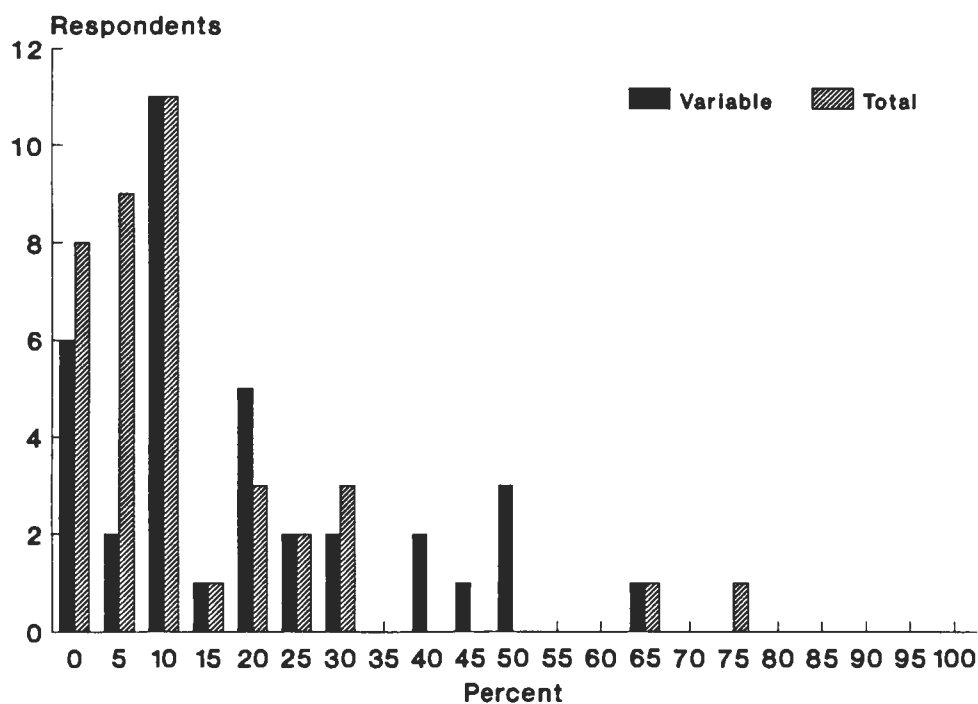


Figure 10. Percent of Days Forward Pricing Opportunities Would Cover Variable, Total Costs of Feeding

Figure 11 provides the responses to the question:

When you buy and go long cash feeder cattle and sell or go short distant live cattle futures, you are forward pricing your cash cattle feeding operation. Presumably, you do this when the prices being offered are attractive or at least cover your variable costs. If the prices being offered are

not good enough to justify feeding cattle, you could sell or go short the nearby feeder cattle futures and buy or go long the distant live cattle futures with the expectation that the market will restore a more attractive feeder cattle to fed cattle relationship. This might earn you profits and help protect your feedlot investment when you feel you cannot feed cattle. If you did this (sell feeder cattle futures and/or buy distant live cattle futures) which of the following are you doing?

☐ *Hedging in futures*
☐ *Speculating in futures*
☐ *Don't know*
☐ *Comment:* _____

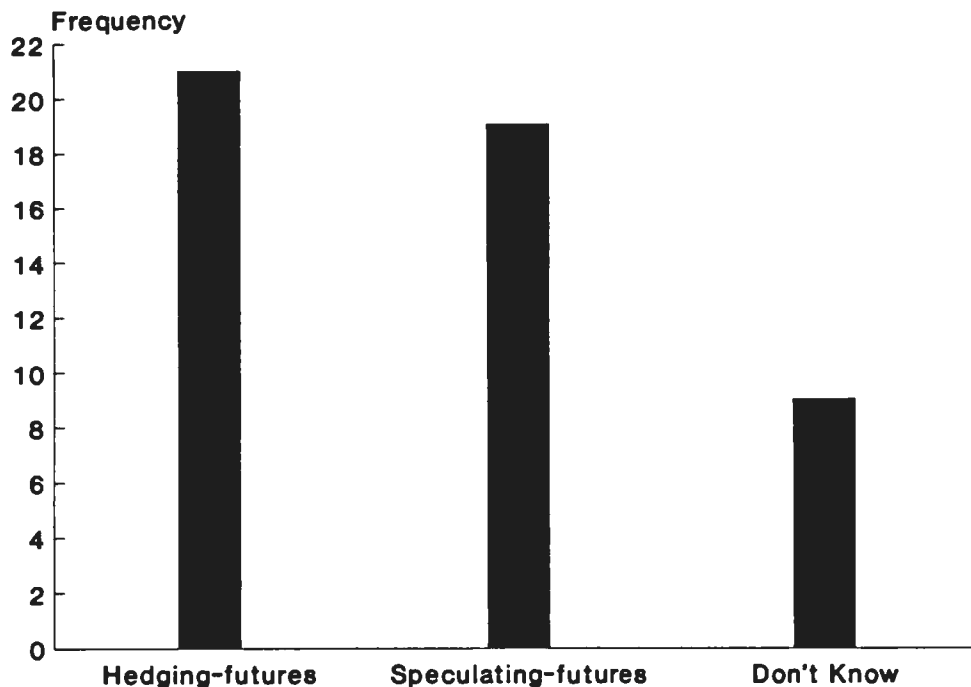


Figure 11. Frequency of Answers on Whether Selling Nearby Feeder Cattle Futures and Buying Distant Live Cattle Futures is Hedging or Speculating

It is important to know what cattle feeders who pursue this policy believe they are doing. Under current interpretation of the tax code and court rulings, the IRS would see this type of market action as speculation.

The correlation analyses of response patterns indicated that lower cost operators were more likely to interpret this action as hedging. There was also a very strong positive correlation for feedlots who tend to forward price their own cattle in the futures ($r = .44$, $P = .002$) or forward price cattle they feed for customers ($r = .33$, $P = .04$) to see these actions as hedging.

The tendency to see such actions as speculating was highly correlated ($r = .55$, $P = .01$) with the earlier response by feeders who react by buying and placing cattle with the belief the situation will get better. This result would be expected. Some feedlots buy, place cattle, and do not use the futures market because they are "always buying and selling in the same markets". The implied lack of familiarity with use of futures and options by those feeders would be consistent with a tendency to see any action in futures as speculation.

There were no significant statistical correlations between responses to this question and size of operation. There was a negative correlation ($r = -.28$, $P = .07$) between higher feeding costs and the tendency to see these actions in the futures markets as hedging. Higher cost operators tended not to select the "hedging" alternative.

A surprising 21 of 49 respondents to this question see actions involving selling nearby feeder cattle futures and/or buying distant live cattle futures as hedging. Under current IRS policy, it will almost certainly be ruled as speculative. Many of those who feel this is hedging are users of the futures markets as hedgers. Among comments accompanying their answers were some who suggested that any actions in futures designed to promote and/or protect a legitimate interest in feedlot activity in the cash market should be seen as "hedging" and treated accordingly by the IRS.

The responses, Figure 12, on which group would be effective in correcting imbalances provided some surprises. The question and the alternatives offered were as follows:

Assume the nearby feeder cattle futures or cash feeder cattle are too high relative to distant live cattle futures to hedge in a profit. Of the following groups of people, who is most knowledgeable and could be the most effective in recognizing the imbalance and helping to restore a more acceptable relationship between the cash feeder cattle or nearby feeder cattle futures and the distant live cattle futures? Use 1 for the best group, 2 for the second, and rank any you feel could be effective.

