MONTANA STATE UNIVERSITY

The effects of selected tax alternatives on Montana farmers and ranchers
by Charles Thomas Hash

A THESIS Submitted to the Graduate Faculty in partial fulfillment of the requirements for the degree
of Master of Science in Agricultural Economics
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Abstract:
The purpose of this study is twofold: namely, (1) to demonstrate the effects of some selected tax alternatives upon farmers and ranchers in Montana's Great Plains areas; and (2) to suggest and explore some measures that might make the tax system more adaptable to Great Plains agriculture.

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A budgetary analysis of the probable effects of this expanded income tax upon three sizes of cattle ranches and three sizes of dryland crop farms in Montana's Great Plains area were demonstrated. A demonstration of the additional burdens imposed upon these same units by raising a similar amount of revenue through use of a sales tax and through use of a property tax was also presented. The analysis indicated that the expanded income tax would impose less burden upon the units under analysis than either a sales tax or a property tax of the same revenue-producing capacity. Indications were that the property tax would impose the heaviest burden of the three taxes considered.

The characteristics of Montana's Great Plains agriculture suggest that action may be in order to make the present tax structure more acceptable to taxpayers in the area. Flexibility with respect to taxpayers' income was suggested as the primary requirement of a tax system in a high risk area such as Montana's Great Plains.

THE EFFECTS OF SELECTED TAX ALTERNATIVES ON
MONTANA FARMERS' AND RANCHERS

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CHARLES HASH

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Submitted to the Graduate Faculty

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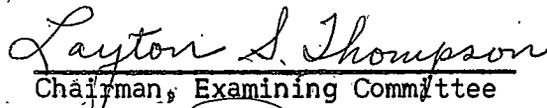
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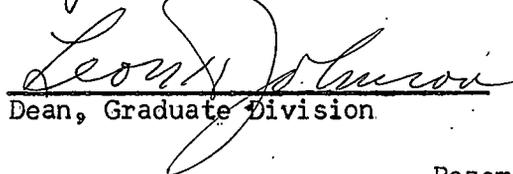for the degree of

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Any errors or omissions in this study are the responsibility of the author.

ABSTRACT

The purpose of this study is twofold: namely, (1) to demonstrate the effects of some selected tax alternatives upon farmers and ranchers in Montana's Great Plains areas; and (2) to suggest and explore some measures that might make the tax system more adaptable to Great Plains agriculture.

In March of 1959 the thirty-sixth legislative assembly of the State of Montana passed five laws relating to state income taxes. The estimated net effect of these measures upon state revenues is $6 million annually.

A budgetary analysis of the probable effects of this expanded income tax upon three sizes of cattle ranches and three sizes of dryland crop farms in Montana's Great Plains area were demonstrated. A demonstration of the additional burdens imposed upon these same units by raising a similar amount of revenue through use of a sales tax and through use of a property tax was also presented. The analysis indicated that the expanded income tax would impose less burden upon the units under analysis than either a sales tax or a property tax of the same revenue-producing capacity. Indications were that the property tax would impose the heaviest burden of the three taxes considered.

The characteristics of Montana's Great Plains agriculture suggest that action may be in order to make the present tax structure more acceptable to taxpayers in the area. Flexibility with respect to taxpayers' income was suggested as the primary requirement of a tax system in a high risk area such as Montana's Great Plains.

PART I

INTRODUCTION

The Problem Situation &

At present approximately 63 percent of the tax revenues in Montana
are derived from taxes upon property.[1] Many persons feel that this is
excessive and that other means of government financing should be ex-
ploited. This feeling has been manifested in many ways: (1) Sales tax
laws have been introduced in the state legislature.[2] (2) The Governor's
Committee on Taxation and Education has proposed a proportional income
tax.[3] (3) E. J. Byrne of the State Board of Equalization has proposed a
gross income tax,[4] and (4) the thirty-sixth legislative assembly passed
a bill which permits expanded income tax.[5]

The above are but a few of the alternatives facing Montana citizens.
The time is approaching when a choice must be made. Current revenue
needs are beginning to press the revenue-producing capacities of the

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[1] Montana State Board of Equalization, Eighteenth Biennial Report,
Helena, Montana, 1958.

[2] HB 454 introduced in the 1957 Legislature by Representative Crist,
(R Yellowstone County). The bill died in committee.

[3] Carlton A. Infanger, Proceedings, Conference on Financing State
Services, Montana State College, Bozeman, Montana, 1958.

[4] E. J. Byrne, Proceedings, Conference on Financing State Services,
op.cit.

[5] House Bill 315 passed by the 1959 Legislative Assembly.

present tax system. The deficit financing alternative -- passing of our responsibilities upon future generations -- is as unpalatable to most people as increased taxes under the present system, e.g. increasing property taxes.

We know that persons of similar economic status tend to spend their earnings on similar kinds of things. We know that people's incomes come from different sources -- salaries, wages, investments, etc. The size and source of one's earnings and the disposition of these earnings would have some bearing upon the amount of taxes a person would have to pay if the tax were on earnings, on spending, or on ownership of property.

Persons whose income comes from common sources tend to act together on all tax matters. Individuals might better serve their own interests if they were to consider the impact of a tax in the light of the disposition and size of their own incomes rather than only the source of their incomes.

The problem of determining upon whom to levy a tax is no more important than that of determining who shall bear the burden. When a tax is paid by someone other than the person upon whom it was levied it is said to be "shifted"; shifted forward if the buyers of the products of the firm (upon whom the tax is levied) pay higher prices; shifted backward if the sellers of sources from which the firm purchases its inputs receive lower prices.

