

A DESCRIPTION AND ANALYSIS OF FARMERS' LIVESTOCK  
MARKETING PRACTICES AND PREFERENCES  
IN ELEVEN OKLAHOMA COUNTIES

By

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## CHAPTER I

### INTRODUCTION AND PROBLEM STATEMENT

#### The Situation

There is a general belief among those concerned with agricultural marketing, whether businessmen or research workers, that certain inefficiencies exist in the present marketing system. This is particularly true of livestock marketing in Oklahoma. One facet of this complex of inefficiencies is that farmers' preferences for marketing services are not generally known by either marketing agencies or farm organizations. Though some knowledge of these preferences is gained by casual observation of farmers' actions, it is very general and does not lend itself to measurement and examination. Knowledge of farmers' preferences for market services should enable marketing agencies to serve their customers better by modifying, adding to, or deleting existing services.

The determination of farmers' beliefs and evaluations of present marketing services as indicated by their marketing practices may indicate that farmers as a group have difficulty in making livestock marketing decisions. They are faced with several alternatives in marketing and may be unable to establish consistent marketing practices based on a definite set of evaluations.

#### General Objectives

This study is designed to determine the practices livestock farmers now employ in disposing of their product, to evaluate indicated preferences

for marketing services, and to analyze some aspects of the manner in which farmers choose among their marketing alternatives. It is divided into two parts. The first is a descriptive effort and the second is analytical in nature and includes a statistical test of hypothesis. The basis of the material presented here is a random survey of 446 livestock producers in eleven Oklahoma counties.

### The Present Role of Preferences

Preference surveys have been commonly used for quite some time. Their usual requirement is to determine the status of a given situation at a given time. Such opinion polling is usually descriptive and has an objective that goes no further than measurement of apparent qualities or quantities. Preferences, when used in a presentation as factual evidence to evaluate a situation or condition, are usually considered at face value.

Few attempts have been made to evaluate the preferences themselves. Of the innumerable combinations of social and psychological factors which relate to or influence a preference or potential decision, certain factors must be more salient than others. The contention here is that at least some of these factors may be isolated. It is quite possible that the conclusions that might be drawn from a superficial analysis of a mass of indicated preferences taken at face value may not coincide with an analysis which considers the motives responsible for such preferences.

### General Theoretical Framework

The framework for this study is not contained in classical economic theory. Rather, it is contained in the broader area of decision making which includes not only economics but other areas of science as well. Though the findings may be of economic importance, the problem involved herein must be formulated in terms of sociological and psychological concepts. The decision making process itself is not based solely on some purely economic consideration even though the immediate objective of the process is economic. Therefore, the aim here will be to study some of the basic elements of behavior which affect or initiate decisions. Once this is done, it may be possible to relate the outcome of such study to economic problems.

People make multitudes of choices and have varying degrees of freedom in making their choices. Here, the writer intends to isolate a particular small area of choice, for a particular group of people in a given area. These choices may be thought of as actions or indicated actions and will be considered synonymous with preferences.

The principle concepts of behavior on which this analysis will be based are those set forth by Myrdal in his An American Dilemma.<sup>1</sup> The portion applicable to this situation is that dealing with relation of the mechanism of rationalization to an individual's valuations and beliefs. No exploration of the many possible ramifications of this

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<sup>1</sup>Gunnar Myrdal, with Richard Sterner and Arnold Rose, An American Dilemma, The Negro Problem and Modern Democracy, Harper and Brothers, Publishers, New York and London, 1944, pp. 1027-1064.

approach will be attempted. Rather, every effort will be made to simplify and narrow the concepts and definitions used.

#### Decision Making by Livestock Producers

A study of decision making would not be pertinent unless the operators involved were faced by several alternatives in marketing their livestock. Most Oklahoma livestock farmers have at least four alternative methods of selling their product. The data from the survey which is the basis of this study support the general belief that farmers don't have a very precise method of evaluating their alternatives when making marketing decisions. It may be that the motives underlying such decisions are subject to considerable change or that the individual factors of various markets which the farmer attempts to evaluate in making an overall decision are quite unstable and vary not only within a given market, but between markets also. The interest here is not which market a stockman should use but why he uses a particular one. This involves determining and describing some of the social and psychological elements involved, then relating these to economic considerations. That is, farmers may be choosing from available alternatives, none of which is fully consistent with farmer values and preferences.

In order to analyze the expressed preferences of farmers, some attempt must be made to relate them to possible motives which we assume to be the underlying causes for actions or indicated actions. If we can isolate or specify one or more of the motives that determine farmers' actions, and if varying degrees of importance need be attached to such motives, then market modifications might be suggested on the basis of

weighted preferences, depending on which motives were most important in prompting a given preference. A statement of motivational content for analytical purposes is given in Chapter VI.

#### Hypothesis to be Tested

As discussed by Myrdal, it is a recognized psychological phenomenon of behavior that there may be a discrepancy between what people say they think, desire, or believe and what they really think, desire, or believe. In this study Myrdal's hypothesis is restated to say that livestock producers' stated preferences or indicated actions differ from their actual preferences or implemented actions.

#### Specific Theory Used

Pertinent theory in this thesis represents a combination of social psychology and economics. Most of the theory used relates to the field of social psychology as interpreted by Myrdal in his An American Dilemma. Since the object of this study includes analysis of individuals' actions and preferences, overtones of more specific economic and psychological theory exist. No attempt will be made to treat or explain the subject matter in terms of these related theories. It will be considered sufficient here to recognize that they exist and are definitely tied in with Myrdal's hypothesis.

Generally, most people have a desire to please. According to Myrdal, people want to be rational and objective in their beliefs. They are inclined to express only those beliefs for which they have reasons. In exchanging ideas, people prefer to give good, logical, or popular reasons

for a particular belief or action. Such good reasons may not be the true reasons. It is this situation which creates evaluation problems in a preference study such as this.

Direct and conscious alteration of true beliefs in the creation of more acceptable or rational beliefs is not the only source of error to contend with in the analysis of preferences. Again with reference to Myrdal, a person's valuations or attitudes are not limited to the realm of his conscious awareness. They become deeply rooted in the subconscious sphere of his total valuations. Even when one's valuations are consciously denied in order to give acceptable or good answers, they still affect the answers given or the decisions made. The suppressed valuations will still have a tendency to bend behavior--the stating of good or right reasons and beliefs--in their direction.

In light of the above interpretation, it is apparent that people may willingly create a discrepancy between what they say they think and what they really think. To a small extent, this condition is self-correcting in that subconscious behavior exerts some influence which serves to lessen the amount of discrepancy which would occur if people could completely separate their conscious viewpoints from subconscious effects.

Livestock farmers may be subject to these same compromises and desires to conform. If an acceptable measure of any existing discrepancy can be developed, preference studies may be more accurately evaluated and so become an important determinant of the true status in which people hold many of our social institutions.



## Specific Objectives

This study is divided into two parts. The first is a descriptive presentation of the area studied and of livestock farmers' marketing practices and preferences. It covers Chapters III, IV and V. The second consists of Chapter VI and is an analysis of preferences, their relation to practices, and a determination of the basic motives underlying farmers' preference statements.

### Part I

In the description and empirical presentation of farmers' marketing practices and marketing service preferences, certain comparisons and other data arrangements are made which are designed to facilitate the analyses in Part II. It is believed that such a follow-up makes the presentation of this part much more meaningful. The objectives of Part I are as follows:

1. Description of farms in the study.
2. Determination and description of farmers' livestock marketing practices.
3. Determination and description of farmers' livestock marketing services preferences.

### Part II

This part deals with an analysis of the practices and preferences of livestock farmers and is designed to establish relationships between the practices now employed by farmers and their stated preferences, the objectives being to answer certain questions related to the decision-making efforts of livestock farmers, the motives behind such efforts,

and the validity of comparing actions with indicated actions. The questions such an analysis must answer are outlined below.

1. The first question to be answered concerns whether a problem exists in livestock marketing as regards the decision making process of farmers.

2. The question next arising is this: Can analysis of farmers' preferences suggest modifications which will lead to increased efficiency in livestock marketing activities?

3. Once it is determined that farmers' preferences for livestock marketing services may serve as indicators of possible market modifications, some degree of the validity of these indicators must be established. If there is a relatively close relationship between what farmers say they desire and what they really desire, then the findings of this preference study should prove valid. Thus, it is necessary to determine an estimation of the degree of such relationship on the basis of the expressed desires or preferences compared with those evidenced by farmers' actions. This determination is made through the use of a statistical test of hypothesis.

#### Limitations

It is realized that a problem study such as this will have some built-in inconsistencies. The writer believes that recognition of and allowance for these faults will nullify their effects. Essentially, Objective 3 of Chapter VI is a test of Myrdal's hypothesis that actions and indicated actions are different. The survey on which this study is based was designed, as is the case with most such surveys, with the

opposite of Myrdal's hypothesis in mind, that is, people's actions and indicated actions are not different.

The tests used in this study were applied to two basically different kinds of information though both came from the same survey. Action data used were obtained in a strictly objective manner and in this case are in the form of market use figures. Such data should be comparatively free of bias. Indicated action data were obtained subjectively and may have been exposed to bias in various ways. There seems to be little reason to believe that this situation would have any great effect on the test used here since the test is for significant difference between rather stable objective data and quite variable subjective information rather than between two related categories of subjective data.

#### Research in Other Fields

Decision making as an area of research is quite broad. Research relating to various practical applications of decision making theory is being carried on in business and industry. Scientists in the various social sciences seek to develop the theories of decision making. The status of such research is briefly indicated in the following statements and discussion.

Many social scientists other than psychologists try to account for the behavior of individuals. Economists and a few psychologists have produced a large body of theory and a few experiments that deal with decision making...The area of risky decision making is full of fascinating experimental problems. Of these, the development of a satisfactory scale of utility of money and of subjective probability must come first since the theory of risky decision making is based on these notions.<sup>2</sup>

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<sup>2</sup>Ward Edwards, "The Theory of Decision Making", Psychological Bulletin, Vol. 51, July, 1954, p. 380.

Difficulties similar to the ones discussed in this thesis plague researchers in other industries too. Many forms of market research have been used in recent years in attempts to obtain consumer evaluations of various goods and services. The frequent failure of these efforts to obtain reliable information has resulted in the application of considerable amounts of sociological and psychological theory to preference research methods.

Vance Packard, in his book The Hidden Persuaders, describes a situation encountered by many businesses and industries which parallels one the writer believes exists in agricultural market preference research. Packard's comments are the cumulative result of extensive market preference research and point out the problem in this manner.

One particularly disturbing difficulty was the apparent perversity and unpredictability of the prospective customers. Marketers repeatedly suffered grievous losses in campaigns that by all the rules of logic should have succeeded. The marketers felt increasing dissatisfaction with their conventional methods for sizing up a market. These methods were known in the trade most commonly as nose counting...The trouble with this approach they found was that what people might tell interviewers had only a remote bearing on how the people would actually behave in a buying situation....<sup>3</sup>

Numerous consulting agencies have been organized recently to satisfy businessmen's demands for assistance in their market research problems. These agencies perform a variety of services ranging from local surveys to large scale consumer acceptance tests. Most agricultural marketing research is done by the state or federal government through colleges, universities, and experiment stations. These institutions have sociological and psychological staffs of their own which they could use more

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<sup>3</sup>Vance Packard, The Hidden Persuaders, David McKay Company, Inc., New York, 1957, p. 13.

extensively in describing some of the agricultural problems now inadequately handled by opinion poll type studies.

#### Related Problem Studies

Comparatively little work has been done with regard to analysis of livestock producers' preferences for marketing services. Though several livestock marketing preference surveys have been made in recent years, most of these were descriptive and in some the preference portion was secondary to a study of some other farm enterprise characteristic.

In a hog marketing study, Kohls and Gifford discussed some aspects of farmer's market choices and their relation to market news availability. Two questions posed were "Is the 'economically rational man' concept an adequate framework?" and "Are the 'economically irrational' decisions really a result of lack of market knowledge?"<sup>4</sup> These questions reflect the central theme of the analytical portion of this study.

Recent Oklahoma work in livestock marketing which is related to this problem includes a livestock marketing practices and preferences survey by Jenkins, Marousek, and Briscoe,<sup>5</sup> and a cost functions study of Oklahoma livestock auctions by Lindberg and Judge.<sup>6</sup> Additionally, a

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<sup>4</sup>R. L. Kohls and John Gifford, "Farmer's Choice of Hog Markets", Journal of Farm Economics, Vol. 39, February, 1957, p. 67.

<sup>5</sup>Sidney L. Jenkins, Gerald E. Marousek, and Nellis A. Briscoe, Livestock Marketing Practices and Preferences in Northeastern Oklahoma, 1957, Department of Agricultural Economics, Oklahoma State University, Stillwater, Oklahoma, and Marketing Division, Oklahoma State Board of Agriculture, Oklahoma City, Oklahoma; Processed Series P-307, November, 1958.

<sup>6</sup>R. C. Lindberg and G. G. Judge, Estimated Cost Functions for Oklahoma Livestock Auctions, Oklahoma Agricultural Experiment Station, Bulletin B-502, Stillwater, Oklahoma, January, 1958.

somewhat earlier but similar grain marketing preference study was conducted by West<sup>7</sup> who was seeking a more reliable method of preference surveying.

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<sup>7</sup>Jerry Glenn West, A Pilot Study of Farmers' Preferences for Marketing Services in Kingfisher County, Oklahoma, Master's Thesis, Department of Agricultural Economics, Oklahoma State University, Stillwater, Oklahoma, August, 1955.

## CHAPTER II

### PROCEDURES

#### Areas Included in the Survey

The survey from which the data used in this paper were obtained consisted of 446 livestock producer interviews. The interviews were conducted in 11 Oklahoma counties which were not randomly selected but were chosen as being most representative of the general livestock producing areas of the state. The counties were selected on the basis of recommendations made by USDA and state experiment station personnel and other persons familiar with Oklahoma's livestock industry.

The counties from which the sample was drawn were arranged in four natural areas or groups, those counties within a given area having many characteristics of terrain and farm industry in common. Area one, located in the semi-arid southwest part of the state, includes Beckham, Greer, and Jackson counties. Area two consists of a diagonal belt of five counties located in the west central wheat producing region and contains Alfalfa, Garfield, Kingfisher, Canadian, and McClain counties. Area three includes Lincoln and Seminole counties and is located in the central mixed farming portion of Oklahoma. The fourth area, including only Muskogee County, is in the east central mixed farming region.

#### Areas Excluded from the Survey

Certain parts of the state were intentionally excluded from consideration since it was believed that they were not representative of the

general livestock producing industry. Two of these are the "big pasture" areas of the Osage and Panhandle country which contain many very large acreages and are relatively stable with respect to their livestock production and marketing system. The third is the mountainous southeastern part of the state which is characterized by low production and efficiency and represents a special problem in both marketing and production.

### Construction of Sample

The total number of farms in the 11 counties considered was calculated using 1950 census data. A one percent sample was drawn from these counties. In order to obtain a one percent sample, it was necessary to interview 446 livestock producers. Using a systematic sampling procedure, the farms to be included were indicated on county maps. Since only one farm unit was included in each section, a random method was used to select the farm unit when more than one unit was indicated in the section.

The method of sampling involved counting the sections in the county, dividing the number of sections by 16, and then selecting a starting point by some random method. Each 16th section was then included until the proper size subsample was obtained. Substitute sections were used for those sections containing more than six dwellings or farm units. The substitute sections were selected by a random procedure. The same rule was used for those sections containing no dwellings or farm units.

### Field Procedure

Field substitutions were required on occasions when (1) the farm unit indicated on the map no longer existed, (2) the farmer operating



the farm had no livestock, (3) the farmer was not at home and the interview could not be obtained in three calls at the farm, or (4) the farmer refused to cooperate.

The rule used on field substitutions required the interviewer to take another farm unit in the same section by choosing the first farm unit as he traveled clockwise around the section. In those instances in which the interviewer could not obtain a schedule in the section indicated, he was instructed to go to the southwest corner of the section, choose either south or west in a random manner, then proceed in that direction and select the first farm he came to.

### Objectives of Part I

#### Objective One, Description of Farms Included

Chapter III provides background information concerning the livestock producing farms in the survey. Data presented are broken down according to four separate geographical areas and according to four size groupings based on the size of farm cattle enterprises. Information is presented in the form of bar graphs which give a graphic distribution of a particular farm characteristic in each area according to size group.

#### Objective Two, Description of Livestock Marketing Practices

Marketing practices are described in Chapter IV. Both tabular analysis and a bar graph are used with most information divided by size group and area. Included with marketing practices are tables of market use information. Also given is a descriptive analysis of the relation between size of market preferred and size of cattle enterprise.

### Objective Three, Description of Livestock Marketing Preferences

Chapter V contains a detailed presentation of livestock producers' preferences for market services, suggestions for improvement, and ratings of the various types of livestock markets. Tabular analysis and appropriate discussion are used in most cases. An appendix of market rating tables is used to support the discussion of producers' market choices and reasons for choosing.

### Objectives of Part II

#### Analysis of Livestock Marketing Preferences

The procedure outlined here is directly related to the three objectives stated in Part II of the introduction and treated in Chapter VI. Outlined in the following paragraphs are the assumptions, tabulations, and statistical method necessary to provide answers to the questions which make up the objectives.

Objective One. In the first objective, determining whether a problem exists in livestock marketing as regards the decision making process of farmers, three indications are considered as sufficient evidence: (1) the initial assumption by the writer that farmers as a group experience difficulty in making market choices and are, therefore, not consistent in their marketing practices, (2) the percentage of farmers who reported that their livestock selling pattern had changed during the last five years, and (3) examination of the diversity of lengths of time various markets have been used.

Objective Two. The second objective requires an answer to the question "What market modifications that will lead to increased efficiency in

livestock marketing can an analysis of farmers' preferences suggest?"

Answers are based on study of the findings in Chapters IV and V. The significance of preferences may be weighted by the sizes of cattle enterprise and areas concerned as well as by frequency of occurrence.

