

Agribusiness & Applied Economics Report No. 447

August 2000

Financial Characteristics of North Dakota Farms

1997-1999

Andrew L. Swenson

Department of Agribusiness and Applied Economics
North Dakota State University
Fargo, ND 58105-5636

Acknowledgments

We would be happy to provide a single copy of this publication free of charge. You can address your inquiry to: Carol Jensen, Department of Agribusiness and Applied Economics, North Dakota State University, P.O. Box 5636, Fargo, ND, 58105-5636, Ph. 701-231-7441, Fax 701-231-7400, e-mail cjensen@ndsuxt.nodak.edu . This publication is also available electronically at this web site: <http://agecon.lib.umn.edu/ndsu.html>

NOTICE:

The analyses and views reported in this paper are those of the author. They are not necessarily endorsed by the Department of Agribusiness and Applied Economics or by North Dakota State University.

North Dakota State University is committed to the policy that all persons shall have equal access to its programs, and employment without regard to race, color, creed, religion, national origin, sex, age, marital status, disability, public assistance status, veteran status, or sexual orientation.

Information on other titles in this series may be obtained from: Department of Agribusiness and Applied Economics, North Dakota State University, P.O. Box 5636, Fargo, ND 58105. Telephone: 701-231-7441, Fax: 701-231-7400, or e-mail: cjensen@ndsuxt.nodak.edu.

Copyright © 2000 by Andrew L. Swenson. All rights reserved. Readers may make verbatim copies of this document for non-commercial purposes by any means, provided that this copyright notice appears on all such copies.

TABLE OF CONTENTS

List of Tables	ii
Abstract	iii
Introduction	1
Source of Data	1
Definition of Financial Measures	2
Liquidity	2
Solvency	2
Profitability	3
Repayment Capacity	4
Financial Efficiency	4
Interpretation of Results	5
Farm Classifications and Highlights	6
All Farms	6
Region	7
Farm Enterprise	8
Farm Sales	9
Farm Size	10
Cropland Tenure	11
Net Farm Income	12
Debt-to-Asset Ratio	13
Farmer Age	14
Tables	15
References	27

LIST OF TABLES

Table 1.	Median farm size, farm operator age, and financial factors of farms participating in the North Dakota Farm Business Management Education Program, 1991-1999	15
Table 2.	Percent Distribution of farms by farm group category, North Dakota Farm Business Management Program, 1991-1999	16
Table 3.	Farm classifications and percent distribution of farm types within regions, North Dakota Farm Business Management Education Program, 1999	17
Table 4.	Current assets and current liabilities, quartile values for 1999, median values for 1997 and 1998, North Dakota Farm Business Management Education program participants.	18
Table 5.	Liquidity measures, quartile values for 1999, median values for 1997 and 1998, North Dakota Farm Business Management Education Program participants.	19
Table 6.	Total assets and total liabilities, quartile values for 1999, median values for 1997 and 1998, North Dakota Farm Business Management Education Program participants.	20
Table 7.	Solvency measures, quartile values for 1999, median values for 1997 and 1998, North Dakota Farm Business Management Education Program participants.	21
Table 8.	Rate of return on assets and rate of return on equity profitability measures, quartile values for 1999, median values for 1997 and 1998, North Dakota Farm Business Management Education program participants.	22
Table 9.	Operating profit margin and net farm income profitability measures, quartile values for 1999, median values for 1997 and 1998, North Dakota Farm Business Management Education Program participants.	23
Table 10.	Repayment capacity measures, quartile values for 1999, median values for 1997 and 1998, North Dakota Farm Business Management Education Program participants.	24
Table 11.	Asset turnover, and operating expense and depreciation expense efficiency measures (as a percentage of gross farm income), quartile values for 1999, median values for 1997 and 1998, North Dakota Farm Business Management Education Program participants.	25
Table 12.	Interest expense and farm income efficiency measures (as a percentage of gross farm income), quartile values for 1999, median values for 1997 and 1998, North Dakota Farm Business Management Education Program participants.	26

Abstract

The performance of over 530 North Dakota farms, 1997-1999, is summarized using 16 financial measures. Farms are categorized by geographic region, farm type, farm size, gross cash sales, farm tenure, net farm income, debt-to-asset, and age of farmer to analyze relationships between financial performance and farm characteristics. Farm financial trends for the 1991-1999 period are also presented.

Financial performance in 1999 was the best since 1993, and had great improvement from 1997 and 1998 when one-fourth of farms had negative net farm income and over one-half of farms were not able to make scheduled term debt payments with the year's income. Although crop prices were low in 1999, there was extraordinary government and crop insurance payments, and improved beef cattle prices. Median net farm income was 42,009 in 1999, \$19,491 in 1998 and \$14,290 in 1997.

Keywords: Farm financial management, farm management, farm income, liquidity, solvency, profitability, repayment capacity, financial efficiency, financial benchmarks, tenure, North Dakota.

INTRODUCTION

Financial statements such as the balance sheet and income statement provide a structured format to summarize financial information so it is more manageable for decision making. It is helpful to further simplify or summarize information contained in financial statements into key measures of financial performance. However, the calculation of a financial measure can be fruitless unless there is a meaningful basis of comparison to evaluate the number. Two methods of comparison are:

- ① **Past performance.** The progress of a business can be monitored by constructing financial measures on a periodic basis and comparing present to past performance.
- ② **Industry benchmarks.** The average or median of a financial measure from several similar businesses provides a good point of reference. Currently there is no nationwide database of farm records. However, there are statewide farm record programs in some states, including North Dakota. Each farm has its own unique aspects, so the most appropriate comparison would be farms that have similar enterprises and resources.

Whatever method of comparison is used, it is imperative that the procedures for construction of financial statements and performance measures are consistent over time and between farms to ensure an "apples-to-apples" comparison.

The Farm Financial Standards Task Force (FFSTF) was formed by the American Bankers Association in 1989 to develop standards for construction of financial statements and measures of financial performance in agriculture. In 1991, the task force provided recommendations for financial statement construction and the calculation of 16 measures of financial performance. These recommendations were adopted, in most part, by the North Dakota Farm Business Management Education Program and are the basis for the benchmarks presented in this publication.

The purpose of this study is to provide information to producers, lenders, educators, and others on the financial performance of a sample of North Dakota farms from 1997-1999. Similar studies for 1991,

1992, 1993, 1994, 1995 and 1996 are referenced on page 26 of this report. Table 1 lists the median operator age, farm size and selected financial factors, 1991-1999. The data are from financial summaries of farms participating in the North Dakota Farm Business Management Education program. In this study the median and upper and lower quartiles of 16 financial performance measures are presented for all farms in the data set and for groupings of farms by characteristic such as farm type, farm size, and age of producer. The results can be used by producers and lenders to evaluate the financial performance of a farm. Also, trends can be identified and relationships between farm characteristics and financial measures can be analyzed. However, because of the small number of farms in this study, the results should be used cautiously and only be considered guidelines.

SOURCE OF DATA

More than 700 farms are enrolled in the North Dakota Farm Business Management Education program. Instructors educate and assist producers in record keeping and review data for completeness and accuracy. Instructors use the Finpack farm financial management software program to generate financial summaries. From 1997-1999, the financial summaries of over 530 farms each year were considered usable for this study.

Most farms were represented in all three years (1997-1999) of this study, although there is a turnover of participants in farm management education programs and the number of farms that complete their annual records by a cutoff date varies from year to year.

The farms in this study are larger and the age of the farm operators younger than the state average. In 1999, there were 30,500 farms in North Dakota with gross agricultural sales of at least \$1,000. Only 8,800, or 29%, had gross receipts greater than \$100,000, whereas 80% of the 539 farms in this study exceed that sales volume (median gross sales was \$190,696). The farms in the study are more representative of operations that provide the primary source of net family income. The average age of farm operators in this study is 43 compared to 51 for the state average.

DEFINITION OF FINANCIAL MEASURES

Sixteen measures of financial performance were calculated for each farm in this study. The recommendations of the farm financial standards council for calculating the ratios were followed as closely as possible, from the Finpack data.

The farm financial standards council stated that a more meaningful comparison between farms is achieved with market valuation of assets, but due to fluctuations in market values the cost method (acquisition cost less accumulated depreciation) is superior for comparisons over time for an individual farm operation. In fact, a dual column balance sheet is recommended: one column to value assets by the cost approach and a second column for market valuation of assets.

The valuation method used for current assets of farms in this study depended on what was most relevant and reliable. For example, current market value was used for grain and market livestock inventories, but prepaid expenses and supplies were listed at purchase cost.

Non-current asset valuation was:

- Machinery was valued at cost minus accumulated depreciation. Annual depreciation was 10 percent of undepreciated value.
- Purchased breeding livestock was valued at cost. Raised replacement animals were valued at a conservative market value when they enter the breeding herd. This value remains constant until the animal leaves the herd.
- Generally, land was valued at cost. However, when a farmer enrolls in the farm business program there may be a one-time revaluing of land to a conservative market value.

Assets and liabilities not associated with the farm business are excluded from the calculation of farm financial performance measures. Accrued liabilities were included on the balance sheets but deferred tax liabilities were not.

The calculations of all financial measures, unless otherwise noted, are accrual adjusted. Examples are:

- Gross farm revenue is gross cash revenue plus the changes in crop and market livestock inventories and accounts receivable.
- Interest expense is cash interest plus the change in accrued interest.

LIQUIDITY

Current Ratio

Computation: Current assets divided by current liabilities.

Interpretation: This ratio measures the extent current assets will cover liabilities that are due during the next 12 months. The higher the ratio the more cushion the business has to meet short-run obligations without disrupting normal business operations. The current ratio's limitation as a measure of liquidity is that it does not match the timing of financial obligations with the liquidation of current assets, nor does it consider any new debt incurred or assets that may be generated during the 12 months after the balance sheet date.

Working Capital

Computation: Current assets minus current liabilities.

Interpretation: This measure shows the dollar amount that current assets can or cannot cover current liabilities. The amount of working capital necessary to provide an adequate cushion for meeting debt obligations must be related to the size of the business. Working capital as a measure of liquidity has similar limitations as the current ratio.

SOLVENCY

Debt-to-Asset

Computation: Total liabilities divided by total assets.

Interpretation: This ratio shows the proportion of assets owed to creditors. The lower the debt-to-asset

ratio the higher the solvency of the business. Solvency is a measure of risk exposure. As solvency decreases, the owner has less equity relative to debt, the ability to procure additional financing may decrease, and the business's ability to survive adverse outcomes is diminished. However, solvency should be viewed in connection with profitability. A low solvency position may be desirable if debt capital provides returns in excess of its cost.