Shifting is affected through market transactions. Thus taxes upon property and exchanges of property are more amenable to shifting than

taxes upon earnings. Students of public finance generally agree that the income tax is less shiftable and causes less distortion of resource allocation than most other taxes.[1]

Sales taxes are easily shifted from retailer[2] to consumer where purchasers can't buy from nontaxed sources (e.g. out-of-state) because they are collected at the point of sale. In most states shifting of sales taxes is mandatory and retailers are forbidden to claim that they absorb the tax even though the tax is levied upon them.

Property taxes, for purposes of shifting analysis, can be classified in two groups, those than can be shifted and those that cannot.

Taxes upon the reproducible aspects of property (improvements, and, to a certain extent, fertility) are shiftable. By discouraging investment in the reproducible aspects and by discouraging maintenance of the reproducible aspect, *ceteris paribus*, the supply will in time be reduced. This reduction in the supply will cause potential users to bid up the price for the use of the property and to this extent they bear the burden levied upon the owner.

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[1] O. H. Brownlee and E. D. Allen, Economics of Public Finance, Chapter 14, Prentice-Hall, Inc., Englewood Cliffs, New Jersey, 1956 and Tibor Scitovsky, Welfare and Competition, Richard D. Irwin, Inc., Chicago, Illinois, 1951, pp. 88-92. For a divergent view see Richard O. Wheeler, The Implications of the Federal Income Tax Associated with the Possible Movement of Resources into Agriculture, Master's Thesis, Montana State College, Bozeman, Montana, 1959.

[2] Sales taxes are actually levied upon the retailer.

Taxes upon the nonreproducible aspects of property (location, space, etc.) are usually not shifted and may even be borne forever by the person who owns property at the time the tax is levied. If we assume that a person's reason for buying property is to enjoy the stream of net income it will produce, a tax which reduces the size of the anticipated incomes (i.e., is not shifted) would reduce the amount such a person would be willing to pay for the property.[1]

The Research Problem

This study is concerned with the impacts of selected alternative taxes upon persons with various sizes and sources of income and upon persons who spend their incomes on various kinds of commodities. In addition it is concerned with exploring some of the characteristics of a tax system which might be ideally adaptable to an area with characteristics similar to those of Montana and other Great Plains states.

Objectives

The purpose of this study first, is to demonstrate the relative tax burden imposed on farmers and ranchers by a sales tax, an expanded income tax, and an ad valorem property tax, such that each alone would

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[1] A formula for determining the value of an asset would be:
$$P = \frac{A_1 - T_1}{(1 + Y)} + \frac{A_2 - T_2}{(1 + Y2)} + \frac{A_3 - T_3}{(1 + Y)3} = \ldots + \frac{A_n - T_n}{(1 + Y)n}$$
where P is the present value of the stream of anticipated income from the asset, A is the anticipated yearly income, T the tax which cannot be shifted, Y the rate of interest and n the number of years relevant to analysis. As n approaches infinity the formula becomes: $P = \dfrac{A - T}{Y}$

raise an estimated $6 million[1] per year in revenue for the state. For purposes of demonstration, three sizes of cattle ranches[2] and three sizes of dryland crop farms will be used. A second objective is to determine some of the characteristics of a tax system which might be ideally suited to the Great Plains area of Montana and other Great Plains areas.

Hypothesis

Due to the extreme variability in investments, expenditures and incomes, as between Montana farmers and ranchers there is no one tax which will allow all the units under study to minimize their tax burdens with respect to other taxes here considered.

Procedure

The State Board of Equalization estimates that the tax laws in the 1959 Legislature will yield an increase of approximately $6 million in state revenues each year.[3]

The Board's estimate of $6 million was accepted as correct and rates were calculated that would raise a comparable amount of revenue from a property tax and a sales tax.

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[1] Estimated yields of the tax laws passed by the 1959 Legislature, see Table 1 of Appendix III, page 36.

[2] See Table 1 of Appendix I, page 30 for a more detailed description.

[3] See Table 1 of Appendix III, page 36.

The additional burden imposed upon the units under study by the expanded income tax was calculated. In order to do this the tax liabilities under both the 1958 income tax law and the 1959 (expanded) income tax law had to be calculated. Subtracting the former from the latter gave a remainder which could be called the additional burden imposed by the expanded income tax law.

The taxable valuation of all property in the state of $664,575,928.00 was divided into the $6 million revenue giving a levy of 9 mills. This would yield an estimated $5,981,183.37 in revenue. This mill levy was multiplied by the property base of the units under study to determine the burden these units would have to bear if an estimated $6 million in state tax revenues were raised by using the property tax.[1]

Analysis of the Census of Business[2] for 1954 in view of subsequent inflation seems to justify a conclusion that a 2 percent sales tax which exempts services, gasoline, tobacco and other items already subject to state excise taxes would yield in the neighborhood of $15 million in tax revenues annually.[3] Applying the 2 percent sales tax to the nonexempt

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[1] Indications are that lands are assessed at 30 percent of full value, cattle and improvements at 35 percent of full value. These assessed values are multiplied by 30 percent in the case of land and improvements, 33 1/3 percent in the case of livestock, and 20 percent in the case of machinery to find taxable value. The mill levy is multiplied times the taxable value to determine the tax.

[2] United States Department of Commerce, Census of Business 1954, Vol. II, Retail Trade - Area Statistics, U. S. Government Printing Office, Washington, D. C., 1956.

[3] See J. R. Hehn, The Sales Tax and Montana Farmers and Ranchers, Unpublished mimeo, Montana State College, Bozeman, Montana, 1958.

portions of the expenditures of the individual units would demonstrate the effect of raising $15 million. Our goal has been set at $6 million. Since 6 is 40 percent of 15, 40 percent of the burden under the 2 percent sales tax would approximate the burden of raising $6 million by using a sales tax.

