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Financial Characteristics of North Dakota Farms 2000-2009

Andrew L. Swenson

Department of Agribusiness and Applied Economics
Agricultural Experiment Station
North Dakota State University
Fargo, ND 58108-6050

CONTACT INFORMATION

We would be happy to provide a single copy of this publication free of charge. You can address your inquiry to: Department of Agribusiness and Applied Economics, North Dakota State University, P.O. Box 6050, Fargo, ND, 58108-6050, Ph. 701-231-7441, Fax 701-231-7400, e-mail ndsu.agribusiness@ndsu.edu. This publication is also available electronically at this web site: http://agecon.lib.umn.edu/.

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Abstract

The performance of over 500 North Dakota farms, 2000-2009, 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, 2004-2008, are also presented. In 2009, median and average acreage per farm was 1,995 and 2,516, respectively. Median and average cash farm revenue was $430,321 and $558,305, respectively. Over 70% of farms were crop farms and 42 percent of farms had gross sales exceeding $500,000. Median age of farm operators was 47.

Median net farm income in 2009, $47,547, was down sharply from $114,520 in 2008 and $127,791 in 2007. Financial measures for 2007-2008 were much superior to those in other years for the 2000-2009 period. The Red River Valley and crop farms typically had stronger profitability, solvency, and repayment capacity from 2000 to 2009 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 2009 median net farm income was $70,912 for crop farms and $11,392 for livestock farms.

Farms with sales less than $250,000 were over twice as likely to have debt-to-asset higher than 70 percent than were farms with sales greater than $250,000. Farms that own some crop land, but less than 40 percent 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. Rate of return on equity greater than rate of return on assets, which indicates that debt capital was employed profitably, was achieved nine years in the past decade by farms with greater than $500,000 gross cash income but never by the farm group with less than $100,000 gross cash income. Median net farm income as a percent of gross revenue was the lowest of the decade in 2009, 13.4 percent, after peaking at 30.6 percent in 2007. It ranged from 14.0 to 19.6 percent from 2001 to 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, 2000-2009. 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 2000-2009, the financial summaries of over 500 farms each year were considered usable for this study.

About 85 percent of the same farms are in the study 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 2009, there were 32,000 farms in North Dakota with agricultural production of at least $1,000. Only 7,600, or 24%, had gross receipts greater than $250,000, whereas 70% of the 537 farms in this study exceed that sales volume (median gross sales was $430,321). 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 60%, which is worse than the median value of 47.9% (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 2009, there are only 63 farms with sales less than $100,000, 69 mixed livestock-crop enterprise farms, and 87 livestock farms. Also in 2009, there are only 84 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 $100,000 sales. Also, comparison of farms by enterprise type, farm size and gross sales can be affected by regional performance. The Red River Valley has the highest proportion, relative to other regions, of crop farms, farms of less than 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 2009 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, 2000-2009.

	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000
Number of Farms	537	532	531	509	520	522	513	513	532	553
	----------Median----------									
Age of Operator	47	47	47	46	46	46	45	44	44	44
Farm Size (acres)	1,995	2,001	2,000	1,966	1,998	2,002	1,995	2,033	1,937	1,916
Gross Cash Revenue	430,321	464,464	353,252	281,751	281,667	265,524	247,757	220,781	216,697	205,659
Total Farm Assets	1,019,147	995,609	810,426	688,802	684,181	652,575	612,437	575,606	543,860	549,636
Total Farm Liabilities	444,169	419,979	371,180	348,102	338,657	323,805	305,268	284,828	287,068	274,640
Current Ratio	1.4	1.8	1.7	1.2	1.2	1.3	1.4	1.3	1.2	1.4
Working Capital	72,683	128,854	103,063	20,660	27,812	35,264	39,712	29,099	21,910	36,612
Debt-to-asset (%)	51.2	48.4	50.0	57.5	54.8	54.3	54.3	53.3	55.5	53.9
Rate of Return on Farm Assets (%)	4.0	10.6	15.7	4.7	4.9	6.1	7.0	5.7	4.1	7.6
Rate of Return on Farm Equity (%)	3.0	15.8	25.3	2.4	4.3	6.7	8.4	4.4	3.2	7.7
Operating Profit Margin (%)	9.7	20.8	29.3	12.2	12.9	15.1	17.4	14.5	12.1	20.6
Net Farm Income	47,547	114,520	127,791	35,980	42,286	44,912	49,181	38,079	27,729	45,085
Term Debt Coverage Ratio	1.2	2.7	3.3	1.2	1.3	1.5	1.6	1.3	1.0	1.6
Term Debt & Capital Repayment Margin ($)	6,360	67,276	86,825	5,378	10,110	18,752	21,012	10,628	301	17,768
Asset Turnover Ratio	.40	0.52	0.56	0.38	0.39	0.40	0.42	0.37	0.38	0.42
Operating Expense Ratio (%)	75.6	66.9	58.2	72.5	71.1	69.2	66.8	68.8	70.9	63.3
Depreciation Expense Ratio (%)	5.2	4.1	4.3	5.6	6.0	6.0	5.9	5.6	5.9	5.3
Interest Expense Ratio (%)	4.9	4.4	5.2	7.2	6.0	5.6	5.6	6.6	7.6	7.8
Net Farm Income Ratio (%)	13.4	24.2	30.6	14.2	16.0	18.6	19.6	17.3	14.0	21.7

