

THE EFFECTS OF FEDERAL INCOME TAXES
ON ARIZONA CATTLE RANCH INVESTMENTS

by

Jimmie R. Gatz

A thesis Submitted to the Faculty of the
DEPARTMENT OF AGRICULTURAL ECONOMICS
In Partial Fulfillment of the Requirements
For the Degree of
MASTER OF SCIENCE
In the Graduate College
THE UNIVERSITY OF ARIZONA

1 9 6 6

STATEMENT BY AUTHOR

This thesis has been submitted in partial fulfillment of requirements for an advanced degree at The University of Arizona and is deposited in the University Library to be made available to borrowers under rules of the Library.

Brief quotations from this thesis are allowable without special permission, provided that accurate acknowledgment of source is made. Requests for permission for extended quotation from or reproduction of this manuscript in whole or in part may be granted by the head of the major department or the Dean of the Graduate College when in his judgment the proposed use of the material is in the interests of scholarship. In all other instances, however, permission must be obtained from the author.

SIGNED: Jimmie R Gatz

APPROVAL BY THESIS DIRECTOR

This thesis has been approved on the date shown below:

William E. Martin

William E. Martin
Associate Professor of
Agricultural Economics

Dec 17, 1965

Date

ACKNOWLEDGMENTS

The author wishes to express his sincere appreciation to Dr. William E. Martin for his patience and assistance during the preparation of this thesis.

Thanks are extended to Dr. Thomas Stubblefield, Dr. Robert Young, and Dr. Hollis Dixon for their advice during the project and their review of the rough drafts.

The financial assistance of the Bureau of Land Management of the Department of Interior and the Forest Service of the Department of Agriculture is gratefully acknowledged.

Thanks also go to my wife, Ruth Ann, for the author's undertaking and completing of this endeavor.

TABLE OF CONTENTS

	Page
LIST OF TABLES	vi
LIST OF ILLUSTRATIONS	ix
ABSTRACT	x
 Chapter	
I THE PROBLEM	1
Introduction	1
Income Tax Budgeting	2
Objectives	4
Data	4
Method of Analysis	6
Previous Work	6
II INSTITUTIONAL FRAMEWORK	8
Tax Law Variations	8
Individual Variations	9
Business Variations	10
III TAX BUDGETING PROCEDURES	14
Determination of Sale Prices	14
Depreciation	19
Net Capital Expenditures	26
Investment Credit	28
Recapture of Investment Credit	31
Yearly Taxable Income	31
Taxable Gains Upon Sale of the Ranch	35
Costs and Returns from Buying and Selling Transactions	35
Summary	41
IV PRESENT VALUES OF RANCH COSTS AND RETURNS UNDER VARIOUS ASSUMPTIONS AND BUDGETING PROCEDURES	45
Present Values	45
Standard Budgets	46
Typical Budgets	46
Adapted Budgets	48

TABLE OF CONTENTS--Continued

Chapter	Page
Operating Returns of the Presently Owned Ranches	48
Rates of Returns Before and After Taxes from Operating the Presently Owned Ranches	52
Selling Costs of the Presently Owned Ranches	52
Rates of Returns After Taxes from Operating and Selling the Presently Owned Ranches	55
Costs of Buying the Ranches	57
Operating Returns After Buying the Ranches	59
Comparison of Operating Returns After Taxes to Present Owners and to New Owners	63
Costs and Returns From Selling the Ranches After Buying and Operating the Ranches	65
Total Costs and Returns After Taxes from Buying, Operating, and Selling the Ranches	68
Rates of Returns After Taxes from Buying, Operating and Selling the Ranches	70
V SUMMARY	72
Present Values	72
Rates of Returns	74
Optimum Length of Ownership Period	75
Tax Savings	75
Tax Advantages	79
APPENDIX	
DATA SOURCES AND AREA CHARACTERISTICS	81
Standard Budgeting Procedure	81
General Description of the Area	83
Ranch Characteristics	83

LIST OF TABLES

Table	Page
1. Total Purchase and Sale Prices of All Assets for the 200 AU Ranch	16
2. Sale Prices of the Purchased Cows for the 200 AU Ranch . . .	20
3. Depreciation for Tax Purposes for the 200 AU Ranch	22
4. Depreciation for Tax Purposes of the Purchased Cows for the 200 AU Ranch	27
5. Net Capital Expenditures for the 200 AU Ranch	29
6. Investment Credit for the 200 AU Ranch	30
7. Recapture of Investment Credit for the 200 AU Ranch	32
8. Computation of Taxable Income from Operation of the 200 AU Ranch	33
9. Taxable Gain on Assets Upon Sale of the 200 AU Ranch	36
10. Values at Time of Sale of Future Interest Payments to be Received for the 200 AU Ranch	42
11. Costs of Buying and Selling the 200 AU Ranch	43
12. Taxes or Tax Savings Resulting from Buying and Selling of the 200 AU Ranch	44
13. Values Unaccounted for by the Standard Budgets	47
14. Present Values of Costs and Returns Before and After Taxes from Operating Presently Owned Ranches	49
15. Rates of Returns Before and After Taxes from Operating the Presently Owned Ranches	52
16. Present Values of Selling Costs of the Presently Owned Ranches	54
17. Present Values of Flows of Costs and Returns After Taxes to Present Owners from Ranches Operated and Sold After Various Numbers of Additional Years	56

LIST OF TABLES--Continued.

Table	Page
18. Rates of Returns After Taxes from Operating and Selling the Presently Owned Ranches	57
19. Present Values of Costs and Returns of Buying	58
20. Present Values of Flows of Costs and Returns Before Taxes from Operating for Various Numbers of Years after Purchase of the 200 AU Ranch	60
21. Present Values of Flows of Taxes Saved on Operating for Various Numbers of Years after Purchase of the Ranches	62
22. Present Values of Flows of Returns After Taxes from Operating for Various Numbers of Years after Purchase of the Ranches	63
23. Net Advantage of the Ranches Purchased at the Present Over the Presently Owned Ranches	64
24. Present Values of Costs and Returns Before Taxes of Selling the Ranches after Buying and Operating the Ranches	66
25. Present Values of Taxes from Selling the Ranches after Buying and Operating the Ranches	67
26. Present Values of Returns After Taxes from Selling the Ranches after Buying and Operating the Ranches	68
27. Total Present Values After Taxes of the Ranches after Buying, Operating, and Selling the Ranches	69
28. Rates of Returns After Taxes from Buying, Operating and Selling the Ranches	71
29. Total Present Values Separated into Returns Before Taxes and into Tax Savings from the Presently Owned 200 AU Ranch	76
30. Total Present Values Separated into Returns Before Taxes and into Tax Savings from the Presently Owned 700 AU Ranch	77

LIST OF TABLES--Continued.

Table	Page
31. Total Present Values Separated into Taxes Saved and Returns Before Taxes from Purchased Ranches	79
32. Livestock Inventory and Investment for Standard and Tax Budgets, 1965	85
33. Average Investment, Annual Depreciation, and Repairs of Building and Improvements for Standard Budgets, Typical and as Adapted for Tax Budgets, 1965	86
34. Average Investment, Annual Depreciation, and Repairs and Operating Expenses of Machinery and Equipment for Standard Budgets, 1965	88
35. Land Inventories for Standard and Tax Budgets, 1965	89
36. Total Investment in the Ranches for Standard Budgets, Typical and as Adapted for Tax Budgets, 1965	89
37. Forage and Feed Use and Feed Costs, 1965	91
38. Labor Use by Type of Labor and Cost per Ranch for Standard Budgets, Typical and as Adapted for Tax Budgets, 1965	92
39. Operating Costs and Expenses for Standard Budgets, Typical and as Adapted for Tax Budgets, 1965	93
40. Production and Sales of Cattle and Other Income for Standard Budgets, 1965	96
41. Ranch Income and Expenses Summary for Standard Budgets, Typical and as Adapted for Tax Budgets, 1965	97

LIST OF ILLUSTRATIONS

Figure	Page
State of Arizona, Showing Location of the Study Area Within the Southwest Desert Area	82

ABSTRACT OF THESIS

THE EFFECTS OF FEDERAL INCOME TAXES
ON ARIZONA CATTLE RANCH INVESTMENTS

by

Jimmie R. Gatz

Past studies have indicated that returns from beef production are not enough to economically justify the current prices of cattle ranches. It is hypothesized that the effects of federal income taxes help explain the discrepancy.

Standard economic budgets are used to develop budgets incorporating the federal income tax code. Buying and selling costs of the ranches are estimated and included in the analysis.

Taxes and tax savings from ownership of ranches are based on the highest tax rate in effect in 1965, seventy percent, in order to demonstrate the largest possible tax effect.

Returns to capital and management after taxes, under alternative assumptions, are discounted to present values. Present values of returns before taxes, and of returns after taxes, and current market prices of ranches are compared.

Rates of return on capital to capital and management under alternative assumptions are also presented. Rates of returns before and after taxes are compared to the market rate of interest before and after taxes.

Tax savings can be substantial on ranches which yield negative incomes for tax purposes. This was the case for the 200 animal unit ranch under most assumptions examined. Tax savings on the 700 animal unit ranch were possible only in the years following the purchase of the ranch by a new owner.

However, tax savings were not large enough to justify current market prices for ranches in face of the low net income from beef production under any of the conditions examined.

CHAPTER I

THE PROBLEM

Introduction

Arizona cattle ranching, like any other business, must have incentives in order to attract capital. Usually, return on investment is the primary source of attraction for capital. A recent study (Martin and Goss, 1963)¹ has shown that returns are negative for all sizes and types of Arizona ranches if a charge is made for capital at its opportunity cost and if beef production is considered as the only source of returns. However, funds continue to be invested in ranches at a high and apparently uneconomical level. Returns in addition to those from beef production must be attracting capital to the Arizona cattle ranch industry. The difference between the beef producing value and the sales value of a ranch must be the value of these additional returns.

There may be several sources of returns other than production of beef. Returns from land appreciation are possible as ranch prices go up. A study entitled The Marginal Value of Public Grazing Permits to Arizona Ranchers by Gene Jefferies (1964) concluded that there is "... no indication of a positive trend in ranch prices over the time

1. See Literature Cited for complete references.

period included in the study." His information was taken from bona-fide ranch sales over the seven-year period from 1957 through 1963. However, one cannot conclude that no speculative value exists in the present prices just because they are not presently increasing. The expectation of future land price appreciation may cause ranch owners to retain the businesses as long as cash income exceeds cash expenses, especially if they lack the ability to invest their capital profitably elsewhere. Speculation could still be holding ranch prices above the beef production values.

Returns of a nonprofit-motive nature may also be a source of inflation in ranch prices. Nonprofit motive returns could include ranching as a way of life, ranching as a prestige symbol, and ranching as a retirement occupation. Returns of this nature are not easily put into economic terms.

One other possible source of economic returns exists. There may be savings on personal federal income taxes resulting from ownership of Arizona ranches. This alternative is the focus of this study.

Income Tax Budgeting

The standard type of economic budget uses the "representative" or "typical" firm to compute estimated returns to labor, capital, and management. No provision is made in the standard budgets for computing the income taxes that will have to be paid from these returns. It is here asserted that maximum returns after taxes is the primary economic objective of entrepreneurial enterprise. Personal disposable income is

defined as the return to labor, capital, and management minus federal income taxes. Standard budgeting procedures of the past have not included income taxes.

Tax laws have presented problems to the designers of standard budgets. Federal income taxes are levied against the incomes of individuals. Also, only the portion of the taxes which springs from the income generated by a specific enterprise should be charged against that enterprise. Thus, income tax liabilities are dependent upon varying characteristics of both the business and the owner of the business.

Individual variations are other incomes, filing status (single, married filing joint return, married filing separately), number of exemptions, deductions (medical, contributions, etc.), and adjustments (sickpay, moving expenses, retirement funds, etc.).

Business variations affecting taxes are form of business (single proprietor, partnership, or corporation), method of accounting (cash or accrual), tax accounting procedures (capital or ordinary income; additional twenty percent first year, straight line, declining balance, and sum of years digits depreciation; and investment credit). Other variations are method of initiating and terminating businesses (death, gift, installment sales, etc.), method of business operations (method of stocking ranches, rate of culling herds), and length of time businesses have been and will be owned.

These variations and the complexity of the tax code have caused income taxes to be largely ignored by economists. However, problems are not solved by ignoring them. The results of this study indicate that

income tax effects are significant enough to warrant extra effort in the area of income tax budgeting.

Objectives

As stated in the introduction, past studies have indicated that returns from beef production are not enough to economically justify the current prices of cattle ranches. Ranch investors are assumed to be economically rational. It is therefore hypothesized that the effects of federal income taxes may help explain the discrepancy.

The specific objectives of this study are:

1. To determine present values of ranches before federal income taxes according to previously designed standard budgets.
2. To determine present values of ranches after federal income taxes using the standard budgets described above.
3. To determine present values of ranches after federal income taxes using tax budgeting methods.
4. To determine the effects of the buying and selling operations on ranch values.
5. To determine the rate of return after taxes on capital invested in ranches.
6. To determine if there is an optimum length of time for owning a ranch.

Data

Typical Standard Budgets

The budgets basic to this study were developed by Goss and Martin (1962). They are of standard form because no income taxes are

included, and because income and expenses are assumed to be the same amount every year. The budgets are typical because only those items or practices which appeared in one-half of the observations were included. The appendix of this thesis presents selected parts of their study and budgets of the same format as used in their study. Budgets for two of the ranch sizes, 200 and 700 animal units, in the Bureau of Land Management Arizona Area Six (section 15 year-long range) were used. Goss and Martin's "Case One", where BLM lands are 100% of leased lands, was used. Differences in Case One and Case Two appeared to be insignificant for the purposes of this tax study.

The original budgets were altered in the following ways. Beef cattle prices used are the average prices at the Phoenix market from 1957 through 1964 rather than projected prices. Grazing fees were raised to thirty cents per animal unit month for federal range permits and forty cents per animal unit month for state land to reflect current rates. For convenience, depreciation was recalculated so that the useful lives of assets were changed to an even number of years. (Useful lives of even numbers of years caused typical assets to depreciate out at the ends of years rather than in the middles of years.) Corrections were made of several errors found in the original budgets.

Adapted Standard Budgets

The adapted budget assumes that the owner (who has a relatively large outside income) is not the operator. Therefore, the value of a house and a \$5,000 salary for a manager were added to the budgets. Also, administrative expenses include the cost of the owner's bookkeeper and

tax accountant, as well as letters, phone calls, and business trips to the ranch. Administrative costs may be assumed to be three to five percent of gross income, according to local professional ranch managers. Five percent was used. The revised budgets are shown in the appendix.

Method of Analysis

A budgeting approach is used. Tax budgets are developed from the adapted standard budgets. All costs and returns are discounted to present values.

The alternative situations analyzed are as follows:

1. Constant flows of incomes computed from standard "before tax" economic budgets. Since there is no ranch sale, the flow continues into infinity.
2. Constant flows of incomes from case one above after taxes have been deducted.
3. Constant flows of incomes from case two above limited from one up to fifteen years because of a ranch sale. The income flows include returns from selling the ranch.
4. Costs of buying ranches added to fluctuating flows of income for one to fifteen years as computed from "tax" budgets. Returns from selling the ranches are also included.

These situations were compared to determine the opportunities for tax shelters under various assumptions.

Previous Work

Previous studies related to the problem are presented in chronological order below.

A study (Butters, J. K., et al., 1952) of individuals in high tax brackets investing in the stock market in investments promising capital-gains income rather than ordinary income has been published.

In "Some Effects of Income Tax Regulations of Farming Efficiency" (1952) Beneke emphasizes the effects of income variability, the allocation of costs and income between accounting periods, capital-gain provisions, increases in leisure, and income in kind.

Frederick D. Stocker (1955) examined some effects of federal income taxes on the level and distribution of farm income.

A study by R. O. Wheeler (1959) concluded that the "net tax benefit" was of sufficient strength in many situations to attract resources from outside the agricultural economy into agriculture and to shift the use of resources within the firm to conform to certain tax advantages. His approach did not utilize empirical ranch data or specifically demonstrate how federal income taxes could be included as a variable factor in calculating the present values of firms.

The most recent and closely related work of the effects on agriculture of income taxes is that of Dean and Carter (1962). Their published work presents a theoretical analysis and an empirical discussion. They plan to present a detailed mathematical demonstration which is not yet published. No study was found which attempted to quantify the effects of income taxes on empirically budgeted firms.