- _____ Large futures speculators
- _____ Small futures speculators
- _____ Packers
- _____ Cattle feeders
- _____ Other. Please Explain. _____

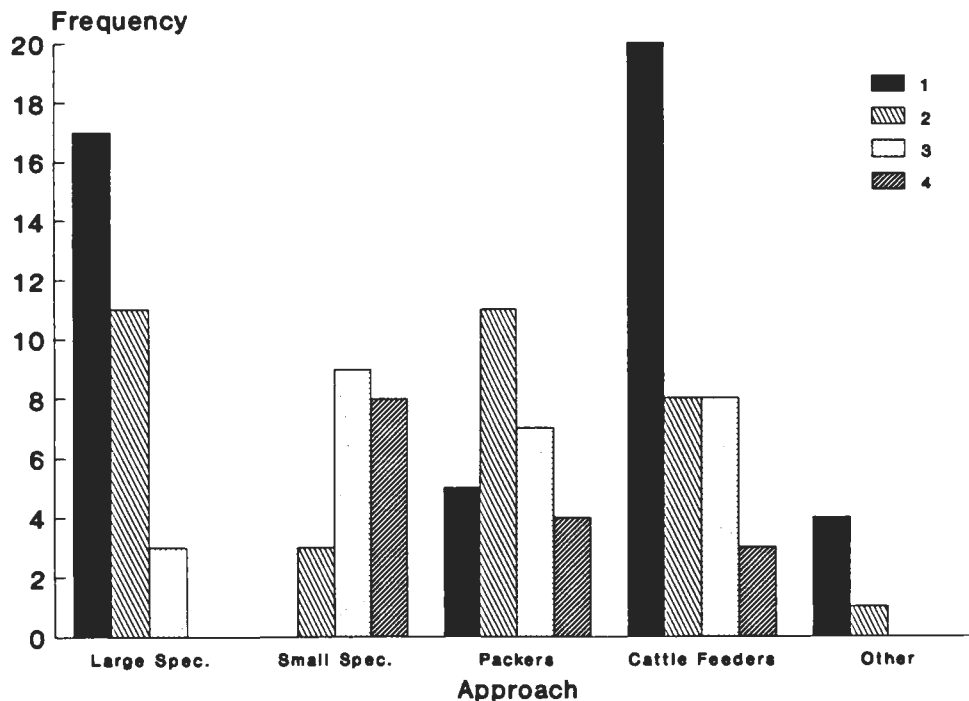


Figure 12. Rankings of Which Trader Groups Would be Effective in Recognizing and Correcting Imbalances in the Markets

There were several motivations behind this question. Research by Rowsell⁹ provides limited evidence that the large speculators are the group that have, historically, taken positions that "turn" the futures market during sharp price dips in the futures markets and start the process of restoring more reasonable margins. Seventeen of the respondents ranked the large speculators first in importance. Given that the attitude in some 10 of the returned forms toward the futures markets was decidedly negative (comments such as "would be better with no futures markets"), this result was surprising. It suggests a "split" in the respondents into two broad groups. One group tends to be anti-futures. The other group tends to see the futures and options as a potentially useful risk management tool, they apparently understand the futures market is a major force in price discovery for cattle in all markets across the U.S., and they understand speculators have a legitimate role in that price discovery process.

Twenty of the respondents ranked feedlots first. Underlying this entire research thrust is the assumption that (1) feedlots are well informed on what the margins being offered should be, and (2) the effectiveness of the futures markets as price discovery mechanisms are constrained by IRS policies which block feedlots' participation and thereby block the market's access to the valuable and proprietary information on costs and returns that the feedlots possess. The number 1 ranking for feedlots by 20 respondents tends to support this working assumption.

There were no statistically significant correlations between the responses on who would be most effective and size of feedlot, feeding costs, tendency to use the futures to hedge, reactions to negative margins, or answers on how often the futures market offers prices exceeding costs. There was a negative correlation ($r = -.36$, $P = .03$) between responses indicating feedlots would be effective and the tendency to see selling feeder cattle/buying live cattle futures as hedging. This negative correlation suggests that those who rank the potential of feedlots high tend to understand such actions would not be viewed as hedging.

The response pattern to this question is revealing. It tends to support the implicit hypothesis that feedlot operators, if allowed to trade the markets for price discovery purposes, might be very productive market participants. It is clear that a significant number of the respondents believe participation by cattle feeders would improve performance of the futures markets.

Figure 13 suggests the response to negative margins is distributed about 2 to 1 toward "no action" in futures. The complete question was:

When feeder cattle are so high relative to the distant live cattle futures and relative to your expectations about future prices for fed cattle that you are reluctant to buy and place the feeders, have you ever not placed the cattle and both sold nearby feeder cattle futures and bought the distant live cattle futures or either sold nearby feeder cattle futures or bought distant live cattle futures? Yes No

Sixteen of the 49 respondents have, when margins offered by the markets were bad, taken action by selling nearby feeder cattle futures and/or buying distant live cattle futures. Comments generally indicated these actions were taken to protect the investment in feedlot facilities and/or to try to profit from the expected correction of the market imbalance since feeding cattle did not appear to make economic sense.

⁹Rowsell, John B. Composition of Traders in Live Cattle Futures Contracts: Behavior and Implications to Price Discovery, Ph.D. Dissertation, Virginia Tech, 1991.

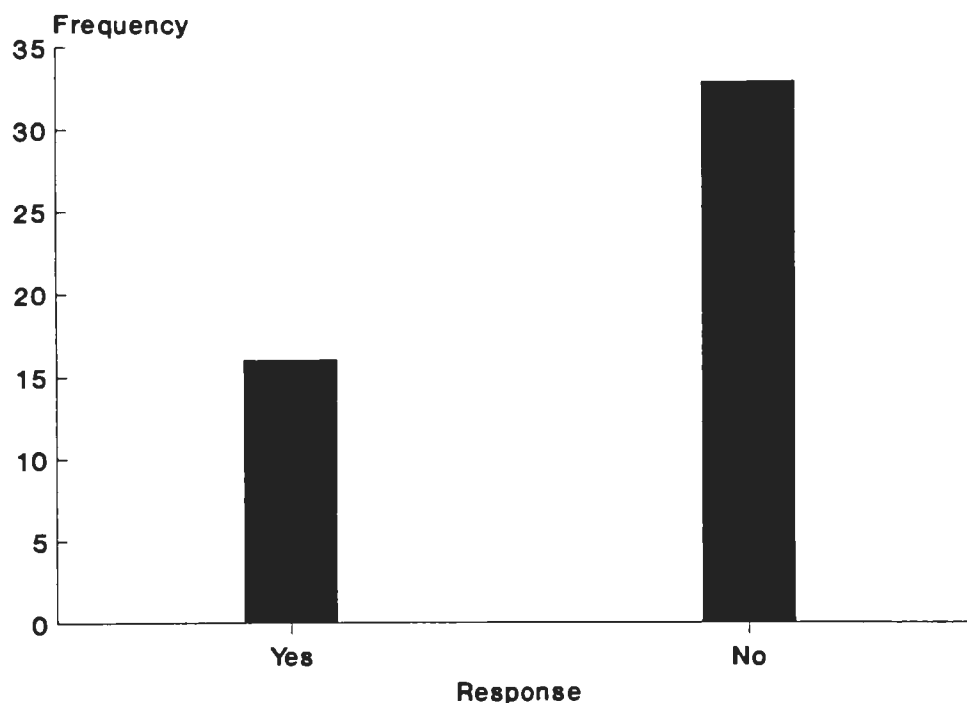


Figure 13. Responses to Whether Selling Feeder Cattle Futures/Buying Live Cattle Futures has been Pursued When Feeding Margins are Negative

The responses did not vary by size, but were related to feeding costs. Interestingly, the higher cost feeders were inclined to take such actions in the futures markets ($r = .24$, $P = .07$). This result suggests that the higher cost feedlots, the operations that would be most likely to see buying and feeding as not being profitable, show a greater tendency to take the "reverse" positions in the futures markets.