Equity-to-Asset

Computation: Owner equity divided by total assets.

Interpretation: This ratio shows the portion of total assets represented by owner equity. It is another way of expressing solvency.

Debt-to-Equity

Computation: Total liabilities divided by owner equity.

Interpretation: This ratio shows the extent to which debt capital is combined with equity capital. It is another way of expressing solvency.

PROFITABILITY

Rate of Return on Assets (ROA)

Computation: Net farm income plus interest expense minus a charge for unpaid operator labor and management, divided by average total assets.

Interpretation: This ratio measures the pre-tax rate of return on farm assets and is used to evaluate whether assets are employed profitably in the business. Two important factors affecting this measure are valuation of assets and the charge for unpaid operator labor and management. A \$20,000 charge per full time operator plus five percent of gross revenue in excess of \$200,000 was used.

Rate of Return on Equity (ROE)

Computation: Net farm income minus a charge for unpaid operator labor and management, divided by average owner equity.

Interpretation: This ratio measures the pre-tax rate of return on equity capital employed in the

business. Two important factors affecting this measure are valuation of assets and the charge for unpaid operator labor and management. A \$20,000 charge per full time operator plus five percent of gross revenue in excess of \$200,000 was used. This ratio should be evaluated carefully and used in conjunction with other ratios when analyzing a farm business. If ROE is greater than ROA, debt capital is being employed profitably—it is earning more than it costs in interest. A high ratio may indicate an undercapitalized or highly leveraged business, and a low ratio may indicate a more conservative, high equity business.

Operating Profit Margin

Computation: Net farm income plus interest expense minus a charge for unpaid operator labor and management, divided by the value of farm production. Value of farm production is gross farm revenue less purchase of market livestock and feed.

Interpretation: This ratio measures net farm income per dollar of farm production. It is a pre-tax measure of profit margin from the employment of assets. An important factor is the charge for unpaid operator labor and management. There is a relationship between operating profit margin, asset turnover rate, and ROA. Operating profit margin multiplied by asset turnover rate equals ROA.

Net Farm Income

Computation: Net farm income is total revenue earned minus the costs incurred to generate those revenues. It is cash revenue less cash expense and depreciation plus capital adjustments (gain or loss from sale of capital assets). Accrual adjustments for changes in inventories are included to properly match revenues and expenses to the time period for which net farm income is being measured.

Interpretation: Net farm income is the return to the operator for unpaid labor and management and equity capital used in the farm business. Net farm income is an absolute amount and it is difficult to assign a standard to all farms because of differences in the amount of unpaid operator labor and equity used.

REPAYMENT CAPACITY

Term Debt Coverage Ratio

Calculation: Net farm income plus depreciation and other capital adjustments plus nonfarm income plus scheduled interest on term debt minus family living expense and income taxes, divided by scheduled term debt principal and interest payments.

Interpretation: This ratio measures the capacity of the borrower to cover all term debt payments. The more the ratio exceeds 1, the greater the margin to cover term debt payments. The business may have sufficient earnings but the timing of cashflows may not be adequate to make the payments on a timely basis. Also, the ratio does not contain any provision for replacement of capital assets.

Capital Replacement and Term Debt Repayment Margin

Calculation: Net farm income plus depreciation and other capital adjustments plus nonfarm income minus family living expense, income taxes, and scheduled term debt principal payments.

Interpretation: This is a measure of the business's ability to make payments on term debt. A positive margin indicates the amount available, after making term debt payments, for acquiring capital assets or servicing additional debt. The capital replacement and term debt repayment margin is a dollar amount, so it is impossible to establish a standard for all farm businesses.

FINANCIAL EFFICIENCY

Asset Turnover

Calculation: Value of farm production divided by average total assets. Value of farm production is gross farm revenue less purchase of market livestock and feed.

Interpretation: This is a measure of how efficiently assets are used in the business. The higher the number, the more production is created per dollar of assets. Asset turnover can vary significantly by type of farm and by asset base. For example, dairy and hog farms will typically have higher asset turnovers than cow-calf or cash grain operations. Asset

turnover will probably be higher if capital assets, such as machinery and land, are rented instead of owned.

Operating Expense Ratio

Calculation: Total expense less interest and depreciation and capital adjustment divided by gross farm revenue.

Interpretation: This ratio measures how efficiently operating expenses are managed to generate gross farm revenue. The operating expense ratio will typically vary by farm type.

Depreciation Expense Ratio

Calculation: Depreciation and capital adjustments divided by gross farm revenue.

Interpretation: This ratio expresses depreciation and capital adjustment relative to gross farm revenue. It will vary by farm type and from year to year. Caution must be used when evaluating this ratio. It does not comply with the farm financial standards because the Finpack program, used to generate the farm financial summaries, calculates depreciation and capital adjustment as one number (ending inventory plus capital sales less the sum of beginning inventory and capital purchases). Therefore depreciation cannot be isolated.

Interest Expense Ratio

Calculation: Interest expense divided by gross farm revenue.

Interpretation: This ratio shows the portion of gross farm revenue necessary to cover interest expense. It is often used as a measure of financial risk.

Net Farm Income Ratio

Calculation: Net farm income divided by gross farm revenue.

Interpretation: This is a measure of how efficient the farm business is at generating net income from gross revenue. It is the portion of gross farm revenue left after operating expense, depreciation and capital adjustment, and interest expense have been removed.

INTERPRETATION OF RESULTS

Each financial measure was calculated for each farm. Farms were grouped by characteristics such as region, type of farm, and size and were sorted in order from strongest to weakest by each of the 16 financial measures. The **median** is the midpoint value of the financial measure: one-half of the farms in the category had a higher value and one-half had a lower value than the median. The **upper quartile** is the value that was exceeded by one-fourth of the farms, and the **lower quartile** is the value that was exceeded by three-fourths of the farms. (Another definition of lower quartile is the value for which one-quarter of the farms in the category had a weaker value.)

Individual farm operators and lenders can use the tables as a measure of comparison if their financial measures are calculated similarly. For example, a farm operator 30 years of age may compare his/her profitability and financial efficiency with those of other young operators. Or a lender may compare the solvency and repayment capacity of producers who rent all their cropland. The tables also can be used to look at relationships and trends. What is the relationship between age of farmer and rate of return on equity? How has operating profit margin of livestock farms changed over time?

One ratio is not sufficient to make conclusions about the overall financial performance of a farm business. For example, a crop farm may have a debt-to-asset ratio of 70%, which is worse than the median value of 53.9% (shown on table 7) for that farm enterprise category. However, other factors such as profitability, total assets, and age of operator should also be considered.

Also, a farm can be adversely affected by extraordinary circumstances. Profitability in the low quartile may not be reflective of management capability if the farm had localized bad weather that was not experienced by many other producers in the farm category.

Caution must be used when analyzing the tables because a small number of farms increases the possibility that results may not be representative of a farm category. In this study, for 1999, there are only 69 Red River Valley farms, 96 farms with

operators younger than 35 years, 83 mixed livestock-crop enterprise farms, and 96 farms that rented all cropland. Performance of the Red River Valley region may be overstated in 1997 because most of the valley farms in the study are from the south, which had higher profitability than the central or northern areas of the Red River Valley.

There are some strong correlations between two or more classifications, so it is difficult to associate a financial measure with an individual farm characteristic.

For example, in 1998 the poor profitability of livestock, in comparison to crop farming, is reflected in farm categories that had a disproportionate number of livestock farms, such as the west region, farms with greater than 40% crop land ownership, and farms with less than \$100,000 sales. Also, comparison of farms by enterprise type, farm size and gross sales can be affected by regional performance. The Red River Valley has the highest proportion, relative to other regions, of crop farms, farms of less than 1,600 acres, and farms with gross income greater than \$250,000.

Tables 1 and 2 show the trends in financial performance and characteristics of North Dakota farms, 1991-1999. The trend of farms getting larger and of farmers getting older continued in 1999. In 1999, median farm acreage and sales were 39% and 44% higher, respectively, than in 1991. Median age of operator was 43 in 1999 compared to 39 in 1991.

Financial performance in 1999 was the highest since 1993, and solvency improved for the first time since 1993. Crop prices were low in 1999, as in 1998, but there was extraordinary government and crop insurance payments and improved beef cattle prices. Performance was much improved from 1997 and 1998, which had the lowest net farm income in the 1991-1999 period. In 1997 and 1998, over one out of four farms had negative net farm income and over one-half of farms could not make scheduled term debt payments with the year's income.

FARM CLASSIFICATION AND HIGHLIGHTS

ALL FARMS

Highlights

- In 1999, there was substantial improvement in all annual measures of financial performance compared to 1998. The 1997 year had the worst financial performance in the 1991-1999 period.
- Financial performance was strong in 1999, despite very low crop prices, because of extraordinary government and crop insurance payments and higher beef prices. Yields of corn, soybeans and flax were at record levels, but small grains, canola and sunflower were below trend line.
- Median total farm assets increased to \$520,094 in 1999, and median total farm liabilities declined slightly to \$266,401.
- Median current ratio increased to 1.4 in 1999 from 1.2 in 1996-1998. One-fourth of all farms had a current ratio higher than 2.2, and one-fourth of all farms had a current ratio less than 1.0.
- Median working capital was \$29,643 in 1999, \$12,095 in 1998, and 11,207 in 1997.
- Solvency improved for the first time in six years. The median debt-to-asset ratio was 55.5% in 1999, after deteriorating from 46.4% in 1993 to 59.4% in 1998.
- All profitability measures in 1999 were the highest since 1993. However, 1999 median farm acreage and assets were 34% and 27% higher, respectively, than 1993.
- Median net farm income was \$42,009 in 1999, up from \$19,491 in 1998. Upper and lower quartiles were \$78,755 and \$19,516, respectively. Only 8% of farms had negative net farm income compared to about one-fourth of the farms in 1997-1998.
- Median rates of return on equity and asset were 9.0% and 8.4%, respectively, in 1999. In the 1991-1999 period, the only other year that ROE exceeded ROA, which indicated that debt capital was employed profitably, was 1993.
- Median term debt coverage ratio was 1.5 in 1999. Only 25% of all farms, compared to over 50% in 1997-1998, had a term debt coverage ratio below 1.0, indicating an inability to make all scheduled term debt payments with the year's farm and non-farm income. Median term debt repayment margin was \$17,973.
- Median net farm income as a percent of gross revenue, a financial efficiency measure, was 22.4% compared to 10.4% for the 1997-1998 period and 22.6% over the 1991-1996 period.
- Median farm size has increased every year, from 1,387 acres in 1991 to 1,921 acres in 1999.

