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Financial Characteristics of North Dakota Farms 2002-2011

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Abstract

The performance of over 500 North Dakota farms, 2002-2011, 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. Five-year averages, 2006-2010, are also presented. In 2011, median and average acreage per farm was 1,968 and 2,619, respectively. Median and average cash farm revenue was $569,268 and $757,134, respectively. Over 70% of farms were crop farms and 54 percent of farms had gross sales exceeding $500,000. Median age of farm operators was 47.

Median net farm income in 2011 was $144,414, second highest in the past 10 years, down from $174,010 in 2010. Financial measures for 2011, 2010, 2008 and 2007 were much superior to those in other years for the 2002-2011 period. The Red River Valley and crop farms typically had stronger profitability, solvency, and repayment capacity from 2002 to 2011 than other regions and farm types, respectively. Exceptions were 2007 and 2009 when the north central region had the best regional performance and 2005 when the south central region and livestock farms had better performance. The 2011 median net farm income was $185,822 for crop farms and $61,244 for livestock farms.

Farms with sales less than $500,000 were over three times as likely to have debt-to-asset higher than 70 percent as farms with sales greater than $500,000. Farms that own some crop land, but less than 40 percent of the land they operate were more likely to be crop farms, farm more acreage, have larger sales, and be more profitable. As expected, solvency and percent of crop land owned increased with farmer age. Median net farm income as a percent of gross revenue was the highest of the decade in 2010, 33.1 percent, and the lowest in 2009, 13.4 percent. It was 27.5 percent in 2010, 24 percent in 2008 and 30.6 percent in 2007 after ranging from 22.4 to 14 percent between 2002 and 2006

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:

❶ **Past performance**. The progress of a business can be monitored by constructing financial measures on a periodic basis and comparing present to past performance.

❷ **Industry benchmarks**. The average or median of a financial measure from several similar businesses provides a good point of reference. 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), which was formed by the American Bankers Association in 1989, has provided recommendations of standards for financial statement construction and the calculation measures of financial performance. Sixteen of these measures are the basis for the benchmarks presented in this publication. The Appendix has an explanation of the financial measures used in this study.

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. Table 1 lists the median operator age, farm size and selected financial factors, 2002-2011. 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

About 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 2002-2011, the financial summaries of over 500 farms each year were considered usable for this study.

About 85 percent of the total farms repeat from one year to the next. Annual turnover occurs from changes in farm management program enrollment and the level of farms completing their records by a cutoff date.

The farms in this study are larger and the age of the farm operators younger than the state average. In 2011, there were 31,900 farms in North Dakota with agricultural production of at least $1,000. Only 4,600, or 14%, had gross receipts greater than $500,000, whereas 54% of the 551 farms in this study exceed that sales volume (median gross sales was $569,268). 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 45 compared to 57 for the state average.

INTERPRETATION OF RESULTS

Each financial measure was calculated for each farm. Refer to the Appendix for definitions of the financial measures and an explanation of asset valuation and accrual adjustments.

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 this study for benchmarks 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 crop land. This study 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 50%, which is worse than the median value of 39.6% (shown on table 6) for the crop 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 2011, there are only 69 mixed livestock-crop enterprise farms, 85 livestock farms, 86 farms with 70 percent or greater debt-to-assets, and 95 farms in the West region.

Performance of the Red River Valley region may not be representative of the central or northern areas of the Red River Valley because nearly all valley farms in the study are from the south. Also since 2003, there was a lack of farms in the northern portion of the west region. Lastly, the livestock farm type is dominated by the beef cow-calf enterprise.

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, the 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 $250,000 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 2,000 acres, and farms with gross income greater than $500,000.

Table 1 shows the 10-year trends in financial performance and farm characteristics. Table 2 lists the farm characteristics and percentage distribution for 2011 and the breakout of these characteristics by region of North Dakota. Tables 3 through 11 display the median and quartiles of 16 financial measures by farm characteristics. Figures 1 through 16 display relationships between selected farm characteristics and financial measures. A summary of highlights by farm characteristics is also presented.

TABLE 1. MEDIAN FARM SIZE, FARM OPERATOR AGE, AND FINANCIAL FACTORS OF FARMS PARTICIPATING IN THE NORTH DAKOTA FARM BUSINESS MANAGEMENT EDUCATION PROGRAM, 2002-2011.

	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002
Number of Farms	551	543	537	532	531	509	520	522	513	513
	----------	----------	----------	----------	Median	----------	----------	----------	----------	----------
Age of Operator	48	47	47	47	47	46	46	46	45	44
Farm Size (acres)	1,968	2,010	1,995	2,001	2,000	1,966	1,998	2,002	1,995	2,033
Gross Cash Revenue	569,268	469,023	430,321	464,464	353,252	281,751	281,667	265,524	247,757	220,781
Total Farm Assets	1,171,781	1,124,263	1,019,147	995,609	810,426	688,802	684,181	652,575	612,437	575,606
Total Farm Liabilities	442,159	441,482	444,169	419,979	371,180	348,102	338,657	323,805	305,268	284,828
Current Ratio	2.0	1.9	1.4	1.8	1.7	1.2	1.2	1.3	1.4	1.3
Working Capital	157,751	151,933	72,683	128,854	103,063	20,660	27,812	35,264	39,712	29,099
Debt-to-asset (%)	43.7	46.7	51.2	48.4	50.0	57.5	54.8	54.3	54.3	53.3
Rate of Return on Farm Assets (%)	10.5	14.9	4.0	10.6	15.7	4.7	4.9	6.1	7.0	5.7
Rate of Return on Farm Equity (%)	15.4	23.6	3.0	15.8	25.3	2.4	4.3	6.7	8.4	4.4
Operating Profit Margin (%)	24.0	29.8	9.7	20.8	29.3	12.2	12.9	15.1	17.4	14.5
Net Farm Income	144,414	174,010	47,547	114,520	127,791	35,980	42,286	44,912	49,181	38,079
Term Debt Coverage Ratio	2.86	3.7	1.2	2.7	3.3	1.2	1.3	1.5	1.6	1.3
Term Debt & Capital Repayment Margin ($)	90,286	119,428	6,360	67,276	86,825	5,378	10,110	18,752	21,012	10,628
Asset Turnover Ratio	.45	.48	.40	.52	.56	.38	.39	.40	.42	.37
Operating Expense Ratio (%)	62.7	57.5	75.6	66.9	58.2	72.5	71.1	69.2	66.8	68.8
Depreciation Expense Ratio (%)	4.8	4.2	5.2	4.1	4.3	5.6	6.0	6.0	5.9	5.6
Interest Expense Ratio (%)	3.4	3.7	4.9	4.4	5.2	7.2	6.0	5.6	5.6	6.6
Net Farm Income Ratio (%)	27.5	33.1	13.4	24.2	30.6	14.2	16.0	18.6	19.6	17.3

FARM CLASSIFICATION AND HIGHLIGHTS

ALL FARMS

Highlights

- Some general trends over the past ten years, 2002-2011, for farms enrolled in the North Dakota Farm Business Management Education Program are:
  - acreage has been relatively stable, but farms are getting larger as measured by median gross revenue which more than doubled, and by median farm assets and liabilities, which increased 104% and 55%, to $1,171,781 and $442,159, respectively.
  - farmers are getting older; the median age increased from 44 to 47.

- Median net farm income was $144,414 in 2011, the second highest in the 2002-2011 period, after $174,010 in 2010. Below average yields and record high costs were offset by strong beef prices and high grain prices which provided profitable crop insurance indemnities on the nearly one-fourth of cropland wet weather prevented from planting. In 2010, corn and sugarbeets were record yields and barley, canola, and spring wheat were second highest in history. Grain and livestock prices increased to very high levels and costs were flat to down. Federal disaster payments for the 2008 crop year were determined and paid in 2010.

- In 2009, lower crop prices, high costs and low livestock profit resulted in sharply lower financial performance despite record yields for spring wheat, durum, barley, canola, and field peas.Financial performance in 2007 and 2008, was outstanding because of record high crop prices. From 2002 to 2006 median net farm income ranged between $35,980 and $49,181. In 2006 there was a severe drought in the west and portions of central North Dakota. Profit declined in 2005 from 2004 despite record corn, soybean, sunflower, and flax yields and high cattle prices. Portions of the state, particularly the northeast, had production problems.

- In 2004, poor row crop yields were offset by crop insurance, high spring wheat, canola and field pea yields and strong beef cow-calf profit and flax prices. A good wheat and barley crop, strong crop prices and livestock profit, and disaster aid legislated in 2003, for crop losses that occurred in 2001 and 2002, all contributed to profit in 2003. Profit increased 37% in 2002 from higher prices and lower production costs.

- Median current ratio was highest, 2.0, in 2011, 1.9 in 2010, 1.8 in 2008, and 1.7 in 2007. It was 1.4 in 2009, similar to the 1.2 to 1.4 range from 2002-2006. Median debt-to-asset improved to 43.7% in 2011, the best in the 2002-2011 period, from 46.7% in 2010. It was 51.2% in 2009, 48.4% in 2008, 50% in 2007, and 57.5% in 2006 which was the worst during the past 10 years.

- In 2011, median rates of return on assets and equity decreased to 10.5% and 15.4%, respectively, from 14.9% and 23.6%, respectively, in 2010. Other years in the 2002-2011 period that ROE exceeded ROA, which indicated that debt capital was employed profitably, were 2003, 2004, 2007 and 2008.

- In 2011, 2008 and 2007 median term debt coverage ratio and term debt and capital repayment margin were strong but lower than ten year highs of 3.9 and $119,428, respectively, in 2010. Prior to 2007, the ten year highs were 1.6 and $21,012, respectively, in 2003.

- Interest expense as a percent of gross revenue was lowest in 2011, 3.4%. Since 2006 it has generally improved because of lower interest rates and much stronger gross revenue. It had increased in 2005 and 2006 because of higher debt and interest rates. Median net farm income as a percent of gross revenue was the highest of the decade in 2010, 33.1%, and lowest in 2009, 13.4%. It was 27.5% in 2010, 24.2% in 2008 and 30.6% in 2007 after ranging from 22.4% to 14% between 2002 and 2006.

TABLE 2. FARM CLASSIFICATIONS AND PERCENT DISTRIBUTION OF FARM TYPES WITHIN REGIONS, NORTH DAKOTA FARM BUSINESS MANAGEMENT EDUCATION PROGRAM, 2011.

			Farm Group Category Breakout by Region			
Farm Group Category	Number of Farms (551)	Percentage	Red River Valley	North Central	South Central	West
Region			106	187	163	95
Red River Valley	106	19				
North Central	187	34				
South Central	163	30				
West	95	17				
Farm Enterprise			----------percentage----------			
Crop	397	72	99	79	67	37
Livestock	85	15	1	13	14	39
Mixed	69	13	0	9	18	24
Farm Sales						
$249,999 or less	136	25	13	24	25	38
$250,000 - $499,999	117	21	17	23	21	22
$500,000 - $999,999	163	30	33	33	28	22
$1,000,000 or more	135	25	37	20	26	18
Farm Size						
1,999 acres or less	278	50	77	45	51	31
2,000 acres or more	273	50	23	55	49	69
Cropland Tenure						
Full tenant	128	23	25	24	23	23
1-20 percent owned	103	19	26	21	13	16
21-40 percent owned	150	27	31	24	30	27
41 percent or more owned	159	29	18	30	34	34
Farm Income						
$49,999 or less	116	21	10	20	23	32
$50,000 - $99,999	96	17	16	16	17	22
$100,000 - $199,999	137	25	28	27	22	21
$200,000 or more	202	37	45	36	38	25
Debt-to-asset Ratio						
0 - 40 percent	254	46	52	52	44	31
41 - 70 percent	211	38	42	33	40	42
71 percent or more	86	16	7	15	15	27
Farmer Age						
39 years or younger	183	33	31	35	34	32
40 - 49 years	128	23	20	26	21	25
50 years or older	240	44	49	40	45	43

REGION

Farms are classified in one of four geographic regions 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 Casselton and Wahpeton programs are not in the Red River Valley and are classified as south-central. The southern area of the "west" region is better represented than the northern area. The northern area of the Red River Valley has little representation. Locations of North Dakota Farm Business Management programs that participated in the 2011 summaries are:

Red River Valley: Wahpeton and Fargo
North Central: Bottineau, Devils Lake, Langdon, Minot, and Rugby
South Central: Bismarck, Carrington, and Jamestown
West: Bismarck, Dickinson, Glen Ullin and Williston

Highlights

- In 2011 the median farm size increased from the Red River Valley (1,357 acres, all crop land) to the west region (3,163 acres, including pasture). Median farm size was 2,096 acres (1,745 crop acres) in the north central region and 1,929 acres (1,419 crop acres) for the south central region .

