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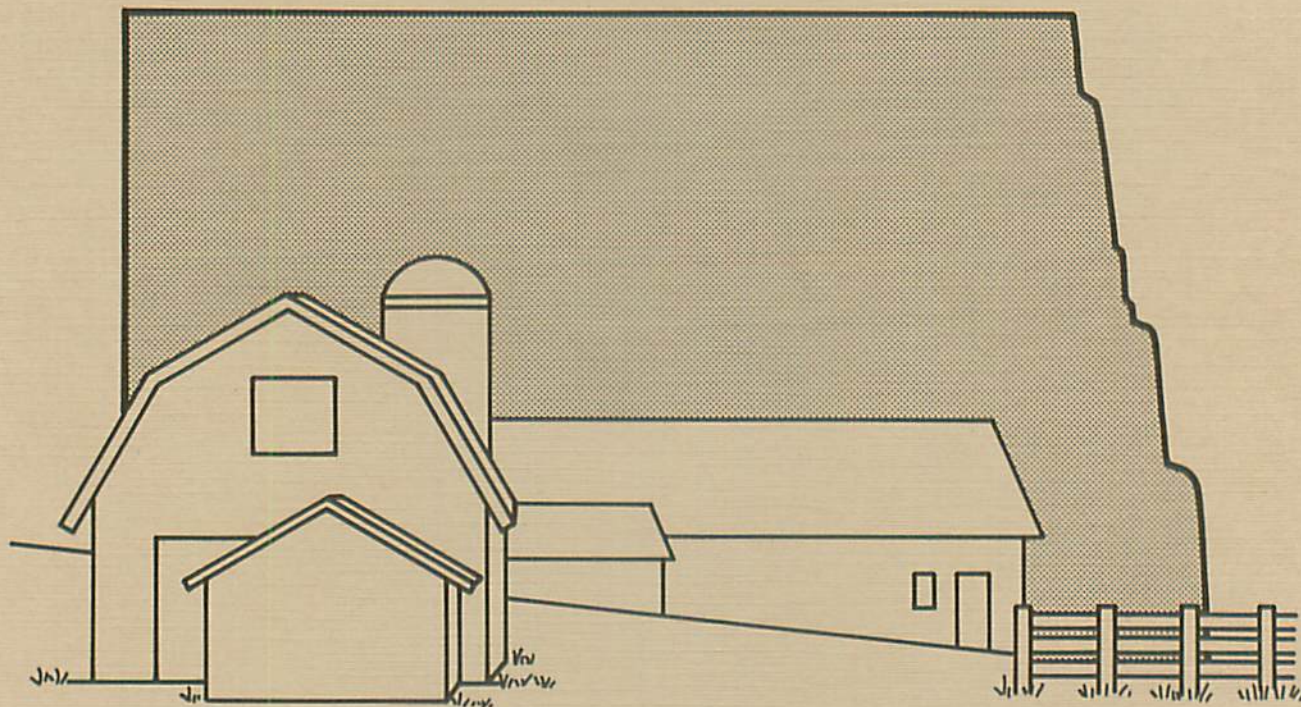
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Impacts on North Dakota Farm and Ranch Operators of a Two Percent No-Exemption Sales Tax

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Preface

The ability to use a previously developed computer simulation model to analyze a current set of parameters gives a good indication of the usefulness and flexibility of the model. A computer model (TAXSIM) used to estimate taxes paid by North Dakota farm and ranch operators was modified at the request of farmers and farm organizations to analyze the impact of a two percent no-exemption sales tax on the state's farmers. Sales tax payments by farmers and ranchers were estimated for 1983 under the laws that currently exist and the proposed two percent plan for four farm types and four farm sizes. This report gives a detailed analysis of impacts of the proposed sales tax plan on numerous categories of farm expenditures and personal household expenses. TAXSIM was easily altered to perform this analysis and gave a detailed account of the impacts associated with this specific tax proposal.

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Highlights

North Dakota is potentially faced with the prospect of increasing taxes to prevent revenue shortfalls. In recent history, the sales tax laws have been a frequent target for legislative revisions in accordance with budget shortfalls or surpluses. One such revision in the sales tax laws currently being discussed involves a 2 percent rate with no exemptions.

Impacts of a 2 percent no-exemption sales tax on farm and ranch operators can be analyzed using a previously developed computerized tax simulation model. The sales tax module of this model was altered to reflect changes that would result under the proposed 2 percent plan. Sales tax estimates with current laws and the proposed 2 percent plan were compared for 1983 to determine the impacts on farm and ranch operators. Impacts were estimated for four farm types and four size categories.

Beef farm type experienced the largest sales tax increase, \$1,113, under the proposed plan. Mixed farms, dairy, and cash grain farm types followed the beef type with increases of \$1,014, \$709, and \$499, respectively. Percentage increases for the cash grain (43 percent), dairy (74 percent), mixed (82 percent), and beef (108 percent) represent significant tax increases for each farm type. Sales tax increases were 11, 52, 64, and 85 percent for the small, medium, large, and very large farm size categories, respectively. These farm size groups would experience increases of \$64, \$427, \$913, and \$2,064 in their sales tax payments for their respective categories, if the current sales tax laws were changed to a flat 2 percent rate with no exemptions.

Every farm type and size would experience increased sales tax payments with the proposed plan and all farms would incur an estimated mean increase of \$684. This would represent a 61 percent increase in estimated mean sales taxes for all farms. The 2 percent sales tax plan would result in farmers and ranchers bearing very large increases in sales tax payments.

IMPACTS ON NORTH DAKOTA FARM AND RANCH OPERATORS OF A TWO PERCENT NO-EXEMPTION SALES TAX

Randal C. Coon, Mir B. Ali, and Roger G. Johnson*

Introduction

In recent years, North Dakota has experienced budget problems requiring the attention of the legislature. The 1983 Legislature resolved this problem by reducing state spending and passing a new tax package. As a result, sales tax rates were raised by one percentage point in 1983. This increase raised the rate to 3 percent on farm machinery and equipment sales and 4 percent for qualifying retail purchases. (A summary of the changes that have occurred in the sales tax law since its inception in 1935 are presented, as prepared by the North Dakota Tax Department [1984], in Appendix A.) North Dakota currently is faced with the prospect of increasing taxes or decreasing government expenditures to balance the state budget. Sales tax laws have been changed frequently and are usually considered for alteration when the prospect of revenue shortfalls exists.

Economic hard times in the state's agricultural industry in recent years have resulted in a decline in farm machinery purchases. Sales of "big ticket" items (i.e., tractors and combines) have experienced a steady decline since 1979 (Table 1). Taxable sales and taxable purchases of farm machinery have dropped from \$345,590,089 in 1981 to \$224,871,988 in 1983 (Table 2). Total taxable sales and purchases also have declined since 1982 but not as significantly as farm machinery sales. These declines have been offset by a sales tax rate increase in 1983, although the prospect of declining sales tax revenues in the future is likely.