The burdens imposed by these proposed taxes were measured by applying the tax rates obtained above to the tax bases of the individual units. Budgets of incomes, expenditures, and investments of three sizes of cattle ranches and three sizes of dryland crop farms provided the tax bases for the units.

The secondary data for the cattle ranches were obtained from a different source than the secondary data for the dryland crop farm.[1]/ The data were taken originally in different time periods and had to be adjusted for differences in price level by use of index numbers. Since the small, medium, and large ranches are not directly comparable to their dryland crop farm counterparts no comparison of burdens between types of operation was undertaken.

For the analysis that follows the following assumptions were made. (1) The dryland crop farmers sold all their crops before tax assessment time. (2) The cattle ranchers sold all marketable livestock (except

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[1]/ Data for the cattle ranches were taken from James R. Gray, Size-Type Cattle Ranches - Northern Great Plains, Agricultural Research Service, United States Department of Agriculture, Unpublished manuscript, 1953; and the data for the dryland crop farms were taken from LeRoy Rude, Supply Response of Wheat on Dryland Crop Farms in Montana, Agricultural Research Service, United States Department of Agriculture, Unpublished mimeo, Montana State College, Bozeman, Montana, 1958.

breeding herds and replacements) before tax assessment time. (3) All cash receipts were ordinary income (i.e., no capital gains). (4) All units were family operated. (5) The operator and his wife filed a joint federal income tax return claiming the standard deductions and four exemptions (family of four) in all cases. (6) All operators filed their returns based on the cash receipts and disbursement method. (7) All income was spent on goods and services (i.e., none saved).

PART II

THE EFFECTS OF SELECTED TAXES DEMONSTRATED

The Property Tax

In 1958 the average property tax levy for the state for all purposes except cities and towns was 93.51 mills. An increase in the general property tax levy of approximately nine mills applied to the taxable valuation in the state would yield in the neighborhood of $6 million.[1] This levy would represent a 9.6 percent increase in the average property tax levy.

A property tax levy of nine mills was applied to the estimated taxable values of the six units under study (See Appendix II). Table I illustrates the results of this computation.

TABLE I. THE BURDEN IMPOSED BY AN ADDITIONAL NINE MILL LEVY.[a]

Type of Operation	Size (Acres)	Total Tax- able Value	Mill Levy	Added Annual Tax	Total Property Tax Including Added Tax
Cattle Ranch	1,638	$ 4,528.75	9 mills	$ 40.76	$ 523.76
Cattle Ranch	3,160	8,484.25	9 mills	76.36	1,029.36
Cattle Ranch	6,281	14,805.50	9 mills	133.25	1,922.25
Dryland Crop Farm	400	2,672.77	9 mills	24.05	199.05
Dryland Crop Farm	830	5,472.57	9 mills	49.25	392.25
Dryland Crop Farm	1,200	7,850.88	9 mills	70.66	556.66

[a] See Appendix II, page 33.

[1] Taxable valuation in the state in 1958 was $664,575,928.00. A nine mill levy against this base would yield $5,981,183.37.

Such tax liabilities would be incurred whether or not the operations made a profit. If the levy became permanent, other things remaining the same, the owner of the property would experience an appreciable capital loss if he were to sell his operating unit because the tax would be capitalized into the value of the unit as discussed in Part I.

For an operator who is experiencing low income before the tax, this addition to fixed costs would tend to compete with other costs, such as maintenance of family labor.

The property tax -- being a fixed cost -- might not alter the level of production. Figure 1 illustrates the effect of an increase in fixed cost upon the most profitable level of output. From one point of view the average total cost curve after the tax may not remain in the position indicated in Figure 1. For the supra-marginal firm, if, upon the imposition of the tax the operator revalues his property and accepts the loss, the capital value of the property decreases. Total charge for the use of capital would decrease and the ATC curve would return to the initial position.

In the short run the operator might curtail his family living expenditures, mine his soil, and decrease his expenditures for maintenance of his buildings, machinery, and herds or let his taxes go delinquent. In the long run he might be forced out of business and in any case some irreparable damage to the human and natural resources may have been done. If so, society will ultimately bear part of the burden of a tax levied upon this operator through destitution of both human and natural resources.

