

AN ECONOMIC ANALYSIS OF TWO BEEF CATTLE CONTRACT  
ARRANGEMENTS IN OKLAHOMA

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## PREFACE

During the academic year 1966-1967, the Department of Agricultural Economics at Oklahoma State University began a study of non-conventional financing of farm operations. Incidental to that study a search of the courthouse records in Payne County, Oklahoma revealed a series of loans from an acceptance corporation in a large midwestern city. The intriguing aspect of these entries was that the postal address of each of the borrowers was the same as the address of the acceptance corporation. In an attempt to determine what kind of financing was involved in this unusual situation, I visited this corporation in April, 1967. Consultation with the officers of the acceptance corporation revealed that the indebtedness had been incurred for financing cattle operations in connection with a cattle management corporation which is a wholly owned subsidiary of the acceptance corporation.

I learned that this management corporation had approximately 80,000 breeding cattle, which belonged to clients of the corporation, under care and maintenance contracts with ranchers in fifteen states, including Oklahoma. Information supplied by the officers of the corporation gave indications of considerable advantages to ranchers who had contracts for the care and maintenance of clients' cattle. After consultation with a number of members of the faculty of the Department of Agricultural Economics it was decided that it would be worthwhile for me to make a deeper analysis of these cattle contracts, with particular reference to the ranchers' point of view, and that this should be the

problem for my thesis research.

I wish to give special thanks to my advisor, Geoffrey P. Collins, Associate Professor in the Department of Agricultural Economics, for time generously given in guiding and supervising this study.

Thanks also are due Dr. Vernon R. Eidman for his help in developing the methods of analysis used in the study and for serving as a member of my graduate committee. Appreciation is also given Professor Odell Walker and Dr. William L. Brant who served as members of my graduate committee and offered helpful suggestions during the study.

I wish to thank the officers of the managing corporation and the representatives of the subcontracting company who supplied much of the information used in this study. I greatly appreciate the cooperation of each rancher who supplied information about this operations under the contract arrangements.

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## CHAPTER I

### INTRODUCTION

One of the critical problems facing modern cattle ranchers is getting the capital necessary to acquire and stock a ranch large enough to yield a desired standard of living. In modern ranching as in other businesses an important factor in earning a satisfactory money income is the proper combination of productive assets such as land, livestock, machinery, labor, and managerial ability.

In March 1966 the total value of Oklahoma farm real estate was estimated at \$4,492 million, an increase of 153 percent over 1950. The average price per acre of farmland and buildings rose from \$51 to \$126 during this period.<sup>1</sup> Thus, in 1967, throughout most regions of Oklahoma the land investment per beef cow ranged from \$1,000-\$1,200. Ranchers faced with the increased price of land and the rising cost of other factors of production are finding it increasingly important to find adequate capital sources.

Any method which can provide additional capital to ranchers is a logical subject for investigation. One such method involves the handling of cattle belonging to investors to utilize the other assets of the rancher. The procedures of the cattle management corporation with which

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<sup>1</sup>Farm Real Estate Values, Oklahoma Crop and Livestock Reporting Service, Oklahoma City, July 1966 and L.V. Watkins and L.G. Tweeten, "Oklahoma Real Estate Market in National Perspective," Oklahoma Current Farm Economics, December 1965, p. 114.

this study is concerned provide capital for this kind of operation for a limited number of ranchers in Oklahoma and fifteen other states. The corporation supplies these ranchers with cattle which are owned by investors who are clients of the corporation. The corporation's function is essentially one of managing the cattle investments of its clients. The corporation, acting as agent for its clients, locates cattle that are for sale, negotiates the purchase of them on behalf of its clients, and agrees to manage the care of the cattle for a percentage of the gross expenditures made by the client on the cattle operation. The corporation locates ranchers who are willing to take care of its clients' cattle, and moves them to their ranches under a one-year contract. The rancher supplies the range and other facilities, and feeds and cares for the cattle in much the same way he would handle his own. He is provided with money in advance to pay for feed purchases and other expenses. At the beginning of the contract the rancher is guaranteed a rate per pound that he will receive for the calves from the client's cattle.

The records of the managing corporation indicated that as of December 31, 1966 five Oklahoma ranchers had 6,423 breeding cattle on contract from this corporation. The corporation had over 77,900 breeding cattle in the United States under its management at that time.

Of the five Oklahoma ranchers, one has formed a cattle subcontracting company that places some of these same cattle with other ranchers under subcontracts which are similar to the original contract. For the contract year 1966-1967 this subcontracting company had contracts with ranchers who became responsible for 3,043 of the contract cattle.<sup>2</sup>

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<sup>2</sup>The 3,043 breeding cattle on subcontract are included as a part of the 6,423 on direct contract in Oklahoma.

There is evidence that the contracts and subcontracts enable the ranchers to obtain many of the benefits of owning cattle without having to buy them. These contracts are, in effect, a means of financing cattle operations.

### Objectives

The basic objectives of this study are:

- (1) to describe the important provisions of the contracts and subcontracts and explain why and how this contract arrangement is possible.
- (2) to compare income variability and differences in costs and returns for rancher owned cattle and replacements, and those for contract cattle and replacements.
- (3) to analyze the changes in the cost and income relationships between rancher owned cattle and replacements, and contract and subcontract cattle and replacements, considering different calf weights, calving percentages, price spreads, and alternatives available to ranchers.

Characteristics of the Managing Corporation,

Clients, and Contract Ranchers

### The Managing Corporation

The managing corporation is a wholly owned subsidiary of an acceptance corporation. The acceptance corporation and its subsidiaries are engaged in a number of activities related to ranching, including consulting, ranch appraisal, finance, and real estate operations.

As indicated previously, the managing corporation buys breeding cattle for its clients and then arranges one year contracts between the clients and ranchers for the care and maintenance of the cattle. The corporation is given the power to make decisions about how the cattle shall be handled and normally inspects the cattle every 30 to 60 days to see that the rancher is handling them in accordance with the contract.

The management fee charged by the managing corporation to the client ranges from  $7\frac{1}{2}$  to  $8\frac{1}{2}$  percent of the gross expenditures made on behalf of the clients' cattle, depending upon the number of cattle the client has under contract. This fee is not directly affected by such things as market fluctuations, epidemics, and drought.

#### Cattle Owners

The records of the managing corporation indicate that over 300 investors (two in Oklahoma) own contract cattle under agreement with the managing corporation. An incentive for the corporation's clients to purchase cattle may lie in the nature of the Federal Income Tax Code.

The Federal income tax in the United States is a progressive tax. The higher the step in taxable income the higher the tax rate. Current Internal Revenue Code specifies that livestock used for breeding purposes may be considered as long term capital assets. Thus, within this framework, if a client's net long-term capital gain exceed his net short-term capital loss, only 50 percent of the excess is taxable for income tax purposes. This provision allows the corporation's clients, who are normally in high income tax brackets, to invest their ordinary income in a program in which only one-half the gains may be taxable.

The costs of feeding the cattle, keeping them healthy, getting them bred, and the interest paid to finance the animals purchased can be deducted from ordinary income. After the purchase, the animals can be depreciated, ordinarily on the assumption that their useful life ends around the eighth year. The management fee, paid by the client to the managing corporation, is another expense that can be deducted against ordinary income on the client's income taxes.

Normally 10 to 15 percent of the lower quality breeders are sold off every year in order to improve the herds. A client who is interested in increasing the size of his herd can trade his steer calves for heifer calves with virtually no taxable gain. In effect he will have increased his capital investment with income that would have been taxed at the relevant income tax rate. As long as a client is able to produce the increasing amounts of cash required for care and maintenance of the expanding herd, he will increase his capital gains advantage. The client has an incentive to keep on building up his herd with an ultimate sale of a much-expanded herd.

### Contracting Ranchers

The managing corporation has set up three requirements that a rancher is expected to meet before he can obtain cattle under contract.<sup>3</sup>

1. He must control, by ownership or long term lease, a minimum land capacity to handle 300 to 400 cows the first year of the contract. He must also have the capability, and be willing, to increase the size of the herd to approximately 800 head within a few years.

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<sup>3</sup>Requirements for subcontractors are not nearly as stringent. See Chapter VI.



2. He must have a net worth in excess of \$250,000.<sup>4</sup>
3. He must have a minimum five year history of successful cattle operation in the area in which the cattle will be located.

It is important to note that these are minimum requirements and that meeting them does not insure that a rancher will be supplied with contract cattle. The large and increasing number of cattle under sub-contracts, in Oklahoma, has made the managing corporation somewhat reluctant to place cattle under its own contract with more Oklahoma ranchers. During this study, it was learned that a number of Oklahoma ranchers who had tried to get cattle from the managing corporation had been referred to the subcontracting company.

A policy of the company is to avoid having two contracting ranchers within a fifty mile radius of one another. This keeps two large ranchers from competing for grassland. It also minimizes the losses from drouth or epidemic in one localized area. By way of exception, when a second rancher in an area applies for a contract, the first rancher is contacted and asked if he has any objection to the second rancher getting contract cattle. If the first rancher does not object, the second rancher may still be able to obtain contract cattle through the managing corporation although this is not the usual case.

Ten of the ranchers visited had an average of 700 cows with the smallest having 209 and the largest over 2,000. The ranchers with the largest and the smallest numbers do not have typical operations. A typical operation at the present time would be somewhere between 600

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<sup>4</sup>The net worth requirement is included to insure that the rancher has some degree of financial responsibility and to be sure that he has a basis for providing financing for the client-investor even though he may have to borrow from his own credit sources for this purpose.

and 1,100 cows.

#### Procedure

Officers of the managing corporation explained the basic elements of the contracts and provided copies of standard contracts for the contract years 1960-61 through 1967-68. The corporation's officers also provided a list of all the ranchers who had cattle under its contracts in 1966-67. Eleven of these ranchers, in and near Oklahoma, were interviewed and provided details of their operation under the contracts.

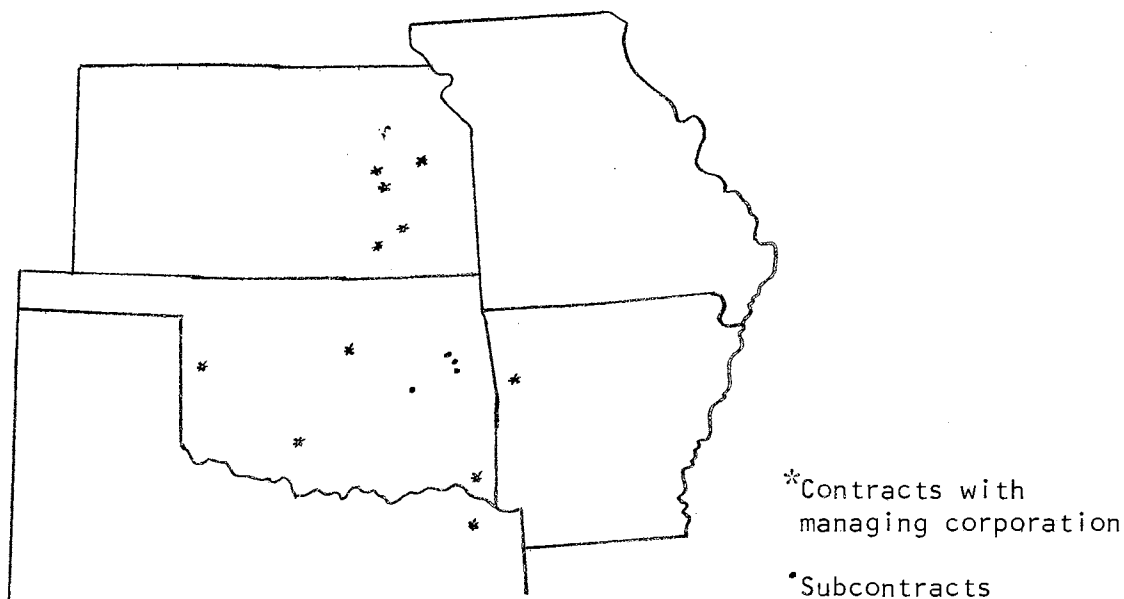


Figure 1. Map of the Locations of the Ranchers Interviewed During the Study.

The subcontracting company was contacted and copies of the company's subcontracts and the names of the subcontracting ranchers were obtained. Four of the six ranchers who had subcontracts in 1966-67 were interviewed.

The analysis begins with an explanation of the most important contract provisions. The data obtained from the managing corporation and the eleven ranchers having direct contracts were used in budgets designed to compare the expected costs and returns for a rancher with his own cattle, with the costs and returns he would receive with cattle under contract. Separate budgets were constructed for rancher owned cattle and for cattle under contracts for the contract years 1960-1961 through 1966-1967. These budgets show comparative changes in costs and returns for rancher owned cattle and cattle under contracts over this period of time. The budgets were then changed to show the effect on costs and returns of changing variables such as weaning weights, market prices, and contract arrangements. This is followed by an analysis of the effect of a rancher following certain alternatives which are available to him, but are not shown in the budgets.

Following the budgets for rancher owned cattle and cattle under contract, are comparisons of rancher owned cattle and cattle under subcontract. The same methods used for comparing rancher owned cattle and cattle under contract are used in comparing rancher owned cattle and cattle under subcontract.

## CHAPTER II

### CONTRACT PROVISIONS

Complete provisions of the 1967-1968 standard cow-calf grazing and maintenance contract offered by the managing corporation to ranchers are included in Appendix A. This contract is for the care and maintenance of beef cows which are bred to calve during the contract period. A rancher typically will have several of these identical contracts, one for each client who has cattle on his ranch. A rancher will have different contracts (Standard Calf Grazing and Maintenance Contracts) for heifers saved as replacements. The heifer replacement contract is discussed later in this chapter.

The contracts of the corporation are for one year and normally run from October 15 to October 15. The managing corporation typically places each client's cattle on a number of different ranches in order to avoid excessive losses from adverse occurrences on any one ranch. The individual contracts are usually for 50 to 60 head of cows each but some ranchers have individual contracts for as few as two to five head and others for as many as 100 to 200 head. A rancher with 500 contract cows could expect to have cattle belonging to ten different clients under ten separate contracts.

The corporation does not normally enter into an agreement with the expectation of terminating at the end of one year. It involves cost to transport the cattle at the end of the contract and, therefore, the

corporation expects to continue with any rancher who does a satisfactory job of handling the cattle.

All of the ranchers who were visited insisted that they handled the cattle under contracts in the same manner they handled their own cattle. They agreed that the contract provisions allowed them to operate fairly freely in the handling of the cattle and most of them said they would not have taken the cattle had this not been allowed. Any recommendations given by the managing corporation were described by most as "good practices."

The clients are the owners of the cattle. The contracts are between the rancher and the client but the clients have assigned their management responsibilities to the managing corporation through an agency agreement. When reference is made to a client performing some operation, it is actually the managing corporation that performs the operation for the client.

The corporation physically transfers cattle under its management to the rancher's pasture. Before cattle are moved to a ranch, the rancher inspects the cattle and if he does not like a particular herd of cattle, he does not have to take it. When he accepts the cattle, they are pregnancy tested at the expense of the clients and dries are culled or placed on a maintenance contract which normally pays \$55 to \$65 per cow for one year's maintenance and breeding. The remaining cattle are then placed under the corporation's standard cow-calf grazing and maintenance contracts (Appendix A).

On the 14 ranches visited, the cows weighed from 900 to 1,200 pounds with an average of nearly 975 pounds. Most of the cattle were dehorned Hereford Cattle with some smaller herds of Angus. Most of the

ranchers visited thought the contract cattle were good quality range cattle. One problem associated with a number of the cattle moved in from northern states is a late calving date. Many cows were not calving until April and May with some calving later.

### Major Provisions of the Cow-Calf Grazing and Maintenance Contract

#### Ranchers Obligations

The rancher must agree to pasture, feed, and care for the cattle in the manner customary to the area in which the cattle are located. He must also agree to maintain a sufficient number of ranch hands to properly carry out his management obligations. The obligations include, but are not necessarily limited to, supervision of breeding and calf birthing, and the keeping of registration records (if any). He must also provide for veterinary service, transportation (on the ranch and to the scales at the time of weighing), feed, salt, minerals, labor, and cattle spraying. The rancher must also pay personal property taxes (if any), pay the cost of any real estate rentals, and any other expenses not specifically covered elsewhere in the contract.<sup>1</sup>

The rancher may or may not be asked to finance cattle maintained by him, although it is understood that he will provide financing if required. A rancher should expect to be asked to finance about 50 percent of the cattle under contract to him. The average value of all rancher-held mortgages was \$108.63 per head in 1966. If the cattle are financed by the rancher, the rancher agrees to extend the client's loan

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<sup>1</sup>These expenses are the same as those that the rancher would incur if he owned the cattle.

for one year from the date of signing the contract.<sup>2</sup> For example, if one client with 50 cows was to request financing on all 50 head at \$120 per head, the rancher would pay the client, represented by the managing corporation, \$6,000 and would receive a security agreement which would give him a security interest in the cows.

The managing corporation normally expects all ranchers to provide some financing as part of the consideration for the contract and to provide part of the funds for the operation. The amount of financing varies considerably from one rancher to the next due to the differences in the amount of financing which different clients desire and the rancher's capability to provide financing. Most of the ranchers interviewed borrowed the money they needed for this purpose from banks. In most cases, the ranchers indicated that their banks were willing to finance the contract cattle. The loan may or may not be reduced prior to the effective date of the contract. It is normally reduced only when financed cattle are culled and sold or removed from the ranch.

The preceding are the most important rancher obligations included in the contracts. Other rancher obligations are included in sections 7, 8, 9, 10, 11, 12, 15, 16 and 21 of the contract (See Appendix A).

#### Payments to the Rancher

In instances where the rancher finances all or part of a herd, he is entitled to the following:

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<sup>2</sup>The ranchers are given a security agreement (chattel mortgage) which grants to the rancher a secured interest in the cattle only (non-recourse), together with all the increase, and the increase from the increase, of the cattle described in the agreement.

- (1) one year's interest in advance at 7% on the principal balance remaining at the beginning of the contract term<sup>3</sup>
- (2) 1¢ per pound in addition to the regular bonus computation rate (Should the mortgage be for less than 25% of the value of the cattle, this increase shall be reduced to  $\frac{1}{2}$ ¢ per pound.)
- (3) payment for winter feed at the beginning of the contract.

The rancher receives advances of \$42 per calf or yearling and \$50 for other classes on all financed cattle. If the rancher does not provide financing, a portion of the advance payment may be paid anyway. The final decision of whether or not to send advance money on the unfinanced cattle is left to the judgment of the managing corporation or any bank or lending agency involved.

In general, a rancher should expect to receive an overall average of \$25 to \$30 per head, with 75 percent of this coming before January 1. Most ranchers receive their payments in December and early January. The extra 1¢ per pound and advance payment guarantee applies only to financed contracts and not to unmortgaged segments of the herd.

At the termination of the contract, all calves produced by the herd are gathered, sorted for sex, and weighed.<sup>4</sup> The total pounds thus obtained is multiplied by the bonus computation rate stated in the contract.<sup>5</sup> If the amount thus computed exceeds the total of the advance

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<sup>3</sup>Seven percent is the rate in effect in the 1966-67 and the 1967-1968 contracts. The interest is payable within ten days of the effective date of the contract.

<sup>4</sup>The weighing conditions are given in section 5 of the contract in Appendix A.

<sup>5</sup>The bonus computation rate is the rate (in cents per pound) that the clients pay for the calves produced by the rancher.



payments received at the beginning of the contract. The difference is paid as a bonus to the rancher. If the total is less than the total advance payment, the rancher agrees to pay the client the difference as a penalty.<sup>6</sup>

The bonus computation rates which were applicable in the contracts of 1966-1967 and 1967-1968 are given in Table I. These rates are multiplied by calf crop weight for the calves of mature cows, first calf heifers, and bred yearlings to determine the payment to the rancher. For open yearling heifers, heifer calves and steer calves these rates are multiplied by the weight gain.

The rates are computed on the basis of the total number of head under contract to the rancher.

If a rancher has cattle which calve in the fall or winter, the calves are handled somewhat differently, as explained in section 6 of the contract in Appendix A.

The contract bonus computation rates as shown in Table I apply only to the following calf weights and weight gains.

1. At the time of weighing, the bonus or penalty for the calves of mature cows is determined by the bonus computation rates up to an average calf crop weight of 475 pounds. Weight in excess is paid for on the basis of 16¢ per pound.
2. Calves of first calf heifers and bred yearlings--same as above.<sup>7</sup>

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<sup>6</sup>None of the ranchers visited had ever been penalized by this provision. This provision, in effect, guarantees the rancher a price per pound for his calves as well as protecting the client from loss due to inferior performance.

<sup>7</sup>In the contracts previous to the 1964-1965 contract minimum average was 425 pounds, weight in excess of 425 pounds was paid for at 16¢ per pound.

TABLE I  
BONUS COMPUTATION RATES FOR COMPUTATION OF CLIENTS'  
PAYMENT TO THE RANCHER (CENTS PER POUND)

Kind of Animal	Total Number of Head Maintained by the Rancher			
	0-500	500-1500	1500-2000	over 2500
<u>Calves of</u>				
Mature Cows	21½¢	21¼¢	21¢	20½¢
First Calf Heifers	22½¢	22¼¢	22¢	21½¢
Bred Yearling Heifers	23½¢	23¼¢	23¢	22½¢
<u>Weight Gain of</u>				
Open Yearling Heifers	20¢	19½¢	18½¢	18¢
Heifer Calves*	16½¢	16¢	15½¢	15¢
Steer Calves	16¢	15½¢	15¢	14½¢

\*This rate can be increased by up to 2¢ additional per pound in the event the rancher breeds the heifers to calve at 24 months. The additional rate is determined by negotiation with individual ranchers.

3. For open yearlings the average weight gain not to exceed 275 pounds per head. Weight gain in excess is paid for on the basis of 12¢ per pound.

4. Heifer calves have no restrictions on weight gains.

The corporation's clients agree to furnish bulls or bull service. The rancher agrees to turn out bulls by the stated time and in the proper number for efficient breeding, to move them around as required, and in general to supervise the breeding with reasonable diligence. A flat contract maintenance fee of \$65 per bull per year will be paid to the

rancher for feed and related maintenance expense.

However, if the rancher agrees to provide bulls and bull service, he receives an additional  $2\frac{1}{4}\text{¢}$  per pound times the contract settlement weight (weaning weight) for calves weaned from cows, first calf heifers, and bred yearlings, and  $2\frac{3}{4}\text{¢}$  per pound times the weight gain computed for contract settlement for the breeding of open yearling heifers.<sup>8</sup>

Following is an example of how the price per pound is determined for three categories of animals on contract. Assume a rancher had 100 heifer calves, 75 bred yearlings, and 700 cows on contract. He provides bull service and finances the 700 cows. He is in the second bonus computation category for ranchers with from 500 to 1,500 head. The rates he receives for the cattle on contract are as follows:

	Calves of Cows	Calves of Bred Yearlings	Heifer Calves
Bonus Computation Rate	$21\frac{1}{4}\text{¢}$	$23\frac{1}{4}\text{¢}$	16¢
Additional for Financing	1¢	--	--
Bull Service Fee	<u><math>2\frac{1}{4}\text{¢}</math></u>	<u><math>2\frac{1}{4}\text{¢}</math></u>	<u>--</u>
Composite Contract Rate	$24\frac{1}{2}\text{¢}$	$25\frac{1}{2}\text{¢}$	16¢

A bonus is paid at the end of the contract by the client if, in the sole judgment of the managing corporation, every point in the contract has been adhered to. Particular attention is paid to the keeping of records and the round-up and inventory.

The schedule for reports bonuses on the various contracts is shown in Table II.

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<sup>8</sup>Nine of the eleven ranchers visited used their own bulls. The maintenance payments and prices per pound are the ones used on the 1966-1967 and 1967-1968 contracts. Computations showing the profitability of owning versus using the client's bulls are made in Chapter V.

TABLE II  
BONUSES PAID TO RANCHERS WHO ADHERE TO  
ALL POINTS IN THE CONTRACTS

Type of Animal	Amount Per Head
Cow	\$1.00
First Calf Heifers	1.00
Bred Yearling	1.00
Open Yearling	.75
Calves	.50

The clients typically have paid this bonus to any rancher who has made a reasonable effort to turn in reports and follow the other points in the contract. All but one of the ranchers who had handled contract cattle for a number of years said that they had received the bonus every year.

#### Other Important Contract Provisions

Ranchers must pay a penalty of \$2 per head for any spring calf over two months old that is not vaccinated for Blackleg and Malignant Edema, dehorned, branded, and bull calves castrated by July 1 of the contract year. Any calf too young to work at spring round-up is to be vaccinated, dehorned, castrated, and branded in the fall prior to the termination date of the contract. At birth, or prior to castration, bull calves are normally traded for heifer calves of equivalent value. If the rancher is providing financing on this contract, the corporation's client, when

required, will substitute heifer calves thus received in trades as part of the collateral for the loan. At branding time, the rancher must affix the owner's brand to animals that have been steered.

The managing corporation's client has the option of giving the rancher the calf crop, in which case the rancher shall rebate to the client all fees received under this contract, and neither rancher nor the client shall have any further obligations as to bonuses or penalties.<sup>9</sup>

In the event of death loss on the cows, the rancher must produce the brand on the hide. In the event of animals missing where no brand can be produced, the indemnity in the amount set forth in the contract for each missing cow shall be paid to the client by the rancher.<sup>10</sup> Other provisions of the contract notwithstanding, all losses over 3% of the original cow herd shall be paid by the rancher to the corporation's client as an indemnity at the specified rate per head. These indemnities shall be deducted from the final settlement after said settlement has first been adjusted for bonuses or penalties.

Two contract provisions relating to terminating the contracts are

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<sup>9</sup>This option has never been exercised on any of the ranches visited. Some ranchers have been able to have this option removed from their contracts. In years of extremely low prices, this option could cause the rancher many problems. However, these problems would not be any different from those encountered if the rancher owned the cattle except that he would be acquiring the calves involuntarily under price conditions which he had not anticipated and would have to pay back all the advance moneys he had received under conditions which might not be favorable for acquiring the funds to do so.

<sup>10</sup>Almost all mature cows have an indemnity rate of \$200. Two ranchers had cattle which were valued at \$225 each. Two of the interviewed ranchers had paid a penalty for excessive death loss at least once. This provision allows 3% death loss for each contract held by the rancher.

Number 20 "Termination Provision" and Number 24 "Sale of Cattle Under Contract" as shown in Appendix A.