FARM CLASSIFICATION AND HIGHLIGHTS

ALL FARMS

Highlights

- Some general trends over the past ten years, 2000-2009, for farms enrolled in the North Dakota Farm Business Management Education Program are:
  - farms are getting larger as measured by median gross revenue which more than doubled, and by median farm assets and liabilities, which increased 85% and 62%, to $1,019,147 and $444,169, respectively.
  - farmers are getting older; the median age increased from 44 to 47.

- Median net farm income was $47,547 in 2009, $114,520 in 2008, and $127,791 in 2007. In 2009, lower crop prices, continued high costs and low livestock profit resulted in sharply lower financial performance despite record yields for spring wheat, durum, barley, canola, and field peas. Liquidity and solvency measures and interest expense as a percent of gross revenue were the best in 2008 for the 2000-2009 period. The superior year for all other financial measures was 2007. Crop prices set record highs during the 2007-2008 period.

- Financial performance in 2006 was the second lowest in the 2000-2009 period. Because of higher input costs and 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. Financial performance in 2004 was strong albeit down from 2003. 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.

- Median net farm income in 2003, $49,181, was the third highest in the 2000-2009 period. 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. Profit increased 37% in 2002 from higher prices and lower production costs. Profit in 2001 was lowest in 2000-2009 period because of lower government subsidies and higher crop production costs with continued low commodity prices. Financial performance was strong in 2000, despite low crop prices, because of extraordinary government and crop insurance payments and higher beef prices. Also, at the time, yields and acreage of corn, soybeans and sugarbeets were at record levels.

- Median current ratio was 1.4 in 2009, similar to the 1.2 to 1.4 range from 2000-2006, after peaking at 1.8 in 2008 and 1.7 in 2007. Median debt-to-asset was 51.2% in 2009 after improving in 2007 to 50% and 48.4% in 2008, the best in the 2000-2009 period. It was only 57.5% in 2006 which was the worst during the past 10 years.

- In 2009, median rates of return on assets and equity were 4.0 and 3.0, respectively, after exploding to 25.3% and 15.7%, respectively, in 2007 and 15.8% and 10.6%, respectively, in 2008. In the 2000-2009 period, the years that ROE exceeded ROA, which indicated that debt capital was employed profitably, were 2000, 2003, 2004, 2007, and 2008.

- In 2009, median term debt coverage ratio and term debt and capital repayment margin were 1.2 and $6,360, respectively, down from 2.7 and $67,276, respectively, in 2008, and 3.3 and $86,825 in 2007. Prior to 2007, the ten year highs were 1.6 and $21,012, respectively, in 2003.

- Interest expense as a percent of gross revenue increased in 2005 and 2006 because of higher debt and interest rates. It declined sharply in 2007, to 5.2%, and in 2008, to 4.4% because of much stronger gross revenue. In 2009 it increased to 4.9%. Median net farm income as a percent of gross revenue was the lowest of the decade in 2009, 13.4%. It was 24.2% in 2008 and 30.6% in 2007 after ranging from 22.4% and 14.0% between 1999 and 2006.