Objective Three. Objective three compares group action with group indicated action. This objective consists of a comparison of what farmers do and what they say they will do. A chi-square test is used to determine instances of significant difference between the two. Data used are of two types, market use information and farmers' market ratings. Tests using the chi-square statistic are applied to each of three market types on the basis of five common criteria. The results indicate the validity of preferences as action indicators and show which criteria most effectively relate preferences and actions.

## CHAPTER III

### DESCRIPTION OF FARMS INCLUDED

The following information is provided as an aid in picturing the basic farm structure in the survey areas with respect to size and major enterprise. It is based on both a farm size classification and an area classification. Areas included are illustrated in Figure 1. The average farm size, size of livestock enterprise, and other basic characteristics of the farms included in this study vary among the four areas. Also there is a considerable amount of variation among the different farm size classifications with respect to farmers' livestock marketing practices and preferences.

A breakdown of livestock producing farms in terms of size of cattle enterprise has been made for each area. All figures included in the charts accompanying this chapter are in percentages. The following is the breakdown by size of cattle enterprise and area used throughout this thesis.

Area 1 - - - - - Beckham, Greer, and Jackson counties.

Area 2 - - - - - Alfalfa, Garfield, Kingfisher, Canadian,  
and McClain counties.

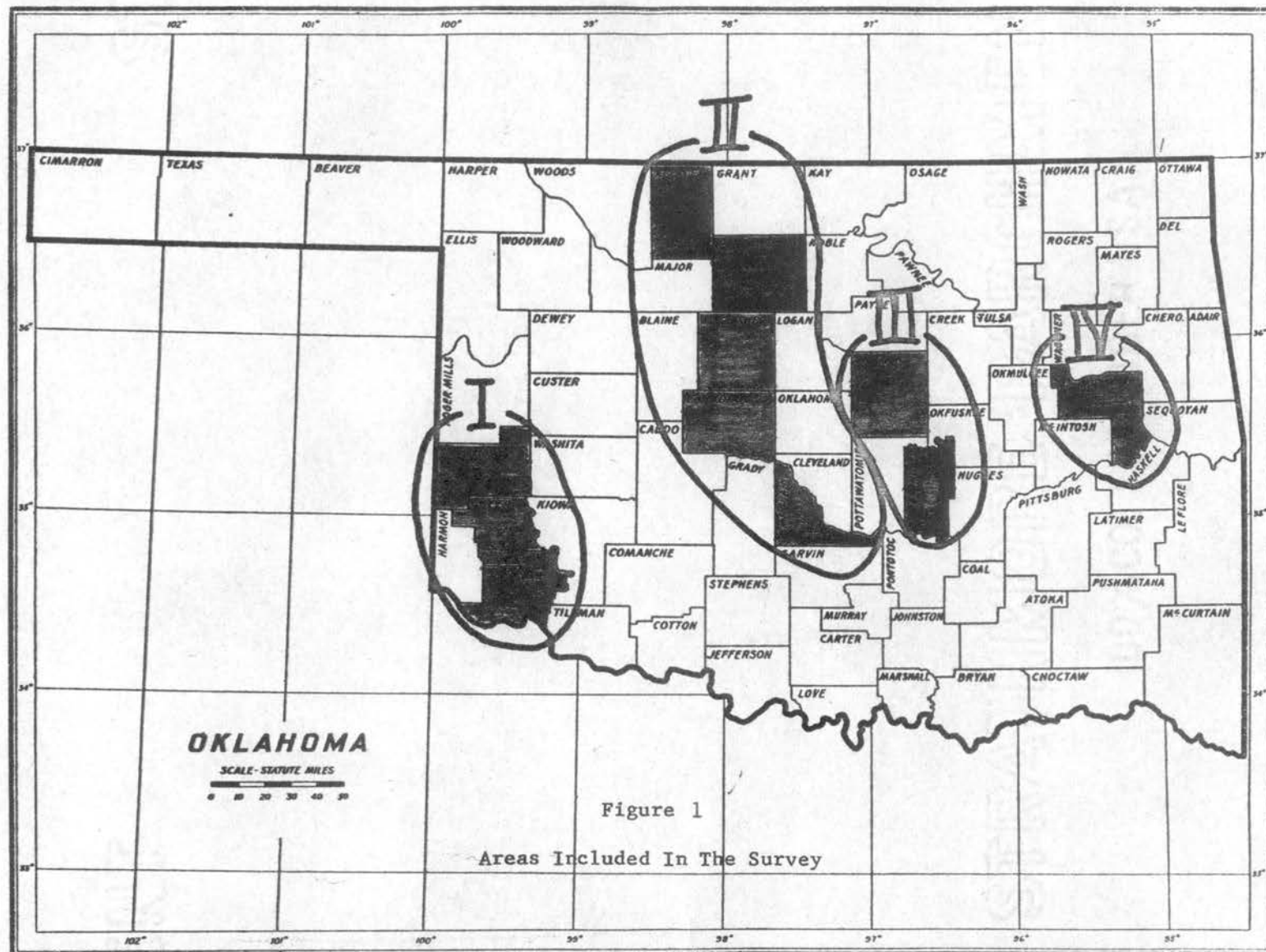
Area 3 - - - - - Lincoln and Seminole counties.

Area 4 - - - - - Muskogee county.

Size Group 1 - - - - - 1 to 10 head of cattle.

Size Group 2 - - - - - 11 to 20 head of cattle.

Size Group 3 - - - - - 21 to 50 head of cattle.



Size Group 4 - - - - - over 50 head of cattle.

The size groups used here are based on the number of cattle on each farm. Both dairy and beef cattle are included but no swine, sheep, or horses are considered. The reason for this is that cattle are by far the most important type of livestock in the area surveyed and the distribution of other types is very irregular. Making this limitation precludes the necessity of converting larger livestock types into standard animal units.

#### Distribution of Farms by Size and Area

As explained previously, the areas included in the survey are generally situated along an east-west line across Oklahoma. Reference to Figure 2 will reveal information regarding farm size in each area. In area one, the farm size distribution is quite uniform. However, the distribution changes considerably in moving from western to eastern areas and the eastern-most is very heavily skewed to the right which includes the smaller farm sizes.

The particular divisions between farm sizes used here were chosen because it was felt that they best represented the traditional Oklahoma homestead sizes and multiples thereof.

#### Distribution of Pasture Acreages

Contrary to what might be expected over so great a range of farm sizes and types, there is not a great deal of difference between areas as to the distribution of pasture acreages. That is, the percentage of farms having pasture acreages within certain limits in one area does not differ

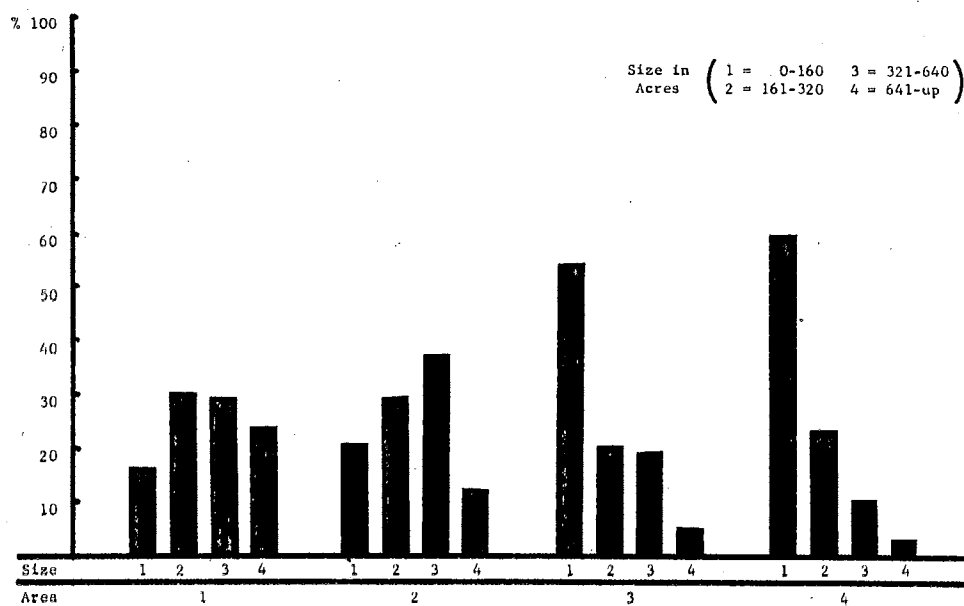


Figure 2

Percentage of Farms in Each Total Acreage Size Group, by Area

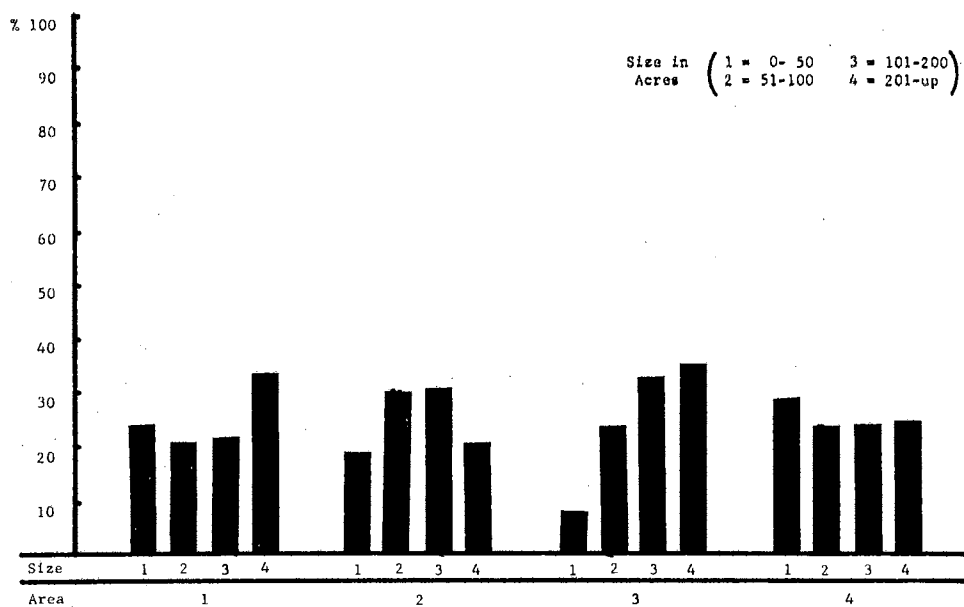


Figure 3

Percentage of Farms in Each Pasture Acreage Size Group, by Area

greatly from the corresponding percentage found in one of the other three areas. These are illustrated in Figure 3. The divisions between pasture acreage size groups were purely arbitrary. No attempt was made to determine the quality, kind, or seasonality of pastures. The only distinction made was that all pasture acreage included must be of some permanent type.

#### Cash Crop Acreage Distribution

In Figure 4 the farms in the survey are compared by area on the basis of the percentage of the farms in each area that fall in each of the cash crop acreage categories. There is a noticeable change in distribution between the western and eastern areas. The change between areas for cash crop acreages is very similar to the change in total farm unit sizes shown in Figure 2.

#### Distribution of Cattle Enterprises

Figure 5 provides the most important classification used in this project. Here, all farms in each area are divided into a total of four groups according to the size of their cattle enterprise. This problem deals with the livestock producing industry and cattle are by far the most important part of this industry. All comparisons of practices, preferences, and farm characteristics are made on this basis as well as on a geographical basis.

The selection of the size classifications used in Figure 5 was designed to approximate natural divisions between herd sizes. The one to ten group includes the "small size family herd". Such herds primarily supply milk and meat for home consumption with occasional sale of surplus milk, cream, and calves.



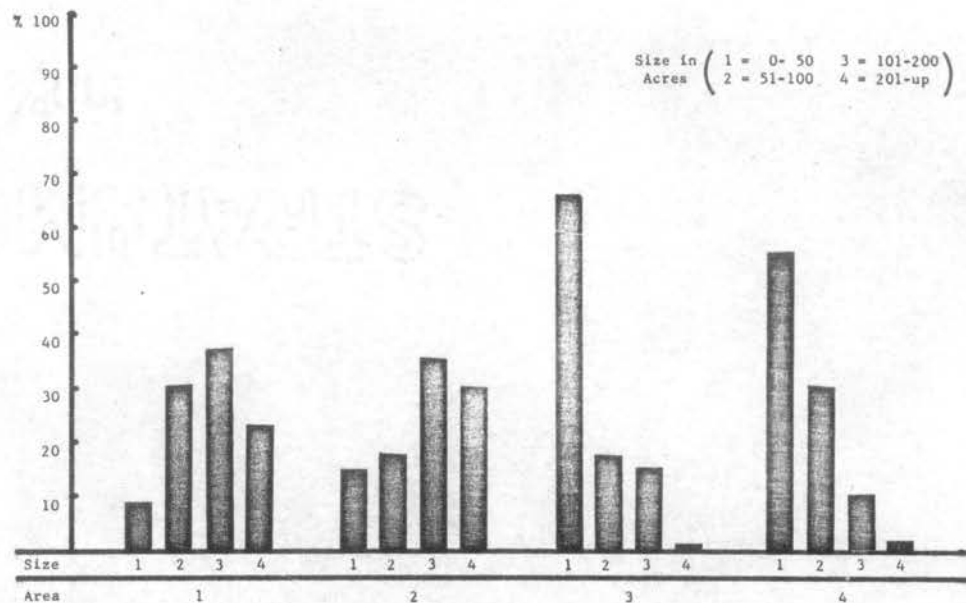


Figure 4

Percentage of Farms in Each Cash Crop Acreage Size Group, by Area

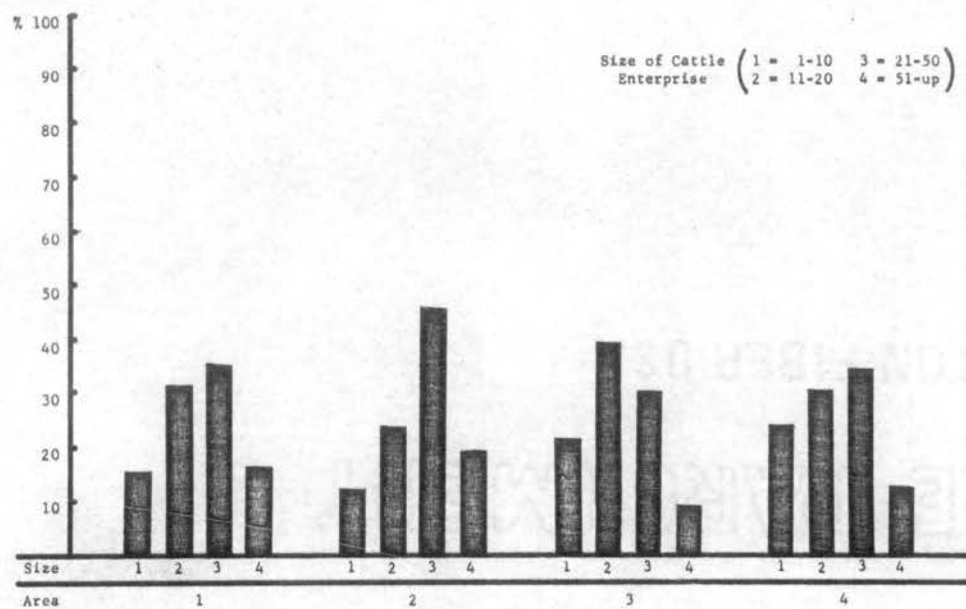


Figure 5

Percentage of Farms in Each Cattle Enterprise Size Group, by Area

The 11 to 20 group includes "large size family herds" and may represent an auxilliary farm enterprise in the form of either a small dairy herd producing manufacture milk or a small grade beef cow herd. Those in the 21 to 50 group are the smaller commercial beef herds and the larger commercial dairy herds. They represent a major farm enterprise and include grade A dairy herds, grade or purebred beef cow herds, or beef steer range or feedlot enterprises. It is understood that there may be some combination of these.

Farms having cattle enterprises with 50 or more head were mostly beef cattle operations. These were either cow and calf range operations or steer and feedlot arrangements. Such large commercial herds were frequently the farm's main enterprise though some shared the position with grain production, especially in the western areas.

Inspection of Figure 5 will show a comparatively uniform distribution of farms on the size of cattle enterprise basis for each of the four areas. This aids in determining roughly whether certain differences in practices or preferences are attributable to size or area variations.

#### Farm and Livestock Income

The following figures present farm cattle enterprise size group and area income information. Farmers' income was considered in two respects, the proportion of total farm income accounted for by livestock sales and the proportion of total income resulting from all farm activities.

