Economic Implications of Conflict and Inconsistency in the Beef Marketing System: The Feeder-Packer Subsector

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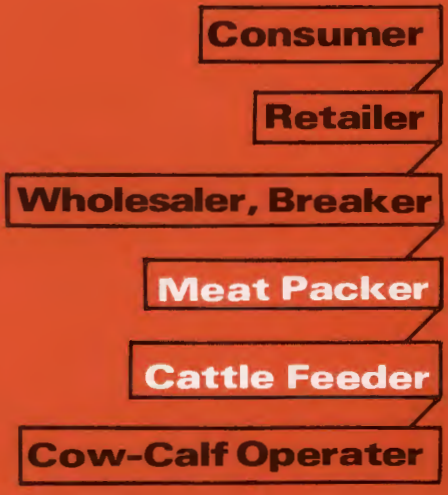

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Wayne D. Purcell and Terry L. Dunn*

There is widespread evidence of the increasing importance of the fed cattle industry in Oklahoma. Marketings of fed cattle in Oklahoma totaled 542,000 head in 1970 compared to 143,000 head in 1960.[1] Commercial cattle slaughter increased from 334,400 head to 647,500 head during the same decade.[2]

Much progress has been made in production technique and procedures. For example, average daily gains in excess of 3 lbs. are becoming quite commonplace in the better feedlots. Five years ago, a daily gain of 2.5-2.8 lbs. was considered excellent. Comparable and related advances have occurred in grain processing, ration formulation, animal health and other important production-related areas.

It would appear equivalent progress has not been made in moving toward more effective marketing procedures. Lack of proficiency in marketing can offset much or all of the advantage accruing from efficient production.

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[1] *Livestock and Meat Statistics*, Statistical Bulletin No. 333 (Supplement for 1970), USDA, Table 22A.

[2] *Livestock and Meat Statistics*, Statistical Bulletin No. 333 (Supplement for 1970), USDA, Table 90-93.

The Nature of the Problem

The beef marketing system can be typified schematically as shown in Figure 1. The intent of Figure 1 is to suggest what is indeed the case—that the beef marketing system is comprised of several interrelated stages of activity.

Figure 1. Interrelated stages of activity in the beef marketing system.

A binding input-output relationship ties the stages together. For example, the output at the production level (the finished beef steer) becomes input to the processor. The basis for a problem emerges at this point. When the various stages or levels of activity are under the control of different managers, as is true in an exchange system, there is no guarantee of interlevel coordination. And if there is little interlevel coordination, there is little input-output coordination.

When the marketing system is viewed in this way, the need for attention to the interlevel dimensions is apparent. But recognition of this need is not new. Kohls was calling in the 1950's for market researchers to adopt a "systems approach" and stop looking at single levels of activity as if activity at that one level were independent of the rest of the system.[3] Little was done, however, and Shaffer was prompted to make similar pleas in the late 1960's.[4] There remain problems of lack of interlevel or vertical coordination and much attention is needed to this dimension of the marketing system.

Purpose of the Study

The feeder-packer subsector (or subsystem) of the beef marketing system is the focal point of attention in this study. The primary objective

[3]R. L. Kohls, "A Critical Evaluation of Agricultural Marketing Research," *Journal of Farm Economics*, December, 1957.
[4]James D. Shaffer, "Changing Orientations of Marketing Research", *Journal of Farm Economics*, December, 1968.

was to isolate, and explore the economic implications of, goal conflicts and operational inconsistencies in this subsector of the beef marketing system. More specifically the objectives were as follows:

1. To identify decision criteria employed by management at the packing and feeding levels which affect the nature of interlevel buying and selling activities;
2. To identify interlevel goal conflicts and operational inconsistencies within the packer-feeder subsector of the beef marketing system; and
3. To infer the implications of selected conflicts and/or inconsistencies to the level of coordination achieved by the packer-feeder subsector of the Oklahoma beef marketing system.

Isolation and exploration of such conflicts and inconsistencies should provide the base for improved coordination within the feeder-packer subsector.

Procedure

One of the primary reasons for the lack of research into the issue of interlevel coordination is the difficulty in developing an appropriate procedure or methodology. To fulfill the objectives of this study a simple but somewhat unique procedure was developed.

First, the available store of knowledge and research results were employed as a basis for selecting six of the more important dimensions of the total "connection" between feeder and packer. Each of the six was selected because it was felt that any conflict or inconsistency which might be isolated along that particular dimension would be an important determinant of the degree of coordination within the feeder-packer subsector. The six dimensions selected were as follows:

1. Overall economic goals of the operations;
2. Attitude towards level vs. variability of returns (or costs);
3. Attitude towards ways of achieving coordination of activity;
4. Market procedures;
5. Procedures, factors in product valuation; and
6. Opinions of, reasons for, market performance.