$/output

Marginal Cost

Average Total Cost after Tax

Average Total Cost before Tax

Marginal Revenue, Price
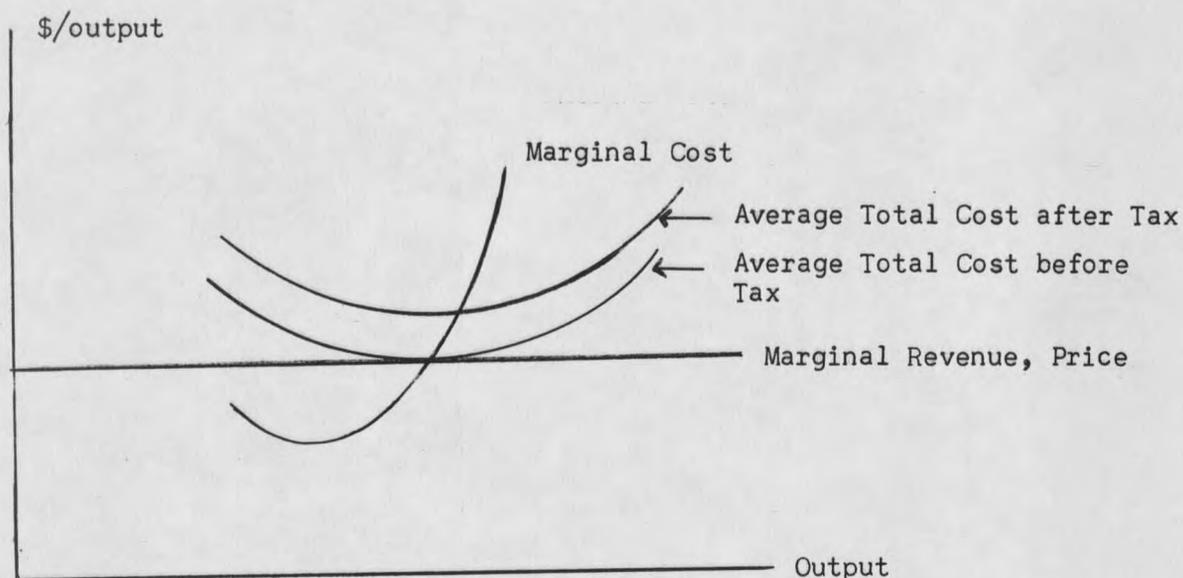
Output

Figure 1. The Effects of an Increase in Fixed Cost upon the Most
Profitable Level of Output (Assuming Pure Competition).

In cases where the operator is not producing an output of sufficient
size to maximize profits the imposition of the tax may force him to use
his assets more intensely or more efficiently. Such an operator may be
better off after the tax than before. In this case, society will bene-
fit from added tax receipts and added production.

The Income Tax

In order to measure the burden imposed by the expanded income tax,
it was first necessary to calculate the federal income tax liability for
the units under study. Taking the adjusted gross income (net cash farm
income less allowable depreciation) from the federal tax calculation
and subtracting from this: (1) the federal tax liability, (2) four

exemptions and (3) other itemized deductions,[1] a figure for taxable income for state taxing purposes was determined.

Tax liability under the 1958 income tax law was calculated by applying the rates under the law to the taxable income for state tax purposes. The liability under the expanded income tax law was calculated in a similar fashion. The difference between the tax liabilities under the two laws was found. This difference serves as the estimate of the additional burden imposed by raising an estimated $6 million in annual revenues through the expanded income tax law approved by the thirty-sixth legislative assembly. Table II illustrates the results of these calculations.

TABLE II. ADDITIONAL BURDENS IMPOSED BY THE 1959 INCOME TAX LAW.

Type of Operation	Size (Acres)	Net Farm Income	Taxable[a] Income	Tax Liability[b] 1958	1959	Difference
Cattle Ranch	1,638	$ 847.00	----	----	----	----
Cattle Ranch	3,160	1,661.00	----	----	----	----
Cattle Ranch	6,281	3,236.00	539.56	$ 5.40	$ 5.40	----
Dryland Crop Farm	400	2,445.00	----	----	----	----
Dryland Crop Farm	830	5,259.00	2,179.50	28.39	35.39	$ 6.80
Dryland Crop Farm	1,200	8,266.00	4,341.11	80.23	113.64	33.41

[a] For state tax purposes.

[b] See Appendix III, Tables 2 and 3.

[1] It was assumed that this deduction amounted to 6 percent of the net farm income. The deduction includes allowable medical, dental, and drug expenses; donations to churches and other charities; and casualty losses on personal items.

The new rates for state income tax did not increase for the lowest bracket (taxable income of $1,000 or less). This explains why the 6,281-acre cattle ranch operation did not incur any additional tax liability under the expanded income tax.

The Sales Tax

The tax used in this demonstration is a single stage tax upon retailers.[1] In determining taxability of items sold to industrial consumers the component part rule served as the test. Under this rule any commodity purchased by an industrial consumer which becomes a physical ingredient of a product of this industrial firm would be exempt from the tax. This would effectively exclude purchases of feed, seed, and fertilizer by farmers. Commodities purchased for resale are excluded in a single stage tax. Services and commodities already subject to state excise taxes were also excluded. Gasoline and tobacco are examples of commodities already subject to an excise (sales) tax in the state. It was assumed that all disposable income was spent and that the units allocated their family living expenditures in the same pattern regardless of the level of their income. In the case of the operation which experienced a loss it was assumed that a cash expenditure of $1,500 was necessary to maintain a minimum standard of living for the farm family. In all other cases it was assumed that the income from the farm operation was all that was available (and spent) for family living.

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[1] Since the tax is shifted completely and instantaneously (assuming a mandatory shifting provision in the law) it is in effect a tax upon consumers.

Table III indicates the revenue-producing capacities of a 2 percent sales tax based on 1954 Montana retail sales. In view of the

TABLE III. ESTIMATED YIELD OF A 2 PERCENT SALES TAX -- MONTANA RETAIL SALES a/, 1954.

Retailer	Amount	2% Sales Tax
Food stores	$155,300,000 b/	$ 2,795,400
Eating and drinking places	80,816,000 c/	646,520
General merchandise, apparel, and accessories	102,701,000	2,054,020
Furniture, fixtures and appliances	30,710,000	614,200
Automotive	152,998,000	3,059,960
Gasoline service	55,584,000 d/	555,840
Lumber, hardware, farm equipment, building materials	105,636,000	2,112,720
Drug stores	20,909,000 b/	376,380
Other retail	68,642,000	1,372,840
Nonstore retailers	4,738,000 d/	47,380
	$778,033,000	$13,635,260

a/ United States Department of Commerce, Census of Business 1954, Volume II, Retail Trade-area Statistics, United States Government Printing Office, Washington, D. C., 1956.

b/ Ten percent is estimated exempt.

c/ Sixty percent is estimated exempt.

d/ Fifty percent is estimated exempt.

increases in the general level of prices[1] since 1954 and assuming a moderate degree of expansion in the economy of the state it appears to be realistic to assume that a 2 percent sales tax would yield in the neighborhood of $15 million.