REGION

Farms were classified in one of four geographic region in North Dakota, based on the location of their Farm Business Management program. However, farms enrolled in the Bismarck program are classified as "west or "south central" according to which side of the Missouri River the farm is located. Also, some farms that are enrolled in the Kindred and Wahpeton programs are not in the Red River Valley and are classified as south-central. There were no farm records from Grafton in 1998 and 1999 because the program was discontinued. The southern areas of both the "Red River Valley" and the "west" region are better represented than the northern areas. Locations of North Dakota Farm Business Management programs that participated in the 1999 summaries were:

Red River Valley: Grafton (1997), Kindred and Wahpeton

North Central: Bottineau, Devils Lake, Garrison (1999), Minot, and Rugby

South Central: Bismarck, Carrington, Enderlin, Jamestown, Napoleon, Oakes, and Valley City

West: Bismarck, Dickinson, Glen Ullin, and Stanley

Highlights

- In 1999 the median size of farm increased from the Red River Valley (1,556 acres, all crop land) to the west region (2,281 acres, including pasture). Median size of farms in the north central and south central regions was about 2,000 total acres with 1,537 acres crop land.
- Several farm characteristics are strongly related to region. Red River Valley farms typically have smaller total acreage (crop land and pasture) and percent of cropland owned, but have much larger total farm sales, assets and liabilities than farms in other regions. The incidence of livestock and mixed enterprise farms goes from a mere 1% in the Red River Valley to 70% in the west.
- In 1999, all regions, led by the Red River Valley, experienced strong improvement in financial performance. In 1997 and 1998, all financial measures deteriorated for the Red River Valley. The south central region had the strongest financial performance in 1998 and the poorest in 1997.
- Liquidity, as measured by median current ratio, was similar in all regions in 1999. However, the Red River Valley went from the lowest median working capital in 1998, \$4,449, to the highest in 1999, \$53,870.
- In 1999, solvency improved in all regions. Median debt to asset ranged from 52.3% in the Red River Valley to 55.9% in the north central region.
- Profitability improved greatly for all regions in 1999. The Red River Valley median net farm income increased four-fold to \$78,755 and the south central region had the smallest increase to \$38,064. About 35% of farms in the central regions and west had net farm income below \$25,000.
- In 1999, median rates of return improved the most in the Red River Valley and the north central; in these regions the median rate of return on equity (over 10%) exceeded the median rate of return on assets (about 9.5%).
- Repayment capacity was greatly improved. Only 16% of Red River Valley farms and 27% of other farms were unable to meet scheduled term debt payments with 1999 farm and non-farm income.

FARM ENTERPRISE

Farms were classified as "crop" if 70% or more of total sales were from crops, and "livestock" if livestock sales accounted for 70% or more of total sales. The remaining farms were classified as "mixed."

Highlights

- Sixty-five percent of all farms statewide were in the crop category, 20% were livestock and 15% were mixed enterprise farms in 1999.
- Ninety-nine percent of Red River Valley farms, 74% of north central farms, 63% of south central farms and 30% of west region farms were classified as crop in 1999.
- Forty-eight percent of the west region farms were classified as livestock in 1999.
- Crop farms tend to have more total assets and liabilities and greater gross and net income than livestock and mixed enterprise farms. In the 1991-1999 period profitability of livestock farms was similar to crop farms only in 1993 (all high) and 1997 (all low).
- In 1999, all farm types had a strong improvement in financial performance. Profitability of livestock and mixed farms was extremely weak, 1995-1998. In 1997 the performance of crop farms was also very poor.
- Every year, 1991-1999, crop farms had better solvency than other farm types. In 1999, livestock enterprise farms had the worst median debt-to-asset ratio, 57.9%, mixed enterprise farms had 55.5%, and crop farms had 53.9%.
- In 1999, median net farm income for mixed enterprise farms increased nearly three-fold to \$31,497. It was \$50,027 for crop farms and \$34,796 for livestock farms.
- Repayment capacity of all farm types improved greatly from 1998, to the highest levels since 1993. However, over one-fourth of crop and mixed enterprise farms were not able to meet scheduled term debt payments with income generated in 1999.
- The median asset turnover ratio increased to 0.45 for crop farms and was 0.28 for livestock farms in 1999. A higher ratio for crop farms is typical. Most livestock farms are beef cow-calf operations.
- Financial efficiency, as measured by the median of net farm income as percent of gross revenue, showed strong improvement in 1999. It was 24.4% for livestock farms, 22.5% for crop farms, and 20.4% for mixed enterprise farms.

FARM SALES

Farms were classified in one of three cash farm sales categories. Farm sales include cash receipts from crop and livestock sales, government payments, and other farm income.

The categories were: less than \$100,000
 \$100,000 to \$249,999
 \$250,000 or over

Highlights

- Median farm sales were \$190,696 in 1999. Sales per farm have increased over time; about 36% of farms had sales in excess of \$250,000, compared to 12% in 1991.
- Two-thirds of Red River Valley farms had sales in excess of \$250,000, compared to 26% and 23% of north central and west region farms, respectively, and 44% of south central farms.
- Farms in the north central and west tend to have lower sales than other regions.
- Farm type and sales are correlated. In 1999, crop farms were about four times more likely to have sales in excess of \$250,000 than livestock or mixed enterprise farms. About one-third of livestock and mixed farms had farm sales less than \$100,000, compared to 12% of crop farms.
- A strong relationship between gross sales and financial performance is typical. This relationship weakened in 1997, but farm type was a factor. Crop farms have more sales than livestock farms, and crop farm performance plummeted in 1997 while livestock farms improved.
- Young farmers are most likely to have farm sales less than \$100,000. Farmers between the ages of 35 and 45 tended to have greater farm sales than farmers older than 45 years.
- Median current ratio is typically similar between farm sale groups. But median working capital is always greatest for the large farm sale group.
- Farms with low sales typically have higher debt-to-asset. In 1999, median debt-to-asset was 61.4%, 55.5% and 51.8% for low, medium, and high farm sale groups, respectively.
- In 1999, median net farm income increased by 148% to \$14,051 for farms with less than \$100,000 sales, by 117% to \$39,603 for farms with \$100,000 to \$250,000 sales, and by 57% to \$86,893 for farms with greater than \$250,000 sales.
- Repayment capacity improved dramatically in 1999 for all farm sale groups. Typically, repayment capacity is directly related to amount of sales. However, in 1997, farms had poor profitability regardless of sales level and farms with less than \$100,000 sales had the best repayment capacity, in part because these farms have the most non-farm income.
- From 1997-1999, farms with sales under \$100,000 had the best operating expense as percent of gross revenue, but had the worst interest expense ratio because of higher debt.

FARM SIZE

Both crop and pasture acres were included in determining farm size.

Farm size categories were: 1,600 acres or less
 1,601 acres or more

Highlights

- In 1999, median total farm acreage (crop land and pasture) was about 2,300 in the west, 2,000 in the central regions and 1,550 in the Red River Valley. Median farm crop acreage was lowest in the west and about 1,550 in other regions.
- In 1999, 64% of farms were greater than 1,600 acres, compared to 50% in 1996.
- There was a similar proportion of farms in the small and large size categories, regardless of farm type (crop, livestock, or mixed). However, a greater portion of acreage in livestock and mixed enterprise farms is pasture.
- In 1999, only 45% of farmers under 35 years old operate more than 1,600 acres, compared to 71% of farmers between 35 and 45 years old and 66% of farmers over 45 years.
- As expected, farms with greater than 1,600 acres have greater assets, liabilities, sales, and profitability than smaller farms. Larger farms also have better liquidity and solvency.
- All financial performance measures improved in 1999 for both farm size categories.
- Each year, 1994-1999, the median current ratio for the large farm category has been slightly better than for the small farm category.
- In 1999, median debt-to-asset was 58.5% for farms with less than 1,600 acres and 54.5% for larger farms.
- Median net farm income increased by about 115% for both farm size groups in 1999.
- In 1999, the median ROE, 3.0%, was less than median ROA, 5.9%, for farms with less than 1,600 acres, but for larger acreage farms the ROE, 11.2%, was greater than ROA, 9.7%. This indicates that larger acreage farms were more likely to employ debt capital profitability.
- In 1999, median term debt coverage ratio was 1.7 for farms with more than 1,600 acres and 1.4 for smaller farms. In most years median term debt coverage is similar between farm size groups. Although smaller acreage farms generate less cash income, they tend to have more non-farm income and lower payments than larger farms.

CROPLAND TENURE

This is a classification of the portion of crop land that is rented. Four categories were used.

Full tenant
1-20 percent owned
21-40 percent owned
41 percent or over owned

Highlights:

- Ownership of crop land is lowest in the Red River Valley. In 1999, about one-third of Red River Valley farms owned more than 20% of the crop land they operated, compared to six out of ten farms in the other regions.
- Crop land ownership increases with age. One-half of farmers older than 45 years owned more than 40% of their crop land, compared to one-fifth of farmers younger than 35 years. Also, 38% of farmers less than 35 years old rented all of their crop land, compared to 19% of farmers 35-45 years and 9% of farmers older than 45 years old in 1999.
- Operators of livestock and mixed enterprise farms own a greater portion of their crop land than crop farms. About one-half of livestock and mixed enterprise farms are in the highest percent crop land ownership category, compared to one-fourth of crop farms.
- Farms smaller than 1,600 acres were more likely to either own no crop land or to own more than 40% of crop land than were farms with more than 1,600 acres.
- Farms that own some land, but not a lot, are typically the most profitable. Farms in the 1 to 40% crop land ownership category are also more likely to be crop farms, farm more acreage, and have larger sales.
- In 1999, all crop land tenure groups exhibited strong improvement in financial performance.
- In 1999 and 1998, the median current ratio was similar between farms, regardless of percent crop land ownership.
- Farms with greater than 40 percent crop land ownership had slightly better solvency in the 1991-1999 period than other crop land ownership groups.
- In 1999, farms that rent all crop land had the greatest increase in median term debt coverage ratio.
- In 1999, net farm income increased for all crop land tenure groups. Median net farm income ranged from \$32,652 for farms with over 40% crop land ownership, to \$64,129 for farms with 1-20% crop land ownership.
- Farms with a greater proportion of crop land ownership have more land assets and land interest costs and therefore have lower asset turnover ratios and higher interest expense ratios, but lower operating expense ratios.

NET FARM INCOME

Four levels of net farm income were used to group farms.