After the six "dimensions" were selected there remained the problem of how to analyze each effectively consistent with the stated objectives of the study. Two separate but related questionnaires were written and administered, one at the packer level and one at the feeder level. The same six dimensions were explored in each questionnaire by using "mirror image" questions. For example, a set of questions was designed to probe feeders' attitudes toward level versus variability of *returns*. The "mirror image" questions in the packer questionnaire probed packers'

attitudes toward level versus variability of in-plant *costs* of the cattle they buy.

A stratified random sample of 23 packers and 42 cattle feeders were surveyed using personal interview procedures. More detailed information about the procedure employed and the breakdown of the two samples can be found in the M.S. thesis by Dunn[5]. Tables 1 and 2 show the number of feeders and packers interviewed by size of operation. As explained earlier, a stratified sampling procedure was used to insure the large operations would be represented.

The Survey Results and Implications

The questionnaires provided detailed information concerning the six "dimensions" identified. The results will be summarized briefly to indicate the nature of the goal conflicts and operational inconsistencies which were isolated. Attention will also be directed to the possible economic implications of the conflicts and/or inconsistencies.

[5]Terry L. Dunn. *Economic Implications of Interlevel Goal Conflict and Operational Inconsistency in the Beef Marketing System: The Packer-Feeder Subsector* (Unpublished M. S. Thesis, Oklahoma State University, May 1970.)

Table 1. Distribution of The Sample Feedlots By Capacity of Operation

Capacity of Lot (Head)	Number of Lots Surveyed
0-500	12
501-1,000	11
1,001-5,000	11
5,001-20,000	6
over 20,000	2

Table 2. Distribution Of The Sample Packing Plants By Capacity Of Operation

Capacity of Packing Plant (Head Slaughtered per Day)	Number of Plants Surveyed
0-20	8
21-50	8
51-500	5
>500	2

Overall Economic Goals of the Operations

Most cattle feeders, especially the larger ones, attempt to maximize returns to each lot of cattle they sell. Table 3 records the choices of the feedlot managers from among five alternatives.

The packers, asked to choose a "goal" from among five alternatives, offered the response pattern shown in Table 4. No single alternative received a majority of the responses but a tendency to look at a longer time period emerges in goals II and IV. There is reason to conclude the packers are prone to seek more stability than would be provided by a goal of maximizing returns to each lot of cattle they buy.

The apparent difference in length of planning horizons becomes a determinant of the realized level of coordination between the feeding and packing levels. In pursuing a goal of maximum returns per head for each lot of cattle, the feeder perpetuates — and possibly accentuates — short run price variability in the live cattle market. Such an approach is not conducive to stable price levels and related stable flows of cattle into

Table 3. Feedlot Managers' Choice Of Goals For Their Respective Operation

	No. Feeders Choosing	Percent of the Sample	Feeding Capacity Represented (No. Head)
I. Try to maximize the return per head for each lot of cattle you handle.	24	57.1	113,835
II. Try to maximize the returns to your total operation over some specific period of time (such as each year of operation).	8	19.0	16,650
III. Try to realize some chosen rate of return on your investment (which may be expressed in terms of percent return or margin per head).	2	4.8	1,200
IV. Seek some stable or constant return which you have decided is acceptable for your particular operation.	4	9.5	1,550
V. If none of the above fit your case, please describe your goals or objectives.	3	7.1	2,300

Table 4. Number Of Packers Selecting Alternative Goals For Their Slaughter Cattle Operations

	Number of Packers Choosing the Goal
Goal I — Try to minimize the coast per head for each animal slaughtered.	3
Goal II — Try to operate on a "set" margin per head which has been selected as adequate and buy so as to achieve this set margin over each year of operation.	4
Goal III — Try to buy cattle so as to realize some target average margin per head above the level you are now achieving.	6
Goal IV — Try to buy cattle so as to maximize the return or margin per head over each year of operation.	7
Goal V — If none of the above fit your case, please describe your objective in buying.	3

the packing facilities. It appears that packers, by their choice of a longer planning horizon, are expressing a desire for increased stability.

Possible implications of this inconsistency in the length of the planning horizon are manyfold. To the extent that coordination of activity between the two levels has been precluded, pressures for change in organizational structure have been strengthened. Vertical integration between two levels of activity such as cattle feeding and meat packing provides for, or permits, coordination through ownership and the degree of control which goes with ownership. When coordination is not achieved through the exchange process with separate ownership at the two levels, the pressures for a vertically integrated structure are especially strong.