The additional burdens imposed by raising an additional $6 million through a retail sales tax are illustrated in Table IV. Here the tax burdens are broken down between production and family living outlays.

TABLE IV. ESTIMATED BURDENS IMPOSED BY A SALES TAX WHICH WOULD RAISE AN ADDITIONAL $6 MILLION IN ANNUAL REVENUES[a]

Type of Operation	Size (Acres)	Tax Upon Production Expenditures	Tax Upon Family Living Expenditures	Total[b] Tax
Cattle Ranch	1,638	$14.97	$ 8.88	$23.85
Cattle Ranch	3,160	44.97	9.82	54.79
Cattle Ranch	6,281	74.69	18.89	93.58
Dryland Crop Farm	400	6.34	14.46	20.80
Dryland Crop Farm	830	10.57	28.82	39.39
Dryland Crop Farm	1,200	12.75	42.31	55.06

[a] Effectively a .8 percent sales tax.

[b] See Appendix IV, pages 44-49.

The results of all the foregoing computations are brought together in Table V for convenience in comparisons of burdens imposed.

[1] Approximately 6 percent -- Source: Board of Governors of Federal Reserve System, *Federal Reserve Bulletin*, United States Government Printing Office, Washington, D. C., April, 1959.

TABLE V. SUMMARY OF THE ADDITIONAL BURDENS IMPOSED UPON MONTANA FARMERS AND RANCHERS BY SELECTED TAX ALTERNATIVES.

Type of Operation	Size (Acres)	Net Farm Income	Property Tax	Income Tax	Sales Tax
Cattle Ranch	1,638	$- 847.00	$ 40.76	---	$23.85
Cattle Ranch	3,160	-1,661.00	76.36	---	54.79
Cattle Ranch	6,281	-3,236.00	133.25	---	93.58
Dryland Crop Farm	400	2,445.00	24.05	---	20.80
Dryland Crop Farm	830	5,394.00	49.25	6.80	39.39
Dryland Crop Farm	1,200	8,266.00	70.66	33.41	55.06

Considering Table V in view of our assumptions would lead us to conclude that all the units under study would be burdened less by the expanded income tax than either the sales tax or the property tax as a means of raising $6 million in state tax revenues. If, instead of assuming that the units under study did not save any of their net farm income, we had assumed that at relatively high (say above $6,000) levels of income the units saved some portion of their income there may have been some units that would have preferred the sales tax to the income tax. For example, if the operator of the 1,200-acre dryland crop farm saved one third of his net farm income his burden under the sales tax would be approximately $37.00. Although the income tax is still less than the sales tax, it indicates that there is perhaps some combination of income and savings at which the burden under the expanded income tax would exceed that of a sales tax of the same revenue-producing capacity. This combination would occur in our example where approximately 40 percent of disposable income was saved.

There are indications that the state income tax in Montana tends to become regressive at levels of adjusted gross income above $30,000.[1] Such being the case there may be some higher income level where the burden imposed by the sales tax would again exceed that of the income tax.

The analysis in this thesis has not considered any large operating units. The levels of net farm income were also generally modest. Little light is thrown here upon what the effects of the tax alternative proposed would be upon a really large unit or upon a high level of income. It is possible that at some level of income and size of operation (assuming some direct relationship between the two) the operator would be burdened less by either a sales tax or a property tax than an income tax. Further research is needed if we are to make comparisons at higher income levels.

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[1] John C. Bower, Maurice C. Taylor, and Agnes Sunnell, Looking Ahead with Montana Farmers and Ranchers, Montana Agricultural Experiment Station Folder No. 55, Montana State College, Bozeman, Montana, 1959.

PART III

TOWARD A MORE ACCEPTABLE TAX SYSTEM

Approximately two thirds of the area of the State of Montana lies

in the Great Plains. Those areas lying east of the foothills of the

Rocky Mountains (roughly a line extending from Browning south and

east through Livingston) are typical of the Great Plains. This area

is typified by extreme fluctuations in average annual precipitation,

a relatively low average annual precipitation, sparse and widely dis-

tributed population, large areas which have no appreciable population

centers, long distances between population centers, economic de-

pendence upon agriculture, and small areas of irrigated farming along

the river valleys.[1] The purpose of this part is to explore some of the

possible ways of making our tax system better adapted to this region.

From Point of View of Service

In Montana the amount and cost of government services has tended

to expand during prosperous periods and to remain relatively fixed

during periods of low or declining income.[2] This characteristic neces-

sities either (1) a tax structure that provides expanding revenues when

the incomes are rising and maintains revenue receipts when incomes fall

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[1] For further description see Carl F. Kraenzel, The Great Plains in
Transition, University of Oklahoma Press, Norman, Oklahoma, 1955 or
Walter P. Webb, The Great Plains, Ginn and Company, Dallas, Texas,
1931.

[2] R. R. Renne and H. H. Lord, Montana Farm Taxes, Montana Agricultural
Experiment Station, Circular No. 94, Bozeman, Montana, 1938.

or (2) a tax structure that is flexible enough to contract and expand with income levels coupled with a system of reserves or deficit spending to tide over the lean periods. In the past the first condition has predominated.[1]

A structure which includes reserves, although somewhat unrealistic, warrants further discussion. It would appear that the government is more capable of holding reserves than individuals.[2] A glance at political practice should tell us otherwise. The sudden or gradual appearance of substantial reserves of public funds would bring a rash of lobbyists to beseech our willing politicians to spend these funds on any number of pet projects. Setting up the reserves in a fund to become accessible only when net farm incomes fell below a certain stipulated minimum would somewhat reduce the temptation to spend now and save later.

