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Financial Characteristics of North Dakota Farms

1993-1995

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Financial Characteristics of North Dakota Farms 1993-1995

Abstract

The performance of over 500 North Dakota farms, 1993-1995, 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.

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

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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 construction of 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 not a nationwide database of farm records. However, there are statewide farm record programs in some states, such as 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 1993-1995. Similar studies for 1991 and 1992 are referenced on page 25 of this report. The data are from financial summaries of farms participating in the North Dakota Farm Business

Management Education program. 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 1993 through 1995, the financial summaries of over 500 farms each year were considered usable for this study. Table 1 shows the distribution of farms by characteristic for 1995.

Most farms were represented in all three years (1993-1995) of this study. There normally is a small turnover of participants in farm management education programs. However, in 1995 there was an increase of 60 farms, to 596, from 536 in 1994.

The farms in this study are larger and the age of the farm operators younger than the state average. In 1995, only 34% of the 32,000 farms in North Dakota had gross receipts greater than \$100,000, whereas 74% of the 596 farms in this study exceed that sales volume (median gross sales was \$166,552). The average age of farm operators in this study is 42 compared to 50 for the state average. The farms in the study are more representative of operations that provide the primary or only source of net family income. The state average includes all farms with gross sales greater than \$1,000.

DEFINITION OF FINANCIAL MEASURES

Sixteen measures of financial performance were calculated for each farm in this study. The recommendations of the farm financial standards task force for calculating the ratios were followed as closely as possible.

The farm financial standards task force 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. Depreciation was straight line over estimated life of machine.
- 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 was used per full time operator.

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 was used per full time operator. 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 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. A \$20,000 charge was used per full time operator. 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 revenue 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 revenue is the return to the operator for unpaid labor and management and equity capital used in the farm business. Net farm revenue 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 in order was calculated for each farm and sorted from strongest to weakest. 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?

Caution must be used when analyzing the tables because of the small number of farms and because one characteristic does not completely categorize a farm. A small number of farms increases the possibility that results may not be representative of a farm category. In this study, for 1995, there are only 106 farms from the west region, 55 mixed enterprise farms, and 98 farms in the \$20,000 - \$39,999 net farm income category. Also for 1995, certain tables had fewer farms than indicated in Table 1. Seventy-one farms were omitted from the current liabilities and liquidity analysis because term debt was not separated into current and non-current portions; 77 farms were omitted from the repayment capacity analysis because of insufficient detail for scheduled term debt payments. The eight farms with no cropland were omitted from cropland tenure categories.

There are some strong correlations between two or more classifications, so it is difficult to associate a financial measure with an individual farm characteristic. The Red River Valley has the highest proportion, relative to other regions, of farms in the full tenant, crop enterprise, and less than 1,200 acres

categories. Is a median return on assets of 8.5% for farms in the Red River Valley associated more with geographic location, tenancy, farm type or farm size?

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 lower quartile value of 66% (shown on table 5) for farm enterprise category. However, other factors such as profitability, land tenure, total assets, and age of operator should also be considered.

Last, 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.

The tables show a general deterioration of financial performance in 1995 that was caused by extremely poor profitability of the cow-calf enterprise throughout the state and crop production in certain locations, primarily in the south central region. Overall, two out of every ten farms had negative net farm income in 1995 compared to one in ten in the previous year.

Use caution in drawing conclusions about the effect age and land tenure has on financial performance. Older farmers and farms with the highest proportion of crop land owned were more likely to have livestock, which performed very poorly in 1995, as the major farm enterprise than were the other age and land tenure farm categories.

The better performance of the Red River Valley region in 1995 compared to 1994 and 1993 is mainly due to a change in region definition from "east" to "Red River Valley." The analysis in 1993 and 1994 for "east" North Dakota included some farms that are not in the smaller but more homogeneous "Red River Valley" area.

FARM CLASSIFICATION AND HIGHLIGHTS

ALL FARMS

Highlights

- The median measures for current assets and liabilities have increased each year from 1993 to 1995, but current liabilities have increased by a larger amount.
- The median current ratio and working capital decreased each year from 1993 to 1995. The median current ratio was 1.3 in 1995, one-fourth of all farms had a current ratio higher than 2.3, and one-fourth of all farms had a current ratio less than 0.9.
- The median total liabilities increased by \$24,756 in 1995, but the median total assets decreased slightly.
- The median debt-to-asset ratio was 51.5% in 1995, a 5.1% increase from 1993. Upper and lower quartiles were 31.9% and 69.3%, respectively.
- All median measures of profitability, repayment capacity, and financial efficiency deteriorated in 1995. Major reasons were low livestock profitability statewide and low grain yield and quality in certain areas of the state.
- The median net farm income was \$23,463 in 1995 compared to \$32,523 in 1994 and \$42,484 in 1993. Upper and lower quartiles were \$61,292 and \$3,172.
- The average net farm income of \$33,789 was over \$10,000 greater than the median, indicating large net farm income farms skewed the average.
- Median net farm income as a percent of gross revenue was 16.2%, compared to 21.7% in 1994 and 26.6% in 1993.

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 Grafton programs are not in the Red River Valley and are classified as south-central and north-central, respectively. 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 1995 summaries were:

Red River Valley: Grafton, Kindred and Wahpeton
North Central: Bottineau, Devils Lake, Minot, and Rugby
South Central: Bismarck, Carrington, Enderlin, Jamestown, Napoleon and Oakes
West: Bismarck, Carson, Dickinson, Glen Ullin, and Stanley

Highlights:

- In 1995 the average size of farm ranged from Red River Valley (about 1,450 acres, nearly all cropland) to the west region (2,500 acres, about 50% cropland and 50% pasture). Farms in the north central and south central regions averaged about 1,850 acres (1,450 acres cropland) and 1,650 acres (1,250 acres cropland), respectively.
- The Red River Valley farms had much larger gross sales, assets and liabilities than the other regions.
- In 1995, almost without exception, the 16 measures of financial performance deteriorated in all regions except the Red River Valley.
- The south central region suffered from both poor livestock and crop returns and had the poorest performance by nearly every measure in 1995. Median net farm income was \$11,844, debt-to-asset 56%, return on equity -1.4%, and term debt repayment margin -\$7,003.
- The north central region had a very poor year in 1995 relative to 1994. Median net farm income dropped \$15,000 and debt-to-asset increased 5%. But in 1995 this region had substantially fewer liabilities, a median of \$172,274, and the best median current ratio, 1.5, debt-to-asset, 45.4%, operating profit margin, 22.8%, and net farm income as percent of gross revenue, 19.4%, compared to other regions of North Dakota.
- In the west financial performance overall was down only slightly from 1994 -- poor profitability of livestock farms was largely offset by the performance of crop farms.
- In the Red River Valley region the median return on assets of 8.5%, return on equity of 8.6%, and \$52,182 net farm income were nearly double that of the next highest region. Repayment capacity also was very strong relative to other regions in 1995. However, much of the increased performance in the "Red River Valley" relative to 1994 and 1993 is because a narrower geographically defined region was used in 1995.