CHAPTER II

INSTITUTIONAL FRAMEWORK

Tax Law Variations

The Internal Revenue Tax Code presents problems to economists in three different ways: constant changes, particular facts of specific cases, and technicalities of the law.

Complete revisions of the Code are infrequent. However, it is frequently changed through congressional amendments and repeals. Changes in administrative and judicial interpretations and rulings continually come from the Treasury and the courts.

The Internal Revenue Tax Code as of January, 1965, is assumed to be applicable for the time span considered in this study. This date was chosen because the tax rates for the preceding year applied for only that year. The tax rate in effect in 1965 applies until new legislation is passed. This assumption is in line with the objective to observe the rationale of the decision to invest in ranches at existing levels of ranch incomes, expenses, and prices. The rationale of keeping present investments in ranches will also be examined. The assumption does not permit checking the rationality of pre-1965 investments.

The tax laws passed in 1962 and 1964 may have had the effect of causing investment decisions which were rational before their passage to be irrational after their passage. The tax rate reduction diminishes

the advantage of deductible ranch losses to taxpayers in high brackets. Recapture, upon sale of assets, of excessive depreciation as required by recent tax laws reduces capital gains possibilities. Mandatory computation of interest on installment sales increases ordinary gain. On the other hand, ranches showing positive taxable incomes may be of greater value than before the tax rate reduction.

Individual Variations

Any taxable profits or losses stemming from ranch ownership will be taxed at the highest marginal tax rate applicable to the total income of the investors. Any tax deductible ranch loss does not put such an investor's nonranch taxable income in lower brackets. That income not offset by ranch losses is still taxed at the lower rates. That income which is offset by ranch losses is just not taxed. Any investor with a nonranch income large enough to offset all ranch taxable losses in the 70% bracket would save 70 cents of taxes for every taxable loss dollar whereas investors with smaller nonranch taxable incomes would save less. Seventy percent is the highest tax bracket as of January, 1965.

It was assumed that the investors' nonranch taxable incomes were large enough to offset all ranch losses in the 70% bracket. This requires annual nonranch taxable incomes of at least \$225,000 for the investors in 200 animal unit ranches and at least \$250,000 for the investors in 700 animal unit ranches (assuming married taxpayers filing joint returns). If returns are not increased enough in this most extreme case to return invested capital the going rate of interest, there is no point in examining the effects under lower tax rates.

It was assumed that typical taxpaying ranch investors are married and file joint returns. Seldom is any tax advantage gained by married persons filing separate returns.

The variations that exist in exemptions, deductions, and adjustments, are avoided by assuming that the nonranch incomes are used to offset them. Taxable income as used in this study is the amount of income subject to tax after exemptions, deductions, and adjustments have been taken on income.

Business Variations

Form of Business

It was assumed that the ranches were owned by individuals and not organized as partnerships or corporations. Individuals are taxed on their total taxable incomes. Partnerships, as such, pay no taxes. Partnerships file returns which show the incomes on which the partners are taxed. Owners of corporations are taxed only on salaries or dividends actually paid or credited to them by the corporation. Under Subchapter S of the Tax Code certain closely held business corporations may elect to be taxed substantially as partnerships.

For individuals, partnerships, and Subchapter S corporations losses will offset outside incomes. Partnerships and Subchapter S corporations split the tax effects among the partners. This is not true for corporations. Tax laws do not permit the offset of corporate losses against the personal incomes of stockholders. Except for the carryover loss provisions, no tax benefits may ever be realized by a corporate tax loss. Examination of the standard budgets indicated a substantial

tax loss. Thus, logic would dictate the use of the individual form of business when examining the possibilities of tax savings.

Because of the assumption of the sizes of the nonranch incomes of the investors, it is further assumed that the investors do not operate the ranches. Managers are hired and furnished houses.

The preceding assumptions and addition of the operators' expenses to the standard budgets, which implicitly assume individual proprietorships, permit comparison of the standard budgets to the tax budgets.

Method of Accounting

The cash method of tax accounting was used. The cash basis may save taxes when capital gains are applied on the sale of raised breeding livestock. They would have no cost basis, the cost of raising having been deducted as expenses against ordinary income. When raised breeding and draft animals are sold, the total sales price is taxable profit, but is taxed at capital gains rates. This consideration weighs heavily in favor of the cash method for taxpayers in the upper tax brackets.

Method of Tax Accounting Procedures

A choice is available to taxpayers in some tax accounting procedures. Additional twenty percent first year depreciation was taken where applicable. The declining balance method was used for figuring ordinary depreciation. Double the straight line rates were used for assets purchased new and one and one-half times the straight line rates were used for assets not new when purchased. These fast depreciation methods were used, in spite of the recapture rules, to enhance the time value of money. All tax procedures were followed as required by tax laws (Internal Revenue Service, 1965).

Method of Initiating and Terminating the Businesses

Implicit assumptions for the standard budgets are that the ranches are already in existence, being normally operated, and not being transferred from one owner to another or at least incurring no transfer costs or returns.

For the tax budgets it was necessary to assume a time of initiating and terminating of the businesses and a method of the consequent transfers of the ranches.

The time of transfers is very near the first of the calendar year. This assumption permits separation of the buying and selling effects from the yearly operating effects. No trades are made. When property increases in value above its basis, the increase will be subject to tax upon exchange of ownership. Under certain conditions the tax can be postponed. Property held for business use or investment may qualify as a nontaxable exchange. No mortgages exist on the properties.

Down payments of twenty-five percent are made at purchase and the balances are paid in ten equal yearly installments plus six percent interest on the unpaid balances. Three Tucson real estate agencies dealing in ranch properties, (Bidegain Realty Inc., Canyon State Land Co., and Dan C. McKinney), were personally interviewed in the summer of 1965. The characteristics of the typical ranch transfer were derived from these interviews.

Method of Operation

The standard budgets available had implicitly assumed fully stocked ranches. Tax budgets were designed under the same assumption

for comparison purposes. Need of additional study is indicated by the ranch sales investigated by Jefferies (1964). Of the sixty-six ranch sales, thirty included a breeding herd and thirty-six were unstocked.

If tax advantages are shown to exist for investors with income in the higher tax brackets over other investors in stocked ranches, it would be reasonable that advantages would be greater for the former to invest in unstocked ranches. The greater taxable losses in the first years of building a breeding herd would be less costly to high-tax-rate investors. This study did not seek to confirm which situation, stocked or unstocked, had the most tax advantage potential. The tax advantage of either situation would need to be offset by the respective nontax profits or losses in order to obtain net advantages.

Culling rate of the cow herds was held at the same rate used in the standard budgets. However, the tax liability could be reduced by increasing the rate of culling.

The Length of Life of the Business

The accounting for each year of operation was performed for one through fifteen years. The accounting was also performed for the selling transactions, were they to take place from one up to fifteen years.

CHAPTER III

TAX BUDGETING PROCEDURES

The procedures described in this chapter were performed for ranches of carrying capacity of 200 and 700 animal units. The procedures were identical for both cases. The discussion is developed in terms of the smaller ranch only.

Determination of Sale Prices

Federal tax statutes state that the sale of a ranch is the sale of the individual assets of the ranch. The selling price is allocated to each asset since tax treatment of gain or loss on the sale of each is determined by the classification of the asset. For federal tax purposes assets are classified into one of the following: (1) capital assets, (2) property used in the business, and (3) property held primarily for sale. The first two classifications receive preferred tax treatment while the third classification is taxed at ordinary rates.

Conflicting Interests

It will ordinarily save taxes for a purchaser of a ranch to allocate as much as reasonably possible of the purchase price paid for livestock to nonbreeding herd animals which will return ordinary income rather than capital gains when sold. The larger the basis, the smaller will be the taxable income.

Next, the purchaser will want to allocate as much as possible of the remaining purchase price to depreciable assets with limited useful lives. Greater depreciation, deductible from ordinary income, reduces taxable income. An allocation to ungrazed grass could be charged as a deduction against ordinary income.

Lastly, the purchaser would want to allocate as little as reasonably possible to the land since it is not depreciable.

The seller may have conflicting interests with the buyer. The seller will want to allocate as much of the sale price as possible to the capital asset, land, and to assets used in the business (improvements, equipment, draft and breeding stock) because these are taxed when sold at long term capital gains rates, subject to recapture rules.

A conflict would exist in evaluating the land and draft and breeding animals. Agreement could be more easily reached on the depreciable improvements and equipment. The seller would want no allocation of purchase price to grass and as little as possible to nonbreeding livestock since they would be ordinary income to him.

These agreements between buyer and seller in allocating prices, must be reached with consideration of what the Internal Revenue Service would accept.

Prices

In this study most assets have been individually priced. Purchase and sale prices for all assets on the 200 AU ranch are presented in Table 1. The initial purchase prices used are the same as the "average values" used in the standard budgets (Appendix). These prices

are the amounts allocated to the assets at the time of the ranch purchase. Useful life figures listed are equal to half of the useful life of new assets.

Determination of sale prices of assets at the end of each year was necessary in order to compute taxable gain, transaction costs, and interest payments, all caused by a sale of the ranch.

Total investment figures were determined by Goss (1962) from interviews with ranchers and real estate agents. These figures were comparable with and substantiated by figures derived from regression equation VIII of the Jefferies study (1964). The regression equation developed by Jefferies was based on sixty-six bona-fide ranch sales throughout the state over a seven year period and was not adjusted for areas, i.e. was an average for the state. This equation was developed independently of the Goss study. A line described by the equation was drawn on a graph with ranch prices on one axis and ranch size on the other axis. When plotted on the same graph, Goss's Section 15 ranch prices, which are relatively higher than in Section 3, were all above the regression line and Section 3 prices were all below the line. This comparison would indicate that the prices are comparable and reasonable.

TABLE 1.--Total Purchase and Sale Prices of All Assets for the 200 AU Ranch.

Item	Useful Life	Purchase Prices	Salvage Values	Possible Reduction	Annual Reduction	Sale Prices if Sold at End of Year:				
						1	2	3	4	5
	Yrs					Dollars				
Barn	20	1,300		1,300	65	1,235	1,170	1,040	975	910
House	25	3,600		3,600	144	3,456	3,312	3,168	3,024	2,880
Machine Shed	15	480		480	32	448	426	384	352	320
Wells	10	7,280		7,280	728	6,552	9,464	8,736	8,008	7,280
Corrals	10	680		680	68	680	680	680	680	680
Fences	13	5,812		5,812		5,812	5,812	5,812	5,812	5,812
Dirt Tanks	10	1,665		1,665		1,665	1,665	1,665	1,665	1,665
Tractor	8	2,500	1,000	1,500	188	2,312	2,124	1,936	1,748	1,560
Pickup	3	1,400	700	700	233	1,167	934	2,100	1,867	1,634
Stock Equipment	8	245		245	31	217	189	161	133	105
Stock Trailer	8	175	50	125	16	159	143	127	111	95
Saddles	8	150		150	19	131	112	93	225	206
Shop Equipment	8	200		200	25	200	200	200	200	200
Tanks	10	25		25	3	22	19	16	13	10
Cows, Bought	3.5	22,400	18,676	3,724		18,885	15,503	12,254	9,138	6,155
Cows, Raised	3.5					3,515	6,897	10,146	13,262	16,245
Bulls	2.5	2,250	1,800	450	180	2,250	2,250	2,250	2,250	2,250
Horses, Bought	5	825	325	500		725	550	470	315	185
Horses, Raised	5						275	255	510	540
Yearling Heifers	4	1,520				1,520	1,520	1,520	1,520	1,520
Land		140,782				140,782	140,782	140,782	140,782	140,782
Total						191,643	193,837	193,997	192,712	192,066

TABLE 1.--Continued.

Item	Sale Prices if Sold at End of Year:									
	6	7	8	9	10	11	12	13	14	15
	Dollars									
Barn	910	845	780	715	650	585	520	455	390	325
House	2,736	2,592	2,448	2,304	2,160	2,016	1,872	1,728	1,584	1,440
Machine Shed	288	256	224	192	160	128	96	64	32	960
Wells	6,552	9,464	8,736	8,008	7,280	6,552	9,464	8,736	8,008	7,280
Corrals	680	680	680	680	680	680	680	680	680	680
Fences	5,812	5,812	5,812	5,812	5,812	5,812	5,812	5,812	5,812	5,812
Dirt Tanks	1,665	1,665	1,665	1,665	1,665	1,665	1,665	1,665	1,665	1,665
Tractor	1,372	1,184	4,000	3,812	3,624	3,436	3,248	3,060	2,872	2,684
Pickup	1,401	1,168	935	2,100	1,867	1,634	1,401	1,168	935	2,100
Stock Equipment	77	49	470	442	414	386	358	330	302	274
Stock Trailer	79	63	300	284	268	252	236	220	204	188
Saddles	187	168	149	130	111	92	225	206	187	168
Shop Equipment	200	200	200	200	200	200	200	200	200	200
Tanks	7	4	1	0	50	47	44	41	38	35
Cows, Bought	3,305	588								
Cows, Raised	19,095	21,812	22,400	22,400	22,400	22,400	22,400	22,400	22,400	22,400
Bulls	2,250	2,250	2,250	2,250	2,250	2,250	2,250	2,250	2,250	2,250
Horses, Bought	70									
Horses, Raised	755	725	825	725	825	725	825	725	825	725
Yearling Heifers	1,520	1,520	1,520	1,520	1,520	1,520	1,520	1,520	1,520	1,520
Land	140,782	140,782	140,782	140,782	140,782	140,782	140,782	140,782	140,782	140,782
Total	189,620	191,614	193,885	194,046	192,653	191,007	193,353	191,707	190,261	191,748

Asset Prices Except Cows

The Goss and Martin study (1962) determined aggregate prices for land, buildings, and improvements by subtracting the aggregate prices of machinery and equipment and livestock from total investment figures. Land prices for the tax budgets were derived by subtracting the prices of buildings and improvements from that of land, buildings, and improvements. No allocation of sales prices was made to leases transferred with the ranches nor for ungrazed crops of grass.

Sales prices in the year of the ranch sales were determined by depreciating the purchase prices by the straight line method. Certain assets (corrals, fences, dirt tanks, stock equipment, shop equipment and tools, and bulls) were replaced or repaired yearly so as to be held at nearly constant levels of maintenance. The figures for wells include drilling and casing costs, pumps, engines, labor, rod, pipe, storage tanks, metal and concrete water troughs, and windmills.

Cow Prices

Prices of purchased cows as shown in Table 1 were computed as shown in Table 2.

Prices of purchased cows must be distinguished from the prices of raised cows. For cash basis tax accounting, purchased cows are depreciable and raised cows are not depreciable. Capital gains taxes are computed on the difference in the depreciable balance and the sale price of purchased cows. Capital gains taxes are computed on the total sale price of the raised cows.

Cows were divided into seven equal sized age groups with the remainder placed in an aged cow group. The difference between salvage value, \$136.00, and purchase price of the youngest cows, \$185.00, was divided by seven, the expected productive life of cows. The quotient, \$7.00, was subtracted from \$185.00 for each year the cows were older than the youngest ones. The amount needed to make up the total sale value of the herd was allotted to the aged cow class. Each year the purchased cow herd was reduced by a number equal to one of the seven equal sized age group. They were replaced by an equal number of raised heifers.

Sale prices of raised cows were determined by subtracting the sale prices of purchased cows from the sale price of the total cow herd.

TABLE 2.--Sale Prices of the Purchased Cows for the 200 AU Ranch

Cows	Sale Prices		Prices of Cows if Sold at End of Year:						
	Each	Group	1	2	3	4	5	6	7
			Dollars						
2 19	185	3,515	3,382						
3 19	178	3,382	3,249	3,249					
4 19	171	3,249	3,116	3,116	3,116				
5 19	164	3,116	2,983	2,983	2,983	2,983			
6 19	157	2,983	2,850	2,850	2,850	2,850	2,850		
7 19	150	2,850	2,717	2,717	2,717	2,717	2,717	2,717	
8 19	143	2,717	2,584	2,584	2,584	2,584	2,584	2,584	2,584
Old 7		588	588	588	588	588	588	588	588
Subtotal 140		22,400	21,469	18,087	14,838	11,722	8,735	5,889	3,172
Less Culls, Casualties		19·136 =	2,584	2,584	2,584	2,584	2,584	2,584	2,584
Total			18,885	15,503	12,254	9,138	6,151	3,305	588

Depreciation

Declining balance and additional twenty percent first year depreciation and depreciable balances are illustrated in Table 3.