Another alternative might be to allow individuals to pay into a reserve fund and receive in return interest bearing (for added incentive) coupons which could be turned in by the taxpayer in lieu of cash payments whenever he so chose -- presumably during periods of low income. The temptation to spend such a reserve could be reduced by making the reserve funds available only when coupons were turned in and only in the amount of the coupons turned in.

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[1] Ibid.

[2] Ibid.

Indications are that capital is a limiting factor in the development of Montana farms.[1] In this case it would probably take considerable incentive to get farmers to tie their capital up in the tax fund. The administrative problems of such a feature might prevent its ever becoming practical.

Varying the Costs and Expenditures of Government

Some of the rigidity in government revenue expenditures could be reduced by tying operating expenses to the price level or cost of living index. Public servants could have escalator clauses in their employment contracts and thus the wage bill would rise and fall with the price level and/or cost of living.

Financing purchase of fixed assets by the state can be achieved with the most flexibility through bonding. Bonding in times of low income, prices and costs and repaying the indebtedness in periods of higher income. Thus, an increase in the range of investment type expenditures which could be financed through bonding might substantially increase the flexibility of the revenue system. If some of the bonds were to mature during a recession, it would probably be necessary to float a new bond issue.

The collection of more funds by a central tax collecting body with a redistribution of funds back to local governments could increase the

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[1] Darrell F. Fienup, Resource Productivity on Montana Dry-land Crop Farms, Montana Agricultural Experiment Station, Mimeograph Circular No. 66, Bozeman, Montana, 1952.

flexibility of the system and reduce the demand made on property by the local governments, especially if the central agency were more efficient (as income tax collections for school district spending, e.g.). This would help provide operating funds to local governments in time of local disaster. In times of general recession the money creating powers of the federal government and intergovernment borrowing could be used to reduce the tax burden on state and local governments, to provide for continuing state and local governmental services, and serve to stimulate the economy.

From Point of View of the Taxpayer

In the past when a farmer or rancher experienced a substantial reduction in his income he met his tax bill in the same way as other cash expenditures -- he borrowed. He could get a loan from his banker or let his taxes go delinquent. In this case the farmer had two alternatives. He could repay the taxes some time later or he could let the property go for tax deed and repurchase it later. When deliquency occurs the government borrows from banks or its employees discount their warrants at the bank. The government still has a claim against the taxpayer (or his property) and in the final analysis the farmer does the borrowing and the banker does the lending. The farmer may be able to avoid some of the obligation if, in the case where the property is confiscated for tax deed, the farmer can repurchase the property at less than the original tax bill.

A tax system adapted to a high risk area would have to consider the systems of reserves and means of varying costs and expenditures of governments in order to provide flexibility.

The tax system, ideally, would have to have the rates adjustable to current ability to pay. Ownership of farm property may not indicate ability to pay in periods of low income since the returns from farming or ranching operations may be zero or even negative. In order for the property tax to fit into a flexible tax system the rates -- the levies -- would have to become a function of current property income rather than being -- as at present -- a function of the revenue requirements of the local and to a slight extent -- the state governments.

Introduction of income flexibility into a sales tax would necessitate adjusting the rates to vary with some measure of income.

A progressive income tax would necessitate the least, if any revision with changes in farm incomes. Since all taxes serve to reduce disposable income and in effect all taxes are paid from income -- past, present and future -- a direct tax on income -- levied after the production process was completed -- would cause a minimum of distortion in resource allocation and a minimum of confusion. There are some taxpayers whose incomes remain high in periods of depression and a progressive income tax would continue to extract revenue from these persons. Some of the other flexible tax measures might only serve to let these persons enjoy even higher incomes while the rest of the economy is depressed.

Income taxes have certain advantages. Since all taxes serve to re-
duce disposable income, it seems that the source of the revenue would
be a fair measure of ability to pay. And, the income tax is flexible
with respect to taxpayers' ability to pay -- approaching and even be-
coming zero in periods of low income. The problems of tax avoidance
and distortion of resource allocation[1] are not all known and may, in
actuality, make the income tax less desirable from some points of view
than other alternatives.

Certain features of present Montana income tax laws cause it to
become regressive at high income levels.[2] Chief among these features is
the allowance of the federal tax as a deduction in the state income tax
computation. Another contributor to regressiveness is the low maximum
rates. Even under the law passed by the thirty-sixth legislature the
maximum rate is 7 percent. In the work cited above the regressivity of
the Montana income tax law is illustrated. It appears that the tax is
reasonably progressive for incomes below approximately $30,000 to
$33,000. A good part of the regressive tendencies of the law could be
eliminated by revision of the rates and disallowance of federal tax
paid as a deduction on the state return.

The disallowance of the federal tax as a deduction on the federal
return has the effect of transferring income from the federal to the

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[1] Richard O. Wheeler, op.cit.

[2] John C. Bower, Maurice C. Taylor and Agnes Sunnell, op.cit.

state government and of increasing, somewhat, the burden borne by the taxpayer. An example should serve to illustrate: an increase of $1.00 in the state income tax levied upon an individual whose income, for federal tax purposes is in the 75 percent bracket. Due to the deductibility of the state tax on the federal return, the cost to the taxpayer is 25 cents and 75 cents of the $1.00 levy is in effect a transfer to the state from the federal government.[1]

That a taxpayer in the 20 percent bracket would have to bear 80 cents of an additional $1.00 levy while 20 cents was in effect a transfer indicates that there may be some regressivity attached to disallowance of federal tax paid as a deduction for state income tax purposes. The progressive tax rate on the state return should serve to dampen the regressivity since a levy to raise $1.00 from a person in the 75 percent federal tax bracket would take substantially less from a person in the 20 percent federal tax bracket.