The tendency to answer "yes" was negatively correlated ($r = -.26$, $P = .08$) with the tendency to contract via cash price contracts with packers. It is perhaps the case that these feedlots look for cash contracts that offer a price that at least covers variable costs and tend to keep the pens full in that way. They do not then need to protect their position because pens do not tend to be empty. The tendency to sell feeder cattle futures/buy live cattle futures as a strategy was negatively correlated ($r = -.45$, $P = .04$) with the reaction of "let the pens stay empty--" discussed earlier. This result appears to be inconsistent. A positive correlation would have been the expected result, suggesting a willingness to allow the pens to be empty and taking actions in the futures to help correct the market imbalance.

There was a strong negative correlation ($r = -.40$, $P = .01$) between "yes" responses and the tendency to see these actions as hedging. Those feedlots who have pursued the "reverse" strategies that do not involve placing cattle are not inclined to think that they are hedging. They understand they are speculating given current IRS policy.

There is, then, some existing involvement by cattle feeders as "speculators" in the current markets. Whether they are trying to correct market imbalances so that they can get back to feeding cattle or whether they are trying to earn profits based on the projected market correction is not known. It appears that the feedlot managers who understand that what they are doing would be seen as speculative in the current policy environment are the ones who pursue speculative strategies involving selling feeder cattle futures and/or buying live cattle futures.

Figure 14 shows the responses to two related questions of how often feedlots who have been involved in selling feeder cattle/buying live cattle futures do so and the size of those positions as a percent of the empty pens. Obviously, the feedlots do not take these actions often, and when they get involved, the positions taken tend to be small compared to the number of pens that are empty.

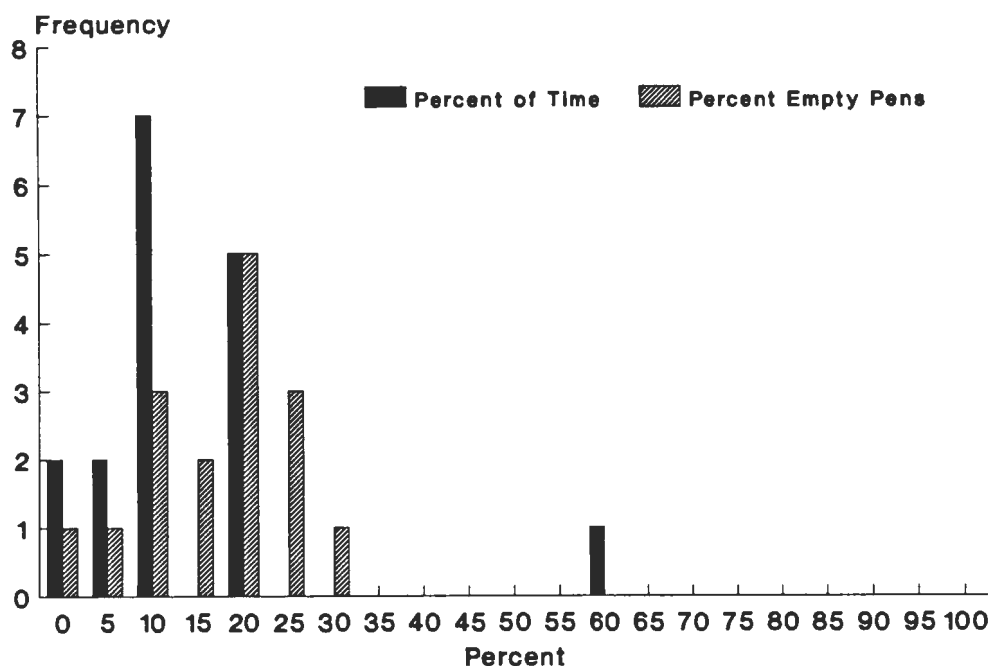


Figure 14. Percent of the Time Feedlots Who are Inclined to Sell Feeder Cattle/Buy Live Cattle Futures and Size of the Position as percent of Pens that are Empty

The only statistically significant correlation was a positive correlation ($r = .55$, $P = .08$) between the percentage of times these practices are employed and a tendency to rate large speculators as effective in correcting market imbalances. This result is reasonable. Feedlot managers who understand the futures markets and the role that large speculators play in price discovery would be less likely to question the validity of the markets as price discovery mechanisms and would, therefore, be more likely to get involved in the price discovery process.

The responses to the question on why they do not get involved in selling feeder cattle/buying live cattle futures, Figure 15, were revealing. The question and alternatives were:

Rank (with 1=most important) any of the following that constrains or limits your selling of the nearby feeder cattle futures and/or buying of the distant live cattle futures, as discussed above, as a strategy to protect your investment or interest in cattle feeding operations.

- _____ *Lack of available money for futures margins*
- _____ *Banker or lender disapproves*
- _____ *Fear IRS will call it speculating if I am audited and losses would not be deductible*
- _____ *Have no active futures account*
- _____ *Other. Please Explain.* _____

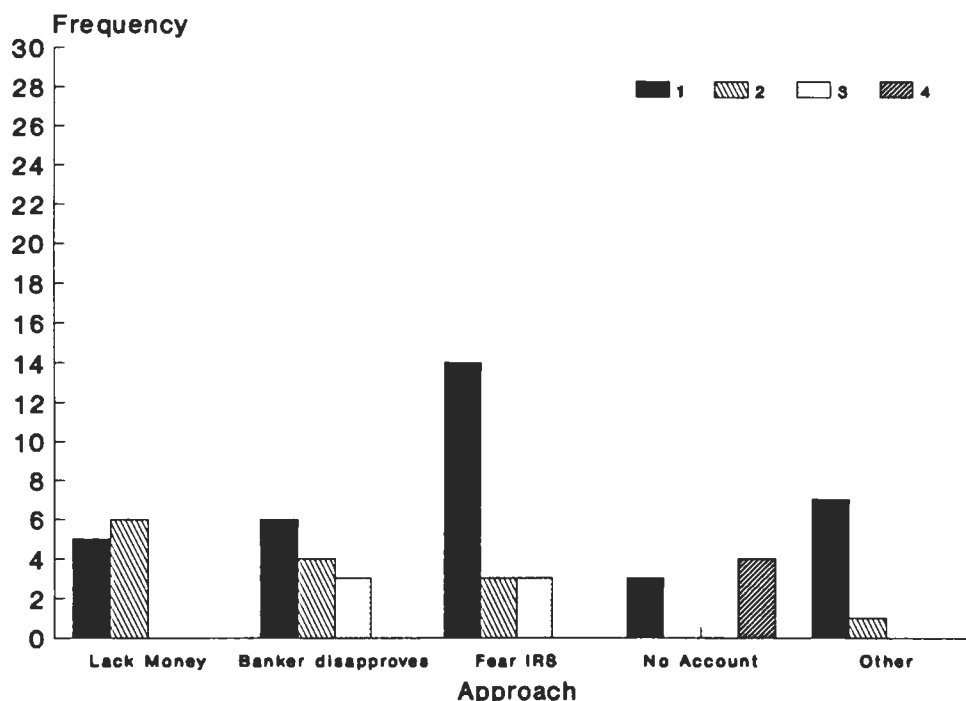


Figure 15. Ranking of the Importance of the Reasons Feedlots are not Inclined to Sell Feeder Cattle/Buy Live Cattle Futures

Technically, this question was to be answered only by those who had earlier said that they have been involved in selling feeder cattle/buying live cattle, but most of the respondents answered the question. Thus, the answers must be interpreted in terms of both (1) what constrains those who have followed such practices, and (2) what stops those who have not followed such practices.