On an area basis in Figure 6 livestock account for an increasingly larger share of total farm income as farms are considered in the direction of west to east. On a size basis in Figure 7 livestock represents a larger

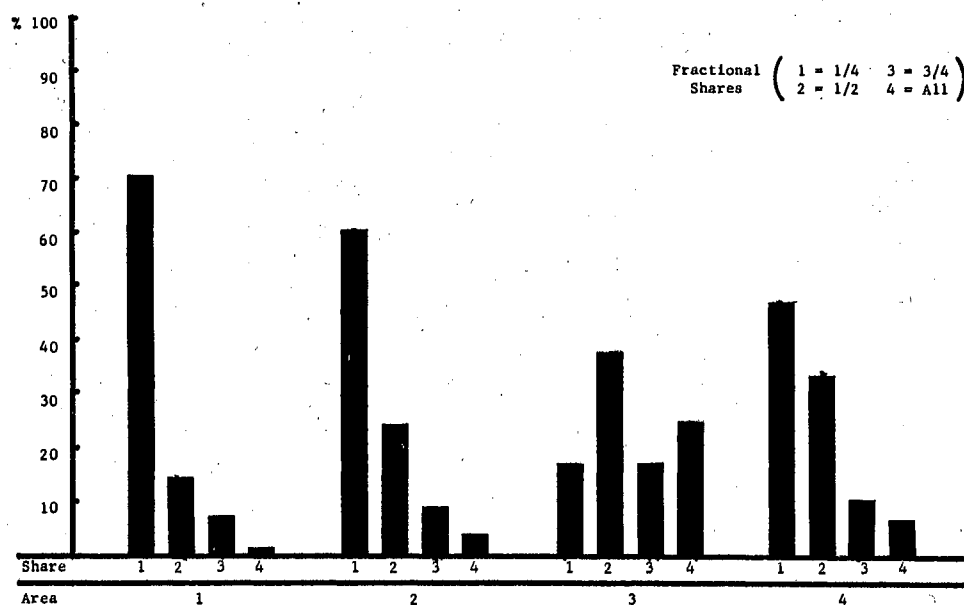


Figure 6

Percentages of Producers Receiving Various Shares of Total Farm Income from Livestock, by Area

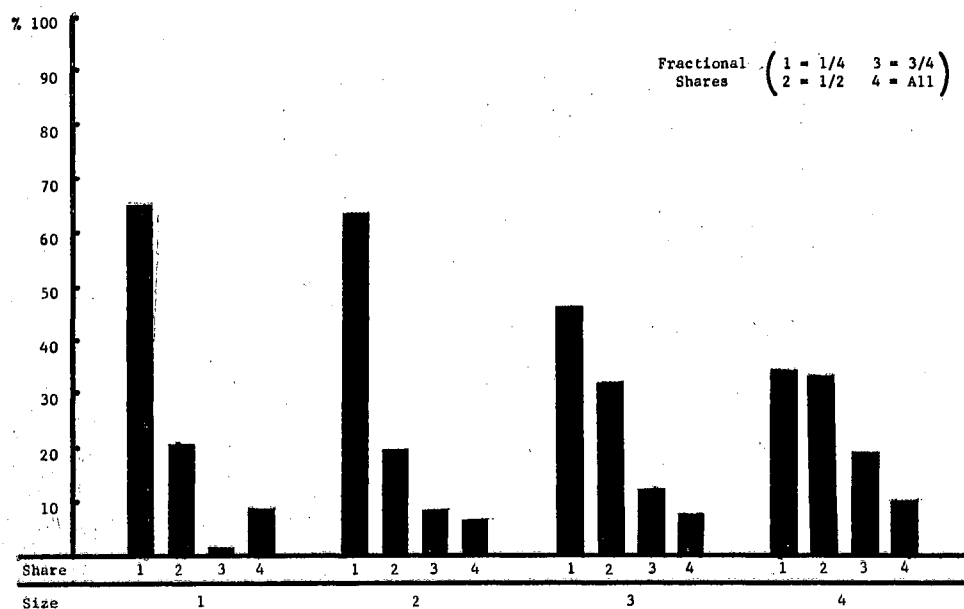


Figure 7

Percentages of Producers Receiving Various Shares of Total Farm Income from Livestock, by Cattle Enterprise Size Group

source of income as farm size is increased. In Figure 8 the proportion of total income from farming diminishes within the state in going from west to east when areas are considered. Also, in Figure 9 the proportion of total income resulting from farming increases as farms become larger.

Use of the information in Figures 6, 7, 8, and 9 allows weighting of various farmer preferences in a later section of this thesis. Thus from a viewpoint of economic importance, preferences from an area with a larger amount of part-time farming might be given less consideration than an area almost wholly dependent on livestock production. Similarly, wants of farmers in the small size group may not be weighted as heavily as those in the larger size groups, particularly when the objective might be to maximize some benefit for the entire state livestock industry.

#### Tenure Status

Another important basic characteristic of a farm area is its tenure status. This feature changes slowly over time and within an area. Information revealed by this survey shows a comparatively uniform tenure status for all farms included on both the size and area bases.

It may be observed in Figures 10 and 11 that for any given area or size classification, the total of its tenure categories may amount to something over 100 percent. This results from numerous farms having joint land arrangements including two or more of the tenure categories.

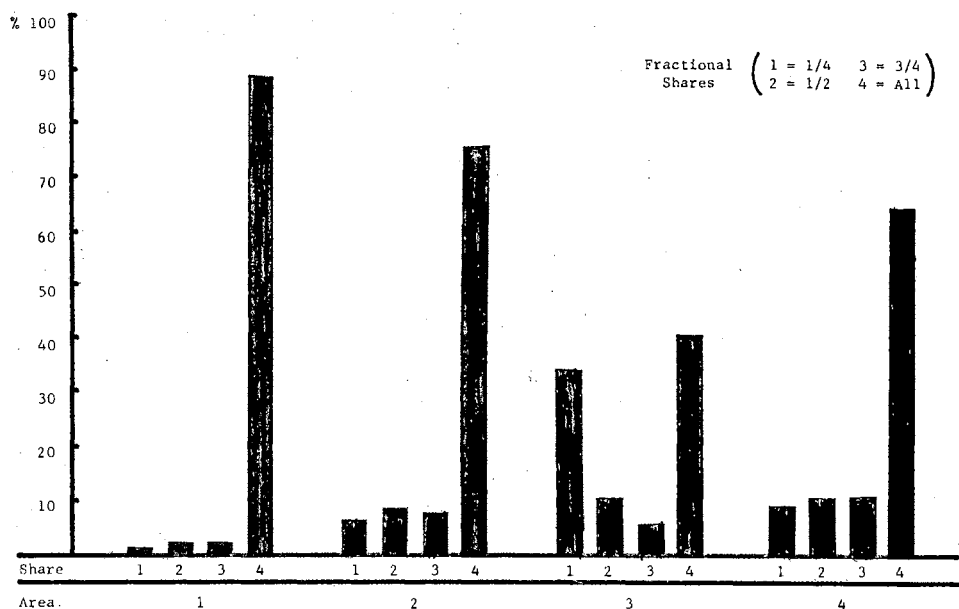


Figure 8

### Percentages of Producers Receiving Various Shares of Total Income from Farming, by Area

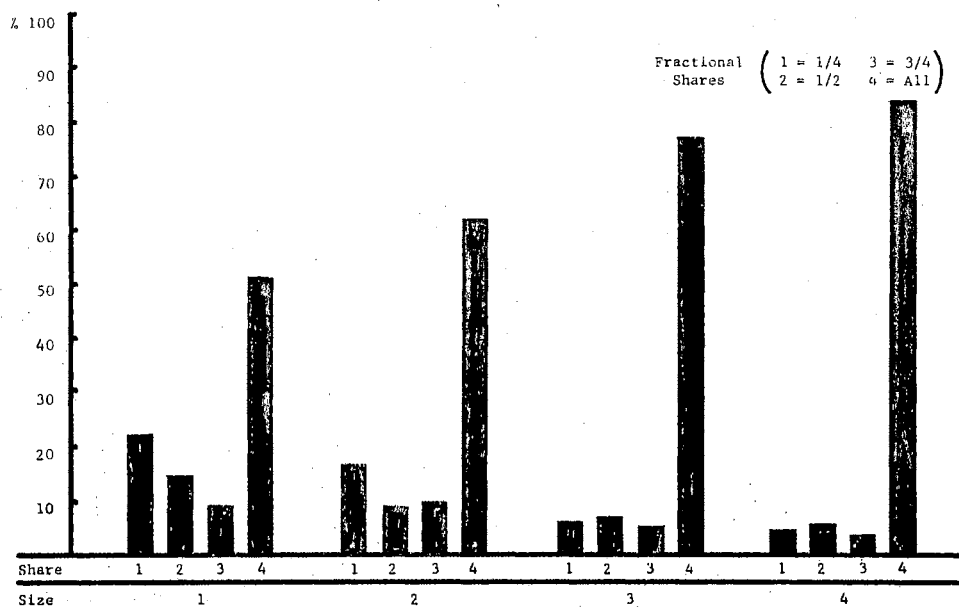


Figure 9

Percentages of Producers Receiving Various Shares of Total  
Income from Farming, by Cattle Enterprise Size Group

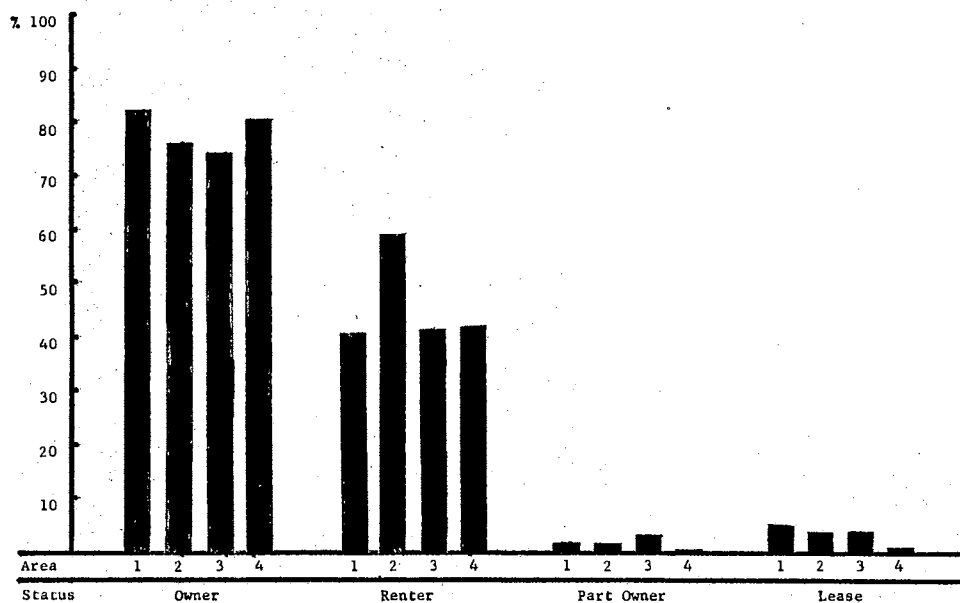


Figure 10

Percentage of Producers in Each Tenure Status, by Area

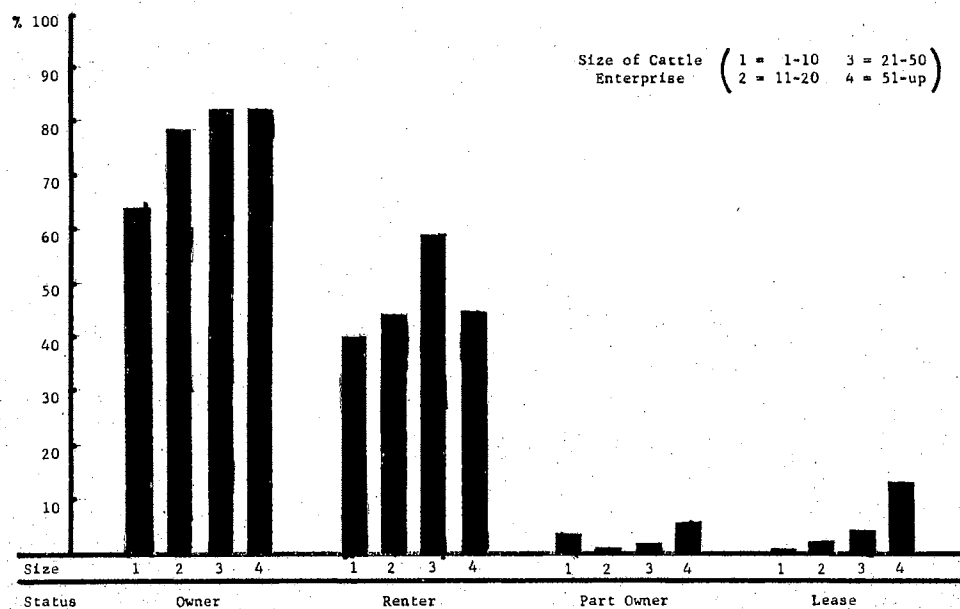


Figure 11

Percentage of Producers in Each Tenure Status, by Cattle Enterprise Size Group

### Summary

The foregoing points out several basic characteristics of livestock producing farms in the areas surveyed. The size of such farms increases in going from east to west. The acreages in cash crops also increase in this direction but pasture acreages remain comparatively uniform throughout. The distribution of cattle enterprise sizes is quite uniform among the areas considered. Income from livestock becomes a more important part of total farm income as farm size increases and as the more easterly farms are considered. Farm income comprises a smaller proportion of total income as farm size decreases and again as the more easterly farms are considered. The tenure status of the livestock producers interviewed was relatively uniform on both size and area bases.

## CHAPTER IV

### LIVESTOCK MARKETING PRACTICES

The marketing practices of the livestock producers included in this study are described in this chapter. Where appropriate, practices are analyzed on both a size of cattle enterprise and an area basis.

Specifically, the practices presented here include the following:

1. Market use in buying and selling.
2. Length of time markets are used.
3. Stability of market use over time.
4. Frequency of use of market information media.
5. Means used to determine the value of livestock.
6. Consultation of marketing agencies in buying and selling.
7. Time of week and year when livestock is marketed.
8. Transportation use in marketing.
9. Market use by area and size of cattle enterprise.

#### Availability of Markets

Of the four market types being considered, terminal, auction, country, and packer, there was a high degree of availability of almost all types in all areas. All four types in all four areas, with one exception, were reported as being available by more than 90 percent of the farmers interviewed. The exception occurred in area 2 where only 75 percent of the livestock producers had access to a direct-to-packer sales outlet. In the other areas too, availability of packer sales



outlets was slightly less than for other market types, though less by only a small percentage.

### Livestock Market Use

The information obtained in determining market use has been consolidated somewhat for presentation here. It contains figures for both the sale and purchase of livestock. All animals marketed have been separated into three groups. These are (1) beef cattle, (2) dairy cattle, and (3) sheep and swine. Although some farms have dual purpose cattle, they are usually sold as either beef or dairy stock and the distinction made at the time of sale has determined the group in which they are included. Use data are given in Tables I, II, and III.

Each livestock grouping is divided into 2 or 3 subgroups. The subgroups are then further divided according to the size of the annual lot of livestock marketed. The figures represent sales and purchases for a one year period. The livestock subgroups were chosen to allow maximum consolidation of data with a minimum loss of identity. Lot sizes were chosen arbitrarily but are believed to approximately reflect the herd size groupings used in the preceding chapter on description of farms in the survey.

More importance, and consequently more detail, is accorded the cattle portion of the state's livestock industry. Sheep and hogs represent a comparatively smaller segment. They also have fewer market classifications and for these reasons are counted only in terms of total sheep and total hogs bought and sold in two annual lot sizes.

TABLE I  
NUMBER OF PRODUCERS USING SPECIFIC MARKETS BY NUMBER  
OF BEEF ANIMALS SOLD DURING A ONE YEAR PERIOD

Number of Animals Sold During Year	Number of Producers							
	Terminal		Auction		Country		Packer	
	Buy	Sell	Buy	Sell	Buy	Sell	Buy	Sell
<b>Calves:</b>								
1-15	2	95	26	133	26	43	0	10
16-30	1	35	5	22	7	3	0	2
31-60	2	16	4	5	2	6	0	2
61-up	3	10	1	2	2	0	0	0
<b>Steers:</b>								
1-25	2	41	10	25	4	7	0	5
26-50	4	9	1	3	1	4	0	0
51-up	4	9	8	6	0	3	0	1
<b>Other:</b>								
1-15	8	100	43	90	86	28	0	3
16-30	2	6	5	2	4	4	0	2
31-up	4	3	2	4	1	2	0	0

Source: Survey of 446 Oklahoma Livestock Producers, 1956.

TABLE II

NUMBER OF PRODUCERS USING SPECIFIC MARKETS BY NUMBER  
OF DAIRY ANIMALS SOLD DURING A ONE YEAR PERIOD

Number of Animals Sold During Year	Number of Producers							
	Terminal		Auction		Country		Packer	
	Buy	Sell	Buy	Sell	Buy	Sell	Buy	Sell
Calves:								
1-15	0	5	0	27	2	8	0	0
16-30	0	3	2	6	0	4	0	3
31 up	4	1	0	1	4	2	0	1
Other:								
1-15	2	25	13	12	48	8	0	0
16-30	0	2	0	1	1	1	0	4
31 up	0	1	0	1	0	0	0	0

Source: Survey of 446 Oklahoma Livestock Producers, 1956.

TABLE III

NUMBER OF PRODUCERS USING SPECIFIC MARKETS BY NUMBER  
OF SHEEP AND SWINE SOLD DURING A  
ONE YEAR PERIOD

Number of Animals Sold During Year	Number of Producers							
	Terminal		Auction		Country		Packer	
	Buy	Sell	Buy	Sell	Buy	Sell	Buy	Sell
Sheep:								
0-25	2	8	2	6	2	3	0	1
26 up	3	7	4	8	2	4	0	1
Swine:								
0-25	2	24	17	45	24	18	0	11
26 up	0	19	3	5	2	0	0	1

Source: Survey of 446 Oklahoma Livestock Producers, 1956.

## Definition of Market Types Used

Among livestock farmers and others associated with the livestock industry there are generally understood definitions of particular market types. However, this general agreement as to what constitutes a market is not precise enough to allow a discussion of various markets without making explicit distinctions. To simplify the matter, market terminology used here has meaning as follows:

1. Terminal or Central Markets: These are major organized markets whose physical facilities are usually operated by a stockyards company. The livestock transactions occurring here are handled by firms leasing or renting the stockyard facilities and by many independent sellers and buyers. The facility-using firms are generally commission companies and may represent partnerships, corporations, or co-operatives. Persons who sell at the stockyards are usually livestock producers or independent livestock traders. Most buying is done by meat packing firms, livestock feeders, and a few livestock producers who seek herd replacements. Such terminals are usually quite large and have full rail, motortruck, and news wire facilities. They perform a price determining function and influence an area sufficiently large to include most surrounding states.

2. Auction Markets: Auctions are organized markets handling all kinds of livestock but are generally much smaller and more localized than terminals. They are intermediate markets for many of the slaughter animals they handle. However, some meat packers do buy direct from auctions. Oklahoma auctions vary greatly in size and have annual sales volumes ranging from approximately 4,000 to over 100,000 animal units,

the basic unit being one head of cattle weighing over 400 pounds.<sup>1</sup> All together, there are approximately 100 auction markets operating in Oklahoma.