FARM ENTERPRISE

Farms were classified as "crop" if 60% or more of total sales were from crops, and "livestock" if livestock sales accounted for 60% or more of total sales. The remaining farms were classified as "mixed."

Highlights:

- Two-thirds of the farms statewide, and over 90% of Red River Valley farms, were in the crop enterprise category. Less than 10% of all farms were in the mixed enterprise category.
- Livestock and mixed enterprise farms represented 63%, 38% and 25% of the farms in the west, south central, and north central regions, respectively.
- The median current ratio was 1.1 for livestock farms and 1.3 for crop and mixed enterprise farms.
- Median total liabilities were similar between farm types, but median total assets of crop farms were 22% higher than for livestock or mixed farms.
- Livestock and mixed farms had serious deterioration of solvency in 1995. Median debt-to-asset was about 57% compared to 49% for crop farms. Debt-to-asset exceeded 75% for about one-fourth of the livestock and mixed enterprise farms.
- Median net farm income for all types of farms were similar in 1993 (between \$40,000 and \$44,000) but by 1995 it had declined 80% to \$8,094 for livestock farms, compared to a 12% decrease to \$37,971 for crop farms.
- Median returns on assets and equity were 0.5% and -3.4% for livestock farms, respectively, compared to 7.0% and 6.6% for crop farms.
- The median asset turnover ratio of the crop farm category is consistently higher than for livestock or mixed farms.
- The median term debt replacement and capital replacement margin for livestock farms was -\$8,115 for livestock farms compared to \$8,892 for crop farms.
- The median net farm income as a percent of gross revenue, was only 6.1% for livestock farms compared to 19.4% for crop farms. Two years earlier both were over 25%.

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 \$166,552 and the average was \$211,605. About 47% of the farms had between \$100,000 and \$250,000 in farm sales.
- The percentage of farms in the low and high farm sales categories were similar, about 26%, which was an increase from 1994.
- Six out of ten farms in the Red River Valley had gross farm sales in excess of \$250,000 compared to two out of ten farms for the rest of the state.
- Livestock farms had lower gross sales than crop farms. Over 45% of all livestock farms were had gross sales less than \$100,000 compared to only 17% of crop farms.
- Farms with over \$250,000 sales had median total assets 3.3 times higher than farms with less than \$100,000 sales.
- There was a direct relationship between gross sales and performance for all but two of the 16 financial measures, in 1995.
- Profitability measures of farms with over \$250,000 sales have been stable from 1993-1995 but decreased significantly for farms with \$150,000-\$250,000 sales and precipitously for farms with less than \$100,000 sales.
- Median net farm income was \$7,226 for farms with less than \$100,000 sales, \$27,924 for farms with \$150,000-\$250,000 sales and \$71,688 for farms with greater than \$250,000 sales.

FARM SIZE

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

Farm size categories were: 1,200 acres or less
 1,201 acres or more

Highlights

- Farm size increased from an average 1,450 acres in Red River Valley to 2,500 acres in the west region. The pasture acreage was essentially 0 in the Red River Valley and 1,250 in the west.
- Only about 31% of the farms had less than 1,200 acres. About 73% of the farms in the crop enterprise category had acreage greater than 1,200, compared to 60% of the livestock farms.
- Seventy-five percent of farmers between the age of 35 and 45 had farms larger than 1,200 acres, compared to 69% for older farmers (greater than 45 years) and 58% for younger farmers (less than 35 years).
- Median current ratio was slightly better, 1.3 compared to 1.4 for the larger farms; working capital increased with farm size.
- From 1993 to 1995 there has been a direct relationship between farm size and farm performance as measured by solvency and profitability.
- Median debt-to-asset and net farm income for farms with greater than 1,200 acres was 50.4% and \$34,253, respectively, compared to 55.9 and \$13,007 for smaller farms.
- Debt-to-asset and net farm income for both large and small farm size categories has deteriorated significantly in the past two years.

CROPLAND TENURE

This is a classification of the portion of cropland 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 was greatest in the west and least in the east. Twenty-seven percent of farms in the Red River Valley owned no cropland.
- Sixty-one percent of farm operators in the west owned more than 40% of crop land farmed compared to about 36% in the south central and north central regions and 18% in the Red River Valley.
- Operators of livestock and mixed enterprise farms own a greater portion of their crop land than operators of crop farms.
- Fifty four percent of farmers older than 45 years owned more than 40% of their crop land compared to 20% for farmers less than 35 years old.
- Farms that control land through ownership instead of through renting tend to have better current ratios.
- From 1993-1995 there has not been a clear relationship between solvency and land tenure, although in 1995 the farms that owned from 1 to 20% of their crop land had a median debt-to-asset of 59%, which was 9% higher than the median for other land tenure categories.
- Farms that own a small portion of their land (1 to 40%) have higher net farm income and rate of returns on capital than farms with no land ownership or high (greater than 40%) land ownership.
- Farms that had between 20 and 40% of land ownership had better repayment capacity in 1995 than other farms.
- Farms with a greater proportion of land rented have lower land assets and greater asset turnover ratios but higher operating expense ratios due to land rent outlay and lower interest expense ratios because of lower land debt.

NET FARM INCOME

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

Negative
\$0 - \$19,999
\$20,000 - \$39,999
\$40,000 or more

Highlights

- Thirty seven percent of farms had net farm income greater than \$40,000. Twenty-two percent of farms had negative net farm income in 1995 compared to 13% in 1994.
- Thirty eight percent of operations in the livestock farm category and 31% of farms in the south central region had negative net farm income in 1995.
- Median net farm income was \$23,463 in 1995, down about \$9,000 from 1994 and down \$19,000 from 1993.
- High median total liabilities is a consistent feature, from 1993 to 1995, of farms with negative net farm income.
- One out of every four crop farms had net farm income greater than \$75,853.
- Solvency, liquidity, repayment capacity, and financial efficiency were strongly correlated with net farm income.
- Median ROA and ROE for farmers with net farm income greater than \$40,000 was 12.4% and 16.1%, respectively. These high numbers can partially be explained by conservative valuation of assets and unpaid operator labor and management.

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:

- Thirty-four percent of the farms had a debt-to-asset ratio less than 40% debt, 42% of farms were in the 40 to 70% range, and 24% of farms had greater than 70% debt.
- Farms in the lowest debt-to-asset category had the highest median total assets and the lowest median liabilities.
- Farms in the 0 to 40% debt/asset group had very strong financial performance with median current ratio of 3.2, median operating profit of 19.4%, median net farm income of \$45,692 and median operating expense of 62.3%.
- There is a strong inverse relationship between level of debt and liquidity, repayment capacity, net farm income, and financial efficiency. As debt increases, these measures deteriorate.
- Rate of returns on assets and equity from 1993 - 1995 has been similar for the farms in the 0-40% and 41-70% debt groups, but much less for farms with greater than 70% debt.