Negative
\$0 - \$24,999
\$25,000 - \$49,999
\$50,000 or more

Highlights

- Median net farm income increased to \$42,009 after two extremely low years, \$19,491 in 1998 and \$14,290 in 1997.
- In 1999, about 30% of farms had net farm income less than \$25,000 compared to about 60% in 1997 and 1998.
- The strong associations between net farm income and farm type, farm sales, and farm size were renewed in 1998 and 1999 after being greatly reduced in 1997.
- In 1999, one-half of crop farms had net farm income greater than \$50,000 compared to 30% of livestock and mixed enterprise farms.
- In 1999, over three-fourths of the farms with sales greater than \$250,000 had net farm income greater than \$50,000, and 4% had negative net farm income. Seventy-six percent of farms with sales less than \$100,000, had net farm income below \$25,000.
- In 1999, net farm income increased greatly in all regions, led by the Red River Valley. Between 1991 and 1999 there have only been two years, 1993 and 1998, in which the Red River Valley region did not have the highest median net farm income.
- In 1999, farms larger than 1,600 acres were nearly three times as likely to have net farm income greater than \$50,000 than smaller farms.
- Farmers between the ages of 35 to 45 years old generally were more profitable than farmers that were younger or older.
- Solvency, liquidity, repayment capacity, and financial efficiency were strongly correlated with net farm income.
- In 1999, low debt farms (less than 40% debt-to-asset) were over three times as likely to have net farm income in excess of \$50,000, than high debt farms (greater than 70% debt).

DEBT-TO-ASSET RATIO

Three ranges of debt-to-asset ratio were used to group farms.

- 0 - 40 percent
- 41 - 70 percent
- 71 percent or more

Highlights

- Median debt-to-asset improved to 55.5% in 1999. This was the first improvement in solvency since 1993. However, over one-fourth of farms had debt-to-asset greater than 70%.
- There is a strong inverse relationship between level of debt and liquidity, repayment capacity, profitability and financial efficiency measures. As debt-to-asset increases, these measures deteriorate.
- Farms in the low debt category had the best median current ratio, 3.6, interest percent ratio, 4.4, term debt coverage ratio, 2.5, and net farm income as a percent of gross revenue, 29%, compared to any other farm category in 1999.
- Median net farm income for the low, medium, and high debt categories in 1999 was \$62,021, \$48,315 and \$22,641 respectively.
- Only 15% of farms with high debt had negative net farm income in 1999, compared to 40% in 1998.
- Red River Valley farms, crop farms, large farms (greater than 1,600 acres), and farms with high sales (greater than \$250,000 sales) had lower median debt-to-asset than other regions, farm types, farm size, and farm sales groups, respectively, 1996-1999.
- About 37% of farms with sales less than \$100,000 were in the high debt group, compared to 15% of farms that had sales greater than \$250,000.
- Percent debt-to-asset tended to decrease as age of farmer increased.

FARMER AGE

Three groups were used to classify farms by age of operator:

- 34 years or less
- 35 - 44 years
- 45 years or older

Highlights

- In 1999, 18% of farm operators were under 35 years old, 40% were between 35 and 45 years old, and 42% were older than 45. The percent of farmers in the oldest age category has been steadily increasing.
- In past years, the age of farmers tended to increase slightly from east to west, but in 1999 the age distribution of farm operators was similar for all regions.
- In 1999, one-half of livestock farm operators were over 45 years old compared to 40% of crop and mixed enterprise farm operators.
- Farmers in the middle age group typically had more debt, higher gross sales, larger farms and were more profitable than the younger or older age groups.
- Median total assets were greatest, 1991-1999, for farm operators older than 45 years and least for farmers under 35 years old. However, median total assets of the middle age group of farmers (35 to 45 years) has increased at the fastest rate and now is close to the asset level of the older farmer group.
- As expected, as the age of the farm operator increases there is a higher percent of the crop land in the farm that is owned, and the percent of farm debt tends to decrease.
- Typically the middle age group has the best liquidity measures but younger farmers had the best median current ratio, 1.3, in 1997 and 1998.
- In 1999, median net farm income increased to \$34,705 for farmers under 35 years, \$52,577 for farmers between 35 and 45 years old, and \$39,770 for farmers older than 45 years. The largest increase was in the middle and oldest age farmer groups.
- In each year, 1991-1999, the young age group of farmers employed assets more efficiently than farmers older than 45 years. The young group had better median measures of ROA, ROE, term debt repayment coverage ratio, asset turnover, and interest expense and net farm income as percent of gross revenue despite having much fewer total assets and higher debt-to-asset.

TABLE 1. MEDIAN FARM SIZE, FARM OPERATOR AGE, AND FINANCIAL FACTORS OF FARMS PARTICIPATING IN THE NORTH DAKOTA FARM BUSINESS MANAGEMENT EDUCATION PROGRAM, 1991-1999.

	1999	1998	1997	1996	1995	1994	1993	1992	1991
Number of Farms	539	535	560	551	596	536	539	516	507
	-----Median-----								
Age of Operator	43	42	42	41	41	40	39	39	39
Farm Size (acres)	1921	1882	1729	1601	1576	1517	1429	1388	1387
Gross Cash Revenue	190,676	173,972	179,052	177,152	165,134	162,427	161,426	142,262	132,736
Total Farm Assets	520,094	499,496	485,094	469,587	438,289	439,749	409,839	374,013	343,201
Total Farm Liabilities	266,401	270,802	263,406	251,480	225,793	201,037	178,509	163,132	166,223
Current Ratio	1.4	1.2	1.2	1.2	1.3	1.4	1.5	1.6	1.6
Working Capital	29,643	12,095	11,207	19,042	18,984	27,598	33,387	29,527	22,154
Debt-to-asset (%)	55.5	59.4	58.6	55.6	51.5	49.8	46.4	48.4	50.0
Rate of Return on Farm Assets (%)	8.4	4.0	2.5	6.5	4.7	6.4	8.6	6.8	5.5
Rate of Return on Farm Equity (%)	9.0	0.0	-1.4	4.9	2.2	5.8	10.1	6.0	2.1
Operating Profit Margin (%)	21.6	11.5	8.3	17.3	14.5	17.9	23.7	16.4	14.3
Net Farm Income	42,009	19,491	14,290	31,063	23,463	32,523	42,484	40,998	31,711
Term Debt Coverage Ratio	1.5	0.9	0.7	1.2	1.1	1.3	1.9	1.4	1.2
Term Debt & Capital Repayment Margin (\$)	17,973	-2,680	-8,995	5,024	1,652	7,069	17,634	8,767	3,891
Asset Turnover Ratio	0.38	0.36	0.34	0.39	0.36	0.4	0.4	0.4	0.4
Operating Expense Ratio (%)	61.2	71.9	73.3	66.0	67.4	64.9	60.9	58.4	60.0
Depreciation Expense Ratio (%)	5.7	5.7	6.0	5.6	5.7	4.7	4.6	4.5	5.2
Interest Expense Ratio (%)	8.4	9.6	9.9	8.9	8.8	7.6	6.9	7.8	9.2
Net Farm Income Ratio (%)	22.4	12.7	8.1	18.0	16.2	21.7	26.6	28.0	24.8

TABLE 2. PERCENT DISTRIBUTION OF FARMS BY FARM GROUP CATEGORY, NORTH DAKOTA FARM BUSINESS MANAGEMENT PROGRAM, 1991-1999.

Farm Group/Category	1999	1998	1997	1996	1995	1994	1993	1992	1991
All Farms	539	535	560	551	596	536	539	516	507
	-----Percentage-----								
Region									
Red River Valley	12.8	12.7	17.0	16.7	20.5	23.3	23.0	21.1	18.9
North Central	36.2	36.1	31.8	30.3	25.8	25.2	26.7	25.1	27.2
South Central	30.2	33.1	33.6	33.9	35.9	35.1	31.9	34.8	33.9
West	20.8	18.1	17.7	19.1	17.8	16.4	18.4	19.0	19.9
Farm Enterprise									
Crop	64.6	63.9	65.4	66.4	66.9	68.5	66.4	52.8	49.3
Livestock	20.0	20.6	17.5	17.2	23.8	22.8	23.0	22.8	21.7
Mixed	15.4	15.5	17.1	16.3	9.2	8.8	10.6	24.4	29.0
Farm Sales									
\$99,999 or less	20.0	23.2	20.7	26.3	26.0	24.1	23.0	29.0	35.9
\$100,000 - \$249,999	44.0	45.6	46.4	43.6	47.3	51.9	53.6	53.6	51.9
\$250,000 or over	36.0	31.2	32.9	30.1	26.7	24.1	23.3	17.4	12.2
Farm Size									
1,600 acres or less	36.0	39.3	44.3	50.1	30.7	34.1	35.8	36.9	37.7
1,600 acres or over	64.0	60.7	55.7	49.9	69.3	65.9	64.2	63.1	62.3
Cropland Tenure									
Full tenant	17.8	18.2	19.6	20.8	20.7	22.0	23.1	22.5	23.2
1-20 percent owned	23.2	26.1	25.2	23.0	22.3	19.0	17.5	16.8	17.8
21-40 percent owned	24.7	21.8	20.7	20.8	19.9	20.3	22.5	21.3	17.8
41 percent or over owned	34.2	33.8	34.5	35.4	37.1	38.6	36.9	39.4	41.2
Farm Income									
Negative	8.0	25.6	29.5	18.0	22.1	12.9	9.6	7.4	11.2
\$0-\$24,999	23.2	29.7	32.1	25.0	24.2	23.7	18.2	16.8	22.7
\$25,000 - \$49,000	25.6	20.4	21.4	20.9	16.4	21.5	20.2	24.8	28.4
\$50,000 or more	43.2	24.3	17.0	36.1	37.2	42.0	57.9	51.1	37.7
Debt-to-asset Ratio									
0-40 percent	28.8	24.3	28.4	28.9	33.6	35.8	39.1	37.5	36.7
41-70 percent	44.5	41.9	39.1	42.6	42.4	45.1	44.0	42.0	40.6
71 percent or more	26.7	33.8	32.5	28.5	24.0	19.0	16.9	20.5	22.7
Farmer Age									
34 years or younger	17.8	18.5	20.0	18.7	22.1	25.6	26.8	28.6	28.4
35-44 years	39.7	41.9	40.9	44.3	43.0	43.7	46.1	45.6	49.7
45 years or older	42.5	39.6	39.1	37.0	34.9	30.8	27.2	25.7	21.9

¹ For 1991-1992, 60%, not 70%, of total sales was the criteria to determine farm type.

² For 1991-1995 farm sizes were 1,200 acres or less, and 1,201 acres or more.

³ For 1991-1995 farm income categories were negative, \$0-\$19,999, \$20,000-\$39,999, and \$40,000 or more.