Practically all the auctions in Oklahoma are operated by single firms which conduct or supervise all transactions taking place between buyers and sellers. Many auctions are active only one day of the week. Also, numerous auctions conduct the sale of other than livestock items. Sellers at auctions are usually livestock producers and traders while the buyers may also include producers and traders in addition to meat packers.

3. Country Markets: This market type does not lend itself to definition as well as the preceeding ones but it may be defined by means of describing its limits. Country markets include almost all of those transactions involving livestock sale and purchase in other than organized markets. Such transactions mostly involve livestock purchase by either regular or itinerant livestock buyers, on the farm purchases by other livestock producers, and purchases made at breeders' sales or at auctions held by farmers who are going out of business.

4. Direct or Packer Sales: Direct selling to meat packers by livestock producers is becoming more important as a livestock marketing means in Oklahoma. Farmers using this method may sell to large commercial packing houses at terminal markets, to smaller independent packers whose business is comparatively local in nature, or to meat retailers who do their own slaughtering. Frequently the latter also

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<sup>1</sup>R. C. Lindberg and G. G. Judge, Estimated Cost Functions for Oklahoma Livestock Auctions, Oklahoma Agricultural Experiment Station, Bulletin No. B-502, January, 1958.

operate cold storage plants in conjunction with their slaughtering activities. While it is true that many local livestock traders sell directly to packing plants, only direct sales between producers and packers are included in the packer sales figures in this study.

In addition to describing current market use, the tables immediately preceding this section are used in a later part of this study in which actual practices of livestock producers are compared with the indicated marketing preferences of these same farmers. The difference is then statistically tested for significance.

Tables I, II and III show actual market use by respondents in terms of numbers of lots sold and bought. The lots are "annual lots" in which all of a specified type of livestock bought or sold during a one year period is counted. In this thesis, the terms central market and terminal market are given the same meaning and are used interchangeably. This is also true of the terms packer sales and direct sales.

#### Length of Market Use by Farmers

A graphic illustration of the percentage of livestock producers interviewed who have used each of the four market types for various lengths of time is given in Figure 12. Inspection of Figure 12 shows that a definite change is occurring in the type of market places being used by stockmen. Most of this change has taken place during the five year period preceding 1956.

The one to five year period represents the new patrons of the various markets and it may be seen that packer markets have the second largest share of new customers. New patrons may be either new producers or

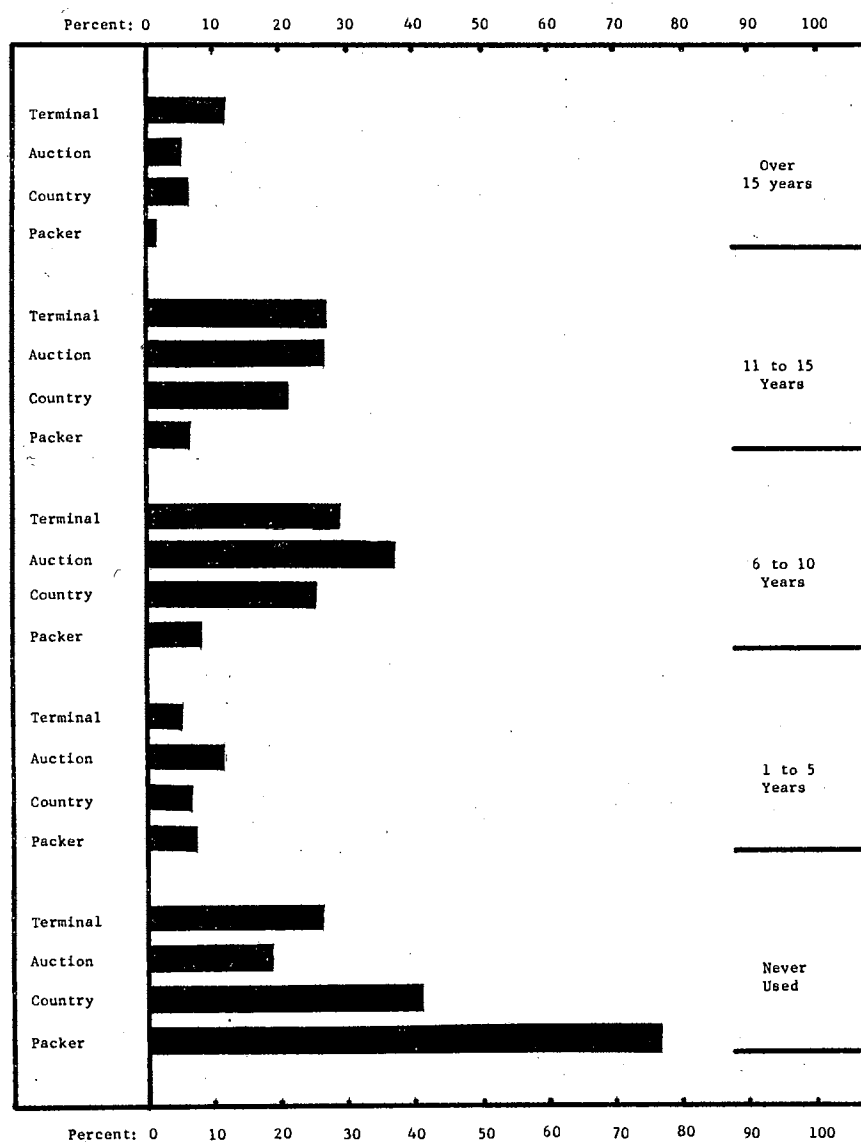


Figure 12

Percentage of Producers Using Each Market Type for  
Various Lengths of Time

producers who have switched from use of another market type. This represents a rate of growth for packer sales which is much higher than that of other markets. It is true that the popularity of auctions has increased considerably also, but the increase has come about over a rather long period of time. If direct sales continue their present rate of growth, they may soon become a major means of marketing livestock. This may affect organized markets a great deal, especially those which presently have a price determining function.

#### Stability of Market Use Over Time

On a size of cattle enterprise basis, there was little difference among farmers with regard to the stability of their selling pattern over the five years preceding the survey. About 65 to 68 percent of the producers in each area reported no change, 11 to 15 percent reported a changing selling pattern and approximately 20 percent of each group had no opinion.

By area, the response was somewhat different. In area one, only 59 percent of the producers had an opinion concerning their selling pattern but in area 4, 95 percent of the producers gave answers. Farmers in western areas reported very little change in selling pattern but as the more easterly areas were considered, the number reporting change more than tripled. It is believed at present that the situation in the eastern areas represents a combination of a changing basic agriculture and a dissatisfaction with some aspects of the marketing system.



### Use of Market Information Media

In determining the frequency of use of the various communication media and other sources of livestock market news, four general categories were used. They were used to standardize farmers' answers as to the frequency with which they use a news medium. They are (1) always, (2) often, (3) sometimes, and (4) never and are illustrated in Table IV.

The medium most frequently reported as being always used was the newspaper, including both daily and weekly publications. The second most popular source of market information appears to be the local auction. In reality the local auction is an aggregate of several other sources. There a producer may observe actual sales, converse with buyers and other producers, and contact meat packing representatives. The third most popular source of information is the electronic means, television and radio. Apparently, radio is being rivaled very strongly as a market news source by television. The 6.3 percent reporting that they always use the radio may to a certain extent represent producers who do not have television sets. Television market news programs were generally described as being more complete since they may frequently include charts and pictures of livestock being sold in addition to commentary.

### Determination of Value of Livestock

When asked by what means they determined an expected value for their livestock, answers given by producers were closely related to the market news media they used. There was a difference in the ranking of radio and television and the newspaper reports. Table IV shows that

TABLE IV  
 FREQUENCY\* OF USE OF MARKET INFORMATION MEDIA BY  
 LIVESTOCK PRODUCERS

Medium	Always	Often	Sometimes	Never
Radio	6.3	0	.7	0
Television	4.5	10.8	.7	0
Magazines	.4	3.1	4.3	.2
Newspapers	21.3	8.5	2.7	0
Commission Firms	.7	2.5	1.8	0
Government Reports	.2	2.5	2.7	1.1
Private Reports	.2	1.3	.7	29.1
Local Auctions	4.3	24.7	7.9	5.2
Local Buyers	0	6.1	8.8	32.6
Other Producers	.2	13.7	60.2	19.3

\* In percentages of total number of producers interviewed.

Source: Survey of 446 Oklahoma Livestock Producers, 1956.

newspapers were the source most often consulted. However, in determining the value of livestock the order of importance was reversed. It is believed that the reason for this difference is the time lag between published and electronic reports. Since the time of day as well as the time of week needs careful consideration in selling, producers apparently make many of their last minute decisions on the basis of radio and television reports even though they may have referred to newspapers a great deal prior to the time of sale.

Auctions are very important as sources of local market information. For a given auction which usually sells only once a week, information obtained on one sale day would be outdated for the following sale. However, most producers have access to several auctions and since they usually sell on different days each week, a fairly continuous stream of local market information is available to producers.

Table V lists the various means used by farmers in each cattle enterprise size group and area. The category listed as "unspecified market reports" includes answers given by producers who considered market news reports but weren't inclined to be specific in their answers. It is felt by the writer that this category could be proportionally divided among all the others according to their importance.

Several other answers of lesser importance were given. Apparently, considerations of cost of production, and the quality, condition, and kind of livestock did not figure heavily in the producer's appraisal of the market worth of his livestock. Although these factors will determine the farmer's total revenue once a price has been established, they still represent sunk costs and cannot be varied over the time period considered.

TABLE V  
PERCENTAGES OF PRODUCERS USING VARIOUS MEANS TO DETERMINE THE VALUE OF  
LIVESTOCK WHEN CONTEMPLATING SALE

Area				Means Used to Determine Value	Size Group			
1	2	3	4		1	2	3	4
49.5	54.9	71.4	66.7	Radio and television	56.9	64.6	57.1	58.0
37.9	35.4	34.7	47.4	Watching auction sales	45.8	35.4	39.9	29.0
31.6	31.8	17.3	22.8	Unspecified market reports	26.4	25.4	30.4	27.5
17.9	15.4	22.4	22.8	Newspaper and magazine reports	12.5	16.9	20.2	24.6
0	9.2	11.2	8.8	Neighbors' sales	4.2	6.9	8.9	7.2
2.1	2.1	8.2	5.3	Quality, condition, kind of stock	2.8	3.8	4.2	4.3
3.2	3.6	2.0	3.5	Cattle buyer	5.6	0	5.4	1.4
1.1	0	4.1	7.0	Commission company	5.6	4.6	0	0
0	0	4.1	1.8	Go to stockyards	0	3.8	0	0
1.1	1.0	0	0	Total costs plus a return	0	0	1.0	2.9

Source: Survey of 446 Oklahoma Livestock Producers, 1956.

Thus at the time of sale, the producer is more interested in getting the top price offered since this will be one of the easiest ways in which he can maximize his revenue.

#### Consultation of Marketing Agencies When Selling

The practice of consulting a marketing agency before buying or selling livestock is not very widespread. In selling it was found that the number of western Oklahoma stockmen consulting a marketing agency was about three times that in the eastern area. By size grouping there was proportionally even more difference between farms with large cattle enterprises and those with smaller ones. The percentage of producers in each area and size group who did consult agencies ran in this manner.

	1	2	3	4
Consultation by area:	15.8	13.3	13.3	5.3
Consultation by size:	6.9	10.0	11.3	27.5

The information wanted by sellers was an estimate of the market volume and price in the immediate future. Also important in the consultations taking place were requests for a buyer to either purchase livestock on hand or to inspect and evaluate it.

#### Consultation of Marketing Agencies When Buying

Buyers who contacted agencies usually wanted to know the classes of livestock available and their current prices. For some, consultation consisted of advising an order buyer of the number and kind of animals wanted and the maximum price the buyer was willing to pay. The percentages of producer-buyers in each area and size group who consulted agencies were:

TABLE VI

PERCENTAGE OF PRODUCERS REPORTING VARIOUS EFFECTS OF DAY  
OF THE WEEK ON MARKETING PRACTICES

Area				Time of Week During Which Livestock is Usually Sold	Size Group			
1	2	3	4		1	2	3	4
26.3	20.0	26.5	54.4	Sale day at auction	41.7	28.5	27.4	11.6
14.7	30.8	35.7	10.5	First part of week at terminal	16.7	23.1	29.8	31.9
33.7	8.7	8.2	14.0	No effect	22.2	23.1	8.9	5.8
5.3	19.5	18.4	0	Middle of week at terminal	11.1	10.8	15.5	18.8
9.5	12.8	12.2	12.3	Monday or Tuesday	6.9	12.3	13.1	13.0
7.4	8.7	5.1	1.8	Tuesday after the Monday run	1.4	3.8	8.9	13.0
2.1	2.1	1.0	1.8	Monday	2.8	1.5	0	4.3
1.1	1.5	2.0	0	Days other than Monday	1.4	0	1.8	2.9
1.1	1.5	1.0	0	End of week	2.8	0	1.2	1.4
2.1	0	1.0	0	Middle of week	0	0	1.2	2.9

Source: Survey of 446 Oklahoma Livestock Producers, 1956.

TABLE VII  
PERCENTAGES OF PRODUCERS REPORTING VARIOUS EFFECTS OF TIME  
OF YEAR ON MARKETING PRACTICES

Area				Time of Year During Which Livestock is Usually Sold	Size Group			
1	2	3	4		1	2	3	4
18.9	22.6	41.8	33.3	Early summer and summer	22.2	30.0	26.2	33.3
31.6	23.6	22.4	29.8	No effect	36.1	29.2	23.2	17.4
20.0	23.6	17.3	19.3	Spring	19.4	16.9	23.8	23.2
20.0	17.4	15.3	14.0	Fall	16.7	13.8	17.9	23.2
4.2	6.7	11.2	5.3	Depends on livestock	5.6	7.7	7.7	4.3
6.3	9.7	1.0	3.5	Depends on forage and crops	8.3	4.6	5.4	10.1
2.1	6.7	1.0	3.5	Winter	2.8	4.6	3.6	5.8
4.2	5.1	1.0	0	Depends on weather	2.8	3.1	3.0	5.8
0	1.5	1.0	0	Depends on market	0	.8	.6	2.9

Source: Survey of 446 Oklahoma Livestock Farmers, 1956.

interviewed preferred to sell in the spring and over 25 percent preferred selling in summer or early summer. Answers to the question pertaining to time of year chosen for selling fell into two categories. Most specified a particular season of the year. A smaller group gave answers stating that the season of marketing was dependent on factors such as weather, crops, the market, and the livestock being considered. Intuitively it seems that the latter answers are much more representative of farmers' marketing decisions and that the former group may reflect seasonal choices that would be made if the other factors didn't vary.

#### Types of Transportation Used

Nearly half of the transportation farmers used in marketing their livestock was hired. The remainder was farm owned. Of the transportation hired, most was done by people who regularly hauled livestock on either a full time or part time basis. Some producers hired their neighbors to do hauling. Table VIII shows the frequency of use of the various means of transport. The columns headed "percent hired" and "percent owned" indicate the proportional usage of hired and owned vehicles. For a given method of hauling the percentages owned and hired may total more than 100. This occurs because many producers use both types of transportation depending upon the time of year, availability of their own vehicles, and the size lot to be marketed.

#### Market Use by Area and Size of Cattle Enterprise

Respondents in each area were divided according to the four size groupings previously mentioned. The number of producers in the indicated



size group and area who used each market type in selling cattle was expressed as a percentage of the total number of producers in that area and size group. Some producers never sold cattle at all and others used more than one market type. Thus the sum of percentages listed in a given size group in a given area may be more or less than 100 percent.

TABLE VIII  
TYPES OF TRANSPORTATION AND FREQUENCY OF USE  
BY LIVESTOCK PRODUCERS

Method of Transport	Producers Using	Percentage Using Owned	Percentage Using Hired
Farm truck	288	68	67
Pickup truck	193	88	52
Tractor trailer	30	66	93
Car trailer	14	93	57
Pickup trailer	7	57	43
Railway	1	0	100

Source: Survey of 446 Oklahoma Livestock Producers

In Table IX, reading the percentages in rows indicates the frequency of use of market types within each size grouping. If the figures in each row were depicted as graphic frequency distributions it would be found that the peaks of such distributions move toward the larger markets as the size group is increased.

If the percentages in Table IX are read as columns it is quite easy to see the effect on frequency of use of individual markets as the size of cattle enterprise considered is increased. In all areas but one packer sales varied noticeably. Country sales generally increased in areas one and two and decreased in areas three and four. Auction sales

TABLE IX

## MARKET USE BY AREA AND SIZE OF CATTLE ENTERPRISE\*

Survey Area:	I				II				III				IV			
Type Market:**	T	A	C	P	T	A	C	P	T	A	C	P	T	A	C	P
Size 1	6.7	53.3	26.7	0	30.4	39.1	8.7	0	38.1	57.1	19.0	4.8	0	84.6	15.4	0
Size 2	13.3	66.7	26.7	3.3	48.9	31.1	2.2	0	47.4	42.1	42.1	7.9	23.5	52.9	17.6	17.6
Size 3	33.3	60.6	30.3	15.2	64.4	41.4	8.0	1.1	75.9	20.7	10.3	6.9	15.8	94.7	5.3	10.5
Size 4	43.8	43.8	43.8	12.5	73.0	27.0	27.0	0	77.8	22.2	11.1	0	57.1	57.1	0	14.3

\* Each figure listed is the percentage of producers in the indicated size group and area who sold live-stock on a particular type of market during the survey period.

\*\* The market designations T, A, C, and P represent in order Terminal, Auction, Country, and Packer markets.

Source: Survey of 446 Oklahoma Livestock Producers, 1956.

varied a great deal in areas one, two, and four but decreased in area three. Terminal sales definitely increased in all areas although area four showed some variation in its increase. Terminal use by all producers in size group one averaged 18.8 percent while for all producers in size group four the average was 62.9 percent.