More respondents ranked the alternative involving "fear IRS will call it speculating..." than any other alternative and the mean ranking on the alternative was the lowest (where a low ranking indicates more importance). Implicit in this entire area of analysis is the assumption that fear of being treated as a speculator by IRS and being denied deductions for losses discourages feedlots from participating in the price discovery process to correct existing imbalances and/or prevent imbalances from occurring. The results to this question clearly support the validity of that assumption.

There were no significant correlations between these answers and feedlot size, feeding cost, or other areas already discussed. It is apparently the case that, across the board, there is concern about IRS reactions, banker reactions, and the ever-present concern about money to finance such trading programs.

The responses shown in Figure 16 must also be properly interpreted. Technically, this question was to be answered only by those who earlier had said "no" to the question as to whether they had ever sold feeder cattle/bought live cattle futures. But the responses include other feedlots as well. The question and the alternatives:

If your answer to number (10) is "no," rank (with 1=most important) any of the following which are reasons you do not get involved in the futures markets in this way.

_____ *Do not feel cattle feeders should get involved in trading the feeder and/or live cattle futures in any way except a strictly textbook type hedge*

- _____ Do not have the money for futures margins
 _____ Bank or lender would disapprove of such moves
 _____ Afraid IRS would see such trades as speculative and deny deductions on any losses
 _____ Have no active futures account
 _____ Other. Please Explain. _____

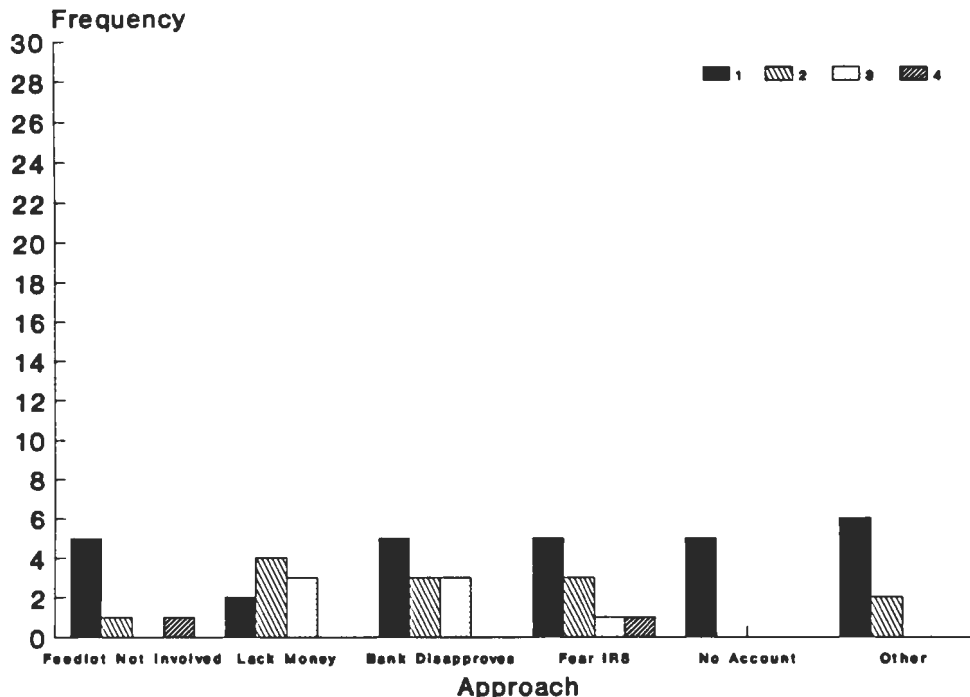


Figure 16. Ranking of the Importance of the Reasons Feedlots are not Inclined to Sell Feeder Cattle/Buy Live cattle Futures

Again, concern about reactions by IRS and by the bank is present. There is also a sentiment here that feedlots simply should not get involved in this type of market activity. Most responses to the first alternative which indicated a belief that feedlots should not get involved carried a "1" ranking.

The response patterns were generally the same across all feedlot characteristics and tendencies. The only exception was a negative correlations ($r = -.55$, $p = .08$) between size of feedlot and concern about the banker disapproving. It appears the larger feedlots are less inclined to be constrained or stopped in selling feeder cattle/buying live cattle futures by concern over their banker's reactions.

Specific questions were asked with the respondents being asked to assume that any losses from selling feeder cattle/buying live cattle futures would be treated as speculative and therefore not deductible. Under this assumption, the overall question and first sub-question was:

Currently, IRS policy and the courts would almost certainly treat any losses by cattle feeders from selling nearby feeder cattle futures and/or buying distant live cattle futures as speculative activity and would therefore deny deductions for any losses. Assume here any such losses would be treated as speculative and not deductible and answer each question.

- (a) *Does concern about such a policy by IRS stop you from participating in the futures market to help the process of discovering prices for feeder cattle and fed cattle and to help correct the imbalances that occur, (ie, stop you from selling nearby feeder cattle futures and/or buying distant live cattle futures)?*

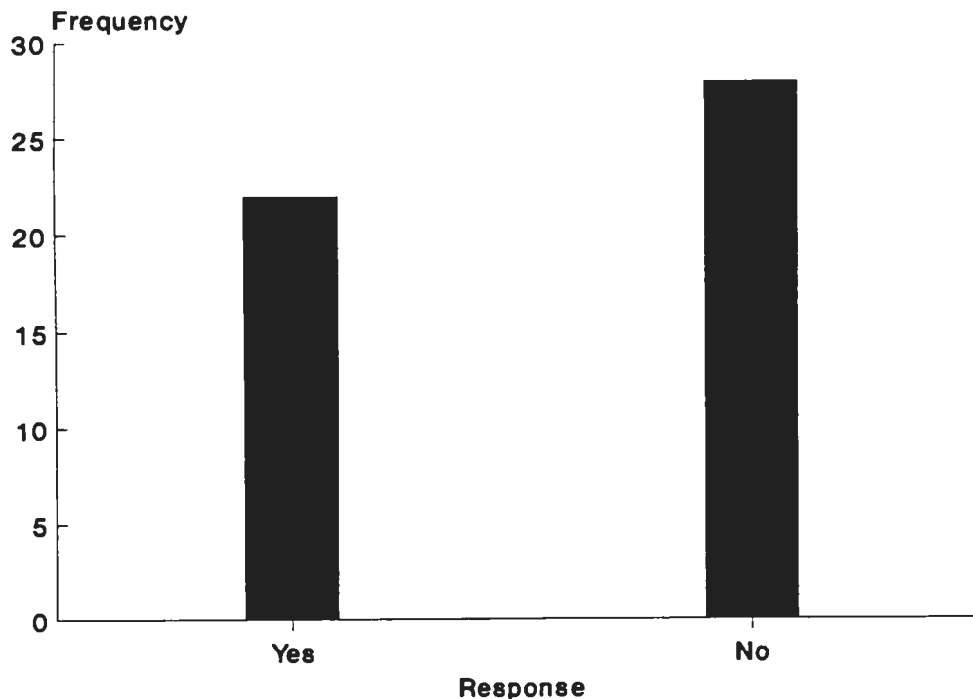


Figure 17. Responses to Specific Yes-No Question on Whether Concern About IRS Policies Stops the Feedlot from Selling Feeder Cattle/Buying Live Cattle Futures when Feeding Margins are Negative