In response to this imminent problem, interim legislative committees have proposed several sales tax increase plans for study before the 1987 Legislature meets. One of these plans would involve a 2 percent sales tax for all taxpayers on all items sold. At the request of farmers and farm organizations, this tax plan was analyzed to determine the impact on North Dakota farm and ranch operators.

Methodology

A computer model (TAXSIM) was previously developed to estimate the major taxes paid by farm and ranch operators based on farm business record summaries (Pederson et al. 1985). TAXSIM estimated taxes paid by farmers for seven categories: federal income tax, federal self-employment tax, federal fuel tax, North Dakota income tax, North Dakota sales tax, North Dakota fuel tax, and local real estate tax. The entire computer model will not be

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TABLE 1. SALES OF SELECTED NEW FARM MACHINERY ITEMS, NORTH DAKOTA, 1978-1984

Year	Tractors	Combines	Windrowers
1978	3,401	1,182	n/a
1979	3,562	1,383	922
1980	2,575	1,014	588
1981	2,772	1,352	762
1982	2,062	910	472
1983	1,845	682	319
1984	1,569	652	252

SOURCE: Intertec Publishing Corporation 1979-1985.

TABLE 2. TAXABLE SALES AND TAXABLE PURCHASES AND SALES TAX COLLECTIONS, NORTH DAKOTA, 1980-1984

Year	Taxable Sales and Taxable Purchases ¹		Sales Tax Collections ²
	Farm Machinery and Equipment	Total	
dollars			
1980	273,493,043	3,706,924,650	110,041,705
1981	345,590,089	4,224,494,540	125,446,610
1982	275,424,693	4,378,058,605	131,349,159
1983	236,885,947	4,154,258,609	162,947,895 ³
1984	224,871,988	4,106,723,778	165,482,067

¹Taxable sales and taxable purchases are for the fourth quarter of the previous year through the third quarter of the year listed.

²Sales tax collections are reported on a calendar year basis.

³Sales tax rates were increased from 2 to 3 percent on farm machinery and from 3 to 4 percent on other taxable items on April 1, 1983.

SOURCE: North Dakota Tax Department 1980-1984; North Dakota Tax Department 1985.

discussed in this report because only the sales tax module was used to provide estimates for this report. Usage of one part of the computer model to estimate impacts of proposed tax law changes provides an indication of the flexibility and potential usefulness of TAXSIM.

Sales Tax Module

The state general sales tax has two rates applicable to farmers and ranchers--one for farm machinery and equipment purchased, and another for all taxable items. Sales tax rate on farm machinery and equipment was 3 percent, and rate for all other purchases subject to sales tax in 1983 was 4 percent. Only 1983 sales tax payments were estimated in this analysis because the rates were lower (2 percent rate existed on farm machinery and equipment and 3 percent on other taxable purchases) prior to that year. Estimated sales taxes paid by farmers and ranchers under current laws were determined using the original sales tax module from the TAXSIM model. Calculations were performed using information provided by farm business summaries. A description of this data base will be presented later in this report.

Farm machinery and equipment purchases were available from the data base and were taxed at a 3 percent rate. Several items listed in the farm business summaries were subject to the higher sales tax rate (4 percent), including meals purchased away from home, various household expenses, repairs, and grease and oil purchases. Of the total expense reported for food and meals purchased, 25 percent was assumed to represent meals obtained away from home; this amount was therefore subject to the general sales tax. In addition, farm business and family telephone service is a state sales tax item.

Farm repair expenditures were divided into (1) machinery and equipment repairs and (2) real estate repairs. Machinery and equipment repairs included machinery, tractor, livestock equipment, irrigation equipment, and custom-work equipment repair expenses. Repair expenditures were separated into parts and labor categories because parts were subject to the sales tax but labor was not. A survey of North Dakota implement dealers indicated that parts comprise approximately 75 percent of the total cost of repairs (including parts sold for repair on the farm). The general sales tax rate was applied to 75 percent of total repair expenditures. Real estate repairs were assumed to be done using farm labor; therefore, 100 percent of those expenditures were assumed to be supplies and subject to the sales tax. It should be noted that major farm input expenditures such as diesel fuel, gasoline, livestock purchases, feed, fertilizer, and chemicals are exempt from sales tax under current tax laws. For a complete listing of all farm purchases subject to sales tax, see Office of the State Tax Commissioner (1977).

Expenditures for fuel, oil, and grease were reported as a single amount in the annual farm business summary. This expenditure was allocated to four accounts: (1) oil and grease, (2) diesel fuel, (3) gasoline for farm use, and (4) gasoline for road use. Expenditures for oil and grease were assumed to equal 15 percent of total fuel expenditures. Therefore, oil and grease expenditures represented 13 percent of combined oil, grease, and fuel expenditures. Fuel expenditures constituted the remainder of this category representing 87 percent of the total. Total fuel expenditure was separated into: diesel fuel (64 percent of total fuel cost), farm-use gasoline (5.6

percent), and road-use gasoline (30.4 percent) based on a recent study of farm fuel and energy use (Tsigas 1981). Personal road use of gasoline was assumed to average 625 gallons per year. Average gasoline and diesel fuel prices were obtained from published sources (North Dakota Crop and Livestock Reporting Service 1984).

Table 3 presents a summary of sales tax rates as they applied to farm operating and household expenditures in 1983. A 3 percent tax rate was applied to farm machinery sales with the other nonexempt categories being taxed at 4 percent. Many of the categories listed were not applicable in 1983 because they were exempt from sales tax under then existing laws.

Revised Sales Tax Module

The sales tax module of TAXSIM was altered to accommodate the provisions of the proposed 2 percent sales tax plan. Under this plan all purchases would be subject to a 2 percent sales tax; many purchases exempt under existing laws would be subject to the tax. Data were available from the farm business summaries to determine several additional expenditure categories. In addition to the categories subject to sales tax in 1983 (machinery purchases, building purchases, repairs, grease/oil, and household expenses), several additional production cost categories are taxed under the 2 percent plan. The taxed items included diesel/gasoline, livestock purchases, feed, fertilizer, chemicals, other crop expenses, miscellaneous, and farm overhead. Sales tax on diesel/gasoline would be in addition to existing state fuel taxes. Current state fuel tax rates are 2 percent of purchase price for diesel fuel, \$.01125 per gallon for farm-use gasoline and \$.13 per gallon for road-use gasoline. Other crop expenses included seed, twine, crop insurance, and fuel for drying. Veterinary and other livestock expenses, custom work, and irrigation expenses were included in the miscellaneous category. Farm overhead included general farm expense, telephone, and electricity expenses. It was assumed that hired labor including labor on machinery repairs was not subject to sales tax under the 2 percent plan.