### Summary

Livestock producers in Oklahoma are mostly sellers with respect to livestock market use. Their sales pattern in the use of markets is changing rather significantly. In selling and buying livestock, producers use a variety of sources of market information. Market information sources and the frequency with which they are used are related closely to the means farmers use to determine the value of their livestock. There is a rather definite indication that some market news sources provide "background" information and others are relied upon for "action" information.

Consultation of marketing agencies such as buyers and commission companies was limited but was definitely related to the size of the producer's cattle enterprise. Those with larger cattle enterprises or with cattle enterprises which represented the farm's major effort relied most on consultation both in buying and selling. The time of marketing during the week was most critical for those who sold on terminal markets. The time of year preferred for marketing was varied and appeared much less critical. Generally the size of market producers preferred varied directly with size of cattle enterprise. This relationship held true for all four areas included in the survey.

## CHAPTER V

### LIVESTOCK MARKETING PREFERENCES

This chapter contains an empirical presentation of livestock producers' preferences for the several types of livestock markets and various characteristics peculiar to the use of these markets. The information contained relates to:

1. Market likes and dislikes.
2. Suggestions for improvement of markets.
3. Rating of markets for buying and selling.
4. Market selection on the bases of size lot and type of livestock.
5. Producer evaluation of attitudes of market personnel.
6. Market news source likes and dislikes.
7. Transportation method likes and dislikes.
8. Preferences and suggestions for governmental market regulation.

In this chapter little attempt is made to evaluate the preferences and opinions obtained in the survey. Some of the categories of preferences and opinions listed herein have purposely been broadened to include as many similar answers as possible without losing or confusing their meaning. For this reason, no strict interpretation of the meaning of a particular category in this study should be made.

Chapter VII is devoted to testing whether the indicated preferences given here are reliable indicators of the actual preferences livestock producers might have. The particular answers tested are those resulting from producers' ratings of markets for buying and selling purposes.

### Market Features Liked and Disliked by Producers

All producers were asked to state their particular likes and dislikes for all four market types. A tabulation of the results by size of cattle enterprise and area may be found in Appendix A. Here they are briefly discussed. For all four market types there was a considerable number of producers who had never used the particular market in question. In some cases these respondents were included with those who had no opinion and were put in the "no opinion" category.

To maintain brevity only the more important reasons for liking or disliking a market were included in the tables in Appendix A. Some of the reasons listed represent combinations of one or more similar answers. For example, several answers such as good price, best price, fair price, and high price may be included in the category "better prices".

#### Terminal Market Likes

A characteristic of terminal markets that many farmers consider favorably is size. They tend to associate large markets with good markets. Large markets give livestock producers an impression of stability and dependability. It is generally felt by producers that the terminal offers a better variety of services and is staffed by more competent personnel. Price factors are valued highly at terminals and were mentioned as likes by over 25 percent of all producers. Such comments were to the effect that either good or better prices existed there or that producers could always be sure of receiving the market price for their livestock. The general lack of speculative buying and selling also raises producers' opinions of terminal market pricing.

The presence of numerous buyers and healthy competition is also a feature of terminal markets which appeals to many producers. Grading is another feature of terminal markets that is liked by livestock producers. They particularly appreciate grading service as rendered by commission men, especially in selling.

Most producers generally prefer to utilize terminal markets only for the larger lots of livestock because of the additional time and expense involved. However, they also recognize the worth of terminals as a market for selling odd head and cull livestock when the expense of doing so is not prohibitive. This is reflected in the number of producers who like terminals because of their willingness to accept all livestock.

Producers who operated the larger size cattle enterprises were generally more appreciative of the degree of competition and grading services offered by terminal markets. Those who had smaller size cattle operations more frequently mentioned "accepts all livestock" as one of their terminal market likes. Though seldom stated explicitly as a like, many producers implied that they welcomed a trip to the terminal market because of the opportunity it afforded to shop in a metropolitan area.

#### Terminal Market Dislikes

The largest single dislike producers had for terminal markets was distance from the farm. In reality this is not a dislike for the market as such but reflects the producers' dislike for the situation which causes the terminal to be rather far removed from the farm in many cases. Most of the dislikes which producers had for the terminal market were related to distance from the market. Associated with the dislike for distances

involved were those concerning more shrinkage and more expense. Weight loss by shrinkage has a very real effect on producers' revenue. The fact that livestock cannot practically be reloaded and hauled back to the farm if not sold right away involves additional costs for feed and yard fees.

This suggests a fourth dislike, slowness of sales. This dislike was most often reported by operators of the larger cattle enterprises. Whenever livestock are not sold promptly, a great deal of inconvenience in addition to expense may result. Most producers prefer to be present whenever their livestock is sold. A delayed sale thus necessitates additional loss of time if the producer chooses to wait or a certain amount of doubt if he decides to return to the farm. The latter may be of little consequence to some producers, particularly those who frequently send livestock to market by a hired hauler rather than accompany their product.

Livestock producers who disliked terminals because of a dishonesty element were predominately those with large size cattle enterprises. There were indications that such dislikes arose from actions of individuals employed or operating at the market rather than from poor management of the stockyards and commission companies. Approximately five percent of all producers interviewed believed that dishonesty or unfairness existed at terminal markets. In general, a much greater proportion of the producers in the smaller size group had no opinion regarding terminal markets either as likes or dislikes.

#### Auction Market Likes

A very large share, approximately 40 percent, of all farmers interviewed liked the auction for its closeness and convenience to their farm. This particular characteristic of auctions was most often mentioned by

producers in the smaller size groups. The reason for this is that producers with the smaller livestock enterprises are less likely to have suitable transportation or large enough sales to warrant a trip to a more distant market. The second most popular like had to do with competition. In some instances producers implied that it was the appearance of competition that attracted them to auctions as much as the actual existence of competition among buyers. That is, they liked the idea of the auction method of selling by competitive bidding even though the auctions with which they dealt may have been lacking in competition or had competition in an undesirable form.

Producers with the larger cattle enterprises referred most frequently to auctions as an outlet for odd head and cull livestock. For the smaller producers auctions were more important as primary rather than alternate outlets. Another facet of auction use is the convenience it lends with respect to non-livestock types of farm business. Auctions are usually so situated that other farm business may be conducted during a selling trip. For some farmers, visiting auctions is a kind of social function bordering on recreation. Many people attending auction sales may have no intention of either buying or selling livestock.

#### Auction Market Dislikes

The greatest dislike for auctions was that fat stock prices were too low. This was mentioned by 20 percent of all producers. Apparently some producers feel that the margin between "market price" and the bids of auction buyers is excessive when selling finished livestock, yet no mention was made that this occurred when selling lower grade animals. The reason for the inconsistency was not revealed by this study.



Nearly 15 percent of all respondents disliked the adverse influence certain traders had on auction sales and bidding. An additional 3 to 4 percent disliked auctions because of unfairness and dishonesty. Such dislikes referred mostly to selling outside the sales ring, making sales too rapidly, failure to sell livestock in the order received, and influencing of sales by the auction management. These two dislikes point out the areas of auction selling most in need of improvement.

Lack of competition and stability was a frequent criticism of auctions. Most of the producers stating this dislike were from the larger cattle enterprise size groups. It is likely that the reason for their criticism arises from comparisons made between auctions and other market types they frequently use. Inadequate services and facilities were noted by several farmers. Typical of the inadequacies observed were lack of water and shade for livestock and the absence of grading and weighing facilities. Such complaints are largely reflections of the quality of management at some auctions.

#### Country Market Likes

Convenience is the major like farmers have for country selling. It was mentioned over 18 percent of the time. Of all methods of marketing livestock, country selling is the least costly in terms of time loss and transportation expense. This advantage has considerable appeal to livestock producers in all size groups. Related likes for country selling are no commission fees and no hauling or shrinkage cost.

Many sellers reported either good or better prices when making country sales of livestock. Most of those reporting better prices as a country

market like were from the larger cattle enterprise size groups. These producers were probably good traders and had extensive selling experience and current knowledge of livestock market conditions. Producers from the smaller size groups liked the convenience of country selling more than the prices they received by this method.

#### Country Market Dislikes

Two country market dislikes which were given with equal frequency were that buyers' prices were too low and the seller was likely to lose money. The first of these two dislikes was given much more often by producers with small size cattle enterprises. This probably occurs because livestock farmers with very small herds are less likely to have the knowledge and experience necessary to extract a good price from buyers. The second dislike occurs almost equally in all four size groups. Apparently, most livestock producers realize that they are taking a certain risk in country selling regardless of experience.

Another dislike more frequently mentioned by small producers was that livestock were not properly classed and graded when sold on the farm. This dislike, too, is related to the relative bargaining ability of the producer. Some respondents felt that the method of country selling was too unsteady. This may very well be the case because of the market's dependence on the actions of independent and unorganized buyers.

#### Packer Market Likes

The likes presented here represent rather small percentages of all producers interviewed because of the relatively small number of producers using this method of selling. When given as a like for packer marketing,

convenience had a slightly different meaning. Convenience here referred to the speed with which sales were made as well as the packer's proximity to the farm. When selling at local packing plants, no time is lost in waiting for a buyer or entrance to the sale ring. Loading and weighing facilities are usually adequate and payment for animals sold may be received immediately.

Similar and related likes also given were receipt of more money and the absence of commission and yard fees. Most producers using packer markets felt that having stock weighed and graded by the packer and receiving a price near that available on organized markets were enough to offset the convenience and cost factors in country sales and the competitive factor in auction and terminal sales. Also, packer markets are usually situated so that livestock selling trips may be combined with other farm business.

#### Packer Market Dislikes

The major dislike producers had for packer markets was that packers didn't pay well enough. This dislike was comparatively uniform among all four size groups. This complaint may have arisen from observed differences between packer and market prices for a given class and grade of livestock or it might have stemmed from the downgrading of animals by packer buyers.

Another dislike by producers was the apparent complete lack of competition at the packer's receiving station. This dislike can stand some examination. While it is true that competition doesn't exist at the packer's buying station, it does exist in the market choices the producer is free to make. If producers feel that packer prices are below "market" prices sufficiently to offset the additional costs other markets may

entail, they are not likely to use the packer market. Thus to the extent this "margin" is exceeded, competition exists for the producer making packer sales.

Some livestock farmers disliked packer markets because they were mostly outlets for finished animals. This indicates that there was a necessity for such producers to use more than one market in selling their livestock if they were to maximize their returns. It appears, however, that there is a certain need for a good market for finished animals since the major dislike for auctions suggested that auctions are not good fat stock outlets. On this basis, it is likely that many producers who cannot economically use a terminal market may be forced to divide their livestock sales between auction and packer markets.

#### Suggestions for Improving Livestock Markets

Though many farmers readily discuss the various market dislikes they have and inefficiencies they observe, they are not often able to suggest a means of improving the situation. As the preceding pages indicate, they are definite and substantial dislikes for several aspects of the different market forms. Suggestions for correcting the factors causing these dislikes may need to be indirectly drawn from the stated dislikes themselves rather than from direct suggestions made by farmers.

In all areas and size groups only a very small percentage of producers interviewed could offer the same suggestions. Of the suggestions given for terminal market improvement, three are listed below. These three represented as much as 5 percent of all producers in only two to three of the eight size and area groupings.

1. Better management of stockyards.
2. Improved livestock handling facilities.
3. Faster handling, selling, and weighing service.

Auction market improvement suggestions, representing only 4 to 7 percent of producers in the area and size groups were given, differed considerably from those suggested for terminal markets. They are:

1. Better management.
2. Stronger regulations covering diseased animals.
3. Attract more buyers to increase competition.
4. Prohibit buying livestock outside of the sale ring.

There were no practical suggestions regarding country and direct selling. In fact, little could be expected in the way of recommending improvements since these two methods represent individual and private transactions.

#### Producers' Market Ratings

To obtain market ratings that reflect producers' evaluations of the market characteristics they consider most important, five criteria were selected. They are convenience, competition, net return, management, and grading. Respondents were asked to rank the four principal market types on each of the five bases. Then they were asked to give their reasons for ranking the markets as they did. The results were tabulated and may be seen in Appendix B.

The tables contained in Appendix B may be read as follows. Column one indicates the four groups into which all farms were divided on the basis of the size of their livestock enterprise. The second column shows the number of producers in each size category. Column three lists each

group's collective first, second, and sometimes third choices. This was done according to the number of times each market type was given the top ranking by farmers in the size group concerned and is reflected in terms of percentages in column four. Column five gives the most prevalent reasons for producers rating the markets as they did, and column six indicates in percentages the most popular reason given by all producers who gave a top rating to a particular market.

Ratings were obtained for all five criteria in selling livestock, then similar ratings were made for buying. No differentiation was made with respect to the type of livestock being bought or sold. Choices given are believed to reflect the cumulative marketing experience of the producers concerned rather than impressions they gained during the year covered by this study.

A summary of the results of producers' market ratings is given here. More detailed information may be obtained from Appendix B.

#### Market Ratings in Selling Livestock

##### 1. Convenience in Selling

Auction markets were the first choice in all four size groups for convenience in selling. Second choice for size groups one and two was country sales but for groups three and four the second choice was terminals. The larger the size group considered, the smaller was the difference between first and second choices. The reason given for all first and second choices in all size groups was that the market concerned was close to the farm and convenient.

## 2. Competition in Selling

Terminals were the first choice for competitiveness and auctions were the second choice in all four size groups. However, as size of group increased, a preponderance of producers chose terminal markets. For all choices and size groups the reason for giving the choice was "more buyers and more competition".

## 3. Net Return in Selling

Size group one had a first choice for auctions and a second choice for terminals. All other groups chose terminals first and auctions second except for group four in which the second choice was the country market. Since many of the group four cattle enterprises were cow and calf operations, it is probable that these producers preferred country sales to feed lot operators rather than auction sales in making their second choices. All groups gave "best price" as their reason for choosing each market except in group one where "minimum expense" was the reason for giving auctions as first choice. As the size of group considered increased, producers were more definite in their first choices.

## 4. Management in Selling

In all four size groups terminals were first choice and auctions were second choice with respect to management of the market concerned. Again, as the size of group being considered increased, the preference for terminal markets grew much stronger. Groups one and two gave "largest market in area" as their reason for choosing terminals first and groups three and four gave the reason "big business and good service". All four groups gave "good management" as the reason for their second choice.

## 5. Grading in Selling

Here, too, all groups made terminals the first and auctions the second choice in evaluating livestock grading services. The reason for all first choices was "commission men are the best graders" and for second choices it was "the local manager is the best grader". As before the larger the size group the greater the preference for terminals over auctions.

### Market Ratings in Buying Livestock

#### 1. Convenience in Buying

The first two size groups picked the country market and auctions as first and second choices. Groups three and four were just the opposite in choice. They listed auctions and country sales as first and second. For all selections "close to the farm and convenient" was the reason for making the choice. In each case the number preferring the first choice was never much larger than the number preferring the second choice.

#### 2. Competition in Buying

The first choice of all groups for competition in buying was the country market. Actually the preference is for the one with the least competition. All four groups preferred the auction as a second choice in buying. The reason for all first choices was that there was "just one buyer at a time". The reasons for the second choices varied among "can make best buys", "fewer buyers", and "can buy all classes". In this case the difference between the numbers making the first and second choices became smaller as size group increased.



### 3. Net Return in Buying

Groups one, two, and three stated their first and second choices as being country and auction markets. Group four's choices were just the opposite. The first three size groups all gave "get better quality stock" and "can buy for less" as the reasons for their first and second choices. Reasons given by group four for its first and second choices were "returns are always satisfactory" and "get better quality stock". Differences between the numbers making the first and second place choices became smaller as size group increased.

### 4. Management in Buying

Country markets were the first choice of groups one, two, and three. Auctions were their second choice except for group one where auctions and terminals tied for second place. Group four chose auctions first and terminals second. The reasons for choices of markets according to management were quite varied and may best be examined in Appendix B. In this rating, preferences for markets became more evenly divided as the size group increased.

### 5. Grading in Buying

Country, then terminal markets were first and second choices for groups one, two, and three and were just the reverse for group four. The reasons for choices one and two in group one were "service is always satisfactory" and "graders are well qualified". For all other groups the reasons in order were "can grade own livestock" and "order buyers are best". Here also preferences were more evenly divided as the size group was increased.

### Discussion of Ratings

Some generalizations can be made about the preceding market ratings. When selling, producers who have the larger livestock enterprises not only choose the larger type markets first but do so by a conspicuously larger majority. Producers are quick to recognize the importance of using markets which are competently managed and offer essential services such as grading. They are also very conscious of price, competition, and convenience, the latter representing a desire for both cost reduction and leisure.

In buying, livestock farmers in all size categories seem to prefer smaller, less organized markets. This is because they realize that some of the factors contributing to a good seller's market may be a handicap in a buyer's market. Additionally, there is less desire for some of the services organized markets offer because the producer prefers to take over some of the management and grading functions. One quite different relationship in buying as compared to selling is that market choices become more evenly divided as the size of cattle enterprise considered is increased. The opposite was found to be true in a selling situation.

### Market Selection on a Livestock Type Basis

In answer to the question "Do you use different outlets when selling different kinds of livestock?" producers were almost equally divided in their replies of yes and no. Eighty-three percent of those answering "yes" gave the reason for doing so as either "always hunt for the best market" or "the market used depends on the type of stock being sold".

Producers giving "no" answers indicated in almost every case that they were partial to a particular kind of market and preferred to use it regardless of the type of stock being sold.

In buying livestock 80 percent of the respondents did not select a market on the basis of the type of livestock sought. Again they either preferred to use a particular outlet all the time or stated that they never bought livestock. The 20 percent who used different outlets made their livestock market choices according to type desired, availability, and price.

#### Market Selection on a Lot Size Basis

The size lot of livestock sold is not as important a factor in market selection as is type of livestock. In selling, only 38 percent of the producers contacted said the size of lot would affect their choice of market. Of these, most gave the reason that they preferred the terminal market for large lots and the auction or other local markets for odd head and small lots. Most of those who felt size of lot was not a factor in their marketing decisions preferred to use one market all the time for any size lot of livestock they might sell.