Nearly one-half the responses in Figure 17 were "yes", the IRS policy does block any such actions in the markets. The "no" responses exceeded one-half. This finding is consistent with analyses by the Commodity Futures Trading Commission that indicates some cattle feeders do hold positions that would be ruled as speculative. This set of results again confirms the implicit assumption that IRS policies block at least a significant number of feedlots from injecting their proprietary knowledge on costs, margins, etc. into the futures markets by blocking their participation in the price discovery process. There is no information on how large the speculative positions taken by cattle feeders might be and therefore no basis for inferring what, if any, impact they are already having on the price discovery process.

There was a statistically significant negative correlation between the tendency to answer "no" to this question and the tendency to be involved in forward pricing cattle in futures and/or the tendency to contract with packers. For example, the correlation between the earlier question on percent of cattle hedged and "no" answers was negative and very significant ($r = -.36$, $p = .01$). Thus, those feedlots who have been involved in using the futures markets and/or cash or basis contracts would be more inclined to say "yes, the IRS policies do stop me". There was a negative correlation between "no" answers and the inclination to call such activities hedging in response to the earlier question ($r = -.28$, $p = .05$). The feedlots who say "no, concerns about IRS do not stop me," understand it would be speculating and not hedging.

As would be expected, there were strong correlations between answers to this question and earlier answers concerning whether the feedlots actually use such programs. For example, the tendency to say "no, IRS policy does not stop me" was highly correlated with the earlier questions on how much of such activity is present, the percent of empty pens represented, etc. These results are totally expected and are not very revealing.

It appears that the current IRS policy, a policy which would tend to see selling feeder cattle futures/buying live cattle futures as speculation, does block some feedlot participation in the futures markets. This finding tends to confirm the hypothesis that IRS policy is a factor in feedlot participation in the price discovery process and the finding tends to legitimize research to look further at the economic implications of current IRS policies.

Part (b) of the general question that asks feedlots to assume all actions to sell feeder cattle/buy live cattle futures would be treated as speculative with any losses not deductible. The question was:

- (b) *If IRS treatment were changed, would you be more active in the markets to restore more normal relationships between feeder cattle and live cattle futures?*

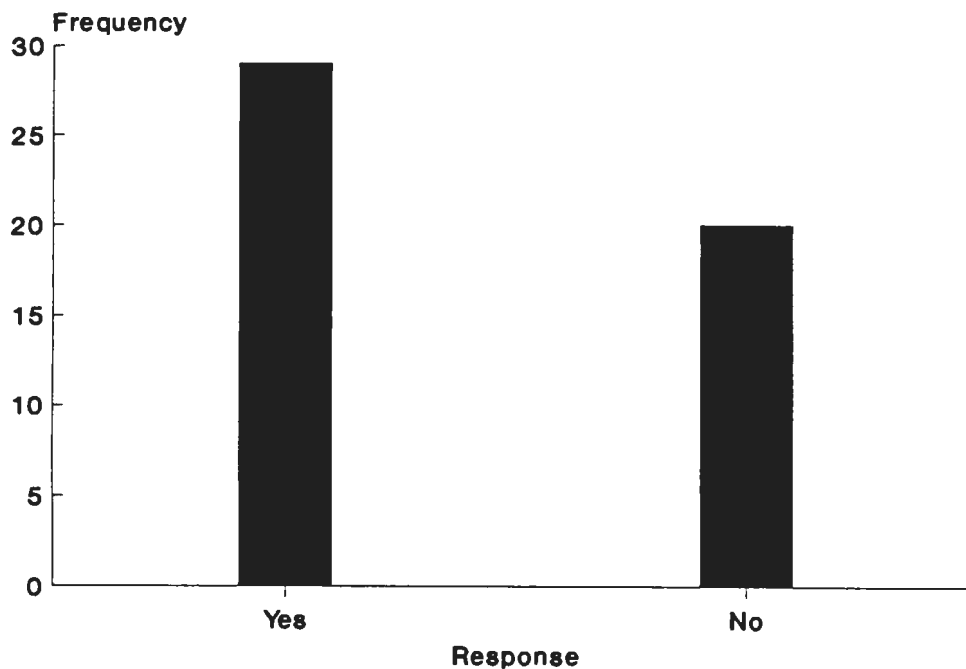


Figure 18. Response Patterns Indicating Whether Feedlots Would be More active in Helping to Correct Market Imbalances if IRS Policies were Changed

A majority of the respondents indicated they would in fact be more active. These responses again confirm the implicit assumption that current IRS policy is blocking participation of feedlots in the price discovery process.

There was a negative correlation between the tendency to use futures markets to hedge cattle and the tendency to answer "no". For example, the correlation between "no" answers and the tendency to hedge cattle fed for customers was quite large in absolute value and highly significant in a statistical context ($r = -.31$, $p = .04$). Feedlots who have used the markets for hedging would, therefore, be more inclined to get involved in the price discovery process if allowed to do so and they tended to answer "yes" to more participation.

There was a significant negative correlation ($r = -.28$, $p = .05$) between the tendency to say "no" to more participation and the earlier response that selling feeder cattle/buying live cattle futures was hedging. Written comments again indicate that these feedlots tend to argue that anything in the futures market that

is meeting a need of the cash business firm should be seen as "hedging" or at least treated so that any losses are deductible as a business cost. These feedlots tend to say that selling nearby feeder cattle futures and/or buying distant live cattle futures makes more economic sense than insisting on buying and placing feeder cattle as a cash market speculator when any feeding margins being offered are large negative values.

Consistent with the previous discussion, there were strong correlations between responses to this question and earlier responses on whether and how much of the selling feeder cattle/buying live cattle futures has been done historically. These results are expected, and contribute little additional information. A large and negative correlation ($r = -.53$, $p = .06$) between the tendency to answer "no, I would not participate more" and the earlier responses indicating banks would disapprove of such programs is informative. Some feedlots are apparently saying "no" because of concern over their bankers' reactions and attitudes.

It appears, again, that IRS policies constrain or prevent feedlot involvement in price discovery processes. There are a number of feedlots who would be more actively involved in the futures markets if current IRS policy was not in place.