FARMER AGE

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

34 years or more

35 - 44 years

45 years or older

Highlights:

- The greatest portion of farmers were between 35 and 45 years old; 22% of the farmers were less than 35 years and 35% were older than 45 years.
- Farmers in the west were older than in other regions of the state; only 11% were less than 35 years and 45% were older than 45 years.
- Total assets and total liabilities were similar for the older and middle age groups and much higher than for farmers less than 35 years old.
- Median current ratio was similar between age of operator categories, about 1.3.
- Young farmers have a higher percent debt-to-asset. Farmers less than 35 years old had a median debt-to-asset of 56.5% compared to 49.9% for farmers older than 45.
- The group of farm operators between 35 and 45 years old had the best median rate of return on assets, 6.2%, and rate of return on equity, 6.0%, and the oldest group of farmers had the lowest.
- The middle age group (35 to 44 years) has had the highest median net farm income each year, 1993-1995, and the oldest group of farmers had the lowest.
- The young age group of farmers had better median repayment capacity, asset turnover rate, ROA, ROE, interest expense ratio and net farm income ratio than the oldest age group. This indicates that although the older farmers in the study have more assets and less debt-to-assets, young farmers are employing assets more efficiently to generate net farm income.

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Table 1. Farm Classifications, North Dakota Farm Business Management Education Program, 1995.

Farm Group/Category	Number of Farms (596)	Percentage
Region		
Red River Valley	122	20.5
North Central	154	25.8
South Central	214	35.9
West	106	17.8
Farm Enterprise		
Crop	399	66.9
Livestock	142	23.8
Mixed	55	9.2
Farm Sales		
\$99,999 or less	155	26.0
\$100,000 - \$249,999	282	47.3
\$250,000 or over	159	26.7
Farm Size		
1,200 acres or less	183	30.7
1,200 acres or over	413	69.3
Cropland Tenure		
Full tenant	122	20.7
1-20 percent owned	131	22.3
21-40 percent owned	117	19.9
41 percent or over owned	218	37.1
Farm Income		
Negative	132	22.1
\$0-\$19,999	144	24.2
\$20,000-\$39,999	98	16.4
\$40,000 or more	222	37.2
Debt-to-asset Ratio		
0-40 percent	200	33.6
41-70 percent	253	42.4
71 percent or more	143	24.0
Farmer Age		
34 years or younger	132	22.1
35-44 years	256	43.0
45 years or older	208	34.9

TABLE 2. CURRENT ASSETS AND CURRENT LIABILITIES, QUARTILE VALUES FOR 1995, MEDIAN VALUES FOR 1993 AND 1994, NORTH DAKOTA FARM BUSINESS MANAGEMENT EDUCATION PROGRAM PARTICIPANTS

Farm Group	1995					1993			1994			1993		
	Upper Quartile	Lower Quartile	Median	1994 Median	1993 Median	Upper Quartile	Lower Quartile	Median	Upper Quartile	Lower Quartile	Median	Upper Quartile	Lower Quartile	Median
All Farms	177,652	53,302	101,000	100,626	93,854	29,841	124,869	65,865	64,064	49,409				
Region														
Red River Valley*	302,834	100,554	171,980	131,673	124,660	62,079	204,695	124,869	103,798	77,049				
North Central	138,293	49,521	83,445	89,261	71,192	23,218	84,042	46,948	33,296	27,941				
South Central	148,996	40,301	85,731	93,687	94,001	29,146	119,956	65,865	66,385	48,727				
West	168,711	54,529	95,255	92,986	100,519	27,302	109,162	54,073	47,105	38,645				
Farm Enterprise														
Crop	201,989	65,431	116,570	114,905	99,673	35,226	139,951	74,159	68,357	50,409				
Livestock	117,991	34,006	58,272	79,470	78,867	23,218	101,814	46,593	50,010	43,637				
Mixed	125,147	50,880	87,119	85,127	80,473	33,589	111,519	69,827	65,990	50,118				
Farm Sales														
\$99,999 or less	59,220	22,141	40,274	51,385	39,672	14,986	50,968	27,302	23,860	17,220				
\$100,000-\$249,999	145,013	66,681	102,249	100,457	95,806	40,490	109,916	69,197	64,064	49,409				
\$250,000 or over	366,256	159,574	253,972	244,439	194,018	81,545	240,962	165,810	150,602	118,789				
Farm Size														
1,200 acres or less	89,151	28,717	53,058	67,605	56,924	18,614	75,286	38,914	37,611	33,147				
1,201 acres or over	218,189	74,602	125,147	129,027	118,384	41,372	146,082	83,637	75,295	57,177				
Cropland Tenure														
Full tenant	172,298	42,103	83,831	89,236	78,043	19,305	119,956	57,154	62,493	50,409				
1-20 percent owned	184,372	65,431	110,079	123,680	99,673	44,189	156,842	95,003	90,801	65,490				
21-40 percent owned	200,689	88,535	121,288	132,161	106,573	48,949	139,182	87,588	69,838	58,691				
41 percent or over owned	165,763	44,075	81,931	88,405	90,915	27,008	109,471	52,421	45,700	36,444				
Net Farm Income														
Negative	93,134	29,726	52,916	74,900	72,024	33,662	114,213	62,724	97,777	90,775				
\$0-\$19,999	110,029	34,629	66,491	63,359	39,672	22,125	91,313	53,153	50,855	34,564				
\$20,000-\$39,999	126,915	64,253	97,885	85,063	62,244	27,008	106,879	54,073	41,630	36,181				
\$40,000 or more	313,304	118,425	187,747	152,582	130,158	42,000	168,232	97,210	73,414	52,305				
Debt-to-Asset Ratio														
0-40 percent	254,333	73,859	125,147	114,598	116,737	15,614	73,254	33,588	28,281	31,166				
41-70 percent	177,921	53,592	108,656	99,755	92,264	46,277	159,491	91,794	76,232	61,395				
71 percent or more	111,079	34,629	59,376	73,262	60,758	44,337	141,662	77,037	90,801	69,523				
Farmer Age														
34 years or younger	129,517	38,791	73,955	80,515	74,684	19,804	106,973	46,834	49,837	36,444				
35-44 years	202,707	64,852	118,549	117,883	103,598	37,025	147,100	70,121	70,063	50,214				
45 years or older	165,763	52,849	92,968	93,763	93,854	34,620	116,939	71,035	56,520	52,907				

*Data for 1993 and 1994 were for "East" North Dakota which included some farms that are not in the Red River Valley region.

TABLE 3. LIQUIDITY MEASURES, QUARTILE VALUES FOR 1995, MEDIAN VALUES FOR 1993 AND 1994, NORTH DAKOTA FARM BUSINESS MANAGEMENT EDUCATION PROGRAM PARTICIPANTS.