The effect of lot size in market selection for buying purposes was negligible. Fourteen percent did consider lot size in that they would "buy where available" but the remaining 86 percent preferred to use a given market type without shopping around.

The preceding indicates something of the importance of good producer-dealer relations in marketing. It appears that producers' loyalty to particular market places that have won their confidence may account for

much of the reluctance on the part of farmers to "shop around" in their buying and selling activities. This may point out one area of improvement in which real contributions to the stability of livestock marketing could be made. This situation might be another in which producers are motivated by significant non-economic factors as well as the purely economic ones.

#### Producer Evaluation of Attitudes of Market Personnel

Livestock farmers were questioned as to how welcome they felt when trading with or visiting auction and terminal markets. Their responses varied considerably with size of livestock enterprise and area in which the farm was located. Details of the attitude analysis may be seen in Table X. It may be noted that for a given group or area and market type, the percentages listed may total more than 100. This occurs because some respondents desired to give more than one answer. In such cases the respondent had felt different degrees of welcome at a given market or at various markets of the type about which he was being questioned. In some instances, many producers in a particular area or size group did not express opinions on the matter. Thus the figures listed represent frequencies of occurrence of particular answers in terms of percentages of the total number of producers in an area or size group.

#### Effect of Size Group and Area on Attitudes

Producers in the western areas expressed fewer opinions regarding how welcome they felt at various markets. The breakdown by size group in the righthand side of Table X reveals that producers who have the

TABLE X  
PRODUCER RATINGS OF ATTITUDES OF MARKET PERSONNEL\*

Area				Market Type and Attitude	Size Group			
1	2	3	4		1	2	3	4
(Auction Markets)								
0.0	0.0	3.1	1.8	Unwelcome	2.8	2.3	0.0	0.0
0.0	2.1	2.0	3.5	Indifferent	1.4	3.1	1.2	1.4
12.1	17.9	43.9	31.6	Welcome	16.7	42.3	22.6	17.4
45.3	32.3	96.9	56.1	Very welcome	98.6	66.9	21.4	56.5
(Terminal Markets)								
0.0	1.0	3.1	1.8	Unwelcome	0.0	3.8	0.0	0.0
2.1	1.5	2.0	7.0	Indifferent	4.2	5.4	0.0	0.0
23.2	13.8	30.6	34.6	Welcome	12.5	30.0	22.6	10.1
15.8	22.1	94.9	77.2	Very Welcome	51.4	81.5	23.8	18.8

\* In percentages of total number of producers in each area and size group.

Source: Survey of 446 Oklahoma Livestock Producers, 1956.

larger livestock operations also appear to be less concerned with the treatment they receive. One implication of this is that the markets in the western areas are operated in such a manner that good will is either less important in the conduct of business or it is prevalent to the extent that it is taken for granted and little thought is given to it. Another implication is that the producers of smaller lots of livestock are more sensitive about the treatment they receive and a larger proportion of them have formulated opinions on this aspect of marketing.

It is likely that the particular frequency distributions in Table X result from a combination of both the situations just implied. Therefore, since more of the smaller livestock producers are group towards the eastern areas surveyed, it appears that producers in these areas are much more conscious of the treatment they receive from market operators.

#### Market News Source Likes and Dislikes

Farmers using the various sources of livestock market information quite readily stated their likes for particular sources and news services in general. Less than 10 percent of all farmers interviewed declined to mention a like for at least one market news source. Some comments such as "fast, convenient, and up-to-date" were quite general but the implication was that they referred to radio, television, and newspaper sources.

Another like was that news sources "allow farmers to evaluate their own stock". For farmers with little grading ability the reference may have pertained more to visual reports obtained from television and visits to auctions. Those who have greater ability or more experience may be able to evaluate their livestock by using non-visual reports. All other

news likes were specific in their reference to one or more news media. The comparative importance of these likes is illustrated in Table XI.

Dislikes for market news services were not very numerous. Most of them were in the form of constructive criticism and there appeared to be a real interest on the part of producers in giving helpful suggestions.

#### Comparison of Market News Sources

Table IV revealed that the most important news sources were newspapers, radio, television, and auctions. The first three reflect conditions of price and supply on the terminal market, the latter on local markets. Thus the first three means are the ones that may lend themselves to improvement. Other sources are mostly the result of personal observation.

Continuation of the increase in popularity of television should result in its becoming a first or second ranking news source. Compared to radio, television offers the additional advantage of visual observation of selected lots of livestock that are being sold. However, both have the potential of giving newscasts that can be varied throughout the day depending on the changing listening habits of radio and television set owners.

#### Transportation Method Likes and Dislikes

There was very little dissatisfaction with the transportation arrangements available to producers. Nearly 60 percent of all producers interviewed liked their present method most for its convenience. Other likes were that their present method was less expensive, they could do their own hauling, or commercial haulers were available and provided good service. Eighty-six percent explicitly stated that they had no transportation

TABLE XI  
PRODUCERS' LIKES AND DISLIKES OF MARKET NEWS SOURCES IN PERCENTAGES  
OF TOTAL NUMBER INTERVIEWED

Likes	Percent of Producers Listing		Dislikes
Radio is best source . . . .	18.9	5.3 . . . .	Quote only top prices
Fast, convenient, up to date . . . . .	17.8	4.6 . . . .	Miscellaneous dislikes
Television shows actual grading . . . . .	16.4	3.0 . . . .	Reports not accurate
Newspaper reports more complete . . . . .	6.2	2.8 . . . .	Radio prices exaggerated
Allow farmer to evaluate own stock . . . . .	6.2	2.3 . . . .	Grades not well defined
Radio and Television reports at best time of day . . . . .	7.2	1.9 . . . .	Published reports are too late
Can evaluate stock at auction . . . . .	8.8	.9 . . . .	Reports too brief
Most reports give adequate information .	4.8	.2 . . . .	Too much advertising
Magazine reports more complete . . . . .	3.7	.2 . . . .	Radio and Television at wrong time of day
No opinion . . . . .	9.9	78.7 . . . .	No opinion

Source: Survey of 446 Oklahoma Livestock Producers, 1956.



dislikes. Dislikes mentioned were very scattered and none represented as much as three percent of all respondents. While this finding does not mean the transportation phase of livestock marketing has no ills, it does indicate that there is a very high level of satisfaction with the present system.

#### Government Market Regulations Desired

Almost half of all livestock producers included in the survey indicated a need for additional or revised government regulation of livestock markets. Auction markets were by far the greatest source of concern with respect to inadequacy of regulation. Comparatively few producers wanted more regulation of terminal markets and almost none felt that country and packer sales should be regulated. The latter two market types, by virtue of their highly individual and unorganized nature, have few characteristics that could practically be regulated. Table XII provides more detailed information on this aspect of producer preferences.

#### Relation of Area and Regulation Desired

Table XII indicates that sentiment against further government regulation increases toward the eastern areas of the state. As the size of cattle enterprise considered is increased, the preference for additional regulation grows stronger. Thus, it may be seen that the operators of livestock producing farms in the western areas are much more desirous of an improved marketing situation with respect to government regulation.

TABLE XII

PERCENTAGES OF PRODUCERS BY AREA AND CATTLE ENTERPRISE SIZE GROUP WHO PREFER ADDITIONAL  
MARKET REGULATION BY GOVERNMENT

Area				Market Needing Additional Government Regulation	Size Group			
1	2	3	4		1	2	3	4
37.9	45.1	40.8	19.3	Auction	29.1	35.4	47.0	39.1
6.3	6.2	16.3	1.8	Terminal	4.2	7.7	10.1	5.8
0	1.5	2.0	1.8	Country	0	2.3	1.8	0
1.1	1.0	1.0	0	Packer	0	1.5	1.2	0
7.4	3.1	3.1	10.5	All Markets	4.2	4.6	4.2	8.7
34.7	39.5	35.8	52.6	No Markets	54.1	41.6	30.9	39.2
12.6	3.6	1.0	14.0	No Opinion	8.3	6.9	4.8	7.2

Source: Survey of 446 Oklahoma Livestock Producers, 1956.

### Specific Regulations Desired

While many producers expressed an opinion that additional regulation was needed, few chose to suggest specific problems at which it might be aimed. The most important suggestions received and the percentages of farmers giving them follow: Price regulation was wanted by 12.3 percent, disease control by 5.6 percent, and enforcement of existing laws by 3.1 percent.

### Summary

Livestock producers' preferences for various markets and market services are generally related to size of cattle enterprise. In stating the likes and dislikes they had for various market types, three aspects of livestock markets were very frequently mentioned. These were convenience, price factors, and management. Whether listed as likes or dislikes these three market characteristics appeared to be most critical and of paramount importance to producers. Suggestions for market improvement usually concerned auction or terminal markets and dealt with management factors. Though many producers were willing to discuss the good and bad points of markets, only a small percentage of those interviewed actually offered suggestions.

Livestock farmers' market ratings were made on the basis of five criteria for both buying and selling situations. In selling, terminal and auction markets were the first and second choices of livestock producers. In buying, country and auction markets were the most popular first and second choices. Selection of markets was more dependent on the type of livestock being sold than on the size lot of livestock.

The smaller livestock producers appeared to be more sensitive to the attitudes of market personnel. Also, smaller producers and producers in the eastern areas credited auction and terminal personnel with having better attitudes. Market news services and market transportation methods as they now exist were found to be satisfactory to most producers. On the matter of additional government market regulation, a very large share of producers felt that auctions needed more regulation but few suggestions were given as to the type of regulation needed.

## CHAPTER VI

### ANALYSIS OF LIVESTOCK PRODUCERS' MARKET PREFERENCES

This chapter is used to develop and evaluate several questions arising from a study of producers' preferences. Three objectives are described here. Objective One is used to combine evidence resulting from this study with previously existing evidence and assumptions to point out the extent of current livestock marketing problems. Objective Two is to examine certain market preferences given by livestock producers and to make general preference-based recommendations which, if implemented, would serve to increase marketing efficiency. Objective Three consists of determining some measure of the validity of livestock producers' preferences as indicators of their actions and suggesting possible extension of this type of preference analysis.

#### Objective I

As stated in the introduction to this study, Objective One is based on the popular presupposition that a problem exists concerning farmers' livestock marketing decisions. However, it is realized that something more than popular opinion is necessary if a problem is to be suitably described. The writer feels that sufficient evidence exists to point out the need for study in this area.

#### Previously Existing Evidence

The original assumption is generally based on the observation that a great deal of livestock marketing research has occurred during the past

several years. This research has included various cost and efficiency, management, transportation and handling, and preference studies. The fact alone that many relationships in marketing are not well understood even by professional economists implies that farmers must certainly experience difficulty in making marketing decisions. This implication becomes even more obvious when farmers have several alternatives in time, transportation, and markets from which to choose.

#### Evidence Revealed by This Study

Information from the questionnaire on which this study is based reveals that only about two-thirds of all livestock farmers concerned had a selling pattern that remained unchanged during the preceding five years. Examination of the lengths of time farmers have used various markets shows that some have definitely greater proportions of patrons who have done business with them five years or less. This reflects the number of farmers who have either changed markets or have just recently developed or obtained a livestock enterprise. The figures below may help to visualize this situation.

	<u>Terminal</u>	<u>Auction</u>	<u>Country</u>	<u>Packer</u>
Percentage of 446 farmers using market five years or less	5.2	11.4	6.9	7.0
Percentage of farmers utilizing market	51.8	54.7	24.7	9.4

These changes indicate a definite switch of farmers among market types and contribute support to the belief that farmers are dissatisfied in their choice of alternatives. Of the 51.8 percent of all producers interviewed who now use terminal markets, only about one-seventh represents producers who are comparatively new patrons. On the other hand, over half

of the producers now using packer markets have patronized such markets for five years or less. Between these two extremes lie the auction and country markets. The most significant fact to be pointed out here is the differences in the rates of growth of the various market types. The above data cannot be used as a basis for projection into the future but they do give an indication of developments that may soon come about.

## Objective 2

The purpose of Objective 2 is to examine Producers' livestock marketing preferences for direct or indirect suggestions that could increase market efficiency. Some suggestions are directly taken from producers' likes, dislikes, and recommendations while others are the result of implicit needs. Companion to this objective is Objective 3 which deals with the reliability of preferences as action indicators. Although the results of Objective 3, while not conclusive, cast doubt upon the validity of certain subjective preferences as action indicators, an attempt is made to avoid using these particular preferences as bases for suggestions. The preference suggested market modifications presented here are based more on objective preferences such as constructive criticism, individual likes, and actual use of marketing services and facilities.

## Suggested Market Changes

Market changes suggested by producers are outlined and analyzed in the following discussion. Areas treated are the four market types, attitudes and good will, and market news services. These appear most clearly to have room for improvement.

## A. Market Types:

### 1. Terminal Markets:

- (a) Increased speed and efficiency in handling livestock.
- (b) Increased speed in selling.

These changes would reduce shrinkage, yard fees, time loss, and inconvenience. They would help maintain the strength of the terminal market which will play a key role in livestock marketing even in an increasingly decentralized marketing system. Improvements of this nature would attract many of those producers who are now marginal in their preference for a central market.

### 2. Auction Markets:

- (a) Raise the prices producers now receive for fat stock sold at auctions.
- (b) Improve management and control unfair practices.
- (c) Provide additional services.

A major objection to auction sale of livestock is that fat or premium quality slaughter animals are sold for prices that are too low. This objection and those concerning management and services offered might be greatly overcome if auctions were increased in size sufficiently to attract more buyers, particularly packers, and to provide additional services such as grading, weighing, and selling on more than one day of the week. It is realized that not all auctions could be expanded to this extent but if many could a strong system of intermediate livestock markets would be formed.

### 3. Country and Packer Markets:

No modification of these two types of livestock markets can be suggested here. However, implementation of the changes suggested for



terminals and auctions would affect country and packer markets. Country sales of slaughter animals might be reduced if auctions offered more services and increased competition. It is these two things which country sellers favor most. Packer sales might be reduced somewhat if better prices could be obtained for finished animals at auctions. This in turn might bolster auction competition by forcing local packers to purchase livestock for slaughter at auction sales.

#### B. Attitudes and Good Will:

In Chapter V these two market characteristics were discussed briefly. Good will between producers and market personnel is a factor that cannot be overlooked. Producer loyalty toward given markets is quite strong and if suitable services are provided by friendly and accommodating personnel, a great deal of stability for individual markets results. Livestock producers, especially those with small cattle enterprises, are sensitive to the treatment they receive and this condition should be exploited by market operators to ensure better customer-business relations.

#### C. Livestock Market News Services:

The increasing importance of intermediate markets such as the larger auctions creates a need for these markets to be considered in the state's market news summaries. Although terminal markets are likely to remain for some time the most important livestock price-determining agencies, their effectiveness in doing so will decrease as the size and number of smaller market types grow. The development of a livestock market news reporting system including the major livestock auctions in various areas should contribute considerably to increasing marketing efficiency. Wire news facilities extended to major auctions, especially those operating two or more days each week, would provide speedy news coverage.

A change in radio, television, and newspaper services to provide different coverage appears feasible. Producers' comments indicated a desire for a more analytical and comprehensive type of report in newspapers. Radio and television reports need to be detailed but brief and designed to provide the minimum market information necessary for producers to make immediate selling and buying decisions. This recommendation is based on the assumption that the producer is already comparatively current with respect to market developments through reference to newspapers and other news sources.

### Objective 3

Once it is determined that farmers' preferences for livestock marketing services may serve as indicators of possible market modifications, some degree of the validity of these indicators must be established. If there is a relatively close relation between what farmers say they desire and what they really desire, then we may assume that indicated actions or stated preferences are reliable indicators of actual preferences. However, the point to be made in this section is that stated preferences may not be reliable indicators of actual preferences.

### Statistical Method Used

The establishment of the relation of indicated preferences to actual preferences may, in some measure, be accomplished by a statistical test for significant differences. For this the writer has chosen to use chi-square, a measure of concordance. Chi-square lends itself to this analysis in two respects. First, the data used in this paper have been reduced to

a series of categories and numbers of observations falling into each category. This is the data form required for chi-square use. Second, there is a need to make a test for significant differences between some expected values and some corresponding observed values. Again, this is in accord with the nature of the chi-square statistic.

$$\chi^2 = \sum_{i=1}^k \left( \frac{f_i - F_i}{F_i} \right)^2 \quad 1/$$

Where:

$k$  = two and is the number of categories into which an observation may fall.

$f_i$  = the observed values falling into a category.

$F_i$  = the expected values falling into a category.

$N$  = the total number of producers interviewed who used a given type market during the survey year.

d.f. = degrees of freedom and is  $k-1$ .

The form of chi-square to be used here is the single classification problem where the theoretical proportion of cases in each category is specified in advance. There are two categories in this series of calculations, each with an expected and an observed frequency of occurrence of the thing being considered. There is one degree of freedom and the confidence level to be used is 99 percent.

#### Application of Chi-Square

The data to be used in the consideration of objective three are taken from Chapters IV and V, the empirical presentation of practices and

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<sup>1</sup>Wilfrid J. Dixon and Frank J. Massey, Jr., Introduction to Statistical Analysis, McGraw-Hill Book Company, Inc., New York, 1951, p. 185.

preferences. Two types of data are used in generating the expected and observed frequencies of the chi-square calculation. They are market use data and market rating data.

The market use data are presented in Chapter IV. These figures represent the various categories and subcategories of livestock sold on a given market and are further divided according to size of lots marketed annually within each of the subcategories. The frequency of occurrence or number of observations in each category represents the total number of lots marketed annually by all farmers who patronized the given market during the year. Some farmers may have marketed livestock in more than one category and are counted accordingly. Also, of all the farmers patronizing the particular market, it is to be understood that several of them may have utilized one or more of the other market forms as well.

The market rating data came from the preferences section of the questionnaire. The ratings are based on five different criteria and include the four market forms being dealt with in this study. Each farmer was asked to make first, second, and third choices in accordance with the markets he thought best on a given basis. These ratings gave rise to the expected and observed values in the following calculations. The five criteria used as bases for rating are convenience, competition, net return, management, and grading. These terms will be discussed as to definition, limitations, and farmer implications in a later paragraph.