Continuing to assume that IRS would treat such programs as speculative, Figure 19 indicates that a large majority of respondents believe cattle feeder involvement would improve the situation. The specific sub-part question was:

- (c) *Do you believe that if cattle feeders were allowed, even encouraged, to get involved in the markets by selling nearby feeder cattle futures and/or buying distant live cattle futures when adequate feeding margins are not being offered that the markets would change and there would be fewer long periods when the feeding margins being offered are negative?*

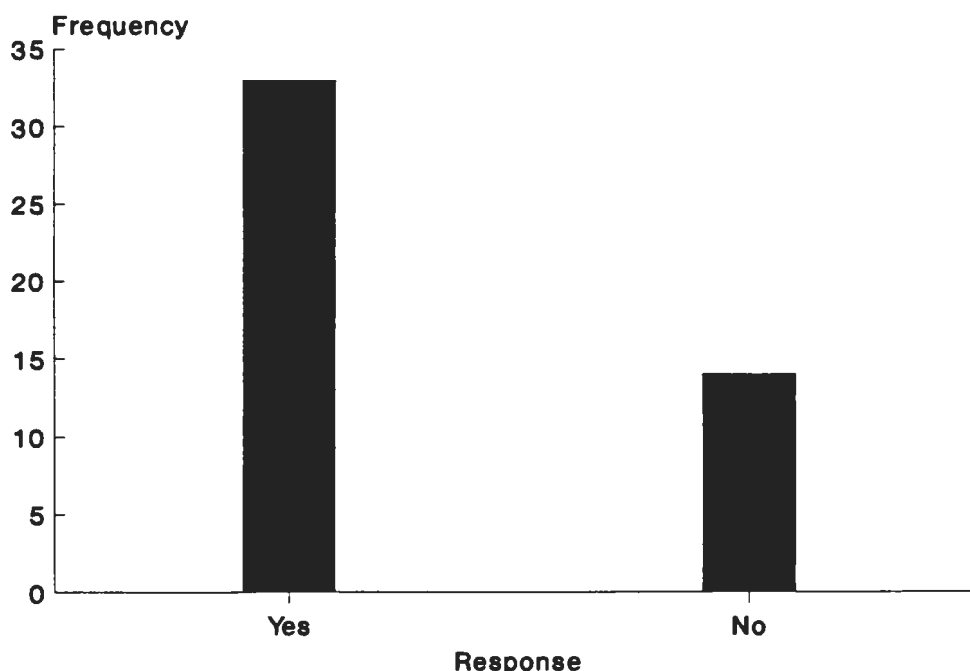


Figure 19. Responses as to Whether Feedlots Involvement in Price Discovery Would Reduce Frequency, Longevity of Negative Feeding Margins Being Offered

This response pattern is important. It continues the line of reasoning that has developed across the survey responses: cattle feeders are well informed, would bring information and perspective to the price discovery process and would, if allowed or encouraged to do so, improve the effectiveness of the live cattle and feeder cattle futures markets. The responses were 2:1 in favor of "yes".

The statistical correlations follow a now familiar pattern. Feedlots who have been involved in using the futures markets to hedge cattle tend to say "yes, feeder cattle participation would improve the markets". Those feedlots who have been active in selling feeder cattle/buying live cattle in the past tended, predictably, to say "yes".

Responses to parts (a), (b), and (c) of the question that assumes IRS would treat selling feeder cattle/buying live cattle futures as speculation are especially important. There is clearly a significant portion of the responding feedlots that feels IRS policy does in fact block cattle feeder participation in the markets and that the blocking of that participation is detrimental to the performance of the markets.

Figure 20 shows responses to the question:

How many futures contracts do you now trade in an average week that would fall under the heading of reacting to negative margins by selling nearby feeder cattle and/or buying distant live cattle futures?

_____ Live cattle contracts _____ Feeder cattle contracts

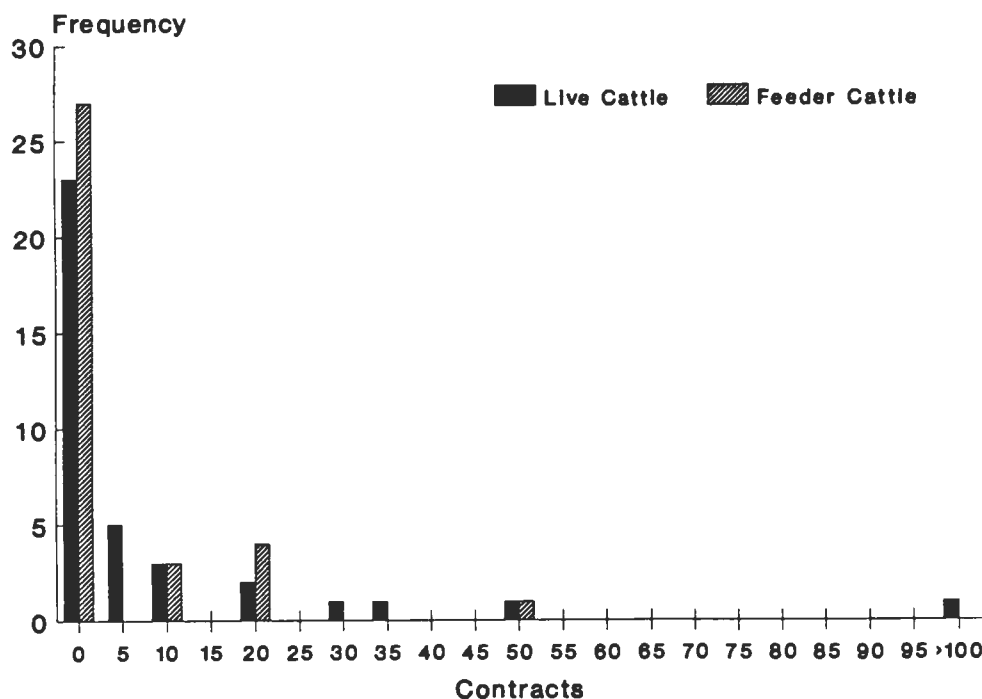


Figure 20. Number Contracts Now Being Traded by Selling Feeder Cattle Futures and/or Buying Distant Live Cattle Futures

Actual involvement is and has been quite small. One feedlot indicated it has traded an average of 50 contracts per week in live cattle and feeder cattle futures in response to negative margins. One feedlot has traded an average of over 100 contracts per week in live cattle futures. Still, the numbers and the frequencies are quite small. With 10,000 to 20,000 contracts of live cattle futures traded on most trading days, past involvement by feedlots has probably had only marginal influence on the price discovery process.

The number of live cattle futures contracts shows a positive correlation ($r = .28$, $p = .09$) to the earlier discussed tendency to use futures markets to hedge. There is, as documented earlier, a tendency for feedlots that hedge when acceptable margins are offered to be the feedlots that would get involved with a "reverse hedge" when the margins being offered are negative.

There were positive correlations as well with feedlots that earlier favored the responses "keep operating and count on things to average out over time". For live cattle futures ($r = .42$, $p = .08$) and feeder cattle futures ($r = .44$, $p = .05$), the correlations are relatively large and are statistically significant. Numbers traded are positively correlated, as expected, with earlier questions on whether they do in fact get involved in a program of selling nearby feeder cattle futures and/or buying distant live cattle futures.

The responses to the question involving weekly average position possibilities during 1991 are reported in Figure 21. The specific question was:

If you were encouraged to get involved with no concern about having non-deductible losses, how many contracts might you trade in an average week given the margins you have seen offered during 1991 by selling nearby feeder cattle futures and/or buying distant live cattle futures?