TABLE 3. FARM CLASSIFICATIONS AND PERCENT DISTRIBUTION OF FARM TYPES WITHIN REGIONS, NORTH DAKOTA FARM BUSINESS MANAGEMENT EDUCATION PROGRAM, 1999.

Farm Group Category	Number of Farms (539)	Percentage	Farm Group Category Breakout by Region			
			Red River Valley	North Central	South Central	West
Region			69	195	163	112
Red River Valley	69	12.8				
North Central	195	36.2				
South Central	163	30.2				
West	112	20.8				
Farm Enterprise			-----percentage-----			
Crop	348	64.6	98.6	73.9	62.6	30.4
Livestock	108	20.0	0.0	17.4	12.3	48.2
Mixed	83	15.4	1.4	8.7	25.1	21.4
Farm Sales						
\$99,999 or less	108	20.0	2.9	25.1	14.7	29.5
\$100,000 - \$249,999	237	44.0	30.4	48.7	41.7	47.3
\$250,000 or over	194	36.0	66.7	26.2	43.6	23.2
Farm Size						
1,600 acres or less	194	36.0	55.1	31.8	36.8	30.4
1,600 acres or over	345	64.0	44.9	68.2	63.2	69.6
Cropland Tenure						
Full tenant	96	17.8	20.7	18.8	17.4	16.0
1-20 percent owned	125	23.2	14.4	46.4	19.5	23.9
21-40 percent owned	133	24.7	25.2	21.7	26.2	23.9
41 percent or over owned	184	34.2	39.7	13.1	36.9	36.2
Farm Income						
Negative	43	8.0	2.9	6.7	9.8	10.7
\$0 - \$24,999	125	23.2	8.7	24.6	23.9	28.6
\$25,000 - \$49,999	138	25.6	21.7	25.6	27.0	25.9
\$50,000 or more	233	43.2	66.7	43.1	39.3	34.8
Debt-to-asset Ratio						
0 - 40 percent	155	28.8	24.6	28.2	29.4	31.3
41 - 70 percent	240	44.5	55.1	42.1	43.6	43.7
71 percent or more	144	26.7	20.3	29.7	27.0	25.0
Farmer Age						
34 years or younger	96	17.8	13.0	19.5	16.6	19.6
35 - 44 years	214	39.7	47.8	40.5	36.8	37.5
45 years or older	229	42.5	39.1	40.0	46.6	42.9

TABLE 4. CURRENT ASSETS AND CURRENT LIABILITIES, QUARTILE VALUES FOR 1999, MEDIAN VALUES FOR 1997 AND 1998, NORTH DAKOTA FARM BUSINESS MANAGEMENT EDUCATION PROGRAM PARTICIPANTS

Farm Group	1999					1999				
	Upper Quartile	Lower Quartile	Median	1998 Median	1997 Median	Upper Quartile	Lower Quartile	Median	1998 Median	1997 Median
	Current Farm Assets (\$)					Current Farm Liabilities (\$)				
All Farms	208,812	70,561	119,906	113,529	112,072	35,692	143,467	79,133	92,507	84,069
Region										
Red River Valley	368,910	149,765	234,088	169,197	184,794	74,790	210,589	124,495	130,937	145,246
North Central	174,359	63,955	109,041	102,533	98,292	30,779	122,593	64,393	84,425	66,999
South Central	206,175	76,432	125,087	124,716	111,552	47,082	161,663	86,585	98,547	98,014
West	199,019	52,585	104,906	101,762	99,590	27,274	124,703	58,989	80,403	65,887
Farm Enterprise										
Crop	238,953	81,581	137,658	140,908	130,722	44,397	167,883	98,026	111,391	106,734
Livestock	161,342	52,038	89,145	84,553	75,902	26,702	108,949	50,911	52,944	48,451
Mixed	167,356	70,317	110,034	98,066	86,545	41,244	112,144	71,674	84,827	70,701
Farm Sales										
\$99,999 or less	76,158	26,972	43,436	47,936	45,879	17,770	56,646	32,391	42,017	28,508
\$100,000-\$249,999	166,283	72,006	108,599	106,169	103,363	34,346	108,949	69,668	90,831	84,436
\$250,000 or over	357,658	157,714	236,798	238,082	228,253	79,230	242,459	148,247	167,088	180,677
Farm Size										
1,600 acres or less	116,450	38,585	63,128	71,173	76,873	22,232	91,013	45,507	55,429	58,783
1,601 acres or over	260,305	104,149	162,030	156,483	144,844	55,483	179,701	99,027	122,791	106,023
Cropland Tenure										
Full tenant	169,038	45,803	91,446	86,733	112,188	23,891	110,209	57,738	80,403	64,212
1-20 percent owned	262,623	109,743	177,009	156,041	136,831	60,632	198,597	112,303	115,787	120,815
21-40 percent owned	236,624	83,344	138,040	147,264	132,836	45,550	152,632	84,155	107,887	103,179
41 percent or over owned	167,356	52,038	94,365	95,540	87,415	27,874	113,506	63,036	75,584	60,333
Net Farm Income										
Negative	132,546	47,764	78,664	96,288	90,102	53,335	142,136	97,310	109,192	97,150
\$0-\$24,999	99,231	33,623	60,239	86,733	87,415	25,607	90,377	47,038	79,900	69,603
\$25,000-\$49,999	161,341	72,433	105,501	113,529	113,646	30,779	115,194	71,674	87,660	65,887
\$50,000 or more	304,860	138,524	205,445	210,733	238,438	52,452	188,409	109,090	114,668	110,427
Debt-to-Asset Ratio										
0-40 percent	251,997	92,991	154,964	143,610	125,654	18,383	88,807	40,011	41,061	41,933
41-70 percent	224,786	75,926	121,371	120,816	112,696	48,106	169,457	88,888	104,401	117,806
71 percent or more	150,389	52,038	89,952	99,095	90,767	53,445	151,203	98,026	119,329	110,192
Farmer Age										
34 years or younger	169,010	41,740	98,078	90,270	90,600	23,798	96,995	51,510	64,990	57,575
35-44 years	258,107	83,208	161,931	142,300	131,837	45,957	171,152	95,182	104,379	99,990
45 years or older	182,862	70,555	116,986	109,895	106,138	37,275	139,308	80,039	92,507	81,130

TABLE 5. LIQUIDITY MEASURES, QUARTILE VALUES FOR 1999, MEDIAN VALUES FOR 1997 AND 1998, NORTH DAKOTA FARM BUSINESS MANAGEMENT EDUCATION PROGRAM PARTICIPANTS.

Farm Group	1999					1999				
	Upper Quartile	Lower Quartile	Median	1998 Median	1997 Median	Upper Quartile	Lower Quartile	Median	1998 Median	1997 Median
	Current Ratio					Working Capital(\$)				
All Farms	2.2	1.0	1.4	1.2	1.2	80,831	2,205	29,643	12,095	11,207
Region										
Red River Valley	2.1	1.1	1.3	1.0	1.1	136,116	6,971	53,870	4,449	18,045
North Central	2.1	1.0	1.4	1.1	1.3	72,314	-2,104	27,387	9,115	18,623
South Central	2.0	1.0	1.3	1.2	1.0	63,047	-1,262	33,810	13,535	-1,674
West	2.6	1.0	1.4	1.2	1.3	77,910	3,961	25,083	14,125	20,045
Farm Enterprise										
Crop	2.2	1.0	1.3	1.1	1.1	90,033	-1,173	29,641	12,198	8,324
Livestock	2.4	1.1	1.5	1.2	1.4	62,673	5,497	28,049	16,807	20,403
Mixed	2.1	1.1	1.4	1.1	1.1	76,010	3,978	37,735	7,840	11,536
Farm Sales										
\$99,999 or less	2.0	0.8	1.3	1.1	1.4	22,357	-5,571	10,009	5,352	11,122
\$100,000-\$249,999	2.4	1.0	1.4	1.2	1.1	73,931	3,180	32,996	13,578	9,840
\$250,000 or over	2.1	1.0	1.3	1.2	1.1	143,031	9,984	57,052	24,075	22,212
Farm Size										
1,600 acres or less	2.4	0.9	1.3	1.1	1.1	42,462	-4,134	12,212	5,753	5,479
1,601 acres or over	2.1	1.1	1.4	1.2	1.2	104,925	10,756	42,777	18,173	19,627
Cropland Tenure										
Full tenant	2.2	1.0	1.3	1.2	1.2	57,563	3,180	25,802	7,009	12,412
1-20 percent owned	2.0	1.0	1.4	1.2	1.0	100,926	6,298	43,554	15,333	4,111
21-40 percent owned	2.8	1.0	1.3	1.1	1.1	109,316	1,487	36,627	11,689	6,936
41 percent or over owned	2.2	1.0	1.4	1.2	1.3	62,109	2,035	19,855	13,578	18,623
Net Farm Income										
Negative	1.1	0.6	0.8	0.8	0.8	4,941	-43,839	-13,578	-13,946	-13,185
\$0-\$24,999	1.6	0.8	1.2	1.1	1.1	22,357	-9,790	7,937	7,871	8,038
\$25,000-\$49,999	2.3	1.0	1.3	1.3	1.5	54,269	3,809	22,666	30,586	42,150
\$50,000 or more	2.9	1.2	1.6	1.5	1.8	140,999	30,609	74,848	53,028	92,951
Debt-to-Asset Ratio										
0-40 percent	7.9	1.9	3.6	2.8	2.9	170,996	40,631	102,792	71,762	75,458
41-70 percent	1.8	1.1	1.3	1.2	1.1	62,340	7,180	29,641	13,627	9,877
71 percent or more	1.3	0.7	1.0	0.9	0.9	22,348	-25,520	3,180	-12,553	-16,907
Farmer Age										
34 years or younger	2.4	1.0	1.4	1.3	1.3	60,186	2,035	27,077	12,198	12,429
35-44 years	2.4	1.1	1.4	1.1	1.1	101,012	6,971	40,631	12,208	12,412
45 years or older	2.0	1.0	1.3	1.1	1.1	72,716	-4,030	20,427	9,789	8,038

TABLE 6. TOTAL ASSETS AND TOTAL LIABILITIES, QUARTILE VALUES FOR 1999, MEDIAN VALUES FOR 1997 AND 1998, NORTH DAKOTA FARM BUSINESS MANAGEMENT EDUCATION PROGRAM PARTICIPANTS