In similar fashion, the goal conflict serves as an obstacle to means of achieving coordination via means less extreme than vertical integration—such as contractual arrangements. Most contractual arrangements bring with them forward pricing schemes and a degree of specificity in price often inconsistent with the feeder's attempt to maximize returns per head on each lot of cattle.

Attitude Towards Level vs. Variability of Returns (or Costs)

Feedlot operators were questioned to determine how much "trade-off" they will accept between the level and variability in returns. The question devised contained five choices with level of average net returns per

head for the year ranging from $2.00 to $6.00 per head. The pattern of returns, by months, within the year was also shown for each different level of annual returns. The variability in returns for the five choices was arranged such that variability in pattern II was twice that in pattern I, variability in pattern III was three times that in pattern I, etc. The higher levels of returns were associated with the higher levels of variability and vice-versa for the lower levels of returns. The costs of getting the cattle to market were assumed to be equal under all patterns.

Feeders were then asked to examine the patterns of returns and choose the one they would prefer to face if they knew they would be faced with that pattern year after year. Over 50 percent of the feeders chose pattern III, the highest net returns and also the most variable (Table 5). In this pattern of returns, there were three chances for losses and one chance to break even, so four months out of twelve the operation would not make any money. Second choice was the $5.00 level of returns and the next most variable pattern. In this choice, there were two chances out of twelve to lose money on the operation, one chance to break even.

As a check to see if operators would stay with this pattern of responses, a related question was asked later during the interview period. Average yearly net returns were held constant at $4.00 per head for all patterns of returns. This time, slightly over half chose pattern number II. This is the most stable pattern of returns with no losses. The second choice when net returns were constant was pattern number I with two chances for losses. Five of the operators chose this pattern (Table 6).

Table 5. Feedlot Operators' Choices Between Level Of Returns And Variability Of Returns: Net Returns Variable

Pattern	No. Feeders Choosing	Average Net Returns for the Year ($ per Head)	Net Returns Per Head from 12 Monthly Sales—Figures in Parentheses Represent Losses ($ per Head)											
			1	2	3	4	5	6	7	8	9	10	11	12
I	1	4	5	(2)	4	1	9	3	7	(1)	10	3	5	4
II		2	0	3	1	2	1	1	3	4	3	1	2	3
III	22	6	(3)	5	6	13	0	12	9	(1)	15	6	11	(1)
IV	1	3	2	5	0	4	2	(1)	7	4	2	1	6	4
V	11	5	5	11	0	8	(2)	2	5	(1)	2	12	8	10

Table 6. Feedlot Operators' Choice Between Level Of Returns And Variability Of Returns: Net Returns Constant

Pattern	No. Feeders Choosing	Average Net Returns for the Year ($ per Head)	Net Returns Per Head from 12 Monthly Sales—Figures in Parentheses Represents Losses ($ per Head)											
			1	2	3	4	5	6	7	8	9	1$	11	12
I	5	4	5	1	(2)	3	4	10	(1)	9	3	7	4	5
II	22	4	3	5	4	3	3	6	5	5	2	5	3	4
III	1	4	9	5	(1)	11	9	(4)	10	(2)	12	(3)	3	1
IV	2	4	3	5	7	0	1	5	3	8	2	6	5	3
V	2	4	8	3	(3)	5	0	9	(1)	10	5	11	(2)	3

With the choices of patterns III and V under variable yearly average net returns, it appears that feedlot operators are willing to make the "trade-off" between the level of, and variability in, returns. Most operators are enough of a gambler to shoot for higher average net returns and take the associated losses in stride. This was expected more in large feedlot operations where volume of business can help to average out the losses. However, this willingness to go through the "trade-off" was not expected to be as prevalent as it was in the smaller lots where variability in returns could present a more serious problem. When the magnitude of loss has a greater effect on operations, operators might be expected to take a lower average return if increased stability in returns is realized by doing so. Due to the smallness of operations, volume cannot be expected to average out the losses. This, however, is not the choice that was made.

Even more of an inconsistency exists under the situation where average yearly net returns are constant for all patterns of returns. The selection of pattern I by a number of the feeders is surprising (see Table 6). Pattern number IV ranks second in terms of stability and average net returns for the year are constant. But, only two operators chose pattern IV. Pattern number I shows an increase of 50 percent in variability compared to pattern IV. This appears to be an irrational choice on the part of the five feedlot operators. The only explanation to offer is that operators noticed the higher net returns during the monthly sales ($10, $9, and $7 in pattern I compared to $8, $7, and $6 in pattern IV) and chose to try and hit these higher monthly returns.