Farm operating expenditure categories could have been aggregated and applied to the 2 percent tax rate, but they were kept in eight groupings to facilitate further analysis. If the 2 percent plan was changed to allow for the exemption of a certain input category, the revised sales tax module would require only minor adjustments before the analysis could be performed. For example, if the proposed 2 percent plan was to allow livestock purchases to be exempt from the tax, the only modification necessary would be to eliminate the tax rate applied to those expenditures. Analyzing the impact of a sales tax on each of the input expense categories provides a detailed estimation of the incidence of tax borne by each of the input accounts.

The TAXSIM sales tax module was modified to estimate the sales tax paid by farm and ranch operators. Categories subject to sales tax in 1983 were still taxed, only the rate was changed to 2 percent. Expenditures for the other categories were incorporated into the module and applied to the 2 percent rate. Table 3 provides a summary of taxable items and their rate under existing laws and the proposed 2 percent plan.

TABLE 3. SALES TAX RATES BY MAJOR EXPENSE CATEGORIES UNDER CURRENT LAWS AND THE PROPOSED TWO PERCENT SALES TAX PLAN

Item	Current (1983) Sales Tax ^a	Proposed Two Percent Sales Tax
1. Machinery purchases	Machinery purchases x .03	Machinery purchases x .02
2. Building purchases	Building purchases x .04	Building purchases x .02
3. Repairs--machinery ^b --buildings	(Repairs x .75) x .04 Repairs x .04	(Repairs x .75) x .02 Repairs x .02
4. Grease/oil	(Fuel x .13) x .04	(Fuel x .13) x .02
5. Diesel/gasoline	N/A	(Fuel x .87) x .02
6. Livestock purchases	N/A	Livestock purchases x .02
7. Feed bought	N/A	Feed bought x .02
8. Fertilizer	N/A	Fertilizer x .02
9. Chemicals	N/A	Chemicals x .02
10. Other crop expenses ^c	N/A	Other crop expenses x .02
11. Miscellaneous ^d	N/A	Miscellaneous x .02
12. Farm overhead ^e	N/A	Farm overhead x .02
13. Household expenses ^f	(HH Exp. - food) x .04	HH expenses x .02

^aFor a detailed explanation, see Pederson et al. (1985).

^bLabor for repairs was not subject to sales tax. One-fourth of the cost of machinery repairs was assumed to be labor.

^cOther crop expenses include seed, twine, crop insurance, and fuel for drying.

^dMiscellaneous includes veterinary and other livestock expenses, custom work, and irrigation.

^eFarm overhead includes general farm expenses, telephone, and electricity expenses.

^fOne-fourth of the food and meals expenditures (i.e., meals purchased at restaurants etc.) was assumed to be taxable under the current tax laws, but all food and meals expenditures were subject to sales tax with the proposed two percent plan.

1
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Farm Record Data Base

Farm record summaries from the 1983 North Dakota Vocational Agriculture Farm Business Management Program were used to develop estimates of taxes paid by farm operators (Gullickson and Holkup 1981-1983). Additional data were obtained through the Farm Management Program at Moorhead Vocational Technical Institute. Usable records for 1983 totaled 188 for this study. The farm records were compared with the 1982 Census of Agriculture data to determine if the farms and farm records were representative of all North Dakota farms by Pederson et al. (1985). Results of this analysis indicated the records provided a representative sample of total farms for both farm type and size.

Farms were classified as cash grain, dairy, and beef according to the source of at least 50 percent of their sales. Mixed farms were those operations in which no single enterprise (cash grain, dairy, or beef) accounted for more than 50 percent of total annual sales. Some of the mixed farms had over 50 percent of their sales from specialty crops (i.e., sugarbeets and/or potatoes). Farms were separated into four size groups, based on sales of all agricultural products: small (\$10,000-39,999), medium (\$40,000-99,999), large (\$100,000-249,999), and very large (greater than \$250,000). Impacts associated with the proposed 2 percent sales tax will be analyzed for both farm type and size group.

Estimated mean farm characteristics by farm type for the 188 records used to estimate 1983 sales tax under current laws and with the 2 percent plan are presented in Table 4. Gross farm income (i.e., the sum of sales of all agricultural products, government payments, patronage, gas tax refunds, custom work, and miscellaneous farm income) was largest for the mixed type farm as were operating expenses. Operating expenses included cash farm expenses and purchases of livestock for resale but excluded capital purchases. Cash grain farms spent the most money (\$16,954) in 1983 on capital purchases (machinery, equipment, buildings, and improvements, excluding land purchases). Combined income (defined as net farm profit or loss, capital gains income, and nonfarm income) was largest for the beef farms followed by mixed, cash grain, and dairy with \$35,566, \$26,072, \$25,788, and \$18,391, respectively. As would be expected, the cash grain farms had the greatest number of tillable acres. These characteristics represent mean values, or the average of all values within each farm type. Similar farm type characteristics are presented in Appendix B, Table 1 representing median values.

Farm characteristics by size of farm (measured by total sales of agricultural production) are presented in Table 5. Mean gross farm income, operating expenses, capital purchases, household expenses, and combined income all increase as farm size increases. Mean combined income for very large farms was estimated at \$78,109 in 1983. Consistent with the fact that farm size was measured in terms of annual sales, mean acres farmed and tillable acres increased as farm size increased. Median farm characteristics based on farm size are presented in Appendix B, Table 2.

Sales Tax Estimates

Sales tax payments made by farm and ranch operators were estimated for 1983 using the current tax laws and the proposed 2 percent plan. Tax payments were estimated for each of the 13 categories of expenditures listed in Table 3 and also were calculated by farm type and size. It should be noted that in

TABLE 4. ESTIMATED MEAN FARM CHARACTERISTICS BY FARM TYPE, 1983

Item	All Farms	Type of Farm			
		Cash Grain	Dairy	Beef	Mixed
Number of farms	188	110	27	27	24
Gross farm income	\$136,533	\$127,297	\$122,303	\$155,599	\$173,424
Operating expenses ¹	106,375	95,819	96,143	126,616	143,496
Capital purchases ²	15,359	16,954	12,298	11,939	15,340
Household expenses ³	11,057	10,935	9,850	12,335	11,538
Combined income ⁴	26,166	25,788	18,391	35,566	26,072
Acres farmed	1,479	1,336	1,212	2,524	1,248
Tillable acres	1,003	1,121	726	883	907

¹Operating expenses include cash farm expenses and purchases of livestock for resale, but exclude capital purchases.

²Capital purchases include purchase of machinery, equipment, buildings, and improvements, but exclude land purchases.