### Major Provisions of the Calf Grazing and Maintenance Contract

The calf grazing and maintenance contract is the same as the cow-calf contract given previously except as explained in the following statements.

Under the calf grazing and maintenance contract, the managing corporation physically transfers heifer calves under its management to the rancher's pasture. If the rancher raised the heifers from birth, no transfer is necessary and he merely continues in the possession of the heifers. The heifers are to be of good to choice or better quality and merchantable. If horned upon delivery, the heifers are dehorned at the expense of the rancher. The rancher agrees to vaccinate the heifer calves for Blackleg and Malignant Edema as soon as possible after the start of the contract, and in no event later than sixty (60) days from the start of the contract, and to brand the calves as soon as possible after the receipt of the corporation's branding instructions.

The determination of a bonus or penalty for the calf grazing contract is determined as follows. At the termination of the contract, the heifers are gathered and weighed in the same manner as stated in the cow-calf maintenance contract, (Section 5 of the contract in Appendix A) with heifer calves to be culled, sorted out and weighed separately at the time of weighing but prior to the weighing of the main herd. (Culling normally affects about 10% of the calf herd). The difference between the initial weight and the terminal weight (weight gain), is multiplied by the bonus computation rate (see Bonus

Computation Rates, Table I). If the amount thus computed exceeds the total of the feed and care-maintenance payments advanced, the difference is paid to the rancher as a bonus. If the amount is less than the total of the feed and care-maintenance advance payments, the rancher agrees to pay the client the difference as a penalty.

The rancher receives no reimbursement or adjustment for any heifers lost through death, theft, or any other reason on the final weighing out. Unlike the cow-calf contract the calf grazing contract does not allow the rancher a death loss. This penalizes the rancher if animals which were present at the weighing in are not present to be weighed out. The rancher forfeits the initial weight of the animal times the bonus rate plus feed and other expenses made on behalf of the missing animals. The rancher must keep accurate count of the cattle in his care and submit periodic reports on forms furnished by the managing corporation covering loss of cattle for any reason.

In the event that the heifer calves are not already vaccinated for Brucellosis disease, the rancher shall vaccinate all such calves for Brucellosis disease at no expense to the client. The rancher agrees to pay the expense of all veterinary service as in the cow-calf contract.

## CHAPTER III

### OWNING VERSUS CONTRACTING CATTLE

Can a rancher expect to make more money with cattle under these contracts than he can with cattle he owns? Under what conditions can a rancher expect to find it advantageous to run contract cattle? In this chapter comparisons are made between rancher owned cattle and client owned cattle under contract.<sup>1</sup> The comparison includes (a) cow-calf grazing and maintenance contracts and (b) calf grazing and maintenance contracts (used for heifers saved as replacements), and covers the seven contract years 1960-1961 through 1966-1967.

#### Budgets

The method used to analyze the alternatives of owning cattle versus contracting cattle is to develop cost and returns budgets for each alternative and compare. Both complete and partial budgets have been designed to represent typical ranch operations in Northeastern Oklahoma. They are yearly budgets running from October 15 to October 15 to coincide with the time period in the cattle contracts and are on the basis of 100 cow units although under normal circumstances the managing corporation will not contract with any rancher who cannot handle 300 to

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<sup>1</sup> Subcontracts are not discussed in this chapter, but are included in Chapter VI.



to 400 head of cattle the first year and then expand to larger numbers.<sup>2</sup> The budgets were designed to represent costs and returns on ranches with from 500 to 1500 head of cattle on a 100 cow unit basis. The 100 cow unit was selected because it provides a convenient base for calculations and can be easily adapted to fit larger ranch situations. The 1966-1967 budgets for contract cattle are directly applicable to herd sizes of 500 to 1,500 head. The budgets are applicable for herds that are somewhat larger or smaller than this if the appropriate bonus computation rates for other herd sizes are used. All of the budgets assume spring calving cows since the study has shown that eighty percent of the cattle on contract in Oklahoma are spring calving. In all calculations in the study the final values have been rounded to the nearest whole number.

#### Assumptions Used in the Budgets

The assumptions used in the budgets are as follows.

- (1) The prices received for rancher owned cattle are the average monthly Oklahoma City prices at the time of sale adjusted for weight differential.
- (2) The prices received for contract cattle are taken from the bonus computation rates for the contract for the year being studied.<sup>3</sup> The bonus computation rate used is for ranches with between 500 and 1500 head of contract cattle.

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<sup>2</sup>The 100 cow units consist of 100 animals that are calving and the replacements and bulls which are necessary to maintain a herd of this size.

<sup>3</sup>The bonus computation rates for the 1966-1967 and 1967-1968 contract years are shown on page 15.

- (3) Ranchers save heifers for replacements and these heifers calve at 24 months.
- (4) The cows have an 88 percent calf crop. Bred yearlings have an 83 percent calf crop.
- (5) The 100 cow unit means that there are 100 animals calving each year. The rancher also has 14 replacement heifers under contract for a total of 114 animals under contract. The same number of cattle is used in the budgets for rancher owned cattle.
- (6) The ranchers finance 50 percent (57 head) of the cattle under contract at \$108 per head.
- (7) The rancher with contract cattle uses his own bulls.
- (8) All of the ranchers interviewed said they treated the contract cattle just as they did their own and thus the budgets assume this is true.

#### Cattle Investment Used in the Budgets

The cattle investment required of a rancher for these budgets is shown in Table III and Table IV. The values shown will vary with market conditions but are representative of the values the interviewed ranchers placed on their contract cattle and on their own cattle.

Table V contains complete 100 cow unit budgets for Northeastern Oklahoma for (1) rancher owned cattle, and (2) cattle under contract. The budgets are designed to compare costs and returns for the 1966-1967 contract period. The budgets in Table V use prices, production costs and allocated charges that were applicable in 1966-1967.

The complete budgets in Table V are followed in Tables VI, VII,

TABLE III

ESTIMATED RANCHER'S INVESTMENT IN CATTLE:  
RANCHER OWNED CATTLE

(100 cow unit)

88 cows	at \$190	= \$16,720
12 bred 18-month old heifers	at \$190	= 2,280
14 replacement heifers of 430 lbs.	at \$ .26/lb.	= 1,565
<u>5</u> bulls	at \$375	= <u>1,875</u>
119 animals		\$22,440

TABLE IV

ESTIMATED RANCHER'S INVESTMENT IN CATTLE: UNDER CONTRACT  
WITH CLIENT OF MANAGING CORPORATION

(100 cow unit)

88 cows	client owned = \$	00
12 bred 18-month old heifers	client owned =	00
14 replacement heifers of 430 lbs.	client owned =	00
5 bulls	at \$375	= 1,875
<u>loan to client on 57 head @\$108/hd.</u>		<u>6,156</u>
119 animals		\$ 8,031

TABLE V  
COMPLETE BUDGETS OF ESTIMATED COSTS AND RETURNS FROM ALTERNATIVE BEEF COW PROGRAMS IN  
NORTHEASTERN OKLAHOMA: SPRING CALF; FALL SELL (100 COW UNITS)

October 15, 1966 to October 15, 1967					
<u>Production and Sales</u>		<u>Rancher Owned</u>		<u>Under Contract</u>	
Bred yearling's calves	10 hd. x 391 lbs. at 25.22¢	986	at 23.25¢	909	
Steer calves	39 hd. x 451 lbs. at 26.36¢	4,636	at 21.25¢	3,738	
Heifer calves	24 hd. x 431 lbs. at 23.08¢	2,387	38 hd. at 21.25¢	3,480	
Cull cows	12 hd. x 950 lbs. at 16.12¢	1,838		---	
Cull heifers	2 hd. x 821 lbs. at 24.83¢	408		---	
Heifer replacement contract	14 hd. x 390 lbs. gain each	---	at 17.50¢	956	
Bull service fee	2¢/lb. on calves; 2 3/4¢/lb. on hfr.	---		1,002	
Bonus for financing	1¢/lb. on financed cattle	---		217	
Reports bonus	\$1/hd. on cows; \$.50/hd. on hfr.	---	10,255	107	10,409
<u>Production Costs</u> *					
Hay at \$18/ton <sup>a</sup>	(10.6 tons)	190		190	
Protein at \$76/ton <sup>a</sup>	(14.5 tons)	1,100		1,100	
Grain for replacement heifers at \$42/ton <sup>b</sup>	( 5.2 tons)	218		218	
Mineral and salt		150		150	
Veterinary and medicine		143		143	
Bull depreciation and death loss	(5 bulls)	137		137	
Death loss	(2 cows at \$190)	380		---	
Marketing costs <sup>a</sup>		204		207	
Shrink		320		154	
Property taxes <sup>a</sup>		209		209	
Miscellaneous <sup>a</sup>		304	3,355	304	2,712
<u>Allocated Charges for Selected Resources</u>					
Land at 3% of value		4,068		4,068	
Labor at \$1.40/hr.	730 hrs.	1,022	765 hrs.	1,071	
Annual capital	\$23,527 @ 7%	1,647	6,737	-3	5,136
Return to management and risk before taxes		\$ 163		\$ 2,561	
Less estimated income taxes <sup>c</sup>		654		1,968	
Return to management and risk after taxes		\$ -491		\$ 593	

\* Information not footnoted under Production Costs was computed from information received from contract ranchers.

<sup>a</sup> Cecil D. Maynard and Odell L. Walker, "Costs and Returns to Beef Cow-Calf Systems," Oklahoma State University Extension Facts, Page 112.

<sup>b</sup> L. Smithson, S. A. Ewing, R. E. Renbarger and L. S. Pope, Effect of High or Low Winter Feed Levels in Alternate Years on Growth and Development of Beef Heifers, Oklahoma Agricultural Experiment Station, Misc. Pub. MP-74, June 1964, pp. 78-83.

<sup>c</sup> The estimated income taxes are taken from Table X. This table is discussed later in this chapter and is computed for ranchers with 800 cow units.

TABLE VI  
PARTIAL BUDGETS OF ESTIMATED COSTS AND RETURNS FROM ALTERNATIVE BEEF COW PROGRAMS  
IN NORTHEASTERN OKLAHOMA: SPRING CALF; FALL SELL (100 COW UNITS)

October 15, 1965 to October 15, 1966					
Production and Sales		Rancher Owned		Under Contract	
Bred yearling's calves	10 hd. x 391# @ 25.16¢	984		@ 22½¢	870
Steer calves	39 hd. x 451# @ 26.39¢	4642		@ 20¼¢	3562
Heifer calves	24 hd. x 431# @ 22.92¢	2371		38 hd. @ 20¼¢	3317
Cull cows	12 hd. x 950# @ 16.46¢	1876			--
Cull heifers	2 hd. x 821# @ 23.8¢	391			--
Heifer replacement contract	14 hd. x 390# gain each	--		@ 17½¢	956
Bull service fee	\$7.00/exposed cow	--			798
Bonus for financing	1¢/lb. of financed cattle	--			217
Reports bonus	Cows \$1/hd.; Hfr. \$.50/hd.	--	10264		107 9827
<u>Production Costs</u> <sup>a</sup>	-- Total --		3355		2712
<u>Allocated Charges</u> <sup>a</sup>	-- Total --		6737		5136
Return to management and risk before taxes		\$ 172			\$1979
Less estimated income taxes <sup>b</sup>		653			1708
Return to management and risk after taxes		- \$ 481			\$ 271

October 15, 1964 to October 15, 1965					
Production and Sales		Rancher Owned		Under Contract	
Bred yearling's calves	10 hd. x 391# @ 23.47¢	918		@ 23¢	899
Steer calves	39 hd. x 451# @ 24.86¢	4373		@ 21¢	3694
Heifer calves	24 hd. x 431# @ 21.07¢	2179		38 hd. @ 21¢	3439
Cull cows	12 hd. x 950# @ 14.75¢	1682			--
Cull heifers	2 hd. x 821# @ 24.5¢	402			--
Heifer replacement contract	14 hd. x 390# gain each	--		@ 17¢	928
Bull service fee	\$7.00/exposed cow	--			798
Bonus for financing	1¢/lb. on financed cattle	--			217
Reports bonus	Cows \$1/hd./ Hfr. \$.50/hd.	--	9554		107 10082
<u>Production Costs</u> <sup>a</sup>	-- Total --		3355		2712
<u>Allocated Charges</u> <sup>a</sup>	-- Total --		6737		5136
Return to management and risk before taxes		- \$ 538			\$ 2234
Less estimated income taxes <sup>b</sup>		487			1821
Return to management and risk after taxes		- \$1025			\$ 413

<sup>a</sup>Source: Table V.

<sup>b</sup>Refer to the section on income taxes beginning on page 38.

TABLE VII

PARTIAL BUDGETS OF ESTIMATED COSTS AND RETURNS FROM ALTERNATIVE BEEF COW PROGRAMS  
IN NORTHEASTERN OKLAHOMA: SPRING CALF; FALL SELL (100 COW UNITS)

October 15, 1963 to October 15, 1964					
<u>Production and Sales</u>		<u>Rancher Owned</u>		<u>Under Contract</u>	
Bred yearling's calves	10 hd. x 391# @ 19.85¢	776		@ 23¢	899
Steer calves	39 hd. x 451# @ 20.91¢	3678		@ 21¢ & 16¢	3643
Heifer calves	24 hd. x 431# @ 17.79¢	1840		38 hd. @ 21¢ & 16¢	3428
Cull cows	12 hd. x 950# @ 12.58¢	1434			—
Cull heifers	2 hd. x 821# @ 22.5¢	369			—
Heifer replacement contract	14 hd. x 390# gain each	—		@ 17¢	928
Bull service fee	\$7.00/exposed cow	—			798
Bonus for financing	1¢/lb. on financed cattle	—			217
Reports bonus	Cows \$1/hd.; Hfr. \$.50/hd.	—	8097		107 10020
<u>Production Costs<sup>a</sup></u>	-- Total --	3355			2712
<u>Allocated Charges<sup>a</sup></u>	-- Total --	6737			5136
Return to management and risk before taxes		—	\$1995		\$ 2172
Less estimated income taxes <sup>b</sup>		—	199		1792
Return to management and risk after taxes		—	\$2194		\$ 380

October 15, 1962 to October 15, 1963					
<u>Production and Sales</u>		<u>Rancher Owned</u>		<u>Under Contract</u>	
Bred yearling's calves	10 hd. x 391# @ 24.67¢	965		@ 23¢	899
Steer calves	39 hd. x 451# @ 25.75¢	4529		@ 21¢ & 16¢	3643
Heifer calves	24 hd. x 431# @ 22.98¢	2377		38 hd. @ 21¢ & 16¢	3428
Cull cows	12 hd. x 950# @ 14.97¢	1707			—
Cull heifers	2 hd. x 821# @ 23.23¢	381			—
Heifer replacement contract	14 hd. x 390# gain each	—		@ 17¢	928
Bull service fee	2¢/lb. on calves; 2 3/4¢/lb. on yrlg.	—			1002
Bonus for financing	1¢/lb. on financed cattle	—			217
Reports bonus	Cows \$1/hd.; Hfr. \$.50/hd.	—	9959		107 10224
<u>Production Costs<sup>a</sup></u>	-- Total --	3355			2712
<u>Allocated Charges<sup>a</sup></u>	-- Total --	6737			5136
Return to management and risk before taxes		—	\$ 133		\$ 2376
Less estimated income taxes <sup>b</sup>		—	594		1885
Return to management and risk after taxes		—	\$ 727		\$ 491

<sup>a</sup>Source: Table V

<sup>b</sup>Refer to the section on income taxes beginning on page 38.

and VIII by partial budgets which compare rancher owned cattle and contract cattle for the contract years 1960-1961 to 1965-1966. The totals for Production Costs and Allocated Charges, as determined in the complete budgets for 1966-1967 (Table V), are used in the partial budgets. Changes in production costs and allocated charges have occurred during the period from 1961 to 1967; however, these changes are ignored because the categories in production costs and allocated charges that one would expect to change are the same for rancher owned cattle and cattle under contract. A change in these categories which is equal for both rancher owned cattle and contract cattle would not alter the relative profitability of the alternatives. The only changes made in the partial budgets as compared with the complete budgets are changes in contract and market prices. The variation in Oklahoma City prices and contract rates causes the relative profitability of owning cattle and contracting cattle to vary considerably from one year to the next.

Appendix B contains complete 1966-1967 budgets for Southeastern Oklahoma and the Oklahoma Panhandle which are constructed in the same manner and using the same assumptions as the budgets in Table V. These budgets are designed to compare relative costs and returns for Southeastern Oklahoma and the Oklahoma Panhandle for 1966-1967. Partial budgets for these regions of Oklahoma are not included because preliminary computations have shown that the results for these regions are very similar to the results for Northeastern Oklahoma.

An explanation of the differences between the budgets for rancher owned cattle and contract cattle follows the budgets.

TABLE VIII

PARTIAL BUDGETS OF ESTIMATED COSTS AND RETURNS FROM ALTERNATIVE BEEF COW PROGRAMS  
IN NORTHEASTERN OKLAHOMA: SPRING CALF; FALL SELL (100 COW UNITS)

October 15, 1961 to October 15, 1962					
<u>Production and Sales</u>		<u>Rancher Owned</u>		<u>Under Contract</u>	
Bred yearling's calves	10 hd. x 391# @ 26.61c	1040		@ 23c	899
Steer calves	39 hd. x 451# @ 27.33c	4807		@ 21c	3643
Heifer calves	24 hd. x 431# @ 24.88c	2574		38 hd. @ 21c	3428
Cull cows	12 hd. x 950# @ 15.88c	1810			--
Cull heifers	2 hd. x 821# @ 26.88c	441			--
Heifer contract	14 hd. x 390# gain each	--		@ 17c	928
Bull service fee	2 1/4c/lb. on calves; 2 3/4c/lb. on yrlg.	--			1002
Bonus for financing	1c/hd.; Hfr. \$.50/hd.	--			217
Reports bonus	Cow \$1/hd.; Hfr. \$.50/hd.	--	10672		107 10224
<u>Production Costs</u> <sup>a</sup>	-- Total --		3355		2712
<u>Allocated Charges</u> <sup>a</sup>	-- Total --		6737		5136
Return to management and risk before taxes		\$ 580			\$ 2376
Less estimated income taxes <sup>b</sup>		782			1885
Return to management and risk after taxes		- \$ 202			\$ 491

October 15, 1960 to October 15, 1961					
<u>Production and Sales</u>		<u>Rancher Owned</u>		<u>Under Contract</u>	
Bred yearling's calves	10 hd. x 391# @ 25.85c	1011		@ 24c	938
Steer calves	39 hd. x 451# @ 26.38c	4640		@ 22c	3870
Heifer calves	24 hd. x 431# @ 24.32c	2516		38 hd. @ 22c	3603
Cull cows	12 hd. x 950# @ 16.12c	1838			--
Cull heifers	2 hd. x 821# @ 23.38c	384			--
Heifer contract	14 hd. x 390# gain each	--		@ 17c	928
Bull service fee	2 1/4c/lb. on calves; 2 3/4c/lb. on yrlg.	--			1002
Bonus for financing	1c/lb. on financed cattle	--			217
Reports bonus	Cows \$1/hd.; Hfr. \$.50/hd.	--	10389		107 10665
<u>Production Costs</u> <sup>a</sup>	-- Total --		3355		2712
<u>Allocated Charges</u> <sup>a</sup>	-- Total --		6737		5136
Return to management and risk before taxes		\$ 297			\$ 2817
Less estimated income taxes <sup>b</sup>		696			2083
Return to management and risk after taxes		- \$ 399			\$ 734

<sup>a</sup>Source: Table V

<sup>b</sup>Refer to the section on income taxes beginning on page 38.



## Budget Explanation

The complete budgets described here are divided into three major parts: Production and Sales, Production Costs, and Allocated Charges for Selected Resources. Where there is a difference in the budget for rancher owned cattle and the budget for cattle under contract, the difference is explained.

### Production and Sales

Production and Sales for the 100 cow unit herd are divided into the following categories.

Bred yearling's calves	10 head X calf weight X rate per pound
Steer calves	39 head X calf weight X rate per pound
Heifer calves	24 head X calf weight X rate per pound
Cull cows	12 head X cows weight X rate per pound
Cull heifers	2 head X hfrs.weight X rate per pound
Heifer replacement contract	14 head X weight gain X rate per pound
Bull service fee	2 $\frac{1}{4}$ ¢/lb. on calves; 2 3/4¢/lb. on yearlings
Bonus for financing	Add 1¢ per pound on the financed cattle
Reports bonus	\$1.00 per head on cows; \$.50 per head on heifers

The categories in Production and Sales are the same for all budgets, except for calf weights which vary with the region of the state.<sup>4</sup> An explanation of each category showing the differences between rancher owned cattle and cattle under contract is given in the following.

Bred yearling's calves The calves from bred yearlings, shown in the first row of the budget are treated separately from those listed under steer calves and heifer calves. They are separated to show that

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<sup>4</sup> Larry V. Cundiff, Some Factors Affecting Weaning Weights of Calves in Oklahoma, (unpublished Ph.D. dissertation, Oklahoma State University, June 1966).

they are the calves from 12 heifers saved as replacements. The ten calves from these yearlings are priced at two cents per pound more (if calving at 24 months) than the calves of mature cows under contract. The client pays the extra two cents per pound to compensate for the lower calving percentage and lighter calves of heifers calving at 24 months. The weights used for these calves are pasture weights in that they are the weight before shrink. Shrink is included as a production cost in the second part of the budgets.

Steer calves and Heifer calves These two rows represent the calves from the 88 mature cows. It is assumed that there are 39 steer and 38 heifer calves. Of the 38 heifer calves, the rancher saves 14 heifers each year as replacements. Therefore, in the column for rancher owned cattle there are only 24 heifer calves sold at the end of the year. The rancher with cattle under contract receives payment for all 38 head. This is true even though he is going to keep 14 heifers as replacements.<sup>5</sup> The weights used for these calves are the weights before shrink, the same as for the bred yearling's calves mentioned above.

Cull cows This row indicates that twelve mature cows will be culled in a typical year. The rancher who owns cattle receives payment at the Oklahoma City market price at the time of sale. The budget for a rancher with contract cattle assumes that he also culls twelve cows but he receives no revenue on these culled cows because he does not own them.

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<sup>5</sup>The basic rate of payment to the rancher for the contract calves was taken from the bonus computation rates (see 1966-1967 rates, Table 1) for the years in question. For the contracts of 1961-1962, 1962-1963, and 1963-1964, weight in excess of 425 pounds was paid for at the rate of 16¢ per pound. This is reflected in the partial budgets.

Cull heifers The row for cull heifers indicates that two of the 14 heifers saved as replacements the previous year were undesirable and were culled in the fall at the end of the contract. If the rancher owned the cattle, it is assumed that he would receive the Oklahoma City price at the time of sale. The rancher with contract cattle is paid for these heifers on the basis of weight gain in the heifer contract row.

Heifer replacement contract This row in the budgets is included for replacement heifers that are placed under a weight gain contract for the year following weaning. Included in this row are the two heifers that were culled under row heading "cull heifers." The rancher is paid from 15 to 18 cents per pound for the weight gained while on this contract.<sup>6</sup> The rancher owning his own cattle receives no revenue from raising these heifers, his compensation comes from an increase in the value of his replacements which is offset by the depreciation of his cow herd.

Bull service fee This item is based on the assumption that the rancher will supply the bulls to be used on the contract cattle.<sup>7</sup> If a rancher with contract cattle supplies the bulls, he receives  $2\frac{1}{4}\text{¢}$  per pound on his calves in addition to the bonus computation rate. On open yearlings and heifer calves that are being bred for the first time, the rancher receives an additional  $2\frac{3}{4}\text{¢}$  per pound on the weight gain of

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<sup>6</sup>The basic rate paid for the weight gain is taken from the bonus computation rates for heifer calves (Table I). If the rancher feeds these heifers so that they can be bred to calve at 24 months of age, the clients will pay up to 2¢ more per pound subject to negotiation with the individual rancher. In the budgets it is assumed that the rancher gets an additional  $1\frac{1}{2}\text{¢}$  per pound above the standard bonus computation rate.

<sup>7</sup>A comparison of the alternatives of a rancher supplying his own bulls and using those of the clients is made in Chapter V.

these animals. In the budgets for 1966-1967, the rancher with heifer replacement contracts receives  $17\frac{1}{2}\text{¢}$  per pound of gain and an additional  $2\frac{3}{4}\text{¢}$  per pound of gain for the breeding of these animals. For the contract years 1963-1964, 1964-1965, and 1965-1966, the contracts paid \$7.00 per exposed cow instead of an addition to the bonus computation rate as was done in the 1966-1967 and 1967-1968 contracts.

Bonus for financing This entry assumes that the rancher finances 50 percent of the cattle under contract and, therefore, is entitled to one cent per pound in addition to the bonus computation rate on the cattle that are financed by him.

Reports bonus The return shown for "reports bonus" is based on the assumption that the rancher will adhere to the contract, with particular reference to the keeping of records and the procedures for round-up and inventory. All of the interviewed ranchers except one had received this "reports bonus" every year in which they had operated under the contracts. The one rancher who had not received the reports bonus was the one who had supplied cattle to other ranchers under subcontracts. He said he was not able to get all of his subcontractors to send in adequate reports and therefore he did not qualify for the reports bonus on his original contract. The managing corporation normally pays the reports bonus to any rancher who does a reasonably good job of following the contract provisions.<sup>8</sup>

### Production Costs

The complete budgets in Table V contain a complete breakdown of the

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<sup>8</sup>

See Table II, page 17, for rates of payment.

production costs used in the budgets for Northeastern Oklahoma. The feed element of production costs is made up of hay, protein, grain, mineral and salt. Hay is budgeted to be fed primarily during bad weather and at other times when there is insufficient grass. The feeds and other production costs (with the exception of death loss, marketing costs, and shrink) are the same for contract cattle and rancher owned cattle. The production costs for each region of Oklahoma are assumed to be the same for each year budgeted. No attempt is made to vary costs each year for changes in such things as feed costs because they do not affect the comparison between owning and contracting cattle. Any change in feed costs for rancher owned cattle would be reflected by an equal and compensating change in feed costs for cattle under the managing corporation's contracts.

Those categories within production costs which are not the same for rancher owned cattle and contract cattle are explained in the following.

Death loss The study has shown that most of the interviewed ranchers lose approximately two percent of their cattle each year. This row is included on the assumption that two cows from the 100 cow unit die during the year. This is a loss to the rancher who owns cattle. The contract allows a rancher with contract cattle a 3 percent death loss without penalty.