Farm Group	1999					1999				
	Upper Quartile	Lower Quartile	Median	1998 Median	1997 Median	Upper Quartile	Lower Quartile	Median	1998 Median	1997 Median
	Total Farm Assets(\$)					Total Farm Liabilities(\$)				
All Farms	792,311	331,058	520,094	499,496	485,094	143,630	407,112	266,401	270,802	263,406
Region										
Red River Valley	1,240,547	508,910	753,157	727,513	692,602	218,278	633,371	388,383	386,642	350,540
North Central	732,791	313,501	486,637	466,665	441,556	142,670	372,366	238,985	249,562	232,560
South Central	783,286	302,540	525,562	486,735	468,594	134,877	423,927	269,355	280,786	261,072
West	728,001	320,568	470,232	488,397	477,352	137,950	371,673	231,772	248,889	270,792
Farm Enterprise										
Crop	841,977	359,615	569,907	571,140	540,740	142,670	424,682	272,748	298,097	272,241
Livestock	631,265	310,991	453,253	401,846	425,141	148,391	366,773	237,930	236,613	223,776
Mixed	669,012	292,921	444,915	419,503	428,485	136,059	397,166	266,417	259,032	270,877
Farm Sales										
\$99,999 or less	359,951	151,010	275,160	280,424	235,651	69,536	225,946	161,018	169,548	139,819
\$100,000-\$249,999	615,257	338,746	465,568	459,525	448,886	136,826	357,672	241,489	259,032	252,456
\$250,000 or over	1,131,008	626,416	839,211	833,314	809,167	240,566	606,990	397,166	439,360	410,056
Farm Size										
1,600 acres or less	503,756	207,395	331,881	318,264	359,580	88,682	293,524	187,337	187,165	204,076
1,601 acres or over	884,699	455,758	632,877	613,782	625,067	182,053	476,467	328,028	349,273	318,994
Cropland Tenure										
Full tenant	504,921	149,084	256,883	249,634	328,540	59,063	249,659	150,751	166,729	154,803
1-20 percent owned	866,730	404,752	573,919	509,818	485,094	178,488	451,706	321,073	305,521	312,810
21-40 percent owned	861,104	410,871	544,244	597,457	528,608	162,258	442,872	295,720	336,016	317,124
41 percent or over owned	819,937	341,713	561,646	545,329	538,207	157,882	403,434	269,898	279,988	260,340
Net Farm Income										
Negative	557,203	238,641	425,336	439,854	441,396	175,208	427,760	295,502	317,732	315,202
\$0-\$24,999	468,620	218,321	320,568	374,743	419,986	119,653	304,088	201,476	231,070	237,015
\$25,000-\$49,999	625,751	307,559	443,688	488,397	474,595	126,872	379,335	262,012	240,607	232,351
\$50,000 or more	1,019,543	520,094	738,907	727,646	742,106	163,449	477,360	327,983	335,570	292,822
Debt-to-Asset Ratio										
0-40 percent	886,689	420,723	615,257	615,207	594,606	55,747	194,513	126,912	124,074	118,430
41-70 percent	827,352	341,713	560,973	524,450	528,608	200,552	440,701	319,841	295,249	303,130
71 percent or more	557,203	264,512	389,769	414,400	406,243	237,930	453,291	345,488	378,517	344,781
Farmer Age										
34 years or younger	525,430	219,989	326,471	319,988	339,262	101,244	293,524	185,253	203,060	207,232
35-44 years	866,730	368,868	541,243	527,339	519,947	164,861	429,634	310,624	301,616	303,319
45 years or older	800,328	373,997	562,023	551,566	525,013	147,792	423,128	274,693	279,988	269,776

TABLE 7. SOLVENCY MEASURES, QUARTILE VALUES FOR 1999, MEDIAN VALUES FOR 1997 AND 1998, NORTH DAKOTA FARM BUSINESS MANAGEMENT EDUCATION PROGRAM PARTICIPANTS.

Farm Group	1999					1999					1999				
	Upper Quartile	Lower Quartile	Median	1998 Median	1997 Median	Upper Quartile	Lower Quartile	Median	1998 Median	1997 Median	Upper Quartile	Lower Quartile	Median	1998 Median	1997 Median
	Debt-to-Asset (%)					Equity-to-Asset (%)					Debt-to-Equity				
All Farms	38.6	72.4	55.5	59.4	58.6	61.4	27.6	44.5	40.6	41.4	0.6	2.6	1.2	1.5	1.4
Region															
Red River Valley	37.8	37.4	52.3	56.9	55.3	62.2	62.6	47.7	43.1	44.7	0.6	0.6	1.1	1.3	1.2
North Central	37.7	73.3	55.9	59.2	56.0	62.3	26.7	44.1	40.8	44.0	0.6	2.7	1.3	1.5	1.3
South Central	35.7	72.8	55.1	60.0	63.5	64.3	27.2	44.9	40.0	36.5	0.6	2.7	1.2	1.5	1.7
West	35.6	68.9	55.8	60.7	58.6	64.4	31.1	44.2	39.3	41.4	0.6	2.2	1.3	1.5	1.4
Farm Enterprise															
Crop	35.1	70.6	53.9	58.4	56.7	64.9	29.4	46.1	41.6	43.3	0.5	2.4	1.2	1.4	1.3
Livestock	42.7	72.5	57.9	61.2	59.2	57.3	27.5	42.1	38.8	40.8	0.7	2.6	1.4	1.6	1.5
Mixed	39.4	76.8	55.5	61.3	64.2	60.6	23.2	44.5	38.7	35.8	0.7	3.3	1.2	1.6	1.8
Farm Sales															
\$99,999 or less	45.1	83.9	61.4	66.5	64.4	54.9	16.1	38.6	33.5	35.6	0.8	5.2	1.6	2.0	1.8
\$100,000-\$249,999	36.1	74.8	55.5	58.8	58.5	63.9	25.2	44.5	41.2	41.5	0.6	3.0	1.2	1.4	1.4
\$250,000 or over	34.2	65.3	51.8	55.7	55.1	65.8	34.7	48.2	44.3	44.9	0.5	1.9	1.1	1.3	1.2
Farm Size															
1,600 acres or less	39.4	77.2	58.5	61.7	61.7	60.6	22.8	41.5	38.3	38.3	0.7	3.4	1.4	1.6	1.6
1,601 acres or over	35.1	69.2	54.5	58.8	57.4	64.9	30.8	45.5	41.2	42.6	0.5	2.2	1.2	1.4	1.3
Cropland Tenure															
Full tenant	37.8	77.9	58.8	68.9	56.8	62.2	22.1	41.2	31.1	43.2	0.6	3.5	1.4	2.2	1.3
1-20 percent owned	41.1	69.3	56.8	60.8	62.5	58.9	30.7	43.2	39.2	37.5	0.7	2.3	1.3	1.6	1.7
21-40 percent owned	35.5	72.4	53.4	58.4	60.6	64.5	27.6	46.6	41.6	39.4	0.6	2.6	1.1	1.4	1.5
41 percent or over owned	34.0	72.2	55.1	56.5	55.3	66.0	27.8	44.9	43.5	44.7	0.5	2.6	1.2	1.3	1.2
Net Farm Income															
Negative	55.6	89.7	72.0	72.9	73.2	44.4	10.3	28.0	27.1	26.8	1.3	8.7	2.6	2.7	2.7
\$0-\$24,999	46.9	84.9	64.2	63.3	60.1	53.1	15.1	35.8	36.7	39.9	0.9	5.6	1.8	1.7	1.5
\$25,000-\$49,999	40.2	74.1	59.3	56.0	48.1	59.8	25.9	40.7	44.0	51.9	0.7	2.9	1.5	1.3	0.9
\$50,000 or more	29.1	60.6	47.1	47.5	40.9	70.9	39.4	52.9	52.5	59.1	0.4	1.5	0.9	0.9	0.7
Debt-to-Asset Ratio															
0-40 percent	10.0	34.0	23.6	25.1	26.0	90.0	66.0	76.4	74.9	74.0	0.1	0.5	0.3	0.3	0.4
41-70 percent	49.3	63.1	55.8	57.1	57.8	50.7	36.9	44.2	42.9	42.2	1.0	1.7	1.3	1.3	1.4
71 percent	76.5	97.4	85.1	84.5	84.0	23.5	2.6	14.9	15.5	16.0	3.3	37.5	5.7	5.5	5.3
Farmer Age															
34 years or younger	43.1	73.1	56.5	66.9	65.5	56.9	26.9	43.5	33.1	34.5	0.8	2.7	1.3	2.0	1.9
35-44 years	37.1	73.5	54.9	58.3	57.8	62.9	26.5	45.1	41.7	42.2	0.6	2.8	1.2	1.4	1.4
45 years or older	33.7	70.5	55.0	57.3	57.0	66.3	29.5	45.0	42.7	43.0	0.5	2.4	1.2	1.3	1.3

TABLE 8. RATE OF RETURN ON ASSETS AND RATE OF RETURN ON EQUITY PROFITABILITY MEASURES, QUARTILE VALUES FOR 1999, MEDIAN VALUES FOR 1997 AND 1998, NORTH DAKOTA FARM BUSINESS MANAGEMENT EDUCATION PROGRAM PARTICIPANTS.