- Several farm characteristics are strongly related to region. Red River Valley farms are more likely to be crop farms and typically have smaller total acreage (crop land and pasture) but larger total farm sales, assets, and liabilities than farms in other regions.

- In 2011, the incidence of livestock and mixed enterprise farms ranged from only 1% in the Red River Valley to 63% in the west.

- The median net farm income for the Red River Valley was $187,156 in 2011. It went from its lowest in the decade, $41,555, in 2009 because of lower crop prices, maturity problems with corn, and low quality wheat, to the highest, $240,087, in 2010. Median net farm income in the north central and south central regions decreased 16% to $147,801 and $142,072, respectively, in 2011, but increased 11% to $95,523 in the west.

- In 2006, the west region had the lowest median net farm income, $689, of any region over the past 10 years. The west had drought in 2006 and 2008 and livestock profit was low in 2006-2009.

- For each region the median current ratio in 2011 was the highest in the 2002-2011 period. It ranged from 2.7 in the Red River Valley to 1.9 in the west region. The five year average, 2006-2010, median current ratio by region ranged from 1.7 to 1.5.

- In 2011, median debt-to-asset for the Red River Valley and central regions were the best in the 2002-2011 period, ranging from 39.2% to 43.4%. The five year average, 2006-2010, median debt-to-asset ranged from 47.6% in the Red River Valley to 56.6% in the west region.

- The median term debt coverage ratio peaked in 2010, ranging from 4.3 in the Red River Valley to 2.9 in the west. It was much stronger 2007, 2008, and 2011 than in 2009 or 2002 to 2006. The five year average, 2006-2010, ranged from 2.9 in the Red River Valley to 1.5 in the west region.

- Median operating expense (all expenses except depreciation and interest) as a percent of gross revenue was good in 2011, but only in 2010 and 2007 have any regions achieved less than 60%. During the past decade only the Red River Valley and the west region had over 80%, in 2009 .

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". The "livestock" farm type is dominated by the beef cow-calf enterprise.

Highlights

- From 2007 to 2011, about 72% of farms were classified as crop, compared to 64% from 2002 to 2006.

- In the west region 63% of farms were classified as livestock or mixed enterprise in 2011, compared to 1% in the Red River Valley, 22% in the north central and 32% in the south central regions.

- In every year, 2002-2011, crop farms were larger than livestock and mixed enterprise farms as measured by median total assets, total liabilities, and gross income. The only year median net farm income of both livestock and mixed enterprise farms exceeded that of crop farms was 2005.

- The best performance, by farm type, for every financial measure over the 2002-2011 period was achieved by crop farms, either in 2011, 2010 or 2007. For example, median rate of return on equity was 37% in 2007, 29.0% in 2010, 21.7% in 2008, and 17.1% in 2011. These far exceeded the fifth highest during the past 10 years of 13% which occurred in 2011 for livestock farms.

- Livestock farms had their best financial performance in 2005. It is the only year in the 2002-2011 period where livestock farms had better solvency and rates of return on assets and equity than crop farms. Livestock farms also had a better term debt coverage ratio in 2004 and 2005.

- In 2011, median net farm income declined 22% to $185,822 for crop farms, but increased to 10 year highs of $61,244 for livestock farms, and $88,409 for mixed enterprise farms. Nearly all financial measures improved in 2011 for livestock farms, but decreased for crop farms, compared to 2010.

- A higher asset turnover ratio for crop farms is typical. In 2011, the median was .51, .29, and .34 for crop, livestock and mixed enterprise farms, respectively. The five year average, 2006-2010, median asset turnover was .55 for crop farms, .24 for livestock farms (predominantly beef cow-calf farms) and .31 for mixed enterprise farms.

- In 2011, crop farms had a median term debt coverage ratio of 2.92, compared to 2.61 for mixed enterprise farms, and 2.48 for livestock farms. The five year average, 2006-2002, was 3.01 for crop farms, 1.20 for livestock farms, and 1.40 for mixed enterprise farms.

- In 2011, each farm type had its best median interest expense as a percent of gross revenue for the 2002-2001 period. It was 3.0% for crop farms, 5.1% for livestock farms, and 5.4% for mixed enterprise farms. Every year, 2002-2011, crop farms had a better measure than other farm types.

- In 2010, crop farms had the best performance in converting gross income into net income, 35.6%, of any farm type over the past 10 years. In 2009, livestock farms, at 4.0%, had the lowest. In 2011, it was 28.3% for mixed enterprise farms, 27.7% for crop farms, and 24.9% for livestock farms.

Figure 1. Median Total Farm Assets and Liabilities by Farm Type, 2011, N.D. Farm Mgt Program

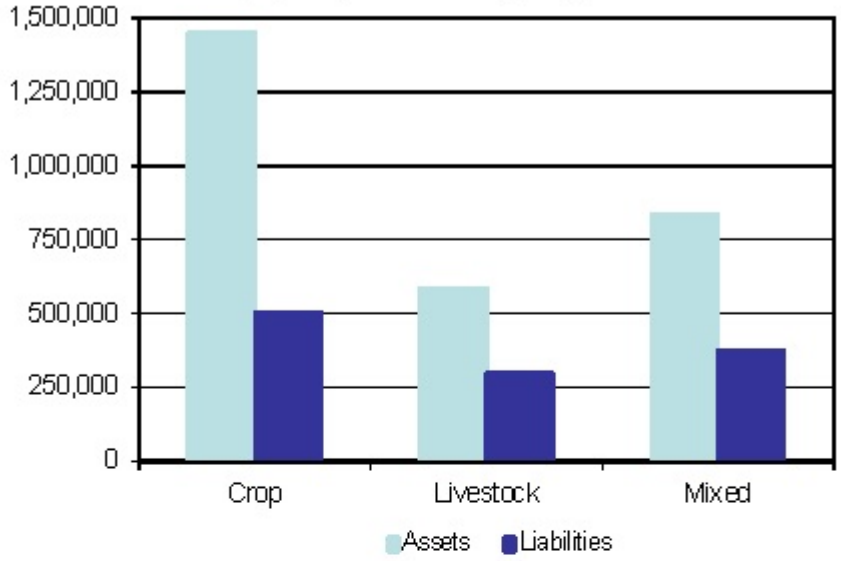


Figure 2. Median Net Farm Income by Farm Type, 2002-2011, N.D. Farm Mgt Program

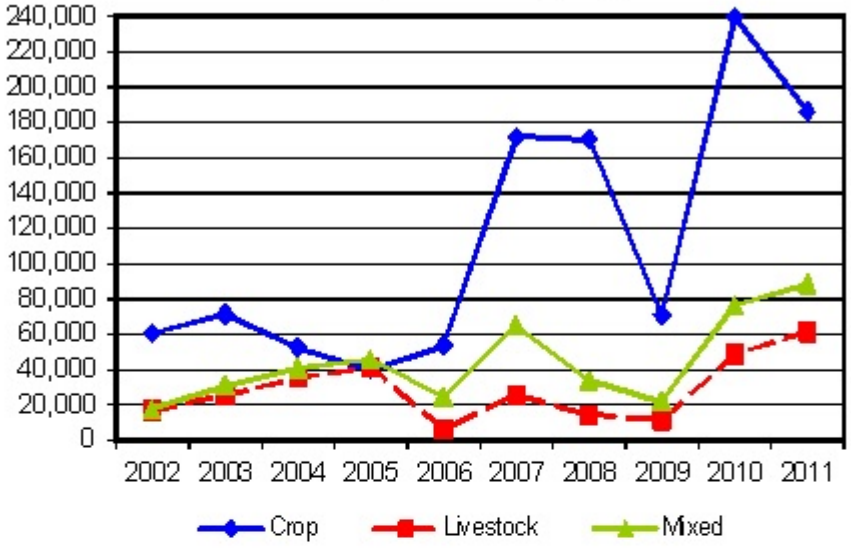


Figure 3. Median Rate of Return on Assets by Farm Type, 2002-2011, N.D. Farm Mgt Program

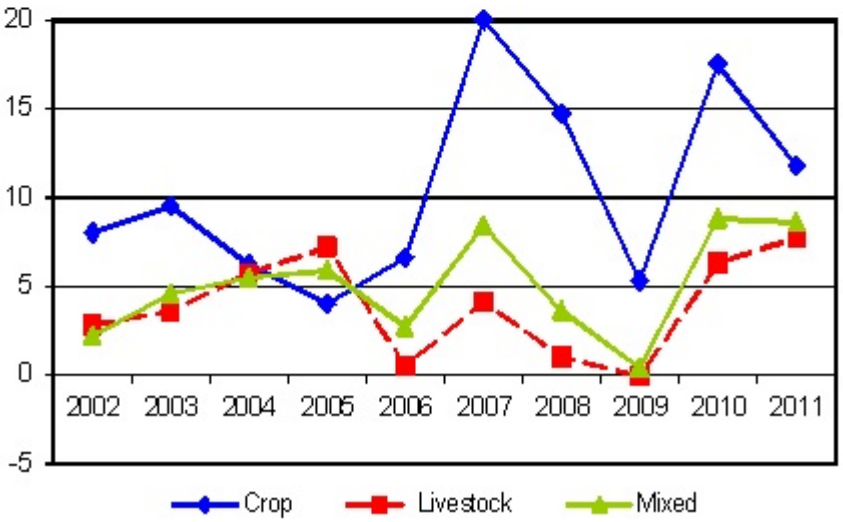
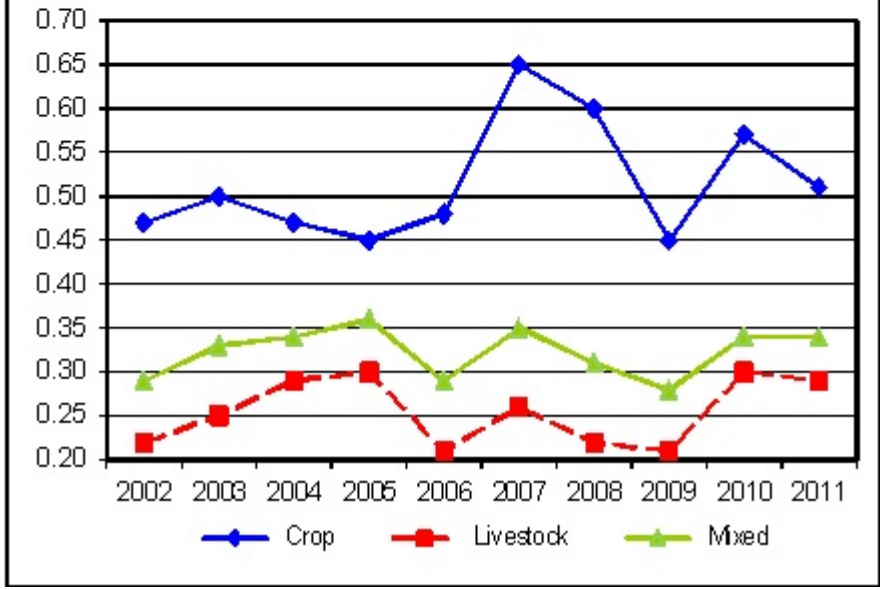


Figure 4. Median Asset Turnover Ratio by Farm Type, 2002-2011, N.D. Farm Mgt Program



FARM SALES

Farms were classified in one of four 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 $249,000
$250,000 to $499,999
$500,000 to 999,999
$1,000,000 or more

Highlights

- Median and average farm sales in 2011 of $569,268 and $757,134, respectively, were the highest over the past decade. In 2011, 55% of farms had sales greater then $500,000.

- Gross sales are correlated to region and farm type. In 2011, 70% of Red River Valley farms had sales in excess of $500,000, compared to 40% in the west region. Also, crop farms were over four times more likely to have sales in excess of $500,000 than were livestock farms.

- Young farmers typically have lower sales than older farmers, but farmers between the ages of 40 and 49 have been more likely to have farm sales greater than $500,000 than farmers 50 years and older.

- Farms with less than $250,000 sales are more likely to either rent all cropland or own a substantial amount, over 40%, of cropland than farms with larger sales.

- A strong direct relationship between the level of gross sales and financial performance is typical.

- In 2011, median net farm income of farms with less than $250,000 sales was steady, at $43,367, but declined 25% to 32% for larger farm sale categories. This occurred because, unlike crop farms, livestock farm net farm income increased in 2011. Livestock farms are much more likely to have less than $250,000 sales than crop farms. Median net farm income was $105,226 for farms with sales $250,000 to $499,999, $193,742 for farms with sales $500,000 to $999,999, and $385,845 for farms with sales greater than $1,000,000.