Farm Group	1995			1994 Median	1993 Median	1995			1994 Median	1993 Median	
	Upper Quartile	Lower Quartile	Median			Upper Quartile	Lower Quartile	Median			
All Farms Region	2.3	0.9	1.3	1.4	1.5	Working Capital(\$)					33,387
Red River Valley*	2.0	0.9	1.2	1.2	1.2	71,207	-10,086	18,984	27,598	33,387	33,387
North Central	2.8	0.9	1.5	2.0	1.8	99,771	-7,279	32,034	24,458	23,665	23,665
South Central	1.8	0.7	1.1	1.2	1.5	77,017	-7,941	22,151	43,017	38,495	38,495
West	2.8	1.0	1.4	1.7	1.9	42,992	-18,337	6,422	20,597	32,794	32,794
Farm Enterprise						80,055	1,301	35,951	39,677	50,807	50,807
Crop	2.5	0.8	1.3	1.4	1.6	88,829	-10,821	32,034	33,149	34,369	34,369
Livestock	1.9	0.8	1.1	1.4	1.5	39,871	-10,185	7,429	19,276	36,317	36,317
Mixed	1.8	0.9	1.3	1.3	1.4	52,868	-2,884	17,656	20,048	25,717	25,717
Farm Sales											
\$99,999 or less	2.3	0.7	1.3	1.5	1.4	23,827	-8,028	7,085	19,505	15,571	15,571
\$100,000-\$249,999	2.1	0.8	1.2	1.5	1.7	64,168	-11,040	20,068	26,928	39,857	39,857
\$250,000 or over	2.6	0.9	1.4	1.4	1.5	175,485	-9,443	67,607	73,245	66,388	66,388
Farm Size											
1,200 acres or less	2.2	0.7	1.2	1.4	1.4	33,766	-11,318	7,085	18,186	16,695	16,695
1,201 acres or over	2.4	0.9	1.3	1.5	1.7	90,632	-10,086	33,822	38,879	48,779	48,779
Cropland Tenure											
Full tenant	2.6	0.9	1.3	1.3	1.3	51,854	-5,012	10,112	22,868	21,535	21,535
1-20 percent owned	1.7	0.8	1.2	1.2	1.3	58,860	-21,995	18,280	21,262	32,713	32,713
21-40 percent owned	2.0	0.8	1.4	1.6	1.7	108,254	-13,423	42,534	42,918	42,115	42,115
41 percent or over owned	2.6	0.9	1.4	1.7	1.9	80,055	-7,941	20,068	29,997	42,430	42,430
Net Farm Income											
Negative	1.1	0.6	0.8	0.8	0.9	5,412	-35,245	-10,771	-14,126	-7,473	-7,473
\$0-\$19,999	1.7	0.8	1.2	1.1	1.0	35,027	-13,423	8,820	7,795	8,213	8,213
\$20,000-\$39,999	2.5	0.9	1.4	1.6	1.4	55,320	-4,221	22,456	27,595	17,222	17,222
\$40,000 or more	4.2	1.2	1.7	2.0	2.2	155,901	31,904	78,755	72,849	61,634	61,634
Debt-to-Asset Ratio											
0-40 percent	7.0	1.7	3.2	3.1	3.1	178,800	35,974	86,105	76,815	71,042	71,042
41-70 percent	1.5	0.9	1.2	1.4	1.4	49,071	-8,578	16,624	22,084	27,312	27,312
71 percent or more	1.0	0.6	0.8	0.9	0.9	2,666	-38,403	-15,043	-8,511	-5,294	-5,294
Farmer Age											
34 years or younger	3.0	0.9	1.3	1.4	1.4	49,071	-4,221	9,506	21,262	29,873	29,873
35-44 years	2.1	0.9	1.3	1.5	1.7	83,445	-9,264	32,832	37,301	36,317	36,317
45 years or older	2.1	0.8	1.2	1.4	1.4	66,389	-14,545	17,451	25,611	35,372	35,372

*Data for 1993 and 1994 were for "East" North Dakota which included some farms that are not in the Red River Valley region.

TABLE 4. TOTAL ASSETS AND TOTAL LIABILITIES, QUARTILE VALUES FOR 1995, MEDIAN VALUES FOR 1993 AND 1994, NORTH DAKOTA FARM BUSINESS MANAGEMENT EDUCATION PROGRAM PARTICIPANTS

Farm Group	1995				1995				Total Farm Liabilities(\$)
	Upper Quartile	Lower Quartile	Median	1993 Median	Upper Quartile	Lower Quartile	Median	1994 Median	
All Farms	692,686	293,097	438,289	409,839	118,460	327,675	225,793	201,037	178,509
Region									
Red River Valley*	912,389	367,229	631,888	459,642	178,559	462,656	276,831	254,985	206,958
North Central	624,203	287,426	387,133	344,742	96,437	266,796	172,274	150,871	146,988
South Central	608,937	239,249	398,423	403,989	116,305	321,950	228,127	210,598	195,205
West	703,886	306,855	445,350	422,735	106,975	337,525	215,661	200,486	189,001
Farm Enterprise									
Crop	735,606	316,936	476,350	411,637	117,662	329,279	225,861	206,000	175,470
Livestock	533,273	263,148	388,618	414,860	124,257	308,839	224,552	200,486	197,819
Mixed	646,468	231,741	383,432	389,195	122,552	323,764	242,295	164,014	150,503
Farm Sales									
\$99,999 or less	333,228	142,999	244,335	217,301	57,427	223,082	122,925	108,089	86,146
\$100,000-\$249,999	600,011	322,804	436,671	413,614	128,996	298,070	224,552	208,911	178,917
\$250,000 or over	1,089,774	608,937	810,458	725,920	233,024	495,006	354,220	334,666	297,519
Farm Size									
1,200 acres or less	432,345	163,681	291,635	286,184	76,391	248,565	163,385	151,299	130,441
1,201 acres or over	789,780	355,685	528,231	489,825	135,578	359,222	254,365	226,071	205,866
Cropland Tenure									
Full tenant	466,908	143,411	285,465	207,892	52,100	247,328	128,130	132,692	98,028
1-20 percent owned	676,694	291,921	408,936	364,802	122,086	352,261	233,540	210,105	182,093
21-40 percent owned	728,917	378,879	522,952	465,993	158,290	340,211	255,021	248,565	226,161
41 percent or over owned	785,574	336,773	518,368	496,044	134,535	330,138	237,886	212,186	199,234
Net Farm Income									
Negative	477,542	197,793	328,333	368,075	135,578	330,138	237,657	264,255	237,381
\$0-\$19,999	518,368	174,431	333,228	279,651	77,029	298,070	170,094	165,825	143,029
\$20,000-\$39,999	583,224	298,981	379,101	319,904	125,612	298,223	209,426	170,410	154,241
\$40,000 or more	969,826	444,809	662,061	532,453	128,996	362,177	239,166	213,130	184,685
Debt-to-Asset Ratio									
0-40 percent	840,812	321,607	533,273	478,960	42,000	194,969	100,375	107,176	100,104
41-70 percent	703,886	309,236	490,970	414,931	171,699	379,608	265,277	240,457	229,212
71 percent or more	447,942	201,754	326,595	301,211	203,106	373,740	272,332	274,983	239,972
Farmer Age									
34 years or younger	440,154	163,196	319,704	288,422	66,117	259,519	160,642	168,891	144,435
35-44 years	725,894	314,666	493,364	424,325	129,140	350,739	239,209	210,598	191,462
45 years or older	749,317	330,912	490,188	517,844	128,516	337,170	236,824	218,616	201,048