³Household expense excludes medical care, health and life insurance, contributions, education, and income and social security taxes.

⁴Combined income includes net farm profit (loss), capital gains income, and nonfarm income.

1983 sales taxes accounted for over 22 percent of the estimated total taxes paid by farm operators (Ali et al. 1985). Comparison of estimated 1983 sales taxes under existing laws and with a 2 percent rate were analyzed for farm type and size using mean sales tax calculations. When estimating impacts associated with a change in sales tax laws, tax changes were determined for each observation in the sample distribution. Determining the impact of a tax change can be accomplished using measures of central tendency; the mean would more closely estimate the state revenue aspect of the tax change, whereas the median represents the change in payments made by a typical farm and ranch operator. A discussion of the results follows.

Estimated Sales Taxes by Farm Type

Each of the four farm types would experience an increase in estimated mean sales tax payments with the 2 percent plan (Table 6). (Corresponding analysis showing median tax estimates by farm type is presented in Appendix B, Table 3.) Beef farms would realize the largest increase (\$1,113.29) followed by mixed farms (\$1,014.38), dairy farms (\$709.00), and cash grain farms (\$499.37) under the proposed tax plan. The reason beef farms would experience the

TABLE 5. ESTIMATED MEAN FARM CHARACTERISTICS BASED ON SALES OF AGRICULTURAL PRODUCTS, 1983

Item	Total Sales of All Agricultural Products			
	Small \$10,000- 39,999	Medium \$40,000- 99,999	Large \$100,000- 249,999	Very Large Greater Than \$250,000
Number of farms	16	94	64	14
Gross farm income	\$37,472	\$82,436	\$183,043	\$400,344
Operating expenses ¹	31,104	66,861	139,607	305,794
Capital purchases ²	6,291	9,838	22,387	30,664
Household expenses ³	8,272	9,573	12,027	19,771
Combined net income ⁴	13,637	15,167	34,092	78,109
Acres farmed	1,069	1,290	1,634	2,495
Tillable acres	578	793	1,284	1,609

¹Operating expenses include cash farm expenses and purchases of livestock for resale, but exclude capital purchases.

²Capital purchases include purchase of machinery, equipment, buildings, and improvements but exclude land purchases.

³Household expenses exclude medical care, health and life insurance, contributions, education, income and social security taxes.

⁴Combined income includes net farm profit (loss), capital gains income and nonfarm income.

largest estimated increase was the tax on livestock purchases; the increase for this category alone was \$618.85, accounting for over half the change in this farm type. Purchases of livestock by the beef farms included not only breeding stock, but also feeder cattle with 10 of the 27 farms in this category buying feeder cattle. Among all sales tax categories, the livestock purchases group was the largest single source of increased sales tax revenue under the proposed 2 percent plan.

Sales tax revenues declined for each category that was previously subject to the tax (machinery purchases, building purchases, repairs, grease/oil, and household expenses) because of the rate reduction from 3 or 4 percent to a 2 percent rate. Reductions in these categories were more than offset by the broader tax base. Sales tax collections from farm machinery purchases would decline by \$141.73, \$109.37, \$105.33, and \$129.83 for the cash grain, dairy, beef, and mixed farm types, respectively, under the proposed plan. The declines in sales tax revenues associated with building purchases under the 2 percent plan were rather insignificant as they decreased by only

TABLE 6. COMPARISON OF ESTIMATED MEAN SALES TAX UNDER CURRENT LAWS AND PROPOSED TWO PERCENT SALES TAX PLAN, BY MAJOR EXPENSE CATEGORY AND FARM TYPE, 1983

Item ¹		Farm Type			
		Cash Grain	Dairy	Beef	Mixed
Number of farms		110	27	27	24
----- mean sales tax -----					
Machinery purchases	Current	\$ 453.32	\$ 349.67	\$ 336.81	\$ 414.83
	Proposed	311.59	240.30	231.48	285.00
	Change	(141.73)	(109.37)	(105.33)	(129.83)
Building purchases	Current	52.93	10.89	13.96	41.96
	Proposed	27.48	5.67	7.30	21.79
	Change	(25.45)	(5.22)	(6.66)	(20.17)
Repairs (mach. & bldg.)	Current	292.65	309.22	295.37	392.83
	Proposed	152.03	160.63	153.44	204.08
	Change	(140.62)	(148.59)	(141.93)	(188.75)
Grease/oil	Current	46.61	37.48	43.70	56.54
	Proposed	24.23	19.48	22.74	29.38
	Change	(22.38)	(18.00)	(20.96)	(27.16)
Diesel/gasoline	Current	0.00	0.00	0.00	0.00
	Proposed	162.11	130.11	151.96	196.50
	Change	162.11	130.11	151.96	196.50
Livestock purchases	Current	0.00	0.00	0.00	0.00
	Proposed	30.80	74.00	618.85	166.79
	Change	30.80	74.00	618.85	166.79
Feed bought	Current	0.00	0.00	0.00	0.00
	Proposed	16.99	252.78	164.63	68.54
	Change	16.99	252.78	164.63	68.54
Fertilizer	Current	0.00	0.00	0.00	0.00
	Proposed	184.71	58.52	84.81	249.25
	Change	184.71	58.52	84.81	249.25
Chemicals	Current	0.00	0.00	0.00	0.00
	Proposed	128.45	20.70	47.37	236.46
	Change	128.45	20.70	47.37	236.46
Other crop expenses	Current	0.00	0.00	0.00	0.00
	Proposed	231.17	93.89	155.49	243.30
	Change	231.17	93.89	155.49	243.30
Miscellaneous	Current	0.00	0.00	0.00	0.00
	Proposed	76.33	296.18	141.51	186.99
	Change	76.33	296.18	141.51	186.99
Farm overhead	Current	0.00	0.00	0.00	0.00
	Proposed	92.71	121.48	122.56	134.88
	Change	92.71	121.48	122.56	134.88
Household expenses	Current	312.40	254.48	344.70	333.17
	Proposed	218.69	197.00	246.70	230.75
	Change	(93.71)	(57.48)	(98.00)	(102.42)
All sales tax	Current	1,157.91	961.74	1,035.56	1,239.33
	Proposed	1,657.28	1,670.74	2,148.85	2,253.71
	Change	499.37	709.00	1,113.29	1,014.38

Note: Numbers in parentheses are negatives.

¹Refer to Table 3.

\$25.00 or less. However, the reduction in sales tax revenues associated with repairs for machinery and buildings was greater than \$140.00 for each farm type. Only slight reductions in estimated sales tax collections would result in the grease/oil category under the proposed plan. Estimated sales tax collections on household expenses would be reduced by \$93.71 for cash grain, \$57.48 for dairy, \$98.00 for beef, and \$102.42 for mixed farms with the new plan.