- Farms with low sales typically have worse solvency. The median debt-to-asset was 55.5%, 48.6%, 38.9%, and 35.3% for the lowest to highest farm sale groups, respectively, in 2011.

- Typically, repayment capacity is directly related to amount of sales. The five-year average, 2006-2010, median term debt coverage ratio was 1.4, 2.5, 3.0, and 3.5 for the lowest to highest farm sale categories, respectively. In 2011, farms had strong high median term debt coverage ratios ranging from 2.3 for farms with $250,000 to $499,999 sales to 3.6 for farms with sales greater than $1,000,000

- Farms with greater sales use a smaller portion of gross revenue for interest expense. In 2011, the interest expense as a percent of gross revenue was 5.4%, 4.0%, 3.5%, and 2.8% for the lowest to highest farm sale groups, respectively.

- Debt capital is employed profitably if rate of return on equity exceeds the rate of return on assets. The five-year average, 2006-2010, median rates of return on equity and assets were 20.1% and 13.8%, respectively, for farms with greater than $1,000,000 sales and both were only 4.3% for farms with less than $250,000 sales.

Figure 5. Median Total Farm Assets and Liabilities by Farm Sales, 2011, N.D. Farm Mgt Program

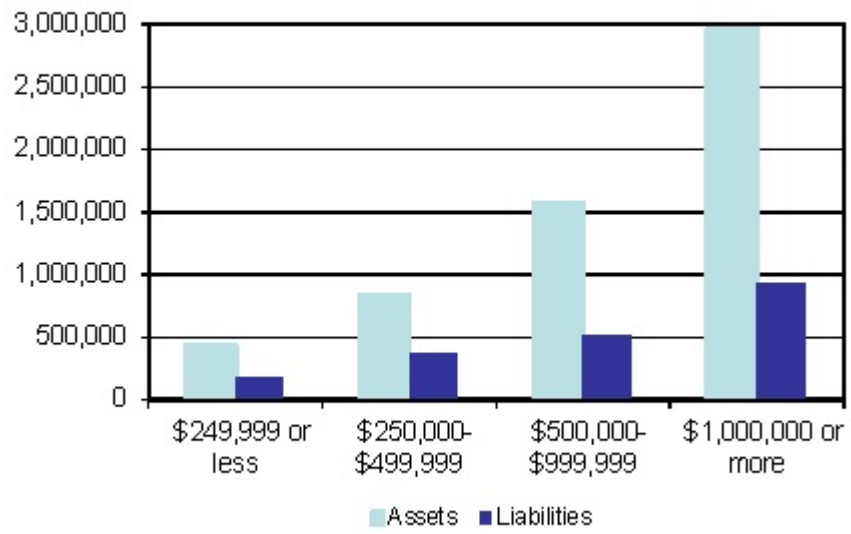


Figure 6. Median Net Farm Income by Farm Sales, 2002-2011, N.D. Farm Mgt Program

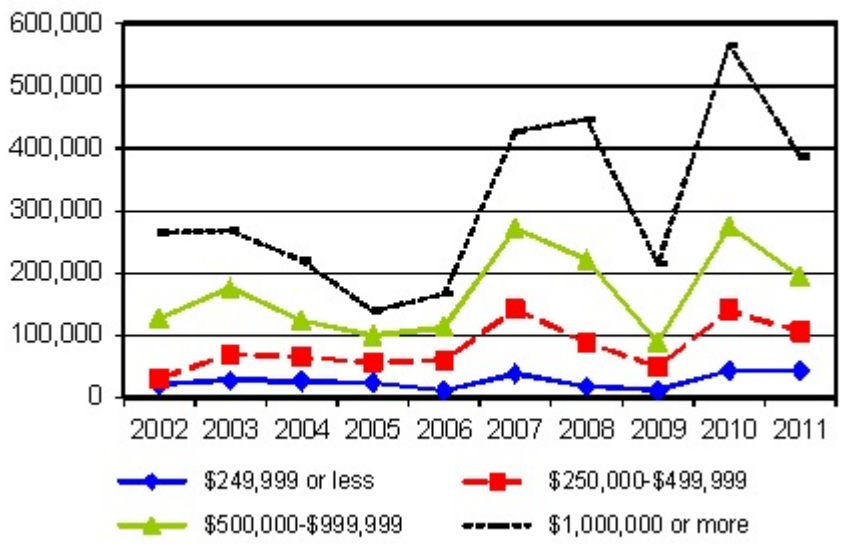


Figure 7. Median Term Debt Coverage Ratio by Farm Sales, 2002-2011, N.D. Farm Mgt Program

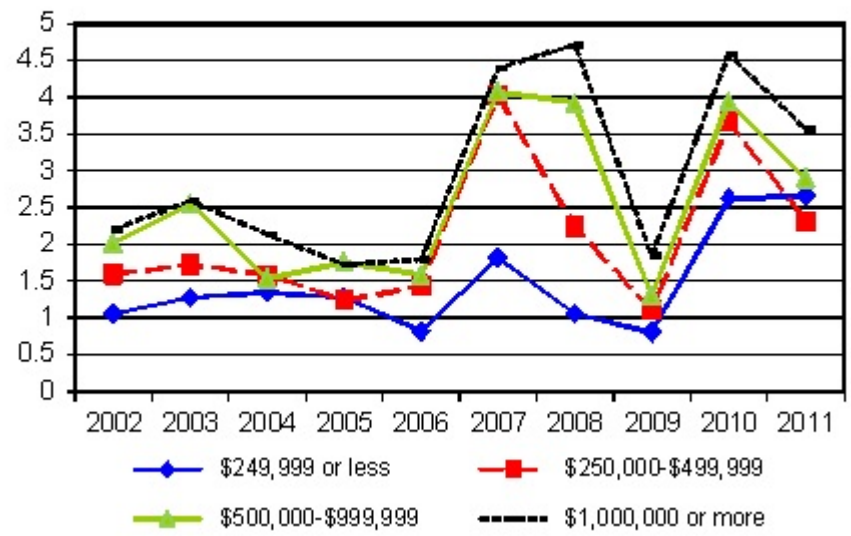
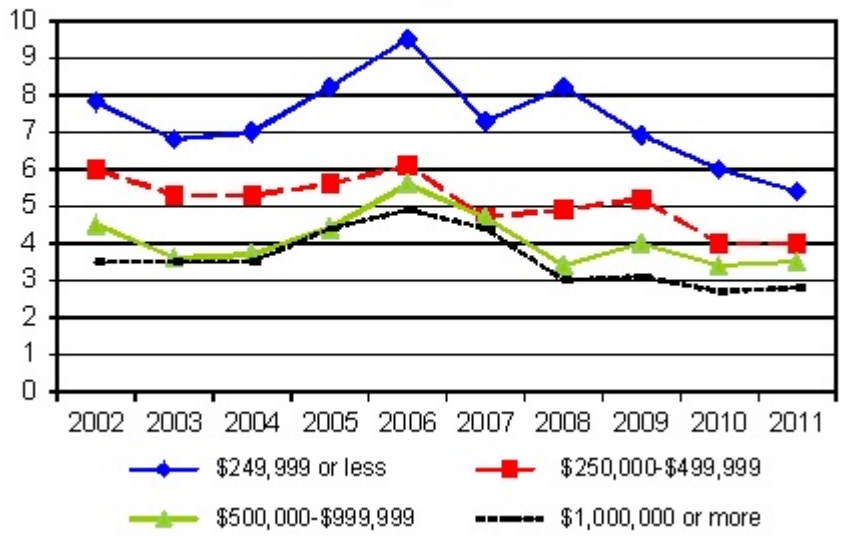


Figure 8. Median Interest Expense as a Percent of Gross Revenue, by Farm Sales, 2002-2011, N.D. Farm Mgt Program



FARM SIZE

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

Farm size categories were: 1,999 acres or less
2,000 acres or more

Highlights

- Because of less pasture land and more productive crop land, only about one-fourth of the Red River Valley farms were larger than 2,000 acres, compared to 69% of west region farms and about one-half of farms in the central regions.

- In 2011, 2010, and from 2002 to 2007, mixed enterprise farms were slightly more likely to be larger than 2,000 acres than were crop or livestock farms. However in 2008, 52% of crop farms were over 2,000 acres compared to 45% of livestock farms and 49% of mixed enterprise farms. In 2009, median acreage was similar between farm types.

- In 2006 through 2011, less than one-third of farmers under 40 years old operated more than 2,000 acres compared to two-thirds of farmers between 40 and 49 years old and about one-half of farmers over 50 years or older.

- As expected, farms with greater than 2,000 acres have greater assets, liabilities, sales and profitability than smaller farms. Larger farms also have better solvency. Median debt-to-asset was 47% for farms less than 2,000 acres and 40% for larger sized farms in 2011.

- In 2011, median net farm income was $87,876 for farms with less than 2,000 acres and $234,143 for farms with more than 2,000 acres. Historically, farms with more than 2,000 acres have over twice the net farm income of the small farm group. The five-year average, 2006-2010, median net farm income was $61,881 for farms less than 2,000 acres and $159,019 for farms with greater than 2,000 acres.

- Median current ratio in 2011 was 2.0 for farms with less than 2,000 acres and 2.1 for larger farms. The five year average, 2006-2010, median current ratio was 1.7 for farms larger than 2000 acres and 1.6 for farms with less than 2000 acres.

- Median term debt coverage ratio, 2002 to 2011, was better for farms with more than 2,000 acres than for smaller farms, except in 2006 when it was the same, 1.15. Although smaller acreage farms generate less farm cash income, they tend to have more non-farm income than larger farms.

- Median operating expense (excluding depreciation and interest) as a percent of gross revenue was 62.1% for farms with less than 2,000 acres and 63.1% for farms with greater than 2,000 acres. Financial efficiency measures of farm size groups are typically similar. This indicates that greater profitability of farms larger than 2,000 acres due to larger sales volume and/or greater operator labor efficiencies, not lower operating expenses per dollar of sales.

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:

- Substantial ownership of crop land is less likely in the Red River Valley. Less than one out of five Red River Valley farms owned more than 40% of the crop land they operated, compared to one-third of farms in other regions.

- Crop land ownership increases with age. In 2011, farmers 50 years or older were three times more likely to own more than 40% of their crop land than young farmers. Four of ten young farmers rented all of their crop land, compared to one of ten farmers 50 years or older.

- Operators of livestock and mixed enterprise farms own a greater portion of their crop land than crop farms. Between one-third and one-half of livestock farms and mixed enterprise farms own more than 40% of the crop land that they operate, compared to about one-fourth of crop farms.

- In 2011, small farms (less than 2,000 acres) were much more likely than large farms (more than 2,000 acres) to own no crop land. However, both farm size groups were as likely to own over 40% of their crop land. Large farms were more likely to own 1 to 40% of crop land than smaller farms.

- In 2009, 2010, and 2011, farms that owned greater than 40% crop land had a slightly higher current ratio.

- Farms with greater crop land ownership typically have better solvency. The five year average, 2006-2010, median debt-to-asset ratio was 55.2% for farms with no crop land ownership, 51.6% for farms with 1-20% crop land ownership, 49.1% for farms with 21-40% crop land ownership, and 47.9% for farms with crop land ownership greater than 40%. One reason could be that older, more established farmers own a greater portion of their crop land.

- Farms that own some land, but not a lot, are typically the most profitable. Farms in the 1 to 20% crop land ownership category, followed by farms with 20-40% crop land ownership, are also most likely to be crop farms, farm more acreage, and have larger sales.

- In 2011, median net farm income ranged from $212,965 for farms with 1 to 20% crop land ownership to $98,407 for farms that rent all crop land.

- Typically, the lower profit of farms with greater than 40% crop land ownership, compared to farms with 1 to 40% crop land ownership, is associated with the fact these farms are more likely to also be in livestock, low sales, and small size farm categories and less likely to be in the Red River Region.

- Farms with a smaller proportion of crop land ownership have fewer land assets and land interest costs and therefore have substantially higher asset turnover ratios and lower interest expense as a percent of gross revenue.