TABLE 2. FARM CLASSIFICATIONS AND PERCENT DISTRIBUTION OF FARM TYPES WITHIN REGIONS, NORTH DAKOTA FARM BUSINESS MANAGEMENT EDUCATION PROGRAM, 2009.

			Farm Group Category Breakout by Region			
Farm Group Category	Number of Farms (537)	Percentage	Red River Valley	North Central	South Central	West
Region			101	194	158	84
Red River Valley	101	19				
North Central	194	36				
South Central	158	29				
West	84	16				
Farm Enterprise			----------percentage----------			
Crop	381	71	99	78	64	33
Livestock	87	16	0	13	16	44
Mixed	69	13	1	9	20	23
Farm Sales						
$99,999 or less	63	12	5	9	15	21
$100,000 - $249,999	98	18	12	19	17	27
$250,000 - $499,999	151	28	20	31	30	27
$500,000 or more	225	42	63	42	38	24
Farm Size						
1,999 acres or less	269	50	74	43	54	30
2,000 acres or more	268	50	26	57	46	70
Cropland Tenure						
Full tenant	123	23	23	21	25	26
1-20 percent owned	121	23	32	26	14	22
21-40 percent owned	120	22	33	20	23	18
41 percent or more owned	163	30	13	33	38	34
Farm Income						
$19,999 or less	181	34	39	23	38	44
$20,000 - $49,999	100	19	22	18	18	18
$50,000 - $99,999	96	18	19	19	15	19
$100,000 or more	160	30	21	40	29	19
Debt-to-asset Ratio						
0 - 40 percent	188	35	39	41	30	27
41 - 70 percent	233	43	44	37	49	48
71 percent or more	116	22	18	23	21	25
Farmer Age						
39 years or younger	168	31	31	34	32	26
40 - 49 years	139	26	26	27	23	30
50 years or older	230	43	44	40	46	44

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 2008 summaries are:

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

Highlights

- In 2009 the median farm size increased from the Red River Valley (1,343 acres, all crop land) to the west region (2,928 acres, including pasture). Median farm size was 2,372 acres (1,845 crop acres) in the north central region and 1,816 acres (1,393 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 2009, the incidence of livestock and mixed enterprise farms ranged from only 1% in the Red River Valley to 67% in the west.

- The median net farm income for the Red River Valley went from the highest in the decade, $201,875, in 2008 to the lowest, $41,555, in 2009 because of lower crop prices, maturity problems with corn, and low quality wheat. Median net farm income in the north central and south central regions dropped to $73,452 and $37,422, respectively, in 2009 from $149,156 and $92,127 in 2008.

- The median net farm income of the west region was $27,807 compared to $18,936 in 2008 and $77,136 in 2007. In 2006, it 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.

- The median current ratio in 2009 was 1.5 in the north central region and 1.4 in other regions but the five year average, 2004-2008, median current ratio was 1.4 in the north central region and 1.5 in other regions.

- In 2009, median debt-to-asset deteriorated to 48.0% for the Red River Valley, 47.7% in the north central region and 52.7% in the south central region. The west region had the weakest solvency, as typical, at 55.1% median debt-to-asset.

- The five year average, 2004-2008, median term debt coverage ratio ranged from 2.4 in the Red River Valley to 1.4 in the west region. However, in 2009 it was lowest, 0.8, in the Red River Valley and highest, 1.4, in the north central region.

- The only instance where median operating expense (all expenses except depreciation and interest) as a percent of gross revenue was over 80% for any region during the past decade was 2009 in the Red River Valley and the west region. The only instance that any region achieved less than 60% was in 2007 for the north central, south central, and west regions.

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

- In 2009, 71% of farms were classified as crop, 16% as livestock and 13% were mixed enterprise farms.

- In the west region 67% of farms were classified as livestock or mixed enterprise in 2009, compared to 1% in the Red River Valley, 22% in the north central and 36% in the south central regions.

- In every year, 2000-2009, crop farms were larger than livestock and mixed enterprise farms as measured by median total assets, total liabilities, and gross income. The only year in which median net farm income of both livestock and mixed enterprise farms exceeded that of crop farms was in 2005. Profitability of livestock farms was similar to crop farms in 2001.