Tables 1 and 3 are related by the fact that both illustrate depreciation of ranch assets. Table 1 reflects the assumed actual depreciation while Table 3 shows depreciation that is deductible from taxable income. The difference in the prices in Table 1 and the depreciable balances in Table 3 are the amounts taxable as gains upon sale of the ranch. Only the assets depreciable for tax purposes are included in Table 3. Purchase prices listed are the amounts allotted to the assets at the time of the ranch purchase. Useful life and purchase price figures are the same in Table 1 and 3. Fences, some of which were built on leased land, were depreciated and not amortized. This was done mainly because it is more likely than not that leases will be renewed, extended, or continued.

Corrals, fences, livestock equipment except the squeeze chute, and shop equipment and tools were allowed to depreciate to a zero basis. This is because costs of replacing and repairing them were recorded as supplies (O'Byrne and Keast, 1964).

Wells and saddles were assumed to depreciate out one at a time at equally spaced intervals as were tanks on the larger ranch. Tanks on the smaller ranch were all replaced at one time.

Dirt tanks were not depreciated. Costs of maintaining and repairing were deducted as soil and water conservation expenses.

TABLE 3.--Depreciation for Tax Purposes for the 200 AU Ranch

Year		1			2			3			
Item	Useful Life	Purchase Price	Additional 20% 1st Year Depreciation	Declining Balance Depreciation	Depreciable Balance	Additional 20% 1st Year Depreciation	Declining Balance Depreciation	Depreciable Balance	Additional 20% 1st Year Depreciation	Declining Balance Depreciation	Depreciable Balance
	Yrs					Dollars					
Barn	20	1,300		98	1,202		90	1,112		83	1,029
House	25	3,600		216	3,384		203	3,181		191	2,990
Machine Shed	15	480		48	432		43	389		39	350
Wells	10	7,281		989	6,291		878	9,053		968	8,085
Corrals	10	680		102	578		87	491		74	417
Fences	13	5,812		697	5,115		614	4,501		540	3,961
Tractor	8	2,500	500	375	1,625		305	1,320		248	1,072
Pickup	3	1,400		700	700			700			2,100
Stock Equipment	8	245	45	38	162		31	131		25	106
Stock Trailer	8	175	35	26	114		21	93		17	76
Saddles	8	150	30	23	97		18	79		15	64
Shop Equipment	8	200		38	162		31	131		25	106
Tanks	10	25	5	3	17		1	14		2	12
Cows, Bought	3.5	22,400	1,379	2,212	16,225		133	13,508			10,924
Bulls	2.5	2,250		180	2,250		180	2,250		180	2,250
Horses, Bought	5	825		100	725		100	550		80	470
Total			1,994	6,784			2,737			2,487	

TABLE 3.--Continued

Year	4			5			6			7		
	Additional 20% 1st Year Depreciation	Declining Balance Depreciation	Depreciable Balance	Additional 20% 1st Year Depreciation	Declining Balance Depreciation	Depreciable Balance	Additional 20% 1st Year Depreciation	Declining Balance Depreciation	Depreciable Balance	Additional 20% 1st Year Depreciation	Declining Balance Depreciation	Depreciable Balance
						Dollars						
Barn		77	952		71	881		66	815		61	754
House		179	2,811		169	2,642		159	2,483		149	2,334
Machine Shed		35	315		32	283		28	255		26	229
Wells		854	7,231		754	6,477		667	5,810		839	8,611
Corrals		63	354		53	301		45	256		38	218
Fences		475	3,486		418	3,068		368	2,700		324	2,376
Tractor		72	1,000			1,000			1,000			1,000
Pickup	280	607	1,213		404	809		109	700			700
Stock Equipment		20	86		16	70		13	57		11	46
Stock Trailer		14	62		12	50			50			50
Saddles		12	202	30	225	147		22	125		18	107
Shop Equipment		20	86		16	70		13	57		11	46
Tanks		2	10		2	8		1	7		1	6
Cows, Bought			8,340			5,756			3,172			588
Bulls		180	2,250		180	2,250		180	2,250		180	2,250
Horses, Bought		80	315		60	185		40	70		20	
Total	280	2,690		30	2,212			1,711			1,678	

TABLE 3.--Continued

Year	8			9			10			11		
	Additional 20% 1st Year Depreciation	Declining Balance Depreciation	Depreciable Balance	Additional 20% 1st Year Depreciation	Declining Balance Depreciation	Depreciable Balance	Additional 20% 1st Year Depreciation	Declining Balance Depreciation	Depreciable Balance	Additional 20% 1st Year Depreciation	Declining Balance Depreciation	Depreciable Balance
						Dollars						
Barn		57	697		52	645		48	597		45	552
House		140	2,194		132	2,062		124	1,938		116	1,822
Machine Shed		23	206		21	185		19	166		17	149
Wells		840	7,771		757	7,014		683	6,331		615	5,716
Corrals		33	185		28	157		157				
Fences		285	2,091		251	1,840		221	1,619		194	1,425
Tractor			4,000	600	544	2,856		456	2,400		384	2,016
Pickup			700			2,100	280	607	1,213		404	809
Stock Equipment		46	450	90	45	315		39	276		35	241
Stock Trailer			300	50	31	219		27	192		24	168
Saddles		15	92		13	79		11	68		10	58
Shop Equipment		46										
Tanks		1	5		1	4		4	50	10	4	36
Cows, Bought												
Bulls		180	2,250		180	2,250		180	2,250		180	2,250
Horses, Bought												
Total		1,666		740	2,055		280	2,576		10	2,028	

TABLE 3.--Continued

Year	12			13			14			15			
	Item	Additional 20% 1st Year Depreciation	Declining Balance Depreciation	Depreciable Balance	Additional 20% 1st Year Depreciation	Declining Balance Depreciation	Depreciable Balance	Additional 20% 1st Year Depreciation	Declining Balance Depreciation	Depreciable Balance	Additional 20% 1st Year Depreciation	Declining Balance Depreciation	Depreciable Balance
						Dollars							
Barn		41	511		38	473		35	438		33	405	
House		109	1,713		103	1,610		97	1,513		91	1,422	
Machine Shed		15	134		13	121		12	109		109	960	
Wells		1,026	8,330		811	7,519		729	6,790		658	6,132	
Corrals													
Fences		171	1,254		1,254								
Tractor		323	1,693		271	1,422		228	1,194		191	1,003	
Pickup		109	700			700			700			2,100	
Stock Equipment		30	211		26	185		23	162		20	142	
Stock Trailer		21	147		18	129		16	113		14	99	
Saddles		18	190	30	20	140		18	122		15	107	
Shop Equipment													
Tanks		4	32		3	29		3	26		3	23	
Cows, Bought													
Bulls		180	2,250		180	2,250		180	2,250		180	2,250	
Horses, Bought													
Total		2,047		30	2,737			1,341			1,314		

Depreciation was not taken on new assets in the year of their purchase. This was based on the assumption that capital expenditures were made very near the end of the taxable years. The twenty percent first year depreciation was taken in the first taxable year for which the taxpayer took ordinary depreciation which was the year immediately following the year of the capital expenditure.

Fast depreciation was not taken on bulls, livestock equipment except squeeze chutes, or shop equipment and tools. The nearly constant replacement pattern of these items would cause depreciation to be nearly the same under any type of depreciation. Assets were not depreciated past their standard budget salvage values.

Depreciation on cows was computed as illustrated in Table 4. Totals in Table 4 were included in Table 3.

Net Capital Expenditures

Capital expenditures were made for new assets as old assets reached the end of the expected life assigned them. Net capital expenditures are equal to new cost minus salvage value. These figures are presented because they are included as part of the costs in computing present values according to tax budgets.

It was assumed that capital expenditures were made near the end of the year after the fall cattle sales were completed. It was assumed that capital expenditures are made even in the year immediately preceding sale of the ranches. Capital expenditures may be smaller than usual in the year preceding sale if the owners contemplated selling out at the end of the year. Conversely, more might be spent on "fixing up" the

TABLE 4.--Depreciation for Tax Purposes of the Purchased Cows for the 200 AU Ranch

Cows		Sale Prices		Additional 20% 1st Year Depreciation	Declining Depreciation	Depreciable Balance	Declining Depreciation	Depreciable Balance	Depreciable Balance at the End of Year:							
Age	No	Each	Group						1	2	3	4	5	6	7	8
Yrs	Hd	Year:		Dollars												
2	19	185	3,515	703	228	2,584										
3	19	178	3,382	676	122	2,584		2,584								
4	19	171	3,249		665	2,584		2,584	2,584							
5	19	164	3,116		532	2,584		2,584	2,584	2,584						
6	19	157	2,983		399	2,584		2,584	2,584	2,584	2,584					
7	19	150	2,850		133	2,717	133	2,584	2,584	2,584	2,584	2,584				
8	19	143	2,717		133	2,584		2,584	2,584	2,584	2,584	2,584	2,584			
Old	7	84	588			588		588	588	588	588	588	588	2,584	588	
	140		22,400	1,379	2,212	18,809	133	16,092	13,508	10,924	8,340	5,756	3,172		588	
Less Culls Casualties						2,584		2,584	2,584	2,584	2,584	2,584	2,584	2,584	2,584	
Total			22,400	1,379	2,212	16,225	133	13,508	10,924	8,340	5,756	3,172	588			

ranches for sale than would ordinarily be expended. Therefore, capital expenditures in the years of sale were budgeted as though the decision to sell was not made until after the expenditures were made. Table 5 shows net capital expenditures.

Investment Credit

Investment credit for capital expenditures are presented in Table 6. Investment credit for any given year, except the first year, is taken on capital expenditures made near the end of the immediately preceding year. Credit taken the first year was on items purchased with the ranch. Credit taken in the third year was on expenditures made near the end of the second year of operations.

Investment credit was taken on wells, corrals, machinery, and equipment. Credit may not be taken on buildings, livestock, or land. For assets composed of several items, the useful life used to determine allowable credit was the average useful life of the several items. The \$25,000 limit on credit was not exceeded. The \$50,000 limit on used properties taken into account was not exceeded. It was assumed that no investment credit on nonranch property was taken by the owners which would limit the credit allowable on ranch used property.

Useful lives of the assets are listed because none of the investment qualifies if the life is less than four years, one-third qualifies if the life is less than six years, and two-thirds of the investment qualifies if the useful life is less than eight years. The applicable fraction is also shown. The qualified investment is the fraction of the expenditure for which credit can be taken. Investment credit is seven percent of the qualified investment.

TABLE 5.--Net Capital Expenditures for the 200 AU Ranch

Item	Net Capital Expenditures Made:																	
	With Ranch Purchase	Year																
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15		
								Dollars										
Barn	1,300																	
House	3,600																	
Machine Shed	480															960		
Wells	7,281		3,640					3,640				3,640						
Corrals	680																	
Fences	5,812																	
Dirt Tanks	1,665																	
Tractor	2,500							3,000										
Pickup	1,400		1,400						1,400							1,400		
Stock Equipment	245							450										
Stock Trailer	175							250										
Saddles	150				150							150						
Shop Equipment	200																	
Tanks	25									50								
Cows, Bought	22,400																	
Bulls	2,250	180	180	480	180	180	180	180	480	180	180	180	180	480	180	180		
Horses, Bought	825																	
Yearling Heifers	1,520																	
Land	140,782																	
Total	193,200	180	3,820	1,880	330	180	180	7,520	1,880	230	180	180	3,970	480	180	2,540		

TABLE 6.--Investment Credit for the 200 AU Ranch

Item	Capital Expenditure	Useful Life	Frac- tion	Qualified Investment	Investment Credit
	Dollars	Years		Dollars	
<u>Year 1</u>					
Wells	7,281	10	1	7,281	510
Corrals	680	10	1	680	48
Fences	5,812	13	1	5,812	407
Tractor	2,500	8	1	2,500	175
Pickup	1,400	3	0		
Livestock Equipment	245	8	1	245	17
Stock Trailer	175	8	1	175	12
Saddles	150	8	1	150	11
Shop Equipment	200	8	1	200	14
Tanks	25	10	1	25	2
Total					1,196
<u>Year 3</u>					
Well	3,640	20	1	3,640	255
Total					255
<u>Years 4,9</u>					
Pickup	2,100	6	2/3	1,400	98
Total					98
<u>Year 5</u>					
Saddle	150	16	1	150	11
Total					11
<u>Year 8</u>					
Well	3,640	20	1	3,640	255
Tractor	4,000	16	1	4,000	280
Livestock Equipment	450	16	1	450	32
Stock Trailer	300	16	1	300	21
Total					588
<u>Year 10</u>					
Tanks	50	20	1	50	4
Total					4

Recapture of Investment Credit

Sale of the ranches necessitated the recomputation of the investment credit taken on some property. This was necessary on the property for which the sale reduced the useful life to the extent that less credit was allowable than initially. These figures are presented in Table 7.

Yearly Taxable Income

Assuming that the ranches were sold and transferred at the very beginning of a calendar year permitted computation of the taxable income of ranch transfers separate from taxable income of yearly ranch operations.

Yearly taxable incomes from owning and operating the ranch are presented in Table 8. Figures from the standard budgets were used for the sales of market livestock raised and held for sale, government payments, and cash costs (Tables 40 and 41). Depreciation and cow death loss figures came from the tax budget depreciation (Tables 3 and 4). It was assumed that no livestock or other ranch products were consumed by the ranch operators.

For tax purposes replacement costs of corrals, fences, stock equipment and shop equipment and tools were treated as yearly supply costs which are equal to straight line annual depreciation of these items. Capital gains treatment was given Section 1231 assets (raised cows and horses).

TABLE 7.-- Recapture of Investment Credit for the 200 AU Ranch

From Year	Credit Recaptured if the Ranch is Sold at the End of Year:														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	Dollars														
1	1,196	1,196	1,196	797	797	399	399								
2															
3			225	225	225	150	150	75	75						
4				98	98	98	49	49							
5					11	11	11	7	7	4	4				
6															
7															
8								588	588	588	392	392	196	196	
9									98	98	98	49	49		
10										4	4	4	3	3	1
11															
12															
13													266	266	266
14															
15															
Total	1,196	1,196	1,421	1,120	1,131	658	609	719	768	694	498	445	514	465	267

TABLE 8.--Computation of Taxable Income from Operation of the 200 AU Ranch

Item	Year of Operation:						
	1	2	3	4	5	6	7
	Dollars						
Returns							
Heifer Calves	3,131	3,131	3,131	3,131	3,131	3,131	3,131
Steer Calves	5,517	5,517	5,517	5,517	5,517	5,517	5,517
Government Payments	325	325	325	325	325	325	325
Cows, Raised							
Horses, Raised							
Costs							
From Standard Budgets	10,156	10,156	10,156	10,156	10,156	10,156	10,156
Added for Tax Purposes	490	490	490	490	490	490	490
Depreciation							
Declining Balance	6,784	2,737	2,487	2,690	2,212	1,711	1,678
Additional 1st Year	1,994			280	30		
Death Loss							
Cows	408	408	408	408	408	408	408
Bulls			200				
Horses					70		
Net Taxable Income	-10,859	-4,818	-4,768	-5,051	-4,393	-3,792	-3,759

TABLE 8.--Continued

Item	Year of Operation:							
	8	9	10	11	12	13	14	15
	Dollars							
Returns								
Heifer Calves	3,131	3,131	3,131	3,131	3,131	3,131	3,131	3,131
Steer Calves	5,517	5,517	5,517	5,517	5,517	5,517	5,517	5,517
Government Payments	325	325	325	325	325	325	325	325
Cows, Raised	1,088	1,088	1,088	1,088	1,088	1,088	1,088	1,088
Horses, Raised		37		37		37	25	
Costs								
From Standard Budgets	10,156	10,156	10,156	10,156	10,156	10,156	10,156	10,156
Added for Tax Purposes	490	490	490	490	490	490	490	490
Depreciation								
Declining Balance	1,666	2,055	2,576	2,028	2,047	2,737	1,341	1,314
Additional 1st Year		740	280	10		30		
Death Loss								
Cows								
Bulls	200					200		
Horses								
Net Taxable Income	-2,451	-3,343	-3,441	-2,586	-2,632	-3,515	-1,901	-1,899

Taxable Gains Upon Sale of the Ranch

Gain will be realized on many assets upon sale of the ranch. This is because fast depreciation rates were used and raised livestock with zero basis were sold.

Special rules apply to recapture of depreciation. Barns, houses, and machine sheds were treated as Section 1250 assets. All other depreciable assets except livestock were treated as Section 1245 assets. Livestock are not subject to depreciation recapture rules. Taxable gain on assets upon sale of the ranches was computed in Table 9.