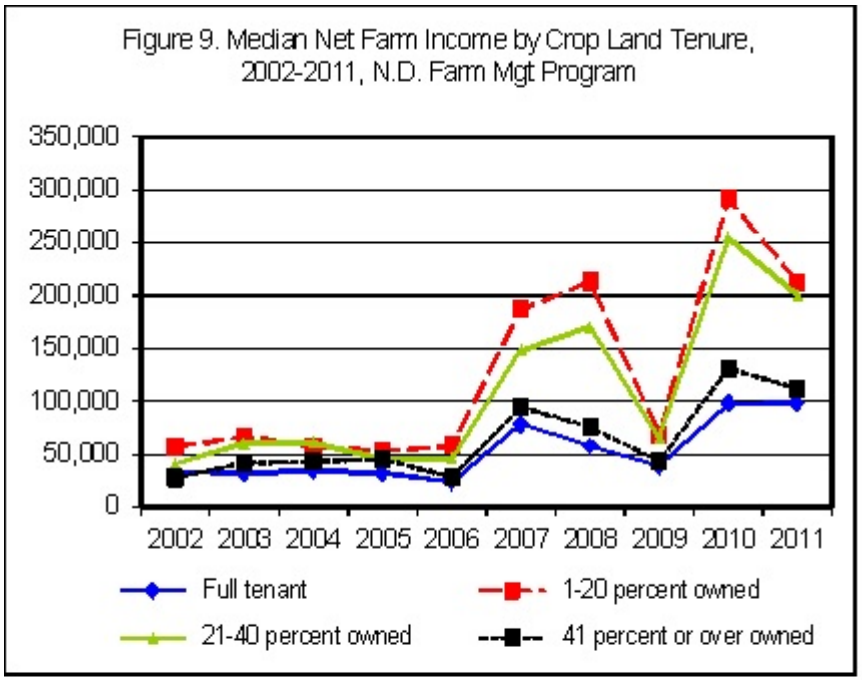


Figure 9. Median Net Farm Income by Crop Land Tenure, 2002-2011, N.D. Farm Mgt Program
350,000
300,000
250,000
200,000
150,000
100,000
50,000
0
2002 2003 2004 2005 2006 2007 2008 2009 2010 2011
Full tenant
1-20 percent owned
21-40 percent owned
41 percent or over owned

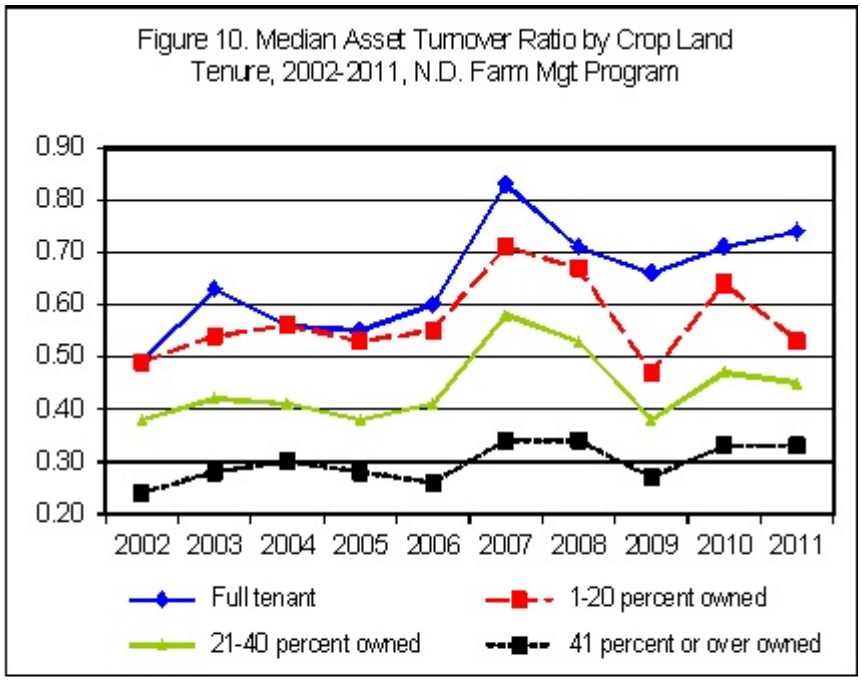


Figure 10. Median Asset Turnover Ratio by Crop Land Tenure, 2002-2011, N.D. Farm Mgt Program
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
2002 2003 2004 2005 2006 2007 2008 2009 2010 2011
Full tenant
1-20 percent owned
21-40 percent owned
41 percent or over owned

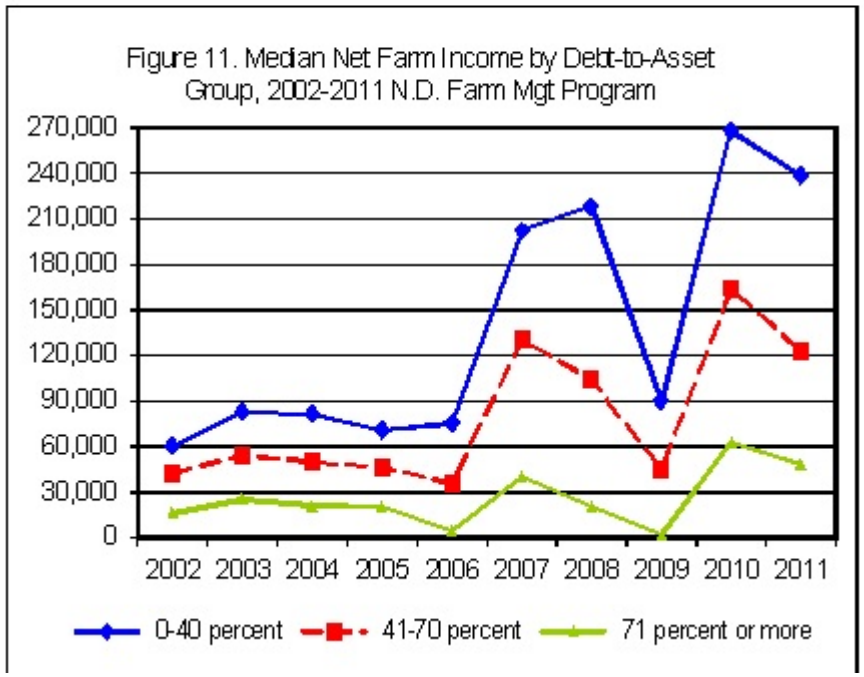


Figure 11. Median Net Farm Income by Debt-to-Asset Group, 2002-2011 N.D. Farm Mgt Program
270,000
240,000
210,000
180,000
150,000
120,000
90,000
60,000
30,000
0
2002 2003 2004 2005 2006 2007 2008 2009 2010 2011
0-40 percent
41-70 percent
71 percent or more

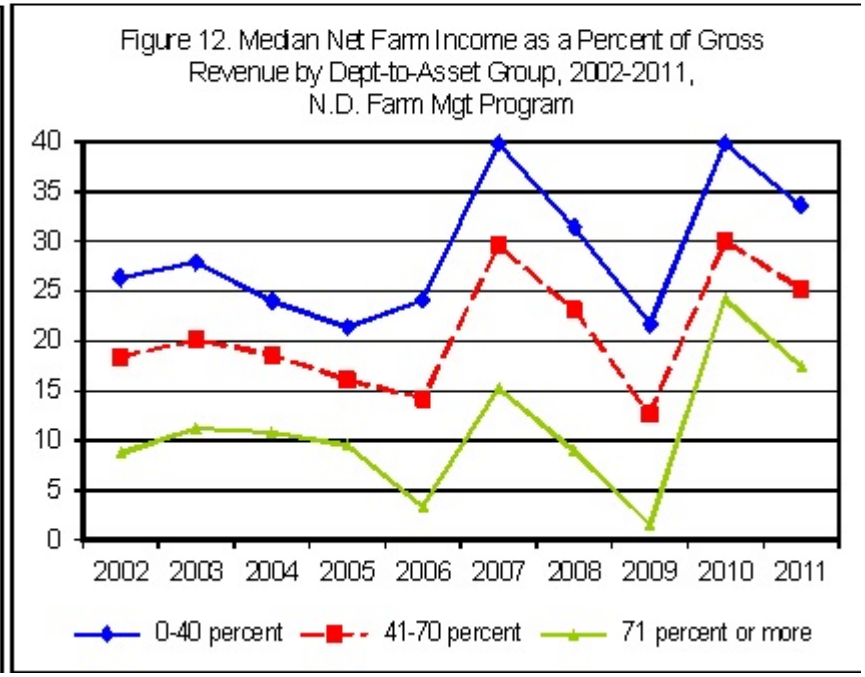


Figure 12. Median Net Farm Income as a Percent of Gross Revenue by Dept-to-Asset Group, 2002-2011, N.D. Farm Mgt Program
40
35
30
25
20
15
10
5
0
2002 2003 2004 2005 2006 2007 2008 2009 2010 2011
0-40 percent
41-70 percent
71 percent or more

NET FARM INCOME

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

$49,999 or less
$50,000 - $99,999
$100,000 - $199,999
$200,000 or more

Highlights

- Farm profit is volatile. Year-to-year changes in median net farm income within regions and farm types averaged about 70% the past 10 years. The largest change occurred in 2010. Statewide, median net farm income decreased 17% in 2011, increased 266% in 2010, but decreased 58% in 2009 and 10% in 2008, after increasing 255% in 2007.

- The four highest median net farm income years in the 2002-2011 period were $174,010 in 2010, $144,414 in 2011, $127,791 in 2007, and $114,520 in 2008. It ranged between $35,980 and $49,181 in 2009 and from 2002 to 2006.

- The Red River Valley region had the highest median net farm income every year from 2002 to 2011, except for 2005, 2007 and 2009. The west region farms had the lowest median net farm income eight of the ten years.

- Typically, crop farms have been more profitable than livestock farms. The five year average, 2006-2010, median net farm income was $141,200 for crop farms and $21,238 for livestock farms.

- In 2011, 73% of crop farms had net farm income greater than $100,000 compared to 24% of livestock farms. Over four out of ten livestock farms earned less than $50,000.

- As expected, net farm income is strongly associated with farm sales and farm size. In 2011, 88% of farms with sales greater than $500,000 had net farm income greater than $100,000, compared to 31% of farms with less than $500,000 sales. About 76% of farms larger than 2,000 acres had net farm income greater than $100,000, compared to 46% of smaller farms.

- In all but three years of the 2002 to 2011 period farmers 40 to 49 years old had higher median net farm income than farmers that were younger or older. The exceptions were older farmers in 2006, 2009, and 2011.

- Solvency, liquidity, repayment capacity, and financial efficiency were strongly correlated with net farm income.

- Low-debt farms (less than 40% debt-to-asset) are typically three to four times more likely to have net farm income in excess of $100,000 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 of all farms was 43.7% in 2011, the best in the 2002-2011 period. It ranged from 53.3% to 57.5% between the years 2002 to 2006 and has since generally improved.

- The median debt-to-asset of farms in the north central region was the best in 2007 through 2009 compared to other regions. However, the Red River Valley had the best solvency in all other years during the 2002-2011 period.

- Crop farms had the best solvency (lowest debt-to-asset) among farm types during the past ten years, except for livestock farms in 2005.

- Large farms (greater than 2,000 acres) and farms with sales greater than $500,000 always had lower median debt-to-asset than other farm size and farm sales groups, respectively, during the 2002-2011 period.

- 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.

- In 2011, farms in the low, medium and high debt-to-asset categories had median current ratios of 4.1, 1.6 and 1.1; term debt coverage ratios of 4.58, 2.37, and 1.08; interest expense as a percent of gross revenue of 2.0, 4.9 and 7.9; and net farm income as percent of gross revenue of 33.6, 25.2 and 17.5, respectively.

- In 2011, farms with sales less than $250,000 were over four times as likely to be in the high debt group compared to farms with sales greater than $500,000.

- As expected, percent debt-to-asset tended to decrease as age of farmer increased. In 2011, median debt-to-asset was 55.1% for farmers younger than 40 years, 46.6% for farmers 40-49 years and 34.0% for farmers 50 years or older.

- In 2011, median net farm income decreased to $238,209 for the low debt-to-asset category, and to $122,458 and $47,753 for the medium and high debt-to-asset categories, respectively.

- In 2011, 77% of farms with low debt had net farm income greater than $100,000, compared to 22% of high-debt farms.

FARMER AGE

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

39 years or less
40 - 49 years
50 years or older

Highlights

- In 2011, 33% of farm operators were under 40 years old and 23% were 40 to 49 years old. The percent of farmers 50 and older has steadily increased from 19% in 1996 to 44% in 2011.

- The age distribution of farm operators has been similar across regions during the 2002-2011 period.

- Farmers in the middle age and older age groups generally have similar total farm assets but farms in the middle age group typically have more liabilities, higher gross sales, larger farms and been more profitable than the younger or older age groups. An exception was 2006, 2009, and 2011 when the median net farm income was highest for farmers older than 50 years.