- For every financial measure, crop farms either in 2007 or in 2008 had the best performance of any year and farm type during the entire 2000-2009 period. For example, median rate of return on equity was 37% in 2007 and 21.7% in 2008. These far exceeded the previous 10-year high of 12% which occurred in 2003 for crop farms.

- Livestock farms had their best financial performance in 2005. It is the only year in the 2000-2009 period where livestock farms had better solvency and rates of return on assets and equity than crop farms.

- In 2009, median net farm income declined 58% to $70,912 for crop farms, 21% to $11,392 for livestock farms, and 35% to $21,870 for mixed enterprise farms.

- A higher asset turnover ratio for crop farms is typical. In 2009, the median was .45, .21, and .28 for crop, livestock and mixed enterprise farms, respectively. The five year average, 2004-2008, median asset turnover was .53 for crop farms, .26 for livestock farms (predominantly beef cow-calf farms) and .33 for mixed enterprise farms.

- Crop farms had the highest median term debt coverage ratio, 1.33 in 2009, compared to 0.61 for mixed enterprise farms. Livestock farms had the highest in 2005, 2004 and 2001 over the 2000-2009 period, compared to other farm types.

- In 2009, the median interest expense as a percent of gross revenue was 4.1% for crop farms, 7.7% for livestock farms, and 6.7% for mixed enterprise farms. Every year, 2000-2009, crop farms had the best measure.

- In 2009, crop farms had the best performance in converting gross income into net income, 16.0%, compared to other farm types. Livestock farms, at 4.0%, had the lowest of any farm type over the past 10 years. Livestock farms had the best ratio in the 2004-2005 and 2000-2001 periods.

Figure 1. Median Total Farm Assets and Liabilities by Farm Type, 2009, N.D. Farm Mgt Program

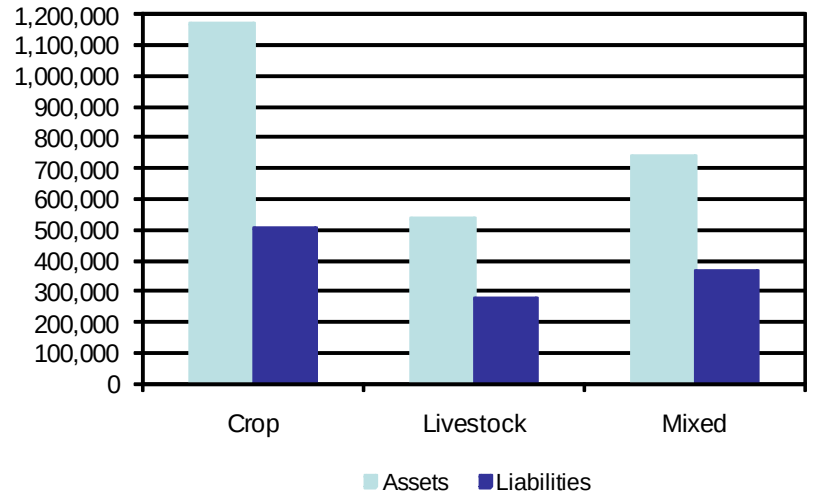


Figure 2. Median Net Farm Income by Farm Type, 2000-2009 N.D. Farm Mgt Program

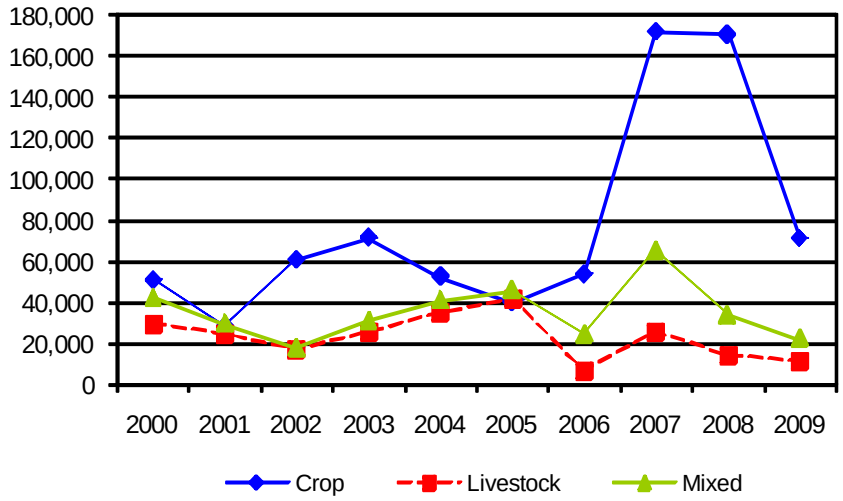


Figure 3. Median Rate of Return on Assets by Farm Type, 2000-2009, N.D. Farm Mgt Program