Marketing costs The budgets reflect that marketing costs for a rancher with contract cattle are less than those for ranchers who own cattle. A rancher who has cattle under contract has only the marketing costs of gathering, loading, and moving the cattle to the nearest sealed and certified ranch, railroad, stockyard, or public scale. A rancher who owns cattle will typically have to haul, or pay the cost of hauling

his cattle the full distance to market. Any commission fees, yardage, feed, or other costs which a rancher-owner would pay would also be included in marketing costs. If the ranchers cattle were sold at the ranch, he would normally have to accept a price lower than the market price. This difference would also be a marketing cost. For application to any particular ranch, the marketing costs figures may be adjusted to fit the individual situation.

Shrink Shrink is an important factor in comparing the two marketing systems. Cattle under contract are gathered at dawn of the day of weighing and not watered or fed. They are then sorted according to sex, and then weighed on the nearest suitable scales with no shrink.<sup>9</sup>

Ranchers who own cattle and sell at a market some distance from the ranch normally have considerable shrinkage on their cattle both during transporting and in holding pens before weighing.<sup>10</sup> Most of the ranchers visited thought they saved on shrink and other marketing costs with contract cattle. The costs may be adjusted to fit individual situations.

#### Allocated Charges for Selected Resources

Land at 3% Even though rangeland is fully owned by the rancher, a meaningful analysis must give credit to the land for earning part of the return. The capital which is invested in land could be earning revenue in other uses. This alternative income which the rancher

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<sup>9</sup>The weight at the time of weighing is the weight used when figuring what the rancher will receive. No percentage of the weight is subtracted from the final weight to allow for shrink.

<sup>10</sup>In the budgets in Table V, a 4% shrink is used for rancher owned cattle and a 2% shrink is used for cattle under contract.

foregoes because the capital is invested in his land represents an opportunity or alternative cost to the rancher. The budgets in Tables V through VIII for Northeastern Oklahoma and the tables in Appendix B, for Southeastern Oklahoma and the Oklahoma Panhandle, include an allocated charge which represents this cost. If the land is rented instead of owned, the land charge represents a rental rate.

The land charge is made on the basis of 3 percent of the value of the land which is being used. Although earnings in alternative non-ranch investments might well exceed 3 percent, this figure is used because research suggests that 3 percent more nearly approximates the actual earning to farm and ranch land when reasonable earnings are allocated to labor, management, and non-real estate capital. Each of the budgets is calculated on the basis of 113 animal unit years of grazing, made up of 88 cows, 12 bred yearlings, 14 heifer calves, and 5 bulls (see Table III, page 24). An animal unit year (a.u.y.) is defined as the amount of grazing required to feed a 1,000-pound cow and her calf for one year.

In Northeastern Oklahoma, it typically requires eight acres per animal unit year (one cow and her calf) on rangeland currently (1967) selling for approximately \$150 per acre. This is a land investment of \$1,200 per a.u.y. The budgets for the Oklahoma Panhandle (Appendix B) show that the cattle operation typically requires 15 acres per a.u.y. on \$80 per acre rangeland. These 15 acres per a.u.y. at \$80 per acre constitute the same land investment of \$1,200 per a.u.y. as that for Northeastern Oklahoma. For both of these areas, therefore, the land charge is  $113 \text{ a.u.y.} \times \$1,200 \text{ per a.u.y.} \times .03 = \$4068$ .

In Southeastern Oklahoma with the mowing and fertilizing budgeted,

improved pasture will handle one a.u.y. per three acres (Appendix B). The improved pasture is currently (1967) selling for approximately \$180 per acre for a land investment of \$540 per a.u.y. The land charge in Southeastern Oklahoma is:  $113 \text{ a.u.y.} \times \$540 \text{ a.u.y.} \times .03 = \$1831$ .

Labor The labor charge is based on a rate of \$1.40 per hour. Information obtained from the interviewed ranchers and from consultation with members of the staff of the Department of Agricultural Economics at Oklahoma State University was used in estimating the labor requirements for rancher owned cattle and cattle under contracts. The budgets for Northeastern Oklahoma (Tables V through VIII) and the Oklahoma Panhandle (Appendix B) assume that the rancher or his employees spend 730 hours per year in activities such as feeding and caring for the cattle.<sup>11</sup> The ranchers with contract cattle estimated that they spent 10 to 15 hours per year more on bookwork than they would with cattle they owned themselves. They also estimated that they spent an additional 20 hours per year rebranding cattle that had been sold from one client to another. Rebranding is a common occurrence for ranchers with a large number of cattle, belonging to many owners. The budgets for contract cattle include an additional 35 hours of labor per year for a total of 765 hours.

Annual capital at 7% The logic of an annual capital charge is similar to that of the land charge in that a rancher should expect to receive something for his investment. If a rancher has money tied up in feed and cattle he is foregoing the opportunity of investing his money in some other use. In the budgets, the cost of capital is assumed to be

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<sup>11</sup>The budgets for Southeastern Oklahoma (Appendix B) include an additional 134 hours of labor for the mowing and fertilizing which is budgeted. This makes the budgets for Southeastern Oklahoma contain 864 hours for rancher owned cattle and 899 hours for contract cattle.



7%, which is the rate at which many ranchers are currently (1967) borrowing funds. The annual capital charge for the cattle enterprise is figured on the livestock investment and the costs which are incurred during the year. Each cost is calculated according to the number of months for which the money is actually used.

The capital charge under contract is considerably smaller than the charge for rancher owned cattle because the cattle under contract are not owned by the rancher and the rancher is normally advanced \$25 to \$30 per head for feed. The money which a rancher with contract cattle puts up for financing is not included in this annual capital charge because he receives an offsetting 7% interest (1966-1967 rate) in advance on the money he has invested in financing. The budgets assume that the rancher receives \$25 per head, in advance, for all animals under contract. This reduces the ranchers capital requirement to furnishing bulls and that part of the feed which the advance money does not cover.

In the budgets for Northeastern Oklahoma (Table V), the advance payment is larger than the amount needed for production costs and supplying bulls and, therefore, the annual capital charge is negative. If a rancher borrows money to buy feed, the capital charge represents interest on the loan.

#### Rancher Income Taxes

How do the income taxes of a rancher with contract cattle compare with those that would apply if he owned the cattle? The summary income tax computations shown in Tables IX through XI are hypothetical examples designed to approximate income taxes for a rancher with his own cattle and for a rancher with cattle under contract. The computations are for

TABLE IX

HYPOTHETICAL SUMMARY INCOME TAX COMPUTATIONS FOR RANCHERS WITH THEIR OWN CATTLE  
AND FOR RANCHERS WITH CATTLE UNDER CONTRACT (500 COW UNIT)

	With Rancher Owned Cattle		With Cattle Under Contract	
<hr/>				
<u>Schedule F - Income</u>				
Sale of livestock raised	\$38,445		\$51,275	
Interest received	00		2,155	
 <u>Schedule D - Gains from the sale of property</u>				
Net long term gain \$9,695				
50% is taxable	<u>4,848</u>	\$43,293	<u>00</u>	\$53,430
 <u>Schedule F - Expenses</u>				
Production costs	\$13,210		\$12,725	
Hired labor (above 2,000 hr.)	2,310		2,555	
Interest cost	<u>8,235</u>	\$23,755	<u>2,155</u>	\$17,435
Other deductions	<u>4,329</u>	<u>\$28,084</u>	<u>5,343</u>	<u>\$22,778</u>
Taxable income		\$15,209		\$30,652
Non-taxable income				
(50% of net long term gain)		4,848	\$20,057	00
Less income taxes			<u>3,062</u>	<u>8,134</u>
Money for any use			<u>\$16,995</u>	<u>\$22,518</u>
Taxes per 100 cow unit	\$ 3,062 ÷ 5 =	\$ 612	\$ 8,134 ÷ 5 =	\$ 1,627

TABLE X

HYPOTHETICAL SUMMARY INCOME TAX COMPUTATIONS FOR RANCHERS WITH THEIR OWN CATTLE  
AND FOR RANCHERS WITH CATTLE UNDER CONTRACT (800 COW UNIT)

	With Rancher Owned Cattle		With Cattle Under Contract	
<u>Schedule F - Income</u>				
Sale of livestock raised	\$61,512		\$82,040	
Interest received	00		3,447	
<u>Schedule D - Gains from the sale of property</u>				
Net long term gain \$15,512				
50% is taxable	<u>7,756</u>	\$69,268	<u>00</u>	\$85,487
<u>Schedule F - Expenses</u>				
Production costs	\$21,136		\$20,360	
Hired labor (above 2,000 hours)	5,376		5,768	
Interest cost	<u>13,176</u>	\$39,688	<u>3,447</u>	\$29,575
Other deductions	<u>6,927</u>	<u>\$46,615</u>	<u>8,549</u>	<u>\$38,124</u>
Taxable income		\$22,653		\$47,363
Non-taxable income				
(50% of net long term gain)	<u>7,756</u>	\$30,409		00
Less income taxes		<u>5,229</u>		<u>15,742</u>
Money for any use		<u>\$25,180</u>		<u>\$31,621</u>
Taxes per 100 cow unit		5,229 ÷ 8 = \$ 654		15,742 ÷ 8 = \$ 1,968

TABLE XI

HYPOTHETICAL SUMMARY INCOME TAX COMPUTATIONS FOR RANCHERS WITH THEIR OWN CATTLE  
AND FOR RANCHERS WITH CATTLE UNDER CONTRACT (1,500 COW UNIT)

	With Rancher Owned Cattle		With Cattle Under Contract	
<u>Schedule F - Income</u>				
Sale of livestock raised	\$115,335		\$153,825	
Interest received	00		6,464	
<u>Schedule D - Gains from the sale of property</u>				
Net long term gain \$29,085 50% is taxable	<u>14,543</u>	\$129,878	<u>00</u>	\$160,289
<u>Schedule F - Expenses</u>				
Production costs \$39,630			\$38,175	
Hired labor (above 2,000 hr.) 12,530			13,265	
Interest cost <u>24,705</u>	\$76,865		<u>6,464</u>	\$57,904
Other deductions	<u>12,988</u>	<u>\$89,853</u>	<u>16,029</u>	<u>\$73,933</u>
Taxable income		40,025		\$86,356
Non-taxable income (50% of net long term gain)		<u>14,543</u>		00
Less income taxes		\$54,568		37,026
Money for any use		<u>12,152</u>		<u>37,026</u>
		<u>\$42,416</u>		<u>\$49,330</u>
Taxes per 100 cow unit	\$12,152 ÷ 15 =	\$ 810	\$37,026 ÷ 15 =	\$ 2,468

ranchers with 500, 800, and 1,500 cow units respectively based on the budgets of Table V and are not expected to represent all of the conditions which would be encountered in a typical ranching operation. These assumptions are used in the tables.

1. Land ownership is debt free.
2. All labor over the first 2,000 hours is hired at \$1.40 per hour.
3. The tax rates are from 1967 tax rate schedules for married taxpayers filing joint returns.
4. Ranchers who own cattle, borrow all of the money needed for annual capital. Ranchers with contract cattle borrow all of the money used to finance clients' cattle. Both pay 7% interest.
5. The category "other deductions" is equal to 10 percent of gross taxable income for both alternatives.
6. All of the rancher's income is from the cattle enterprise, either rancher owned or under contract.
7. All of the assumptions used in the budgets in Tables V through VIII still apply.

In the tables, the taxes for ranchers with their own cattle are computed in the following manner. "Schedule F-Income" includes the sale of calves as shown in the budgets in Table V, minus shrink. The sale of cull cows and cull heifers is shown under "Schedule D-Gains from the sale of property" and under current Federal income tax regulations only

50 percent of the sale value is included for tax purposes. The expenses for production costs, hired labor, and interest cost are based on the budget for rancher owned cattle in Table V. The expenses and deductions are subtracted from the gross income to determine the taxable income.

Income taxes for ranchers with cattle under contract are computed similarly as follows. "Schedule F-Income" includes all production and sales (Table V) for contract cattle, minus shrink. It also includes the interest received on the money loaned to the managing corporation's clients. Ranchers with cattle under contract do not own the cattle and, therefore, have no long term capital gain. The expenses for production costs, hired labor, and interest cost are based on the budget for contract cattle (Table V). The expenses and other deductions are subtracted from the gross income to determine the taxable income.

Tables IX, X and XI show that, under the assumptions, taxes for ranchers with contract cattle are well over twice as much as the taxes for ranchers with their own cattle. The rancher owned cattle operation benefits from the fact that only part of the long term capital gain is taxable. This benefit does not accrue to the contract cattle operation.

#### Estimated Taxes Used in the Budgets

The budgets in Tables V through VIII include estimated income taxes which were computed on the basis of an 800 cow unit such as shown in Table X. The 800 cow unit was selected because it approximates the number of cattle under contract on a typical ranch. The estimates were made using 1967 tax rate schedules and the costs and returns in each of the budgets. The estimated taxes for ranchers with owned cattle ranged from \$199 per 100 cow unit in 1963-1964 (Table VII) to \$782 per

100 cow unit in 1961-1962 (Table VIII), while the estimated taxes for ranchers with cattle under contract ranged from \$1,708 per 100 cow unit in 1965-1966 (Table VI) to \$2,083 per 100 cow unit in 1960-1962 (Table VIII).<sup>12</sup> The changes in estimated taxes reflect the changes in returns caused by changing market prices and contract rates.

A rancher who desires to compare returns with contract cattle for his operation with returns from his own cattle may estimate the relative income taxes for his own situation. A format such as the one used in Tables IX through XI should be useful in making the comparison.

Some important points relating to income taxes and their affect on the comparison of rancher owned cattle and cattle under contract are as follows:

1. The size of herd is an important factor which affects costs, returns, and taxes. Tables IX through XI show that as herd size increases the taxes per 100 cow unit for contract cattle would become larger relative to taxes for rancher owned cattle under the conditions laid down.
2. The market prices, bonus computation rates, and production costs which are applied to rancher owned cattle and contract cattle will influence taxes and relative returns.
3. Some of the income of ranchers with their own cattle is typically taxed at the favorable long term capital

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<sup>12</sup>In the following sections several references are made to the returns to management and risk before taxes. All such references refer to returns before Federal income taxes. Personal property taxes are included in the budgets.

gains rates, however none of the rancher's income from contract cattle is taxable as capital gains.

4. If the rancher has income and expenses outside of the ranching enterprise, these too will influence his tax rates and should be included in the income tax computations.
5. Ranchers under either alternative who have large debt and interest payments on their land and machinery will be able to include these payments as expenses and this will reduce their taxable income and tax rates if they are above minimum levels.

The income tax variable is one which has considerable influence on the comparison of rancher owned cattle and cattle under contract. The income tax computations in this section had considerable influence in decreasing the relative advantage in returns enjoyed by contract cattle, but they did not nullify the advantage.

Because of the influence of such things as possible non-farm income and the varying amounts of deductions, taxes cannot be generalized in the same manner as cost and returns budgets. Therefore, each income tax situation must be computed specifically for each case in question.



### Analysis of Budgets

Tables V through VIII compare costs and returns for rancher owned cattle and for the cattle under the managing corporation's contracts. The budgets for all seven years (1960-1961 through 1966-1967) show a higher return to management and risk for the rancher with contract cattle than for the rancher with his own cattle. The returns to management and risk before taxes, computed in the budgets for Northeastern Oklahoma, are shown in Figure II, while the returns to management and risk after estimated taxes are shown in Figure III.

A negative return to management and risk for rancher owned cattle is evident in a number of years. One reason for the negative returns to management and risk is the allocated charges for land, labor, and capital. A negative return means that the return from the rancher owned cattle enterprise is not large enough to pay all out-of-pocket expenses and allocate the calculated return to the land, labor, and capital used in the enterprise. A positive return to management and risk for the contract cattle indicates that under these budget conditions, a rancher with the contract cattle would have a return large enough to pay all out-of-pocket expenses, all allocated charges, and would still have a return to management and risk.

In comparing absolute returns to management and risk, it should be kept in mind that the budgets use 1966-1967 production costs and allocated charges for all years. This will not affect relative returns but it will affect the absolute returns. Costs and allocated charges which are applicable for 1966-1967 may be larger than those which existed during the years 1961-1966. If this is the case, both negative and

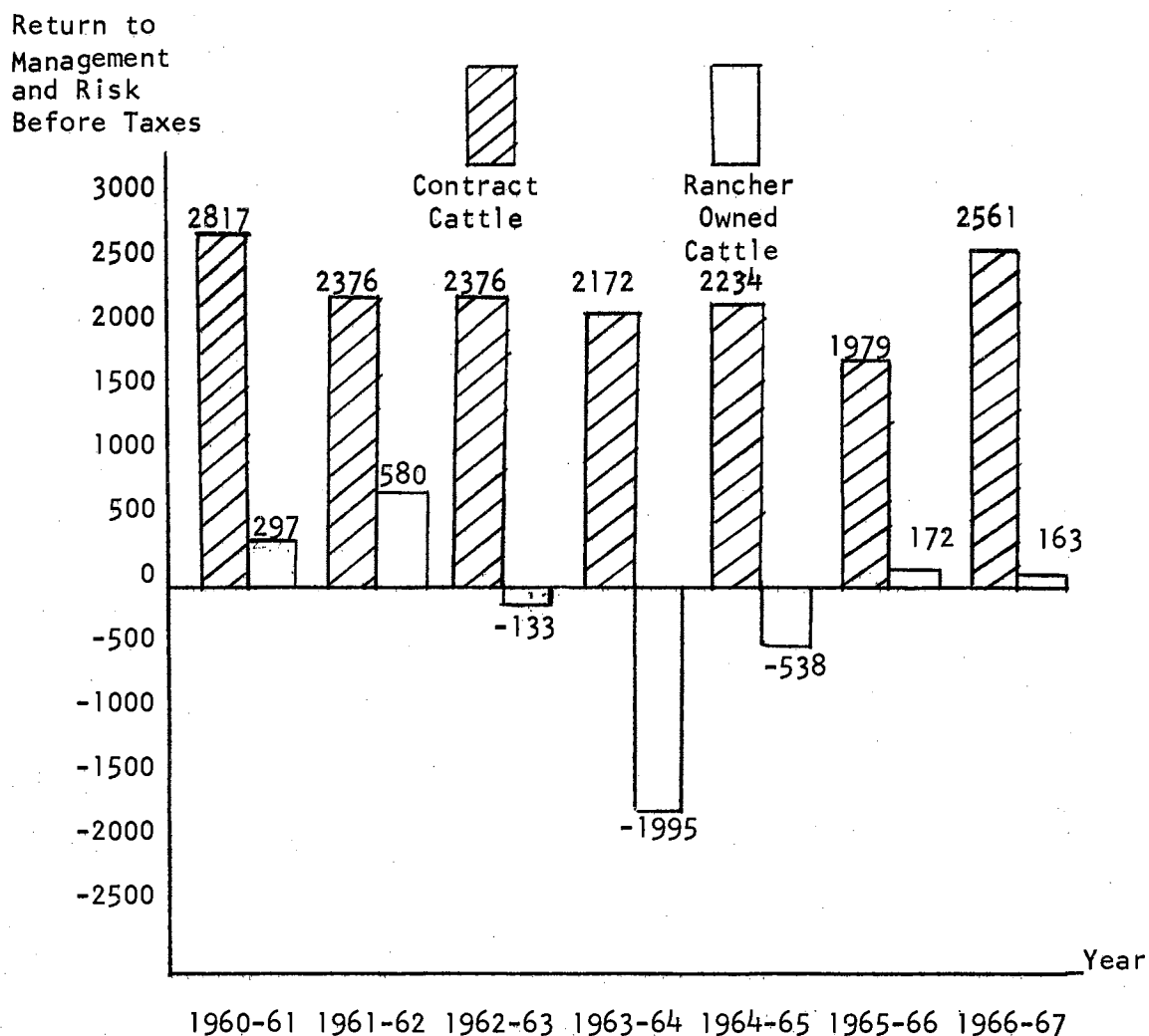


Figure II. Northeastern Oklahoma: Return to Management and Risk before taxes, 1961-1967 (budget estimates for a 100 cow unit)

Source: Tables V through VIII.

positive returns to management and risk will appear less favorable for the early years. But the concern in this study is primarily with relative returns. Reducing the costs and allocated charges for the different

years would increase the returns to management and risk equally for rancher owned cattle and contract cattle and relative values would not be affected.

The largest return to management and risk for contract cattle in Northeastern Oklahoma before taxes was \$2817 per 100 cow unit in 1961 (Table VIII) as compared with the smallest, \$1979 per 100 cow unit, in 1966 (Table VI). One important factor which is evident in the budgets for contract cattle is that there is very little fluctuation in the returns to management and risk.

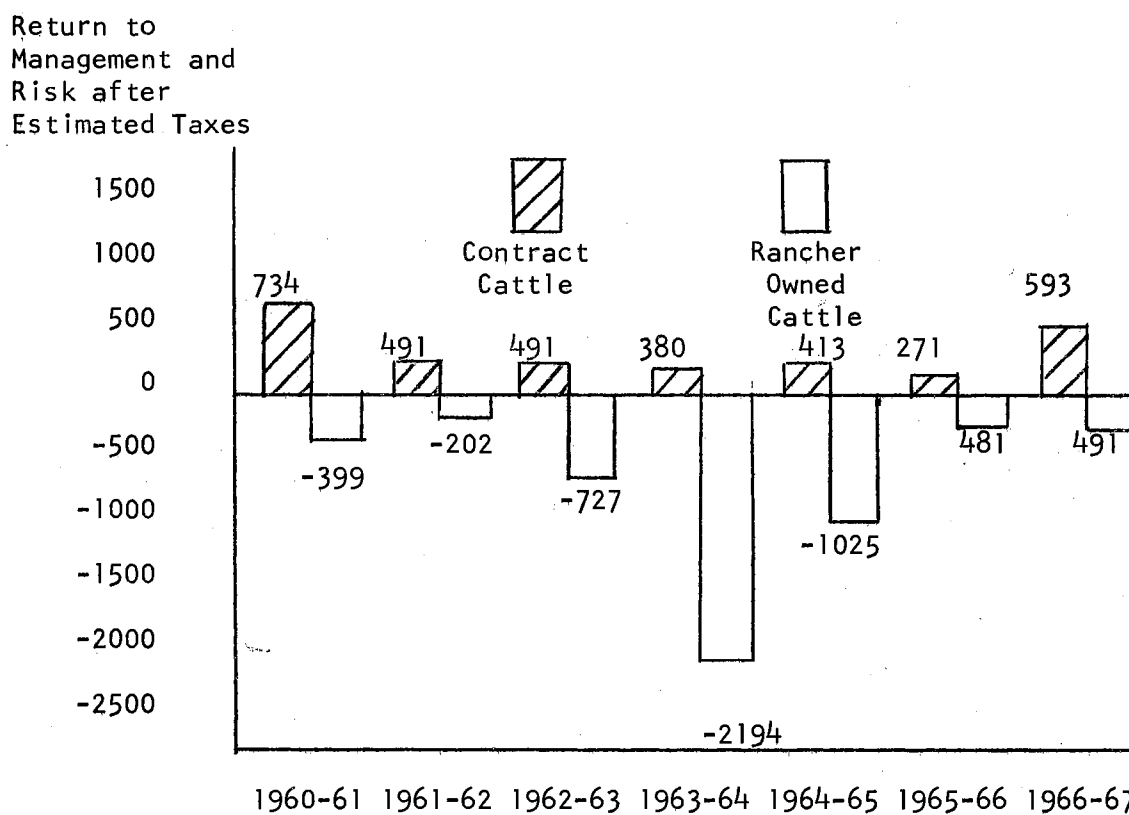


Figure III. Northeastern Oklahoma: Return to Management and Risk after Estimated Taxes, 1961-1967 (budget estimates for a 100 cow unit).

Source: Tables V through VIII.

The largest before tax return to management and risk for rancher owned cattle in Northeastern Oklahoma was \$580 per 100 cow unit in 1962 (Table VIII). The smallest was -\$1995 in 1965-1966. The fluctuation in the returns to management and risk for rancher owned cattle is much greater.

Figure III shows the relative returns to management and risk after estimated taxes. The estimated taxes cause a considerably larger decline in the returns to management and risk for cattle under contract than in returns for rancher owned cattle. The differences in returns both before and after estimated tax for each year are computed in Table XII. The average before tax difference in returns to management and risk for rancher owned cattle and cattle under contract for 1961-1967 is \$2567 per 100 cow unit. After the estimated income taxes are deducted the difference is reduced to \$1,270 per 100 cow unit.

The complete 1966-1967 budgets for Southeastern Oklahoma and the Oklahoma Panhandle in Appendix B show differences very similar to those shown in the 1966-1967 budgets for Northeastern Oklahoma (Tables V and XII).

The important points in this analysis are twofold. (1) In every year the computed return to management and risk both before and after estimated taxes was higher for the cattle under the managing corporation's contract than for cattle owned by the rancher. (2) Returns to management and risk for contract cattle fluctuate less than returns for rancher owned cattle.

#### Reasons for the Difference in Returns

The margin between the market prices paid for the calves from

TABLE XII

DIFFERENCES IN RETURNS TO MANAGEMENT AND RISK FOR RANCHER OWNED CATTLE AND CONTRACT CATTLE  
IN NORTHEASTERN OKLAHOMA, BEFORE AND AFTER ESTIMATED TAXES,  
IN 100 COW UNITS

Year	Return to Management and Risk Per 100 Cow Unit Before Taxes			Return to Management and Risk Per 100 Cow Unit After Taxes		
	Contract Cattle	Rancher Owned Cattle	Difference	Contract Cattle	Rancher Owned Cattle	Difference
	DOLLARS					
1960-61	2,817	297	2,520	734	-399	1,133
1961-62	2,376	580	1,796	491	-202	693
1962-63	2,376	-133	2,509	491	-727	1,218
1963-64	2,172	-1,995	4,167	380	-2,194	2,574
1964-65	2,234	-538	2,772	413	-1,025	1,438
1965-66	1,979	172	1,807	271	-481	752
1966-67	2,561	163	2,398	593	-491	1,084
Totals	16,515	-1,454	17,969	3,373	-5,519	8,892
Averages	2,359	-208	2,567	482	-788	1,270

Source: Tables V through VIII.

rancher owned cattle and the rates paid for the calves from contract cattle is not a major cause of the differences in returns to the cattle operations. The average market price (1961-1967) for steers and heifers in the budgets for rancher owned cattle was approximately 24.70¢ per pound. The average rate paid for the steers and heifers under contract was approximately 24¢ per pound plus the \$1.00 per cow reports bonus. This rate was computed by summing the bonus computation rate (averaging approximately 21 $\frac{1}{4}$ ¢) the bull service fee (2 $\frac{1}{4}$ ¢) and the bonus for financing (averaging .5¢ per calf) for a total of 24¢ per pound plus the reports bonus. This difference is insufficient to account for the difference in returns to management and risk.