Freezing of property taxes at a roughly constant portion of property income would prevent some of the regressiveness of the property tax and certainly not increase its rigidity. Fixing the property tax at a constant portion of property income would not grant property owners the windfall gains they would enjoy if the property tax were completely abandoned.

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[1] Ibid.

A sales tax which excluded daily necessities (e.g. food, rent, clothing) but taxed the purchase of other consumer goods (furniture, autos, TV sets, etc.) would be somewhat flexible with respect to tax-payer income.

PART IV

SUMMARY AND CONCLUSIONS

Summary

It was pointed out in Part I that property was perhaps bearing a
disproportionate share of the state and local tax load, several al-
ternative methods of raising revenue for the state were listed. The
effects which three of the alternative taxing methods might have
upon Montana farmers and ranchers were demonstrated. A budgetary an-
alysis of the estimated tax burden from an increased property tax, an
expanded income tax and a retail sales tax would have upon Montana
dryland farmers and ranchers was attempted. Three sizes of family-
operated commercial cattle ranches and three sizes of family-operated
commercial dryland crop farms in the Great Plains areas of the state
were considered. The results can be found in Table V page 16.

In attempting to outline some of the characteristics of a more
acceptable revenue system from the point of view of Montana farmers and
and ranchers the extreme fluctuations in rainfall, the sparse and
widely distributed populations, and the economic dependence upon agri-
culture of Montana's Great Plains areas was considered.

Several proposals were made which would perhaps lend flexibility
to the revenue system. Mention was made of factors in the present
system which could contribute flexibility. Some of the devices used
in the past were explored.

Conclusions

The analysis of the additional burdens imposed by the three taxes considered will not allow us to accept the hypothesis that "there is no one equitable tax" (considered in the analysis) "which will allow all the units under study to minimize their tax burdens with respect to other taxes here considered." Any implications to be drawn relative to the results must be done in view of characteristics of the analysis and the underlying assumptions.

In the analysis made here the additional burden imposed upon the units under study was less under the expanded income tax than under either the property tax or the retail sales tax. No large units were considered and it was assumed that the units here analyzed spent all of their incomes. Indications are that there is some combination of level of income and realistic level of savings at which the burdens under the sales tax would be less than under an income tax of the same revenue-producing capacity.

In adapting a tax system to be more acceptable to Montana Great Plains agriculture it was suggested that the tax system be made extremely flexible with respect to taxpayers' incomes. The income tax was suggested as having the tax base which more nearly reflects changes in taxpayer income than either the property tax or the sales tax.

Further Research

Flexibility in the tax structure for a high risk agricultural economy seems a valid goal and certainly warrants further inquiry. As a means of flexibility the income tax may or may not be the ideal method and there may be other tax measures which might do the job just as well without meeting the resistance which increasing income taxes seem to face.

Very little is known about family living expenditures of Montanans. An accurate study of probable impacts of various kinds of sales taxes would necessitate that such knowledge be available. In view of such family expenditure patterns the development of a sales tax which would contribute flexibility to the tax structure might become a reality.

Reduction in rigidity in government expenditures can reduce the effects of recessions upon taxpayers. A study of public financing measures for high risk areas might give vital clues to the secret of overall revenue flexibility.

APPENDICES

APPENDIX I

Table 1. General Description of Units Under Analysis.

Type of Operation	Size		Crops Produced and Sold (Bushels)			
	Acres	Beef Cow Herd	Spring Wheat	Winter Wheat	Barley	Calves Raised
Cattle Ranch	1,638	44	536	----	241	40
Cattle Ranch	3,160	101	947	---	423	87
Cattle Ranch	6,281	209	768	---	343	170
Dryland Crop Farm	400	----	693	2,326	707	----
Dryland Crop Farm	830	----	1,457	3,487	2,459	---
Dryland Crop Farm	1,200	----	2,105	5,058	3,534	----

APPENDIX I

Table 2. Grain Farm Budgets -- 1958.

	400 Acre (Dollars)	830 Acre (Dollars)	1,200 Acre (Dollars)
Income			
Winter wheat	3,745	5,614	8,144
Spring wheat	1,129	2,375	3,431
Barley	523	1,820	2,615
Government payments	---	---	---
Total	5,127	9,809	14,190
Cash Expenses			
Fuel, oil, grease and repairs	448	842	989
Grain storage	123	250	362
Seed treatment	17	34	52
Weed spraying	240	500	723
Motor vehicles	366	486	599
Insurance	139	143	164
Taxes	175	343	486
Miscellaneous	50	75	100
Custom combining	---	---	193
Total	1,558	2,673	3,668
Net Cash Farm Income	3,569	7,136	10,522
Depreciation	1,114	1,742	2,256
Net Farm Income	2,445	5,394	8,266

APPENDIX I

Table 3. Ranch Income Statements -- 1958.*

	Small	Medium	Large
Cash Receipts			
Crops	1,118	2,088	1,695
Livestock	3,886	9,095	18,489
Livestock products	184	152	98
Government payments	77	161	278
Total	5,335	11,496	20,560
Cash Expenditures			
Labor hired	150	966	2,826
Crop and livestock expenditures	994	1,859	3,391
Machinery and power expenses a/	2,819	2,870	4,362
Building repair and maintenance b/	786	1,132	980
Miscellaneous	423	1,199	2,899
Property taxes	483	953	1,789
Total	5,654	8,977	16,247
Depreciation (allowable)			
Buildings b/ and improvements	405	675	873
Machinery	123	183	204
Total	528	838	1,077
Net Cash Farm Income Less Depreciation	- 847	1,661	3,236

*   Source: James R. Gray, Size Type Cattle Ranches -- Northern Great
             Plains, Agricultural Research Service, United States De-
             partment of Agriculture.

a/   Including farm share of auto.

b/   Excluding dwelling.