Cash grain farms would realize significant sales tax increases on their production input expenses; increases on diesel/gasoline (\$162.11), fertilizer (\$184.71), chemicals (\$128.45), and other crop expenses (\$231.17) would occur under the 2 percent plan. Impact of the new plan would result in sales tax payments increasing by \$499.37 for cash grain farmers, although this was the smallest tax increase of the four farm types. Miscellaneous and feed bought categories increased the most for the dairy farm type. This farm type paid the least amount of estimated sales tax in 1983 under current laws but experienced a larger tax increase than the cash grain farms under the 2 percent plan and moved ahead of cash grain farms in absolute payments, paying a projected \$1,670.74. Beef and mixed farms had the largest increases in sales tax payments with the new plan and realized sales tax payments of \$2,148.85 and \$2,253.71, respectively.

Analysis of the proposed 2 percent tax plan indicates a shift in the sales tax payments among the four farm types with each type experiencing an absolute increase. The largest sales tax increase would be on the beef farm because of the large amount of dollars spent for livestock purchases. Reductions in the sales tax rate under the proposed 2 percent plan would more than be offset by broader tax base and result in a significant increase in the sales tax for all farm types.

Estimated Sales Taxes by Farm Size

Sales tax payments increase as farm size increases with both the current tax laws and the proposed 2 percent plan. Current mean sales taxes paid by small farms were estimated to increase by 10.9 percent (\$63.75) with the new plan (Table 7). (Estimated median sales taxes paid by farm size are presented in Appendix B, Table 4.) Medium size farms would have had a \$427.28 estimated sales tax increase (52.4 percent) if the 2 percent plan had been used in 1983. Large and very large farms would have had their sales tax payments increase by 64.1 and 85.3 percent, respectively, with the proposed 2 percent plan. This would have increased their sales taxes from \$1,424.97 to \$2,337.77 for large farms and from \$2,420.00 to \$4,484.43 for the very large farm size.

Machinery purchases, repairs, and grease/oil categories all decline as the sales tax rate is reduced, and as expected, the amount of decline is more as farm size increases. Estimated sales taxes on household expenses also declined. Because household expenditures increased as farm size got larger, the lower rates under the proposed plan resulted in larger declines in household sales tax payments as farm size increased. Estimated sales tax collections for production inputs (diesel/gasoline, livestock purchases, feed bought, fertilizer, chemicals, other crop expenses, miscellaneous, and farm overhead) all increased with farm size. The largest source of sales tax revenue from small farms would be from the diesel/gasoline category. Other

TABLE 7. COMPARISON OF ESTIMATED MEAN SALES TAX UNDER CURRENT LAWS AND PROPOSED TWO PERCENT SALES TAX PLAN, BY MAJOR EXPENSE CATEGORY AND FARM SALES GROUP, 1983

Item ¹	Total Sales of all Agricultural Products				
	Small \$10,000- 39,999	Medium \$40,000- 99,999	Large \$100,000- 249,999	Very Large Greater Than \$250,000	
Number of farms	16	94	64	14	
----- mean sales tax -----					
Machinery purchases	Current Proposed Change	\$175.81 120.81 (55.00)	\$ 239.69 164.71 (74.98)	\$ 633.81 435.66 (198.15)	\$ 889.14 611.07 (278.07)
Building purchases	Current Proposed Change	9.69 5.00 (4.69)	61.69 32.04 (29.65)	23.23 12.08 (11.15)	4.21 2.21 (2.00)
Repairs (mach. & bldg.)	Current Proposed Change	151.94 78.88 (73.06)	213.60 110.94 (102.66)	375.53 195.13 (180.40)	814.36 423.07 (391.29)
Grease/oil	Current Proposed Change	20.31 10.44 (9.87)	34.40 17.91 (16.49)	57.41 29.83 (27.58)	103.07 53.57 (49.50)
Diesel/gasoline	Current Proposed Change	0.00 70.63 70.63	0.00 119.56 119.56	0.00 199.67 199.67	0.00 358.29 358.29
Livestock purchases	Current Proposed Change	0.00 43.19 43.19	0.00 113.70 113.70	0.00 129.14 129.14	0.00 461.00 461.00
Feed bought	Current Proposed Change	0.00 12.13 12.13	0.00 49.59 49.59	0.00 103.23 103.23	0.00 237.29 237.29
Fertilizer	Current Proposed Change	0.00 25.13 25.13	0.00 92.41 92.41	0.00 231.55 231.55	0.00 447.29 447.29
Chemicals	Current Proposed Change	0.00 16.25 16.25	0.00 59.64 59.64	0.00 157.98 157.98	0.00 404.64 404.64
Other crop expenses	Current Proposed Change	0.00 31.75 31.75	0.00 130.82 130.82	0.00 296.12 296.12	0.00 446.00 446.00
Miscellaneous	Current Proposed Change	0.00 18.57 18.57	0.00 85.55 85.55	0.00 178.69 178.69	0.00 351.93 351.93
Farm overhead	Current Proposed Change	0.00 49.13 49.13	0.00 73.82 73.82	0.00 128.16 128.16	0.00 292.64 292.64
Household expenses	Current Proposed Change	225.81 165.44 (60.37)	265.50 191.46 (74.04)	334.98 240.53 (94.45)	609.21 395.43 (213.78)
All sales tax	Current Proposed Change	583.56 647.31 63.75	814.88 1,242.16 427.28	1,424.97 2,337.77 912.80	2,420.00 4,484.43 2,064.43

Note: Numbers in parentheses are negatives.

¹Refer to Table 3.

crop expenses category would be the largest single source of new sales tax revenue under the 2 percent plan for medium and large farms. The very large farms would pay an estimated \$461.00 in sales tax for livestock purchases, making it the largest single category source of sales tax payments under the new plan.

Sales tax payments increase with farm size under both current sales tax laws and the proposed 2 percent plan. However, under current laws the taxes range from \$583.56 for a small farm to \$2,420.00 for a very large farm but would increase to \$647.31 for the small farm and \$4,484.43 for the very large farm. Estimated sales tax payments for very large farms would almost double if the 2 percent plan was used, and each farm size would have a significant increase in sales tax payments.

Estimated Sales Taxes for All Farmers

Changes in sales tax payments if the proposed 2 percent plan were being used in 1983 also were analyzed for the aggregate 188 farms. Mean sales tax payments for all farms combined are presented in Table 8. The mean 1983 estimated sales tax would increase from \$1,122.42 to \$1,805.95, an increase of \$683.53. The reduced tax rate of the proposed 2 percent plan results in decreases in previously taxed categories, but the broader tax base more than overcomes the rate reduction. Sales tax collections on repairs were the largest (\$148.10) of the categories having reduced rates, and other crop expenses was the largest new source (\$202.13) of revenue with the proposed 2 percent plan followed by fertilizer (\$160.48), diesel/gasoline (\$160.45), and livestock purchases (\$138.82). Sales tax collections on household expenditures declined by \$90.23 (from \$311.37 to \$221.14) with the lower tax rate.