A question was designed as the "mirror image" of the question employed in the feeder survey which dealt with feeders' attitudes toward

level of returns and *variability* in returns. Packers were asked to assume they are trying to operate at ninety percent of their rated capacity. They were then asked to select *one* from five different *cost level-supply variability* alternatives. Each alternative contained two important factors: (1) percentage variations in the available monthly quantity of cattle above and/or below the quantity needed for them to operate at the ninety percent level; and (2) the average yearly costs of slaughter cattle, per cwt., into their plant. Each of the situations covered a twelve-month operating period. Packers were asked to choose the situation they would prefer to face if they knew they would face this situation year after year. The response pattern is shown in Table 7.

Packers who chose Situation I and II had the same basic reasons for their choices: (1) it is most or more stable with respect to supply; (2) it is better to have a uniform kill and a small profit than none at all; and (3) costs would be more uniform and possibly lower in either Situation I or II. Those packers that selected Situation III gave the following reasons: (1) to keep both the buyer and seller happy you must hit an average price; and (2) obtaining cattle is not a problem.

To see whether the packers were indeed saying they would pay a higher price for a more stable supply of cattle, a "check" question was asked at another point in the interview. Average yearly costs were held constant at $30.00 per hundredweight but the supply was allowed to vary precisely as was the case in Table 7. Eighteen of 20 responding packers chose Situation I, the most stable in terms of supply variability. They defended their choice as follows: (1) situation I is more stable with respect to supply; (2) costs will be less in a situation with low variability in

Table 7. Packers' Choices From Among Alternative Combinations Of Cost Per Cwt. And Variation In The Available Numbers Of Cattle

Situation	Number Packers Choosing	Yearly Average Cost of Cattle ($ per cwt.)	Monthly Variation Around the Number of Cattle to Maintain Operations at 90% of Rated Capacity											
			1	2	3	4	5	6	7	8	9	10	11	12
I	11	30.20	−2	1	−1	0	−1	−1	1	2	1	−1	0	1
II	4	30.10	−1	2	−3	1	−1	−4	3	1	−1	−2	3	1
III	3	30.00	1	−6	0	−3	5	−1	3	−5	6	−1	1	0
IV	0	29.90	0	6	−5	3	−7	3	0	−6	−3	7	3	5
V	0	29.80	−1	−9	0	7	−6	6	3	−7	9	0	5	−5

supply; and (3) planning and execution of operations is much easier under stable conditions.

When considering the realized degree of coordination between the feeding and packing levels, there is definitely an inter-level conflict concerning this area of stability versus level of returns or costs. The feedlot sector does not place the same importance on stability of operations as does the packer sector. Variability in the supply of feeder cattle, causing a fluctuating price and related problems in buying, creates difficulty for the feeder. However, there is either no transfer of this awareness to the problems confronting the packer when the flow of fat cattle is variable or the feeder prefers to operate under such conditions. Consequently, there has been little effort made by the feeders to explore the possibility that increased stability in the flow of cattle — in quantity and quality — could be mutually beneficial to both groups.

The results of the surveys clearly imply packers would pay for increased stability — if the operating environment were such that the need for stability was realized and feeders recognized its importance. But such is not the case. There is little or no recognition of any need to effect and maintain a high degree of coordination between the two levels.

The implications of this particular type of conflict or inconsistency are numerous. The survey results indicate packers attach a great deal of significance to the instability in cattle flows to which they are exposed. Over time, the pressures from problems associated with fluctuating cattle numbers will effect changes in the organizational structure of the feeding-packing subsector. Pressures for the packer to integrate vertically may develop or be strengthened as the packer seeks to impose a degree of stability the exchange system has not provided.

Short-run implications include variable incomes to feeders and variable net operating margins to the packer. Per unit costs at the packer level are increased. Short-run variations in cattle numbers mean periodic excess supply, a more flexible plant layout (in terms of level of operation), and higher procurement costs than would otherwise be necessary. Price signals are concealed by a fluctuating price level for live cattle and production adjustments are thereby slowed.

Attitudes Towards Ways of Achieving Coordination of Activity

Among the alternative ways by which coordination between feeders and packers might be increased is through contracts. Questions were developed to probe for possible inconsistencies in contractual procedures or for other reasons to explain why so few contracts are used.

As a starting point, several variables often included in a contract were listed and the feeders were asked to rank these variables in order of

importance. The feeders were first asked to rank the variables in accordance with what they, the feedlot managers, feel should be given primary attention in the contract. Next the operators were asked to rank the variables in accordance with what they thought the packer-buyer with whom they dealt would consider important in the contract. Then the feeders were asked to compare the lists and if they differed, to indicate why. The operators made their choices from a list of eight variables as follows:

(1) Specify the scales on which the cattle are to be weighed;
(2) Specify the exact time of day for weight;
(3) Specify when transfer of title to the cattle is to take place;
(4) Specify an exact pencil shrink;
(5) Guarantee a minimum dressing percentage with a specific schedule of price discounts for falling short of the guaranteed level, a schedule of premiums if the cattle dress higher;
(6) Guarantee a certain percentage to grade Choice with a specified price discount for falling short, a premium for exceeding the guaranteed level;
(7) Specify the basic price per cwt. you are to be paid at the time the contract is established; and
(8) Make provisions for price to be based on the price at some chosen market on the day of delivery or for a certain day during the week of delivery.