*Data for 1993 and 1994 were for "East" North Dakota which included some farms that are not in the Red River Valley region.
TABLE 5. SOLVENCY MEASURES, QUARTILE VALUES FOR 1995, MEDIAN VALUES FOR 1993 AND 1994, NORTH DAKOTA FARM BUSINESS MANAGEMENT EDUCATION PROGRAM PARTICIPANTS

Farm Group	1995			1995			1995			1993			1994			1993			1994							
	Upper Quartile	Lower Quartile	Median	Upper Quartile	Lower Quartile	Median	Upper Quartile	Lower Quartile	Median	Upper Quartile	Lower Quartile	Median	Upper Quartile	Lower Quartile	Median	Upper Quartile	Lower Quartile	Median	Upper Quartile	Lower Quartile	Median					
All Farms	31.9	69.3	51.5	49.8	46.4	Debt-to-Asset (%)						68.1	30.7	48.5	50.2	53.6	Debt-to-Equity									
Region																										
Red River Valley*	37.5	68.3	52.9	53.4	49.7	Equity-to-Asset (%)						62.5	31.7	47.1	46.6	50.3	Debt-to-Equity									
North Central	28.8	61.8	45.4	41.3	43.7																					
South Central	34.4	74.3	56.0	51.4	46.9																					
West	33.5	67.8	49.8	48.7	43.6																					
Farm Enterprise																										
Crop	29.1	66.5	49.2	47.9	44.5																					
Livestock	37.8	74.4	56.5	52.8	50.9																					
Mixed	44.5	75.8	57.4	50.2	47.7																					
Farm Sales																										
\$99,999 or less	32.8	74.4	55.9	52.3	47.4																					
\$100,000-\$249,999	33.4	70.7	51.3	48.9	45.3																					
\$250,000 or over	29.6	65.4	49.1	50.1	46.0																					
Farm Size																										
1,200 acres or less	35.6	72.6	55.4	53.8	47.5																					
1,201 acres or over	31.1	67.5	50.4	47.5	45.3																					
Cropland Tenure																										
Full tenant	24.6	68.3	49.0	53.8	48.8																					
1-20 percent owned	36.4	74.4	59.0	52.4	47.4																					
21-40 percent owned	34.5	65.4	49.9	50.7	50.3																					
41 percent or over																										
owned	29.8	67.2	50.4	44.1	42.8																					
Net Farm Income																										
Negative	53.4	89.0	70.7	63.3	62.1																					
\$0-\$19,999	29.7	72.0	54.4	55.7	52.3																					
\$20,000-\$39,999	38.9	68.3	53.9	47.4	51.3																					
\$40,000 or more	23.3	55.6	40.6	42.9	39.6																					
Debt-to-Asset Ratio																										
0-40 percent	--	--	--	--	--																					
41-70 percent	--	--	--	--	--																					
71 percent	--	--	--	--	--																					
Farmer Age																										
34 years or younger	31.7	72.8	56.5	55.9	50.2																					
35-44 years	34.4	67.9	51.6	49.7	47.4																					
45 years or older	29.8	68.7	49.9	44.4	43.8																					

*Data for 1993 and 1994 were for "East" North Dakota which included some farms that are not in the Red River Valley region.

TABLE 6. RATE OF RETURN ON ASSETS AND RATE OF RETURN ON EQUITY PROFITABILITY MEASURES, QUARTILE VALUES FOR 1995, MEDIAN VALUES FOR 1993 AND 1994, NORTH DAKOTA PARTICIPANTS

Farm Group	1995			1993 Median	1994			1993 Median	1995			1994 Median	1993 Median
	Upper Quartile	Lower Quartile	Median		Upper Quartile	Lower Quartile	Median		Upper Quartile	Lower Quartile	Median		
All Farms	11.2	-1.0	4.7	6.4	8.6	4.7	6.4	8.6	13.7	-9.1	2.2	5.8	10.1
Region													
Red River Valley*	14.7	3.6	8.5	8.3	4.6	8.5	8.3	4.6	21.7	0.0	8.6	10.9	2.1
North Central	10.4	-0.7	4.8	8.6	8.6	4.8	8.6	8.6	12.7	-4.0	3.1	10.0	10.3
South Central	8.1	-4.0	2.1	4.1	9.6	2.1	4.1	9.6	9.3	-20.1	-1.4	1.1	10.8
West	10.7	0.5	4.5	5.2	11.3	4.5	5.2	11.3	12.1	-5.7	3.2	3.2	13.9
Farm Enterprise													
Crop	13.1	1.5	7.0	8.3	8.8	7.0	8.3	8.8	17.0	-2.6	6.6	10.0	10.1
Livestock	4.8	-3.6	0.5	4.1	8.4	0.5	4.1	8.4	2.4	-21.8	-3.4	0.5	10.4
Mixed	6.8	-4.0	3.1	4.3	8.9	3.1	4.3	8.9	6.1	-15.6	-1.2	1.3	9.8
Farm Sales													
\$99,999 or less	3.7	-8.0	-1.6	2.3	5.1	-1.6	2.3	5.1	0.0	-28.6	-7.3	0.0	2.7
\$100,000-\$249,999	11.4	-0.2	5.2	7.0	9.6	5.2	7.0	9.6	13.5	-6.2	2.9	6.2	11.4
\$250,000 or over	14.5	5.1	9.0	9.1	9.6	9.0	9.1	9.6	20.1	2.6	9.3	11.4	10.7
Farm Size													
1,200 acres or less	7.6	-3.2	2.8	4.5	6.7	2.8	4.5	6.7	5.6	-19.7	-0.7	1.6	5.3
1,201 acres or over	12.2	0.1	6.1	7.3	9.6	6.1	7.3	9.6	16.1	-4.6	4.8	7.2	11.4
Cropland Tenure													
Full tenant	14.0	-8.0	3.4	4.9	7.9	3.4	4.9	7.9	18.5	-22.0	0.0	3.2	6.8
1-20 percent owned	12.9	0.5	6.4	11.1	11.0	6.4	11.1	11.0	16.8	-7.7	4.4	13.2	12.9
21-40 percent owned	13.1	2.9	7.7	8.1	8.5	7.7	8.1	8.5	17.5	-1.6	8.5	8.4	9.4
41 percent or over owned	7.6	-1.0	3.7	5.1	8.3	3.7	5.1	8.3	7.9	-8.6	0.0	3.1	9.4
Net Farm Income													
Negative	-2.7	-13.7	-6.5	-3.7	-7.2	-6.5	-3.7	-7.2	-11.8	-49.7	-25.7	-19.5	-22.2
\$0-\$19,999	3.6	-0.9	1.3	0.9	1.3	1.3	0.9	1.3	-1.1	-10.0	-3.4	-4.4	-3.6
\$20,000-\$39,999	8.1	4.0	5.5	6.5	6.8	5.5	6.5	6.8	9.2	2.1	3.5	5.1	4.6
\$40,000 or more	17.6	8.9	12.4	13.2	13.7	12.4	13.2	13.7	28.3	9.3	16.1	18.2	20.1
Debt-to-Asset Ratio													
0-40 percent	12.2	0.8	6.3	7.1	9.6	6.3	7.1	9.6	13.6	-0.8	6.4	7.3	10.8
41-70 percent	12.2	0.5	5.7	7.5	8.5	5.7	7.5	8.5	17.8	-7.4	3.5	7.7	10.3
71 percent or more	5.8	-8.0	-0.1	4.6	4.8	-0.1	4.6	4.8	0.1	-51.8	-9.2	0.0	-2.8
Farmer Age													
34 years or younger	12.2	-2.7	4.4	9.2	10.8	4.4	9.2	10.8	14.9	-19.7	1.7	11.1	12.9
35-44 years	13.1	0.2	6.2	7.8	9.7	6.2	7.8	9.7	17.0	-3.2	6.0	7.9	12.4
45 years or older	8.1	-2.1	3.6	4.3	7.0	3.6	4.3	7.0	8.5	-11.8	0.0	1.9	6.2