It should be noted that with contract cattle the rancher is paid for all calves at the end of the contract even if they are to be retained the following year. In the budgets for cattle under contract the total calf crop (87 calves) was paid for. In contrast, the budgets for rancher owned cattle show that the rancher received payment only on the 63 calves that were actually sold but received no current income from the 14 saved as replacement.

A payment received from contract cattle but not from rancher owned cattle was that for weight gain on heifers saved as replacements. Another payment is the payment of \$107 per year for the reports bonus.

The budgets for rancher owned cattle showed the rancher receiving payment for those animals which were culled, while the rancher with cattle under contract received no payment for these animals. This payment on the average was almost, but not quite sufficient to offset the advantage of the several payments which ranchers with contract cattle received but which were not received by ranchers with their own cattle.

The average total payments in production and sales for the budgets for Northeastern Oklahoma for the years 1960-1961 through 1966-1967 was \$9,884 per 100 cow unit for the rancher owned cattle and \$10,207 per 100 cow unit for cattle under the corporation's contracts. This resulted in an average difference in the production and sales section of the budgets of \$323 per 100 cow unit in favor of the cattle under contract.

The production costs for rancher owned cattle and cattle under contract were the same with three exceptions. The exceptions are death loss, marketing costs, and shrink. They were discussed in detail in the budget explanation section devoted to production costs. The budgets included a death loss of two cows for both rancher owned cattle and cattle under contract. On the basis of 1966-1967 production costs, ranchers who own their own cattle had an actual loss of \$190 for each cow which died. This resulted in a total death loss of \$380. Ranchers with cattle under contract are allowed a 3 percent death loss without penalty and therefore incurred no loss because of the death of clients' cattle up to that point. This resulted in a \$380 per 100 cow unit advantage for cattle under contract.

The conditions under which the cattle under contract are marketed resulted in a \$263 per 100 cow unit advantage (shrink and marketing costs) for that type of operation in the budgets for Northeastern Oklahoma. The results were similar in the budgets for other parts of the state (Appendix B). This marketing advantage of \$263 per 100 cow unit combined with the death loss advantage of \$380 per 100 cow unit resulted in a total advantage for contract cattle of \$643 per 100 cow unit in the production costs for Northeastern Oklahoma.

The \$643 per 100 cow unit advantage for contract cattle in the

production costs for Northeastern Oklahoma combined with the \$323 per 100 cow unit average advantage in production and sales makes a total before tax advantage of \$966 per 100 cow unit for contract cattle, before considering allocated charges.

The allocated land charge is the same for rancher owned cattle and cattle under contract. The labor charge for contract cattle is \$49 per 100 cow unit larger than for rancher owned cattle. This reflects the additional bookkeeping and rebranding required for cattle under contract. The allocated charge for annual capital gives the largest advantage for cattle under contract. The annual capital charge per 100 cow unit for rancher owned cattle is \$1,650 greater than for contract cattle (Table V).

Because the labor charge for contract cattle is \$49 greater than for rancher owned cattle, the net advantage in total allocated charges for cattle under contract is \$1,601 per 100 cow unit ( $\$6,737 - \$5,136 = \$1,601$ ). This \$1,601 per 100 cow unit advantage in the allocated charges combined with the \$966 per 100 cow unit advantage in production and sales and production costs gives an average total advantage in the budgets for Northeastern Oklahoma of \$2567 per 100 cow unit (before taxes) for the contract operation for the contract years 1960-1961 through 1966-1967 as shown in Table XII.



## CHAPTER IV

### COMPARISONS OF RANCHER OWNED CATTLE AND CATTLE UNDER CONTRACT UNDER VARIED CONDITIONS

Under the conditions shown by the budgets in Chapter III, a rancher with cattle under the managing corporation's contracts for the years 1961-1967 would have had a larger return to management and risk than he would if he had owned the cattle. Those budgets were designed to represent typical situations for ranchers in Northeastern Oklahoma. This chapter makes comparisons between rancher owned and contract cattle for ranchers under conditions different from those shown in the budgets of Chapter III. The 1966-1967 budget for Northeastern Oklahoma (Table V) is used in the following section to show the effect of changing such factors as calf weights, market prices, and feeding costs.

#### Price Changes

The prices shown in the budgets for Northeastern Oklahoma for 1966-1967 (Table V) are the average monthly Oklahoma City prices at the time of sale, adjusted for weight differential. The effect of price changes on returns to management and risk for rancher owned cattle was shown to some extent by the market prices used in the partial budgets of Tables VI through VIII.

Table XIII shows alternative prices for each classification of cattle in the 1966-1967 budget for rancher owned cattle (Table V). Columns 1 through 6 show successive price increases of one cent per

pound above the October 1967 prices for each classification of animal in the budgets. Column 7 shows a decrease of one cent per pound below the October 1967 prices for each classification.

TABLE XIII  
ALTERNATIVE PRICES USED IN THE ANALYSIS  
FOR RANCHER OWNED CATTLE

	(1) OKC prices +1¢/lb	(2) OKC prices +2¢/lb	(3) OKC prices +3¢/lb	(4) OKC prices +4¢/lb	(5) OKC prices +5¢/lb	(6) OKC prices +6¢/lb	(7) OKC prices -1¢/lb
	(Cents per Pound)						
Bred yearlings	26.22¢	27.22¢	28.22¢	29.22¢	30.22¢	31.22¢	24.22¢
Steer calves	27.36¢	28.36¢	29.36¢	30.36¢	31.36¢	32.36¢	25.36¢
Heifer calves	24.08¢	25.08¢	26.08¢	27.08¢	28.08¢	29.08¢	22.08¢
Cull cows	17.12¢	18.12¢	19.12¢	20.12¢	21.12¢	22.12¢	15.12¢
Cull heifers	25.83¢	26.83¢	27.83¢	28.83¢	29.83¢	30.83¢	23.83¢
Heifer contract	---	---	---	---	---	---	---
Bull service fee	---	---	---	---	---	---	---
Bonus for financing	---	---	---	---	---	---	---
Reports bonus	---	---	---	---	---	---	---

Table XIV shows the effect of these prices changes on returns to management and risk before taxes for rancher owned cattle. If all of the October 1967 prices are increased by the same amount, assuming

TABLE XIV

BUDGETS FOR NORTHEASTERN OKLAHOMA SHOWING THE CHANGE IN RETURNS TO MANAGEMENT AND RISK  
ASSOCIATED WITH ALTERNATIVE PRICES FOR RANCHER OWNED CATTLE (100 COW UNITS)

Production and Sales		Value at: Oklahoma City Prices, October 1967							
		(1) Oct '67	(2) +1¢/lb	(3) +2¢/lb	(4) +3¢/lb	(5) +4¢/lb	(6) +5¢/lb	(7) +6¢/lb	(8) -1¢/lb
		(dollars)							
Bred yearling's calves	10 hd. x 391#	986	1,025	1,064	1,103	1,143	1,182	1,221	947
Steer calves	39 hd. x 451#	4,636	4,812	4,988	5,164	5,340	5,516	5,692	4,460
Heifer calves	24 hd. x 431#	2,387	2,491	2,594	2,698	2,801	2,905	3,008	2,284
Cull cows	12 hd. x 950#	1,838	1,952	2,066	2,180	2,294	2,408	2,522	1,724
Cull heifers	2 hd. x 821#	408	424	441	457	473	490	506	391
Heifer contract		--	--	--	--	--	--	--	--
Bull service fee		--	--	--	--	--	--	--	--
Bonus for financing		--	--	--	--	--	--	--	--
Reports bonus		--	--	--	--	--	--	--	--
Total Production and Sales		10,255	10,704	11,153	11,602	12,051	12,501	12,949	9,806
Production Costs <sup>a</sup> --Total--		3,355	3,368	3,381	3,394	3,406	3,419	3,432	3,342
Allocated Charges <sup>a</sup> --Total--		6,737	6,737	6,737	6,737	6,737	6,737	6,737	6,737
Return to management and risk before taxes		163	599	1,035	1,471	1,908	2,345	2,780	-273
Change in returns compared with using Oklahoma City prices for Oct. 1967			+436	+872	+1,308	+1,745	+2,182	+2,617	-436

<sup>a</sup>From Table V, with adjustments in production costs to reflect the differing values placed on shrink. A 4% shrink is used for calves of rancher owned cattle and a 2% shrink is used for calves of cattle under contract.

production costs,<sup>1</sup> calf weights, calving percentages and allocated charges do not change, there is an increase in returns to management and risk before taxes of \$436 for each one cent increase in price. Decreases in price, shown in Column 7 (Table XIII), have an equal but opposite effect.

Returns to management and risk for contract cattle for 1966-1967 (before taxes) are shown by the budget to be \$2,561 (Table V). With a five cent increase above the October 1967 Oklahoma City price, the returns to management and risk in the budget for rancher owned cattle would be \$2,345 (Table XIV, Column 6), while a six cent increase (Column 7) would give a return of \$2,780.

The bonus computation rates in the 1967-1968 contract are the same as they were in the 1966-1967 contract. If we assume that a rancher in Northeastern Oklahoma with a contract has the same production costs, calf weights, calving percentages, and allocated charges in 1967-1968 that he had in the 1966-1967 budget, we know his return to management and risk will remain at \$2,561, the same as it was in the 1966-1967 budget. This means that a rancher who must make the decision in 1967 of whether or not to take cattle under the managing corporation's contracts in 1968, would have to expect a general price increase of between five and six cents for all classifications of cattle (under the budgeted conditions) before his own cattle would return as large a return to management and risk before taxes as contract cattle would provide.

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<sup>1</sup> Production costs change slightly as price changes because even though the percentage shrink is held constant its value changes with different prices.

### Weight Changes

The weights used for calves, yearlings, and cows in the budgets for Northeastern Oklahoma in Chapter III are shown in Column 1 of Table XV. The weights of yearlings, steer and heifer calves, and cull heifers are increased by 25 pounds in Column 2 and by 50 and 75 pounds respectively in Columns 3 and 4. These weight changes are used in Table XVI to show the effect of weight changes on returns to management and risk for rancher owned cattle and cattle under contract if other items in the budget remain unchanged.<sup>2</sup>

Returns to management and risk for rancher owned cattle (before taxes) based on the original budget weights and prices for 1966-1967 were \$163 per 100 cow unit. Table XVI shows that using alternative weights and October 1967 prices each 25 pound increase in weight increases the returns to management and risk for rancher owned cattle by \$453 per 100 cow unit. Returns to management and risk from contract cattle as budgeted for 1966-1967 were \$2,561 per 100 cow unit. Increasing the weights for cattle under contract results in increases of \$527, \$446, \$418 per 100 cow unit for successive increases in weight of 25 pounds per animal. These changes in absolute returns with alternative weights change the relative returns to management and risk for rancher owned cattle and cattle under contract very little. The budget for Northeastern Oklahoma for 1966-1967 (Table V) has a difference in before tax returns to management and risk for contract cattle and for

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<sup>2</sup>Production costs increase slightly with increases in weight because shrink is a fixed percentage of the weight and increases in weight cause increases in the pounds of shrink.

rancher owned cattle of \$2,398. Table XVI shows that increasing weights successively by 25 pounds per animal changes this difference to \$2,465, \$2,466, and \$2,431 for weight increases of 25, 50, and 75 pounds respectively.

TABLE XV  
WEIGHTS USED IN THE ANALYSIS FOR RANCHER OWNED CATTLE  
AND CATTLE UNDER CONTRACT

	(1) Weights used in budgets	(2) Budget weight +25 lb	(3) Budget weight +50 lb	(4) Budget weight +75 lb
Bred yearling's calves	391#	416#	441#	466#
Steer calves	451#	475#	501#	526#
Heifer calves	431#	456#	481#	506#
Cull cows	950#	same	same	same
Cull heifers	821#	846#	871#	896#
Heifer replacement contract	390#	same	same	same
Bull service fee	--	--	--	--
Bonus for financing	--	--	--	--
Reports bonus	--	--	--	--

Table XVI could be used to analyze comparative costs and returns for ranchers who might think that the weight of calves from their own cattle would be different from the calf weights obtained from cattle

TABLE XVI

BUDGETS FOR NORTHEASTERN OKLAHOMA COMPARING RETURNS TO MANAGEMENT AND RISK BEFORE  
TAXES FOR RANCHER OWNED CATTLE AND CATTLE UNDER THE MANAGING CORPORATION'S  
CONTRACTS USING ALTERNATIVE WEIGHTS (100 COW UNITS)

Production and Sales			Values for Differentials Above Budget Weights <sup>a</sup>					
			+25 lb./animal		+50 lb./animal		+75 lb./animal	
			Rancher Owned Cattle	Con- tract Cattle	Rancher Owned Cattle	Con- tract Cattle	Rancher Owned Cattle	Con- tract Cattle
			(dollars)					
Bred yearling's calves	10 hd.	23.25¢	1,049	967	1,112	1,025	1,175	1,083
Steer calves	39 hd.	21.25¢ & 16¢	4,893	3,945	5,150	4,099	5,407	4,255
Heifer calves	24 hd. & 38 hd.	21.25¢ & 16¢	2,256	3,682	2,664	3,872	2,803	4,024
Cull cows	12 hd.	--	1,838	--	1,838	--	1,838	--
Cull heifers	2 hd.	--	420	--	433	--	445	--
Heifer replacement contract	14 hd.	17.50¢	--	956	--	956	--	956
Bull service fee		2.25¢ & 2.75¢	--	1,051	--	1,100	--	1,149
Bonus for financing	57 hd.	1¢/lb.	--	228	--	239	--	249
Reports bonus	114 hd.	\$1/hd. & \$.50/hd.	--	107	--	107	--	107
Total Production and Sales			10,726	10,936	11,197	11,398	11,668	11,823
Production Costs <sup>b</sup>	-- Total --		3,374	2,720	3,392	2,728	3,410	2,735
Allocated Charges <sup>b</sup>	-- Total --		6,737	5,136	6,737	5,136	6,737	5,136
Return to management and risk before taxes			615	3,080	1,068	3,534	1,521	3,952
Difference in favor of contract cattle			2,465		2,466		2,431	

<sup>a</sup>Calves from contract cattle are at the bonus computation rates for weight up to 475 pounds. Weight in excess of 475 pounds is at the rate of 16¢ per pound.

<sup>b</sup>From Table V, with adjustments in production costs to reflect the changes in shrink associated with weight changes. A 4% shrink is used for calves of rancher owned cattle and a 2% shrink is used for calves of cattle under contract.

under the managing corporation's contracts. A rancher who considered the budgets were essentially correct except for calf weights, could estimate his relative returns by applying the results from Tables V and XVI for those weights which most closely approximate the weights he would expect in his operations. For example, if he expected calf and yearling weights of his own cattle to be budget weights plus 50 pounds, he would expect returns to management and risk of \$1,068 per 100 cow unit compared with \$2,561 from contract cattle at the weights used in the original budgets (Table V). With this 50 pound weight difference, contract cattle still have a \$1,493 per 100 cow unit higher return to management and risk before taxes. Comparison can be made for other weight differences if one assumes that production costs and allocated charges are not changed.

#### Combined Price and Weight Changes

For cattle under the corporation's contracts, the separate effects of price changes and of weight changes have already been shown in Table XIV and Table XVI respectively. Changes in weight would affect returns to both rancher owned and contract cattle. Changes in market prices would also affect returns to rancher owned cattle but would not affect returns from those under contract for which returns per unit are the contract rates rather than market prices. Examples of the influence on returns of combinations of price and weight changes for rancher owned cattle are shown in Table XVII. The example in Column 1 gives rancher costs and returns for weights 25 pounds greater and two cents higher than those used in the 1966-1967 budget for Northeastern Oklahoma (Table V), assuming no changes in other factors. For this situation, the return to



TABLE XVII

BUDGETS FOR NORTHEASTERN OKLAHOMA SHOWING RETURNS TO MANAGEMENT AND RISK FOR RANCHER OWNED CATTLE USING ALTERNATIVE WEIGHTS AND ALTERNATIVE MARKET PRICES

		Values for budget changes of <sup>a</sup>						
		(1)	(2)	(3)	(4)	(5)	(6)	(7)
		Price +2¢ & weight +25 lb	Price +2¢ & weight +50 lb	Price +4¢ & weight +25 lb	Price +4¢ & weight +50 lb	Price +6¢ & weight +25 lb	Price +6¢ & weight +50 lb	Price +6¢ & weight +75 lb
Production and Sales								
		(dollars)						
Bred yearling's calves	10 hd.	1,132	1,200	1,216	1,289	1,299	1,377	1,455
Steer calves	39 hd.	5,265	5,541	5,636	5,932	6,007	6,323	6,638
Heifer calves	24 hd.	2,745	2,895	2,964	3,126	3,183	3,357	3,531
Cull cows	12 hd.	2,066	2,066	2,294	2,294	2,522	2,522	2,522
Cull heifers	2 hd.	454	467	488	502	522	537	552
Heifer contract		---	---	---	---	---	---	---
Bull service fee		---	---	---	---	---	---	---
Bonus for financing		---	---	---	---	---	---	---
Reports bonus		---	---	---	---	---	---	---
Total Production and Sales		11,662	12,169	12,598	13,143	13,533	14,116	14,698
Production Costs <sup>b</sup>	--Total--	3,401	3,420	3,428	3,449	3,455	3,477	3,500
Allocated Charges <sup>b</sup>	--Total--	6,737	6,737	6,737	6,737	6,737	6,737	6,737
Return to mgt. & risk before taxes		1,524	2,012	2,433	2,957	3,341	3,902	4,461
Difference from Return in Table V		+1,361	+1,849	+2,270	+2,794	+3,178	+3,739	+4,298

<sup>a</sup>Calves from contract cattle are at the bonus computation rates for weight up to 475 pounds. Weight in excess of 475 pounds is at the rate of 16¢ per pound.

<sup>b</sup>From Table V, with adjustments in production costs to reflect the changes in shrink associated with weight and price changes. A 4% shrink is used for calves of rancher owned cattle and a 2% shrink is used for calves of cattle under contract.

management and risk before taxes of \$1,524 per 100 cow unit is \$1,361 greater than the \$163 return of Table V. Other price and weight combinations are shown in the other columns of Table XVII.

Table XVII can also be used for weight and price combinations lower than those in the original budget (Table V). For example, a price two cents lower and a weight 25 pounds higher than those used in Table V would decrease the return to management and risk before taxes by \$1,361. This can be taken directly from the last row of Table XVII "Difference from return in Table V" by assuming price and weight decreases instead of increases in Column 1 and substituting minus signs for the plus signs in the last row. The difference under Column 1 will be -\$1,361. The return to management and risk before taxes with the lower price and weight may then be calculated by adding the original return to this as follows:  $\$163 - \$1,361 = \$1,198$ .

A rancher who must make a decision of whether to operate with his own cattle or those under the managing corporation's contracts can use Tables V, XIV, XVI, and XVII to estimate his expected relative costs and returns before income taxes if the production costs and allocated charges are accepted as given.

#### Other Changes in Production and Sales

The production and sales section of the budgets shows the payments that a rancher would receive for his own cattle, or for cattle under contract. The budgets were designed to represent typical situations but a number of categories within production and sales might need to be changed to reflect conditions which might differ on some specific ranch. The effect of changing price and weight has already been shown.

Other modifications follow.

### Calving Percentages

Another variable that could be changed to reflect a particular situation is the number of calves sold. A calving percentage lower or higher than that shown in the budget would result in an increase or decrease in the total pounds of calves sold. This would be somewhat similar to the situation in which weights are increased or decreased by specified amounts as shown in Table XVI. As in the case of changing weights, different calving percentages would change the absolute returns but, assuming they were the same for rancher owned cattle and contract cattle, would have only a small effect on the relative returns from the two alternatives.

### Number of Culls and Replacements

The returns of a rancher who owned his own cattle would be affected by changes in the number of animals culled, their weight, and the price received for them. If the number of animals culled is expected to be consistently different than that shown in the budget the expected number can be substituted. Returns for ranchers with contract cattle would not be affected because they receive no payment for clients' cattle that are culled.

If the number of replacements held over by a particular rancher-owner were different from the 14 per 100 cow unit shown in the budget, the number may be changed accordingly. For rancher owned cattle the number of heifer calves sold would be increased if fewer heifers were saved as replacements and this would modify current returns on the

on the operation. For contract cattle the number of replacement heifers under the heifer replacement contract would need to be the same as the number of replacement heifers typically saved.

#### Bull Service

Gross returns to rancher owned cattle are not affected by changes in the bull service fee because ranchers supply their own bulls for their own cattle. With contract cattle, however, there is opportunity for modification of returns through different bull service arrangements. In all of the budgets for ranchers with cattle under contract the rancher is assumed to provide bulls for the clients' cattle and to receive a bull service fee. An alternative procedure would be to use bulls supplied by the corporation's clients. This alternative is analyzed in detail in Chapter V under "Furnishing Bulls".

#### Bonus for Financing

Returns from contract cattle may also be affected by differences in the amount of financing of the clients' cattle by the rancher. The "bonus for financing" row, in the budget for Northeastern Oklahoma (Table V) shows the returns from the additional one cent per pound in addition to the bonus computation rate paid to the rancher for those cattle which he helps to finance. An assumption used in the budgets is that 50 percent of the cattle under contract are financed. If a rancher could obtain cattle without providing financing he would eliminate budget item "bonus for financing" in his calculations. Financing is more fully discussed in Chapter V under "Cattle Financing".

### Reports Bonus

The budget in Table V shows the rancher with contract cattle receiving \$107 for sending in reports and following other provisions of his contracts. The rancher either receives the total reports bonus or none at all. If the rancher does not make adequate reports, the returns to management and risk would be decreased by \$107 per 100 cow unit.

### Changes in Production Costs

As indicated above there are only three rows in production costs that are different for rancher owned cattle and cattle under contract. They are death loss, marketing costs, and shrink. The reasoning behind these differences is explained in the budget explanations of Chapter III under production costs. It is expected that small changes would be necessary in the relationships in these categories to make the budget fit specific situations. In view of the results of this study, it appears doubtful that the changes necessary to make the budget fit a specific situation would be of sufficient magnitude to greatly alter the comparison between rancher owned cattle and those under contract. Changes in the categories within production costs which one would expect to be the same for rancher owned cattle and cattle under contract cannot have an affect on the comparative profitability of the two alternatives.

### Changes in Allocated Charges

#### Land Charge

The allocated charges are necessarily estimates of the value of the contribution that land, labor, and capital make to the cattle operation. The land charge is assumed to be the same for rancher owned

cattle and cattle under contract. It seems reasonable to assume that rancher owned cattle and the same number of cattle under contract will require the same amount of land or grazing. Therefore, a change in the land charge will not affect the comparative profitability of the two alternatives.

#### Labor Charge

The labor charge assumes that cattle under contract require thirty-five hours per 100 cow unit more than cattle owned by the rancher. This difference is shown in the budgets and is somewhat larger than most of the ranchers who were interviewed thought actually existed. For a rancher with 800 cows, the difference, using the budgets in Table V as a base, would be 280 hours per 100 cow unit per year. If the labor allowance for contract cattle is too high relative to rancher owned cattle, a reduction in the charge for labor would have the effect of increasing the comparative returns to cattle under contract, as compared to rancher owned cattle.

#### Annual Capital Charge

A change in the annual capital charge could have considerable effect upon the comparison between rancher owned and client owned cattle. The \$23,527 annual capital requirement shown for rancher owned cattle in Table V was estimated for 1966-1967 conditions. Changes in feed costs and cattle prices would cause slight changes in the capital requirements would change the annual capital charge by only \$7.

The important factor in comparing rancher owned cattle and client owned cattle is the rate (7% in our example) at which capital is valued. With a \$23,527 annual capital requirement for rancher owned cattle

(Table V) each one percent change in the rate will cause a change of \$235 per 100 cow unit in the annual capital charge for rancher owned cattle. Ranchers with client owned cattle have a -\$38 per 100 cow unit (Table V) annual capital requirement. Under the assumptions used in the budgets each one percent change in rate will cause a change of \$.38 per 100 cow unit in the annual capital charge for contract cattle.

The seven percent rate is a good rate for estimating the annual capital and pays seven percent interest or if he has alternative uses which will give him 7 percent return. However, if a rancher finances his operation with his own capital, the 7 percent rate may not be a good rate. For example, if this man switches from his own cattle to contract cattle he will have reduced his annual capital requirement from \$23,527 to -\$38. He will have surplus funds of \$23,565 ( $\$23,527 + 38 = \$23,565$ ). If he can invest his funds in some enterprise where his returns on the investment are 7 percent, the analysis in Table V is correct. If his only alternative is investing his money in some enterprise which earns only 4 percent, such as putting it in a savings account at 4 percent, the annual capital charge used in Table V is too large. A 4 percent rate would reduce the annual capital charge for rancher owned cattle by \$706. It would reduce the annual capital charge for a rancher with client owned cattle by \$1. The difference between returns to management and risk before taxes for rancher owned cattle and cattle under contract would be decreased by \$705 per 100 cow unit. The net differences (before taxes) shown in Table XII would be reduced by \$705.

This example, while it is possible, is not the usual case, in that

most ranchers either finance their cattle operations from outside sources or have alternative uses for their capital. As indicated above, even if this were the case, for 1966-1967 in Northeastern Oklahoma, the before tax returns to management and risk for cattle under contract would still be \$1,693 per 100 cow unit higher than for rancher owned cattle.



## CHAPTER V

### RANCHER ALTERNATIVES UNDER CONTRACT

As indicated in Chapter IV, ranchers with contract cattle face a number of alternatives which can affect the profitability of the cattle contracts. In the budgets in the previous chapter it was assumed that a rancher with contract cattle would finance 50 percent of the cattle under contract at \$108 per head, would supply his own bulls for use on the contract cattle, and would calve his replacements at 24 months. The alternatives to these procedures will be analyzed more fully in the following sections than they were in the preceding chapter.