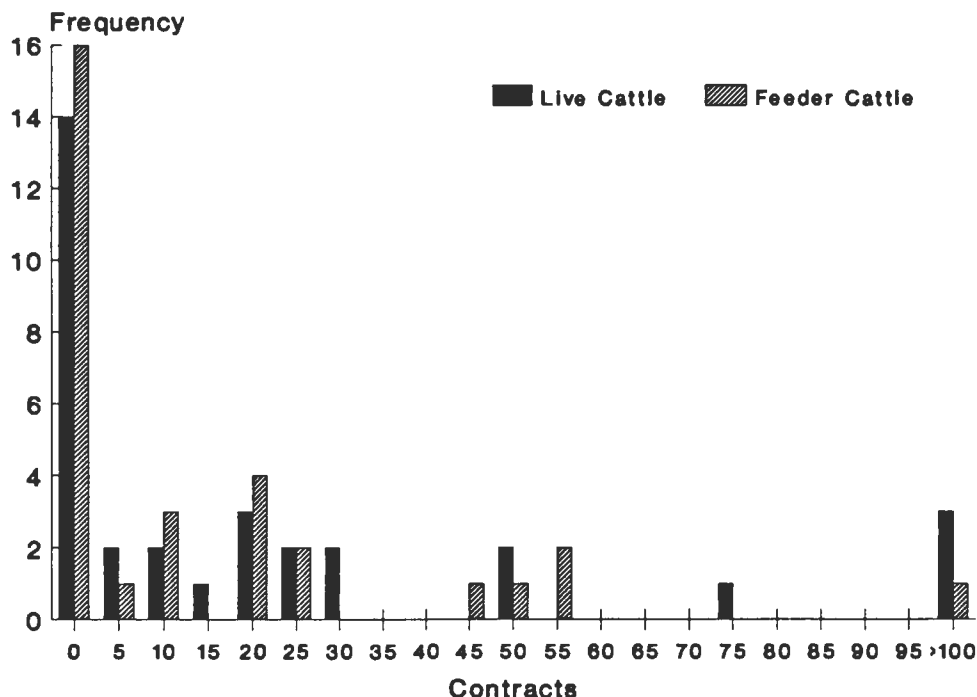


Figure 21. Number Contracts That Would Have Been Traded in 1991 Given the Prevailing Margins

The mean numbers were slightly above 22 live cattle contracts and above 16 feeder cattle contracts. These numbers are higher than the actual traded levels reported in the previous question, but are still very small. They should not be taken in an extremely literal manner. It was and is a hypothetical question. The fact that the numbers are larger than the actual traded levels is perhaps the significant finding. It is indicative of some, largely unmeasured at this point, willingness on the part of cattle feeders to get involved in the price discovery process if there were no concern about non-deductible losses because of IRS policy.

The responses in Figure 20 show strong positive correlations with the tendency to use the futures market to hedge. The correlations are very highly significant in a statistical context for live cattle ($r = .59$, $p = .0004$) and for feeder cattle ($r = .51$, $p = .0027$). This finding continues to support earlier inferences that it would be the feedlots who are now using the futures markets as a risk transfer mechanism via their hedging programs that would be most likely to get involved in trading for the purpose of contributing to the price discovery process and correcting market imbalances.

There was a positive correlation ($r = .42$, $p = .08$), consistent with earlier questions, between the number of live cattle contracts and the tendency in the earlier question to "keep operating and count on things to average out over time". There is emerging, increasingly, the image of a year-round operation that stays in operation, hedges when acceptable margins are offered, and also gets involved (or would get involved) in selling feeder cattle/buying live cattle futures when margins are negative and the market is perceived to be out of balance. The tendency to trade more numbers was also positively correlated with the earlier discussed tendency to see this type of activity as hedging for both live cattle ($r = .33$, $p = .07$) and feeder cattle ($r = .49$, $p = .006$). Numbers were, of course, correlated with earlier answers that indicated the feedlots have either been in this type of program or approve of such a program of trading.

Implications of the Survey Results, Future Needs

The survey was prompted by the broad need to know more about how feedlots are involved in the feeder cattle and live cattle futures markets. A more specific objective was to determine whether there is any empirical support to the hypothesis that current IRS policy and its enforcement either block or constrain activities by feedlots to contribute to the price discovery process in cattle futures. The answer to the implied question is definitely "yes". IRS policy does block and/or constrain feedlot involvement.

Such findings offer support to the need for a research program designed to identify and measure the implications of current IRS policy to the efficiency and effectiveness of the feeder cattle and live cattle futures markets. To the extent that IRS policy blocks feedlots participation in the price discovery process, proprietary and presumably high quality information on cattle performance, on costs of inputs, and on breakeven costs is denied to the markets. Conceptually, this could lead to a more variable market than could otherwise be the case, variability that could have negative implications to producers and to the consuming public.

Longer term, it is likely that Congress will be asked to consider changing the statutes regarding what is and is not hedging/speculation. When that important question is addressed, there will be a need for a research base that has attempted to identify and measure the implications of current policy. This set of survey results would appear to authenticate the need for additional research and does, specifically, support the need for phase 2 of the research plan mentioned earlier in this bulletin.

Specifically, the second phase of the research effort was designed to examine the impact of large speculators on the price discovery process. In conceptualizing the process in Figure 3, both positive and negative "imbalances" were presented. In the area surrounding "A" in Figure 3, margins are positive and growing larger. If this is in fact an imbalance with margin levels that cannot and will not be sustained, then a well informed speculator would be expected to sell distant live cattle futures and/or buy the nearby feeder cattle futures. Whether the large speculators do in fact take such positions as the margins increase is a testable hypothesis.

When margins are positive and excessive, cattle feeders can constrain the "imbalance" by selling distant live cattle futures to place short hedges and lock in profitable margins. They would, under current IRS policy, be able to contribute to the price discovery via coming into the markets to place hedges.

The situation is different, however, when the margins are negative. As margins become more negative, the survey results reported in this bulletin indicate cattle feeder activity to help restore a "balance" is constrained by IRS policy. Conceptually, the large speculators would be expected to react to a decrease in margins (a move to more negative margins) by selling nearby feeder cattle futures and/or buying live cattle futures. Is this, in fact, what they do? Again, how the large speculators behave was and is a researchable hypothesis.

Phase 2 of the research will focus on behavior of large speculators. If large speculators behave so as to constrain the negative imbalances and turn the markets back toward an equilibrium, then allowing cattle feeders to fully participate in the price discovery process, perhaps by taking positions up to the equivalent of their investment as measured in feedlot capacity, takes on added importance. With immediate access to proprietary information and with a related reduction (or elimination) of the time lags before the markets recognize an imbalance, cattle feeders might be even more effective in the process of correcting imbalances and stabilizing quantities and prices.

Preliminary results indicate that large speculators do in fact react to margins that are moving away from a perceived equilibrium. Speculators' actions appear to be especially important as they react to large negative margins. As margins decrease to more negative levels, speculators reduce their short positions and/or take long positions in the distant live cattle futures. These actions tend to "turn" the market and start the process of moving back toward a market balance. To the extent that cattle feeders would bring additional information into the price discovery process and be in a position to react more quickly than speculators do to an emerging market imbalance, it would appear the price discovery process would be more effective. Price variability to producers and to consumers might be reduced, and the level of price to producers and/or product costs to consumers enhanced by a more efficient marketing system.