Using these numbers to identify the variable or consideration, Table 8 shows how the feeders responded.

Table 8. Feeders' Ranking Of Important Contract Variables

Variable Number	Feeders' Ranking of the Variable (What Feeders Viewed as Important)	No. Feeders Ranking This Variable	Feeders' Ranking of the Variable (What Feeders Feel the Packer Views as Important)	No. Feeders Ranking This Variable
(1)	Fourth	23	Second	16
(2)	Second	30	Third	23
(3)	Seventh	17	Eighth	12
(4)	Fifth	31	Fourth	21
(5)	Eighth	6	Fifth	7
(6)	Third	11	Second	10
(7)	First	29	First	23
(8)	Sxth	7	Seventh	6

In interpreting Table 8, it is important to recognize not all feeders ranked all variables. The feeders were asked to rank all those variables they considered important. Variable (7), dealing with a specification of price, was clearly first in both rankings. The only variable for which the rankings appeared to be significantly different was Variable (1), dealing with a specification of scales on which the cattle are to be weighed. The feeders apparently feel the packer attaches relative less importance to this particular variable; only 16 feeders ranked it at all and the weighed ranking was sixth. Differences in the ranking given other variables, such as Variable (5), must be discounted in view of the small number of feeders who considered it important enough to rank. The rankings are based on weighed averages, assigning a value of "8" for first, "7" for second, etc.

Packers were asked to rank in importance the contract variables, a "mirror image" question to the one asked feeders. Only eight of the 23 packers responded to the question, so the base for any conclusions is limited. In attempting to rank the replies of the eight, contractual provisions calling for (1) specifying the exact time of day for cattle to be weighed, (2) specifying an exact pencil shrink, and (3) specifying the exact price to be paid upon delivery were ranked first, second and third respectively. This limited base suggests packers often view other factors to be of equal or greater importance than price. None of the responding packers felt the feeders with whom they deal would have ranked the variables any differently.

In commenting on the attitude toward contracting, it appears both feeders and packers hold generally favorable attitudes towards contracts, but little or no contracting is being done by the feeders and packers interviewed. The reasons for the lack of use are not clear. Response to the questions concerning the relative importance of contract variables revealed no substantial differences. In general, feeders and packers attach the same relative importance to the variables which require specification in the contract.

Accordingly, there are other reasons for not using contracts. Insofar as the surveys are concerned, there were two possible reasons which could be inferred: (1) the feeder has an aversion to "tying up" his cattle and not being free to negotiate sales at or near the time of shipment, and related (2) the feeder is afraid he will get caught with a contractual price which is lower than the going market price at time of delivery.

Considerable change in the attitudes and understanding of the parties involved, especially the feeder, will be required before contractual sales of fat cattle becomes widespread in Oklahoma. There is some evidence that the packer is willing to offer sufficient economic incentive to make contracting an attractive alternative to the feeder, especially if

stability in cattle flows is realized. Whatever potential contracting has as a means of increasing feeder-packer coordination is not being realized. Anxieties, uncertainties and an appearent lack of complete understanding as to how contracts can be used effectively block increased use of contractual arrangements.

Market Procedures

The selling procedure of the feeders was considered in relation to the buying procedure of the packers to see whether inconsistencies are present. The attitude of the two groups toward the need for specific information on the cattle proved revealing.

The majority of the cattle are still sold on a liveweight basis. When selling on a liveweight basis, the feeders were asked which of the following situations they would prefer the buyer to be in as negotiations are begun:

I. The packer has access to your records providing information on dressing percentage, carcass cut-out percentage (yield grade), quality grade, etc. for previous cattle you have fed.

II. You have given the packer a summary (written or oral) of the percent of your cattle which grade Choice (and Good, Prime, etc.), of average dressing percentages, and average carcass cut-out percentages (yield grade) for previous cattle you have fed.

III. You make the cattle available to the packer-buyer for his inspection, but offer no additional information other than number of days on feed and type of feed fed.

Of 39 feeders who responded, 11 chose situation I, 10 chose situation II, and 18 chose situation III. Thus, only 21 of the 39 feeders expressed a willingness to make available much of the information the packer would be likely to want or need (situations I and II). Eighteen of the 39 would prefer the packer not have such information either because (1) they (the feeders) did not *have* such information, or (2) an unfair advantage would be given to the packer if such information were provided.