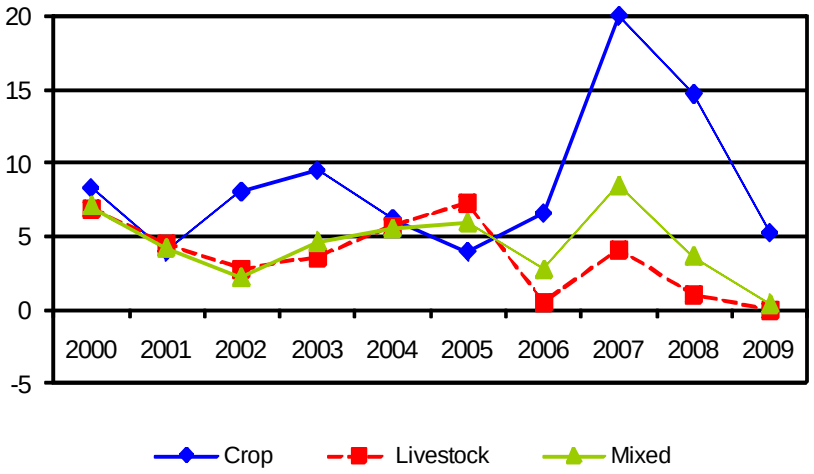
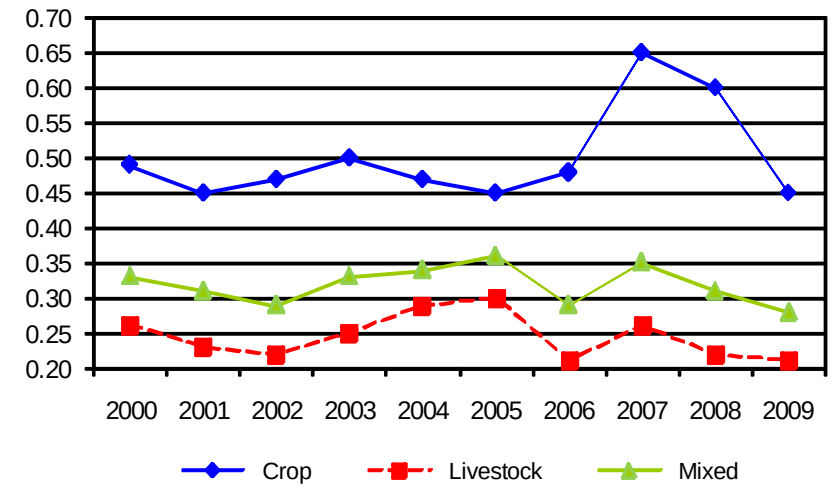


Figure 4. Median Asset Turnover Ratio by Farm Type, 2000-2009, N.D. Farm Mgt Program



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 $100,000
$100,000 to $249,999
$250,000 to 499,999
$500,000 or more

Highlights

- Median and average farm sales in 2009 of $430,321 and $558,305, respectively, were the first year-to-year declines over the past decade. Median and average farm sales were $466,464 and $607,623, respectively, in 2008. In 2009, 42% of farms had sales greater then $500,000.

- Gross sales are correlated to region and farm type. In 2009, 63% of Red River Valley farms had sales in excess of $500,000, compared to 24% in the west region. Also, crop farms were over three times more likely to have sales in excess of $500,000 than were livestock farms.

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

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

- In 2009, median net farm income decreased 83%, to $1,539, for farms with less than $100,000 sales, 29%, to $20,321, for farms with sales $100,000 to $249,999, 44%, to $48,983, for farms with sales $250,000 to $499,999, and 53%, to $120,323, for farms with sales greater than $500,000.

- Farms with low sales typically have worse solvency. The median debt-to-asset was 65.8%, 53.5%, 53.3%, and 44.3% for the lowest to highest farm sale groups, respectively, in 2009.