#### Calculation of Chi-Square

Twelve tables were used in computing the chi-square values. Two livestock categories, beef cattle only and all livestock, were tested with three market types, central, auction, and country. For each of the

six pairings thus derived, chi-square tests on each of the five bases were made using two different expected values. In one case the expected value for all criteria were made equal to the highest observed value. In the other case, the expected value was the average of the observed. As used here the highest observed value is that corresponding to the criteria by which a market received the highest rating by all producers using that market. The average of observed values is the average rating given a market on the basis of all five criteria by the producers using that market.

#### Origin of Preferences Being Tested

At this point it may be worthwhile to re-emphasize a distinction previously made in the chapter on procedures. The distinction is in the way actual and indicated market preferences are obtained. All farmers who used a given market must have in effect voted it best during that time, all things considered, by the act of using it. This action is considered the farmers' actual or implemented preference. The indicated preferences, or stated preferences, show whether farmers thought a market best in a certain respect, in this instance one of the five rating criteria.

#### Limiting Assumptions, Test 1

Where the expected values were made equal to the highest observed value among the five criteria, a major assumption was made. The assumption was that of the observed frequencies for the five criteria one could not practically have expected values any higher than the highest of the observed values. To expect that all farmers using a particular market would think it best with respect to all five criteria would be stretching

the imagination. Similarly, to expect that some other arbitrary proportion of farmers using a market, say 90 percent or 66 percent, would think that market best in all respects would be nearly as unlikely. Thus the writer decided that if the expected ratings were equal to the highest of the observed, a comparatively "ideal" market would be described with which the actual market ratings might be usefully compared.

#### Limiting Assumptions, Test 2

The use of a second chi-square computation for which the expected frequencies equal the arithmetic average of the observed frequencies was based on the assumption that it would be worthwhile to relate the individual chi-square values to each other by measuring their dispersion. Previously the test for difference was used to see whether the other four values differed significantly from the one selected as the expected value. Here we wish to determine whether they differ significantly from each other. If, for instance, they do not differ significantly and at least one of them does not differ from the expected as shown by the preceding calculation of chi-square, then a much better measure of the total dispersion of the five chi-square values is obtained.

It is important that the degree of uniformness among the various chi-square values be known. With knowledge of the relative values of chi-square with regard to each other, an appraisal can be made of the relative effectiveness of the corresponding criteria in indicating real preferences on the basis of stated preferences.

#### Types of Data Used

The two basic kinds of data used in calculating the chi-square values are given in summary form in the following tables. The numbers following

the market listed represent the total number of farmers using that market regardless of extent of use or the number of other markets these farmers may have used. The columns beneath the criteria headings show the number of farmers who did or did not rate a particular market best on the basis of the criterion concerned. The first table includes all farmers selling livestock of any kind. The second represents only those farmers selling beef.

TABLE XIII

ANALYSIS OF WHETHER EACH OF THREE MARKET TYPES WAS RATED BEST ON VARIOUS CRITERIA BY PRODUCERS USING IT FOR LIVESTOCK SELLING

Farmers: Using	Convenience		Competition		Net Return		Management		Grading	
	No.	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Terminal(231)	108	123	194	37	169	62	185	46	198	33
Auction (244)	159	85	125	119	109	135	76	168	61	183
Country (110)	54	56	12	98	31	79	13	97	10	100

Source: Survey of 446 Oklahoma Livestock Producers, 1956.

TABLE XIV

ANALYSIS OF WHETHER EACH MARKET TYPE WAS RATED BEST ON VARIOUS CRITERIA BY PRODUCERS USING IT FOR BEEF CATTLE SALES

Farmers: Using	Convenience		Competition		Net Return		Management		Grading	
	No.	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Terminal(202)	98	104	171	31	152	50	165	37	172	30
Auction (202)	141	61	114	88	105	97	70	132	57	145
Country ( 79)	44	35	11	68	25	54	11	68	10	69

Source: Survey of 446 Oklahoma Livestock Producers, 1956.

### Definition of Market Types

The three markets referred to in this portion of the study remain unchanged as to definition. They are as described in Chapter IV in which terminal or central markets are those major markets operated by a stockyards company and whose livestock transactions are handled by firms leasing or renting the stockyard facilities and by many independent sellers and buyers. Auction markets are those operated by a single firm which owns or leases the facilities used and conducts or supervises all transactions taking place between buyers and sellers. Country markets encompass most of those transactions involving livestock sale and purchase between individuals on other than organized markets. These transactions mostly involve purchases by either regular or itinerant livestock buyers who in turn usually sell on an organized market. A fourth marketing method, direct selling, has been omitted from this portion of the analysis owing to the infrequency of its use and the resulting lack of information concerning it.

### Definition of Criteria Used

In order to get the most accurate market ratings possible, it was felt that the bases or criteria used should be those most likely to be meaningful to farmers. It is realized that the criteria selected represent a variety of motives. It would be impossible to select bases of judgment such that all would be equal in content of economic or other motives. Therefore, the following classification is used to clarify interpretation of the results obtained from use of dissimilar standards of judgment. These standards or criteria are primarily classed as being "less economic," "more economic," or "mostly economic" in nature. In



addition, some mention is made of other than economic motives they might include.

1. Convenience: Less economic, except in its reflection of efficiency. It includes a utility element with respect to the desire for leisure.

2. Competition: More economic. To the farmer competition is considered to relate closely to income or monetary value. "Competition" also has strong moral elements attached such as fairness and honesty.

3. Net Return: Mostly economic. Its implications refer to the financial success of a transaction or endeavor regardless of considerations involved prior to the transaction, even though such considerations may have included varying intensities of economic and non-economic motives.

4. Management: Less economic. While the results of good or poor management have economic implications for the farmer, his appraisal of management cannot be detached from his moral expectations of management. Additionally, farmers think of management in terms of efficiency and its resulting convenience which may contribute to leisure.

5. Grading: More economic. To the extent that grading affects selling price, a rating of grading is strongly economic in motive. Farmers may be more critical of grading than of other market functions because they generally pride themselves on being able to evaluate their own livestock. This suggests that in addition to purely economic motives, a market's grading may be partially evaluated on the extent to which it "agrees" with the farmer's ideas.

### Comparisons of Chi-Square Values

This subsection is divided into six parts, each containing ratings of a single market and livestock category combination. Each part is subjected to two chi-square tests, each of the tests having a different expected frequency. Hereafter, the two tests will be referred to as Test 1 in which the expected frequency equals the highest of the observed frequencies, and Test 2 where the expected frequency equals the average of the observed frequencies.

The object of Test 1 is to determine whether there is a significant difference between (1) livestock producers' preferences for the three major market types as evidenced by their use of those markets and (2) their stated preferences for the same markets as revealed by the survey. When the value of chi-square, designated as  $X^2$ , is excessive the implication of the test is that some influencing factors not common to both preference indicators exist. That is, the difference between the two preference indications is large enough to state with 99 percent confidence that such difference did not occur through chance alone. Essentially the test purpose is to determine whether there is a significant difference between what farmers actually prefer and what they say they prefer.

Test 2 is used to obtain an indication of the spread of the five different ratings given for each market. Thus if two ratings in Test 1 are found to have significantly different  $X^2$  values, we know only that they differ from the rating chosen as the expected value. What is not known is how all five rating values differ from each other. Test 2 shows whether the five criteria are widely dispersed or rather closely

grouped in their preference indicating capabilities. Those not having significant chi-square values in Test 2 may be presumed to be alike except for chance variability. Part one is explained in detail and the other parts are abbreviated.

1. Tests of Ratings by All Farmers Selling Livestock on Terminal Markets.

Tabulated  $\chi^2 = 6.63$  at the 99 percent confidence level, d.f. = 1.

Test	Convenience	Competition	Net Return	Management	Grading
1	<u>286.36</u>	.56	<u>29.73</u>	5.97	0
2	<u>88.6</u>	<u>12.09</u>	.07	4.53	<u>16.62</u>

A. In Test 1 of this part the objective is to determine whether there is a significant difference between (1) the actual livestock marketing preferences of producers selling livestock at terminal markets and (2) the stated market preferences of the same group of producers. Of the producers using terminals, various numbers rated terminal markets best on the basis of various criteria. The highest of the five numbers was selected as the expected frequency since the criterion corresponding to that number had best related actual and stated preferences. The other four numbers were the observed frequencies for their respective criteria.

With this procedure the observed and expected frequencies for one of the five criteria must be the same number. Here, the number of producers selling livestock on terminal markets who rated terminals best on the basis of grading was higher than the number rating terminals best on any of the other criteria or bases. Thus the "Grading" observed frequency became the expected frequency for the other criteria.

Chi-square tests for significant differences were made between the expected frequency and each of the observed frequencies. By this method a value of zero must result for the criterion chosen to provide the expected value. The chi-square values for each of the remaining criteria are determined to show whether the expected and observed frequencies do or do not differ significantly. In the above chi-square values, those which indicate significant differences are underscored. In this application a chi-square value greater than 6.63 is significant. The meaning of the significant chi-square values is that it is highly likely that stated preferences on the bases of Convenience and Net Return differ from actual preferences for some reason other than chance. This suggests that livestock market preferences stated on the bases of Convenience and Net Return are not good indicators of actual market preferences.

An example of the application of chi-square using actual data follows:

(1) Of the 446 livestock producers interviewed, 231 used the terminal market for livestock selling. The following numbers of these users either did or did not rate terminal markets best on the basis of the criteria indicated. This information is obtained from Table XIII.

	Convenience	Competition	Net Return	Management	Grading
Did	108	194	169	185	198
Did Not	<u>123</u>	<u>37</u>	<u>62</u>	<u>46</u>	<u>33</u>
Total	231	231	231	231	231

(2) The above terminal market ratings made by the 231 livestock producers using terminals were arranged in the following manner

to allow computation of  $X^2$  expected and observed frequencies. They are derived as explained earlier in this subsection.

(3) Calculation of chi-square for each criterion follows.

$$\text{Convenience: } X^2 = \frac{(108-198)^2}{198} + \frac{(123-33)^2}{33} = 286.36$$

$$\text{Competition: } X^2 = \frac{(194-198)^2}{198} + \frac{(37-33)^2}{33} = 0.56$$

$$\text{Net Return: } X^2 = \frac{(169-198)^2}{198} + \frac{(62-33)^2}{33} = 29.73$$

$$\text{Management: } X^2 = \frac{(185-198)^2}{198} + \frac{(46-33)^2}{33} = 5.97$$

$$\text{Grading: } X^2 = \frac{(198-198)^2}{198} + \frac{(33-33)^2}{33} = 0.0$$

(4) Conclusions drawn from these calculations are that the criteria Convenience and Net Return, which have chi-square values greater than 6.63, are not as reliable as the criteria Competition, Management, and Grading in indicating livestock producers' actions or actual preferences. The odds are 99 out of 100 that significant differences between stated and actual preferences as shown by Convenience and Net Return are due to some factor other than chance.

B. Test 2 is used to provide an indication of the amount of dispersion among the five criteria with respect to their effectiveness in relating stated and actual livestock marketing preferences. This test differs from Test 1 in that the expected frequency used is obtained by taking the average of the five observed frequencies. The observed frequencies are the same in both tests. Computation of chi-square values allows the determination of the observed frequencies which differ significantly from the expected frequencies. Significant chi-square values are underscored. They indicate that the diversity in the effectiveness

of some of the various criteria in relating stated and actual preferences is due to something other than chance. Thus according to Test 2 of this part, the five criteria are not close to each other in their effectiveness.

TABLE XV  
ARRANGEMENT OF PRODUCERS' TERMINAL MARKET RATINGS  
FOR CALCULATION OF  $X^2$

Criterion	Frequency	Did	Did Not	Total	Calculated $X^2$	Tabulated $X^2$ *
Convenience	Expected	198	33	231	286.36	6.63
	Observed	108	123	231		
Competition	Expected	198	33	231	0.56	6.63
	Observed	194	37	231		
Net Return	Expected	198	33	231	29.73	6.63
	Observed	169	62	231		
Management	Expected	198	33	231	5.97	6.63
	Observed	185	46	231		
Grading	Expected	198	33	231	0.0	6.63
	Observed	198	33	231		

\* Tabulated chi-square at the 99 percent confidence level with one degree of freedom.

Source: Survey of 446 Oklahoma Livestock Producers, 1956.

C. On the basis of the distinctions made beforehand, the chi-square values not significant in Test 1 represent one "less economic" and two "more economic" criteria. These characteristics are discussed later.

2. Tests of Market Ratings by All Farmers Selling Beef Cattle on Terminal Markets.

Tabulated  $X^2 = 6.63$  at the 99 percent confidence level, d.f. = 1.

Test	Convenience	Competition	Net Return	Management	Grading
1	<u>214.4</u>	.039	<u>15.7</u>	1.9	0
2	<u>76.</u>	<u>10.</u>	.004	4.7	<u>11.</u>

A. Using Grading observed frequencies as the expected frequencies, only Convenience and Net Return as preference bases show significant differences between indicated and actual preferences in Test 1.

B. There is a large amount of dispersion among the chi-square values in Test 2 except for criteria 3 and 4 indicating that the preference bases vary much in their effectiveness as action indicators.

C. The chi-square values not significant in Test 1 represent two "more economic" and one "less economic" preference bases.

3. Tests of Market Ratings by All Farmers Selling Livestock on the Auction Market.

Tabulated  $\chi^2 = 6.63$  at the 99 percent confidence level, d.f. = 1.

Test	Convenience	Competition	Net Return	Management	Grading
1	0	<u>20.9</u>	<u>45.1</u>	<u>124.4</u>	<u>173.4</u>
2	<u>46.9</u>	6.0	.2	15.	<u>33.8</u>

A. Using Convenience observed frequencies as the expected frequencies, all other criteria show significant differences between indicated and actual preferences in Test 1.

B. A large amount of dispersion exists among the chi-square values in Test 2 except for criteria 2 and 3. This indicates that the preference bases vary much in their effectiveness as action indicators.

C. The only chi-square value not significant in Test 1 is that associated with Convenience, a "less economic" criterion.

4. Tests of Market Ratings by All Farmers Selling Beef Cattle on the Auction Market.

Tabulated  $X^2 = 6.63$  at the 99 percent confidence level, d.f. = 1.

Test	Convenience	Competition	Net Return	Management	Grading
1	0	<u>64.2</u>	<u>19.2</u>	<u>61.2</u>	<u>70.4</u>
2	4.8	<u>7.7</u>	2.6	6.4	<u>10.4</u>

A. Using Convenience observed frequencies as the expected frequencies, all other criteria show significant differences between indicated and actual preferences in Test 1.

B. A large amount of dispersion exists among the Test 2 chi-square values only with respect to criteria 2 and 5. This indicates that the preference bases vary less in their effectiveness as action indicators.

C. The only chi-square value not significant in Test 1 is the one corresponding to Convenience, a "less economic" criterion.

5. Tests of Market Ratings by All Farmers Selling Livestock on the Country Market.

Tabulated  $X^2 = 6.63$  at the 99 percent confidence level, d.f. = 1.

Test	Convenience	Competition	Net Return	Management	Grading
1	0	<u>64.2</u>	<u>19.2</u>	<u>61.2</u>	<u>70.4</u>
2	<u>48.</u>	<u>7.7</u>	2.6	6.4	<u>10.4</u>

A. Using Convenience observed frequencies as the expected frequencies, all other preference bases show significant differences between indicated and actual preferences in Test 1.

B. A very large amount of dispersion exists among the Test 2 chi-square values except for criteria 3 and 4. Criteria 2 and 5 are not



highly significant and this indicates that only one criterion varies much in its effectiveness as an action indicator.

C. The only chi-square value not rejected in Test 1 is the one associated with Convenience, a "less economic" preference basis.

6. Tests of Market Ratings by All Farmers Selling Beef Cattle on the Country Market.

Tabulated  $\chi^2 = 6.63$  at the 99 percent confidence level, d.f. = 1.

Test	Convenience	Competition	Net Return	Management	Grading
1	0	<u>55.9</u>	<u>18.5</u>	<u>55.9</u>	<u>59.3</u>
2	<u>37.7</u>	5.6	1.5	5.6	<u>6.9</u>

A. Using Convenience observed frequencies as expected frequencies, all other preference bases show significant differences between indicated and actual preferences in Test 1.

B. A large amount of dispersion exists among the Test 2 values only with respect to Convenience and Grading, and the Grading value is not highly significant. The indication here is that the preference bases vary little in their effectiveness as action indicators except for one extreme.

C. The only chi-square value not significant in Test 1 is that associated with Convenience, a "less economic" preference basis.

#### Discussion and Interpretation of Findings

For purposes of discussion, the hypothesis under which the preceding tests were made was that livestock farmers' stated preferences for marketing services may differ significantly from their actual preferences as indicated by their actions in using livestock markets. On the basis of what is revealed by these tests and summarized in Table XVI, it appears

that this hypothesis should not be rejected. Myrdal's hypothesis that indicated preferences differ from actual preferences is the true hypothesis in this analysis. The chi-square tests used here are applied to the null hypothesis which states that indicated and actual preferences do not differ. Most of the resulting values are significantly large and the null hypothesis is rejected. Since in this special case, there exists only one possible alternative hypothesis, it may be indirectly accepted.

Reliability of Preferences. For both livestock categories used and the three markets in which they were considered, preferences based on convenience differed significantly two out of six times; for competition, four out of six times; for net return, six out of six times; for management, four out of six times; and for grading, four out of six times. If the appropriateness of using chi-square in this instance is accepted, then it is not mere chance that most of the marketing preferences expressed in the survey are unreliable indicators of farmers' marketing actions. However, since the tests involved single criteria it must be pointed out that most of the criteria are not individually reliable. Their reliability in combination is not covered in this study.