#### Cattle Financing

The managing corporation normally strives to avoid placing cattle with ranchers who cannot or will not provide financing for a portion of the contract cattle under their care. In a few instances in which a rancher did not renew his contract and a new location had to be found for the clients' cattle the corporation has decided to contract with ranchers who could not meet some of the requirements such as providing financing.

Although a rancher who is applying for contract cattle should expect to finance approximately 50 percent of the cattle assigned to him, he does have some control over the number of animals he will finance and of the amount of financing per head. Since this is the case, it is

important that a rancher know what returns he may anticipate from money invested in financing.

#### Effective Interest Rate.

The effective rate of return from various levels of financing are shown in Table XVIII. The table shows that if a rancher lends the client \$40 per head on cattle, his total dollar return from the payments which he receives as a result is \$7.38 as shown in Table XVIII. This is equivalent to an effective rate of return of 18.44 percent. Rates of return for other proportions of financing are 15.16 percent, 12.62 percent, and 11.35 percent for loans of \$80 per head, \$120 per head, and \$160 per head respectively.

The table indicates that ranchers who finance cattle at a lower amount per head receive a higher percentage return on their investment than those with loans of a larger amount per head. As indicated previously, ranchers have some control over the number of animals they will finance and the amount of financing per head. This table indicates that a rancher with limited funds to use in financing cattle can get a higher return per dollar invested with small loans per head over many head than he can get with large loans per head over a few head. However, the largest loan shown in Table XVIII (\$160 per head) has an 11.35% return which is typically considered to be a reasonable return on investment.

One factor not shown in Table XVIII is the possibility that a rancher might receive some advance money for feed and maintenance even though he is not providing financing. The officers of the managing corporation and several of the ranchers said that it was not unusual for clients to make the advance payment for feed even though their cattle

TABLE XVIII

EFFECTIVE RATES OF RETURN TO RANCHER FOR FINANCING COWS  
AT THE NOMINAL RATE OF 7 PERCENT

	Returns to Rancher on Loans of the Following Amounts per Head							
	\$40		\$80		\$120		\$160	
	(20% of cow value)		(40% of cow value)		(60% of cow value)		(80% of cow value)	
	Percent	Dollars	Percent	Dollars	Percent	Dollars	Percent	Dollars
1. 7% <u>prepaid</u> interest paid one year in advance, it is equivalent to	7.53%	\$3.01	7.53%	\$6.02	7.53%	\$9.04	7.53%	\$12.05
2. Value of \$50 in feed and maintenance paid nine months in advance equivalent to <sup>a</sup>	6.56%	\$2.63	3.28%	\$2.63	2.19%	\$2.63	1.64%	\$ 2.63
3. Additional 1¢ per pound on 87% calf crop averaging 400 pounds <sup>b</sup>	4.35%	\$1.74	4.35%	\$3.48	2.90%	\$3.48	2.18%	\$ 3.48
Effective rate of return	18.44%	\$7.38	15.16%	\$12.13	12.62%	\$15.15	11.35%	\$18.16

<sup>a</sup>Figured on the basis at 7% annual interest.

<sup>b</sup> $\frac{1}{2}$ ¢ per pound is the rate when financing is for less than 25% of the value of the cows. The cows in this table are valued at \$200 per head and therefore the rate for a loan of \$40 is  $\frac{1}{2}$ ¢ per pound.

were not financed. When this is the case his additional rate of return assignable to financing would not be as high as shown in Table XVIII.

#### Rancher Risk and Exposure

A rancher is taking some risk when he holds a security agreement on clients' cattle. However, a loan for as much as \$160 per head on cattle worth \$200 may not be as venturesome as it might at first appear. When a rancher makes a loan for \$160 per head he is guaranteed \$11.20 for interest (in advance) and \$50 advance payment for feed and maintenance on cattle in his possession. On the day the rancher makes the loan he has \$160 per head invested in the cattle. The contract states that the rancher is to receive his interest payment within 10 days of the effective date of the contract. When this is received, his investment is reduced to \$148.80. Ranchers usually receive their \$50 advance for feed and maintenance in December and January. When the rancher receives this money, his net investment is reduced to \$98.80 per head on cows in his possession worth \$200 per head.

The rancher may take immediate possession of the cattle if the client defaults in the payment of the indebtedness, or the payment of interest, or if the debt or the cattle should be deemed insecure by the rancher. The rancher is then entitled to sell the cattle and use the money obtained to pay the indebtedness, including costs, charges, and expenses incurred by him in having the sale or other expenses such as a reasonable attorney's fee. The rancher must transfer the excess of such money, if any, to the client. The rancher and the client are both allowed to purchase cattle at any such sale.

One officer of the managing corporation indicated that they have

never had a default on a client's mortgage.

#### Possible Indirect Effects of Financing.

A rancher who finances clients' cattle will tie up some of his own funds if he finances them himself, or will tie up some of his borrowing capacity if he borrows the money to finance the clients' cattle. Although some ranchers might encounter difficulty in financing large numbers of clients' cattle, most who have met the rancher requirement of a \$250,000 net worth, will have a basis for doing so either with their own, or with borrowed capital.

One advantage to the rancher who finances clients' cattle comes from the fact that the rancher who finances cattle keeps his money invested in cattle. Thus if a rancher were to lose his contract, the rancher who had kept his money invested in financing cattle might possibly be in a better position than a rancher who had not been financing clients' cattle. At the termination of the contract the rancher who had been financing clients' cattle would receive the principal that he had loaned to the clients. He would immediately have funds available to restock at least some portion of the pastureland on which he had previously had contract cattle. If the rancher had not been financing clients' cattle, and instead had invested his money in other investments which could not be liquidated when the contract terminated, he might not have money available to re-establish his cattle operations.<sup>1</sup> This could be disastrous for a rancher who, on the faith of the cattle contracts, had taken on large commitments for leases or mortgages.

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<sup>1</sup>Of course he might be able to borrow on the strength of his other investments.

If the rancher had been borrowing funds to finance clients' cattle, he might well have developed a better credit rating than one who had not been borrowing money to finance cattle. Having established a good repayment record on loans to finance clients' cattle, he would probably have a stronger credit rating for restocking with his own cattle than one who had not been borrowing on cattle.

If because of an unusual situation, the managing corporation found it necessary to sell the cattle belonging to its clients, the rancher who held a security agreement on the cattle and, therefore, already had an equity in them, could well be better prepared to buy the cattle, than the rancher who did not hold such an investment. If in such event, the clients had already paid off the loan, the rancher who had been financing cattle would have these funds available to help him exercise his option to buy the cattle (See section 24 of the contract in Appendix A).

#### Furnishing Bulls

Under the contracts, ranchers are given the choice of using their own bulls on the contract cattle or of using bulls supplied by the clients. If a rancher decides to use bulls belonging to the clients, he receives a contract maintenance fee of \$65 per bull per year for feed and related maintenance expense. If a rancher uses his own bulls on the contract cattle, he receives an additional 2 $\frac{1}{4}$ ¢ per pound of calf crop for the breeding of bred yearlings, first calf heifers, and cows. On open yearlings and heifer calves which are bred an additional 2  $\frac{3}{4}$ ¢ per pound of weight gain is paid for the breeding of these heifers. In the event the rancher does not maintain the cattle for the year that calves are produced from the breeding, the cattle are pregnancy tested prior to

moving, and the rancher must pay a penalty of \$7.00 per open cow.

The cost of such things as feed, care, maintenance and veterinary expense are normally the same whether the client or the rancher furnishes the bulls. The important variables in deciding whether the rancher should furnish his own bulls or use client owned bulls are shown in Table XIX.

TABLE XIX

COMPARISON OF RETURNS TO RANCHER FROM CLIENT  
OWNED AND RANCHER OWNED BULLS ON  
COWS UNDER CONTRACT\*

<u>Rancher Income</u>	<u>Client Owned Bulls</u>	<u>Rancher Owned Bulls</u>	
Payment for care and maintenance	\$65	2 $\frac{1}{4}$ ¢ x 20 calves @ 435#	\$ 196
<u>Allocated Rancher Costs</u>			
Bull depreciation and death loss	---	27	
Investment expense at 7%	---	<u>26</u>	<u>53</u>
Return to other costs & allocated charges	\$65		\$ 143
Net difference in favor of rancher ownership	\$78 per bull		

\*It is assumed that in both cases the value and expenses per bull are equal and that the bulls are used exclusively on cows.

Table XIX shows that under these contracts for the situation outlined, it is more profitable for a rancher to use his own bulls rather than bulls supplied by the clients.

Another method that could be used to compare returns to management a risk from rancher owned and client owned bulls is to assume that client

owned bulls are used in one of the cow-calf budgets. This change in Table V for Northeastern Oklahoma would result in the following changes. The bull service fee of  $2\frac{1}{4}\text{¢}$  per pound of calves weight, and  $2\frac{3}{4}\text{¢}$  per pound of weight gain for replacements, would be changed to a maintenance payment of \$65 per client owned bull for five bulls for a total of \$325. This change would reduce production and sales by \$677 ( $\$1,002 - \$325 = \$677$ ).

Production costs would be decreased because of the elimination of bull depreciation and death loss of \$137. The annual capital charge would be decreased by an amount equal to seven percent of the value of rancher owned bulls or \$131 ( $\$1,875 \times 7\% = \$131$ ).<sup>2</sup> The feed costs, veterinary expenses, land charge and other costs and charges would not be changed because the rancher would still be taking care of the same number of bulls. The change in returns to management and risk would be the decrease in production and sales (\$677) minus the decrease in production costs (\$137) and minus the change in annual capital charge (\$131) for a total decrease of \$409 ( $\$677 - \$137 - \$131 = \$409$ ). This is a decrease in returns to management and risk of \$82 per bull. The difference between this amount and the amount arrived at in Table XIX is due to Table XIX being constructed for the breeding of cows only while Table V included the breeding of heifer calves under heifer replacement contracts. This analysis shows that a rancher with client owned bulls would increase his return to management and risk by approximately \$80, each time he replaced a client owned bull with a rancher owned bull.

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<sup>2</sup>As shown in Table III (page 24) the value of the five rancher owned bulls is assumed to be \$1,875. Therefore, if the rancher used client owned bulls, his annual capital requirement would be reduced by \$1,875 and the annual capital charge by 7% of \$1,875.



### Calving Replacement Heifers

Approximately 80 percent of the cattle under the management corporation's contracts in Oklahoma, are calving in the spring. When a rancher saves replacement heifers he must make a decision about when he wants them to calve. Most of the replacement heifers under the managing corporation's contracts are bred to calve at 30 months (fall calving) or at 36 months (spring calving). Although several of the ranchers interviewed said they like to calve replacements at 24 months (spring calving), only a few are actually calving replacements at 24 months.

In the following section are budgets for the alternatives of calving replacements at 24, 30, and 36 months. Each of the budgets assumes that the rancher starts with 100 heifer calves. The 100 heifer calves have an average weight of 436 pounds at the time of weaning (October 15), and are placed on heifer replacement contracts for the first year after weaning.

#### Heifer Replacement Contract

Budgets for the year following weaning (October 15 to October 15) are shown in Column 1 of Table XX (calving at 24 months), Table XXI (calving at 30 months), and Table XXII (calving at 36 months). The heifer calves in all three budgets are placed on a heifer calf contract which currently (1967-1968) pays the basic rate of 16 cents per pound

TABLE XX

## CONTRACT BUDGETS FOR 100 HEIFERS SPRING CALVING AT 24 MONTHS: NORTHEASTERN OKLAHOMA

	(1)		(2)	
	Heifer Replacement Contract		Bred Yearling Contract	
	In wt. 436# at 6 mo.		Calve at 24 Months	
	Out wt. 826# at 18 mo.		83% Calf Crop	
	Breed at 15 mo.			
<hr/>				
<u>Production and Sales</u>				
Heifers	390# gain @ 17.5¢	6825	83 calves x 391# @ 23.25¢	7545
Financing bonus <sup>a</sup>	1¢/lb. on financed cattle	195	1¢ per lb.	162
Bull service fee	Add 2 3/4¢ per lb. gain	1073	Add 2½¢/lb. on calves	730
Reports bonus	\$.50 per head	<u>50</u>	\$1.00 per head	<u>83</u>
Total Production and Sales		8143		8520
<hr/>				
<u>Production Costs</u>				
Hay at \$18/ton	138# each	124	232# each	209
C. S. meal at \$86/ton <sup>b</sup>	240# each	1032	275# each	1183
Grain at \$42/ton <sup>b</sup>	384# each	806	417# each	876
Mineral, Salt, Vet. & Med.		145		209
Bull depreciation (4 bulls)		110		110
Death loss (1.3%)		128		-
Marketing costs		129		87
Property taxes <sup>c</sup>		162		187
Miscellaneous <sup>d</sup>		<u>224</u>		<u>293</u>
Total Production Costs		2860		3154
<hr/>				
<u>Allocated Charges for Selected Resources</u>				
Land charge (3% of value)		2340		3384
Labor charge (\$1.40/hr.)	(530 hr.)	735	(840 hr.)	1190
Annual capital (@ 7%)	\$228	<u>16</u>	- \$514	<u>-36</u>
Total Allocated Charges		3091		4538
<hr/>				
Return to Management and Risk		<u>\$2192</u>		<u>\$ 828</u>

<sup>a</sup>These budgets assume 50% of the replacements are financed. The financing bonus is paid only on those animals that are financed.

<sup>b</sup>L. Smithson, S. A. Ewing, R. E. Renbarger and L. S. Pope, Effect of High or Low Winter Feed Levels in Alternate Years on Growth and Development of Beef Heifers, Oklahoma Agricultural Experiment Station, Misc. Pub. MP-74, June 1964, p. 81.

<sup>c</sup>Based on estimates prepared by the Oklahoma Tax Commission (1965).

<sup>d</sup>Odell Walker, James Plaxico, and Cecil Maynard, "Stocker Cattle Costs and Returns," Oklahoma State University Extension Facts, p. 104.2.

TABLE XXI

## CONTRACT BUDGETS FOR 100 HEIFERS FALL CALVING AT 30 MONTHS: NORTHEASTERN OKLAHOMA

	(1) Heifer Replacement Contract In wt. 436# at 6 mo. Out wt. 761# at 18 mo. No Breeding		(2) Open Yearling Contract In wt. 761# at 18 mo. Out wt. 1093# at 30 mo. Breed at 21 mo.		(3) First Calf Heifer Contract Calve at 30 Months 83% Calf Crop	
<u>Production and Sales</u>						
Heifers	325# gain @ 16¢/lb.	5200	332# gain @ 19½¢ & 12¢	6047	83 calves x 399# @ 22½¢	7369
Financing bonus <sup>a</sup>	1¢ per lb. gain	163	1¢ per lb. gain	166	1¢ per lb.	166
Bull service fee	-	-	2 3/4¢ per lb. gain	913	Add 2½¢/lb. on calves	745
Reports bonus	\$.50 per head	50	\$.75 per head	75	\$1.00 per head	100
Total Production and Sales		5413		7201		8380
<u>Production Costs</u>						
Hay at \$18/ton	138# each	124	169# each	152	300# each	270
C. S. meal at \$86/ton <sup>b</sup>	92# each	396	150# each	645	440# each	1892
Grain at \$42/ton <sup>b</sup>	.79# each	166	-	-	-	-
Mineral, Salt, Vet. & Mcd. <sup>b</sup>		145		145		165
Bull depreciation	-	-	(4 bulls)	110	(4 bulls)	110
Death loss	(1.3%)	124	(1.3%)	184	-	-
Marketing costs		129		154		87
Property taxes <sup>c</sup>		150		162		242
Miscellaneous		125		190		303
Total Production Costs		1359		1742		3069
<u>Allocated Charges for Selected Resources</u>						
Land charge (3% of value)		2484		2880		3744
Labor charge (\$1.40/hr.)	(445 hr.)	623	(570 hr.)	798	(808 hr.)	1131
Annual capital (@ 7%)	- \$1910	-134	- \$345	-24	- \$52	-4
Total Allocated Charges		2973		3654		4871
Return to Management and Risk		<u>\$1081</u>		<u>\$1805</u>		<u>\$ 440</u>

<sup>a</sup>These budgets assume 50% of the replacements are financed. The financing bonus is paid only on those animals that are financed.

<sup>b</sup>These values were arrived at after consultation with members of the Department of Animal Science at Oklahoma State University.

<sup>c</sup>Based on estimates prepared by the Oklahoma Tax Commission (1965).

TABLE XXII

## CONTRACT BUDGETS FOR 100 HEIFERS SPRING CALVING AT 36 MONTHS: NORTHEASTERN OKLAHOMA

	(1) Heifer Replacement Contract In wt. 436# at 6 mo. Out wt. 761# at 18 mo. No Breeding		(2) Open Yearling Contract In wt. 761# at 18 mo. Out wt. 1081# at 30 mo. Breed at 27 mo.		(3) First Calf Heifer Contract Calve at 36 Months 83% Calf Crop	
<u>Production and Sales</u>						
Heifers	325# gain @ 16¢/lb.	5200	320# gain @ 19½¢ & 12¢	5903	83 calves x 416# @ 22½¢	7682
Financing bonus <sup>a</sup>	1¢ per lb. gain	163	1¢ per lb. gain	160	1¢ per lb.	173
Bull service fee	-	-	2 3/4¢ per lb. gain	880	Add 2½¢/lb. on calves	776
Reports bonus	\$.50 per head	<u>50</u>	\$.75 per head	<u>75</u>	\$1.00 per head	<u>100</u>
Total Production and Sales		5413		7018		8731
<u>Production Costs</u>						
Hay at \$18/ton	138# each	124	169# each	152	245# each	221
C. S. meal at \$86/ton <sup>b</sup>	92# each	396	150# each	645	262# each	1129
Grain at \$42/ton <sup>b</sup>	79# each	166		-		-
Mineral, Salt, Vet. & Med. <sup>b</sup>		145		145		165
Bull depreciation	-	-	(4 bulls)	110	(4 bulls)	110
Death loss	(1.3%)	124	(1.3%)	184		-
Marketing costs		129		154		87
Property taxes <sup>c</sup>		150		162		187
Miscellaneous		<u>125</u>		<u>190</u>		<u>269</u>
Total Production Costs		1359		1742		2168
<u>Allocated Charges for Selected Resources</u>						
Land charge (3% of value)		2484		2880		3744
Labor charge (\$1.40/hr.)	(445 hr.)	623	(570 hr.)	798	(768 hr.)	1075
Annual capital (@ 7%)	- \$1910	<u>-134</u>	- \$345	<u>-24</u>	- \$528	<u>-37</u>
Total Allocated Charges		2973		3654		4782
Return to Management and Risk		<u>\$1081</u>		<u>\$1622</u>		<u>\$1781</u>

<sup>a</sup>These budgets assume 50% of the replacements are financed. The financing bonus is paid only on those animals that are financed.

<sup>b</sup>These values were arrived at after consultation with members of the Department of Animal Science at Oklahoma State University.

<sup>c</sup>Based on estimates prepared by the Oklahoma Tax Commission (1965).

of gain.<sup>3</sup> In the budget for calving at 24 months (Column 1 of Table XX) the rancher receives  $1\frac{1}{2}\text{¢}$  over the standard bonus computation rate (Footnote 2) making the rate  $17\frac{1}{2}\text{¢}$ .

A further payment to the rancher for these heifers which are bred during the year after weaning (24 month calving only), is a bull service fee of  $2\frac{3}{4}\text{¢}$  per pound of gain. Additional to this for all heifer replacement contracts, is  $1\text{¢}$  per pound of gain on all heifers financed by the rancher. The budget assumption is that he will finance 50 percent of the heifers under contract. The budgets also include the reports bonus of \$.50 per heifer calf, which is paid to ranchers for following the provisions of the contracts.

The production costs include all of the costs of feed, care and maintenance for the heifers for the year following weaning. The heifers calving at 24 months have much higher production costs than the heifers calving at 30 and 36 months. During the first year the heifers calving at 24 months are budgeted to receive \$19.62 worth of hay and feed each while those calving at 30 and 36 months each receive only \$6.86 worth. Heifers that are to calve at 24 months must make a substantial weight gain during the winter of the first year in order to be mature enough to be bred the following June. They are budgeted to gain 390 pounds during this year. Heifers that are to calve at 30 and 36 months are roughed through the winter of the first year and are budgeted to gain 325 pounds during the year with most of this gain coming from summer

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<sup>3</sup> Refer to Bonus Computation rates (page 15) for ranchers with from 500 to 1,500 head. In the event the heifer calves are to be bred to calve at 24 months, the managing corporation will pay up to 2¢ per pound of gain in addition to the standard bonus computation rate. The actual amount in addition to the bonus computation rate is subject to negotiation with the individual rancher.

grazing.

Because heifers calving at 24 months are bred during the year, they are charged with bull depreciation. Heifers calving at 30 and 36 months are not so charged.

The death loss in production costs indicates that on the average 1.3 percent of the heifers die. The heifer contract, unlike the contract for mature cows, does not allow the rancher a death loss without penalty. The rancher is penalized in that animals which were weighed in at the beginning of the contract are not present to be weighed out.

The marketing costs are the costs associated with handling and transporting the heifers in order to weigh them at the beginning and at the end of the contract.

The property taxes are the expected property taxes on the animals in the budgets and include those on bulls which are used on the heifers.

Miscellaneous costs include annual costs for feed storage, repair, maintenance and depreciation of fences, and repairs and depreciation for corrals and equipment.

The allocated charges for selected resources are computed in order to allocate the returns to those resources that are responsible for earning them.<sup>4</sup> The land charge is computed on the basis of 3 percent of the value of the land on which the animals graze. Because heifers calving at 24 months are bred during the first year the grazing in Table XX includes grazing for bulls.

The labor charge is \$1.40 per hour of labor used on the heifers during the year. Heifers that are bred during the year (24 month

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<sup>4</sup>For a more detailed explanation of the reasoning behind the allocated charges refer to the Budget Explanation in Chapter 3 under Allocated Charges.

calving) require more hours of labor than heifers which are not bred. Because heifers calving at 30 and 36 months are not bred during the first year and are fed less, their capital requirement for that year is less than for those calving at 24 months.

#### Open Yearling Contract

Heifers calving at 30 and 36 months are placed under an open yearling contract from the age of 18 to 30 months. Budgets for these heifers while on the open yearling contract are shown in Column 2 of Tables XXI (30 month calving) and XXII (36 month calving).

The open yearling contract pays a base rate of  $19\frac{1}{2}\text{¢}$  per pound of gain.<sup>5</sup> The heifers calving at 30 months make a slightly larger gain during this period than the heifers calving at 36 months because they are due to calve very near the time of weighing out. The rancher receives an additional  $2\frac{3}{4}\text{¢}$  per pound of gain for the breeding of these heifers and a report's bonus of \$.75 per head.

The production costs and allocated charges for selected resources in the second period (Column 2 of Tables XXI and XXII) are the same for heifers calving at 30 months and 36 months. The feeds are the same and are at a low level which is just sufficient to winter the heifers in thrifty condition. Most of the weight gain is attributable to summer grass. The other production costs and allocated charges are calculated in the same manner as they were for heifers under the heifer replacement contract described in the previous section.

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<sup>5</sup> Weight gain in excess of 275 pounds per head is paid for on the basis of 12¢ per pound. This is shown in the budgets.

### Bred Yearling and First Calf Heifer Contracts

Heifers calving at 24 months are placed under a bred yearling contract from the age of 18 to 30 months. Ranchers receive  $23\frac{1}{4}\text{¢}$  per pound for the bred yearling's first calves which are weaned at the end of this contract. A budget for bred yearlings is shown in Column 2 of Table XX.

Heifers calving first at 30 and 36 months are placed under first calf heifer contracts from the age of 30 to 42 months (Column 3, Tables XXI and XXII respectively). These contracts pay  $22\frac{1}{4}\text{¢}$  per pound for the calves that are weaned during this period. An 83 percent calf crop is used for all heifers whether calving first at 24, 30 or 36 months.

Within these budgets, the categories production and sales, production costs, and allocated charges for selected resources are figured in a manner similar to the budget for Northeastern Oklahoma, Table V. For an explanation of the individual categories within these sections refer to the section "Budget Explanation" in Chapter III.

### Mature Cow Budget

Table XXIII is a budget for 100 cows. This budget is used in the following section as an additional contract classification in comparing the alternatives of calving at 24, 30 and 36 months. The budget is calculated in the same manner as the budget in Table V except that no provision is made for feeding and raising replacements. The 100 cows are budgeted to have 88 calves that average 441 pounds at weaning. For an explanation of the individual categories within the budget refer to the section "Budget Explanation" in Chapter III.



TABLE XXIII

NORTHEASTERN OKLAHOMA FOR PERIOD OCTOBER 15, 1966 - OCTOBER 15, 1967  
ESTIMATED COSTS AND RETURN FROM A CONTRACT BEEF COW PROGRAM  
SPRING CALF - FALL SELL (100 COWS - NO REPLACEMENTS)

Production and Sales<sup>a</sup>

Calves	88 hd. x 441# @ $21\frac{1}{4}\text{¢}$	8,247	
Bonus for financing	(1¢/lb on financed cattle)	194	
Bull service fee	Add $2\frac{1}{4}\text{¢}$ /lb on calves	873	
Reports bonus	\$1.00/hd.	<u>100</u>	9,414

Production Costs<sup>a</sup>

Hay at \$18/ton		185	
Protein at \$76/ton		988	
Mineral and salt		144	
Veterinary and medicine		118	
Bull depreciation and death loss (4 bulls)		110	
Marketing costs		96	
Shrink		165	
Property taxes		187	
Miscellaneous		<u>243</u>	2,236

Allocated Return to Selected Resources<sup>a</sup>

Land at 3% of value		3,744	
Labor at \$1.40/hr	622 hr.	871	
Annual capital	\$-572 @ 7%	<u>- 40</u>	4,575

Return to Management and Risk

\$2,603<sup>a</sup>Source: Table V.

### Comparison of Alternative Methods of Calving Replacements

If a rancher calves replacements at 24 months he typically has three distinct categories of females under contract at any one time. He has weaned heifer calves under the heifer replacement contract, bred yearlings under the bred yearling contract, and mature cows. If a rancher calves replacements at 30 or 36 months he typically has four distinct categories of females under contract at any one time. He has weaned heifer calves under the heifer replacement contract, open yearling heifers under the open yearling contract, first calf heifers under the first calf heifer contract and mature cows.