*Data for 1993 and 1994 were for "East" North Dakota which included some farms that are not in the Red River Valley region.

TABLE 7. OPERATING PROFIT MARGIN AND NET FARM INCOME PROFITABILITY MEASURES, QUARTILE VALUES FOR 1995, MEDIAN VALUES FOR 1993 AND 1994, NORTH DAKOTA FARM

Farm Group	1995			1993 Median	1995			1994 Median	1995		
	Upper Quartile	Lower Quartile	Median		Upper Quartile	Lower Quartile	Median		Upper Quartile	Lower Quartile	Median
All Farms	26.1	-3.8	14.5	17.9	23.7	61,292	3,172	23,463	32,523	42,484	
Region											
Red River Valley*	26.8	9.1	17.8	17.4	10.6	92,262	13,440	52,182	40,170	21,675	
North Central	25.4	-3.9	15.5	22.8	26.8	56,777	7,949	26,297	41,375	46,138	
South Central	21.6	-13.6	7.5	11.0	23.2	42,057	-7,342	11,844	18,568	43,001	
West	29.7	-1.5	19.4	21.1	35.1	54,883	9,275	27,589	28,738	50,827	
Farm Enterprise											
Crop	26.8	3.9	17.0	19.7	20.7	75,853	11,060	37,971	40,312	43,540	
Livestock	23.7	-22.8	2.8	17.0	31.1	23,557	-6,276	8,094	18,568	40,460	
Mixed	22.0	-16.6	10.7	12.9	26.9	28,657	-11,176	12,538	20,321	41,709	
Farm Sales											
\$99,999 or less	13.7	-35.5	-4.9	10.7	14.4	16,163	-7,538	7,226	16,611	21,492	
\$100,000-\$249,999	27.3	0.4	15.5	18.3	27.2	54,857	5,748	27,924	33,970	48,939	
\$250,000 or over	27.6	13.3	20.7	22.2	21.2	123,579	30,874	71,688	73,021	61,297	
Farm Size											
1,200 acres or less	20.0	-10.4	9.1	13.3	15.9	29,533	-389	13,007	19,509	22,871	
1,201 acres or over	27.0	0.8	17.1	20.4	27.0	74,997	6,390	34,253	41,122	52,268	
Cropland Tenure											
Full tenant	20.4	-14.3	5.9	9.8	15.5	56,210	-2,421	15,683	22,034	23,436	
1-20 percent owned	22.1	2.0	14.0	20.9	20.5	66,860	6,161	30,874	43,979	49,571	
21-40 percent owned	27.3	7.9	19.8	21.0	20.9	68,419	12,963	44,811	39,705	43,601	
41 percent or over owned	28.1	-4.9	15.7	22.3	30.9	50,482	-440	18,638	28,738	46,961	
Net Farm Income											
Negative	-10.8	-53.9	-23.9	-13.1	-14.0	--	--	--	--	--	
\$0-\$19,999	11.3	-3.9	4.3	2.8	3.9	--	--	--	--	--	
\$20,000-\$39,999	20.1	12.0	16.0	17.9	17.6	--	--	--	--	--	
\$40,000 or more	35.5	21.7	27.3	30.5	34.3	--	--	--	--	--	
Debt-to-Asset Ratio											
0-40 percent	28.6	3.1	19.4	22.8	28.2	89,187	14,201	45,692	42,715	56,767	
41-70 percent	26.8	2.0	16.3	17.8	22.8	62,573	6,390	26,172	32,910	39,394	
71 percent or more	14.5	-22.4	-0.3	8.8	11.8	20,070	-16,835	2,110	12,574	17,304	
Farmer Age											
34 years or younger	24.3	-4.7	12.3	19.2	23.1	51,727	5,748	18,655	34,379	40,083	
35-44 years	27.3	0.4	16.3	19.0	25.2	71,688	7,949	33,195	37,001	48,545	
45 years or older	25.5	-10.1	13.3	16.4	24.5	53,730	-4,892	15,417	28,519	36,795	

*Data for 1993 and 1994 were for "East" North Dakota which included some farms that are not in the Red River Valley region.