In a "mirror image" question, the packers' attitudes toward a preferred negotiation position were investigated. The problem here assumes purchase of cattle on a live-weight basis and concerns the amount of information the packer prefers to have before he begins to negotiate the purchase of a pen of cattle. The negotiation positions and the packers' selections are summarized in Table 9.

Ten of 23 packers responding to the question favored having detailed information. Upon further questioning, all of the 10 indicated their "buying strategy" changes when such information is not available. To

Table 9. Packers' Preference Of A Negotation Position When Buying On A Liveweight Basis

Negotiation Position	Number of Packers Selecting
I. The feeder has given you access to his records providing detailed information on dressing percentage, carcass cut-out percentage, quality, grade, etc. for previous cattle he has fed.	5
II. The feeder has given you a summary of the percent of his cattle which grade choice, of average carcass cut-out, and dressing percentages of previous cattle he has fed.	5
III. The feeder makes the cattle available for your inspection, but offers no additional information.	8
IV. None of the above; please explain_____.	5

protect against the uncertainty, the packers tend to discount the price offered for the cattle. When asked about the size of the "discounts", the responses ranged from $.25 to $2.00 per cwt. with most falling in the $.50 to $1.50 categories.

When questioned further, the packers who preferred not to have detailed information gave two primary reasons: (1) trust in their buyers who must evaluate the cattle, and (2) a lack of confidence in any information made available by the feeders.

The conflict in this aspect of procedure is very real and important. The negotiating arena is too often viewed as a battleground. Not all of the participants are willing to provide the information needed to help "pin down" the true value of a lot of cattle; even fewer actually provide such information. The end result of the conflict is a price which may or may not reflect actual value for the cattle. The cattle, in turn, may or may not be what the packer thinks he is buying.

Also investigated under the heading of "market procedure" were the factors which apparently block realization of more stability in cattle flows. Feeders are largely unwilling to "commit" their product to packers —little or no contracting is done. Conversely, the packers indicated strong interest in scheduling the flow of cattle into their plants; most indicated they would pay a price premium to get increased stability in the quantity (and quality) of cattle moving into their plants.

The packers who were willing to pay a premium were then questioned about the amount they would be willing to pay in order to have feeders guarantee to supply a certain percentage of their normal kill. Packers

were asked to indicate the premium they would be willing to pay feeders to supply them 20, 40, 60, 80, or 100 percent of their kill on a scheduled basis. The results are summarized in Table 10. The packers noted that such buying arrangements would eliminate travel expenses and time spent in looking for cattle. However, packers do not think feeders would be willing to start such a program at the present time because they do not think the feeders are willing to "tie-up" their cattle. There is also concern among the packers about the feeders' ability to meet a guarantee to supply the quality of cattle desired.

Any potential which exists in this area is being blocked by continued distrust, lack of understanding and the apparently ever-present tendency for decision makers at a particular level in the system to forget they are but a part of a larger picture. As a result, the exchange system has *not* effected the desirable degree of stability into the system. Flows of cattle sold on a liveweight basis continue to be sporadic and largely unpredictable in terms of quantity and quality.

Procedures, Factors in Product Valuation

Inconsistent procedures in estimating product value or differences in the factors used as the basis for an estimate of value can block effective pricing and the coordination such pricing can bring. Consequently, both feeders and packers were questioned on product valuation.

The feeders were asked to rank in order of importance selected factors and the ranking of each are shown in Table 11. The rankings are based on weighted averages of the feeders' estimates as to relative importance.

Quality grade and dressing percentage rank ahead of the other factors and are awarded about equal importance in terms of weighted averages. Seventeen of 41 respondents ranked quality grade first in importance with 16 ranking it second. Seventeen of 37 respondents ranked

Table 10. Premiums Packers Would Pay For Guaranteed Supply Of Cattle: Selected Percentages Of The Normal Kill

Premium Packers Would Pay ($ per cwt.)	Number Packers Responding by Percent of Kill to be Guaranteed				
	20%	40%	60%	80%	100%
<$.25			1	1	1
.26- .50			2	4	4
.51-1.00				1	
1.01-2.00	1		1		1
>2.00					

Table 11. Feeders' Ranking Of Important Determinants Of The Value Of A Slaughter Animal

Factor or Determinant	Ranking
Grade of the animal (quality grade).	1
Age of the animal.	6
Dressing percentage.	1
Sex of the animal.	4
Live weight.	5
Carcass cutability (weight of all lean cuts as percent of total carcass weight).	3

dressing percentage first with 11 ranking it second. Apparently, there is a tendency to view these two determinants as being most important with some ranking grade first and dressing percentage second, others reversing this order. Cutability ranks a rather weak third, with the weighted average of rankings considerably below grade and dressing percentage. However, five of 24 respondents ranked cutability first, five others ranked it second. Six of 25 respondents ranked sex of the animal as the most important determinant. Neither of the remaining factors received a ranking by any feeder above third.