In this comparison we assume that a rancher has a 1000 a.u.y. (animal unit years) grazing capacity on his pastures.<sup>6</sup> A rancher with a ranch this size would not typically have strictly 1000 cows on his pastures. One would ordinarily expect him to have cows, replacements, and bulls on hand at any one time.

Table XXIV is designed to determine how many animals of each kind a rancher could have on his ranch, for all three replacement alternatives, that is, the alternatives of 24, 30 and 36 month calving. The table is set up on the following assumptions.

1. The rancher uses all of the grazing available.
2. Each year the rancher saves replacements equal to 15.9 percent of the number of cows. Replacements

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<sup>6</sup> One a.u.y. is defined as the grazing requirement necessary to feed a 1,000 pound cow and her calf for one year.

TABLE XXIV

NUMBER OF ANIMALS ON EACH CONTRACT WITH 1000 A.U.Y. GRAZING AVAILABLE<sup>a</sup>

Type of Contract	(1) Calving at 24 months			(2) Calving at 30 months			(3) Calving at 36 months		
	Number of animals	A.U.Y. <sup>b</sup> each	Total A.U.Y.	Number of animals	A.U.Y. <sup>b</sup> each	Total A.U.Y.	Number of animals	A.U.Y. <sup>b</sup> each	Total A.U.Y.
Heifer replacement Contract	125	.61	76	112	.69	77	112	.69	65
Open yearling contract	---	---	--	111	.76	84	111	.76	84
24 month-Bred yearling Contract	107	.90	76	---	---	--	---	---	--
30 and 36 month-First Calf Heifer Contract	---	---	--	96	1.0	96	96	1.0	96
Mature Cows Cow-calf contract	785	1.0	785	705	1.0	705	705	1.0	705
Bulls Rancher Owned	43	1.0	43	38	1.0	38	38	1.0	38
Totals	1060		1000	1062		1000	1062		1000

<sup>a</sup> 1 A.U.Y. equals the grazing requirement necessary to feed a 1,000 pound cow and her calf for one year.<sup>b</sup> Source: Appendix Table

are culled so that in the year they calve their number is reduced to 13.6 percent of the number of cows.

3. The a.u.y. of grazing required by the replacements is determined by assuming that, of their yearly T.D.N. (total digestible nutrient) requirement, the portion which feeds do not supply will be supplied by grazing.<sup>7</sup>
4. If the animals in one calving system eat more grass than the amount required to meet their T.D.N. requirement (Appendix Table XXXVIII), the animals in the other replacement systems also are assumed to eat proportionately more. Therefore, the relative values are not affected by such changes in T.D.N. consumption.

Table XXIV shows that replacements on the heifer replacement contract which are to calve at 24 months have an a.u.y. grazing requirement of .61 (61% of a cow) while those calving at 30 and 36 months have a grazing requirement of .69. These animals are the same age and assumed to have the same total T.D.N. requirement, but the ones that are to calve at 24 months receive more than twice as much T.D.N. from supplemental feed as the replacements calving at 30 and 36 months. Therefore the heifers that are to calve at 30 and 36 months must get more of their T.D.N. requirement from grazing. Similar computations

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<sup>7</sup>Appendix Table XXXVIII, shows the yearly T.D.N. requirement used for the animals in this analysis. The table also shows the portion of the total T.D.N. requirement which is satisfied by the feeds in the budgets of Tables XX through XXII and the portion of T.D.N. requirement which must be met by pasture.

were made for the other replacements in Appendix Table XXXVIII.

Table XXIV shows that, under the assumptions, a rancher calving replacements at 24 months would have 892 animals calving yearly (785 mature cows and 107 bred yearlings). Ranchers calving replacements at 30 and 36 months would have 801 animals calving yearly (705 mature cows and 96 first calf heifers). The difference between the number of animals calving under a 24 month replacement calving system and the number calving under a 30 and 36 month calving system is due to the limited pasture and the necessity of keeping those replacement animals which calve at 30 and 36 months, one year longer before weaning their first calf. The additional year required by animals calving at 30 and 36 months means that the rancher using these methods must supply pasture for these replacements for two years before the year they calve. The rancher calving replacements at 24 months need only supply pasture for one year before the year when these animals calve. Table XXIV shows that a rancher with limited pasture who calves replacements at 30 or 36 months must devote a larger proportion of his pasture to grazing replacements than he would if he calved replacements at 24 months.

Table XXIV is used in conjunction with the budgets in Tables XX through XXIII to compare the alternative replacement systems. Table XXIV was used to determine how many animals would be under each contract for each replacement system. The budgets in Tables XX through XXIII determined the expected returns to management and risk for animals under each of the contracts. Table XXV combines the results of these tables by multiplying the number of animals under each contract (within a replacement system) by the return to management and risk per animal. The results (within each replacement system) are summed to determine the

TABLE XXV

## RETURN TO MANAGEMENT AND RISK PER 1000 A.U.Y. GRAZING UNDER DIFFERENT METHODS OF REPLACEMENT

Type of Contract	(1) Calving at 24 months			(2) Calving at 30 months			(3) Calving at 36 months		
	Number of animals <sup>a</sup>	Return <sup>b</sup> each \$	Total return \$	Number of <sup>a</sup> animals	Return <sup>c</sup> each \$	Total return \$	Number of <sup>a</sup> animals	Return <sup>d</sup> each \$	Total return \$
Heifer replacement Contract	125	21.92	2,740	112	10.81	1,211	112	10.81	1,211
Open yearling contract	---	---	---	111	18.05	2,004	111	16.22	1,800
24 month-Bred yearling Contract	107	8.28	886	---	---	---	---	---	---
30 and 36 month-First Calf heifer contract	---	---	---	96	4.40	422	96	17.81	1,710
Mature Cows Cow-calf contract	785	26.03	20,434	705	26.03	18,351	705	26.03	18,351
Bulls Rancher owned	43	---	---	44	---	---	38	---	---
Totals	1,060		\$24,060	1,062		\$21,988	1,062		\$23,072

<sup>a</sup>Source: Table XXIV<sup>b</sup>Source: Table XX<sup>c</sup>Source: Table XXI<sup>d</sup>Source: Table XXII

total returns to each system (Table XXV).

For example, Column 1 of Table XXIV shows that a rancher using a 24 month replacement system would have 125, 107, and 785 animals under the heifer replacement contract, bred yearling contract, and cow-calf contract respectively. The budgets for these animals show returns to management and risk per animal of \$21.92 (Column 1, Table XX), \$8.28 (Column 2, Table XX), and \$26.03 (Table XXIII) respectively. The total returns under this replacement system are determined by summing the results of the multiplication of the number of animals by the return each. The calculations for a 24 month replacement system are shown in Column 1 of Table XXV. Calculations for 30 and 36 month replacement systems are shown in Columns 2 and 3 of Table XXV. The total returns to management and risk per 1000 a.u.y. of grazing for each replacement system as determined in Table XXV are: (1) 24 month, \$24,060, (2) 30 month, \$21,988, and (3) 36 month, \$23,072.

This analysis shows that the returns to management and risk from the three replacement systems are rather similar. The analysis has included a large number of assumptions and a change in any part of any budget or table would alter the results of the analysis. For example if the rancher using a 24 month calving system did not receive the additional  $1\frac{1}{2}\text{¢}$  per pound of gain for calving replacements at 24 months, his bonus computation rate would be 16¢ per pound of gain. This one change, holding all other things constant, would decrease the return to management and risk for a 24 month calving system (Table XXV) by \$731. This change would nulify most of the difference between the returns with a 24 and a 36 month replacement system. Small changes in calf weights, feed costs, a.u.y. of grazing, allocated charges or any one of a number

of things could cause a different replacement system to appear to be the most profitable.

The large number of estimates and assumptions needed in making this analysis make it seem reasonable to assume that there is not sufficient evidence to conclude that one replacement system is more profitable than the other two. A rancher who preferred one replacement system and had developed proficiency in using his system would probably have a greater return to management and risk with this system than he would with any other. The analysis is general and could not be expected to be accurate for each specific ranch in Oklahoma. Location differences and management practices would also affect the comparisons.



## CHAPTER VI

### SUBCONTRACTS

One of the ranchers in Oklahoma who has obtained cattle from the managing corporation has developed the practice of subcontracting these cattle to the other ranchers. He began subcontracting cattle in 1964-1965 when the corporation wanted him to accept more cattle than he had grass for. The rancher took the additional cattle and subcontracted them to another rancher and from this experience found subcontracting to be a profitable venture. Subsequently he has increased the number of cattle under subcontracts. In 1967 this rancher formed a company specifically to handle subcontract cattle for the 1967-1968 contract period and later years.<sup>1</sup>

In 1966-1967 the subcontracting company had over 3,000 cows under subcontract to six Oklahoma ranchers. The number of subcontracting ranchers is increasing and in 1967-1968 there were twelve ranchers with over 4,000 cows. The managing corporation is encouraging the subcontracting company to expand its operation.

The contract arrangement between the subcontracting company and the managing corporation's clients is the same as the contract arrangement between other ranchers and the managing corporation's clients. The subcontracting company is responsible for all of the

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<sup>1</sup>The rancher who is subcontracting these cattle to other ranchers will be referred to as the subcontracting company.

cattle under its control. The officers of the managing corporation said that they were able to reduce costs by contracting with one company rather than with many smaller ranchers and will therefore probably continue to encourage expansion by the subcontracting company.

#### Rancher Requirements for Subcontracts

Ranchers are required to meet the following minimum conditions in order to get subcontract cattle.

1. The rancher should, by ownership or long term lease, have land capacity for 200 cows or more.<sup>2</sup>
2. The rancher shall, in the opinion of his banker, have a reputation of financial responsibility in proportion to the number of cattle he requests.

#### Provisions of the Subcontract

Because the cattle under subcontracts are under standard contracts between the managing corporation's clients and the subcontracting company, a rancher is required to meet most of the contract requirements included in the contract in Appendix A. The primary differences between the contract offered by the managing corporation and the subcontract offered by the subcontracting company are given below.

1. A rancher is not required or asked to finance any of the cattle under subcontract to him. Financing of the cattle belonging to the clients of the corporation is

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<sup>2</sup>This number may vary according to the rancher's location. Due to the cost of inspecting and handling the cattle, ranchers who are a considerable distance from other ranchers with subcontract cattle would normally be expected to take more than this minimum number.

is provided by the subcontracting company. The additional payment of 1¢ per pound for financing client's cattle is therefore payable to the subcontracting company.

2. A rancher with cattle under subcontract is required to pay the subcontracting company \$5 per head for the cattle he has under subcontract. This sum is paid as consideration for the contract and is normally deducted from the final payment at the termination of the contract.
3. A rancher with cattle under subcontract is not guaranteed advance money.<sup>3</sup>
4. The subcontract does not have provision for paying subcontracting ranchers from the reports bonus.<sup>4</sup>
5. The bonus computation rate paid to the subcontracting company is based on the total number of contract cattle

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<sup>3</sup>The payment of advance money is not mentioned in the 1966-1967 subcontract. The subcontracting rancher provides no financing and therefore is not guaranteed any advance money. However, the subcontracting company receives advance money for financing and has been distributing this money to all of the subcontracting ranchers in proportion to the number of cattle they have and to their need. On the subcontracts of 1966-1967, most subcontracting ranchers received about \$25 per cow in January 1967.

<sup>4</sup>It is necessary that all of the subcontracting ranchers do a good job of following the points in the subcontract before the subcontracting company will receive the reports bonus. The reports bonus was not received by the subcontracting company on the 1965-1966 contracts because not all subcontracting ranchers made the necessary reports.

under the control of the subcontracting company has rather than on the number under subcontract to the individual rancher.<sup>5</sup>

#### Comparison of Rancher Owned Cattle and Cattle Under Subcontract

How much difference is there between the returns to management and risk for a rancher with his own cattle and the same rancher with cattle under subcontract? Cost and return budgets have been developed to compare the alternatives of owning cattle versus subcontracting cattle. The complete and partial budgets in this chapter are adaptations of the budgets for Northeastern Oklahoma used in Chapter III.

An assumption of the budgets of Chapter III was that all of the cows were spring calving and that all replacements would be bred to calve at 24 months. Although, currently, the cows in the herds of the subcontracting company are predominately spring calving, representatives of the subcontracting company have requested that all subcontracting ranchers who keep replacements, breed them to calve in the fall. Representatives of the subcontracting company feel that fall calving is more profitable than spring calving because of the difference in calf size at the time of weaning. Because fall calving is the practice that will

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<sup>5</sup>In 1966-1967 the subcontracting company received payment from the managing corporation at the bonus computation rate for ranchers with between 1500 and 2500 head (See Bonus Computation Rates in Table I). The managing corporation and the subcontracting company have agreed that for the 1967-1968 contracts the bonus computation rate will continue the same as it was in 1966-1967. The subcontracting company is presently (1967-1968) paying subcontracting ranchers the same rate per pound that it receives, but this rate is less per pound than would be received by a smaller rancher under direct contract.

be applicable in the future all of the budgets in this chapter assume cows and replacements are fall calving.

The budgets are on the basis of 100 cow units although under normal circumstances the subcontracting company will not contract with any rancher who cannot handle over 200 head of cattle.<sup>6</sup> The budgets were designed to represent costs and returns per 100 cow unit on ranches with from 500 to 1500 head of cattle. The 100 cow unit provides a convenient base for calculations and can be easily adapted to fit larger ranch situations.

The assumptions of the budgets are as follows:

- (1) The prices received for rancher owned cattle are the average monthly Oklahoma City prices at the time of sale adjusted for weight differential.<sup>7</sup>
- (2) The rates received for subcontract cattle are taken from bonus computation rates for ranchers with between 1500 and 2500 head of contract cattle (Table I).
- (3) Cows and replacements calve in the fall. Replacements saved from fall calving cows have their first calves in the fall, at 36 months.
- (4) Cows have an 88 percent calf crop. First calf heifers have an 83 percent calf crop.

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<sup>6</sup>The 100 cow units consist of 100 animals that are calving and the replacements and bulls which are necessary to maintain a herd of this size. The 100 cow unit under a fall calving system is somewhat different from that under the spring calving system of Chapter III and is described in more detail in the following pages.

<sup>7</sup>In the budgets, ranchers with their own cattle sell the calves from their fall calving cattle in July and receive the average monthly Oklahoma City price, adjusted for weight differential. Subcontract cattle are also sold in July.

- (5) Ranchers with subcontract cattle use their own bulls.
- (6) The 100 cow unit consists of 88 mature cows and 12 first calf heifers which are calving. The budgets also include fourteen heifers saved as replacements under a heifer replacement contract and fourteen heifers under an open yearling contract for a total of 128 animals under contract. In addition there are 5 rancher owned bulls.

The cattle investment required of a rancher for these budgets is shown in Table XXVI and Table XXVII. Although values will vary with market conditions, those shown are representative of the values which the interviewed ranchers placed on the subcontract cattle and on their own cattle.

In Chapter III similar comparisons were made between rancher owned and contract cattle with spring calving in Tables III and IV. A comparison of Table III showing rancher owned, spring calving cattle and Table XXVI showing rancher owned, fall calving cattle shows that a rancher with fall calving cows has a larger investment in cattle and more animals than with spring calving cows. This is due to the differences in the length of time the replacements are held before breeding under the two systems.

Table XXVIII contains the complete 100 cow unit fall calving budgets for Northeastern Oklahoma for (1) rancher owned cattle, and (2) cattle under subcontracts. The budgets compare costs and returns using prices, bonus computation rates, production costs, and allocated charges for the 1966-1967 contract period. The complete budgets are followed by partial budgets which compare fall calving, rancher owned cattle and subcontract

TABLE XXVI

ESTIMATED RANCHER'S INVESTMENT IN CATTLE:  
RANCHER OWNED CATTLE

(100 COW UNIT: FALL CALVING)

88	cows	at \$190	\$16,720
12	first calf heifers	at \$190	2,280
14	open yearling heifers	at \$175	2,460
14	replacement heifers of 430 lbs.	at \$.26/lb.	1,565
<u>5</u>	bulls	at \$375	<u>1,875</u>
133	animals		\$24,890

TABLE XXVII

ESTIMATED RANCHER'S INVESTMENT IN CATTLE: UNDER SUBCONTRACT  
WITH THE SUBCONTRACTING COMPANY

(100 COW UNIT: FALL CALVING)

88	cows	client owned	\$ 00
12	first calf heifers	client owned	00
14	open yearling heifers	client owned	00
14	replacement heifers of 430 lbs.	client owned	00
<u>5</u>	bulls	at \$375	<u>1,875</u>
133	animals		\$1,875

cattle for the years 1960-1961 through 1965-1966.<sup>8</sup> Production Costs and Allocated Charges determined in the complete budgets (Table XXVIII) are used in the partial budgets. Changes in production costs and allocated charges have occurred during this period but are ignored as they were in Chapter III because the changes would not affect the relative results.

Because, the budgets in Tables XXVIII through XXXI are similar to those in Tables V through VIII, a complete budget explanation is not included here. Instead, following the budgets is a brief explanation of any differences between these budgets and those in Chapter III. Most of the differences are attributable to fall calving and to those provisions of the subcontracts which are different from the managing corporation's contract.

#### Description of the Budgets

##### Production and Sales

The categories steer calves, heifer calves, cull cows, cull heifers, heifer replacement contract, and bull service fee are the same as those in Tables V through VIII and are explained in Chapter III, under Production and Sales beginning on page 30.

However, some categories under Production and Sales in these budgets are different from those in Tables V through VIII. The category, "First calf heifer's calves", differs in that it represents the sale of calves from replacements under first calf heifer contracts. These heifers calve first at 36 months as compared with the bred yearlings in

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<sup>8</sup> Subcontracts were not available until the 1965-1966 contract year. The partial budgets for the years previous to this are included to show the comparative returns if they had been available.



TABLE XXVIII

COMPLETE BUDGETS OF ESTIMATED COSTS AND RETURNS FROM ALTERNATIVE BEEF COW PROGRAMS IN  
NORTHEASTERN OKLAHOMA: FALL CALF; JULY SELL (100 COW UNITS)

October 15, 1966 to October 15, 1967

<u>Production and Sales</u>		<u>Rancher Owned</u>		<u>Under Subcontract</u>	
First calf heifer's calves	10 hd. x 413 lbs. at 26.98¢	1,114	@ 22¢	909	
Steer calves	39 hd. x 486 lbs. at 27.72¢	5,254	@ 21¢ & 16¢	3,980	
Heifer calves	24 hd. x 461 lbs. at 24.74¢	2,737	38 hd. @ 21¢	3,671	
Cull cows	12 hd. x 950 lbs. at 16.12¢	1,838		---	
Cull heifers	2 hd. x 1081 lbs. at 21.80¢	471		---	
Heifer replacement contract	14 hd. x 325 lbs. gain each	---	@15.50¢	705	
Open yearling contract	14 hd. x 332 lbs. gain each	---	@18.50¢ & 12¢	808	
Bull service fee	2½¢/lb. on calves; 2 3/4¢/lb. on yrlg.	---		1,041	11,114
		11,414			
<u>Production Costs</u> *					
Hay at \$18/ton	(17.3 tons)	312		312	
Protein at \$76/ton <sup>a</sup>	(25.5 tons)	1,712		1,712	
Grain for replacement heifers at \$42/ton	( 1.3 tons)	56		56	
Mineral and salt		150		150	
Veterinary and medicine		143		143	
Bull depreciation and death loss	(5 bulls)	137		137	
Death loss	(2 cows at \$190)	380		---	
Marketing costs <sup>a</sup>		204		107	
Shrink		364		171	
Property taxes <sup>b</sup>		256		256	
Subcontract fee		---		640	
Miscellaneous <sup>a</sup>		324	4,038	324	4,008
<u>Allocated Charges for Selected Resources</u>					
Land at 3%		4,500		4,500	
Labor at \$1.40/hr.	830 hrs.	1,162	865 hrs.	1,211	
Annual capital	\$26,543 at 7%	1,858	\$199 at 7%	14	5,725
Return to management and risk before taxes		\$ 144		\$ 1,381	
Less estimated income taxes <sup>c</sup>		635		1,371	
Return to management and risk after taxes		\$ -779		\$ 10	

\* Information not footnoted under Production Costs was computed from information received from interviewed ranchers and members of the Department of Animal Science at Oklahoma State University.

<sup>a</sup> Cecil D. Maynard and Odell L. Walker, "Costs and Returns to Beef Cow-Calf Systems," Oklahoma State University Extension Facts, Page 112.

<sup>b</sup> The property taxes are based on estimates made by the Oklahoma Tax Commission (1965).

<sup>c</sup> The estimated income taxes are taken from Table XXXII.

TABLE XXIX

PARTIAL BUDGETS OF ESTIMATED COSTS AND RETURNS FROM ALTERNATIVE BEEF COW PROGRAMS  
IN NORTHEASTERN OKLAHOMA: FALL CALF; JULY SELL (100 COW UNITS)

October 15, 1965 to October 15, 1966				
<u>Production and Sales</u>	<u>Rancher Owned</u>		<u>Under Subcontract</u>	
First calf heifer's calves	10 hd. x 413# @ 25.34¢	1047	@ 21¢	867
Steer calves	29 hd. x 486# @ 26.14¢	4955	@ 20¢	3774
Heifer calves	24 hd. x 461# @ 23.25¢	2572	38 hd. @ 20¢ & 16¢	3504
Cull cows	12 hd. x 950# @ 16.44¢	1874		--
Cull heifers	2 hd. x 1081# @ 22.8¢	493		--
Heifer replacement contract	14 hd. x 325# gain each	--	@ 15½¢	705
Open yearling contract	14 hd. x 332# gain each	--	@ 18½¢ & 12¢	808
Bull service fee	\$7.00/exposed cow	--		798
		10941		10456
<u>Production Costs</u> <sup>a</sup>	-- Total --	4038		4008
<u>Allocated Charges</u> <sup>a</sup>	-- Total --	7520		5725
Return to management and risk before taxes		- \$ 617		\$ 723
Less estimated income taxes <sup>b</sup>		521		1157
Return to management and risk after taxes		- \$ 1138		- \$ 434

October 15, 1964 to October 15, 1965			(First year for subcontracts)	
<u>Production and Sales</u>	<u>Rancher Owned</u>		<u>Under Subcontract</u>	
First calf heifer's calves	10 hd. x 413# @ 24.12¢	953	@ 22¢	909
Steer calves	39 hd. x 486# @ 23.98¢	4545	@ 20¢ & 16¢	3774
Heifer calves	24 hd. x 461# @ 20.87¢	2309	38 hd. @ 20¢	3504
Cull cows	12 hd. x 950# @ 14.75¢	1682		--
Cull heifers	2 hd. x 1081# @ 23.47¢	507		--
Heifer replacement contract	14 hd. x 325# gain each	--	@ 14½¢	660
Open yearling contract	14 hd. x 332# gain each	--	@ 19½¢ & 12¢	847
Bull service fee	\$7.00/exposed cow	--		798
		9996		10492
<u>Production Costs</u> <sup>a</sup>	-- Total --	4038		4008
<u>Allocated Charges</u> <sup>a</sup>	-- Total --	7520		5725
Return to management and risk before taxes		- \$1562		\$ 759
Less estimated income taxes <sup>b</sup>		346		1169
Return to management and risk after taxes		- \$1908		- \$ 410

<sup>a</sup>Source: Table XXVI.

<sup>b</sup>Refer to the section on income taxes.

TABLE XXX

PARTIAL BUDGETS OF ESTIMATED COSTS AND RETURNS FROM ALTERNATIVE BEEF COW PROGRAMS  
IN NORTHEASTERN OKLAHOMA: FALL CALF; JULY SELL (100 COW UNITS)

October 15, 1963 to October 15, 1964			(Subcontracts not available)	
<u>Production and Sales</u>	<u>Rancher Owned</u>		<u>Under Subcontract</u>	
First calf heifer's calves	10 hd. x 413# @ 20.10¢	830	@ 22¢	909
Steer calves	39 hd. x 486# @ 20.55¢	3895	@ 20¢ & 16¢	3696
Heifer calves	24 hd. x 461# @ 18.34¢	2029	38 hd. @ 20¢ & 16¢	3455
Cull cows	12 hd. x 950# @ 12.58¢	1434		--
Cull heifers	2 hd. x 1081# @ 21.30¢	461		--
Heifer replacement contract	14 hd. x 325# gain each	--	@ 14½¢	660
Open yearling contract	14 hd. x 332# gain each	--	@ 19½¢ & 12¢	847
Bull service fee	\$7.00/exposed cow	-- 8649		798 10365
<u>Production Costs</u> <sup>a</sup>	-- Total --	4038		4008
<u>Allocated Charges</u> <sup>a</sup>	-- Total --	7520		5725
Return to management and risk before taxes		- \$2902		\$ 632
Less estimated income taxes <sup>b</sup>		135		1128
Return to management and risk after taxes		- \$3037		- \$ 496

October 15, 1962 to October 15, 1963			(Subcontracts not available)	
<u>Production and Sales</u>	<u>Rancher Owned</u>		<u>Under Subcontract</u>	
First calf heifer's calves	10 hd. x 413# @ 25.76¢	1064	@ 22¢	909
Steer calves	39 hd. x 486# @ 26.54¢	5030	@ 20¢ & 16¢	3696
Heifer calves	24 hd. x 461# @ 23.68¢	2620	38 hd. @ 20¢ & 16¢	3455
Cull cows	12 hd. x 950# @ 14.97¢	1707		--
Cull heifers	2 hd. x 1081# @ 22.23¢	481		--
Heifer replacement contract	14 hd. x 325# gain each	--	@ 14½¢	660
Open yearling contract	14 hd. x 332# gain each	--	@ 19½¢ & 12¢	847
Bull service fee	2¢/lb. on calves; 2 3/4¢/lb. on yrlg.	-- 10902		914 10481
<u>Production Costs</u> <sup>a</sup>	-- Total --	4038		4008
<u>Allocated Charges</u> <sup>a</sup>	-- Total --	7520		5725
Return to management and risk before taxes		- \$ 656		\$ 748
Less estimated income taxes <sup>b</sup>		535		1165
Return to management and risk after taxes		- \$ 1191		- \$ 417

<sup>a</sup>Source: Table XXVI.

<sup>b</sup>Refer to the section on income taxes.