- Typically, repayment capacity is directly related to amount of sales. The five-year average, 2004-2008, median term debt coverage ratio was 1.3, 1.3, 2.1, and 2.7 for the lowest to highest farm sale categories, respectively. The only year, 2000-2009, farms with less than $100,000 sales had the highest median term debt coverage ratio was 2009, at 1.4. In 2007 and 2008, farms with sales greater than $500,000 had extremely high median term debt coverage ratios of over 4.0.

- Farms with greater sales use a smaller portion of gross revenue for interest expense. In 2009, the interest expense as a percent of gross revenue was 9.7%, 6.3%, 5.2%, and 3.7% 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. In the 10-year period, from 2000 to 2009, this occurred in nine of the years for farms with greater than $500,000 sales and none of the years for farms with less than $100,000 sales.

Figure 5. Median Total Farm Assets and Liabilities by Farm Sales, 2009, N.D. Farm Mgt Program

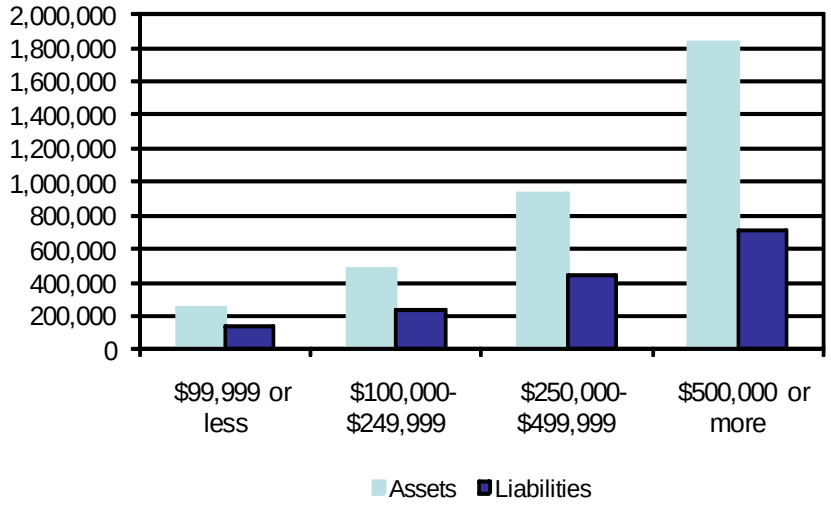


Figure 6. Median Net Farm Income by Farm Sales, 2000-2009, N.D. Farm Mgt Program

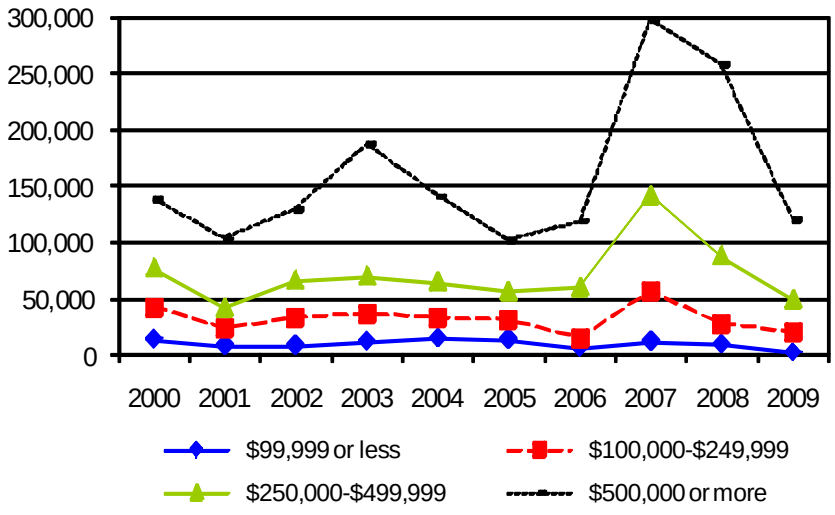


Figure 7. Median Term Debt Coverage Ratio by Farm Sales, 2000-2009, N.D. Farm Mgt Program