In another part of the questionnaire the feeders were asked to compare their ability to estimate three of the value determining factors to the ability of the packer-buyer with whom they deal. The operators were given the choices of "better, about same, poorer, and don't know". The factors covered were dressing percentage, grade (quality grade), and carcass cutability. The results are summarized in Table 12. The feeders were least optimistic about their abilities in estimating cutability, the important determinant of final retail value.

As was the case in the cattle feeder survey, and to help provide a base for conclusions, packers were asked to rank in order of importance the important value determinants of a slaughter animal. This ranking is presented in Table 13.

Quality grade and dressing percentage were considered by all packers (the 23 surveyed) and were ranked first and second respectively. Cutability ranked a rather weak third both in terms of position of importance and consideration—six of the 23 packers did not consider cutability of sufficient importance to give it a ranking. The other factors

Table 12. Feeders' Comparison Of Their Own And Packer Buyers' Ability To Accurately Estimate Important Determinants Of The Value Of Slaughter Cattle

Rating Relative to Ability of the Packer Buyer	No. Feeders Choosing		
	Grade	Dressing Percentage	Cutability
Better	7	6	5
About Same	25	26	16
Poorer	6	7	13
Don't Know	2	1	3

Table 13. Packers' Ranking Of Selected Value Determinants Of A Slaughter Animal By Order of Importance

Factor or Determinant	Ranking
Grade of the animal (quality grade)	1
Age of the animal	5
Dressing percentage	2
Sex of the animal	6
Live weight	4
Carcass cutability (weight of all lean cuts as percent of total carcass weight)	3

were awarded lesser importance although seven of 18 packers considering live weight ranked it second or first in importance.

Other studies have shown significant value variations in beef carcasses (or animals) related to differences in carcass cutability.[6] Yet, there is no unaminous agreement within either the feeder or packer groups that cutability is an important determinant of value. Given this situation, the ability of price to motivate the production of better cattle (if high cutability cattle are indeed "better") will be limited. The implications to the level of coordination between levels will be explored further in the next, and closely related, section.

[6]Wayne D. Purcell, "Wanted: Better Pricing by Cattle Feeders", *Proceedings,* Oklahoma Cattle Feeders Seminar, Stillwater, Feb. 3-4, 1972.

Opinions of, Reasons for, Market Performance

The feeders were asked to select from several statements the one which best reflected their opinion on performance of the market in which they sold. The statements and the frequency of response to each are shown in Table 14. Among the "other" replies was one which indicated the only time poorer cattle are not discounted adequately is during periods of rapidly rising prices.

Table 14. Feeders' Opinions On The Performance Of The Market In Which They Operate

Statements of Performance	No. Feeders Choosing
Cattle are sold at or near an "average" price with no real premiums for the better cattle and discounts for the poorer cattle.	18
The poorer cattle are discounted, but no comparable preimum is paid for the cattle.	10
Adequate premiums are paid for the better than average cattle and the poorer cattle are discounted by an appropriate amount.	12
Other; please explain _____.	2

Overall, only 12 of the feeders expressed a degree of satisfaction with the way their market is performing. These 12 feel the premiums and discounts are adequate and, apparently, properly allocated. The remaining 30 feeders, those who expressed dissatisfaction with performance of their market, were asked to indicate "why". The alternatives presented these feeders and the frequency with which each was chosen are shown in Table 15.

Following the established procedure, the packers were asked for their opinion on performance of the market in which they buy. The responses from which they were asked to choose and the response pattern are shown in Table 16.

Twenty of the 22 responding packers were not convinced appropriate premiums and discounts are being paid. These 20 were asked to select from several reasons why such is the case. The "reasons" and the response pattern from 12 packers who responded to the question are shown in Table 17.

Table 15. Feeders' Choice Of Reasons As To Why The Market Does Not Pay Adequate Premiums, Levy Appropriate Discounts

Reason for Performance	No. Feeders Choosing
There is not enough competition between packers to force them to pay a premimum for the better cattle but they can and do discount poorer cattle.	9
The packer will pay a premium for cattle which appear to be better than average only when he knows the feeder to be a "reputation feeder".	13
Most feeders prefer to keep the packer guessing on how well the cattle will do in terms of yield, carcass cutability, etc.	0
Many feeders do not really know the value of their cattle and this prevents the well-informed feeder from getting a premium for his better cattle.	5
Other; please explain_____.	3

Table 16. Packers' Opinoins On The Accuracy Of Live Prices In Reflecting Carcass Value.