- For each age group, the years 2011, 2010, 2008 and 2007 had much higher median net farm income than other years during the 2002-2011 period. In 2011, it decreased to $87,382 for farmers under 40 years old, $167,805 for farmers 40-49 years old, and $175,676 for farmers 50 years and older.

- Median total assets were lowest, 2002-2011, for farm operators less than 40 years old. Although median total assets of farmers between 40 and 49 years old and the older age group of farmers (50 years and older) is usually similar, it was 15% greater for older farmers in 2011.

- As expected, there is a higher percent of crop land owned, and the percent of farm debt tends to decrease as the age of the farm operator increases. In 2011, median debt-to-asset was 55.1% for farmers less than 40 years old, 46.6% for farmers in the 40 to 49 age group and 34.0% for farmers 50 or older.

- From 2007 through 2011, median current ratio improved with farmer age. However, from 2002-2006, there was not a clear relationship between median current ratio and age groups.

- In each year, 2002-2011, the young age group of farmers employed assets more efficiently than farmers 50 and older. The young group had much fewer total assets and higher debt-to-asset, but achieved better median rates of return on assets and equity, and asset turnover.

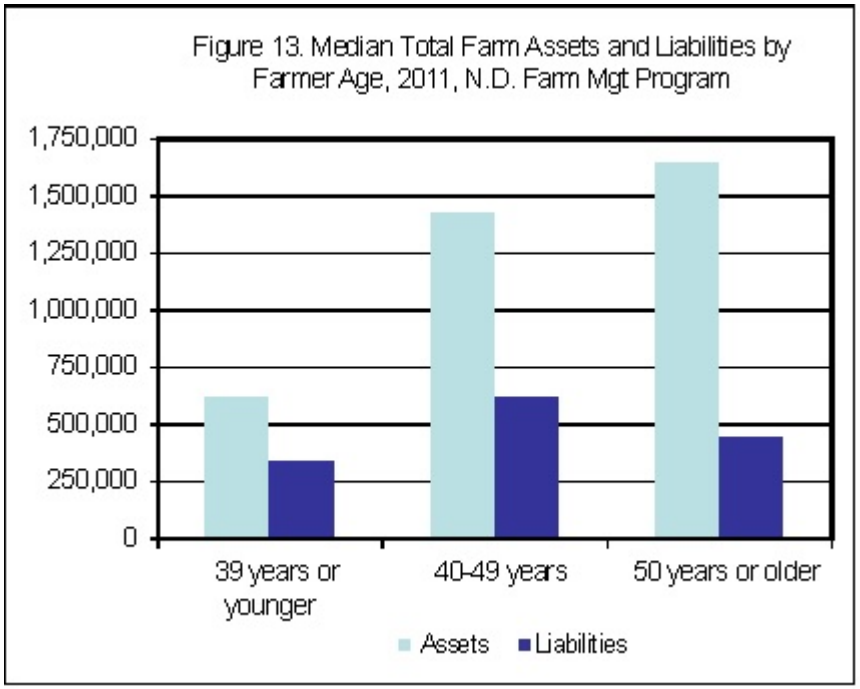


Figure 13. Median Total Farm Assets and Liabilities by Farmer Age, 2011, N.D. Farm Mgt Program
1,750,000
1,500,000
1,250,000
1,000,000
750,000
500,000
250,000
0
39 years or younger
40-49 years
50 years or older
Assets
Liabilities

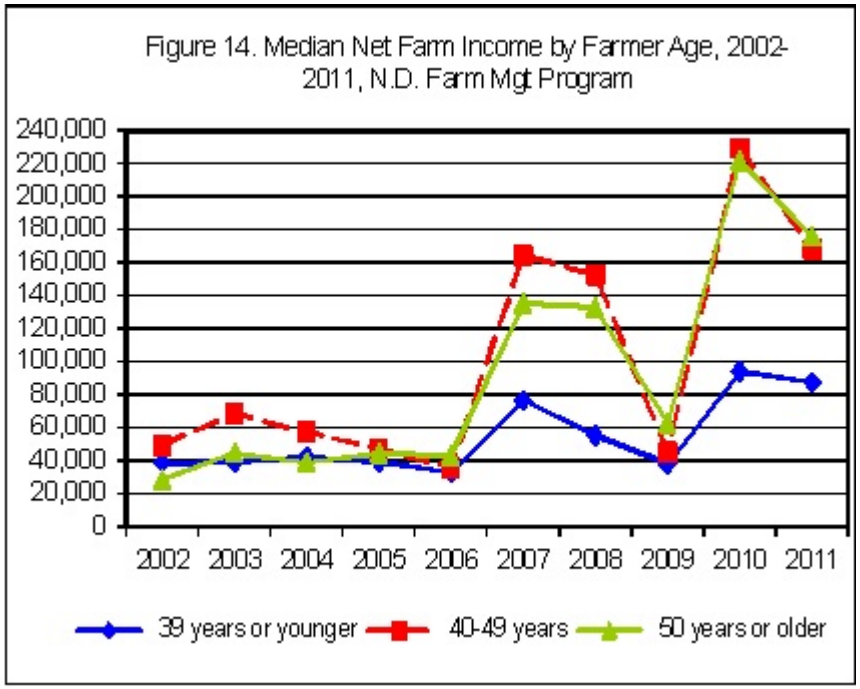


Figure 14. Median Net Farm Income by Farmer Age, 2002-2011, N.D. Farm Mgt Program
240,000
220,000
200,000
180,000
160,000
140,000
120,000
100,000
80,000
60,000
40,000
20,000
0
2002 2003 2004 2005 2006 2007 2008 2009 2010 2011
39 years or younger
40-49 years
50 years or older

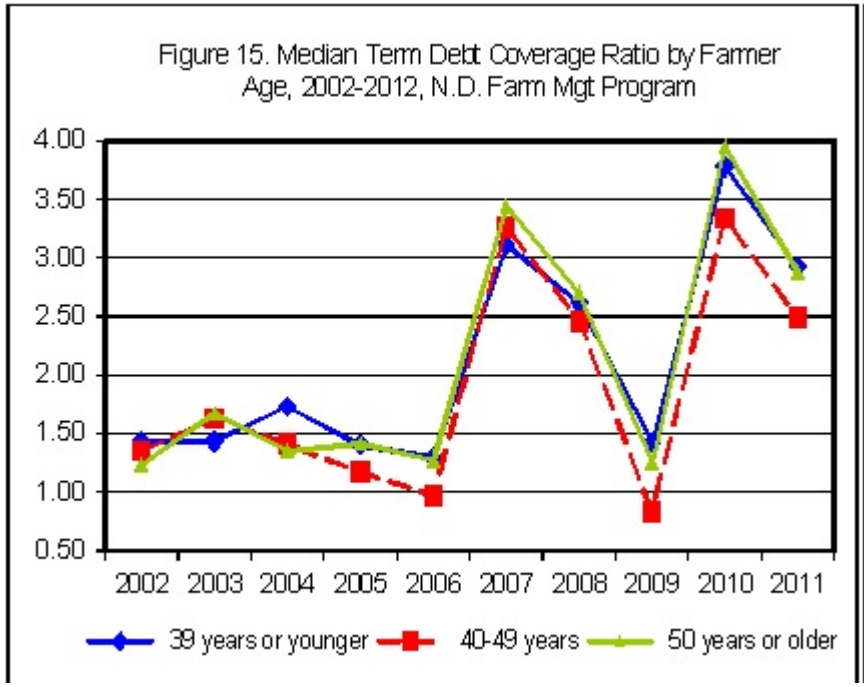


Figure 15. Median Term Debt Coverage Ratio by Farmer Age, 2002-2012, N.D. Farm Mgt Program
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
2002 2003 2004 2005 2006 2007 2008 2009 2010 2011
39 years or younger
40-49 years
50 years or older

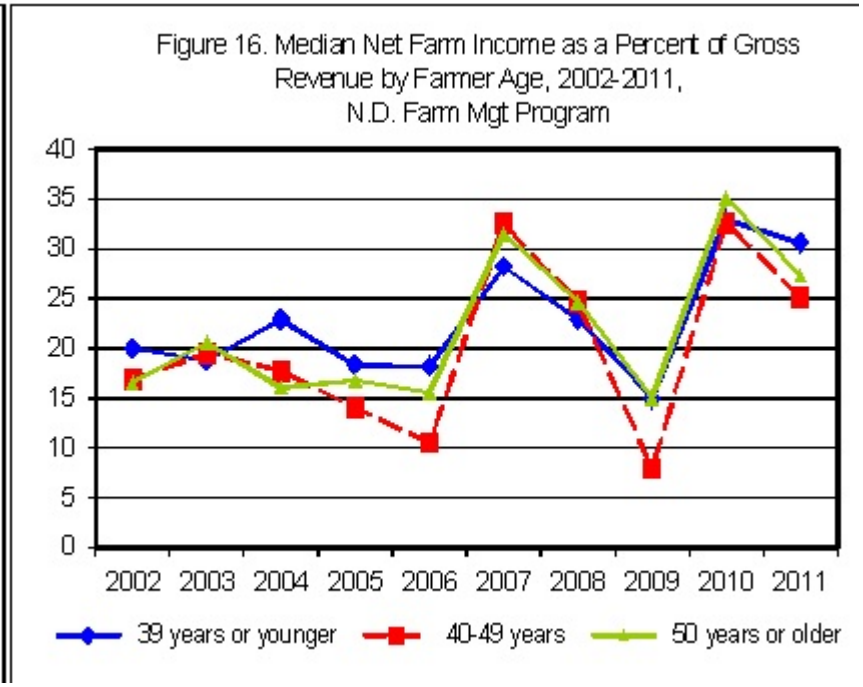


Figure 16. Median Net Farm Income as a Percent of Gross Revenue by Farmer Age, 2002-2011, N.D. Farm Mgt Program
40
35
30
25
20
15
10
5
0
2002 2003 2004 2005 2006 2007 2008 2009 2010 2011
39 years or younger
40-49 years
50 years or older

TABLE 3. CURRENT ASSETS AND CURRENT LIABILITIES, QUARTILE VALUES FOR 2011, MEDIAN VALUES FOR 2010, AND 5-YEAR AVERAGE, 2006-2010, OF MEDIAN VALUES, NORTH DAKOTA FARM BUSINESS MANAGEMENT EDUCATION PROGRAM PARTICIPANTS

Farm Group	2011 Upper Quartile	2011 Lower Quartile	2011 Median	2010 Median	Average of 2006-2010 Medians	2011 Upper Quartile	2011 Lower Quartile	2011 Median	2010 Median	Average of 2006-2010 Medians
	Current Farm Assets ($)					Current Farm Liabilities ($)				
All Farms	694,674	163,061	364,193	383,993	293,310	53,528	299,441	135,059	165,799	152,442
Region										
Red River Valley	748,895	254,465	480,499	480,303	389,837	66,178	342,198	198,000	192,608	184,487
North Central	618,110	153,463	329,588	385,702	301,016	52,310	246,837	116,689	177,553	152,485
South Central	753,731	176,630	372,730	347,018	276,882	53,153	320,601	152,782	141,559	144,386
West	645,848	97,565	296,902	249,791	207,083	45,498	312,675	133,737	120,518	114,484
Farm Enterprise										
Crop	795,700	237,867	437,373	480,067	366,467	70,807	332,405	178,365	205,255	180,881
Livestock	231,750	76,792	122,139	114,738	118,012	36,560	108,034	60,999	56,498	71,228
Mixed	418,290	117,643	234,695	220,303	190,627	51,988	210,090	127,106	137,427	136,910
Farm Sales										
$249,999 or less	147,910	48,387	91,664	87,788	91,427	24,536	80,643	44,741	43,000	59,464
$250,000-$499,999	345,732	176,840	257,815	300,201	280,989	63,564	205,847	128,764	145,404	153,814
$500,00-$999,999	676,862	379,941	478,563	560,186	490,917	77,516	323,894	202,747	247,297	239,896
$1,000,000 or more	1,491,992	666,313	995,965	1,236,439	1,063,008	205,980	606,454	368,605	459,444	544,233
Farm Size										
1,999 acres or less	391,533	89,702	201,317	191,094	167,436	37,870	167,334	75,973	90,314	93,722
2,000 acres or more	997,705	338,126	609,579	614,208	458,067	111,030	423,207	246,226	262,049	227,247
Cropland Tenure										
Full tenant	379,112	94,436	208,207	183,008	155,835	37,061	185,261	74,138	80,243	82,245
1-20 percent owned	874,153	316,516	590,271	599,845	432,251	98,218	420,342	234,703	280,585	232,368
21-40 percent owned	833,582	288,972	479,764	515,294	389,824	91,926	386,225	212,486	238,078	200,249
41 percent or more owned	571,731	135,060	341,864	316,745	257,531	47,016	222,246	111,030	119,186	122,272
Net Farm Income										
$49,999 or less	172,992	44,579	86,405	68,435	110,327	30,294	130,954	56,513	42,502	83,853
$50,000-$99,999	291,416	140,782	203,758	152,164	233,473	51,553	178,346	99,204	80,455	130,853
$100,000-$199,999	460,117	216,158	347,564	300,201	359,763	63,564	283,555	162,168	172,744	181,471
$200,000 or more	1,217,563	585,127	795,006	718,407	714,800	105,773	426,185	247,197	270,131	249,186
Debt-to-Asset Ratio										
0-40 percent	946,483	297,398	557,633	534,216	422,019	45,472	233,405	108,422	128,214	112,790
41-70 percent	542,781	127,479	309,241	361,407	282,481	82,509	363,597	183,772	240,656	195,271
71 percent or more	263,976	65,114	154,131	156,208	144,600	51,430	287,792	147,442	128,110	148,131
Farmer Age										
39 years or younger	365,970	88,968	198,345	164,295	155,384	38,493	196,861	83,904	88,636	94,188
40-49 years	798,381	205,519	426,378	505,505	405,598	95,530	380,747	226,061	234,020	219,104
50 years or older	846,679	259,906	469,808	486,813	354,953	58,782	311,119	164,626	194,500	161,684

TABLE 4. LIQUIDITY MEASURES, QUARTILE VALUES FOR 2011, MEDIAN VALUES FOR 2010, AND 5-YEAR AVERAGE, 2006-2010, OF MEDIAN VALUES, NORTH DAKOTA FARM BUSINESS MANAGEMENT EDUCATION PROGRAM PARTICIPANTS.