The figures were computed by subtracting the depreciable balances in Table 3 from the sale prices in Table 1. Table headings correspond to those of Part II, Schedule D, Form 1040, Internal Revenue Service. An illustration will clarify the meaning of the column headings. For a sale at the end of three years of operation the gain on the barn is seventy-six dollars. The total gain must be divided between ordinary gain, sixty-four dollars, and other gain, twelve dollars, according to tax rules. Other gain is divided by two to obtain capital gain, six dollars. These gains must be determined in order to compute taxes due from selling.

Costs and Returns from Buying and Selling Transactions

These costs and returns stem from the transferring of ownership. Taxable gains upon sale of the ranch stem from sale of the assets. Buying and selling of the ranches entailed various costs such as interest, escrow and the commission. Selling prices of the ranches (Table 1) varied from year to year depending on the depreciation and replacement

TABLE 9.--Taxable Gain on Assets Upon Sale of the 200 AU Ranch

Item	Type of Gain if the Ranch is Sold at the End of Year											
	1				2				3			
	Total	Ordinary	Other	Capital	Total	Ordinary	Other	Capital	Total	Ordinary	Other	Capital
	Dollars											
<u>Section 1250</u>												
Barn	33	33			58	56	2	1	76	64	12	6
House	72	72			131	126	5	3	178	178	28	14
Machine Shed	16	16			27	26	1	1	34	29	5	3
<u>Section 1245</u>												
Wells	261	261			411	411			651	651		
Corrals	102	102			189	189			263	263		
Fences	697	697			1,311	1,311			1,851	1,851		
Tractor	687	687			804	804			864	864		
Pickup	467	467			234	234						
Stock Equipment	55	55			58	58			55	55		
Stock Trailer	45	45			50	50			51	51		
Saddles	34	34			33	33			29	29		
Shop Equipment	38	38			69	69			94	94		
Tanks	5	5			5	5			4	4		
<u>No Recapture</u>												
Cows, Purchased	2,660			1,330	1,995			997	1,330			665
Cows, Raised	3,515			1,758	6,897			3,449	10,146			5,073
Horses, Raised					275			138	255			128
Yearling Heifers	1,520	1,520			1,520	1,520			1,520	1,520		
Total		4,032		3,088		4,892		4,589		5,653		5,889

TABLE 9.--Continued

Item	Type of Gain if the Ranch is Sold at the End of Year											
	4				5				6			
	Total	Ordinary	Other	Capital	Total	Ordinary	Other	Capital	Total	Ordinary	Other	Capital
						Dollars						
<u>Section 1250</u>												
Barn	33	63	25	13	94	56	38	19	95	46	49	25
House	213	153	60	30	238	238	15	8	253	121	132	66
Machine Shed	37	27	10	5	37	22	7	4	33	16	17	9
<u>Section 1245</u>												
Wells	777	777			803	803			742	742		
Corrals	326	326			379	379			424	424		
Fences	2,326	2,326			2,744	2,744			3,112	3,112		
Tractor	748	748			560	560			372	372		
Pickup	654	654			825	825			701	701		
Stock Equipment	47	47			35	35			20	20		
Stock Trailer	49	49			45	45			29	29		
Saddles	23	23			59	59			62	62		
Shop Equipment	114	114			130	130			143	143		
Tanks	3	3			2	2						
<u>No Recapture</u>												
Cows, Purchased	798			399	399			199	133			66
Cows, Raised	13,262			6,631	16,245			8,123	19,095			9,548
Horses, Raised	510			255	540			270	755			378
Yearling Heifers	1,520	1,520			1,520	1,520			1,520	1,520		
Total		6,830		7,333		7,418		8,623		7,308		10,092

TABLE 9.--Continued

Item	Type of Gain if the Ranch is Sold at the End of Year											
	7				8				9			
	Total	Ordinary	Other	Capital	Total	Ordinary	Other	Capital	Total	Ordinary	Other	Capital
	Dollars											
<u>Section 1250</u>												
Barn	91	33	58	29	83	20	63	32	70	8	62	31
House	258	93	165	83	254	61	193	97	242	9	213	107
Machine Shed	27	10	17	9	18	4	14	7	7	1	6	3
<u>Section 1245</u>												
Wells	853	853			965	965			994	994		
Corrals	462	462			495	495			523	523		
Fences	3,436	3,436			3,721	3,721			3,972	3,972		
Tractor	184	184							956	956		
Pickup	468	468			235	235						
Stock Equipment	3	3			20	20			127	127		
Stock Trailer	13	13							65	65		
Saddles	61	61			57	57			51	51		
Shop Equipment	154	154			200	200			200	200		
Tanks	-2	-2			-4	-4			-4	-4		
<u>No Recapture</u>												
Cows, Purchased												
Cows, Raised	21,812			10,906	22,400			11,200	22,400			11,200
Horses, Raised	725			363	825			413	725			363
Yearling Heifers	1,520	1,520			1,520	1,520			1,520	1,520		
Total		7,288		11,390		7,294		11,749		8,422		11,704

TABLE 9.--Continued

Item	Type of Gain if the Ranch is Sold at the End of Year											
	10				11				12			
	Total	Ordinary	Other	Capital	Total	Ordinary	Other	Capital	Total	Ordinary	Other	Capital
						Dollars						
<u>Section 1250</u>												
Barn	59		53	27	33				9			
House	222		222	111	194		194	97	159		159	80
Machine Shed	-6		-6	-3	-21		-21	-11	-38		-38	-19
<u>Section 1245</u>												
Wells	949	949			836	836			1,134	1,134		
Corrals	680	680			680	680			680	680		
Fences	4,193	4,193			4,387	4,387			4,558	4,558		
Tractor	1,224	1,224			1,420	1,420			1,555	1,555		
Pickup	654	654			825	825			701	701		
Livestock Equipment	138	138			145	145			147	147		
Stock Trailer	76	76			84	84			89	89		
Saddles	43	43			34	34			35	35		
Shop Equipment	200	200			200	200			200	200		
Tanks					11	11			12	12		
<u>No Recapture</u>												
Cows, Purchased												
Cows, Raised	22,400			11,200	22,400			11,200	22,400			11,200
Horses, Raised	825			413	725			363	825			413
Yearling Heifers	1,520	1,520			1,520	1,520			1,520	1,520		
Total		9,677		11,748		10,142		11,649		10,631		11,674

TABLE 9.--Continued

Type of Gain if the Ranch is Sold at the End of Year												
Item	13				14				15			
	Total	Ordinary	Other	Capital	Total	Ordinary	Other	Capital	Total	Ordinary	Other	Capital
						Dollars						
<u>Section 1250</u>												
Barn	-18				-48				-80			
House	118		118	59	71		71	36	18		18	9
Machine Shed	-57		-57	-29	-77		-77	-39				
<u>Section 1245</u>												
Wells	1,217	1,217		1,218	1,218				1,148	1,148		
Corrals	680	680		680	680				680	680		
Fences	5,812	5,812		5,812	5,812				5,812	5,812		
Tractor	1,638	1,638		1,678	1,678				1,681	1,681		
Pickup	468	468		235	235							
Livestock Equipment	145	145		140	140				132	132		
Stock Trailer	91	91		91	91				89	89		
Saddles	66	66		65	65				61	61		
Shop Equipment	200	200		200	200				200	200		
Tanks	12	12		12	12				12	12		
<u>No Recapture</u>												
Cows, Purchased												
Cows, Raised	22,400			11,200	22,400			11,200	22,400			11,200
Horses, Raised	725			363	825			413	725			363
Yearling Heifers	1,520	1,520			1,520	1,520			1,520	1,520		
Total		11,849		11,593		11,651		11,610		11,335		11,572

of assets. Consequently, the principal and the amount of interest to be received by the seller varied. The interest payments received were discounted, at five percent, to present values at the time of sale. These values are found in Table 10.

Interest was assumed to be six percent of the unpaid balance. The commission was assumed to be six percent of the total selling price. Escrow and title insurance was computed at currently published rates (Phoenix Title and Trust Company, 1962). These costs presented in Table 11 make a negative contribution to present values.

Present values of tax liabilities in year of sale are shown in Table 12. Taxes on selling costs were netted with taxes on ordinary gain and capital gain on assets and with recaptured investment credit. Three-fourths of the capital gains tax is due over a ten year period because of the installment payments. Discounted values of capital gains tax at time of sale are shown. Negative totals in the table reduce present values of the ranch and positive totals increase the present values.

Summary

This chapter has illustrated the computations necessary for constructing tax budgets. Results of computations illustrated in this chapter and similar computations done for the 700 AU ranch are combined to compute present values of ranches under various alternatives (Chapter 4). Comparison of the present values before and after taxes indicate the values of ranches as tax shelters under the various alternatives.

TABLE 10.--Value at Time of Sale of Future Interest Payments to
be Received for the 200 AU Ranch

If the Ranch is Sold at the End of Year	Dollars
1	39,293
2	39,744
3	39,778
4	39,786
5	39,177
6	38,879
7	39,288
8	39,753
9	39,786
10	39,499
11	39,163
12	39,645
13	39,308
14	39,013
15	39,316

TABLE 11.--Costs of Buying and Selling the 200 AU Ranch

	Escrow	Fees	Commission	Insurance	Stamps	Total
			Dollars			
Buying Costs	94	7				101
Selling Costs if Ranch is Sold at the End of Year:						
1	93	4	11,499	645	211	12,452
2	93	4	11,630	650	213	12,590
3	93	4	11,640	650	213	12,600
4	93	4	11,563	648	212	12,520
5	93	4	11,464	645	211	12,417
6	93	4	11,377	640	209	12,323
7	93	4	11,497	645	211	12,450
8	93	4	11,633	650	213	12,593
9	94	4	11,643	653	215	12,609
10	93	4	11,559	648	212	12,516
11	93	4	11,460	645	211	12,413
12	93	4	11,601	650	213	12,561
13	93	4	11,502	645	211	12,455
14	93	4	11,416	643	210	12,366
15	93	4	11,505	645	211	12,335

TABLE 12.--Taxes or Tax Savings Resulting from Buying and Selling the
200 AU Ranch

	Transaction Cost	Ordinary Gain	Capital Gain	Recaptured In- vestment Credit	Total
		Dollars			
Taxes Saved at Purchase	-71				-71
Tax or Tax Savings if Sold at the End of Year:					
1	-8,716	2,822	1,282	1,196	-3,416
2	-8,813	3,424	1,892	1,196	-2,291
3	-8,820	3,957	2,442	1,421	-997
4	-8,764	4,781	3,051	1,120	188
5	-8,692	5,193	3,572	1,131	1,204
6	-8,626	5,116	4,181	658	1,329
7	-8,715	5,102	4,721	609	1,718
8	-8,815	5,106	4,874	719	1,884
9	-8,826	5,895	4,853	768	2,690
10	-8,761	6,774	4,874	694	3,581
11	-8,689	7,099	4,830	498	3,738
12	-8,793	7,442	4,841	455	3,935
13	-8,719	8,294	4,808	514	4,897
14	-8,656	8,156	4,810	465	4,775
15	-8,721	7,935	4,798	267	4,279

CHAPTER IV

PRESENT VALUES OF RANCH COSTS AND RETURNS UNDER VARIOUS ASSUMPTIONS AND BUDGETING PROCEDURES

Present Values

Costs and returns are discounted to present values. This permits comparison of alternatives over time. A five percent discount rate is used. Five percent was the rate used in the standard budgets as a charge against investment (Goss, 1962).

Standard Budgets

Returns to capital and management were treated as perpetuities which were discounted to obtain present values. Present values of flows of returns to entrepreneurial labor were not included because investors already own their labor. They do not have to buy it.

Tax Budgets

Present values were computed for all debits and credits encountered by purchasing, by operating for periods of years ranging from one through fifteen, and by selling the ranches.

The ranch cash operating expenses were taken from the standard budgets (Table 40) and were increased by the amount of depreciation on wells, fences, livestock equipment, shop equipment and tools as explained in Chapter III. Cash costs were assumed to be spread evenly through the year. They were discounted five percent for half of a year (i.e. two and one-half percent), before being discounted to a present value. It

was assumed that capital expenditures were made at about the time the calf crops were sold in November. Thus both cash income and capital expenditures were first discounted five percent for four-fifths of a year (i.e. four percent).

All income tax figures were first discounted five percent for half a year. It was assumed that the income taxes would be levied in quarterly installment payments of the year earned.

Budget results vary according to the positions and intentions of the entrepreneurs as described in Chapter II. Such variations affect the present values of the businesses.

Standard Budgets

For standard budgets it is assumed that entrepreneurs own the businesses, do not plan on selling or buying, or if they do, do not incur any transfer costs. The standard budgets used in this study assume the ranches are owner-operated and paid for. It is assumed that all costs and returns are constant at normal levels.

Typical Budgets

The standard budgets basic to this study were developed as "typical" budgets. Only the items and practices which appeared in at least one-half of the observations were included. Modal values were assigned as typical values. These budgets are presented in the appendix.

Present values of flows of returns to capital and management as estimated by "typical" standard budgets (Table 41) are shown in the upper half of Table 13. It is evident that considerable differences

TABLE 13.--Values Unaccounted for by the Standard Budgets

	Ranch Size:	
	I (200 AU)	II (700 AU)
	Dollars	
	<u>Typical Budgets</u>	
Flow of Net Returns to Capital and Management per Year	-364	11,188
Present Values of Returns to Capital and Management	-7,280	223,760
Market Prices	189,690	635,272
Values Unaccounted for by Typical Returns	196,970	411,512
	<u>Adapted Budgets</u>	
Flow of Net Returns to Capital and Management per Year	-1,538	9,732
Present Values of Returns to Capital and Management	-30,760	194,640
Market Prices	193,290	638,872
Values Unaccounted for by Adapted Returns	224,050	444,232

exist in the present values and the market prices. Values unaccounted for by the typical budgets amount to \$196,970 for the 200 AU ranch and \$411,512 for the 700 AU ranch.

Adapted Budgets

Ranch investors with nonranch incomes large enough to be taxed at the seventy percent rate are not likely to personally operate ranches. The typical budgets were adapted by adding the costs of hired managers and the costs of their housing to the budgets. Hired managers are not uncommon. Of sixty-six sales (Jefferies 1962) approximately one-third were operated by hired managers. The adapted budgets are presented along with the typical budgets in the appendix.

Present values of flows of returns to capital and management as estimated by the adapted standard budgets are shown in the lower half of Table 13. It can be seen that more difference exists in the present values and the market prices than existed for the typical budgets. This is because market prices were increased by the cost of the manager's houses (\$3,600), and because the estimated returns were reduced by the administration costs.

Operating Returns of the Presently Owned Ranches

The objective in this section is to compare: (1) present values of operating returns of ranches before taxes with (2) present values after taxes, and (3) actual market prices. See Table 14.

TABLE 14.--Present Values of Costs and Returns Before and After Taxes
from Operating Presently Owned Ranches

Present Values	Ranch Size:	
	I (200 AU)	II (700 AU)
	Dollars	
Costs and Returns Before Taxes		
Net Cash Incomes for Tax Purposes	6,560	272,520
Net Capital Expenditures for Tax Purposes	37,320	77,880
Net Returns before Taxes	-30,760	194,640
Taxes and Tax Savings		
Investment Credit	1,866	3,894
Tax Savings from Operations	37,120	
Taxes Paid on Operations		69,400
Net Tax Savings	38,986	
Net Taxes Paid		65,506
Net Returns After Taxes	8,226	129,134
Market Prices	193,290	638,872

Adapted Standard Budget

Costs and returns in standard budgets come from only one source, the yearly operation of the firms. Standard budgets assume a normal operation and yield average costs and returns. Tax budgets are distinguished by the assumption of a finite operation and by the yield of fluctuating costs and returns. The standard budgeting procedure may serve to determine the normal before tax values of firms.

Present values of net returns before taxes (Table 14) were derived from the returns to capital and management as shown in Table 41.

Taxes Applied to the Adapted Standard Budgets

Costs and Returns Before Taxes for Tax Purposes

Estimates of net capital expenditures for tax purposes are needed in order to estimate investment credit. For tax purposes, net capital expenditures are less than actual depreciation and net cash incomes are less than actual net cash incomes. This is because capital expenditures on wells, fences, livestock equipment, shop equipment, and tools are treated as cash costs for tax purposes (See Table 8). Actual figures are located in Tables 33 and 34. Present values for tax purposes are shown in Table 14.