TABLE XXXI

PARTIAL BUDGETS OF ESTIMATED COSTS AND RETURNS FROM ALTERNATIVE BEEF COW PROGRAMS  
IN NORTHEASTERN OKLAHOMA: FALL CALF; JULY SELL (100 COW UNITS)

October 15, 1961 to October 15, 1962			(Subcontracts not available)	
Production and Sales	Rancher Owned		Under Subcontract	
First calf heifer's calves	10 hd. x 413# @ 26.59¢	1098	@ 22¢	909
Steer calves	39 hd. x 486# @ 27.48¢	5209	@ 20¢ & 16¢	3696
Heifer calves	24 hd. x 461# @ 24.40¢	2700	38 hd. @ 20¢ & 16¢	3455
Cull cows	12 hd. x 950# @ 15.88¢	1810		--
Cull heifers	2 hd. x 1081# @ 25.88¢	560		--
Heifer replacement contract	14 hd. x 325# gain each	--	@ 14½¢	660
Open yearling contract	14 hd. x 332# gain each	--	@ 19½¢ & 12¢	847
Bull service fee	Add 2½¢/lb. on all calves	-- 11377		<u>914</u> 10481
<u>Production Costs</u> <sup>a</sup>	-- Total --	4038		4008
<u>Allocated Charges</u> <sup>a</sup>	-- Total --	<u>7520</u>		<u>5725</u>
Return to management and risk before taxes		- \$ 181		\$ 748
Less estimated income taxes <sup>b</sup>		<u>620</u>		<u>1165</u>
Return to management and risk after taxes		- \$ 801		- \$ 417

October 15, 1960 to October 15, 1961			(Subcontracts not available)	
Production and Sales	Rancher Owned		Under Subcontract	
First calf heifer's calves	10 hd. x 413# @ 24.12¢	1000	@ 23¢	950
Steer calves	39 hd. x 486# @ 24.66¢	4674	@ 21¢	3980
Heifer calves	24 hd. x 461# @ 22.46¢	2485	38 hd. @ 21¢	3679
Cull cows	12 hd. x 950# @ 16.12¢	1838		--
Cull heifers	2 hd. x 1081# @ 22.28¢	482		--
Heifer replacement contract	14 hd. x 325# gain each	--	@ 14½¢	660
Open yearling contract	14 hd. x 332# gain each	--	@ 19½¢ & 12¢	847
Bull service fee	Add 2½¢/lb. on all calves	-- 10479		<u>914</u> 11030
<u>Production Costs</u> <sup>a</sup>	-- Total --	4038		4008
<u>Allocated Charges</u> <sup>a</sup>	-- Total --	<u>7520</u>		<u>5725</u>
Return to management and risk before taxes		- \$ 1061		\$ 1297
Less estimated income taxes <sup>b</sup>		<u>426</u>		<u>1343</u>
Return to management and risk after taxes		- \$ 1487		- \$ 46

<sup>a</sup>Source: Table XXVI

<sup>b</sup>Refer to the section of income taxes.

Tables V through VIII which calved first at 24 months. The bonus computation rate for calves from first calf heifers is one cent per pound higher than the rate for mature cows due to the additional risk and smaller calves of these animals (Table I).

Tables XXVIII through XXXI contain a category, "open yearling contract", which is not included in Tables V through VIII. After weaning, heifers that are saved as replacements and bred to calve at 36 months, are placed under heifer replacement contracts which pay 15 1/2¢ per pound of weight gain (Table I) during the year after weaning. At the expiration of the heifer replacement contracts, the heifers are placed under open yearling contracts which pay the rancher 18 1/2¢ for the first 275 pounds of weight gained in the following year (Table I).<sup>9</sup>

As mentioned previously, ranchers with subcontract cattle do not finance the clients' cattle. Therefore, a bonus for financing subcontract is not included in the budgets.

#### Production Costs

The categories in Production Costs in Table XXVIII are the same as those in Table V with one exception. Production Costs in Table XXVIII include a category "Subcontract fee" which represents the rancher's payment of \$5 per head for each animal under subcontract. This fee for 128 head under subcontract in Table XXVIII is \$640.

The protein cost shown in Table XXVIII is considerably higher than that shown in Table V for spring calving cows due to feeding the

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<sup>9</sup>Weight gain in excess of 275 pounds is paid for at the rate of 12¢ per pound. This is shown in the budgets.

fall calving cows almost one pound per day more protein. The grain in the budgets is for heifers under heifer replacement contracts. Provision for creep feeding is not included in the budgets. Most of the categories in Production Costs are the same for rancher owned cattle and cattle under subcontract. An explanation of the individual categories which are different was given in the Budget Explanation section of Chapter III under Production Costs.

#### Allocated Charges for Selected Resources

The allocated charges shown in Table XXVIII were computed in the same manner as the allocated charges in Table V. The land charge is based on 125 a.u.y. of grazing in Table XXVIII compared with 113 a.u.y. in Table V. Each of the allocated charges in Table XXVIII is larger than the allocated charges in Table V because, under the assumptions, a fall calving 100 cow unit requires more land, labor, and capital than does a spring calving 100 cow unit. An explanation of the methods of calculation and reasoning behind allocated charges is given in the Budget Explanation section of Chapter III under Allocated Charges for Selected Resources beginning on page 35.

#### Rancher Income Taxes

Income taxes played an important part in the comparison of spring calving, rancher owned and cattle under the managing corporation's contracts in Chapter III. Income taxes also play an important part in comparisons of subcontract cattle and rancher owned cattle. Tables XXXII and XXXIII are hypothetical examples designed to approximate income taxes for a rancher with his own cattle and for a comparable rancher with cattle under subcontract. The computations are for

TABLE XXXII

HYPOTHETICAL SUMMARY INCOME TAX COMPUTATIONS FOR RANCHERS WITH THEIR OWN CATTLE AND  
FOR RANCHERS WITH CATTLE UNDER SUBCONTRACT (500 COW UNIT: FALL CALVING)

	With Rancher Owned Cattle		With Cattle Under Subcontract	
<u>Schedule F - Income</u>				
Sales of livestock raised		\$43,705		\$54,715
<u>Schedule D - Gains from the sale of property</u>				
Net long term gain \$10,012				
50% is taxable		<u>5,006</u>		<u>00</u>
		\$48,711		\$54,715
<u>Schedule F - Expenses</u>				
Production costs	\$15,890		\$18,605	
Hired labor (above 2,000 hr.)	3,010		3,255	
Interest cost	<u>9,290</u>	\$28,190	<u>70</u>	\$21,930
Other deductions	<u>4,871</u>	<u>\$33,061</u>	<u>5,472</u>	<u>\$27,402</u>
Taxable income		15,650		\$27,313
Non-taxable income				
50% of net long term gain)		<u>5,006</u>		<u>00</u>
Less income taxes		3,173		6,853
Money for any use		<u>\$17,483</u>		<u>\$20,460</u>
Taxes per 100 cow unit		3173 ÷ 5 = \$ 635		6853 ÷ 5 = \$ 1,371

TABLE XXXIII

HYPOTHETICAL SUMMARY INCOME TAX COMPUTATIONS FOR RANCHERS WITH THEIR OWN CATTLE AND  
FOR RANCHERS WITH CATTLE UNDER SUBCONTRACT (800 COW UNIT: FALL CALVING)

	With Rancher Owned Cattle	With Cattle Under Subcontract
<u>Schedule F - Income</u>		
Sale of livestock raised	\$69,928	\$87,544
<u>Schedule D - Gains from the Sale of Property</u>		
Net long term gain \$16,019		
50% is taxable	<u>8,010</u> \$77,938	<u>00</u> \$87,544
<u>Schedule F - Expenses</u>		
Production costs	\$25,424	\$29,768
Hired labor	6,496	6,888
Interest cost	<u>14,864</u>	<u>112</u> \$36,768
Other deductions	<u>7,794</u> \$54,578	<u>8,754</u> <u>45,522</u>
Taxable income	23,360	\$42,022
Non-taxable income		
(50% of net long term gain)	<u>8,010</u> \$31,370	<u>00</u> \$42,022
Less income taxes	<u>5,455</u>	<u>13,111</u>
Money for any use	<u>\$25,915</u>	<u>\$28,911</u>
Taxes per 100 cow unit	\$ 5,455 ÷ 8 = \$ 682	\$ 13,111 ÷ 8 = \$ 1,639



ranchers with 500 and 800 cow units respectively based on the budgets of Table XXVIII and are not expected to represent all of the conditions which would be encountered in a typical ranching operation. The assumptions and computations used are the same as those used in estimating rancher income taxes in Chapter III, page 43, with two exceptions. The first exception is that ranchers who own cattle and ranchers with cattle under subcontract are assumed to borrow an amount equal to their annual capital requirement. Secondly, where they differ, the assumptions in Tables XXVIII through XXXI apply rather than those of Tables V through VIII.

Tables XXXII and XXXIII show that under the assumptions, taxes for ranchers with subcontract cattle are more than double the taxes for ranchers with their own cattle because the before tax income of a rancher with subcontract cattle is higher and the capital gains tax provisions available to ranchers with their own cattle can not be used on subcontract cattle.

#### Estimated Taxes Used in the Budgets

The budgets in Tables XXVIII through XXXI include estimated income taxes which were computed on the basis of a 500 cow unit because it approximates the typical number of cattle under subcontract to one rancher. The estimates were made using 1967 tax rate schedules and the costs and returns in each of the budgets. The estimated taxes for rancher owned fall calving cattle ranged from \$135 per 100 cow unit in 1964 (Table XXX) to \$635 per 100 cow unit in 1967 (Table XXVIII), while the estimated taxes for ranchers with fall calving cattle under subcontract ranged from \$1128 per 100 cow unit in 1964 (Table XXX) to

\$1371 per 100 cow unit in 1967 (Table XXVIII). This variation in estimated taxes reflects the changes in returns caused by changes in market prices and contract rates during this period.

The five important points relating to income taxes, beginning on page 44, are also important to the comparison of rancher owned cattle and cattle under subcontract.

The income tax variable is important in the comparison of rancher owned cattle and cattle under subcontract. Under some conditions income taxes could conceivably nullify the relative advantage in before tax returns enjoyed by subcontract cattle. This is not shown in the budgets, however, an example is shown in a later section of this chapter. A rancher who desired to compare returns with subcontract cattle for his operation with returns from his own cattle may estimate the relative income taxes for his own situation.

#### Comparisons of Budgeted Returns

The budgets (Tables XXVIII through XXXI) show a higher return to management and risk for subcontract cattle than for rancher owned fall calving cattle in each of the seven years from 1960-1961 to 1966-1967. The returns to management and risk before taxes are shown in Figure IV, while returns to management and risk after estimated taxes are shown in Figure V. For comparison purposes, Figures IV and V also contain returns to management and risk for spring calving rancher owned cattle, both

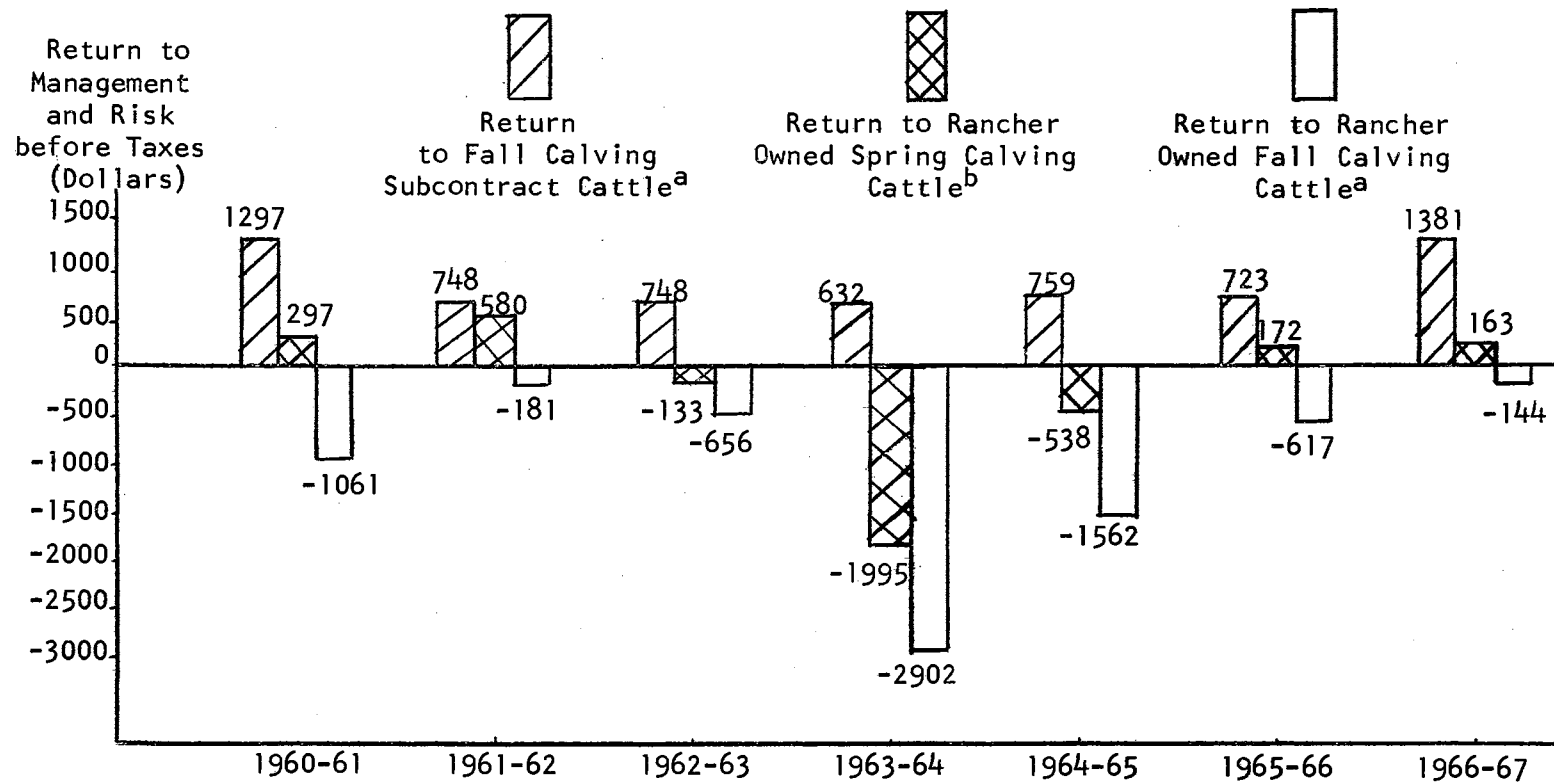


Figure IV. Northeastern Oklahoma: Return to Management and Risk Before Income Taxes, 1961-1967, (budget estimates for a 100 cow unit).

<sup>a</sup>Source: Tables XXVIII through XXXI.

<sup>b</sup>Source: Tables V through VIII.

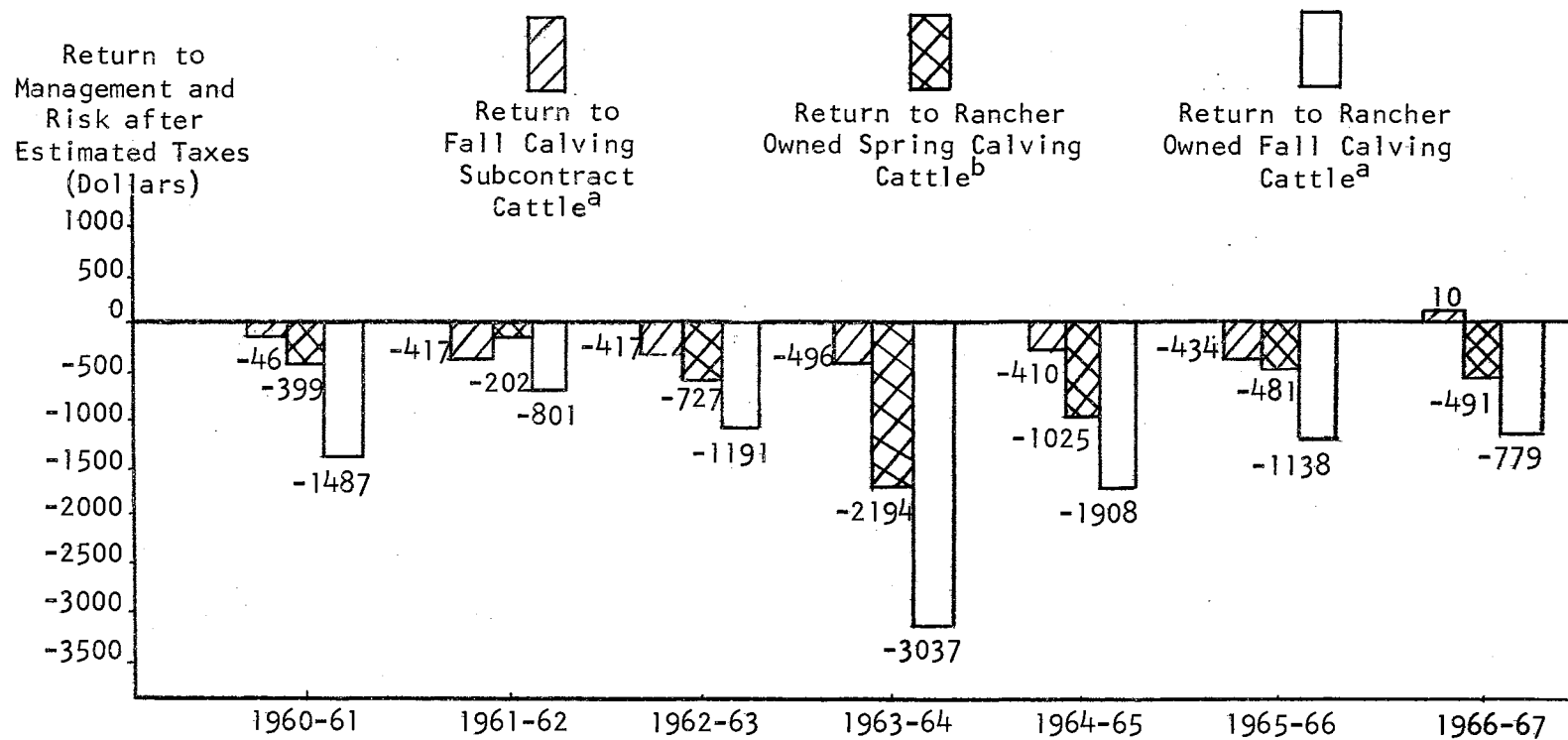


Figure V. Northeastern Oklahoma: Return to Management and Risk After Estimated Income Taxes, 1961-1967 (budget estimates for a 100 cow unit)

<sup>a</sup>Source: Tables XXVIII through XXXI.

<sup>b</sup>Source: Tables V through VIII.

before and after estimated taxes as shown in Tables V through VIII in Chapter III.<sup>10</sup> The addition of spring calving rancher owned cattle allows a comparison of subcontract cattle with both spring calving and fall calving rancher owned cattle. Research indicates that in Oklahoma, it is more common for ranchers with their own cattle to calve them in the spring, rather than in the fall.<sup>11</sup>

A comparison of Figures IV and V shows that the estimated taxes cause a considerably larger decrease in the returns for subcontract cattle than in the return for rancher owned cattle. Under the assumptions used in constructing the budgets, the returns to management and risk per 100 cow unit after taxes would have been larger for rancher owned spring calving cattle than for subcontract cattle in 1961-1962, if the subcontracts had been available at that time. In 1965-1966, the after tax returns to management and risk for rancher owned spring calving cattle and those under subcontract would have been approximately the same if the taxes for rancher owned spring calving cattle had been based on a 500 cow unit.

The differences in the returns from subcontract cattle and rancher owned cattle both before taxes and after estimated taxes are computed

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<sup>10</sup>The estimated income taxes for fall calving rancher owned and subcontract cattle are based on a 500 cow unit (Table XXXII), while the estimated taxes for spring calving rancher owned cattle are based on an 800 cow unit (Table X). A comparison of Tables IX and X shows that if the 1966-1967 estimated taxes per 100 cow unit for spring calving cattle had been based on a 500 cow unit the taxes would be reduced by \$42 per 100 cow unit (\$654-\$612 = \$42). Therefore, the after tax returns for rancher owned spring calving cattle shown in Figure V are slightly lower than they would be if the taxes were based on a 500 cow unit.

<sup>11</sup>Odell Walker and James S. Plaxico, A Survey of Production Levels and Variability of Small Grain Pastures in Oklahoma, Oklahoma Agricultural Experiment Station, Processed Series P-336, November, 1959.

in Tables XXXIV and XXXV respectively. The average advantage to cattle under subcontract, in returns to management and risk before taxes per 100 cow unit in 1961-1967 over spring calving rancher owned cattle is \$1106 (Table XXXIV). The advantage for subcontract cattle over fall calving rancher owned cattle before taxes averages \$1916 per 100 cow unit (Table XXXIV). After the estimated taxes are applied the differences are reduced to \$466 and \$1150 respectively.

#### Capital Considerations

Tables III, XXVI, and XXVII give the estimated rancher's investment for owned spring and fall calving cattle and subcontract cattle respectively. The estimated cattle investment per 100 cow unit is \$22,440 for rancher owned spring calving cattle (Table III), \$24,890 for rancher owned fall calving cattle (Table XXVI), and \$1875 for cattle under subcontract (Table XXVII). The estimated total annual capital requirements (livestock investment plus the annual capital equivalent of production costs) per 100 cow unit that are used in the budgets for these alternatives were \$23,527 for rancher owned spring calving cattle (Table V), \$26,543 for rancher owned fall calving cattle (Table XXVIII), and \$199 for cattle under subcontracts (Table XXVIII). The annual capital requirements for these alternatives were charged at a rate of 7%.

Ranchers with limited capital may find subcontracts advantageous in that they can run considerably more subcontract cattle than owned cattle if they have the other resources necessary. Several of the subcontracting ranchers interviewed indicated they planned to lease more land and obtain more subcontract cattle to expand their operations. While the after tax returns to management and risk per 100 cow unit

TABLE XXXIV

DIFFERENCES IN RETURNS TO MANAGEMENT AND RISK FOR RANCHER OWNED CATTLE AND CATTLE  
UNDER SUBCONTRACTS, BEFORE TAXES, BASED ON 100 COW UNITS

Year	Return to Management and Risk Per 100 Cow Unit, Before Taxes			Differences	
	Cattle Fall Calving <sup>a</sup>	(2) Rancher Owned Cattle Spring Calving <sup>b</sup>	Subcontract Cattle <sup>a</sup>	(3)-(1)	(3)-(2)
Dollars					
1961	-1061	297	1297	2358	1000
1962	- 181	580	748	929	168
1963	- 656	-133	748	1404	881
1964	-2902	-1995	632	3534	2627
1965	-1562	-538	759	2321	1297
1966	- 617	172	723	1340	551
1967	- 144	163	1381	1525	1218
Total	-7123	-1454	6288	13,411	7742
Averages	-1018	- 208	898	1,916	1106

<sup>a</sup>Source: Tables XXVIII through XXXI.

<sup>b</sup>Source: Tables V through VIII.

TABLE XXXV

DIFFERENCES IN RETURNS TO MANAGEMENT AND RISK FOR RANCHER OWNED CATTLE AND CATTLE  
UNDER THE SUBCONTRACTING COMPANIES CONTRACTS, AFTER ESTIMATED TAXES,  
BASED ON 100 COW UNITS

Year	Return to Management and Risk Per 100 Cow Unit, Before Taxes			Differences	
	(1) Rancher Owned Cattle Fall Calving <sup>a</sup>	(2) Rancher Owned Cattle Spring Calving <sup>b</sup>	Subcontract Cattle <sup>a</sup>	(3)-(1)	(3)-(2)
Dollars					
1961	-1487	- 390	- 46	1441	344
1962	- 801	- 199	-417	384	-218
1963	-1191	- 770	-417	774	353
1964	-3037	-2155	-496	2541	1659
1965	-1908	-1002	-410	1498	592
1966	-1138	- 472	-434	704	38
1967	- 779	- 481	10	789	491
Totals	-10262	-5469	-2210	8052	3259
Averages	- 1466	- 781	- 316	1150	466

<sup>a</sup>Source: Tables XXVIII through XXXI.

<sup>b</sup>Source: Tables V through VIII.



favor subcontract cattle only slightly, the total returns from subcontract cattle could be significantly larger if a rancher could run considerably more subcontract cattle than he could his own.

If a rancher were to expand his operations, his returns to management and risk after taxes would become more and more negative, however, the returns to management and risk would not have been negative if the allocated charges for land, labor, and capital had not been deducted. Under the conditions assumed for the budgets, returns above out-of-pocket expenses would be positive in every year budgeted. Examples in Table XXXII and XXIII (income tax computations) indicate that under the assumptions used, the subcontracting rancher has a return called "Money for any use" which had returns of \$20,460 and \$28,911 respectively.

#### Rancher Alternatives Under Subcontract

Three alternatives available to ranchers with contract cattle are discussed in Chapter V. Only one of these alternatives is available to ranchers with subcontract cattle. Ranchers with subcontracts are not asked to finance any of the clients' cattle and are asked to calve all replacements in the fall. The one alternative choice which is available to the rancher with subcontract cattle is that of using his own bulls or using client owned bulls on the subcontract cattle. The analysis of costs and returns using rancher owned versus client owned bulls on subcontract cattle is essentially the same as shown in Chapter V. A rancher who uses his own bulls under subcontract is paid at the same rate as a rancher who uses his own bulls under direct contract with

the managing corporation.<sup>13</sup> The only change from the analysis shown in Table XIX (page 76) is that calves from fall calving cows will typically weigh more than spring calves. The net advantage from using rancher owned bulls on client owned cows is \$78 per bull as shown in Table XIX. An increase in calf weights to 467 pounds increases the advantage to rancher owned bulls to \$92 per bull for the breeding of client owned cows. The returns for bulls used in breeding replacement heifers is determined by the weight gain of these heifers and would be different depending on the amount of weight gained.

#### Comparisons Under Varied Conditions

Figure II, page 47), and Figure IV, page 112, show that under the specified conditions, the returns to management and risk per 100 cow unit are larger for spring calving, rancher owned cattle than for fall calving. Therefore, the budgets for spring calving, rancher owned cattle will be used in comparing rancher owned cattle with cattle under subcontract under varied conditions.