Research to analyze the impact of large speculator trading behavior is continuing and will be completed and ready for dissemination by mid-1992. Still further work to look at the costs and benefits of any change in policy, and the distribution of those costs and benefits, will await the results of the Phase 2 work.

APPENDIX A

The Feedlot Survey Form

SURVEY
Cattle Feeders Attitudes on IRS Policies on Futures Trades

ALL RESPONSES ARE STRICTLY CONFIDENTIAL. THIS SURVEY FORM CANNOT BE IDENTIFIED WITH YOU IN ANY WAY.

1. The size of the herd lot you manage and/or have ownership rights in terms of a one-time capacity.

_____ < 1,000 Head
_____ 1,000 - 5,000 Head
_____ 5,000 - 10,000 Head
_____ 10,000 - 20,000 Head
_____ > 20,000 Head

2. What is the length of the normal feeding period you would prefer given the cattle you like to feed?

_____ Days

3. For cattle you finished in August and September of this year, please give us an estimate of the range and average of your average cost of gain not including fixed costs or yardage charges, just the variable costs.

\$ _____ Per Cwt. (high)
\$ _____ Per Cwt. (low)
\$ _____ Per Cwt. (average)

4. In the past 5 years, what percent of the cattle fed in your lot have been priced by selling futures or buying put options on futures (answer for both unless only 1 category fits you).

_____ % of cattle I owned or partially owned
_____ % of cattle fed for customers

5. In the past 5 years, what percent of cattle fed in your lot (your cattle or customers' cattle) have been priced via cash contracts with packers or sold to packers via basis contracts?

_____ % cash contracted (price was set)
_____ % basis contracts (basis only was set)

6. What do you tend to do when the futures contract you would hedge cattle in, after adjusting for basis, is only offering a price equal to the cost of the feeder cattle you can buy plus the expected cost of the feed, or even less? In other words, the feeding margin being offered is negative. If you mark more than one, rank them in importance with 1=most important, 2=next most important, etc.

_____ Buy and place the cattle because the situation will often get better.
_____ Let the pens stay empty until the situation improves.
_____ Reduce the number placed until the situation improves but try to continue operating.
_____ Keep buying and operating and count on things to average out over time.
_____ Other. Please Explain. _____

7. As you watch the markets and look for opportunities to buy and place cattle or forward price those already on feed, what percent of the days would you say the futures market, at the close of trading for that day, is offering a price high enough to meet the following conditions?

_____ Percent of the days covers feeder cattle, feed, interest, and all variable costs.
_____ Percent of the days covers all costs including fixed or overhead costs.

8. When you buy and go long cash feeder cattle and sell or go short distant live cattle futures, you are forward pricing your cash cattle feeding operation. Presumably, you do this when the prices being offered are attractive or at least cover your variable costs. If the prices being offered are not good enough to justify feeding cattle, you could sell or go short the nearby feeder cattle futures and buy or go long the distant live cattle futures with the expectation that the market will restore a more attractive feeder cattle to fed cattle relationship. This might earn you profits and help protect your feedlot investment when you feel you cannot feed cattle. If you did this (sell feeder cattle futures and/or buy distant live cattle futures) which of the following are you doing?

_____ Hedging in futures
_____ Speculating in futures
_____ Don't know

Comment: _____

9. Assume the nearby feeder cattle futures or cash feeder cattle are too high relative to distant live cattle futures to hedge in a profit. Of the following groups of people, who is most knowledgeable and could be the most effective in recognizing the imbalance and helping to restore a more acceptable relationship between the cash feeder cattle or nearby feeder cattle futures and the distant live cattle futures? Use 1 for the best group, 2 for the second, and rank any you feel could be effective.

_____ Large futures speculators
_____ Small futures speculators
_____ Packers
_____ Cattle feeders
_____ Other. Please Explain. _____

10. When feeder cattle are so high relative to the distant live cattle futures and relative to your expectations about future prices for fed cattle that you are reluctant to buy and place the feeders, have you ever not placed the cattle and both sold nearby feeder cattle futures and bought the distant live cattle futures or either sold nearby feeder cattle futures or bought distant live cattle futures?

_____ Yes
_____ No

11. If the answer to (10) is "yes," what percent of the time do you sell feeders and/or buy live cattle futures and not feed cattle? (If your answer was "no", go to question 13).

_____ Percent

How big is the position you take in the futures as a percent of the pens you have empty?

_____ Percent

Briefly describe why you do this and what you are trying to accomplish.

12. Rank (with 1 = most important) any of the following that constrains or limits your selling of the nearby feeder cattle futures and/or buying of the distant live cattle futures, as discussed above, as a strategy to protect your investment or interest in cattle feeding operations.

- _____ Lack of available money for futures margins
_____ Banker or lender disapproves
_____ Fear IRS will call it speculating if I am audited and losses would not be deductible
_____ Have no active futures account
_____ Other. Please Explain. _____

13. If your answer to number (10) is "no," rank (with 1 = most important) any of the following which are reasons you do not get involved in the futures markets in this way.

- _____ Do not feel cattle feeders should get involved in trading the feeder and/or live cattle futures in any way except a strictly textbook type hedge
_____ Do not have the money for futures margins
_____ Bank or lender would disapprove of such moves
_____ Afraid IRS would see such trades as speculative and deny deductions on any losses I incur
_____ Have no active futures account
_____ Other. Please Explain. _____

14. Currently, IRS policy and the courts would almost certainly treat any losses by cattle feeders from selling nearby feeder cattle futures and/or buying distant live cattle futures as speculative activity and would therefore deny deductions for any losses. Assume here any such losses would be treated as speculative and not deductible and answer each question.

- (a) Does concern about such a policy by IRS stop you from participating in the futures market to help the process of discovering prices for feeder cattle and fed cattle and to help correct the imbalances that occur, (ie, stop you from selling nearby feeder cattle futures and/or buying distant live cattle futures)?

_____ Yes
_____ No

- (b) If IRS treatment were changed, would you be more active in the markets to restore more normal relationships between feeder cattle and live cattle futures?

_____ Yes
_____ No

- (c) Do you believe that if cattle feeders were allowed, even encouraged, to get involved in the markets by selling nearby feeder cattle futures and/or buying distant live cattle futures when adequate feeding margins are not being offered that the markets would change and there would be fewer long periods when the feeding margins being offered are negative?

_____ Yes
_____ No

- (d) How many futures contracts do you now trade in an average week that would fall under the heading of reacting to negative margins by selling nearby feeder cattle and/or buying distant live cattle futures?

_____ Live cattle contracts
_____ Feeder cattle contracts

- (e) If you were encouraged to get involved with no concern about having non-deductible losses, how many contracts might you trade in an average week given the margins you have seen offered during 1991 by selling nearby feeder cattle futures and/or buying distant live cattle futures?

_____ Live cattle contracts
_____ Feeder cattle contracts

15. Any comment you want to make about what changes should be made in terms of IRS treatment of what is hedging and what is speculation in the cattle futures markets, how cattle feeders should be involved in the markets, how IRS should treat cattle feeders who are involved, etc.

If you would like a copy of the results of this survey and related research, please call (703) 231-7725 and ask for Wayne Purcell. We will put your name and address on a list and will keep you informed. If you would prefer, contact your state-level cattle feeders association or livestock association and ask them to request copies. Thanks for your cooperation and help!

Wayne D. Purcell
September 1991