Median sales tax payments provide another way of measuring the impacts of the proposed sales tax plan. In essence, this technique selects the midpoint in terms of having an equal number of observations lying on each side of the point. The median may be larger or smaller than the mean depending on how the distribution is skewed. Median sales tax collections under the current tax laws were estimated at \$870.50 for all farmers in 1983; for the same period, median sales tax under the 2 percent plan was \$1,469.50 (Table 8). Increase in sales tax under the new plan was \$599.00 when using the median. In conjunction with the median, the sales tax payments at the 25th and 75th percentiles (i.e., for the 25th percentile, 25 percent of the observations lie below that point and for the 75th percentile, 25 percent of the observations lie above that point) also were determined and indicate increases of \$384.50 and \$981.50, respectively (Table 8).

The impact of the proposed 2 percent tax plan would be significant for North Dakota farm and ranch operators when analyzed as a group. A \$683.53 mean sales tax increase would occur with this plan. The mean increase in sales tax is slightly higher than the corresponding median estimate but should be used when analyzing the new tax plan impact on state revenues.

TABLE 8. COMPARISON OF ESTIMATED MEAN AND MEDIAN SALES TAX UNDER CURRENT LAWS AND PROPOSED TWO PERCENT SALES TAX PLAN, BY MAJOR EXPENSE CATEGORY, FOR ALL FARMERS, 1983

Item ¹		Mean	Median	Percentile	
		(188 Farms)		25th	75th
----- sales tax -----					
Machinery purchases	Current	\$ 416.79	\$ 217.00	\$ 47.25	\$ 503.75
	Proposed	286.45	149.00	32.25	346.25
	Change	(130.34)	(68.00)	(15.00)	(157.50)
Building purchases	Current	39.89	0.00	0.00	0.00
	Proposed	20.72	0.00	0.00	0.00
	Change	(19.17)	0.00	0.00	0.00
Repairs (mach. & bldg.)	Current	308.21	253.00	163.25	364.25
	Proposed	160.11	131.50	84.75	189.50
	Change	(148.10)	(121.50)	(78.50)	(174.75)
Grease/oil	Current	46.15	40.00	27.00	56.75
	Proposed	23.99	21.00	14.00	29.75
	Change	(22.16)	(19.00)	(13.00)	(27.00)
Diesel/gasoline	Current	0.00	0.00	0.00	0.00
	Proposed	160.45	138.00	95.00	197.00
	Change	160.45	138.00	95.00	197.00
Livestock purchases	Current	0.00	0.00	0.00	0.00
	Proposed	138.82	0.00	0.00	88.25
	Change	138.82	0.00	0.00	88.25
Feed bought	Current	0.00	0.00	0.00	0.00
	Proposed	78.64	8.00	0.00	63.00
	Change	78.64	8.00	0.00	63.00
Fertilizer	Current	0.00	0.00	0.00	0.00
	Proposed	160.48	90.00	28.25	232.25
	Change	160.48	90.00	28.25	232.25
Chemicals	Current	0.00	0.00	0.00	0.00
	Proposed	115.12	67.50	19.25	146.00
	Change	115.12	67.50	19.25	146.00
Other crop expenses	Current	0.00	0.00	0.00	0.00
	Proposed	202.13	129.57	55.37	292.21
	Change	202.13	129.57	55.37	292.21
Miscellaneous	Current	0.00	0.00	0.00	0.00
	Proposed	131.39	64.46	25.36	168.99
	Change	131.39	64.46	25.36	168.99
Farm overhead	Current	0.00	0.00	0.00	0.00
	Proposed	106.51	79.50	53.00	127.75
	Change	106.51	79.50	53.00	127.75
Household expenses	Current	311.37	275.00	191.50	377.25
	Proposed	221.14	207.00	143.50	270.50
	Change	(90.23)	(68.00)	(48.00)	(106.75)
All sales tax ²	Current	1,122.42	870.50	562.50	1,420.00
	Proposed	1,805.95	1,469.50	947.00	2,401.50
	Change	683.53	599.00	384.50	981.50

Note: Numbers in parentheses are negatives.

¹Refer to Table 3.

²All sales tax does not equal the sum of the individual tax estimates for the median and percentiles, since the all sales tax was computed separately. Those paying the median amount of all sales tax do not necessarily pay the median amount for each individual tax item.

Conclusions

Impacts associated with changing the current sales tax laws to a proposed 2 percent rate with no exemptions would be very significant for North Dakota farm and ranch operators. The estimated mean sales tax paid for all farms would increase from \$1,122.42 to \$1,805.95, a 60.9 percent increase (Table 9). A summary of the effects of a change to the proposed 2 percent tax plan is presented in Tables 6, 7, and 8 for each farm type and size. Beef farms would experience an estimated 107.51 percent increase in sales tax payments under the new plan; this increase was over one-fourth larger than that of the next largest group, mixed farm (81.85 percent). Dairy farms would be expected to have a 73.72 percent increase and cash grain would experience the smallest increase (43.13 percent) of the four farm types.

TABLE 9. ESTIMATED POTENTIAL IMPACTS OF A TWO PERCENT SALES TAX PROPOSAL FOR NORTH DAKOTA FARM AND RANCH OPERATORS, 1983

	Mean All Sales Tax		Change	
	Current	Proposed	Amount	Percent
All farm	\$1,122.42	\$1,805.95	\$ 683.53	60.90
Farm type				
Cash grain	\$1,157.91	\$1,657.28	\$ 499.37	43.13
Dairy	961.74	1,670.74	709.00	73.72
Beef	1,035.56	2,148.85	1,113.29	107.51
Mixed	1,239.33	2,253.71	1,014.38	81.85
Farm sales group				
Small	\$ 583.56	\$ 647.31	\$ 63.75	10.92
Medium	814.88	1,242.16	427.28	52.43
Large	1,424.97	2,337.77	912.80	64.06
Very large	2,420.00	4,484.43	2,064.43	85.31

The proposed 2 percent sales tax plan may appear to be a rate reduction on the surface, but the increase in the tax base greatly increases the amount of sales tax North Dakota farm and ranch operators would have to pay. Every farm type and size would experience increased sales tax payments with the proposed plan and all farms would have experienced a mean estimated increase of \$683.53. This plan could result in farmers and ranchers bearing large increases in sales tax payments if no adjustments were made to the proposed plan. Farmers with more gross farm income would see their sales taxes increase by a larger percentage than farmers with a smaller amount of sales.