Opinions Presented	Number of Packers Selecting
Cattle move at an "average" price with no significant premiums for the more valuable cattle and no significant discounts for the less valuable cattle.	11
Poorer cattle are effectively discounted, but the truly valuable animal does not receive the premium it deserves.	9
Adequate premiums are paid for the better than average cattle and the poorer cattle are discounted by an appropriate amount.	1
Other; please explain_____.	1

The two groups both take a common and very important position: the market does not do an adequate job of identifying, pricing and placing a value on the cattle which do not produce the "average" carcass. It follows, then, that the price system will not be able to perform the following functions which are typically left to price:

1. Increased production of the higher value animal will not be prompted without undue time lags because no premium is paid the producer of such an animal; and

Table 17. Packers' Opinions With Respect To Why Live Prices Do Not Accurately Reflect Carcass Value.

Alternaitve Reasons	Number of Packers Selecting
It is difficult to merchandise the more valuable carcass at a higher price so we cannot pay a premimum for the live animal.	4
The packer sells in a market where specifications are strict, but this is one-sided—there are discounts if the beef does not meet specifications, but no premiums if it exceeds specifications.	3
The typical packer has to have the higher margin on the better carcass to offset narrow margins or losses on the less valuable carcasses.	3
Other; please explain_____ _____.	2

2. Production of the lower value animal will not be decreased without undue time lags because no discount is passed down to the producer of such animal.

The result is, once again, absence of the type of coordination which should prevail in the efficient exchange system.

Summary and Conclusions

There exist significant goal conflicts and operational inconsistencies within the feeder-packer subsector of the Oklahoma beef marketing system. Such conflicts and inconsistencies act to decrease the level of efficiency realized by the system.

Six potentially important dimensions of the total "connection" between the Oklahoma packer and feeder were selected for investigation. Questionnaires were administered to stratified samples of both feeders and packers in an effort to isolate the nature and economic implications of any conflict or inconsistency along a particular dimension. A "mirror image" approach to questioning was employed, investigating the same dimensions but from the viewpoint of the feeder and packer respectively.

A listing of the 6 dimensions and brief indications of the findings in each case follows:

1. **Overall economic goals of the operations.** The primary difference between packer and feeder is in the length of the planning horizon. Most feeders try to maximize net returns to *each* lot of cattle handled; most packers preferred to maximize returns

over a longer time period such as a year. The goal of the feeder would permit, perhaps accentuate, short-run supply and price fluctuation. The goal of the packer stressed stability of price and cattle flows.

2. **Attitude towards level vs variability of returns (or costs).** The feeders preferred the more variable return patterns if it meant high levels of returns. Even with returns held constant, some feeders preferred the more variable patterns. Packers, conversely, expressed a willingness to pay a significantly higher price for cattle if the variability in the supply of cattle (and the packers' cost) could be reduced to more manageable levels.
3. **Attitude towards ways of achieving coordination of activity.** Feeders and packers were in general agreement on what variables should be included in contracts. But little contracting (one of several ways coordination might be achieved) is done because of the feeders' aversion to "commiting" their product. This holds in spite of packers' expressed willingness to pay premiums of $.25-$2.00 per cwt. if a stable flow of cattle into their plants could be guaranteed.
4. **Market procedures.** Nearly one-half of the feeders would prefer the packer not have information on grade, dressing percentage, carcass cutability (or yield grades) on the feeder's previously fed cattle. Yet, a majority of the packers would prefer such information and indicated they discount price offers to protect against the increased uncertainty when such information is not made available.
5. **Procedures, factors in product valuation.** Feeders and packers in general agreed quality grade and dressing percentage were the two primary determinations of the value of slaughter cattle. Carcass cutability ranked a poor third in the selections of both groups. In spite of substantial evidence that value of slaughter cattle can vary up to $50.00 or more per head due to differences in cutability, little attention is paid this factor as the bulk of all slaughter cattle in Oklahoma continue to be sold on a liveweight basis.
6. **Opinions of, reasons for, market performance.** One-half of the feeders and a larger proportion of the packers agreed the market in which they operate does not perform well — does not pay premiums and levy discounts when needed. Perhaps related to the lack of concern for carcass cutability, this means increased production of the higher value cattle is not encouraged via price premiums nor is production of lower value cattle discouraged by price discounts.

Overall, the beef marketing system in Oklahoma is not as efficient as it could be because of conflicts and inconsistencies between feeders and packers. These conflicts and inconsistencies preclude the effective synchronization of these two parts of the total marketing machine. The long-run implications of such, if corrections are not made, may include a tendency to abandon the exchange system and move toward an integrated market structure. Increased research and/or educational efforts to further clarify the conflicts, the inconsistencies and to more firmly establish their implications are needed.