Taxes and Tax Savings

Taxes and tax savings on yearly operations come from two sources, investment credit and ranch operating profits and losses. Investment credit is dependent on capital expenditures. In the tax budgets investment credit averaged five percent of net capital expenditures. Thus, present values of average investment credit were computed as five percent of present values of average net capital expenditures as shown in Table 14.

Net Returns After Taxes

The present value of average returns to capital and management before taxes was \$30,760 for the 200 AU ranch. Present value after taxes was \$8,226, because of tax savings on other income. This is still much less than the actual market price, \$193,290. For the 700 AU ranch, the

present value of average returns to capital and management was \$194,640. Because a taxable income resulted from operating the larger ranch, the value fell to \$129,134 after taxes. The actual market price is \$638,872.

Relation of Taxes or Taxes Saved to Actual Net Incomes Before Taxes

It is significant to note the relationship of negative and positive returns before taxes to the taxes saved or the taxes due. Under the seventy percent tax assumption, it might seem that taxes or tax savings would always be less in absolute terms than the absolute amount being taxed. One dollar loss would mean seventy cents of taxes saved; a dollar profit would mean seventy cents of taxes due. However, in the case of the smaller ranch taxes saved are more than seventy percent of the loss, and for the larger ranch taxes due are less than seventy percent of the income. The reasons for the variance from seventy percent are that only half of the returns from cull cows are taxable and investment credit is deducted. Excluding half of the returns from cull cows and adding investment credit increases the taxable loss over the real loss on the smaller ranch and decreases the taxable income under the real income on the larger ranch. When taxable incomes are negative (as for the smaller ranch) tax savings will be greater than seventy percent of before tax losses. When taxable incomes are positive (as for the larger ranch) taxes will be less than seventy percent of before tax returns.

Rates of Returns Before and After Taxes from Operating the
Presently Owned Ranches

Market prices used to determine the rates of return on capital to capital and management were \$193,290 for the 200 AU ranch and \$638,872 for the larger ranch. For the typical budgets, the rate of return is negative (-.19%) for the smaller ranch, and positive (1.75%) for the larger ranch. See Table 15. Adapting the budgets to non-operators reduces the rates of returns on both ranches. Adding tax savings to the smaller ranch increases the rate of return to a positive figure (.21%). Adding taxes decreases the rate of return on the larger ranch to 1.01%.

TABLE 15.--Rates of Returns Before and After Taxes from Operating the Presently Owned Ranches

	Ranch Size			
	I (200 AU)		II (700 AU)	
	Annual	Rate	Annual	Rate
	Dollars	Percent	Dollars	Percent
Typical Standard Budgets	-364	-.19	11,188	1.75
Adapted Standard Budgets	-1,538	-.80	9,732	1.52
Adapted Budget After Taxes	411	.21	6,457	1.01

Selling Costs of the Presently Owned Ranches

Present owners of ranches would be interested in the costs and returns of selling out.

Standard and Tax Budgeting Procedures

The standard budgeting procedure, using normal figures, is used in this section so that selling effects may be added to the normal operating values of the ranches. Tax budgeting is used for computing taxes. Normal tax costs of selling were obtained by averaging the tax costs of selling in the last eight of the fifteen years that were budgeted.

Costs and Returns Before Taxes From Selling

The standard budgeting procedure requires the use of normal ranch selling prices regardless of what year the ranches are sold. The use of normal ranch selling prices eliminates the possibilities of capital gain resulting from the sale. Standard budgets implicitly assume land price inflation does not occur and that assets are maintained at a constant level of value.

The present value of interest to be received by the seller if sold at the present time, is \$39,632 for the 200 AU ranch and \$130,993 for the 700 AU ranch. Commission, escrow, and other selling costs have a present value of \$12,557 for the smaller ranch and \$49,804 for the larger ranch. Subtracting these values from interest values gives normal present values before taxes from the selling transactions of \$27,075 and \$90,189, respectively, for the 200 AU and 700 AU ranches. See Table 16.

Taxes and Tax Savings from Selling

Normal taxes from selling come from the same sources as listed in Table 12 (transaction costs, ordinary and capital gain, and recaptured investment credit). The last eight years were taken as nearly normal. Averages of present values of taxes paid if sold in the eighth through fifteenth year for the 200 AU and 700 AU ranches were \$3,691 and \$12,442.

TABLE 16.--Present Values of Selling Costs of the Presently Owned Ranches

Present Values	Ranch Size	
	I (200 AU)	II (700 AU)
	Dollars	
<u>Costs and Returns Before Taxes from Selling</u>		
Interest to be Received	39,632	130,993
Commission, Escrow, etc.	12,557	40,804
Net Return Before Taxes from Selling	27,075	90,189
<u>Taxes From Selling</u>		
Interest to be Received	26,928	89,029
Commission, Gain, etc.	3,691	21,442
Total Taxes from Selling	30,619	110,471
<u>Net Selling Costs After Taxes</u>	<u>3,544</u>	<u>20,282</u>

Taxes are saved because of the commission and escrow expenses. However, the savings are more than offset by taxes due on capital and ordinary gain and recaptured investment credit caused by the sale. Capital and ordinary gain do occur for tax purposes. This is because depreciation for tax purposes maintains the depreciable balance of assets at a lower level than the real value of the assets. Present values of taxes on interest received from sale were \$26,928 and \$89,029 for the smaller and larger ranches respectively. Discounting procedures cause the taxes due on interest to vary slightly from seventy percent. Total present values of taxes resulting from selling were \$30,619 and \$110,471.

Net Selling Cost After Taxes

The present values of the total after tax costs of selling at the present are \$3,544 and \$20,282. The after tax selling costs decrease the present values of the ranches. The present values of the ranches if operated for one up to fifteen more years and then sold are presented in Table 17. As shown in the last row, looking to infinity yields the same values as given under the assumption of no sales. The present values of ranches to present owners after taxes and after selling do not approach current market prices.

Rates of Returns After Taxes from Operating and Selling the Presently Owned Ranches

Present values of normal market ranch prices used to determine the rates of returns were \$163,468 for the 200 AU ranch and \$538,855 for the 700 AU ranch.

The actual market prices of the ranches cannot be used in computing the opportunity cost of capital. The full market prices are not available to ranch sellers. The full prices can be received only over a period of ten years as described on page 12. During this time, the opportunity returns on the entire amount cannot be received. The rates of returns increase from negative figures to positive figures as the ownership periods lengthen.

After tax rates of returns after selling presently owned ranches are less than before tax returns for all periods of years on the larger ranch and for only the one and two year periods on the smaller ranch. See Table 18.

TABLE 17.--Present Values of Flows of Costs and Returns After Taxes to Present Owners from Ranches Operated and Sold After Various Numbers of Additional Years

Additional Years of Operation	Ranch Size					
	I(200 AU)			II(700 AU)		
	Operating Returns	Selling Costs	Present Value	Operating Returns	Selling Costs	Present Value
Years	Dollars					
0		3,544	-3,544		20,282	-20,282
1	391	3,375	-2,984	6,150	19,317	-13,167
2	764	3,214	-2,450	12,006	18,396	-6,390
3	1,119	3,061	-1,942	17,584	17,520	-936
4	1,457	2,916	-1,459	22,897	16,686	6,211
5	1,779	2,777	-998	27,956	15,891	12,065
6	2,086	2,645	-559	32,774	15,134	17,640
7	2,378	2,519	-141	37,363	14,414	22,949
8	2,656	2,399	257	41,733	13,727	28,006
9	2,921	2,284	637	45,895	13,074	32,821
10	3,174	2,176	998	49,859	12,451	37,408
11	3,414	2,072	1,342	53,634	11,859	41,775
12	3,643	1,973	1,670	57,230	11,293	45,937
13	3,861	1,879	1,982	60,654	10,756	49,898
14	4,068	1,790	2,278	63,915	10,244	53,671
15	4,266	1,705	2,561	67,022	9,756	57,266
∞	8,226		8,226	129,134		129,134

TABLE 18.--Rates of Returns After Taxes from Operating and Selling the Presently Owned Ranches

Years	Ranch Size			
	I (200 AU)		II (700 AU)	
	Return to Capital and Management			
	Annual	Rate	Annual	Rate
	Dollars	Percent	Dollars	Percent
1	-3,133	-1.92	-13,825	-2.57
2	-1,318	-.81	-3,437	-.64
3	-713	-.44	-344	-.06
4	-411	-.25	1,752	.33
5	-231	-.14	2,787	.52
6	-110	-.07	3,475	.64
7	-24	-.01	3,966	.74
8	40	.02	4,333	.80
9	90	.06	4,618	.86
10	129	.08	4,844	.90
11	162	.10	5,030	.93
12	188	.12	5,182	.96
13	211	.13	5,314	.99
14	230	.14	5,421	1.01
15	247	.15	5,515	1.02
∞	411	.25	6,457	1.20

Costs of Buying the Ranches

Persons contemplating purchasing ranches have sources of costs and returns other than those from yearly operations and from selling out to consider.

Budgeting Procedure

All costs and returns are based on actual market prices of ranches.

Before Tax Costs of Buying

The major actual cost of buying ranches is interest paid on principal. Minor costs include escrow and recording fees.

Taxes Saved From Buying

Tax saving result from the actual costs listed above. Tax savings before discounting are shown in Table 13. For present values see Table 19.

TABLE 19.--Present Values of Costs and Returns of Buying

Present Values	Ranch Size	
	I (200 AU)	II (700 AU)
	Dollars	
Before Tax Costs		
Escrow, Fees	101	178
Interest Paid	39,622	130,996
Total Costs Before Taxes	39,723	131,177
Taxes Saved on:		
Escrow, Fees	69	121
Interest Paid	26,928	89,029
Total Taxes Saved	26,997	89,150
Net Costs of Buying	12,726	42,027

Net Costs After Taxes of Buying

The buying costs reduce the present values of ranches to prospective buyers as compared to the standard budget values to present owners. Net costs after taxes of buying the 200 AU ranch are \$12,726 and of buying the 700 AU ranch are \$42,027.

Operating Returns After Buying the Ranches

Tax Budgeting Procedure

In reality, tax liabilities in the first years of businesses vary from the normal as presented in the standard budgets. The causes are primarily due to: (1) rapid depreciation of assets, (2) the erratic pattern of capital expenditures, (3) the depreciation of purchased cows which are gradually replaced by nondepreciable raised cows. In order for budgets to reflect the abnormal tax effects during the first years of business, it was necessary to assume specific or finite patterns of depreciation and asset replacement. For these reasons the tax budget returns, assuming the years budgeted immediately follow purchase of the ranches, vary from the standard, normal returns, where it was assumed the budgeted ranches had been owned for some time.

Operating Costs and Returns Before Taxes

Present values of costs and returns before taxes are computed for one through fifteen years as in Table 20. As previously explained, net cash incomes for tax purposes are less than actual net cash incomes. Also, net capital expenditures are less than actual depreciation. This is because capital expenditures on wells, fences, livestock equipment, shop equipment and tools are treated as cash costs for tax purposes (See Table 8). Actual cash and depreciation figures are displayed in the appendix tables. Net capital expenditures for tax purposes are shown in Table 5, for the 200 AU ranch.

TABLE 20.--Present Values of Flows of Costs and Returns Before Taxes from Operating for Various Numbers of Years After Purchase of the Ranches

Years of Operation	Ranch Size							
	I (200 AU)				II (700 AU)			
	Net Cash Income	Net Capital Expenditures	Difference in Market Values	Total Returns Before Taxes	Net Cash Income	Net Capital Expenditures	Difference in Market Values	Total Returns Before Taxes
Years	Dollars							
1	328	173	4,353	- 4,198	13,626	4,336	8,803	487
2	610	3,671	2,497	- 5,558	25,336	5,023	11,070	9,243
3	893	5,311	2,263	- 6,681	37,106	10,439	9,190	17,477
4	1,163	5,585	3,218	- 7,640	48,318	14,094	8,907	25,317
5	1,420	5,727	3,957	- 8,264	58,994	17,543	8,588	32,863
6	1,665	5,863	4,662	- 8,860	69,161	18,108	10,390	40,663
7	1,898	11,258	3,266	-12,626	78,845	21,344	9,961	47,540
8	2,210	12,543	1,835	-12,258	88,068	28,895	5,712	53,461
9	2,331	12,693	1,662	-12,024	96,851	32,936	4,517	59,389
10	2,533	12,805	2,292	-12,564	105,216	36,314	3,901	65,001
11	2,724	12,911	2,981	-13,168	113,183	38,799	3,790	70,594
12	2,907	15,143	1,757	-13,993	120,771	41,104	3,731	75,936
13	3,081	15,400	2,396	-14,715	127,997	43,518	3,619	80,860
14	3,247	15,492	2,888	-15,133	134,878	43,900	4,961	86,017
15	3,405	16,725	2,157	-15,477	141,434	47,455	3,545	90,434

Under the tax budget assumptions of finite operations, net capital expenditures vary considerably from year to year. They do not exactly equal the relatively stable depreciation that occurs. Therefore, differences exist in the actual normal prices paid for the ranches when they are bought and the actual prices received for the ranches when they are sold. These differences are attributed to the yearly operations of the ranches. Differences in the present values of the market prices rather than the actual market prices are used for Table 20.

The tables may be interpreted in the following manner. The present value of the flows of costs and returns before taxes from operating the 200 AU ranch for four years is -\$7,640. This was obtained by subtracting present value of the flow of net capital expenditures (\$5,585) and the difference in market values (\$3,218) from the present value of the flow of net income (\$1,163).

Taxes on Operating Costs and Returns

Taxes and tax savings from yearly operation come from taxable profits or losses and investment credit. Present values of taxes on accumulated totals in Tables 6 and 8 are shown in Table 21. Present values of taxes saved on operations of the smaller ranch continue to increase through all years budgeted. However, present values of taxes saved on operations of the larger ranch increase only through the fifth year. This is because operations on the 700 AU ranch yield taxable incomes on which taxes must be paid after the fifth year. Investment credit continues to increase in both cases because total capital expenditures increase with time. The increase in credit is not enough to

TABLE 21.--Present Values of Flows of Taxes Saved on Operating for Various Numbers of Years After Purchase of the Ranches

Years of Operation	Ranch Size					
	I (200 AU)			II (700 AU)		
	Taxes Saved on Operations	Investment Credit	Total Taxes Saved	Taxes Saved on Operations	Investment Credit	Total Taxes Saved
Years			Dollars			
1	7,384	1,161	8,545	12,126	3,368	15,494
2	10,504	1,161	11,665	13,870	3,602	17,472
3	13,444	1,386	14,830	14,569	3,612	18,181
4	16,411	1,468	17,879	14,867	3,942	18,809
5	18,868	1,477	20,345	14,908	4,138	19,046
6	20,889	1,477	22,366	14,382	4,339	18,721
7	22,796	1,477	24,273	13,725	4,347	18,072
8	23,884	1,883	25,767	10,415	4,522	14,937
9	25,422	1,947	27,369	8,917	5,187	14,104
10	26,930	1,950	28,880	7,144	5,433	12,577
11	28,009	1,950	29,959	4,985	5,510	10,495
12	29,054	1,950	31,004	2,347	5,654	8,001
13	30,308	2,094	32,402	1,894	5,787	7,681
14	30,993	2,094	33,087	-659	5,917	5,258
15	31,645	2,094	33,739	-2,924	5,923	2,999

offset the increase in taxes due from operation on the larger ranch. The trends in total taxes saved are continued as evidenced by the taxes on normal operations (Table 17).

Total Returns After Taxes

Returns before taxes and taxes saved were totaled and are presented in Table 22.

TABLE 22.--Present Values of Flows of Returns After Taxes from Operating for Various Numbers of Years After Purchase of the Ranches

Year of Operation	Ranch Size	
	I (200 AU)	II (700 AU)
Years	Dollars	
1	4,347	15,981
2	6,107	26,715
3	8,149	35,658
4	10,239	44,126
5	12,081	51,909
6	13,506	59,384
7	11,647	65,612
8	13,509	68,398
9	15,345	73,502
10	16,316	77,578
11	16,791	81,089
12	17,011	83,937
13	17,687	88,541
14	17,954	91,275
15	18,262	93,433

Comparison of Operating Returns After Taxes to Present Owners and to New Owners

Taxes saved in the first years of operation exceed taxes saved in later years. The difference can be illustrated in the following manner. See Table 23.