Farm Group	1999					1999				
	Upper Quartile	Lower Quartile	Median	1998 Median	1997 Median	Upper Quartile	Lower Quartile	Median	1998 Median	1997 Median
	Return on Farm Assets(%)					Return on Equity(%)				
All Farms	13.1	3.7	8.4	4.0	2.5	20.8	0.0	9.0	0.0	-1.4
Region										
Red River Valley	13.6	6.5	9.6	3.0	5.0	22.5	5.6	14.4	-1.4	1.9
North Central	14.8	4.2	9.4	3.5	3.1	25.8	0.0	10.4	0.0	-0.2
South Central	12.2	3.4	8.3	5.8	1.1	18.5	-0.2	6.4	1.7	-4.4
West	10.9	2.2	6.6	3.3	2.3	16.5	-1.4	6.5	0.0	-1.9
Farm Enterprise										
Crop	14.3	4.8	9.2	5.0	2.7	22.3	0.4	10.3	1.5	-0.7
Livestock	11.2	2.9	6.9	2.6	2.0	20.4	-1.0	6.4	-1.1	-2.4
Mixed	10.0	1.1	6.5	1.6	1.9	12.2	-0.7	4.1	-3.9	-3.0
Farm Sales										
\$99,999 or less	7.4	-0.8	2.6	-0.6	-0.4	4.1	-12.4	0.0	-7.2	-6.1
\$100,000-\$249,999	12.4	4.3	8.3	3.8	2.1	20.2	0.0	8.8	0.0	-1.9
\$250,000 or over	15.5	6.9	10.7	6.7	4.8	26.8	6.3	15.0	5.5	1.1
Farm Size										
1,600 acres or less	11.2	1.2	5.9	2.6	1.7	17.9	-3.8	3.0	-0.6	-2.9
1,601 acres or over	13.8	5.3	9.7	5.0	3.2	23.2	2.8	11.2	1.8	-0.7
Cropland Tenure										
Full tenant	18.6	2.7	9.9	3.8	1.3	34.8	0.0	10.6	0.0	0.0
1-20 percent owned	15.4	6.9	11.3	6.6	4.1	25.8	5.3	16.5	4.9	-0.5
21-40 percent owned	12.7	4.4	8.5	3.8	3.0	19.4	0.0	9.1	0.0	-1.9
41 percent or over owned	9.4	2.9	5.6	2.6	2.0	11.7	-0.1	3.6	-1.1	-2.4
Net Farm Income										
Negative	-0.6	-7.2	-4.0	-4.0	-4.4	-10.4	-43.5	-20.7	-17.9	-23.9
\$0-\$24,999	4.8	0.8	3.0	2.6	1.9	0.1	-11.1	-1.4	-3.5	-4.8
\$25,000-\$49,999	10.2	5.6	7.5	6.8	6.7	17.4	3.6	7.2	5.9	5.9
\$50,000 or more	17.3	10.0	13.1	11.4	10.5	31.1	12.0	19.1	14.9	13.2
Debt-to-Asset Ratio										
0-40 percent	13.4	4.6	8.5	5.5	4.1	15.2	3.6	9.1	4.3	2.8
41-70 percent	14.1	4.7	8.9	4.4	2.7	23.8	1.6	11.4	0.6	-3.3
71 percent or more	10.9	1.8	6.5	2.3	0.6	23.5	-12.7	0.0	-4.2	-12.1
Farmer Age										
34 years or younger	13.4	3.5	9.2	5.1	4.5	32.0	0.0	10.4	3.0	-0.2
35-44 years	14.6	5.2	9.6	5.2	3.3	23.0	1.1	11.1	0.9	0.0
45 years or older	10.6	3.0	6.9	2.5	1.4	16.6	0.0	5.7	-1.3	-3.4

TABLE 9. OPERATING PROFIT MARGIN AND NET FARM INCOME PROFITABILITY MEASURES, QUARTILE VALUES FOR 1999, MEDIAN VALUES FOR 1997 AND 1998, NORTH DAKOTA FARM BUSINESS MANAGEMENT PROGRAM PARTICIPANTS.

Farm Group	1999					1999				
	Upper Quartile	Lower Quartile	Median	1998 Median	1997 Median	Upper Quartile	Lower Quartile	Median	1998 Median	1997 Median
	Operating Profit Margin(%)					Net Farm Income(\$)				
All Farms	30.2	11.6	21.6	11.5	8.3	78,755	19,516	42,009	19,491	14,290
Region										
Red River Valley	26.9	14.5	20.6	7.7	11.6	126,363	34,554	78,755	19,491	28,199
North Central	34.2	14.7	24.2	10.4	10.3	76,513	20,131	41,769	15,903	16,051
South Central	27.6	9.3	18.3	12.7	2.4	69,529	17,050	38,064	26,339	6,453
West	28.0	8.3	20.9	12.1	9.8	67,998	12,731	35,927	16,018	13,007
Farm Enterprise										
Crop	28.4	12.3	21.0	12.0	8.1	98,106	24,382	50,027	26,398	16,947
Livestock	35.2	13.3	24.1	12.3	11.9	58,224	15,960	34,796	14,944	15,569
Mixed	29.7	4.4	21.6	7.2	7.1	59,025	13,439	31,497	8,147	8,393
Farm Sales										
\$99,999 or less	22.3	-1.4	12.3	-1.5	-0.6	24,011	3,874	14,051	5,666	4,890
\$100,000-\$249,999	32.3	12.3	23.2	12.1	7.3	60,373	21,019	39,603	18,290	13,528
\$250,000 or over	30.7	16.7	23.9	15.3	11.3	138,435	56,818	86,893	55,344	32,361
Farm Size										
1,600 acres or less	25.3	3.6	17.0	6.8	4.9	41,774	10,474	24,382	11,378	11,511
1,601 acres or over	32.0	15.5	24.4	12.9	9.8	101,056	31,692	61,476	28,431	17,403
Cropland Tenure										
Full tenant	26.1	5.7	18.6	7.4	3.6	65,989	15,152	35,005	12,119	16,510
1-20 percent owned	27.8	14.7	22.3	13.1	8.2	110,498	34,554	64,129	32,953	19,292
21-40 percent owned	30.6	13.3	23.1	10.9	8.4	97,414	22,100	49,205	20,642	11,078
41 percent or over owned	33.3	11.5	22.3	12.2	9.2	61,806	16,434	32,652	14,412	10,279
Net Farm Income										
Negative	-1.8	-39.7	-12.2	-15.0	-16.7	-7,024	-23,277	-13,107	-12,528	-16,890
\$0-\$24,999	16.8	3.0	9.7	7.7	5.8	19,788	8,437	14,429	11,995	10,136
\$25,000-\$49,999	27.5	15.5	21.2	16.5	19.1	42,521	30,696	36,603	34,601	36,036
\$50,000 or more	36.1	22.9	28.4	24.8	23.0	128,187	66,639	87,426	77,791	70,199
Debt-to-Asset Ratio										
0-40 percent	29.3	15.8	24.4	15.9	12.4	102,919	33,767	62,021	37,196	31,201
41-70 percent	32.2	12.5	22.3	12.2	9.3	84,765	22,399	48,315	20,927	13,995
71 percent or more	24.7	4.2	16.7	6.4	1.3	41,166	7,299	22,641	5,708	725
Farmer Age										
34 years or younger	27.9	9.3	20.9	12.3	10.9	60,373	13,755	34,705	20,835	19,537
35-44 years	29.3	14.6	21.9	12.5	9.6	101,056	26,221	52,577	25,539	19,036
45 years or older	31.0	9.3	21.5	10.0	4.9	70,174	17,687	39,770	13,978	9,262

TABLE 10. REPAYMENT CAPACITY MEASURES, QUARTILE VALUES FOR 1999, MEDIAN VALUES FOR 1997 AND 1998, NORTH DAKOTA FARM BUSINESS MANAGEMENT EDUCATION PROGRAM PARTICIPANTS.

Farm Group	1999					1999				
	Upper Quartile	Lower Quartile	Median	1998 Median	1997 Median	Upper Quartile	Lower Quartile	Median	1998 Median	1997 Median
	Term Debt Coverage Ratio					Term Debt and Capital Repayment Margin(\$)				
All Farms	2.7	1.0	1.5	0.9	0.7	48,738	-672	17,973	-2,680	-8,995
Region										
Red River Valley	2.8	1.3	1.6	0.7	0.8	74,281	12,829	35,838	-7,661	-7,719
North Central	3.5	0.9	1.5	0.7	0.8	46,850	-2,301	13,070	-6,245	-8,192
South Central	2.5	1.0	1.6	1.2	0.5	43,671	-672	14,592	4,351	-15,347
West	2.5	1.1	1.6	1.0	0.9	38,566	1,000	15,260	-778	-1,968
Farm Enterprise										
Crop	3.3	1.0	1.7	1.0	0.5	56,407	-444	21,499	-1,867	-14,621
Livestock	2.4	1.1	1.5	1.0	1.2	34,554	1,296	18,282	-778	3,954
Mixed	2.1	0.8	1.4	0.6	0.8	28,381	-11,346	9,966	-5,819	-7,071
Farm Sales										
\$99,999 or less	2.0	0.7	1.3	0.7	1.0	13,208	-4,885	4,545	-5,021	707
\$100,000-\$249,999	2.5	0.9	1.5	0.8	0.7	35,370	-1,869	13,750	-5,327	-12,105
\$250,000 or over	3.8	1.2	1.9	1.2	0.6	95,549	13,876	46,738	5,929	-15,042
Farm Size										
1,600 acres or less	2.3	0.9	1.4	0.9	0.8	26,271	-3,875	10,821	-1,867	-6,213
1,601 acres or over	2.9	1.0	1.7	0.9	0.7	59,697	984	27,192	-4,290	-13,349
Cropland Tenure										
Full tenant	3.7	0.9	2.0	0.8	0.6	45,282	-2,079	19,191	-2,641	-7,783
1-20 percent owned	2.9	1.2	1.7	1.1	0.6	58,985	6,960	28,365	1,710	-18,305
21-40 percent owned	2.8	1.0	1.6	0.8	0.6	55,533	131	25,389	-5,021	-16,533
41 percent or over owned	2.2	0.9	1.3	0.9	0.9	31,321	-3,043	9,932	-2,923	-1,687
Net Farm Income										
Negative	0.6	-0.2	0.1	0.0	-0.1	-7,558	-47,699	-32,082	-32,359	-37,474
\$0-\$24,999	1.7	0.8	1.2	0.7	0.6	13,070	-6,522	3,626	-5,488	-11,882
\$25,000-\$49,999	2.4	1.0	1.4	1.3	1.3	26,034	698	12,518	9,948	8,667
\$50,000 or more	4.2	1.5	2.3	1.8	2.1	91,964	26,698	48,869	28,297	31,242
Debt-to-Asset Ratio										
0-40 percent	5.7	1.7	2.5	1.8	1.6	71,240	12,295	36,997	19,255	8,682
41-70 percent	2.6	1.1	1.5	1.0	0.7	44,110	2,599	20,710	1,025	-11,358
71 percent or more	1.7	0.5	1.0	0.5	0.4	18,446	-17,634	2,384	-16,470	-22,496
Farmer Age										
34 years or younger	3.0	1.0	1.8	1.1	1.1	36,407	-1,550	13,070	3,662	4,590
35-44 years	2.8	1.0	1.6	0.9	0.8	60,870	-1,675	22,831	-3,152	-7,071
45 years or older	2.5	1.0	1.5	0.8	0.6	44,979	-444	15,251	-6,245	-16,786

TABLE 11. ASSET TURNOVER AND OPERATING EXPENSE AND DEPRECIATION EXPENSE EFFICIENCY MEASURES (AS A PERCENTAGE OF GROSS FARM INCOME), QUARTILE VALUES FOR 1999, MEDIAN VALUES FOR 1997 AND 1998, FARM BUSINESS MANAGEMENT EDUCATION PROGRAM PARTICIPANTS.