Relation of Market Size and Product Homogeneity. It appears that as homogeneity of the product being marketed and as size of the market being patronized increase, stated preferences are slightly more effective in indicating actual preferences. This means that as a narrower range of livestock types is considered, for example, beef cattle only rather than livestock in general, results of an opinion poll are likely to be more

accurate. The dispersion of the values resulting from the Test 2 series shows that as size of the market patronized decreases and homogeneity of the product increases, the preference bases become closer to each other in effectiveness regardless of the overall level of effectiveness. This suggests that studies of smaller or more local type markets might use more general criteria in evaluating preferences. Such tendencies as illustrated here may be useful in designing future preference surveys by describing limits to their coverage or applicability.

TABLE XVI  
SUMMARY OF CHI-SQUARE TESTS AND RELATION OF CRITERIA  
RELIABILITY TO ECONOMIC MOTIVE

Criterion	Occurrence of Significant Differences	Motive Classification of Criterion
Convenience	2 out of 6 times	less economic
Competition	4 out of 6 times	more economic
Net Return	6 out of 6 times	mostly economic
Management	4 out of 6 times	less economic
Grading	4 out of 6 times	more economic

Source: Survey of 446 Oklahoma Livestock Farmers, 1956.

#### Relation of Criterion Effectiveness and Motive Content

Another aspect revealed in this study concerns the criteria used in basing preferences. It suggests that criteria of judgment on which preferences are based may be more useful if they are less concerned with economic motives. This is illustrated in Table XVI.

### Possible Development of Preference Studies

The possibility exists that there is a need to revise current thinking in design of agricultural preference studies. It may be that more theory, including social and psychological theory, could be profitably applied in an effort to discover key indicators of actions. It is likely that such indicators may be far removed from economic considerations. If such discoveries can be made in agricultural opinion polling, these key characteristics might be identified with certain classifications of farmers and a typical response pattern established for various groups. Thus it is believed that certain phases of agricultural research may be greatly improved by the development of new standards in obtaining basic data.

## CHAPTER VII

### SUMMARY AND CONCLUSIONS

The basic problem in this study was divided into two parts. The first was the determination of livestock producers' marketing practices and preferences and some of their relationships and implications. This was done on both a size of cattle enterprise and an area basis. The second part was analytical and consisted of examining farmer preferences with respect to motives involved and evaluating their reliability as indicators of farmer action.

The areas studied included eleven counties and represented most of Oklahoma's livestock producing regions. Several basic characteristics of the areas were studied. The size of farms and acreages in cash crops increased from east to west but pasture acreages and the size of farm cattle enterprises varied little directionally. Also, composition of farm income changed considerably between the eastern and western parts of the state.

Data on livestock producers' marketing practices indicated that marketing needs were changing. Producers surveyed were mostly sellers. The means producers used to determine the value of their livestock was related closely to the market news sources used. Some practices such as market use, consultation of marketing agencies, time of sale, and means used to determine livestock value varied by area and size of cattle enterprise.

Livestock producers' preferences for marketing services are more closely related to size of cattle enterprise than to area. The most important factors influencing preferences for various markets were convenience, price factors, and management. Producer market ratings were obtained for the four most popular market types. Each market type was rated individually on the basis of five separate and distinct criteria. These ratings and the market use data form the basis for the preference reliability analysis. Additional preference data was obtained which variously related size of cattle enterprise and area to market likes and dislikes, method of market selection, market personnel attitudes, and desire for government regulation.

The analytical portion of this study was based on producers' market use data and their preferences for various markets as revealed by their market ratings. Objectives of the analysis were clarification of the problem, suggestion of market modifications by direct interpretation of practices and preferences, and evaluation of market preferences as indicators of producers' marketing actions.

The first objective consisted of relating the changing livestock marketing habits of farmers, the changing rates of growth of various livestock market types, and the livestock marketing problem as it is generally understood. The second objective involved the suggestion of specific areas of improvement for auction and terminal markets and general areas of improvement regarding producer relations and market news services.

The latter of the three objectives listed took the form of a test of hypothesis, the hypothesis being that livestock producers' stated

preferences or indicated actions differ from their real preferences or implemented actions. This objective was given major emphasis. The method used to test the hypothesis involved the use of the chi-square test. Each of three market types was tested on the basis of five different criteria. The criteria were classified with respect to motive content. This allowed relating the motive content of criteria to their effectiveness as indicators of actual preferences. Results of the analysis showed that in most cases there were significant differences between what producers said they preferred and what they actually preferred. Also, it was revealed that the criteria which were most effective in relating actual and indicated preferences were those classified as being less economic in motive content.

There are several suggestions here. One is that preference surveys, most of which are highly subjective, may yield information of doubtful reliability. Another is that better indicators of actions might be discovered through a less economic or non-economic approach even though the objectives may be economic. Thus it appears that use of applicable psychological and sociological theory in livestock marketing preference research could improve its accuracy and reliability.

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# APPENDIX A

## APPENDIX TABLE A-1

### PERCENTAGES OF PRODUCERS IN EACH SIZE GROUP LISTING FEATURES LIKED, DISLIKED ABOUT TERMINAL SELLING

Size Group				Likes	Size Group				Dislikes
1	2	3	4		1	2	3	4	
13.9	14.6	18.5	15.9	Large market and a good market	23.6	18.5	23.8	10.1	Too distant
15.3	10.8	17.9	23.2	Better prices	1.4	10.0	8.9	7.2	More expense
9.7	10.0	10.7	11.6	Always get market prices	1.4	5.4	7.7	10.1	Sales too slow
2.8	7.7	10.1	18.8	Numerous buyers, plenty of competition	4.2	3.1	9.5	2.9	More shrinkage
4.2	3.1	7.1	7.2	Better grading and service	4.2	2.3	4.8	11.6	Dishonesty, unfairness
6.9	4.6	3.6	2.9	Accepts all stock	23.6	16.2	20.8	11.6	No dislikes
44.4	42.3	26.2	11.6	No opinion	31.9	19.2	9.5	10.1	No opinion

Source: Survey of 446 Oklahoma Livestock Producers, 1956.

APPENDIX TABLE A-II

PERCENTAGES OF PRODUCERS IN EACH SIZE GROUP LISTING  
FEATURES LIKED, DISLIKED ABOUT AUCTION SELLING

Size Group				Likes	Size Group				Dislikes
1	2	3	4		1	2	3	4	
47.2	43.8	36.9	30.4	Convenient	15.3	19.2	20.8	17.4	Don't receive top price, especially for fat stock
12.5	7.7	8.9	7.2	Competitive buying, good market	13.9	15.4	13.1	17.4	Traders' influencing sales
2.8	6.2	7.7	11.6	Economical outlet for odd lots	2.8	6.9	8.9	18.8	Not competitive enough, unsteady
5.6	3.1	7.1	2.9	Better price	4.2	6.9	7.7	8.7	Too many diseased animals
16.7	25.4	20.8	37.7	No opinion	2.8	4.6	3.0	2.9	Dishonest, unfair
					1.4	1.5	2.4	4.3	Don't provide adequate service
					40.3	33.1	31.0	15.9	No dislikes

Source: Survey of 446 Oklahoma Livestock Producers, 1956.

APPENDIX TABLE A-III

PERCENTAGES OF PRODUCERS IN EACH SIZE GROUP LISTING  
FEATURES LIKED, DISLIKED ABOUT COUNTRY SELLING

Size Group				Likes	Size Group				Dislikes
1	2	3	4		1	2	3	4	
22.2	14.6	19.0	14.5	Convenient	19.4	14.6	13.1	8.7	Buyers' prices too low
8.3	9.2	10.1	17.4	Better prices, a good market	13.9	13.8	13.7	13.0	Likely to lose money
8.3	6.2	6.5	11.6	No commission	12.5	12.3	12.5	4.3	Stock not properly classed and graded
4.2	9.2	4.8	5.8	No hauling cost or shrinkage	2.8	6.2	8.3	5.8	Not enough buyers, unsteady market
23.6	27.7	34.5	30.4	Never utilize	20.8	18.5	20.2	39.1	No dislikes
25.0	17.7	13.7	4.3	No opinion	22.2	29.2	26.2	20.3	No opinion

Source: Survey of 446 Oklahoma Livestock Producers, 1956.

APPENDIX TABLE A-IV

PERCENTAGES OF PRODUCERS IN EACH SIZE GROUP LISTING  
FEATURES LIKED, DISLIKED ABOUT DIRECT SELLING

Size Group				Likes	Size Group				Dislikes
1	2	3	4		1	2	3	4	
2.8	7.7	6.0	4.3	Convenient	9.7	12.3	8.3	11.6	Packers don't pay enough
5.6	6.9	4.2	5.8	Make more money	4.2	2.3	7.7	1.4	No competition
4.2	5.4	6.5	2.9	No handling charges	2.8	4.6	2.4	0.0	Mostly a fat stock outlet
23.6	15.4	25.6	15.9	Never use	5.6	5.4	3.6	5.8	No dislikes
56.9	56.2	47.6	58.0	No opinion	6.9	1.5	3.6	4.3	Never use
					66.7	65.4	65.5	66.7	No opinion

Source: Survey of 446 Oklahoma Livestock Producers, 1956.

# APPENDIX B

## APPENDIX TABLE B-1

### RATING OF MARKETS BY PRODUCERS ACCORDING TO CONVENIENCE IN SELLING

Size Group	Number of Producers	Outlet Choices	Percent Choosing	Reason Given for Choosing Outlet	Percent Giving
1-10 Head	72	Auction	56.9	Close to farm, convenient	82.9
1-10 Head		Country	20.8	Close to farm, convenient	46.7
11-20 Head	130	Auction	44.6	Close to farm, convenient	77.6
11-20 Head		Country	24.6	Close to farm, convenient	31.2
11-20 Head		Terminal	24.6	Close to farm, convenient	43.8
21-50 Head	168	Auction	45.8	Close to farm, convenient	84.4
21-50 Head		Terminal	26.8	Close to farm, convenient	37.8
21-50 Head		Country	22.6	Close to farm, convenient	34.2
Over 50 Head	69	Auction	34.8	Close to farm, convenient	83.3
Over 50 Head		Terminal	33.3	Close to farm, convenient	26.1
Over 50 Head		Country	29.0	Less handling	40.0

Source: Survey of 446 Oklahoma Livestock Producers, 1956.

APPENDIX TABLE B-II

## RATING OF MARKETS BY PRODUCERS ACCORDING TO COMPETITION IN SELLING

Size Group	Number of Producers	Outlet Choices	Percent Choosing	Reason Given for Choosing Outlet	Percent Giving
1-10 Head	72	Terminal	43.1	More buyers, competition	87.1
1-10 Head		Auction	38.9	More buyers, competition	78.6
11-20 Head	130	Terminal	47.7	More buyers, competition	87.1
11-20 Head		Auction	43.1	More buyers, competition	69.6
21-50 Head	168	Terminal	63.7	More buyers, competition	88.8
21-50 Head		Auction	28.0	More buyers, competition	72.3
Over 50 Head	69	Terminal	76.8	More buyers, competition	73.6
Over 50 Head		Auction	15.9	More buyers, competition	54.5

Source: Survey of 446 Oklahoma Livestock Producers, 1956.

APPENDIX TABLE B-III

## RATING OF MARKETS BY PRODUCERS ACCORDING TO NET RETURN IN SELLING

Size Group	Number of Producers	Outlet Choices	Percent Choosing	Reason Given for Choosing Outlet	Percent Giving
1-10 Head	72	Auction	38.9	Minimum expense	32.1
1-10 Head		Terminal	26.4	Best price	89.5
11-20 Head	130	Terminal	45.4	Best price	79.7
11-20 Head		Auction	29.2	Best price	31.6
21-50 Head	168	Terminal	47.0	Best price	72.2
21-50 Head		Auction	24.4	Best price	36.6
Over 50 Head	69	Terminal	55.1	Best price	68.4
Over 50 Head		Country	24.6	Best price	52.9

Source: Survey of 446 Oklahoma Livestock Producers, 1956.

APPENDIX TABLE B-IV

## RATING OF MARKETS BY PRODUCERS ACCORDING TO MANAGEMENT IN SELLING

Size Group	Number of Producers	Outlet Choices	Percent Choosing	Reason Given for Choosing Outlet	Percent Giving
1-10 Head	72	Terminal	48.6	Largest market in area	42.9
1-10 Head		Auction	26.4	Good management	63.9
11-20 Head	130	Terminal	50.8	Largest market in area	30.3
11-20 Head		Auction	16.9	Good management	40.9
21-50 Head	168	Terminal	58.3	Big business, good service	32.7
21-50 Head		Auction	20.2	Good management	52.9
Over 50 Head	69	Terminal	62.3	Big business, good service	23.3
Over 50 Head		Auction	7.2	Good management	40.0

Source: Survey of 446 Oklahoma Livestock Producers, 1956.



APPENDIX TABLE B-V

## RATING OF MARKETS BY PRODUCERS ACCORDING TO GRADING IN SELLING

Size Group	Number of Producers	Outlet Choices	Percent Choosing	Reason Given for Choosing Outlet	Percent Giving
1-10 Head	72	Terminal	56.9	Commission men best graders	87.8
1-10 Head		Auction	20.8	Local manager best grader	66.7
11-20 Head	130	Terminal	56.2	Commission men best graders	74.0
11-20 Head		Auction	16.2	Local manager best grader	33.3
21-50 Head	168	Terminal	64.9	Commission men best graders	67.0
21-50 Head		Auction	15.5	Local manager best grader	46.2
Over 50 Head	69	Terminal	75.4	Commission men best graders	63.5
Over 50 Head		Auction	4.3	Local manager best grader	66.7

Source: Survey of 446 Oklahoma Livestock Producers, 1956.

APPENDIX TABLE B-VI

## RATING OF MARKETS BY PRODUCERS ACCORDING TO CONVENIENCE IN BUYING

Size Group	Number Producers	Outlet Choices	Percent Choosing	Reason Given for Choosing Outlet	Percent Giving
1-10 Head	72	Country	36.1	Close to farm, convenient	69.2
1-10 Head		Auction	22.2	Close to farm, convenient	75.0
11-20 Head	130	Country	28.5	Close to farm, convenient	40.5
11-20 Head		Auction	27.7	Close to farm, convenient	52.8
21-50 Head	168	Auction	36.9	Close to farm, convenient	59.7
21-50 Head		Country	29.8	Close to farm, convenient	34.0
Over 50 Head	69	Auction	31.9	Close to farm, convenient	59.1
Over 50 Head		Country	27.5	Close to farm, convenient	52.6

Source: Survey of 446 Oklahoma Livestock Producers, 1956.

APPENDIX TABLE B-VII

## RATING OF MARKETS BY PRODUCERS ACCORDING TO COMPETITION IN BUYING

Size Group	Number of Producers	Outlet Choices	Percent Choosing	Reason Given for Choosing Outlet	Percent Giving
1-10 Head	72	Country	48.6	One buyer at a time	40.0
1-10 Head		Auction	6.9	Make best buys	20.0
11-20 Head	130	Country	37.7	One buyer at a time	38.8
11-20 Head		Auction	14.6	Fewer buyers	26.3
21-50 Head	168	Country	41.7	One buyer	40.0
21-50 Head		Auction	18.5	Make best buys	38.7
Over 50 Head	69	Country	30.4	One buyer	38.1
Over 50 Head		Auction	24.6	Buy all classes	23.5

Source: Survey of 446 Oklahoma Livestock Producers, 1956.

APPENDIX TABLE B-VIII

## RATING OF MARKETS BY PRODUCERS ACCORDING TO NET RETURN IN BUYING

Size Group	Number of Producers	Outlet Choices	Percent Choosing	Reason Given for Choosing Outlet	Percent Giving
1-10 Head	72	Country	36.1	Better quality stock	34.6
1-10 Head		Auction	9.7	Buy for less	28.6
11-20 Head	130	Country	30.8	Better quality stock	50.0
11-20 Head		Auction	13.1	Buy for less	29.4
21-50 Head	168	Country	30.4	Better quality stock	52.9
21-50 Head		Auction	19.6	Buy for less	36.4
Over 50 Head	69	Auction	21.7	Returns always satisfactory	20.0
Over 50 Head		Country	17.4	Better quality stock	58.3

Source: Survey of 446 Oklahoma Livestock Producers, 1956.

APPENDIX TABLE B-IX

## RATING OF MARKETS BY PRODUCERS ACCORDING TO MANAGEMENT IN BUYING

Size Group	Number of Producers	Outlet Choices	Percent Choosing	Reason Given for Choosing Outlet	Percent Giving
1-10 Head	72	Country	18.1	Can manage own purchases	76.9
1-10 Head		Auction	6.9	Can manage own purchases	40.0
1-10 Head		Terminal	6.9	Order buyers are best	60.0
11-20 Head	130	Country	13.1	Can manage own purchases	70.6
11-20 Head		Auction	9.2	Can manage own purchases	41.7
21-50 Head	168	Country	17.3	Can manage own purchases	75.9
21-50 Head		Auction	13.1	Order buyers are best	54.5
Over 50 Head	69	Auction	24.6	Can buy better stock	29.4
Over 50 Head		Terminal	18.8	Order buyers are best	38.5

Source: Survey of 446 Oklahoma Livestock Producers, 1956.

APPENDIX TABLE B-X

## RATING OF MARKETS BY PRODUCERS ACCORDING TO GRADING IN BUYING

Size Group	Number of Producers	Outlet Choices	Percent Choosing	Reason Given for Choosing Outlet	Percent Giving
1-10 Head	72	Country	16.7	Service always satisfactory	83.3
1-10 Head		Terminal	9.7	Graders well qualified	42.9
11-20 Head	130	Country	12.3	Can grade own stock	81.2
11-20 Head		Terminal	7.7	Order buyers are best	50.0
21-50 Head	168	Country	13.7	Can grade own stock	78.3
21-50 Head		Terminal	9.5	Order buyers are best	75.0
Over 50 Head	69	Terminal	15.9	Can grade own stock	63.6
Over 50 Head		Country	14.5	Order buyers are best	70.0

Source: Survey of 446 Oklahoma Livestock Producers, 1956.

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