TABLE 23.--Net Advantage of the Ranches Purchased at the Present Over the Presently Owned Ranches

	Ranch Size	
	I (200 AU)	II (700 AU)
Present Values of:	Dollars	
1. Normal returns after taxes	8,226	129,134
2. Discounted 15 years	3,957	62,113
3. 15 years returns from presently purchased ranches	20,419	96,978
4. Returns if presently purchased ranches not to be sold	24,376	159,091
5. Differences in operating returns from presently owned and presently purchased ranches	16,150	29,957
6. Costs of buying	12,726	42,027
7. Net advantage of presently purchased ranches over presently owned ranches	3,424	-12,070

It can be reasonably assumed that returns will be normal after fifteen years. The flow of normal returns described for Table 14 are assumed to begin the sixteenth year (Step 1). The present values of the normal returns (Table 14) are, therefore, discounted an additional fifteen years (Step 2). These present values (Step 2) are added to the present values of operating for the first fifteen years (Step 3). Then the differences in present values of returns to operations by present owners (Step 1) and by new owners (Step 4) are found. These differences (Step 5) can be attributed to the abnormal tax effects on operations for the first fifteen years with the effect greatest the first year and diminishing with each passing year.

The differences in present values of operation returns between presently owned and present purchased ranches (Step 5) are mostly offset for the smaller ranch and more than offset for the larger ranch by costs of buying (Step 6).

Costs and Returns From Selling the Ranches After Buying and
Operating the Ranches

Tax Budgeting Procedure

In the tax budgeting procedure, ranches are not held in a constant, normal state of condition. The amount of net capital expenditures made from year to year does not exactly equal the amount of actual depreciation which occurs. Selling costs and returns vary from year to year because the values of the ranches vary.

Costs and Returns Before Taxes

When ranches are sold, interest is received and transfer costs are paid by the sellers. Actual values of interest payments at time of sale were illustrated in Table 10 for the 200 AU ranch. Actual values of transfer costs were illustrated in Tables 11 and 12 for the 200 AU ranch. Present values of these transactions are presented in Table 24.

No real gains, other than interest received on installment payments due, are realized from the sale of the ranches. Land values were held constant. Some difference existed in the prices paid for the ranches and the prices received when the ranches were sold. This occurred because net capital expenditures did not exactly equal the amount of depreciation which occurred. These differences were attributed to yearly operation costs. (Table 20).

TABLE 24.--Present Values of Costs and Returns Before Taxes of Selling the Ranches After Buying and Operating the Ranches

End of Year	Ranch Size					
	I (200 AU)			II (700 AU)		
	Interest Received	Transfer Costs	Net Returns	Interest Received	Transfer Costs	Net Returns
Year			Dollars			
1	37,427	11,859	25,568	124,736	38,855	85,881
2	36,048	11,419	24,629	118,125	36,800	81,325
3	34,360	10,884	23,476	112,831	35,155	77,676
4	32,732	10,300	22,432	107,427	33,464	73,963
5	30,695	9,729	20,966	101,992	31,862	70,130
6	29,012	9,195	19,817	96,867	30,177	66,690
7	27,922	8,848	19,074	92,241	28,736	63,505
8	26,905	8,523	18,382	88,741	27,468	61,273
9	25,646	8,128	17,518	84,779	26,409	58,370
10	24,248	7,684	16,564	80,840	25,182	55,658
11	22,899	7,258	15,641	76,978	23,979	52,999
12	22,074	6,994	15,080	73,274	22,824	50,450
13	20,845	6,605	14,240	69,769	21,733	48,036
14	19,705	6,246	13,459	66,080	20,585	45,495
15	18,911	5,992	12,919	63,219	19,694	43,525

Tax Costs and Returns

Tax effects, in addition to those caused by interest received and transfer costs, are caused by gain on assets sold as determined by tax accounting, and by recaptured investment credit. These effects are combined and presented in Table 25.

Before being discounted year of sale taxes and tax savings from transfer costs, gain on assets, and recaptured investment credit were illustrated for the 200 AU ranch in Table 13. Taxes on interest were computed and discounted on the interest payments as were illustrated for the smaller ranch in Table 10.

TABLE 25.--Present Values of Taxes From Selling the Ranches After
Buying and Operating the Ranches

End of Year	Ranch Size					
	I (200 AU)			II (700 AU)		
	Taxes on Interest	Year of Sale Taxes	Total Taxes	Taxes on Interest	Year of Sale Taxes	Total Taxes
Year	Dollars					
1	25,434	-3,159	22,275	84,774	1,561	86,335
2	24,499	-2,018	22,481	80,281	3,172	83,453
3	23,353	-839	22,514	76,683	6,677	83,360
4	22,246	150	22,396	73,011	8,448	81,459
5	20,861	916	21,777	69,317	10,726	80,043
6	19,717	963	20,680	65,834	11,344	77,178
7	18,977	1,185	20,162	62,689	12,042	74,731
8	18,285	1,655	19,940	60,311	10,763	71,074
9	17,430	1,684	19,114	57,618	11,930	69,548
10	16,480	2,135	18,615	54,941	12,544	67,485
11	15,562	2,122	17,684	52,316	12,410	64,726
12	15,002	2,127	17,129	49,799	11,806	61,605
13	14,167	2,522	16,689	47,417	13,212	60,629
14	13,392	2,341	15,733	44,910	12,563	57,473
15	12,852	1,998	14,850	42,965	11,755	54,720

Taxes on interest vary slightly from seventy percent only because of the discounting procedures. Sale taxes do not approximate seventy percent of transaction costs. Taxes are paid on gains that occur because of fast depreciation methods used, but no real gains occur.

Net After Tax Costs and Returns of Selling

Present values of returns before taxes were combined with present values of taxes to obtain the net present values of the selling operation. These returns are presented in Table 26. Returns after taxes from selling are to be combined with costs of buying and returns from operating the ranches.

TABLE 26.--Present Values of Returns After Taxes from Selling the Ranches After Buying and Operating the Ranches

End of Year	Ranch Size	
	I (200 AU)	II (700 AU)
Year	Dollars	
1	3,293	-454
2	2,148	-2,128
3	962	-5,684
4	236	-7,496
5	-811	-9,913
6	-863	-10,484
7	-1,088	-11,226
8	-1,558	-9,801
9	-1,596	-11,178
10	-2,051	-11,827
11	-2,043	-11,727
12	-2,049	-11,155
13	-2,449	-12,593
14	-2,274	-11,978
15	-1,931	-11,195

Total Costs and Returns After Taxes From Buying, Operating, and Selling the Ranches

Present values of buying costs, operating returns, and selling costs were all combined to obtain net present values. Results are as presented in Table 27.

Present values of the 200 AU ranch are negative when it is owned for less than nine years. Present values of the 700 AU ranch are negative if it is owned for less than six years. After nine or more years of owning the larger ranch, the returns from yearly operations build up and the selling costs diminish in present value so that after nine years of operating the smaller ranch and after six years of operating the larger ranch, present values of owning are positive.

TABLE 27.--Total Present Values After Taxes of the Ranches After Buying, Operating, and Selling the Ranches

Year	Ranch Size							
	I (200 AU)				II (700 AU)			
	Buying Costs	Yearly Returns	Selling Costs	Total	Buying Costs	Yearly Returns	Selling Costs	Total
		Dollars				Dollars		
1	-12,726	4,347	3,293	-5,086	-42,027	15,981	-454	-26,500
2	-12,726	6,107	2,148	-4,471	-42,027	26,715	-2,128	-17,440
3	-12,726	8,149	962	-3,615	-42,027	35,658	-5,684	-12,053
4	-12,726	10,239	136	-2,451	-42,027	44,126	-7,496	-5,397
5	-12,726	12,081	-811	-1,456	-42,027	51,909	-9,913	-31
6	-12,726	13,506	-863	-83	-42,027	59,384	-10,484	6,873
7	-12,726	11,647	-1,088	-2,167	-42,027	65,612	-11,226	12,359
8	-12,726	13,509	-1,558	-775	-42,027	68,398	-9,801	16,570
9	-12,726	15,345	-1,596	1,023	-42,027	73,502	-11,178	20,297
10	-12,726	16,316	-2,051	1,539	-42,027	77,578	-11,827	23,724
11	-12,726	16,791	-2,043	2,022	-42,027	81,089	-11,727	27,335
12	-12,726	17,011	-2,049	2,236	-42,027	83,937	-11,155	30,755
13	-12,726	17,687	-2,449	2,512	-42,027	88,541	-12,593	33,921
14	-12,726	17,954	-2,274	2,954	-42,027	91,275	-11,978	37,270
15	-12,726	18,262	-1,931	3,605	-42,027	93,433	-11,195	40,211
∞	-12,726	22,219		9,493	-42,027	155,546		113,519

Present values of returns after taxes to capital and management become greater the longer the ranches are owned.

If the flows of costs and returns are projected into infinity, the present values are \$9,493 and \$113,519, for the smaller and larger ranches respectively. These present values are much less than the values of the market prices (market prices discounted because of installment method of paying). The market values are \$163,468 for the smaller ranch and \$538,855 for the larger ranch.

Rates of Returns After Taxes from Buying,
Operating and Selling the Ranches

Present values of market ranch prices were again used in computing the rates of returns. The rates of returns increase from negative to positive figures as the ownership periods lengthen. See Table 28.

The rates of returns for all ownership periods on the larger ranch and for ownership periods shorter than nine years on the smaller ranch are less for the purchased ranches than for the presently owned ranches. The buying costs on the larger ranch add to the tax costs. The buying costs on the smaller ranch are overcome in time by the tax savings that occur every year of operation.

TABLE 28.--Rates of Returns After Taxes from Buying, Operating, and Selling the Ranches

Years of Operation	Ranch Size			
	I (200 AU)		II (700 AU)	
	Annual	Rate	Annual	Rate
Years	Dollars	Percent	Dollars	Percent
1	-5,340	-3.27	-27,825	-5.16
2	-2,405	-1.47	-9,379	-1.74
3	-1,327	-.81	-4,426	-.82
4	-691	-.42	-1,522	-.28
5	-336	-.21	-7	.00
6	-16	-.01	1,354	.25
7	-374	-.23	2,136	.40
8	-120	-.07	2,563	.48
9	144	.09	2,856	.53
10	199	.12	3,072	.57
11	243	.15	3,291	.61
12	252	.15	3,469	.64
13	268	.16	3,616	.67
14	298	.18	3,764	.70
15	347	.21	3,872	.72
∞	475	.29	5,676	1.05

CHAPTER V

SUMMARY

Present Values

The present values of the ranches, under any of the assumptions used in this study, do not approach the current market prices. Taxes increase the present values of the smaller ranch but decrease the values of the larger ranch. Selling costs decrease the present values of ranches in nearly all circumstances described. Buying costs decrease the present values of the ranches. Tax savings are greatest during the years immediately following purchase of the ranches.

Presently Owned Ranches

Operating Returns

Adapting the standard budgets for nonoperating owners lowers the present values of the ranches and widens the discrepancies between the present values before taxes and the market prices. Tax savings occur from operating the 200 AU ranch by present owners who have outside taxable incomes. The tax savings are not nearly great enough to explain the discrepancy between the present values before taxes and the market price. Tax liabilities occur from operating the 700 AU ranch by present owners. Thus, taxes increase the discrepancy for the larger, more efficient ranch.

Selling Costs

Selling costs increase the discrepancies in present values and in market prices on both ranches. After tax selling costs offset tax savings from operating the 200 AU ranch. Selling costs on the 700 AU ranch supplement taxes in widening the discrepancy between present values and market price. The effects of selling costs diminish as the time of selling is pushed into the future.

Purchased Ranches

Costs of Buying

Buying costs are mainly nontax in nature and the returns are mainly from tax savings. The costs are greater than tax savings. The buying costs are not added to normal returns. Returns and taxes are not normal the first years following purchase. Analysis of the final effect of buying costs can only be made using tax budgets.

Operating Returns

Present values of before tax returns are negative for the 200 AU ranch and positive for the 700 AU ranch. The present values increase in absolute size the longer the ranches are operated.

Present values of taxes saved on operations of the smaller ranch increase through all years budgeted. Present values of taxes saved on the larger ranch increase only through the fifth year. Thereafter, tax liabilities occur.

Present values of returns after taxes to operations after purchase of the ranches are positive and increase with length of time operated. They are greater than for presently owned ranches because of greater tax

deductions the first few years. The differences are mostly offset for the smaller ranch and more than offset for the larger ranch by the costs of buying.

Selling Costs

Interest received from selling is greater than transfer costs. Total returns from selling are nearly the same for every year but have smaller present values as the time of selling is pushed into the future. Present values of tax costs of selling decrease with time. Net present values of returns from selling are positive if the 200 AU ranch is sold in four years or less. All other present values of returns of selling are negative. Present values of returns of selling decrease as the time of selling is delayed into the future.

Total Present Values of Ranches After Buying, Operating and Selling

Total present values are negative for periods of ownership of one through eight years for the 200 AU ranch and for one through five years for the 700 AU ranch. For longer periods of ownership, present values are positive and become larger as the periods of ownership lengthen.

Rates of Returns

Rates of returns on capital to capital and management vary with the assumptions in the same manner as do the present values of the ranches. The rates of returns after taxes vary from -2.57 percent to 1.20 percent over the fifteen years budgeted.

Optimum Length of Ownership Period

Average rates of returns and present values after taxes continue to increase the longer the periods of ownership by both present owners and new owners. The optimum length of ownership period occurs when the ranches are not sold. Assuming the ranches are never to be sold, implicitly and unrealistically assumes no costs for transferring from generation to generation. Even if the ranches were never sold, the average rates of returns after taxes are only .29 percent and 1.20 percent for the 200 AU and 700 AU ranches respectively.

Tax Savings

Presently Owned Ranches

Net present values of the tax savings to present owners of ranches who have other incomes taxes at the seventy percent rate are shown in Tables 29 and 30.

The present value before taxes of the smaller ranch decreases the longer the ranch is owned. The present value of the tax savings increase the longer the ranch is owned. The net effect is an increase in the present value after taxes the longer the ranch is owned.

Unlike the smaller ranch, the returns before taxes are positive and the present value of the flow of returns before taxes increase the longer the larger ranch is owned. Again, unlike the smaller ranch, taxes must be paid on the returns of the larger ranch. The net effect after taxes is that the longer the larger ranch is owned the present value increases but at a slower rate than the present value of the returns before taxes.

TABLE 29.--Total Present Values Separated into Returns Before Taxes and Tax Savings from the Presently Owned 200 AU Ranch

Years of Operation Years	Returns Before Taxes			Taxes Saved			Net
	Operating	Selling	Total Returns Before Taxes	Operating	Selling	Total Tax Savings	Total Present Values
	Dollars						
0		27,075	27,075		-30,619	-30,619	-3,544
1	-1,465	25,786	24,321	1,856	-29,162	-27,306	-2,984
2	-2,860	24,557	21,697	3,624	-27,771	-24,147	-2,450
3	-4,188	23,387	19,199	5,308	-26,449	-21,141	-1,942
4	-5,454	22,275	16,821	6,911	-25,190	-18,279	-1,459
5	-6,659	21,213	14,554	8,438	-23,990	-15,552	-998
6	-7,806	20,203	12,397	9,893	-22,848	-12,955	-559
7	-8,899	19,242	10,343	11,278	-21,761	-10,483	-141
8	-9,940	18,324	8,384	12,597	-20,723	-8,126	257
9	-10,932	17,453	6,521	13,853	-19,737	-5,884	637
10	-11,876	16,621	4,745	15,050	-18,797	-3,747	998
11	-12,777	15,831	3,056	16,189	-17,903	-1,714	1,342
12	-13,632	15,075	1,443	17,275	-17,049	226	1,670
13	-14,447	14,358	-89	18,308	-16,237	2,071	1,982
14	-15,224	13,676	-1,548	19,292	-15,466	3,826	2,278
15	-15,964	13,023	-2,941	20,230	-14,728	5,502	2,561
∞	-30,760		-30,760	38,986		38,986	8,226

TABLE 30.--Total Present Values Separated into Returns Before Taxes and Tax Savings from the Presently Owned 700 AU Ranch

Years of Operation Years	Returns Before Taxes			Taxes Saved			Net
	Operating	Selling	Total Returns Before Taxes	Operating	Selling	Total Tax Savings	Total Present Values
	Dollars						
0		90,189	90,189		-110,471	-110,471	-20,282
1	9,269	85,896	95,165	-3,119	-105,213	-108,332	-13,167
2	18,096	81,801	99,897	-6,090	-100,197	-106,287	-6,390
3	26,502	77,905	104,407	-8,918	-95,425	-104,342	-936
4	34,510	74,198	108,708	-11,613	-90,884	-102,497	6,211
5	42,135	70,663	112,798	-14,179	-86,554	-100,733	12,065
6	49,397	67,299	116,696	-16,623	-82,433	-99,056	17,640
7	56,313	64,097	120,410	-18,950	-78,512	-97,462	22,949
8	62,900	61,040	123,940	-21,167	-74,768	-95,935	28,006
9	69,173	58,136	127,309	-23,278	-71,210	-94,488	32,821
10	75,148	55,367	130,515	-25,289	-67,818	-93,107	37,408
11	80,838	52,734	133,572	-27,203	-64,592	-91,795	41,775
12	86,258	50,217	136,475	-29,027	-61,510	-90,537	45,937
13	91,419	47,827	139,246	-30,764	-58,583	-89,347	49,898
14	96,333	45,554	141,887	-32,718	-55,799	-88,517	53,671
15	101,015	43,381	144,396	-33,994	-53,137	-87,131	57,266
∞	194,640		194,640	-65,506		-65,506	129,134

Purchased Ranches

Tax savings are possible from the operation of both sizes of ranches when the tax savings from the years immediately following purchase of the ranches are considered. Tax savings provided by recently purchased ranches are indicated in Table 31.