Farm Group	2011 Upper Quartile	2011 Lower Quartile	2011 Median	2010 Median	Average of 2006-2010 Medians	2011 Upper Quartile	2011 Lower Quartile	2011 Median	2010 Median	Average of 2006-2010 Medians
	Current Ratio					Working Capital($)				
All Farms	4.1	1.4	2.0	1.9	1.6	417,279	40,525	157,751	151,933	95,439
Region										
Red River Valley	4.8	1.6	2.7	2.1	1.7	490,445	78,169	261,272	211,094	124,668
North Central	4.3	1.3	2.0	1.9	1.6	385,539	34,375	145,824	158,846	107,406
South Central	3.9	1.2	2.0	2.0	1.6	373,882	33,480	127,329	152,355	91,143
West	3.0	1.3	1.9	1.7	1.5	343,946	25,091	107,974	75,165	55,498
Farm Enterprise										
Crop	4.6	1.4	2.3	2.1	1.7	487,671	64,682	221,364	212,521	132,512
Livestock	3.6	1.2	1.8	1.6	1.4	136,374	13,005	51,256	40,167	27,845
Mixed	2.5	1.2	1.7	1.6	1.3	234,518	25,159	86,500	67,118	40,428
Farm Sales										
$249,999 or less	3.3	1.2	1.8	1.7	1.4	81,340	9,564	38,319	33,533	21,649
$250,000-$499,999	3.4	1.2	1.8	1.9	1.6	169,067	32,865	101,932	138,278	100,447
$500,000-$999,999	5.3	1.5	2.4	2.1	1.9	457,981	131,488	268,559	267,035	196,910
$1,000,000 or more	4.6	1.5	2.7	2.3	1.9	1,000,073	284,331	505,863	623,713	421,619
Farm Size										
1,999 acres or less	3.8	1.3	2.0	1.9	1.6	245,612	26,198	81,412	79,850	49,903
2,000 acres or more	4.4	1.4	2.1	1.9	1.7	615,775	93,151	285,507	274,952	170,078
Cropland Tenure										
Full tenant	4.2	1.3	1.9	1.9	1.6	248,470	23,513	94,383	63,714	43,461
1-20 percent owned	4.5	1.3	2.0	1.7	1.6	505,132	71,833	270,197	214,404	136,576
21-40 percent owned	4.0	1.4	2.1	1.9	1.6	525,346	72,334	242,855	238,987	143,456
41 percent or more owned	4.2	1.4	2.2	2.1	1.7	345,090	37,060	134,482	123,550	83,052
Net Farm Income										
$49,999 or less	2.4	0.9	1.4	1.4	1.2	50,952	-10,131	21,049	19,951	13,497
$50,000-$99,999	3.0	1.2	1.8	1.6	1.5	139,088	32,546	77,807	51,601	61,621
$100,000-$199,999	3.9	1.3	1.9	1.7	1.8	270,197	75,458	145,628	112,742	137,738
$200,000 or more	6.3	1.8	3.1	2.4	2.7	816,330	289,742	486,312	395,603	420,259
Debt-to-Asset Ratio										
0-40 percent	8.0	2.6	4.1	4.3	3.5	666,301	173,069	378,385	372,850	284,034
41-70 percent	2.0	1.2	1.6	1.6	1.4	221,214	31,602	91,683	124,553	79,472
71 percent or more	1.5	0.7	1.1	1.2	1.0	46,328	-25,550	17,842	27,013	4,603
Farmer Age										
39 years or younger	3.3	1.2	1.8	1.7	1.5	197,024	20,057	66,257	59,250	39,588
40-49 years	3.5	1.2	1.8	1.8	1.5	442,368	33,901	173,521	193,702	121,559
50 years or older	5.1	1.5	2.6	2.3	1.8	578,487	86,853	262,709	235,146	142,751

TABLE 5. TOTAL ASSETS AND TOTAL LIABILITIES, QUARTILE VALUES FOR 2011, MEDIAN VALUES FOR 2010, AND 5-YEAR AVERAGE, 2006-2010, OF MEDIAN VALUES, NORTH DAKOTA FARM BUSINESS MANAGEMENT EDUCATION PROGRAM PARTICIPANTS

Farm Group	2011 Upper Quartile	2011 Lower Quartile	2011 Median	2010 Median	Average of 2006-2010 Medians	2011 Upper Quartile	2011 Lower Quartile	2011 Median	2010 Median	Average of 2006-2010 Medians
	Total Farm Assets($)					Total Farm Liabilities($)				
All Farms	2,199,178	581,445	1,171,781	1,124,263	927,649	214,330	754,344	442,159	441,482	404,982
Region										
Red River Valley	2,688,252	804,371	1,530,138	1,412,431	1,212,993	208,127	920,940	546,479	554,600	512,135
North Central	1,932,852	574,821	1,086,382	1,107,435	944,036	197,576	640,982	377,681	440,517	406,448
South Central	2,348,886	588,565	1,292,706	1,110,882	870,408	242,360	775,875	442,159	413,393	371,363
West	1,834,379	494,309	925,244	815,751	748,562	238,563	892,198	495,030	414,659	375,116
Farm Enterprise										
Crop	2,433,763	753,879	1,449,608	1,371,013	1,076,909	250,390	813,161	505,211	520,966	456,178
Livestock	988,248	398,032	584,331	545,530	563,424	148,262	501,334	295,110	287,674	260,017
Mixed	1,435,358	547,704	836,167	831,894	733,748	213,563	632,974	373,305	418,533	383,506
Farm Sales										
$249,999 or less	593,850	237,608	430,174	416,271	418,601	93,365	321,570	182,577	196,536	206,004
$250,000-$499,999	1,086,858	587,108	830,433	921,943	857,666	272,020	513,959	373,305	387,026	393,307
$500,000-$999,999	2,068,097	1,188,866	1,579,756	1,641,054	1,467,705	275,722	832,202	511,957	625,049	610,686
$1,000,000 or more	4,026,103	2,132,780	2,964,199	3,154,998	2,703,391	634,953	1,459,846	934,559	1,148,930	1,124,655
Farm Size										
1,999 acres or less	1,157,306	383,291	639,007	672,581	587,385	145,475	478,846	298,060	283,857	279,823
2,000 acres or more	3,063,406	1,181,665	1,872,649	1,761,685	1,388,641	391,605	1,072,500	694,195	700,921	578,778
Cropland Tenure										
Full tenant	962,367	294,981	531,216	447,752	409,904	98,458	400,004	257,192	238,146	193,831
1-20 percent owned	2,611,351	963,278	1,576,639	1,415,720	1,075,966	303,062	943,811	640,458	656,524	538,400
21-40 percent owned	2,729,778	1,006,496	1,643,573	1,560,347	1,235,729	378,809	947,604	631,936	650,045	537,987
41 percent or more owned	2,377,418	630,728	1,259,072	1,196,807	1,028,069	209,977	747,538	412,999	431,885	386,611
Net Farm Income										
$49,999 or less	704,422	263,135	484,894	424,078	504,055	118,079	434,330	251,344	221,081	271,850
$50,000-$99,999	998,683	488,019	682,509	604,699	776,946	201,844	468,567	325,611	320,572	373,882
$100,000-$199,999	1,581,702	706,977	1,096,671	921,943	1,088,775	269,978	693,650	470,447	451,413	447,316
$200,000 or more	3,526,870	1,726,613	2,455,639	2,068,916	1,972,013	383,264	1,217,155	705,741	700,921	621,640
Debt-to-Asset Ratio										
0-40 percent	2,846,682	969,424	1,743,787	1,564,516	1,301,784	144,518	661,103	334,039	295,527	264,377
41-70 percent	1,670,156	535,718	1,018,272	1,107,435	914,454	300,376	932,012	543,536	602,890	498,005
71 percent or more	858,126	369,671	585,719	608,647	569,176	311,801	708,424	489,108	527,662	486,137
Farmer Age										
39 years or younger	1,103,646	343,624	614,805	579,630	533,088	170,868	565,844	335,513	314,393	316,560
40-49 years	2,274,284	779,583	1,427,961	1,407,157	1,167,414	362,445	935,153	620,058	610,250	538,901
50 years or older	2,771,954	922,456	1,643,573	1,482,641	1,176,462	203,608	778,090	442,544	472,015	385,522

TABLE 6. SOLVENCY MEASURES, QUARTILE VALUES FOR 2011, MEDIAN VALUES FOR 2010, AND 5-YEAR AVERAGE, 2006-2010, OF MEDIAN VALUES, NORTH DAKOTA FARM BUSINESS MANAGEMENT EDUCATION PROGRAM PARTICIPANTS.