APPENDIX II

Table 1. Classification of Montana Property for Taxation.*

Kind of Property	Class	Percent of True and Full Value Upon Which Tax Is Computed
Net proceeds of mines	I	100
All household goods, personal property, farm machinery, autos, trucks, harness, etc.	II	20
Livestock, poultry, merchandise, office and hotel furniture and fixtures, etc.	III	33 1/3
All land (farm and city) with improvements, manufacturing and mining machinery and fixtures, and supplies of mining establishments.	IV	30
All moneys and credits, excluding banking capital except that represented by surplus to an amount equal to the stated capital of the bank, and property used and owned by cooperative electrical associations. All unprocessed agricultural products.	V	7
Bank stock shares and money capital including surplus in excess of the stated capital of the bank employed in conducting banking business.	VI	30
All other property (including public utilities)	VII	40

* Source: R. R. Renne, The Government and Administration of Montana, Thomas Y. Crowell Company, New York, 1958.

Table 2. Property Tax Analyses.

	Size	Current Value of Investments				Assessed Valuations[a]			
		Land	Build-ings	Mach-inery	Live-stock	Land	Build-ings	Mach-inery	Live-stock[b]
	Acres	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars	Dollars
Cattle Ranch	1,638	23,700	7,900	4,500	14,300	7,110	2,765.00	1,575.00	3,753.75
Cattle Ranch	3,160	36,500	12,100	7,500	38,900	10,950	4,235.00	2,625.00	10,211.25
Cattle Ranch	6,281	73,000	13,300	9,700	70,400	21,900	4,655.00	3,395.00	18,480.00
Dryland Crop Farm	400	24,000	1,287	5,394	---	7,200	450.45	1,887.90	---
Dryland Crop Farm	830	49,800	2,104	10,995	---	14,940	736.40	3,848.25	---
Dryland Crop Farm	1,200	72,000	2,938	15,177	---	21,600	1,028.30	5,311.95	---

a/ The 1954-56 report of the State Board of Equalization estimates lands to be assessed at 30 percent of value. Various sources indicate that improvements and machinery are assessed at approximately 35 percent, and that cattle are assessed at approximately 35 percent of market value.

b/ A comparison of cattle numbers (all cattle -- state total) in the Census of Agriculture with cattle numbers (all cattle -- state total) in the Board of Equalization reports indicate that approximately 75 percent of all cattle are on the assessment roles.

Table 3. Property Tax Analyses.

		Taxable Values[a]					Mill	
	Size	Land	Buildings	Machinery	Livestock	Total	Levy	Tax
	Acres	Dollars	Dollars	Dollars	Dollars	Dollars		$
Cattle Ranch	1,638	2,133.00	829.50	315.00	1,251.25	4,528.75	9	40.76
Cattle Ranch	3,160	3,285.00	1,270.50	525.00	3,403.75	8,484.25	9	76.36
Cattle Ranch	6,281	6,570.00	1,396.50	679.00	6,160.00	14,805.50	9	133.25
Dryland Crop Farm	400	2,160.00	135.14	377.58	---	2,672.77	9	24.05
Dryland Crop Farm	830	4,482.00	220.92	769.65	---	5,472.57	9	49.25
Dryland Crop Farm	1,200	6,480.00	308.49	1,062.39	---	7,850.88	9	70.66

[a] The taxable values were obtained by applying the ratios between taxable and assessed values
from Table 1 Appendix II to the assessed values computed in Table 3 Appendix II.

APPENDIX III

Table 1. Data (Estimates) from State Board of Equalization Received by
         Telephone, May 19, 1959.

	Annual Revenue (Thousands)
House Bill #307 reducing the rate of corporation license (income) tax to 4½ percent from 5 percent.	
Estimated effect on revenue	-$ 370
House Bill #307 to disallow the federal income taxes as a deduction in computing the corporation license tax liability.	
Estimated effect on revenue	+$2,000 to +$2,500
House Bill #315 to increase the rates for the personal income tax -- as indicated in Table 2, Appendix III.	
Estimated effect on revenue	+$3,800
Senate Bill #105 providing for withholding of income tax on payments made to nonresidents.	
Estimated effect on revenue	+$ 200
House Bill #460 to tax salaries of nonresident employees of corporations doing business in the State to the extent that such salaries are claimed as a deduction in computing Montana Corporation License Tax liability.	
Estimated effect on revenue	+$ 40
Estimated Total Effect	+$5,661 to +$6,161

APPENDIX III

Table 2a. 1958 Income Tax Rates

1 % of first	$1,000
1½% of next	1,000
2 % of next	1,000
2½% of next	1,000
3 % of next	1,000
3½% of next	1,000
4 % of next	1,000
5 % of all over	7,000

Table 2b. 1959 Income Tax Rates

1 % of first	$1,000
+2 % of second	1,000
+3 % of third	1,000
+4 % of fourth	1,000
+4 % of fifth	1,000
+5 % of sixth	1,000
+5 % of seventh	1,000
+7 % of all over	7,000