Present values of taxes saved from owning the 200 AU ranch increase the longer the ranch is owned. Present values of taxes saved on the 700 AU ranch increase through at least the first fifteen years of ownership. Soon after the first fifteen years, the present value of taxes saved would start decreasing. This is indicated by the taxes due on the presently owned ranch.

Tax Savings Are Greatest in Years Immediately Following Purchase

Tax savings are greatest per year in the years immediately following purchase of the ranches. The extra tax savings to new owners of the smaller ranch are more than enough after eight years of operation to offset buying costs. Tax effects reach nearly normal levels after eight years of operation. These two tax phenomena may tend to set up a cycle of buying and selling ranches of the 200 AU size every eight years.

The extra savings in the first years of operation by the new owners are not enough to offset the buying costs of larger ranches. The greater value of the larger ranch to present owners over prospective owners would tend to discourage sales.

TABLE 31.--Total Present Values Separated into Taxes Saved and into Returns Before Taxes from Purchased Ranches

Years of Operation	I (200 AU)			II (700 AU)		
	Taxes Saved	Returns Before Taxes	Total	Taxes Saved	Returns Before Taxes	Total
Years	Dollars					
1	13,267	-18,353	-5,086	18,309	-44,809	-26,500
2	16,181	-20,652	-4,471	23,169	-40,609	-17,440
3	19,313	-22,928	-3,615	23,971	-36,024	-12,053
4	22,480	-24,931	-2,451	26,500	-31,897	-5,397
5	25,565	-27,020	-1,455	28,153	-28,184	-31
6	28,683	-28,766	-83	30,693	-23,820	6,873
7	31,108	-33,275	-2,167	32,497	-20,138	12,359
8	32,824	-33,599	-775	33,013	-16,443	16,570
9	35,252	-34,229	1,023	33,706	-13,409	20,297
10	37,262	-35,723	1,539	34,242	-10,518	23,724
11	39,272	-37,250	2,022	34,919	-7,584	27,335
12	40,872	-38,636	2,236	35,546	-4,791	30,755
13	42,710	-40,198	2,512	36,202	-2,281	33,921
14	44,351	-41,397	2,954	36,935	355	37,270
15	45,886	-42,281	3,605	37,429	2,782	40,211

Tax Advantages

Presently Owned Ranches

Tax savings exist for the present owners of the smaller ranch. Tax savings more than offset the additional costs involved for the non-operating owner. Tax savings do give an advantage from taxes to non-operating owners with large taxable incomes over owner-operators with no other income.

No tax savings exist for the present owners of the larger ranch. Nonoperating owners of larger ranches are actually at a disadvantage after taxes over owner-operators who have no other income.

Purchased Ranches

Tax savings exist for new owners of both ranches. Before tax returns are negative for the smaller ranch. Nonoperating owners with large taxable incomes have advantage over owners of the smaller ranch who have no other income. Assertions about tax advantages on the larger ranch cannot be made here. The taxes due on the ranch income to an owner-operator have not been determined.

At the beginning of this thesis it was hypothesized that the effects of federal income taxes may help explain the discrepancy between the present values of ranches as estimated by the returns from beef production before taxes and the market prices of ranches. The discrepancy may also be stated in terms of rate of return on investment. The rates of returns as computed by returns from beef production before taxes and market prices were much lower, $-.19\%$ for the smaller ranch and 1.75% for the larger ranch, than the current market rate of interest before taxes, 5% . The after tax rate of interest can be as high as $.29\%$ for the smaller ranch but only 1.05% for the larger ranch, including costs and returns from buying, operating and selling. For the smaller ranch, the discrepancy can be partly explained by tax savings. For the larger ranch, the discrepancy is greater because of taxes.

However, part of the original discrepancy may be explained by the market rate of interest after taxes. Investors with large taxable incomes may be receiving as little as 1.5% returns on investment after taxes instead of the 5% market rate before tax rate of interest.

APPENDIX

DATA SOURCES AND AREA CHARACTERISTICS

The text of this appendix consists largely of material quoted from sections of Goss and Martin (1962). The tables are of the same format but have been changed and adapted as described in the preceding chapters.

The principal sources of data was a survey of ranchers in the Southwest Desert Area, . . . conducted during July, August, and September, 1961. Other primary data were obtained from businessmen dealing in ranch supplies and various state, federal, and county officials whose duties bring them in contact with ranching. Secondary sources utilized were primarily publications or unpublished material in the files of the Department of Agricultural Economics at The University of Arizona.

.
Ranchers interviewed were selected from the list of permittees obtained from the Arizona State Office of the Bureau of Land Management. Permits for less than 1,280 acres had been excluded from this list by the BLM. . . . No attempt was made to obtain a random sample. Instead, as many as possible of the 85 ranchers listed were contacted.
.

Standard Budgeting Procedure

Observations were divided into classes on the basis of three sub-areas corresponding with Bureau of Land Management Grazing Areas --- 3, 6, and 7.

Of the South Desert Area only Bureau of Land Management Area 6, which is Section 15 yearlong range, is used. This area is delineated in Figure 1.

The standard budgets were constructed using modes and medians from the survey data. The budgets are represented as being "typical"

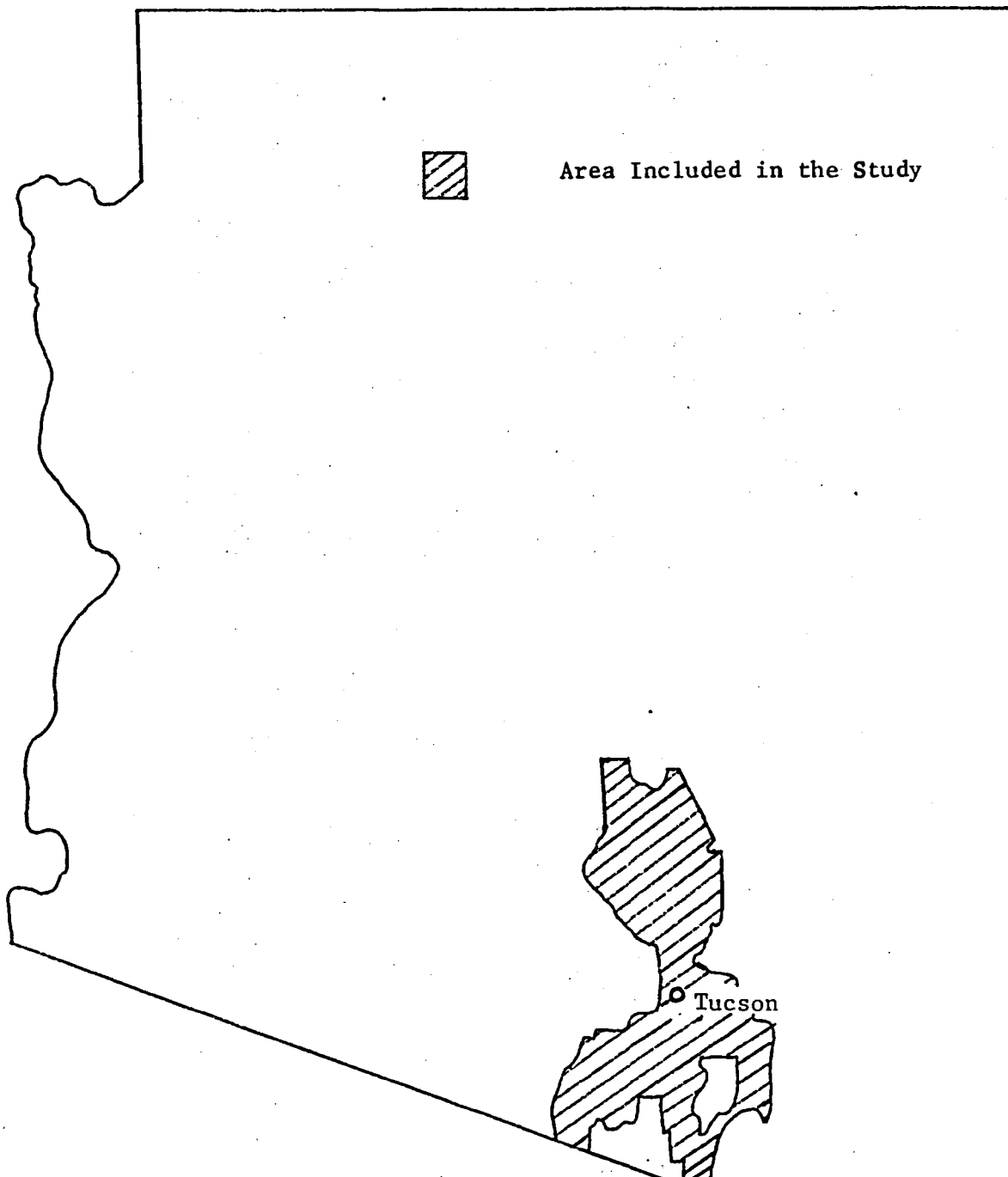


FIGURE.--State of Arizona, Showing Location of the Study Area Within the Southwest Desert Area

rather than average. The two ranch sizes presented here are Case One of the 200 and 700 animal unit (AU) sizes.

Average animal units were determined by weighting the numbers of each class of cattle by the respective AU equivalent for that class, as follows:

Mature cows	1.0	AU
Yearling heifers and steers	0.8	AU
Two-year-old stock	1.0	AU
Calves	0.5	AU
Bulls	1.25	AU
Horses	1.5	AU

In each area a typical organization was formed for each size of operations. Appearance in one-half of the observations was necessary to qualify a practice or item as typical. When an item was included, its model value was assigned as the typical value. Prices assigned to these inputs were obtained from Tucson area businessmen dealing in the inputs.

General Description of the Area

Area six lies mainly between 2,000 and 4,000 feet, rising to the east and the south. Average rainfall is 10 to 15 inches, being slightly greater at elevations over 4,000 feet. Precipitation occurs in two main periods, late November through February, and in July and August. The land is, in general, a sloping plain cut by numerous washes.

This area supports year-round grazing for cow-calf operations based mainly on grasses for forage during the winter and spring and on browse during the drier summer months. The area is almost entirely southern desert shrub forage type, breaking into desert grassland type at higher elevations. Perennial grasses are scarce. Spring rains may bring a growth of annual grasses. A large extent of the area supports greasewood, which has no forage value. The chief browse plant is desert saltbrush with some forage value also being obtained from white bur sage, mesquite, and palo verde. In the grassland areas, grama grasses are most important, with guagilla being an important browse plant.

Ranch Characteristics

The two ranch sizes presented are Case One 200 and 700 animal unit (AU) sizes.

Both units are composed of 11 percent deeded lands and 89 percent leased land. . . [Only] Case One, in which all leased land was BLM land, . . . [was considered. The differences in cost structure were not significant for the purposes of this tax study.]

.
Section 15 BLM lands are leased by the acre. Fees, 30 cents per AUM, are based on carrying capacity, 6 AU per section, as rated by the leasor. Typical usage on all land was assumed to be 12 AU's per section.

Livestock

[Both] units are cow-calf operations based entirely on rangeland with no irrigated property. Breeding herds are good grade Hereford stock. [Neither] of the units employ special breeding pastures. Bulls are kept in the breeding herd five years and stocked at a rate of one bull per 15 cows and two-year-old heifers. Average price paid per bull is \$300. Heifers are bred to calve as two-year-olds. Replacement heifers are all raised. They are selected for breed type.

.
The breeding season is yearlong. . . The calving season reflects the breeding period. . . [but is] mainly between January 1 and May 1, with 80 percent or more being born during this time. An average date of April 1 was used for figuring AUM's. . . An 80 percent calf crop is typical, based on number of calves branded from mature cows and two-year-olds.

The 200 AU unit. . . selects replacement heifers in November. All remaining calves and all cull cows are sold at this time. The 700 AU. . . [unit tops] out its steer calves, selling 60 percent in November along with cull cows. The remaining steers and all heifers are held until May. Replacement heifers are selected in May. [For inventories see Table 32.]

[Both]. . . units keep cows in the breeding herd an average of seven years. This means approximately fourteen percent are replaced each year.

Death loss for all units was assumed to be two percent among mature stock and three percent among young stock two years old or younger.

Buildings and Improvements

Houses are concrete block or adobe and outbuildings are frame with metal roofs. Barns are primarily for hay storage, with some space for cattle shelter. [See Table 33.]

TABLE 32.--Livestock Inventory^a and Investment by Size of Ranch, for Standard and Tax Budgets, 1965

Class of Livestock	Inventory	I (200 AU)		II (700 AU)	
	Value per Head	Average Inven.	Market Value	Average Inven.	Market Value
	Dollars	No.	Dollars	No.	Dollars
Cattle: ^b					
Cows ^b	160	140	22,400	460	73,600
Bulls ^c	250	9	2,250	30	7,500
Yearling heifers	80	19	1,520	178	14,240
Yearling steers	102			71	7,242
Sub-total		168	26,170	739	102,582
Horses:					
Saddle	175	3	525	5	875
Other ^d	150	2	300	3	450
Sub-total		5	825	8	1,325
Total Investment			26,995		103,907

a. As of January 1.

b. Two years old and over.

c. Depreciation on investment in bulls = \$176 per year for 200 AU ranch;
\$588 per year for 700 AU ranch.

d. Breeding stock and colts.

TABLE 33.--Average Investment and Annual Depreciation and Repairs of Buildings and Improvements for Standard Budgets, Typical and as Adjusted for Tax Budgets, 1965

Type of Investment	Size of Ranch							
	I (200 AU)				II (700 AU)			
	Description	Average Invest.	Annual Deprec.	Annual Repair	Description	Average Invest.	Annual Deprec.	Annual Repair
Labor housing Barns	1, frame, open, metal roof, 1,300 sq. ft.	1,300	65	52	1, frame, 450 sq. ft. 2, frame, open, metal roof, 2,700 sq. ft. total	1,350 2,700	75 135	54 108
Corrals	1, 75' x 132', 3 pens wire and tie const., loading chute, 50' x 75' barbed wire traps at all waters.	680	68	34	1, 132' x 135', 3 pen wire and tie const., loading chute, 50' x 75' barbed wire traps at all waters.	900	90	45
Wells	4, 200' ave. depth, storage tanks, 2 wind mills, 2 gas engines.	7,281	728	437	10, 200' ave. depth, storage tanks, 5 wind mills, 5 gas engines.	18,052	1,805	1,083
Dirt tanks ^a	4.	1,665		167	14.	5,827		583
Machine shed	1, frame, closed, metal roof, 500 sq. ft.	480	32	10	1, frame, closed, metal roof, 500 sq. ft.	480	32	10
Shop					1, frame, 230 sq. ft.	200	10	4
Fences	27 mi., 4 wires, steel posts, staves, 25' between posts.	5,812	447	291	93 mi., 4 wires, steel posts, staves, 25' between posts.	20,150	1,550	1,008
Typical budget Totals		17,218	1,340	991		49,659	3,697	2,895
Operator Housing	1, 900 sq. ft.	3,600	144	144	1, 900 sq. ft.	3,600	144	144
Tax Budget Totals		20,818	1,484	1,135		53,259	3,841	3,039

a. For tax budgets dirt tank repair would actually be a soil and water conservation expense.

Depth of wells vary greatly from ranch to ranch, and also from well to well within a ranch. A modal figure of 200 feet was chosen as representative. Each source of water, well or dirt tank, serves 1,600 acres of range. Water sources are 40 percent wells and 60 percent dirt tanks. Each well is provided with a trough and a cylindrical metal storage tank. Tank capacities vary from 5,000 to 30,000 gallons. Fifty percent per ranch are 5,000 gallon capacity, 15 percent are 15,000 gallon, and 35 percent are 30,000 gallon. Pumping systems are 60 percent windmills and 40 percent gasoline engines. Troughs are of concrete construction.