	2011				Average of	2011				Average of	2011				Average of
Farm Group	Upper Quartile	Lower Quartile	Median	2010 Median	2006-2010 Medians	Upper Quartile	Lower Quartile	Median	2010 Median	2006-2010 Medians	Upper Quartile	Lower Quartile	Median	2010 Median	2006-2010 Medians
	Debt-to-Asset (%)					Equity-to-Asset (%)					Debt-to-Equity				
All Farms	24.4	58.9	43.7	46.7	50.8	75.6	41.1	56.3	53.3	49.2	0.3	1.4	0.8	0.9	1.0
Region															
Red River Valley	21.6	52.8	39.2	42.0	47.6	78.4	47.2	60.8	58.0	52.4	0.3	1.1	0.6	0.7	0.9
North Central	23.3	54.9	39.4	45.8	49.0	76.7	45.1	60.6	54.2	51.0	0.3	1.2	0.7	0.8	1.0
South Central	25.3	59.3	43.4	46.0	50.8	74.7	40.7	56.6	54.0	49.2	0.3	1.5	0.8	0.9	1.0
West	37.7	74.3	55.5	57.5	56.6	62.3	25.7	44.5	42.5	43.4	0.6	2.9	1.2	1.4	1.3
Farm Enterprise															
Crop	22.4	55.0	39.6	41.8	48.1	77.6	45.0	60.4	58.2	51.9	0.3	1.2	0.7	0.7	0.9
Livestock	37.3	75.2	56.1	55.6	57.7	62.7	24.8	43.9	44.4	42.3	0.6	3.0	1.3	1.3	1.4
Mixed	30.2	71.7	49.3	59.1	57.3	69.8	28.3	50.7	40.9	42.7	0.4	2.5	1.0	1.4	1.3
Farm Sales															
$249,999 or less	38.1	73.5	55.5	57.5	60.0	61.9	26.5	44.5	42.5	40.0	0.6	2.8	1.2	1.4	1.5
$250,000-$499,999	31.1	66.0	48.6	48.5	50.2	68.9	34.0	51.4	51.5	49.8	0.5	1.9	0.9	0.9	1.0
$500,000-$999,999	20.4	55.2	38.9	40.9	44.4	79.6	44.8	61.1	59.1	55.6	0.3	1.2	0.6	0.7	0.8
$1,000,000 or more	22.4	46.9	35.3	39.2	43.2	77.6	53.1	64.7	60.8	56.8	0.3	0.9	0.5	0.6	0.8
Farm Size															
1,999 acres or less	27.8	63.4	47.3	49.5	55.0	72.2	36.6	52.7	50.5	45.0	0.4	1.7	0.9	1.0	1.2
2,000 acres or more	22.8	56.0	39.7	44.1	46.4	77.2	44.0	60.3	55.9	53.6	0.3	1.3	0.7	0.8	0.9
Cropland Tenure															
Full tenant	23.0	67.2	48.4	48.6	55.2	77.0	32.8	51.6	51.4	44.8	0.3	2.0	0.9	0.9	1.2
1-20 percent owned	22.7	53.3	38.8	47.1	51.6	77.3	46.7	61.2	52.9	48.4	0.3	1.1	0.6	0.9	1.1
21-40 percent owned	28.7	56.1	42.6	43.5	49.1	71.3	43.9	57.4	56.5	50.9	0.4	1.3	0.7	0.8	1.0
41 percent or more owned	22.5	59.7	41.2	47.5	47.9	77.5	40.3	58.8	52.5	52.1	0.3	1.5	0.7	0.9	0.9
Net Farm Income															
$49,999 or less	42.2	80.0	60.3	64.9	64.4	57.8	20.0	39.7	35.1	35.6	0.7	4.0	1.5	1.8	1.8
$50,000-$99,999	33.5	69.9	52.5	60.4	54.6	66.5	30.1	47.5	39.6	45.4	0.5	2.3	1.1	1.5	1.2
$100,000-$199,999	28.6	56.8	47.4	49.5	45.3	71.4	43.2	52.6	50.5	54.7	0.4	1.3	0.9	1.0	0.8
$200,000 or more	18.5	44.9	32.2	35.1	34.2	81.5	55.1	67.8	64.9	65.8	0.2	0.8	0.5	0.5	0.5
Debt-to-Asset Ratio															
0-40 percent	13.7	33.4	22.7	24.0	25.5	86.3	66.6	77.3	76.0	74.5	0.2	0.5	0.3	0.3	0.3
41-70 percent	47.1	58.7	53.3	53.3	55.1	52.9	41.3	46.7	46.7	44.9	0.9	1.4	1.1	1.1	1.2
71 percent or more	75.5	85.9	80.4	81.6	82.7	24.5	14.1	19.6	18.4	17.3	3.1	6.1	4.1	4.4	4.8
Farmer Age															
39 years or younger	39.6	72.5	55.1	58.2	62.3	60.4	27.5	44.9	41.8	37.7	0.7	2.6	1.2	1.4	1.7
40-49 years	29.5	60.8	46.6	49.0	53.8	70.5	39.2	53.4	51.0	46.2	0.4	1.6	0.9	1.0	1.2
50 years or older	17.0	47.0	34.0	36.4	39.7	83.0	53.0	66.0	63.6	60.3	0.2	0.9	0.5	0.6	0.7

TABLE 7. RATE OF RETURN ON ASSETS AND RATE OF RETURN ON EQUITY PROFITABILITY MEASURES, QUARTILE VALUES FOR 2011, MEDIAN VALUES FOR 2010, AND 5-YEAR AVERAGE, 2006-2010, OF MEDIAN VALUES NORTH DAKOTA FARM BUSINESS MANAGEMENT EDUCATION PROGRAM PARTICIPANTS.

Farm Group	2011 Upper Quartile	2011 Lower Quartile	2011 Median	2010 Median	Average of 2006-2010 Medians	2011 Upper Quartile	2011 Lower Quartile	2011 Median	2010 Median	Average of 2006-2010 Medians
	Return on Farm Assets(%)					Return on Farm Equity(%)				
All Farms	16.5	5.6	10.5	14.9	10.0	28.6	6.7	15.4	23.6	14.0
Region										
Red River Valley	16.5	7.1	11.8	17.8	11.2	26.1	8.1	16.7	27.8	15.2
North Central	17.8	7.2	11.8	15.3	12.0	31.0	9.0	16.7	23.2	18.1
South Central	16.4	4.4	9.8	15.4	10.2	27.6	4.6	14.0	25.5	13.8
West	13.9	3.5	9.1	9.1	4.4	31.3	0.0	14.7	12.1	4.2
Farm Enterprise										
Crop	18.2	7.0	11.8	17.5	12.8	30.8	8.1	17.1	29.0	20.0
Livestock	12.0	3.4	7.7	6.3	2.4	24.7	2.9	13.0	7.7	0.2
Mixed	13.0	4.0	8.6	8.8	4.8	24.0	4.7	11.9	14.4	4.8
Farm Sales										
$249,999 or less	16.3	2.9	8.6	7.5	4.3	38.1	0.0	12.9	10.3	4.3
$250,000-$499,999	16.7	4.9	9.7	15.3	10.4	35.6	5.1	16.3	24.9	14.8
$500,000-$999,999	15.7	6.4	10.8	16.9	12.5	26.0	7.6	15.1	26.0	18.3
$1,000,000 or more	16.8	8.7	12.8	17.4	13.8	25.1	11.2	19.0	24.6	20.1
Farm Size										
1,999 acres or less	17.8	4.2	10.0	14.6	9.2	35.2	4.5	16.2	26.9	13.9
2,000 acres or more	15.2	7.2	10.9	15.1	10.8	25.2	8.9	15.2	21.9	14.2
Cropland Tenure										
Full tenant	25.0	7.4	15.9	16.9	11.8	49.8	10.8	28.0	28.9	18.9
1-20 percent owned	16.0	7.7	11.9	18.7	13.0	26.5	10.1	18.4	32.4	21.4
21-40 percent owned	15.2	6.3	10.9	15.4	11.1	25.1	7.2	15.2	25.0	15.5
41 percent or more owned	11.9	4.0	8.1	11.2	7.0	19.4	3.4	10.7	15.8	8.4
Net Farm Income										
$49,999 or less	4.7	-1.4	2.6	2.8	1.4	5.1	-7.8	-0.6	0.0	-3.0
$50,000-$99,999	12.4	5.6	8.8	10.5	8.4	30.3	6.2	13.1	18.0	12.5
$100,000-$199,999	17.6	8.6	11.6	14.6	12.8	35.6	11.4	19.0	26.9	20.8
$200,000 or more	19.6	10.2	14.3	19.1	18.1	30.3	12.9	20.4	30.7	27.4
Debt-to-Asset Ratio										
0-40 percent	16.0	7.3	11.4	16.0	11.8	22.6	8.1	13.6	20.4	13.9
41-70 percent	17.2	5.7	11.2	14.9	10.9	33.1	7.8	19.1	27.6	17.3
71 percent or more	11.7	2.9	7.0	10.6	5.0	49.2	-0.1	15.3	34.9	7.6
Farmer Age										
39 years or younger	21.4	6.4	12.9	17.2	11.5	45.0	8.9	25.7	31.3	21.2
40-49 years	15.2	7.3	11.2	15.3	10.3	25.6	8.9	17.5	25.7	15.3
50 years or older	13.9	5.2	9.2	13.2	8.6	20.4	5.1	11.7	18.7	10.7

TABLE 8. OPERATING PROFIT MARGIN AND NET FARM INCOME PROFITABILITY MEASURES, QUARTILE VALUES FOR 2011, MEDIAN VALUES FOR 2010, AND 5-YEAR AVERAGE, 2006-2010, OF MEDIAN VALUES, NORTH DAKOTA FARM BUSINESS MANAGEMENT PROGRAM PARTICIPANTS.

Farm Group	2011 Upper Quartile	2011 Lower Quartile	2011 Median	2010 Median	Average of 2006-2010 Medians	2011 Upper Quartile	2011 Lower Quartile	2011 Median	2010 Median	Average of 2006-2010 Medians
	Operating Profit Margin(%)					Net Farm Income($)				
All Farms	33.4	14.9	24.0	29.8	20.4	288,019	61,400	144,414	174,010	99,970
Region										
Red River Valley	30.6	13.9	22.6	30.3	19.8	371,933	96,018	187,156	240,087	136,640
North Central	35.5	17.5	26.2	29.9	22.5	263,181	67,868	147,801	177,275	118,354
South Central	34.0	12.2	22.6	33.5	21.1	301,600	58,448	142,072	166,880	91,359
West	31.8	10.5	22.3	24.4	11.7	199,586	31,298	95,523	85,945	42,107
Farm Enterprise										
Crop	33.3	14.3	24.1	31.6	22.5	336,884	92,856	185,822	239,426	141,200
Livestock	35.3	15.9	22.8	21.9	9.5	99,833	23,597	61,244	48,775	21,238
Mixed	33.1	15.8	24.5	26.8	14.6	163,378	35,632	88,409	76,648	44,343
Farm Sales										
$249,999 or less	35.1	10.0	24.5	21.9	12.2	74,465	14,296	43,367	43,503	24,434
$250,000-$499,999	31.2	12.0	22.0	30.9	21.0	145,296	63,964	105,226	140,892	95,944
$500,000-$999,999	33.8	15.2	23.5	31.8	24.0	281,086	124,700	193,742	274,954	193,999
$1,000,000 or more	32.7	18.7	25.4	31.6	23.5	577,356	285,853	386,845	565,841	364,740
Farm Size										
1,999 acres or less	34.1	11.1	22.7	29.9	18.7	174,886	34,894	87,876	108,049	61,881
2,000 acres or more	33.1	17.4	24.5	29.7	21.5	389,656	116,104	234,143	262,273	159,019
Cropland Tenure										
Full tenant	32.7	12.7	23.0	23.9	16.2	166,336	48,030	98,407	98,030	59,140
1-20 percent owned	28.1	16.2	22.6	29.6	20.6	384,060	118,237	212,965	291,026	163,569
21-40 percent owned	34.7	16.4	24.8	33.3	21.8	362,255	99,834	200,648	254,095	136,600
41 percent or more owned	35.3	15.2	26.2	33.2	21.7	241,166	40,780	112,018	131,133	74,482
Net Farm Income										
$49,999 or less	19.3	-4.6	6.5	8.0	3.6	35,045	2,801	19,957	19,952	11,954
$50,000-$99,999	33.2	12.4	18.8	24.3	18.5	86,119	61,723	73,194	69,451	71,409
$100,000-$199,999	31.1	18.0	24.1	29.5	25.3	170,998	122,458	145,735	147,946	138,875
$200,000 or more	37.8	23.7	31.0	36.8	32.8	470,417	267,994	355,956	368,666	319,261
Debt-to-Asset Ratio										
0-40 percent	36.2	19.0	27.8	34.8	26.1	386,458	116,160	238,209	268,017	170,814
41-70 percent	31.2	13.3	22.9	28.7	20.3	197,710	57,969	122,458	164,242	95,859
71 percent or more	25.7	6.2	16.3	21.8	10.5	91,789	17,334	47,753	62,544	26,101
Farmer Age										
39 years or younger	35.6	15.3	25.8	27.5	19.6	188,859	41,003	87,382	93,828	59,064
40-49 years	30.8	12.8	22.8	30.1	19.6	321,986	73,285	167,805	228,857	125,280
50 years or older	33.0	15.2	23.2	31.1	21.0	313,156	84,308	175,676	221,167	118,729

TABLE 9. REPAYMENT CAPACITY MEASURES, QUARTILE VALUES FOR 2011, MEDIAN VALUES FOR 2010, AND 5-YEAR AVERAGE, 2006-2010, OF MEDIAN VALUES, NORTH DAKOTA FARM BUSINESS MANAGEMENT EDUCATION PROGRAM PARTICIPANTS.