Farm Group	1999					1999					1999				
	Upper Quartile	Lower Quartile	Median	1998 Median	1997 Median	Upper Quartile	Lower Quartile	Median	1998 Median	1997 Median	Upper Quartile	Lower Quartile	Median	1998 Median	1997 Median
	Asset Turnover					Operating Expense(%)					Depreciation Expense (%)				
All Farms	.55	.27	.38	.36	.34	53.6	70.1	61.2	71.9	73.3	2.9	9.8	5.7	5.7	6.0
Region															
Red River Valley	.62	.36	.49	.43	.47	59.2	70.3	66.5	76.2	75.5	3.6	6.8	5.6	5.8	4.5
North Central	.55	.26	.36	.33	.33	50.9	65.6	56.8	72.4	71.3	1.2	8.3	4.6	4.8	4.6
South Central	.57	.27	.42	.43	.34	57.1	74.5	64.4	70.9	76.6	3.3	9.9	6.3	6.9	7.9
West	.44	.24	.32	.27	.27	51.0	69.0	60.3	70.1	67.8	4.3	12.6	7.6	5.6	8.8
Farm Enterprise															
Crop	.62	.32	.45	.44	.40	55.1	70.5	62.7	72.6	76.5	3.3	9.0	5.6	5.3	5.4
Livestock	.36	.21	.28	.22	.23	49.6	66.5	56.8	66.7	63.9	0.0	12.6	6.0	6.7	9.6
Mixed	.38	.25	.31	.28	.27	52.6	70.3	60.5	73.9	69.4	2.5	10.0	5.8	6.7	6.2
Farm Sales															
\$99,999 or less	.39	.20	.26	.23	.24	50.8	73.7	58.7	69.7	66.3	0.1	14.4	5.8	6.4	7.5
\$100,000-\$249,999	.49	.27	.35	.35	.33	51.8	70.1	59.6	71.4	72.4	2.4	9.6	5.1	5.8	6.2
\$250,000 or over	.63	.35	.50	.45	.42	56.9	70.2	63.3	72.8	76.9	4.1	8.9	6.0	5.3	5.4
Farm Size															
1,600 acres or less	.53	.26	.35	.34	.33	53.9	73.4	62.9	71.8	73.4	2.7	10.3	5.6	6.2	5.8
1,601 acres or over	.57	.29	.40	.37	.34	53.5	68.8	60.7	72.1	73.2	3.2	9.6	6.0	5.5	6.1
Cropland Tenure															
Full tenant	.88	.39	.57	.55	.54	56.8	77.2	66.3	74.4	79.2	1.7	7.8	4.3	4.0	4.5
1-20 percent owned	.64	.42	.52	.50	.46	56.0	71.0	63.2	72.3	77.3	3.6	8.2	5.6	4.7	4.5
21-40 percent owned	.49	.31	.37	.34	.33	53.6	69.4	62.1	73.2	76.1	3.1	9.7	5.8	5.6	6.3
41 percent or over owned	.34	.21	.26	.24	.23	50.8	66.1	56.8	68.1	65.9	2.5	10.7	6.5	7.8	8.7
Net Farm Income															
Negative	.41	.20	.31	.27	.28	79.6	93.9	89.0	88.0	89.5	3.1	19.3	10.5	8.6	9.0
\$0-\$24,999	.41	.21	.29	.31	.30	52.7	75.9	66.2	72.9	73.3	2.4	12.7	7.6	5.6	5.5
\$25,000-\$49,999	.51	.26	.35	.39	.38	52.9	67.9	60.3	68.1	67.0	3.5	9.8	6.3	4.7	4.7
\$50,000 or more	.62	.35	.48	.46	.42	52.5	65.2	58.6	63.7	66.0	2.5	7.5	5.0	4.4	4.7
Debt-to-Asset Ratio															
0-40 percent	.49	.25	.35	.32	.30	52.8	66.0	60.0	66.7	69.0	3.6	10.3	7.2	6.5	6.8
41-70 percent	.57	.28	.38	.36	.34	52.3	69.3	59.6	71.2	71.6	2.9	9.2	5.6	5.6	5.5
71 percent or more	.57	.28	.41	.40	.41	56.8	75.6	66.6	75.7	79.6	2.0	8.8	5.3	5.4	5.8
Farmer Age															
34 years or younger	.72	.31	.44	.44	.45	52.5	74.3	62.6	72.2	72.4	1.1	7.8	4.1	3.5	4.7
35-44 years	.60	.32	.45	.40	.38	53.9	70.1	62.6	71.5	73.3	3.1	8.8	5.4	5.6	5.7
45 years or older	.45	.23	.31	.29	.28	52.9	69.5	59.9	72.1	73.4	3.6	11.6	6.8	7.0	7.7

TABLE 12. INTEREST EXPENSE AND FARM INCOME EFFICIENCY MEASURES (AS A PERCENTAGE OF GROSS FARM INCOME), QUARTILE VALUES FOR 1999, MEDIAN VALUES FOR 1997 AND 1998, NORTH DAKOTA FARM BUSINESS MANAGEMENT EDUCATION PROGRAM PARTICIPANTS.

Farm Group	1999					1999				
	Upper Quartile	Lower Quartile	Median	1998 Median	1997 Median	Upper Quartile	Lower Quartile	Median	1998 Median	1997 Median
	Interest Expense(%)					Net Farm Income (%)				
All Farms	5.6	12.8	8.4	9.6	9.9	31.8	13.5	22.4	12.7	8.1
Region										
Red River Valley	4.5	10.0	6.5	8.9	7.8	27.6	14.8	21.1	5.9	11.1
North Central	5.6	15.1	9.7	9.8	10.2	35.3	17.8	27.6	12.7	11.5
South Central	5.7	11.9	7.8	8.7	10.9	28.4	10.5	19.5	13.2	3.7
West	5.6	13.1	9.6	11.6	10.6	30.1	11.8	20.1	13.3	10.3
Farm Enterprise										
Crop	5.1	11.3	7.7	8.6	9.1	31.7	13.5	22.5	13.3	8.0
Livestock	6.0	16.1	10.7	12.4	10.5	34.2	13.9	24.4	15.3	12.9
Mixed	6.8	15.4	10.8	12.3	11.4	27.9	10.5	20.4	7.8	6.7
Farm Sales										
\$99,999 or less	7.4	19.2	11.8	16.7	12.0	31.2	6.2	20.4	7.9	7.0
\$100,000-\$249,999	5.6	13.3	9.4	9.7	10.6	33.8	14.3	23.2	12.7	8.1
\$250,000 or over	4.8	9.5	7.2	7.8	8.4	29.7	15.2	22.4	13.8	8.6
Farm Size										
1,600 acres or less	5.5	14.0	9.0	9.5	9.6	29.6	10.5	21.1	11.3	8.6
1,601 acres or over	5.7	12.3	8.2	9.6	9.9	32.3	14.2	22.7	13.5	7.8
Cropland Tenure										
Full tenant	3.6	9.8	5.7	7.0	6.5	32.8	12.5	21.1	12.9	7.9
1-20 percent owned	5.5	9.6	7.3	7.7	8.9	31.4	13.7	22.6	15.3	8.3
21-40 percent owned	6.0	12.4	8.9	10.6	11.7	29.4	14.0	22.6	10.0	8.1
41 percent or over owned	7.4	17.4	11.9	13.2	12.5	33.3	12.9	22.5	10.8	8.4
Net Farm Income										
Negative	9.8	19.9	15.3	15.0	13.3	-4.3	-21.9	-9.5	-10.7	-12.1
\$0-\$24,999	7.4	17.4	12.0	11.6	11.4	20.1	7.6	12.8	9.1	7.3
\$25,000-\$49,999	5.9	12.9	9.0	7.8	7.8	30.5	17.3	22.4	18.6	20.2
\$50,000 or more	4.1	9.5	6.9	6.7	5.8	36.2	22.4	28.9	24.6	24.3
Debt-to-Asset Ratio										
0-40 percent	2.4	7.1	4.4	4.6	4.7	35.2	22.5	29.0	21.8	17.5
41-70 percent	6.9	12.9	9.3	9.9	10.9	31.9	13.9	21.7	13.0	8.1
71 percent or more	8.6	16.8	12.3	13.5	13.2	21.8	6.9	14.9	3.7	0.3
Farmer Age										
34 years or younger	4.5	11.2	7.5	8.1	8.7	33.4	13.9	24.2	16.2	12.3
35-44 years	5.5	12.1	7.7	9.1	9.0	31.2	14.4	22.5	13.6	8.6
45 years or older	6.1	14.1	9.8	11.0	11.7	31.6	12.5	21.1	9.1	6.7

REFERENCES

- Swenson, Andrew L. 1998. *Financial Characteristics of North Dakota Farms, 1995-1997*. Agricultural Economic Report No. 403. Department of Agricultural Economics, North Dakota State University, Fargo. Website <http://agecon.lib.umn.edu/ndsu/aer403.html>
- North Dakota Agricultural Statistics Service. 1998. *North Dakota Agricultural Statistics*. North Dakota State University and the USDA.
- Swenson, Andrew L. and Cole R. Gustafson. 1997. *Financial Characteristics of North Dakota Farms, 1994-1996*. Agricultural Economic Report No. 379, Department of Agricultural Economics, North Dakota State University, Fargo. Website <http://agecon.lib.umn.edu/ndsu/aer379.html>
- Swenson, Andrew L. and Cole R. Gustafson. 1996. *Financial Characteristics of North Dakota Farms, 1993-1995*. Agricultural Economic Report No. 358, Department of Agricultural Economics, North Dakota State University, Fargo. Website <http://agecon.lib.umn.edu/ndsu/aer358su.html>
- Swenson, Andrew L. and Cole R. Gustafson. 1995. *Financial Characteristics of North Dakota Farms, 1992-1994*. Agricultural Economics Report No. 341, Department of Agricultural Economics, North Dakota State University, Fargo. Website <http://agecon.lib.umn.edu/ndsu/aer341su.html>
- Miller, Lynn H., Peter J. Barry, and Paul N. Ellinger. 1995. *Financial Characteristics of Illinois Farms 1993-94*. The Center for Farm and Rural Business Finance, University of Illinois, Urbana, University of Arkansas, Fayetteville.
- Baltezore, James F., Cole R. Gustafson, and Andrew L. Swenson. 1993. *Financial Benchmarks of North Dakota Farm Operators: 1992 Update*. Agricultural Economics Report No. 311, Department of Agricultural Economics, North Dakota State University, Fargo.
- Baltezore, James F., Cole R. Gustafson, and Andrew Swenson. 1993. *Financial Benchmarks of North Dakota Farm Operators in 1991*. Agricultural Economics Report No. 298, Department of Agricultural Economics, North Dakota State University, Fargo.
- Farm Financial Standards Task Force. 1991. *Financial Guidelines for Agricultural Producers: Recommendations of the Farm Financial Standards Task Force*. American Bankers Association, Agricultural Bankers Division, Washington, DC.