Numerous changes were made in the budgets for spring calving rancher owned cattle and contract cattle in Chapter IV to see the effect on comparative returns to management and risk. Much of the analysis in Chapter IV can be used to compare alternative costs and returns for spring calving, rancher owned cattle with costs and returns for cattle under subcontract. For example, Table XIV (page 56) shows the effect,

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<sup>13</sup> If a rancher uses his own bulls on the contract cattle, he receives an additional  $2\frac{1}{4}\text{¢}$  per pound of calf crop for the breeding of bred yearlings, first calf heifers, and cows. On open yearlings and heifer calves an additional  $2\frac{3}{4}\text{¢}$  per pound of weight gain is paid for the breeding of these heifers.

on returns to management and risk before taxes for rancher owned cattle, caused by increasing the Oklahoma City market price by successive increments of 1¢ per pound. Changes in market price do not change the computation rates for budgets for cattle under subcontract (Table XXVIII). Therefore, Table XIV (page 56) for rancher owned cattle can be compared directly with Table XXVIII for subcontract cattle.

Weight changes for rancher owned cattle are shown in Table XVI (page 60). All of these changes for spring calving, rancher owned cattle can be compared directly with the budget for subcontract cattle in Table XXVIII. Other changes in production costs and allocated charges are discussed in Chapter IV beginning with page 54. Changes in production costs and allocated charges are discussed on page 66.

The discussion on these pages should be useful in making comparisons of returns from spring calving, rancher owned cattle and cattle under subcontract under conditions not shown in the budgets.

The changes made under the several alternatives in Chapter IV would change the relationships between returns to management and risk before taxes, from rancher owned, spring calving cattle and from subcontract cattle. Most of the changes would not be sufficient to make the returns to management and risk, before taxes, larger for rancher owned, spring calving cattle than for subcontract cattle. However, many of the changes could cause the after tax comparison to favor spring calving rancher owned cattle (for an equal number of animals under each alternative), depending on the income taxes which were relevant in the case in question.

## CHAPTER VII

### SUMMARY AND CONCLUSIONS

This study was designed to describe and evaluate two cattle contract arrangements used by ranchers in Oklahoma and fifteen other states. Of these, one is offered by a corporation whose function is the acquisition, management, and disposition of cattle for clients who invest in cattle, but are not active in their management. The corporation then places these cattle with ranchers under one year contracts which pay the ranchers on an incentive basis for the care and maintenance of the cattle.

The contract is actually between the rancher and the clients of the corporation. Records of the corporation indicate that on December 31, 1966, the five Oklahoma ranchers who had cattle under this arrangement had 6,423 breeding cattle. For the United States as a whole, the contracts covered 77,900 breeding cattle at that time.

Of the five Oklahoma ranchers, one has formed a cattle subcontracting company that places some of these same cattle with other ranchers under subcontracts which are similar in most respects to the original contract. This subcontracting company had contracts with six Oklahoma ranchers who became responsible for 3,043 of the contract cattle in the 1966-1967 contract year.

To be eligible for contracts through the corporation, a rancher

must meet three minimum requirements. He must: (1) control by ownership or long term lease a minimum land capacity to handle 300 to 400 cows the first year of the contract and be willing and able to expand to 800 or more within a few years; (2) have a net worth in excess of \$250,000; and (3) have a minimum five year history of successful cattle operation in the area in which the cattle will be located. To obtain cattle under subcontract a rancher must control a minimum land capacity to handle over 200 cows and must be adjudged financially responsible in proportion to the number of animals allocated to him.

A logical assumption in approaching the study is that the arrangement, to be successful, must provide benefits to all parties to it: the corporation, the investor clients, and the ranchers. Recognition is given to the probable benefits accruing to the corporation and its clients but the analysis itself is concerned only with the position of the ranchers.

The corporation benefits from this arrangement through a management fee which it charges the clients for managing their cattle operations. The fee ranges from 7 1/2 to 8 1/2 percent of the gross expenditures made on behalf of the client's cattle, the exact percentage depending upon the number of cattle the client has under contract. This fee is not directly affected by such things as market fluctuations, epidemics, and drought and thus provides the corporation with a rather stable income as long as there are sufficient clients to invest in cattle and ranchers to care for them.

The clients' advantage of ownership, aside from possible aesthetic values, derive from the fact that a cow or bull used for breeding is treated by the Internal Revenue Service as capital equipment. If a

client's net long-term capital gain exceeds his net short-term capital loss, only 50 percent of the excess is taxable for income tax purposes. Thus, there can be appreciable tax savings particularly for investors in high income tax brackets.

The primary objective of the study was to compare the income variability of the cattle enterprise and its returns to management and risk for typical ranchers operating respectively under the contract arrangements and with rancher owned cattle. The method used to analyze these alternatives was to develop cost and returns for each. Both complete and partial budgets were designed to represent typical ranch operations in Northeastern Oklahoma for each contract year from 1960-61 through 1966-1967. The budgets were constructed using Oklahoma City market prices for rancher owned cattle and the contract rates for cattle under contract and subcontract arrangements.

Analysis showed that for the seven years budgeted, the computed return to management and risk both before and after estimated income taxes was higher for cattle under direct contract than for cattle owned by the rancher. The returns to management and risk from cattle under the direct contract also fluctuated less from year to year than returns from rancher owned cattle.

For cattle under subcontract, the rancher returns to management and risk before income taxes were also consistently higher than those from rancher owned cattle. The returns for these subcontract cattle after estimated taxes averaged higher than the returns for rancher owned cattle although this average advantage was less than the before tax advantage.

Income taxes were found to be important variables in the

comparisons of rancher owned cattle and cattle under the two contracts. Under the assumptions used in constructing the budgets and estimating income taxes, ranchers with cattle under the two types of contracts were subject to pay twice as much income tax as for an equal number of rancher owned cattle because none of the rancher income from contract cattle benefited from the favorable income tax provisions relating to capital gains which accrue to cattle owners.

To provide a means of investigating differing conditions the budgets were modified to determine the effect of changing such variables as calf weights, market prices, and differences in management practices.

Changes in calf weights and calving percentages were found to have little effect on the relative before tax returns from rancher owned cattle and cattle under direct contract. Given the payment rates specified in the contracts, changes in market prices for cattle changed the relative returns from rancher owned cattle as compared with cattle under both the contracts and subcontracts. However, using the 1966-1967 contract rates, market prices would have to be increased between 5¢ and 6¢ per pound above the Oklahoma City prices used in the budgets to bring the before tax returns from rancher owned cattle to the level of those from cattle under direct contract. For subcontracts, the price increase to accomplish this would be between 2¢ and 3¢ per pound.

In addition to modifications in returns which may result from such factors as variation in market prices and calf weights, a rancher under direct contract has three major alternatives within the contract provisions which were analyzed in detail. The first alternative analyzed deals with the partial financing of clients' cattle by the ranchers. The corporation normally expects all ranchers to extend loans to the

clients on some of the clients cattle which are under their control. The ranchers are expected to finance these cattle as part of the consideration for the contract and to provide part of the funds for the operation. All ranchers are expected to provide financing; however, they have some control over the number of animals they will finance and the amount per head. The analysis shows that a rancher who loans this money to the clients receives an effective rate of return on his money from 18.44 percent to 11.35 percent for loans from \$40 per head to \$160 per head respectively. A rancher with limited funds to use in financing cattle can get a higher return per dollar invested with small loans per head over many head, than he can get with large loans per head over a few head. Financing clients' cattle also has some non-quantifiable advantages with particular reference to the rancher's ability to finance his own operation if, for any reason, he switches from contract operations to those with his own cattle.

The second alternative is with respect to the supplying of bulls. Under the contracts, ranchers are given the choice of using their own bulls on the contract cattle or of using bulls supplied by the clients. The analysis shows that a rancher's returns would be increased by approximately \$80 per bull if he uses his own bulls, as compared with client owned bulls.

A comparison was made of differences in returns to ranchers from calving replacements at different ages. The results showed little difference in returns whether replacements were calved at 24, 30, or 36 months.

Of the three alternatives available to ranchers with direct contracts, only one is available to ranchers with subcontracts. Ranchers



with subcontracts have the alternative of using their own bulls or bulls supplied by the subcontracting company. The analysis showed that ranchers' returns from the use of their own bulls under subcontracts would be approximately \$90 per bull higher than from the use of bulls supplied by the subcontracting company.

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## APPENDIX A

### STANDARD COW-CALF GRAZING AND MAINTENANCE CONTRACT

Following are the provisions of the contract between the clients of the managing corporation and the ranchers with whom they have contracts. The words "managing corporation" have been substituted for the name of the corporation.

#### Cattle Management Contract<sup>1</sup>

This contract is between the Rancher and various individuals who are represented by the managing corporation, to be known as Owner, and when appended to an executed Certificate of Agreement Form CA 1-65 becomes a contractual agreement.

The covenants and agreements to exist between the parties are set forth as follows:

1. Furnishing Livestock. Owner hereby agrees to transport to or continue in the physical possession (but not ownership) of Rancher at location noted in Paragraph 10 of Certificate of Agreement certain cows now owned by Owner. These cows shall be of good to choice or better quality and shall be merchantable. (Note. The word cows in this contract is understood to mean all classes of cattle which have been intentionally bred to produce calves. Age Classification is as noted on

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<sup>1</sup>This contract is copyrighted by National Cattlemen's Cooperative and is not to be reproduced either wholly or in part without permission.

Certificate of Agreement).

2. Rancher's Obligation. Rancher agrees to pasture, feed, and care for Owner's cattle in the manner customary to the area in which the cattle are located. Rancher agrees to maintain a sufficient number of ranch hands to properly carry out his management obligations. These obligations include, but are not necessarily limited to, supervision of breeding, supervision of calf birthing, veterinary service, keeping of registration records (if any), transportation, feed, salt, minerals, spray, real estate rentals (if any), labor, personal property taxes (if any), and any other expenses not specifically covered elsewhere in this contract.

3. Payment for Feed, Care and Maintenance. (a) Feed. Rancher agrees to sell and Owner agrees to buy feed consisting of pasturage, hay, salt, and protein supplement of the value stated in the Certificate of Agreement. Payment for feed shall be by the date specified. The feed shall be set aside for the exclusive use and for feeding to Owner's cattle. The parties agree that the purchase price reflects a quantity purchase and that the purchase and payment are essential elements of consideration for Rancher to enter into this agreement. (b) Care and Maintenance. Owner agrees to pay Rancher for care and related maintenance in the amount specified in the Certificate of Agreement by the date indicated.

4. Bonus or Penalty. The care and maintenance advanced in paragraph 3 (b) represents average performance. As an incentive for Rancher to produce an above average calf crop and calf weight, Owner will pay a bonus; for below average performance, Rancher will be required to pay a penalty, all dependent upon the final results achieved. The

determination of a bonus or penalty will be as follows:

At the termination of this contract, all calves produced by the herd will be gathered, sorted for sex, and weighed in accordance with the provisions stated herein. The total pounds thus obtained will be multiplied by the bonus rate stated in the Certificate of Agreement. If the amount thus computed exceeds the total of the care-maintenance payment and feed (paragraph 3), the difference will be paid as a bonus to the Rancher. If the total is less than the total of the care-maintenance payment and feed (paragraph 3), the Rancher agrees to pay the Owner the difference as a penalty.

5. Weighing Conditions. Calves will be gathered at dawn on the day of weighing and not watered or fed. Weighing will be on the nearest sealed and certified ranch, railroad, stockyard, or public scale, with no shrink. Gathering, loading, and transportation for final weighing shall be at the expense of the Rancher. Calves to be culled will be sorted off and weighed separately at time of weighing prior to weighing of main herd. Culling instructions shall be given by Owner. (As a matter of information only, not to be considered contractual, culling might be considered to affect about 10% of the calf herd and 15% of the cow herd, including dry cows.) If Rancher maintains heifer calves for the following year, transportation costs from scales to ranch will also be paid by Rancher. The exact date of weighing will be established by mutual agreement of both parties. Both parties agree and understand that due to conditions beyond their control the date of the weigh-out may or may not coincide with the termination date of this

contract as stated in the Certificate of Agreement. Both parties agree that the weights of the calves as determined on that date will be used to determine bonus or penalty payments as calculated under the provisions of paragraph 4.

6. Early Calves. Should cows be bred to produce calves in the fall or winter, it is agreed that calves shall be weaned when, in the opinion of the Rancher, they have reached the weight of approximately 475 pounds or by August 1 of contract period, whichever is sooner. Both parties agree that 475 pounds shall be the maximum average weight for contract purposes per paragraph 4 above. Should calves average more than 475 pounds when weighed at termination of this contract, bonus for such additional weight shall be paid for on the basis of 16¢ per pound. As an alternative to the foregoing, Owner has the option of weaning calves any time after August 1 of contract year, weighing them, and moving them at Owner's expense to another location, and the weight so determined shall be the contract weight per paragraph 4 above.

7. Minimum Weight. The Rancher agrees to so maintain the cows at not less than the average weight designated in the Certificate of Agreement.

8. Disease Certification. The Rancher hereby certifies that there has been no Bangs disease, or any other contagious disease on the pasture on which the cattle will graze within the past five years.

9. Dead or Missing Cows. In the event of death loss on the cows, the Rancher will produce the brand on the hide. In the event of animals missing where no brand can be produced, the indemnity in the amount set forth in the Certificate of Agreement for each missing cow will be paid to the Owner. Further, other provisions of the contract notwithstanding

all losses over 3% of the original cow herd will be paid by the Rancher to the Owner as an indemnity at the specified rate per head. These indemnities shall be deducted from the final settlement after said settlement has first been adjusted for bonuses or penalties as provided in the paragraphs preceding.

10. Acreage and Water Guarantee. Rancher represents that he will at all times guarantee a sufficient supply of water and sufficient pasture to carry out the terms of this contract, even in the event of drought, and guarantees a minimum acreage of pasture per cow as stated in the Certificate of Agreement of this contract.

11. Keeping of Records. The Rancher hereby agrees to submit a monthly report to the Owner on forms provided by the Owner for that purpose. Rancher also agrees to submit postcard reports on cards provided by the Owner for the purpose of recording important events at the time they occur, i.e. deaths, sales, thefts, catastrophes, etc.

12. Round-up and Inventory. Once in the spring and once in the fall at dates mutually agreed on between Rancher and Owner, the Rancher will furnish labor to gather cattle and hold a round-up and furnish a physical brand count and inventory.

13. Calf Care, Penalty. Rancher will pay a penalty of \$2.00 per head for any spring calf over two months old that is not vaccinated for Blackleg and Malignant Edema, dehorned, castrated, and branded by July 1 of the contract year. Any calf too young to work at spring round-up will be vaccinated, dehorned, castrated, and branded in the fall prior to termination date of his contract. At birth and prior to castration, bull calves are normally traded for heifer calves of equivalent value. At branding time, Rancher agrees to affix new Owner's brand to animals

that have been steered. If Rancher is providing financing on this contract, Owner agrees, if required, to substitute heifer calves thus received in trades as part of the collateral for the loan.

14. Reports Bonus. A bonus of \$1.00 per cow will be paid at the end of this contract by the Owner if in the sole judgment of the Owner every point of this contract has been adhered to, particularly the reports of paragraphs 11 and 12.

15. Brand Registration. Rancher agrees to handle details of registering holding brands in the State or States in which the cattle shall be pastured, if requested to do so by Owner, but all fees connected with such registration shall be paid by Owner. Owner agrees to furnish branding irons at Owner's expense.

16. Vaccination. All heifer calves will be vaccinated for Bangs prior to termination date of this contract; cows will be vaccinated annually for Leptospirosis. Cost of these vaccinations to be at the Rancher's expense.

17. Exact Number. Both parties understand and agree that the number of animals stipulated in this contract may vary due to possible death losses and other causes during the period preceding the term of this contract and, should this be the case, contract shall be adjusted by endorsement within sixty (60) days of contract date.

18. Animals Sent to Market. After July 1 of the contract year the Owner has the privilege of sending all dries to market. There will be no compensation for these animals. Owner will be given credit at the rate of \$2.00 per head per month for unused summer pasture.

19. Calf Crop Option. The Owner has the option of giving the Rancher the calf crop, in which case the Rancher shall rebate to the



Owner all fees received under this contract, and neither Rancher nor Owner shall have any further obligations as to bonuses or penalties.

20. Termination Provision. This agreement shall terminate automatically, unless the Owner shall by written notice elect otherwise, in the event that the Rancher dies, becomes bankrupt or insolvent or makes any assignment for the benefit of creditors, or attempts to sell, mortgage, pledge, remove, dispose of or injure any cattle belonging to the Owner; or if any distress, execution of attachment is levied upon the cattle or any part thereof.

In addition, Owner shall have the right to terminate this agreement upon three (3) days written notice to the Rancher, if the Rancher violates any provision of this contract or becomes involved in any financial difficulty, which in the opinion of the Rancher's banking connection may impair his financial responsibility.

Upon the termination of this agreement under this clause, Rancher shall forthwith deliver the Owner's cattle in accordance with his directions and Owner is hereby authorized to enter upon the ranch or any premises where the cattle or any part thereof may be found, and to take possession of, remove such cattle, and, in addition to possession of such cattle, Owner shall be entitled to a return on such maintenance funds and feed that may have been advanced that are in excess of the amount reasonably due and payable on the date of termination.

21. Rancher an Independent Contractor. It is agreed that Rancher is an independent contractor and not the agent or employee of Owner. Rancher agrees to hold Owner harmless if any claim should be asserted (a) for FICA, Income Withholding, Unemployment and other taxes; (b) employee claims under any Workmen's Compensation Acts or arising out of

the common law employer-employee relationship; or (c) by third persons because of or growing out of the actions or handling of said cattle while in Rancher's custody.

22. Financing. If the cattle are financed by the Rancher, Rancher agrees to extend for one (1) year Owner's loan secured by the described cattle. The amount of the loan may or may not have been reduced by payments made prior to the effective date of this contract. One (1) year's interest on the principal balance remaining at the beginning of contract term, shall be paid in advance within ten (10) days of the effective date of this contract. (Applicable only if so indicated on Certificate of Agreement.)

23. Bulls. Owner agrees to furnish bulls or bull service, Rancher agrees to turn out bulls by the stated time and in the proper number for efficient breeding, to move them around as requested, and in general to supervise the breeding with reasonable diligence.

24. Sale of Cattle Under Contract. It is recognized by Rancher that circumstances may arise (but are not likely to) which could require that the entire herd on this contract be sold prior to the contract termination date. Should this be the case, Rancher agrees to negotiate in good faith with Owner to cancel this contract in return for a settlement satisfactory to Rancher. Such settlement should generally be based on Rancher receiving his pro-rated maintenance fees to date of cancellation, plus 33 1/3% additional as a penalty to compensate for extra expense of winter feeding. This formula is not binding on either party but may be used as a guide in the event cancellation negotiation should be necessary. Existing mortgages held by Rancher would also be paid prior to date of contract cancellation. Also, in consideration of any

settlement accepted, Rancher shall have a first refusal option to purchase the animals for the same price and under the same terms and conditions of any bona fide offer received and considered acceptable by Owner.

25. Advance Payment. In the event weather and feed conditions dictate, a substantial portion of the payment in paragraph 3 will be made during the fall harvest season of the current year. Both parties agree that this decision will be left to the judgment of the managing agent, or any bank or lending agency involved.

APPENDIX B, TABLE XXXVI

COMPLETE BUDGETS OF ESTIMATED COSTS AND RETURNS FROM ALTERNATIVE BEEF COW PROGRAMS ON IMPROVED  
PASTURE IN SOUTHEASTERN OKLAHOMA: SPRING CALF; FALL SELL (100 COW UNITS)

October 15, 1966 to October 15, 1967

<u>Production and Sales</u>		<u>Rancher Owned</u>		<u>Under Contract</u>	
Bred Yearling's calves	10 hd. x 365 lbs. at 25.42¢	928	at 23.25¢	849	
Steer calves	39 hd. x 425 lbs. at 26.66¢	4,419	at 21.25¢	3,522	
Heifer calves	24 hd. x 405 lbs. at 23.38¢	2,273	38 hd. at 21.25¢	3,270	
Cull cows	12 hd. x 950 lbs. at 16.12¢	1,838		---	
Cull heifers	2 hd. x 795 lbs. at 24.83¢	395		---	
Heifer replacement contract	14 hd. x 390 lbs. gain each	---	at 17.50¢	956	
Bull service fee	2¢/lb. on calves; 2 3/4¢/lb. on yrkg.	---		951	
Bonus for financing	1¢/lb. on financed cattle	---		205	
Reports bonus	\$1/hd. on cows \$.50/hd. on hfr.	---	9,853	107	9,860
<u>Production Costs*</u>					
Hay at \$18/ton <sup>a</sup>	( 7.8 tons)	140		140	
Protein at \$76/ton <sup>a</sup>	(13.9 tons)	1,058		1,058	
Grain for replacement heifers at \$42/ton <sup>b</sup>	( 5.2 tons)	218		218	
Mineral and salt		208		208	
Veterinary and medicine		143		143	
Bull depreciation and death loss	(5 bulls)	137		137	
Death loss	(2 cows at \$190)	380		---	
Marketing costs <sup>a</sup>		204		107	
Shrink		306		145	
Property taxes <sup>a</sup>		209		209	
Miscellaneous <sup>a</sup>		304	3,307	304	2,669
<u>Allocated Charges for Selected Resources</u>					
Land at 3%	1,831				
Fertilizer <sup>c</sup> (10-20-10)	990				
Mowing <sup>c</sup>	426	3,247		3,247	
Labor at \$1.40/hr.	864 hr.	1,210	899 hr.	1,259	
Annual capital	\$23,993 at 7%	1,680	6,137	418 at 7%	29
					4,535
Return to management and risk before taxes		\$ 408		\$2,656	

\* Information not footnoted under Production Costs was computed from information received from contract ranchers.

<sup>a</sup> Cecil D. Maynard and Odell E. Walker, "Costs and Returns to Beef Cow-Calf Systems," Oklahoma State University Extension Facts, Page 112.

<sup>b</sup> L. Smithson, S. A. Ewing, R. E. Renbarger and L. S. Pope, Effect of High or Low Winter Feed Levels in Alternate Years on Growth and Development of Beef Heifers, Oklahoma Agricultural Experiment Station, Misc. Pub. MP-74, June 1964, pp. 78-83.

<sup>c</sup> This information taken from unpublished research of the Department of Agricultural Economics at Oklahoma State University.

APPENDIX B, TABLE XXXVII

COMPLETE BUDGETS OF ESTIMATED COSTS AND RETURNS FROM ALTERNATIVE BEEF COW PROGRAMS IN THE  
OKLAHOMA PANHANDLE: SPRING CALF: FALL SELL (100 COW UNITS)

October 15, 1966 to October 15, 1967

<u>Production and Sales</u>		<u>Rancher Owned</u>		<u>Under Contract</u>	
Bred yearling's calves	10 hd. x 407 lbs. at 25.02¢	1,018	at 23.25¢	946	
Steer Calves	39 hd. x 467 lbs. at 26.16¢	4,765	at 21.25¢	3,870	
Heifer calves	24 hd. x 447 lbs. at 22.88¢	2,455	38 hd. at 21.25¢	3,610	
Cull cows	12 hd. x 950 lbs. at 16.12¢	1,838		---	
Cull heifers	2 hd. x 837 lbs. at 24.83¢	416		---	
Heifer replacement contract	14 hd. x 390 lbs. gain each	---		956	
Bull service fee	2¢/lb. on calves; 2 3/4¢/lb. on yrlg.	---		1,034	
Bonus for financing	1¢/lb. on financed cattle	---		224	
Reports bonus	\$1/hd. on cows; \$.50/hd. on hfr.	---	10,492	107	10,747
<u>Production Costs</u> <sup>*</sup>					
Hay at \$18/ton <sup>a</sup>	(10.6 tons)	190		190	
Protein at \$76/ton <sup>a</sup>	(14.5 tons)	1,100		1,100	
Grain for replacement heifers at \$42/ton <sup>b</sup>	( 5.2 tons)	218		218	
Mineral and salt		150		150	
Veterinary and medicine		143		143	
Bull depreciation and death loss	(5 bulls)	137		137	
Death loss	(2 cows at \$190)	380		---	
Marketing costs <sup>a</sup>		204		107	
Shrink		329		160	
Property taxes <sup>a</sup>		209		209	
Miscellaneous <sup>a</sup>		304	3,364	304	2,718
<u>Allocated Charges for Selected Resources</u>					
Land at 3%		4,068		4,068	
Labor at \$1.40 per hour	730 hr.	1,022	765 hr.	1,071	
Annual capital	\$23,525 at 7%	1,647	6,737	-3	5,136
Return to management and risk before taxes		\$ 391		\$ 2,893	

\* Information not footnoted under Production Costs was computed from information received from contract ranchers.

<sup>a</sup> Cecil D. Maynard and Odell L. Walker, "Costs and Returns to Beef Cow-Calf Systems," Oklahoma State University Extension Facts, Page 112.

<sup>b</sup> L. Smithson, S. A. Ewing, R. E. Renbarger and L. S. Pope, Effect of High or Low Winter Feed Levels in Alternate Years on Growth and Development of Beef Heifers, Oklahoma Agricultural Experiment Station, Misc. Pub. MP-74, June 1964, pp. 78-83.

Appendix B, TABLE XXXVIII

DETERMINATION OF THE GRAZING REQUIREMENTS OF REPLACEMENT HEIFERS  
ON THE BASIS OF THEIR YEARLY T.D.N. REQUIREMENTS

	Yearly T.D.N. requirements (lbs.)	T.D.N. require- ment supplied by feeds (lbs.)	T.D.N. requirement that must come from pasture (lbs.)	T.D.N. from grazing as percentage of a 1000 pound cows with calf
<u>Replacements calving at 24 months</u>				
Under Heifer Replacement Contracts	3125	544	2581	$\frac{2581}{4260} = .61$
Under Bred Yearling Contracts	5080	643	4437	$\frac{4437^*}{4913} = .90$
<u>Replacements calving at 30 and 36 months</u>				
Under Heifer Replacement Contracts	3125	196	2929	$\frac{2929}{4260} = .69$
Under Open Yearling Contracts	3425	190	3235	$\frac{3235}{4260} = .76$
Under First Calf Heifer Contracts				
30 month calving	5435	458	4977	1.0 by definition of a.u.y.
36 month calving	5155	306	4849	1.0 by definition of a.u.y.
Mature Cows	4600	340	4260	1.0 by definition of a.u.y.

\*The T.D.N. requirement of the heifers calving at 24 months under bred yearling contracts is compared with T.D.N. requirement of 1000 pound heifers under first calf heifer contracts calving at 30 and 36 months.

## VITA

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Master of Science

Thesis: AN ECONOMIC ANALYSIS OF TWO BEEF CATTLE CONTRACT ARRANGEMENTS  
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