Fencing was computed on a basis of one mile per 400 acres of range. Fences are four-wire construction on steel posts spaced 25 feet with three staves between posts. Traps, of similar construction, are found at all waters. Although much of the present fencing is on wooden posts, all repair work and replacement is being done with steel posts.

Construction costs of dirt tanks and fences are shared on BLM land. . .

Corrals for the . . . [larger unit]. . . are of wire and railroad tie construction with a maximum capacity of 300 head assuming 50 square feet per cow and calf. A proportionately smaller corral of similar construction is assumed for the 200 AU operation. Corral facilities include three pens, a crowding chute, loading chute, and a small holding pasture.

Machinery and Equipment

Each unit has a tractor, although [the number of] hours [it is] operated are few. [The] larger. . . [unit has a]. . . large diesel crawler. . . [tractor]. . . purchased new. . . The smaller. . . [unit has either]. . . a small gasoline crawler or. . . wheel tractor purchased used. These are used for tank cleaning and road repair.

Each unit. . . [has a one-half ton]. . . pickup purchased new. . . Annual operation is 10,000. . . [on the larger and] . . . 15,000. . . [on the smaller unit because it has no truck. See Table 34.]

The. . . 700 AU. . . [unit has one 1-1/2 ton truck which was] . . . purchased new. [It]. . . is equipped with a stockrack. . . [and]. . . driven approximately 5,000 miles per year.

.....
Livestock handling equipment on the 200 AU. . . ranch consists only of a squeeze chute. The 700 AU. . . ranch has a stock sprayer and a stock scale, [of five ton capacity] in addition. Sprayers are powered by gasoline engines.

.....
The smaller ranch has a horse trailer.
.....

TABLE 34.--Average^a Investment and Annual Depreciation, Repairs, and Operating Expenses of Machinery and Equipment, 1965

Type of Investment	Ranch Size											
	I (200 AU) ^b					II (700 AU) ^b						
	Description	Aver. Invest.	c	d	e	Description	Aver. Invest.	c	d	e		
		Dollars						Dollars				
Tractor	1, crawler or wheel, 30-40 H.P., used. ^f	2,500	188	45	90	1, crawler, 60-70 H.P., new.	9,000	625	166	314		
Truck						1, 1-1/2 ton with rack, new.	2,250	438	150	250		
Pickup or Jeep	1, 1/2 ton, new.	1,400	233	300	600	1, 1/2 ton, 4wd, new.	2,000	333	200	400		
Stock Equipment	squeeze chute, vet. equip., branding irons.	245	31	9		scales, squeeze chute vet. equip., spraying rig, branding irons.	1,165	124	47			
Stock Trailer	1, one-horse, used.	175	16	15								
Saddles	2.	150	19	6		4.	300	38	12			
Shop Equipment	well tools, general tools.	200	25	8		welder, well tools, general tools.	500	63	20			
Other	fuel barrels.	25	3	1		2 fuel tanks.	150	15	6			
Totals		4,695	515	690			15,365	1,636	601	964		

- a. "Average" refers to average value of items during their useful life.
- b. Herd size typical of the investment group. Herd size may be varied for each investment group.
- c. Annual depreciation.
- d. Annual repairs.
- e. Operating expenses.
- f. "New" or "used" refers to typical management practice when purchasing item.

TABLE 35.--Land Inventory by Size of Ranch, 1965

Class of Land	Ranch Size			
	I (200 AU)		II (700 AU)	
	Owned	Leased	Owned	Leased
	Acres		Acres	
Owned Range	1,280		4,160	
Bureau of Land Management Range Permits		9,600		32,960
Total Acres Operated	1,280	9,600	4,160	32,960

TABLE 36.--Total Investment by Size of Ranch for Standard Budgets, Typical and as Adapted for Tax Budgets, 1965

Item	Ranch Size			
	I (200 AU)		II (700 AU)	
	Average Investment ^a		Average Investment ^a	
	Typical Budget	Adapted	Typical Budget	Adapted
	Dollars		Dollars	
Land	140,782	140,782	466,341	466,341
Buildings ^b	1,780	5,380	4,730	8,330
Improvements	15,438	15,438	44,929	44,929
Machinery and Equipment	4,695	4,695	15,365	15,365
Cattle	26,170	26,170	102,582	102,582
Horses	825	825	1,325	1,325
Total Investment ^b	189,690	193,290	635,272	638,872

a. "Average" refers to average value of items during their useful life.

b. Difference in typical and adapted budgets is the addition of the value of the operators houses to the tax budgets.

Shop tools are present in varying amounts. [Both]. . .units have well tools. . . [The larger unit has]. . .an AC welder.

Gasoline storage facilities are fuel drums on the 200 AU ranch . . .[and]. . . 550 gallon tanks on stands. . .[on the 700 AU ranch]. . . [The larger also has]. . . diesel storage tanks.

Feed and Forage

All supplementary feeds are purchased. . . Alfalfa hay is fed to horses and occasionally to sick cattle. Feeding rate is two tons per horse per year.

Salt is provided in block form and fed at a rate of 20 pounds per AU per year.

Protein supplements are fed during the summer months to supplement supplies of forage. This is a mixture of cottonseed meal and salt in a 2:1 ratio. [See Table 37.]

Labor Use

The work load varies from season to season. The heaviest load is during the spring and fall. The lightest load is during the winter.

The 200 AU operation employs the operator full time with no added help. . . The 700 AU operation employs a man for four weeks total in the spring and fall in addition to. . .[the one full time operator and one full time worker. See Table 38.]

Cash Costs

Grazing fees are charged on the basis of rated carrying capacities of. . .[six AU's per section even though grazed at the rate of 12 AU's per section.]

Veterinary costs average \$.25/AU for the. . .[larger unit.] The 200 AU unit neglects veterinary services excepting vaccination of calves. Vaccination cost per dose ranges from 8 to 16 cents with 12 cents being typical.

Machine operating and repair costs are three to five cents per mile for trucks and pickups and \$.38 to \$1.57 per hour for tractors. Repair costs for most other equipment are 2 percent of replacement cost. Repairs on stock trailers are 5 percent of replacement cost.

Utility costs include electricity and telephone service on all units. Miscellaneous costs are brand inspection fees of 15 units per head sold.

The tax rate of \$6.0764 per \$100 assessed valuation was obtained by weighting individual school district rates by their area.

TABLE 37.--Forage and Feed Use and Feed Costs, 1965

Kind of Feed	Unit	Ranch Size						
		I (200 AU)				II (700 AU)		
		Price Per Unit	Fed Amount	Purchased		Fed Amount	Purchased	
Amount	Cost			Amount	Cost			
		Dollars	Unit	Unit	Dollars	Unit	Unit	Dollars
Alfalfa Hay ^a	Ton	30.	10	10	300	16	16	480
Protein Supp. ^b	Cwt.	3.30	100	100	330	350	350	1,155
Salt ^c	Cwt.	2.20	40	40	88	140	140	308
Total					718			1,943
Owned Range	AUM		264			924		
BLM Range ^d	AUM	.30	2,136	1,080	324	7,476	3,708	1,112
Total Range	AUM		2,400	1,080	324	8,400	3,708	1,112

a. Alfalfa for horses and sick cattle.

b. Protein supplement feeding rate is 0.5 lb/AU/day for 100 days.

c. Salt feeding rate is 20 lb/AU/year.

d. Fifteen sections grazed at the rate of 12 AU/section but rated at 6 AU/section; 51.5 sections grazed at the rate of 12 AU/section but rated at 6 AU/section.

TABLE 38.--Labor Use by Type of Labor and Cost per Ranch, for Standard Budgets, Typical and as Adjusted for Tax Budgets, 1965

Labor	Ranch Size			
	I (200 AU)		II (700 AU)	
	Typical Budget	Adapted Budget	Typical Budget	Adapted Budget
Use		Months		
Family ^a	12	0	12	0
Hired	0	12	13	25
Cost		Dollars		
Family ^a	5,000	0	5,000	0
Hired ^b	0	5,000	3,090 ^c	8,090
Total Cost	5,000	5,000	8,090	8,090

- a. Family labor becomes hired labor in the tax budgets.
- b. Figures include Social Security and Workmen's Compensation Insurance.
- c. One full-time worker is paid \$2,810 and one seasonal worker \$280 for four weeks.

Bulls and horses are assessed at \$50 per head. Cattle one year old or over as of January 1 are assessed at \$23 per head. Owned land is assessed at \$1.20 per acre. Fencing is assessed at \$80 per mile. Buildings and improvements are assessed at from 10 percent to 33 percent of average inventory value. Tax costs include licenses for trucks and pickups. . .

Insurance rates are \$6.70 per \$1,000 for frame buildings. Liability rates are \$17.60 plus \$2.20 per section for 100-300-50 coverage. Automobile rates are \$19.80 per \$1,000 for similar type coverage. [See Table 39.]

TABLE 39.--Operating Costs and Expenses for Standard Budgets, Typical and as Adapted for Tax Budgets, 1965

Item	Ranch Size			
	I (200 AU)		II (700 AU)	
	Typical	Adapted	Typical	Adapted
	Dollars		Dollars	
Cash Costs				
Grazing fees (BLM)	324	324	1,112	1,112
Labor hired	0	5,000	3,090	8,090
Feed purchased	718	718	1,943	1,943
Repairs and Maintenance				
Buildings and improvements	991	1,135	2,895	3,039
Machinery and equipment	384	384	601	601
Veterinary services and supplies	20	20	175	175
Taxes				
Cattle	250	250	1,082	1,082
All other property	474	524	1,296	1,346
Machinery operating costs	690	690	964	964
Insurance	317	338	501	522
Utilities	100	200	545	645
Miscellaneous ^a	16	16	52	52
Administration costs ^b		557		1,813
Total cash costs	4,284	10,156 ^c	14,256	20,384 ^c
Noncash costs				
Depreciation				
Buildings and improvements	1,340	1,484	3,697	3,841
Machinery and equipment	515	515	1,636	1,636
Bulls	176	176	588	588
Bull death loss ^d	45	45	150	150
Interest on cash costs ^e	129	305	428	612

TABLE 39.--Continued.

Item	Ranch Size			
	I (200 AU)		II (700 AU)	
	Typical	Adapted	Typical	Adapted
	Dollars		Dollars	
Total noncash costs	2,205	2,525	6,499	6,827
Total operating costs	6,489	12,681	20,755	27,211
Owner-operator family labor	5,000		5,000	
Interest on investment ^f	9,489	9,665	31,764	31,944
Total ranch costs and expenses	20,974	22,346	57,519	59,155

- a. Brand inspection fees.
- b. Five percent of gross ranch income.
- c. These figures, discounted five percent for one-half year (2.5% for full year) because of spread throughout the year, are used in finding the present value of investing in the ranches. ($\$10,156 \times .9756 = \$9,908$) ($\$20,384 \times .9756 = \$19,887$).
- d. Two percent of investment in bulls.
- e. Six percent for one-half year.
- f. Five percent on investment in land, buildings, equipment, and livestock.

Noncash Costs

Depreciation on buildings and improvements amounts to 2 percent of replacement cost per year for houses and barns and 1 percent for sheds and shops. The cost for wells is 3 percent; for dirt tanks, 5 percent; and for corrals, 10 percent.

Machinery and equipment are depreciated by subtracting salvage value from replacement cost and allocating the remainder over useful life.

Bulls are depreciated by allocating depreciable value over a five year period. Value of bulls was first decreased by 2 percent per year to allow for death loss.

Interest on costs is figured at 6 percent for one-half of a year.

Interest on investment is calculated at 5 percent of value of land, buildings and improvements, equipment, and livestock. Values of ranching units in this area reflect strong speculative pressures. Interest on investment when figured from these values becomes a dominant factor in computing net returns. In . . . [neither] . . . case is the gross ranch income as large as interest on investment. Recognize that the values are opportunity values and not necessarily invested values.

Owned land is valued at \$75 per acre and leased land at \$500 per cow unit. Ranches in this area have sold for up to \$1,000 per cow unit.

Values of buildings are included in the land values. Machinery and livestock values are added to land values to obtain total ranch value.

Income

Beef cattle prices are . . . [the average prices at the Phoenix market for years 1957-1964.] . . . Prices for mature cows are auction prices. Yearlings and calves are priced at contract rates on the ranch. Sale weights were shrunk 3 percent.

Government conservation payments were estimated by dividing the total amount paid to Arizona ranchers in 1960 by the estimated number of ranches in the state. [See Table 40.]

.....

Summary

Income and expenses are summarized in Table 42.

TABLE 40.--Production and Sales of Cattle and Other Income for Standard Budgets, 1965

Class of Cattle ^a	Average Weight	Average Price	Ranch Size					
			I (200 AU)			II (700 AU)		
			Number Sold	Total Weight	Total Value of Sales	Number Sold	Total Weight	Total Value of Sales
	Pounds	Dollars	Head	C.w.t.	Dollars	Head	C.w.t.	Dollars
Cows	900	15.07	16	144	2,170		441	7,324
Heifer calves	364	23.90	36	131	3,131			
Steer calves	388	25.90	55	213	5,517			
Steer calves	412	23.90				108	445	10,636
Yearling heifers	456	23.90				114	520	10,577
Yearling steers	446	25.90				70		8,081
Government payments					325			325
Total			107	488	11,143	341	1,718	36,943

a. Bulls and horses are accounted for as capital items and neither purchases nor sales of them are shown as current items.

TABLE 41.--Ranch Income and Expense Summary for Standard Budgets,
Typical and as Adapted for Tax Budgets, 1965

Item	Ranch Size			
	I (200 AU)		II (700 AU)	
	Typical	Adapted	Typical	Adapted
Total ranch income	11,143	11,142	36,943	36,943
Total operating expense	6,489	12,681	20,755	27,211
Return to capital, management and labor	4,654	-1,538	16,188	9,732
Less owner-operated and family labor	5,000		5,000	
Return to capital and management	-364	-1,538	11,188	9,732
Less interest on investment	9,485	9,665	31,944	31,944
Return to management	-9,831 ^a	-11,203 ^b	-20,756 ^a	-22,212 ^b

- a. Figures to be used in determining the present value of a ranch to management of a owner-operator by the standard budget method.
- b. Figures to be used in determining the present value of a ranch to management of a non-operating owner by the standard budget method.

LITERATURE CITED

- Beneke, R., "Some Effects of Income Tax Regulations on Farming Efficiency," Journal of Farm Economics, 34:520-34, November, 1952.
- Butters, J. K., et al., Effects of Taxation - Investments by Individuals, Harvard Univ., Riverside Press, Cambridge, Mass., 1952.
- Carter, H. O. and G. W. Dean, "Some Effects of Income Taxes on Large-Scale Agriculture," Journal of Farm Economics, 44:754-68, August, 1962.
- Goss, W. K., "Cost-Size Relationships for Cattle Ranches in Arizona's Southwest Desert Area," Unpublished Master's Thesis, University of Arizona, 1962.
- Goss, W. K. and W. E. Martin, Organizations, Costs, and Returns for Southwest Arizona Cattle Ranches, Unpublished dittoed report prepared for the Bureau of Land Management, Department of Agricultural Economics, University of Arizona, Tucson, Arizona, April, 1962.
- Internal Revenue Service, Tax Code and Regulations, U. S. Government Printing Office, 1965.
- Jefferies, G. L., Unpublished primary data from interviews of sixty-six ranches, 1963.
- Jefferies, G. L., "The Marginal Value of Public Grazing Permits to Arizona Ranchers," Unpublished Master's Thesis, University of Arizona, 1964.
- Martin, W. E. and W. K. Goss, Cost-Size Relationships for Southwestern Arizona Cattle Ranches, Technical Bulletin No. 155, University of Arizona, Agricultural Experiment Station, Tucson, November, 1963.
- O'Byrne, J. C. and J. D. Keast, Doane's Farm and Ranch Tax Savings Guide, The Allen Smith Company, Indianapolis, Indiana, 1964.
- Phoenix Title and Trust Company, Rate Schedule, 1962.

Stocker, Frederick D., "The Impact of Federal Income Taxes on Farm People," U. S. Department of Agriculture, ARS, 43-11, Washington, D. C., July, 1955.

Wheeler, R. O., "The Possible Effects of the Federal Income Tax on Resource Use," Western Farm Economic Association Proceedings, 32:147-50, 1959.