Appendix A

History of North Dakota Sales Tax Laws

Summary of Changes in Sales and Use Tax Rates and Taxable Base

The following changes in the sales and use tax rates and taxable bases must be taken into account when comparing 1984 statistics with previous years.

The first general sales tax law in North Dakota became effective on May 1, 1935, and the first general use tax law became effective on March 14, 1939. Until July 1, 1963, both imposed a tax rate of 2 percent and had similar tax bases. This base generally consisted of all sales to consumers of personal property, sales or service of steam, gas, electricity, water and communication, sales of tickets to places of amusement and subscription sales of magazines except that the use tax law was limited to tangible personal property.

On July 1, 1963, the sales and use tax rate was increased to 2 1/4 percent and the base was broadened to include: services rendered in the repair, alteration, restoration, and cleaning of tangible personal property; hotel, motel and tourist court accommodations; amusements involving participation, and leasing or renting of tangible personal property. Also on July 1, 1963, a 3 percent excise tax was placed on the wholesale price to retail liquor dealers of non-alcoholic commodities suitable for use in mixed drinks. The proceeds of this tax were placed in the state general fund. This excise tax was terminated on June 30, 1967.

In 1965, the sales tax law was referred to a vote of the people and disapproved. Consequently, the state was without a sales tax from July 1, 1965, to April 1, 1967. However, during this period use tax was collected in place of the disapproved sales tax. The sales and use tax bases remained substantially the same during this period except for the following exemptions: hotel, motel accommodations; communication services (telephone and telegraph); amusements; and services rendered in the repair, alteration, restoration, and cleaning of tangible personal property. Motor vehicles during this period were taxable under the motor vehicle use tax provision of the general use tax law. Collections were made by the Tax Department on vehicles sold in North Dakota by dealers and by the Motor Vehicle Department on vehicles purchased outside the state for use in North Dakota. One-half of the use tax collections made by the Motor Vehicle Department were to be placed in a special Motor Vehicle Fund. The other one-half and all of the tax collected by the Tax Department were to be placed in the state's general fund.

On April 1, 1967, a new motor vehicle excise tax law became effective. This law placed a 3 percent tax on all motor vehicles purchased or acquired both within and outside of North Dakota. (Since April 1, 1967, there has not technically been a use tax on motor vehicles. However, to keep a similar terminology with that of the general sales and use tax, the motor vehicle excise tax is commonly referred to as tax collected on purchases within North Dakota and the motor vehicle use tax is referred to as the tax collected on purchases outside of North Dakota.) Effective on January 1, 1970, the rate of the motor vehicle excise tax was increased to 4 percent.

Appendix B

**Median Farm Characteristics and Estimated
Sales Tax by Farm Type and Size**

APPENDIX TABLE 1. ESTIMATED MEDIAN FARM CHARACTERISTICS BY FARM TYPE, 1983

Item	All Farms	Type of Farm			
		Cash Grain	Dairy	Beef	Mixed
Number of farms	188	110	27	27	24
Gross farm income	\$108,342	\$103,825	\$105,774	\$ 88,564	\$127,209
Operating expenses ¹	87,808	85,040	82,231	101,182	115,650
Capital purchases ²	7,925	9,600	7,250	7,150	7,700
Household expenses ³	10,350	10,350	9,100	11,500	10,925
Combined income ⁴	20,543	24,558	14,268	17,845	25,405
Acres farmed	1,213	1,120	1,055	2,233	1,095
Tillable acres	932	977	632	817	936

¹Operating expenses include cash farm expenses and purchases of livestock for resale, but exclude capital purchases.

²Capital purchases include purchase of machinery, equipment, buildings, and improvements, but exclude land purchases.

³Household expense excludes medical care, health and life insurance, contributions, education, and income and social security taxes.

⁴Combined income includes net farm profit (loss), capital gains income, and nonfarm income.

APPENDIX TABLE 2. ESTIMATED MEDIAN FARM CHARACTERISTICS BASED ON SALES OF AGRICULTURAL PRODUCTS, 1983.

Item	Total Sales of All Agricultural Products			
	Small \$10,000- 39,999	Medium \$40,000- 99,999	Large \$100,000- 249,999	Very Large Greater Than \$250,000
Number of farms	16	94	64	14
Gross farm income	\$36,795	\$80,547	\$175,256	\$349,397
Operating expenses ¹	28,770	63,757	132,592	293,246
Capital purchases ²	5,550	4,850	16,150	17,925
Household expenses ³	7,850	9,125	11,950	16,825
Combined net income ⁴	11,959	13,964	29,256	49,243
Acres farmed	847	1,043	1,444	1,512
Tillable acres	527	773	1,149	1,368

¹Operating expenses include cash farm expenses and purchases of livestock for resale, but exclude capital purchases.

²Capital purchases include purchase of machinery, equipment, buildings, and improvements but exclude land purchases.

³Household expenses exclude medical care, health and life insurance, contributions, education, income and social security taxes.

⁴Combined income includes net farm profit (loss), capital gains income and nonfarm income.

APPENDIX TABLE 3. COMPARISON OF ESTIMATED MEDIAN SALES TAX UNDER CURRENT LAWS AND PROPOSED TWO PERCENT SALES TAX PLAN, BY MAJOR EXPENSE CATEGORY AND FARM TYPE, 1983

Item ¹	Farm Type				
	Cash Grain	Dairy	Beef	Mixed	
Number of farms	110	27	27	24	
----- median sales tax -----					
Machinery purchases	Current	\$ 230.00	\$ 211.00	\$ 172.00	\$ 224.00
	Proposed	158.50	145.00	118.00	154.00
	Change	(71.50)	(66.00)	(54.00)	(70.00)
Building purchases	Current	0.00	0.00	0.00	0.00
	Proposed	0.00	0.00	0.00	0.00
	Change	0.00	0.00	0.00	0.00
Repairs (mach. & bldg.)	Current	258.00	237.00	233.00	318.50
	Proposed	134.00	123.00	121.00	165.50
	Change	(124.00)	(114.00)	(112.00)	(153.00)
Grease/oil	Current	40.00	32.00	38.00	49.50
	Proposed	21.00	17.00	20.00	25.50
	Change	(19.00)	(15.00)	(18.00)	(24.00)
Diesel/gasoline	Current	0.00	0.00	0.00	0.00
	Proposed	138.50	111.00	132.00	172.50
	Change	138.50	111.00	132.00	172.50
Livestock purchases	Current	0.00	0.00	0.00	0.00
	Proposed	0.00	33.00	196.00	17.50
	Change	0.00	33.00	196.00	17.50
Feed bought	Current	0.00	0.00	0.00	0.00
	Proposed	0.00	193.00	56.00	11.50
	Change	0.00	193.00	56.00	11.50
Fertilizer	Current	0.00	0.00	0.00	0.00
	Proposed	131.00	23.00	29.00	159.00
	Change	131.00	23.00	29.00	159.00
Chemicals	Current	0.00	0.00	0.00	0.00
	Proposed	94.00	14.00	15.00	154.00
	Change	94.00	14.00	15.00	154.00
Other crop expenses	Current	0.00	0.00	0.00	0.00
	Proposed	178.99	50.06	61.22	188.79
	Change	178.99	50.06	61.22	188.79
Miscellaneous	Current	0.00	0.00	0.00	0.00
	Proposed	36.75	285.68	79.46	136.92
	Change	36.75	285.68	79.46	136.92
Farm overhead	Current	0.00	0.00	0.00	0.00
	Proposed	71.00	91.00	77.00	112.00
	Change	71.00	91.00	77.00	112.00
Household expenses	Current	275.00	210.00	286.00	316.50
	Proposed	207.00	182.00	230.00	218.50
	Change	(68.00)	(28.00)	(56.00)	(98.00)
All sales tax ²	Current	940.50	716.00	834.00	990.00
	Proposed	1,408.00	1,389.00	1,567.00	2,123.00
	Change	768.50	673.00	733.00	1,133.00