Farm Group	2011 Upper Quartile	2011 Lower Quartile	2011 Median	2010 Median	Average of 2006-2010 Medians	2011 Upper Quartile	2011 Lower Quartile	2011 Median	2010 Median	Average of 2006-2010 Medians
	Term Debt Coverage Ratio					Term Debt and Capital Repayment Margin($)				
All Farms	5.11	1.56	2.86	3.69	2.40	210,717	21,374	90,286	119,428	57,051
Region										
Red River Valley	5.04	1.94	3.35	4.27	2.87	278,928	45,760	135,952	174,505	90,146
North Central	5.19	1.50	2.76	3.33	2.56	170,933	23,045	75,772	114,439	68,287
South Central	5.41	1.09	2.81	4.00	2.50	227,084	7,241	91,405	127,402	55,403
West	4.20	1.33	2.83	2.99	1.54	157,773	13,692	68,359	60,605	16,436
Farm Enterprise										
Crop	5.73	1.74	2.92	4.21	3.01	252,507	40,664	114,184	169,607	88,607
Livestock	4.10	1.02	2.48	2.29	1.20	89,074	1,942	31,047	30,871	4,980
Mixed	3.82	1.36	2.61	2.55	1.40	132,475	12,880	48,856	57,425	12,936
Farm Sales										
$249,999 or less	5.46	1.00	2.66	2.62	1.42	56,540	262	24,612	27,198	7,639
$250,000-$499,999	3.96	1.15	2.31	3.66	2.49	106,041	8,651	57,980	111,431	57,296
$500,000-$999,999	5.57	1.55	2.89	3.94	2.96	216,404	42,789	129,404	201,193	129,404
$1,000,000 or more	5.45	2.22	3.55	4.58	3.46	496,244	175,326	299,529	457,309	280,370
Farm Size										
1,999 acres or less	5.07	1.44	2.77	3.68	2.19	120,263	9,793	49,098	70,579	33,626
2,000 acres or more	5.28	1.75	2.96	3.78	2.61	306,345	54,516	144,492	183,537	97,951
Cropland Tenure										
Full tenant	14.52	2.00	3.46	4.17	2.80	122,883	18,872	53,803	64,827	38,648
1-20 percent owned	4.41	1.55	2.87	4.26	2.87	289,459	44,996	125,566	179,782	96,840
21-40 percent owned	4.47	1.84	2.74	3.65	2.52	288,906	49,409	130,667	187,361	86,170
41 percent or more owned	4.45	1.27	2.50	3.20	1.86	163,997	13,772	68,533	85,538	35,425
Net Farm Income										
$49,999 or less	2.83	0.33	1.00	1.37	0.87	24,221	-30,512	145	7,274	-6,815
$50,000-$99,999	3.92	1.14	2.30	2.63	1.95	66,468	8,258	44,864	43,635	33,880
$100,000-$199,999	4.11	1.88	2.68	3.19	2.95	120,908	53,514	92,802	97,802	89,220
$200,000 or more	7.36	2.75	4.31	5.35	5.11	380,035	182,141	265,174	297,062	260,086
Debt-to-Asset Ratio										
0-40 percent	8.69	2.67	4.58	6.29	4.56	309,441	74,408	163,703	222,426	130,421
41-70 percent	3.39	1.48	2.37	3.03	2.07	130,612	15,965	59,410	99,430	49,410
71 percent or more	2.29	0.56	1.08	1.85	1.03	45,123	-10,765	4,039	32,783	1,588
Farmer Age										
39 years or younger	5.79	1.64	2.92	3.78	2.44	135,952	12,173	53,574	60,261	34,180
40-49 years	4.13	1.24	2.49	3.34	2.17	225,766	14,692	92,836	149,425	73,004
50 years or older	5.74	1.76	2.88	3.95	2.52	265,799	42,791	117,964	158,168	70,993

TABLE 10. ASSET TURNOVER AND OPERATING EXPENSE AND DEPRECIATION EXPENSE EFFICIENCY MEASURES (AS A PERCENTAGE OF GROSS FARM INCOME), QUARTILE VALUES FOR 2011, MEDIAN VALUES FOR 2010, AND 5-YEAR AVERAGE, 2006-2010, OF MEDIAN VALUES, FARM BUSINESS MANAGEMENT EDUCATION PROGRAM PARTICIPANTS.

	2011				Average of	2011				Average of	2011				Average of
Farm Group	Upper Quartile	Lower Quartile	Median	2010 Median	2006-2010 Medians	Upper Quartile	Lower Quartile	Median	2010 Median	2006-2010 Medians	Upper Quartile	Lower Quartile	Median	2010 Median	2006-2010 Medians
	Asset Turnover					Operating Expense(%)					Depreciation Expense (%)				
All Farms	.63	.33	.45	.48	.47	53.9	71.7	62.7	57.5	66.1	2.8	6.7	4.8	4.2	4.7
Region															
Red River Valley	.72	.42	.50	.59	.54	56.4	72.8	64.2	58.4	67.5	3.2	7.0	5.6	4.9	5.0
North Central	.63	.32	.46	.51	.49	52.2	69.6	60.1	56.5	63.9	2.7	6.0	4.0	3.5	3.9
South Central	.63	.31	.45	.47	.46	54.0	74.1	63.9	55.5	65.0	2.8	7.4	5.5	4.6	5.2
West	.49	.30	.38	.40	.35	52.9	74.2	64.1	60.4	71.9	2.9	6.4	4.2	4.2	6.0
Farm Enterprise															
Crop	.70	.37	.51	.57	.55	54.4	71.1	63.1	56.1	64.4	2.8	6.5	4.9	4.2	4.4
Livestock	.40	.21	.29	.30	.24	51.1	73.4	60.3	65.5	72.2	3.0	7.3	4.9	4.1	6.6
Mixed	.43	.26	.34	.34	.31	52.6	71.7	61.7	59.7	70.4	2.9	6.4	4.0	4.1	5.2
Farm Sales															
$249,999 or less	.55	.22	.33	.34	.33	49.2	71.9	58.2	57.7	68.0	1.9	7.0	3.9	3.9	4.9
$250,000-$499,999	.70	.36	.47	.50	.48	57.1	73.9	64.7	56.1	65.7	2.5	5.7	3.9	3.7	4.4
$500,000-$999,999	.62	.33	.45	.53	.53	53.9	71.3	62.8	57.2	64.5	3.5	7.1	5.4	4.4	4.8
$1,000,000 or more	.63	.39	.50	.53	.58	55.5	70.5	63.2	59.1	67.1	3.8	7.0	5.7	5.0	4.6
Farm Size															
1,999 acres or less	.71	.31	.47	.50	.46	52.4	73.9	62.1	56.2	66.6	2.5	6.6	4.4	4.1	4.6
2,000 acres or more	.57	.34	.42	.48	.48	54.8	70.4	63.1	58.4	65.5	3.5	6.8	5.1	4.4	4.9
Cropland Tenure															
Full tenant	.99	.47	.74	.71	.70	54.1	73.5	64.2	61.9	68.5	2.1	5.9	3.8	3.7	4.2
1-20 percent owned	.69	.42	.53	.64	.61	58.9	72.3	65.1	60.4	67.6	3.4	6.3	4.9	3.2	4.2
21-40 percent owned	.55	.35	.45	.47	.47	53.3	72.3	61.4	54.5	65.0	3.1	6.5	4.8	3.7	4.7
41 percent or more owned	.40	.25	.33	.33	.31	51.1	70.2	59.3	54.1	63.8	3.1	7.4	5.4	5.4	5.6
Net Farm Income															
$49,999 or less	.56	.21	.33	.32	.32	60.4	85.6	76.9	69.9	76.5	2.3	7.1	4.4	4.0	5.7
$50,000-$99,999	.64	.31	.44	.45	.47	52.9	73.9	66.5	60.6	67.7	2.5	6.5	4.8	3.7	4.3
$100,000-$199,999	.67	.37	.48	.51	.51	55.8	68.9	62.9	58.5	62.2	2.8	6.0	4.2	3.7	4.2
$200,000 or more	.62	.37	.48	.54	.56	51.8	64.7	56.7	52.5	56.1	3.5	7.0	5.4	4.6	4.6
Debt-to-Asset Ratio															
0-40 percent	.58	.33	.42	.47	.43	52.0	67.8	57.9	52.4	60.2	3.6	7.3	5.6	4.9	5.3
41-70 percent	.66	.35	.47	.52	.50	55.0	72.3	65.4	60.3	67.0	2.8	6.0	4.5	4.0	4.5
71 percent or more	.64	.28	.42	.46	.47	59.5	81.8	71.9	65.0	75.1	2.0	5.4	3.6	3.4	4.4
Farmer Age															
39 years or younger	.80	.36	.54	.56	.56	51.8	70.1	60.4	58.5	65.8	2.1	5.7	3.8	3.4	4.0
40-49 years	.64	.36	.47	.53	.50	56.3	74.8	65.9	57.5	67.4	3.6	6.3	4.8	4.6	4.7
50 years or older	.52	.30	.39	.44	.41	54.1	71.2	62.4	55.5	65.2	3.4	7.5	5.7	4.9	5.4

TABLE 11. INTEREST EXPENSE AND FARM INCOME EFFICIENCY MEASURES (AS A PERCENTAGE OF GROSS FARM INCOME), QUARTILE VALUES FOR 2011MEDIAN VALUES FOR 2010 AND 5-YEAR AVERAGE, 2006-2010, OF MEDIAN VALUES, NORTH DAKOTA FARM BUSINESS MANAGEMENT EDUCATION PROGRAM PARTICIPANTS.

	2011				Average of	2011				Average of
Farm Group	Upper Quartile	Lower Quartile	Median	2010 Median	2006-2010 Medians	Upper Quartile	Lower Quartile	Median	2010 Median	2006-2010 Medians
	Interest Expense(%)					Net Farm Income (%)				
All Farms	2.0	5.9	3.4	3.7	5.1	37.7	17.8	27.5	33.1	23.1
Region										
Red River Valley	1.7	4.4	3.0	2.7	3.9	35.0	17.6	26.1	33.0	23.2
North Central	1.9	6.3	3.4	3.8	5.1	40.1	21.3	30.8	34.9	26.0
South Central	1.9	5.7	3.3	3.7	5.0	37.4	15.9	25.8	34.1	23.5
West	2.9	8.3	5.1	5.5	7.4	36.8	16.4	23.7	28.5	14.4
Farm Enterprise										
Crop	1.7	5.0	3.0	3.2	4.3	38.0	18.9	27.7	35.6	25.9
Livestock	3.3	8.5	5.1	5.9	8.5	37.5	16.5	24.9	24.0	11.5
Mixed	2.8	8.0	5.4	6.5	7.6	37.0	17.3	28.3	29.8	17.0
Farm Sales										
$249,999 or less	2.2	8.6	5.4	6.0	7.6	40.3	16.6	31.1	30.4	17.4
$250,000-$499,999	2.6	6.3	4.0	4.0	5.0	35.6	17.2	27.1	35.0	24.1
$500,000-$999,999	1.6	5.3	3.5	3.4	4.2	39.0	17.4	27.5	33.1	25.6
$1,000,000 or more	1.8	3.8	2.8	2.7	3.6	35.3	20.0	26.5	32.9	24.4
Farm Size										
1,999 acres or less	2.0	6.4	3.4	3.9	5.2	38.7	16.5	27.4	34.3	22.5
2,000 acres or more	2.0	5.7	3.4	3.6	4.9	36.6	19.3	27.6	32.7	23.9
Cropland Tenure										
Full tenant	1.4	4.1	2.2	2.9	3.6	38.9	18.2	30.8	31.2	21.4
1-20 percent owned	1.6	4.5	3.0	4.1	4.7	32.3	19.2	26.1	31.6	23.1
21-40 percent owned	2.5	5.7	3.7	4.5	5.4	38.9	18.5	27.4	35.3	24.6
41 percent or more owned	2.5	8.0	5.0	4.6	6.9	38.3	16.9	30.4	34.3	22.8
Net Farm Income										
$49,999 or less	3.5	11.1	7.0	7.0	8.4	23.4	2.4	11.1	17.1	8.4
$50,000-$99,999	2.6	6.9	4.0	5.2	5.4	36.0	16.4	23.5	28.7	21.2
$100,000-$199,999	2.1	5.4	3.5	4.4	4.4	36.6	21.0	28.5	32.5	27.9
$200,000 or more	1.3	3.8	2.5	2.7	3.0	42.1	26.1	34.2	39.0	34.9
Debt-to-Asset Ratio										
0-40 percent	1.0	3.3	2.0	2.0	2.7	41.3	23.4	33.6	39.8	31.3
41-70 percent	3.3	6.7	4.9	4.9	5.9	34.3	17.5	25.2	30.0	21.9
71 percent or more	5.0	12.2	7.6	6.8	8.4	27.1	8.1	17.5	24.2	10.6
Farmer Age										
39 years or younger	2.2	6.9	3.7	3.8	5.2	40.1	18.6	30.6	32.9	23.4
40-49 years	2.2	6.3	3.9	4.0	5.2	34.2	16.3	25.1	32.6	21.6
50 years or older	1.6	5.3	3.0	3.5	4.8	37.5	18.7	27.3	35.0	24.3

APPENDIX

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 un-depreciated 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 profitability in the business. Two important factors affecting this measure are valuation of assets and the charge for unpaid operator labor and management. Five percent of gross revenue plus a $20,000 charge per full time operator 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. Five percent of gross revenue plus a $20,000 charge per full time operator 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 non-farm 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 non-farm 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.

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