TABLE 8. REPAYMENT CAPACITY MEASURES, QUARTILE VALUES FOR 1995, MEDIAN VALUES FOR 1993 AND 1994, NORTH DAKOTA FARM BUSINESS MANAGEMENT EDUCATION PROGRAM

Farm Group	1995			1994 Median	1993 Median	1995			1994 Median	1993 Median
	Upper Quartile	Lower Quartile	Median			Upper Quartile	Lower Quartile	Median		
All Farms	2.1	0.2	1.1	1.3	1.9	28,765	-19,980	1,652	7,069	17,634
Region										
Red River Valley*	2.9	0.4	1.5	1.5	0.8	50,400	-19,980	17,375	12,449	-5,226
North Central	2.0	0.2	1.0	1.9	2.7	22,103	-16,627	-530	15,355	20,874
South Central	2.2	0.0	0.8	0.9	1.9	18,100	-29,955	-7,003	-2,046	20,427
West	2.1	0.5	1.1	1.0	2.0	21,816	-13,109	2,932	614	23,340
Farm Enterprise										
Crop	3.0	0.4	1.3	1.6	1.9	40,398	-14,479	8,892	13,346	17,871
Livestock	1.5	0.1	0.6	0.8	1.9	8,618	-24,775	-8,115	-3,604	17,373
Mixed	1.6	0.1	1.0	1.2	1.8	17,927	-30,409	57	5,083	17,603
Farm Sales										
\$99,999 or less	2.0	0.1	0.8	1.2	2.2	9,784	-17,349	-3,828	4,316	12,441
\$100,000-\$249,999	1.9	0.2	1.0	1.3	1.9	21,632	-23,523	-530	5,775	21,062
\$250,000 or over	3.2	0.5	1.7	1.5	1.5	82,559	-17,640	32,617	21,564	20,240
Farm Size										
1,200 acres or less	2.6	0.3	1.1	1.2	1.6	17,927	-13,825	1,894	4,212	5,741
1,201 acres or over	2.3	0.2	1.0	1.4	1.9	36,910	-24,869	1,144	10,347	21,853
Cropland Tenure										
Full tenant	2.9	0.0	1.0	1.2	1.5	21,447	-19,980	228	3,132	5,185
1-20 percent owned	2.3	0.0	1.0	1.6	1.8	31,234	-27,889	-407	16,614	16,212
21-40 percent owned	2.7	0.4	1.4	1.5	1.9	38,224	-12,939	12,117	11,347	19,343
41 percent or over owned	2.0	0.3	1.0	1.2	1.9	20,832	-19,422	423	4,212	20,418
Net Farm Income										
Negative	0.4	-0.6	0.0	-0.1	0.1	-14,149	-51,021	-30,409	-31,705	-40,704
\$0-\$19,999	1.6	0.2	0.8	0.4	1.0	6,310	-19,422	-4,067	-8,444	1,130
\$20,000-\$39,999	2.1	0.7	1.2	1.3	1.4	18,690	-7,914	5,499	7,638	7,230
\$40,000 or more	3.9	1.3	2.3	2.3	2.6	78,873	12,486	38,837	31,970	36,983
Debt-to-Asset Ratio										
0-40 percent	5.2	0.9	2.4	2.1	3.6	57,926	-1,465	18,690	16,664	30,543
41-70 percent	1.8	0.4	1.1	1.3	1.4	24,479	-17,203	2,838	7,069	12,575
71 percent or more	1.0	-0.4	0.2	0.4	1.1	-1,087	-44,559	-20,780	-12,173	4,256
Farmer Age										
34 years or younger	2.9	0.3	1.1	1.5	2.1	15,336	-16,101	1,700	12,200	14,819
35-44 years	2.7	0.5	1.2	1.4	1.9	37,258	-13,533	9,784	7,565	20,427
45 years or older	1.9	0.0	0.8	1.2	1.5	21,632	-29,819	-4,734	3,132	16,247

*Data for 1993 and 1994 were for "East" North Dakota which included some farms that are not in the Red River Valley region.

TABLE 9. ASSET TURNOVER AND OPERATING EXPENSE AND DEPRECIATION EXPENSE EFFICIENCY MEASURES (AS A PERCENTAGE OF GROSS FARM INCOME), QUARTILE VALUES FOR 1993, 1994, AND 1995
MANAGEMENT EDUCATION PROGRAM PARTICIPANTS

Farm Group	1995			1994			1993			1995			1994			1993		
	Upper Quartile	Lower Quartile	Median	Upper Quartile	Lower Quartile	Median	Upper Quartile	Lower Quartile	Median	Upper Quartile	Lower Quartile	Median	Upper Quartile	Lower Quartile	Median	Upper Quartile	Lower Quartile	Median
All Farms	.55	.24	.36	.55	.24	.36	.55	.24	.36	.55	.24	.36	.55	.24	.36	.55	.24	.36
Red River Valley*	.70	.35	.48	.70	.35	.48	.70	.35	.48	.70	.35	.48	.70	.35	.48	.70	.35	.48
North Central	.49	.21	.36	.49	.21	.36	.49	.21	.36	.49	.21	.36	.49	.21	.36	.49	.21	.36
South Central	.57	.20	.35	.57	.20	.35	.57	.20	.35	.57	.20	.35	.57	.20	.35	.57	.20	.35
West	.39	.21	.28	.39	.21	.28	.39	.21	.28	.39	.21	.28	.39	.21	.28	.39	.21	.28
Farm Enterprise	.63	.32	.45	.63	.32	.45	.63	.32	.45	.63	.32	.45	.63	.32	.45	.63	.32	.45
Crop	.31	.14	.21	.31	.14	.21	.31	.14	.21	.31	.14	.21	.31	.14	.21	.31	.14	.21
Livestock	.43	.19	.29	.43	.19	.29	.43	.19	.29	.43	.19	.29	.43	.19	.29	.43	.19	.29
Mixed	.38	.16	.24	.38	.16	.24	.38	.16	.24	.38	.16	.24	.38	.16	.24	.38	.16	.24
Farm Sales	.54	.27	.37	.54	.27	.37	.54	.27	.37	.54	.27	.37	.54	.27	.37	.54	.27	.37
\$99,999 or less	.64	.34	.46	.64	.34	.46	.64	.34	.46	.64	.34	.46	.64	.34	.46	.64	.34	.46
\$100,000-\$249,999	.55	.21	.34	.55	.21	.34	.55	.21	.34	.55	.21	.34	.55	.21	.34	.55	.21	.34
\$250,000 or over	.55	.26	.37	.55	.26	.37	.55	.26	.37	.55	.26	.37	.55	.26	.37	.55	.26	.37
Farm Size	.83	.37	.61	.83	.37	.61	.83	.37	.61	.83	.37	.61	.83	.37	.61	.83	.37	.61
1,200 acres or less	.65	.37	.50	.65	.37	.50	.65	.37	.50	.65	.37	.50	.65	.37	.50	.65	.37	.50
1,201 acres or over	.52	.32	.41	.52	.32	.41	.52	.32	.41	.52	.32	.41	.52	.32	.41	.52	.32	.41
Cropland Tenure	.32	.17	.24	.32	.17	.24	.32	.17	.24	.32	.17	.24	.32	.17	.24	.32	.17	.24
Full tenant	.42	.16	.26	.42	.16	.26	.42	.16	.26	.42	.16	.26	.42	.16	.26	.42	.16	.26
1-20 percent owned	.65	.37	.50	.65	.37	.50	.65	.37	.50	.65	.37	.50	.65	.37	.50	.65	.37	.50
21-40 percent owned	.52	.32	.41	.52	.32	.41	.52	.32	.41	.52	.32	.41	.52	.32	.41	.52	.32	.41
41 percent or over owned	.32	.17	.24	.32	.17	.24	.32	.17	.24	.32	.17	.24	.32	.17	.24	.32	.17	.24
Net Farm Income	.46	.22	.33	.46	.22	.33	.46	.22	.33	.46	.22	.33	.46	.22	.33	.46	.22	.33
Negative	.56	.20	.30	.56	.20	.30	.56	.20	.30	.56	.20	.30	.56	.20	.30	.56	.20	.30
\$0-\$19,999	.52	.26	.38	.52	.26	.38	.52	.26	.38	.52	.26	.38	.52	.26	.38	.52	.26	.38
\$20,000-\$39,999	.62	.34	.44	.62	.34	.44	.62	.34	.44	.62	.34	.44	.62	.34	.44	.62	.34	.44
\$40,000 or more	.46	.22	.33	.46	.22	.33	.46	.22	.33	.46	.22	.33	.46	.22	.33	.46	.22	.33
Debt-to-Asset Ratio	.55	.25	.39	.55	.25	.39	.55	.25	.39	.55	.25	.39	.55	.25	.39	.55	.25	.39
0-40 percent	.59	.23	.38	.59	.23	.38	.59	.23	.38	.59	.23	.38	.59	.23	.38	.59	.23	.38
41-70 percent	.65	.32	.48	.65	.32	.48	.65	.32	.48	.65	.32	.48	.65	.32	.48	.65	.32	.48
71 percent or more	.57	.28	.38	.57	.28	.38	.57	.28	.38	.57	.28	.38	.57	.28	.38	.57	.28	.38
Farmer Age	.44	.17	.29	.44	.17	.29	.44	.17	.29	.44	.17	.29	.44	.17	.29	.44	.17	.29
34 years or younger	.65	.32	.48	.65	.32	.48	.65	.32	.48	.65	.32	.48	.65	.32	.48	.65	.32	.48
35-44 years	.57	.28	.38	.57	.28	.38	.57	.28	.38	.57	.28	.38	.57	.28	.38	.57	.28	.38
45 years or older	.44	.17	.29	.44	.17	.29	.44	.17	.29	.44	.17	.29	.44	.17	.29	.44	.17	.29