Note: Numbers in parentheses are negatives.

¹Refer to Table 3.

²All sales tax does not equal the sum of the individual sales tax estimates for the median, since the all sales tax estimate was computed separately. Those paying the median amount of all sales tax do not necessarily pay the median amount for each individual sales tax item.

APPENDIX TABLE 4. COMPARISON OF ESTIMATED MEDIAN SALES TAX UNDER CURRENT LAWS AND PROPOSED TWO PERCENT SALES TAX PLAN, BY MAJOR EXPENSE CATEGORY AND FARM SALES GROUP, 1983

Item ¹	Total Sales of all Agricultural Products				
	Small \$10,000- 39,999	Medium \$40,000- 99,999	Large \$100,000- 249,999	Very Large Greater Than \$250,000	
Number of farms	16	94	64	14	
----- median sales tax -----					
Machinery purchases	Current	\$ 137.00	\$ 108.50	\$ 425.00	\$ 522.00
	Proposed	94.00	74.50	292.50	358.50
	Change	(43.00)	(34.00)	(132.50)	(163.50)
Building purchases	Current	0.00	0.00	0.00	0.00
	Proposed	0.00	0.00	0.00	0.00
	Change	0.00	0.00	0.00	0.00
Repairs (mach. & bldg.)	Current	127.50	196.50	351.00	670.00
	Proposed	66.50	102.00	182.00	348.00
	Change	(61.00)	(94.50)	(169.00)	(322.00)
Grease/oil	Current	20.00	34.00	53.50	92.50
	Proposed	10.00	17.50	28.00	48.00
	Change	(10.00)	(16.50)	(25.50)	(44.50)
Diesel/gasoline	Current	0.00	0.00	0.00	0.00
	Proposed	68.50	118.00	186.50	322.00
	Change	68.50	118.00	186.50	322.00
Livestock purchases	Current	0.00	0.00	0.00	0.00
	Proposed	0.00	13.00	0.00	0.00
	Change	0.00	13.00	0.00	0.00
Feed bought	Current	0.00	0.00	0.00	0.00
	Proposed	1.50	15.50	1.00	0.00
	Change	1.50	15.50	1.00	0.00
Fertilizer	Current	0.00	0.00	0.00	0.00
	Proposed	24.50	57.50	200.00	455.00
	Change	24.50	57.50	200.00	455.00
Chemicals	Current	0.00	0.00	0.00	0.00
	Proposed	5.50	41.50	131.50	293.00
	Change	5.50	41.50	131.50	293.00
Other crop expenses	Current	0.00	0.00	0.00	0.00
	Proposed	20.12	99.53	277.15	340.93
	Change	20.12	99.53	277.15	340.93
Miscellaneous	Current	0.00	0.00	0.00	0.00
	Proposed	10.91	47.68	108.22	254.25
	Change	10.91	47.68	108.22	254.25
Farm overhead	Current	0.00	0.00	0.00	0.00
	Proposed	38.00	67.00	111.00	260.00
	Change	38.00	67.00	111.00	260.00
Household expenses	Current	204.00	256.50	318.00	496.00
	Proposed	157.00	182.50	239.00	336.50
	Change	(47.00)	(74.00)	(79.00)	(159.50)
All sales tax ²	Current	524.50	708.00	1,234.50	2,013.00
	Proposed	673.00	1,181.00	2,274.00	4,242.00
	Change	148.50	473.00	1,039.50	2,229.00

Note: Numbers in parentheses are negatives.

¹Refer to Table 3.

²All sales tax does not equal the sum of the individual sales tax estimates for the median, since the all sales tax estimate was computed separately. Those paying the median amount of all sales tax do not necessarily pay the median amount for each individual sales tax item.

References

- Ali, Mir B., Roger G. Johnson, Glenn D. Pederson, and Randal C. Coon. 1985. "Estimated Tax Impacts on North Dakota Farm Operators." North Dakota Farm Research Bimonthly: 43(2). Fargo: North Dakota State University, Agricultural Experiment Station.
- Gullickson, Les and Mark Holkup. 1981-1983. North Dakota Vocational Agriculture, Farm Business Management Program. Annual Report. Bismarck: North Dakota State Board for Vocational Education.
- Intertec Publishing Corporation. 1979-1985. Implement & Tractor. Kansas City: Annual Market Statistics Issue.
- North Dakota Crop and Livestock Reporting Service. 1984. North Dakota Agricultural Statistics 1984. Ag. Statistics No. 53. Fargo: Statistical Reporting Service and North Dakota State University Agricultural Experiment Station cooperating.
- North Dakota Tax Department. 1980-1984. North Dakota Sales and Use Tax Statistical Report. Annual Report. Bismarck: Office of the State Tax Commissioner.
- North Dakota Tax Department. 1985. Unpublished data. Taxable sales and taxable purchases of farm machinery and equipment were from computer printouts. Bismarck: Office of the State Tax Commissioner.
- Office of the State Tax Commissioner. 1977. Sales Tax Guidelines. Bismarck: North Dakota Tax Department.
- Pederson, Glenn D., Roger G. Johnson, Mir B. Ali, and Randal C. Coon. 1985. Analysis of Taxes Paid By North Dakota Farm and Ranch Operators. Agricultural Economics Report No. 195. Fargo: North Dakota State University, Department of Agricultural Economics.
- Tsigas, Marinos. 1981. "Impacts of Energy Prices on Farms in Two Areas of North Dakota." Unpublished M.S. Thesis. Fargo: North Dakota State University, Department of Agricultural Economics.