*Data for 1993 and 1994 were for "East" North Dakota which included some farms that are not in the Red River Valley region.

TABLE 10. INTEREST EXPENSE AND FARM INCOME EFFICIENCY MEASURES (AS A PERCENTAGE OF GROSS FARM INCOME), QUARTILE VALUES FOR 1995, MEDIAN VALUES FOR 1993 AND 1994, NORTH DAKOTA FARM BUSINESS MANAGEMENT EDUCATION PROGRAM PARTICIPANTS

Farm Group	1995			1994			1993			1995		
	Upper Quartile	Lower Quartile	Median	Upper Quartile	Lower Quartile	Median	Upper Quartile	Lower Quartile	Median	Upper Quartile	Lower Quartile	Median
All Farms	4.9	12.9	8.8	7.6	6.9	6.9	27.5	2.2	16.2	21.7	26.6	26.6
Region												
Red River Valley*	4.3	10.5	7.0	6.7	6.0	6.0	26.9	7.2	18.6	18.6	12.7	12.7
North Central	3.7	12.9	8.4	7.4	6.8	6.8	30.2	6.1	19.4	29.0	33.6	33.6
South Central	5.1	13.7	8.9	8.2	6.9	6.9	22.3	-4.8	10.5	16.3	25.3	25.3
West	6.9	15.1	10.3	10.0	7.9	7.9	31.2	7.2	18.3	23.8	35.4	35.4
Farm Enterprise												
Crop	4.0	10.8	7.5	6.8	6.4	6.4	29.2	6.6	19.4	22.5	25.5	25.5
Livestock	7.3	19.9	12.7	10.3	8.5	8.5	19.0	-7.7	6.1	15.9	27.7	27.7
Mixed	6.2	15.0	10.1	8.8	8.1	8.1	23.8	-19.4	8.4	21.7	27.2	27.2
Farm Sales												
\$99,999 or less	6.0	18.9	12.5	8.3	7.1	7.1	24.7	-11.8	11.2	23.4	29.4	29.4
\$100,000-\$249,999	5.4	12.7	8.9	8.7	7.5	7.5	28.9	2.8	16.5	21.3	28.3	28.3
\$250,000 or over	3.6	9.7	6.3	5.9	5.9	5.9	26.1	8.2	18.5	21.7	18.5	18.5
Farm Size												
1,200 acres or less	4.9	13.7	9.2	8.2	6.7	6.7	24.8	-0.8	14.8	21.9	25.3	25.3
1,201 acres or over	4.8	12.7	8.5	7.2	6.9	6.9	27.9	3.2	17.0	21.7	27.3	27.3
Cropland Tenure												
Full tenant	2.5	9.3	5.5	5.1	4.5	4.5	26.0	-2.5	13.7	16.5	21.8	21.8
1-20 percent owned	5.0	10.1	7.5	6.5	6.0	6.0	25.9	2.8	16.8	23.8	21.8	21.8
21-40 percent owned	5.6	11.2	8.8	8.5	7.7	7.7	28.0	8.4	18.7	22.5	22.1	22.1
41 percent or over owned	6.8	17.1	11.4	10.6	8.6	8.6	29.1	-0.8	15.1	23.1	32.5	32.5
Net Farm Income												
Negative	9.2	21.3	13.7	12.9	9.1	9.1	-5.1	-32.3	-15.8	-8.3	-9.7	-9.7
\$0-\$19,999	5.6	14.0	9.7	9.6	8.6	8.6	15.5	3.8	9.2	9.6	10.8	10.8
\$20,000-\$39,999	5.5	12.9	8.6	8.8	8.2	8.2	25.7	13.6	17.8	22.6	24.0	24.0
\$40,000 or more	3.2	8.9	6.0	5.5	6.2	6.2	36.7	22.2	28.0	32.4	35.1	35.1
Debt-to-Asset Ratio												
0-40 percent	1.6	7.5	4.0	4.5	4.5	4.5	34.7	15.3	24.6	29.1	34.7	34.7
41-70 percent	6.5	13.8	9.2	9.1	8.5	8.5	26.1	3.2	16.4	18.9	21.5	21.5
71 percent or more	9.1	17.2	12.1	11.0	9.2	9.2	12.0	-14.2	1.8	10.5	15.1	15.1
Farmer Age												
34 years or younger	3.7	12.2	7.3	6.1	6.0	6.0	28.5	4.4	19.1	22.7	27.2	27.2
35-44 years	4.4	12.1	8.0	7.8	7.2	7.2	28.7	5.2	16.8	22.2	27.3	27.3
45 years or older	5.9	15.1	10.1	9.3	8.3	8.3	25.6	-3.8	12.7	16.6	24.3	24.3

*Data for 1993 and 1994 were for "East" North Dakota which included some farms that are not in the Red River Valley region.