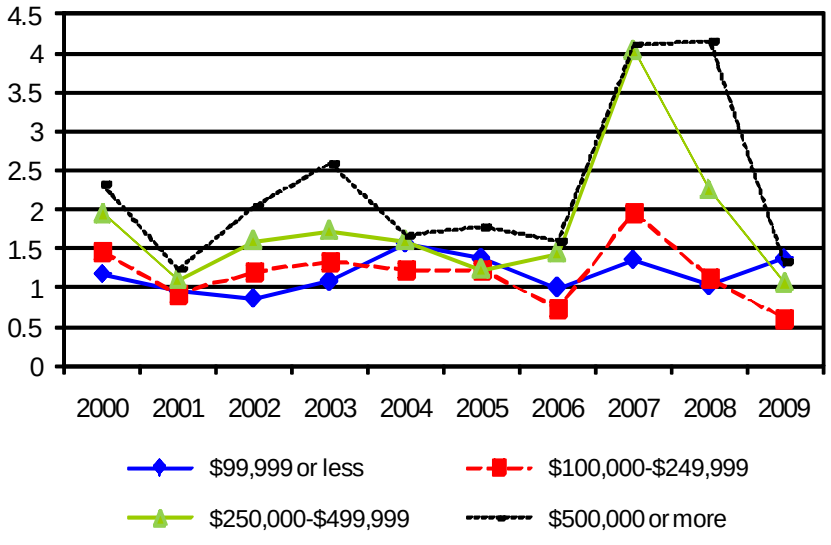
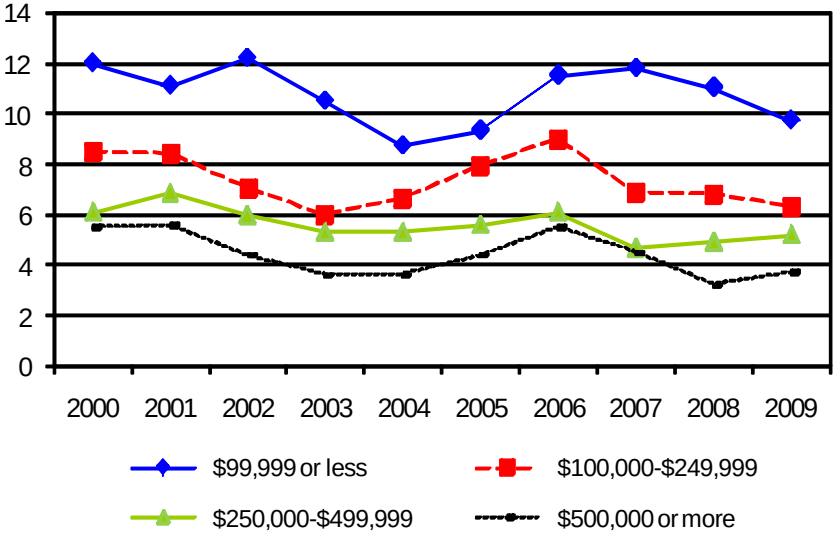


Figure 8. Median Interest Expense as a Percent of Gross Revenue, by Farm Sales, 2000-2009, N.D. Farm Mgt Program



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 70% of west region farms and about one-half of farms in the central regions.

- From 2000 to 2007, mixed enterprise farms were slightly more likely to be larger than 2,000 acres than were crop or livestock farms, but 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 2009, 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 55% for farms less than 2,000 acres and 46% for larger sized farms in 2009.

- In 2009, median net farm income was $25,524 for farms with less than 2,000 acres and $86,149 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.

- Median current ratio in 2009 and the five year average, 2004-2008, was 1.5 for farms larger than 2000 acres and 1.4 for farms with less than 2000 acres.

- Median term debt coverage ratio, 2000 to 2009, 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.

- Larger acreage farms were more financially efficient in 2009. Median operating expense (excluding depreciation and interest) as a percent of gross revenue was 79% for farms with less than 2,000 acres and 73% for farm s with greater than 2,000 acres. Financial efficiency measures of farm size groups typically were similar 2000 to 2008. 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. Slightly over one out of ten 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 2009, farmers 50 years or older were over 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 one-fourth of crop farms.

- In 2009, 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.

- During 2000 to 2009 there is no clear relationship between current ratio and land tenure.

- Farms with greater crop land ownership typically have better solvency. The five year average, 2004-2008, median debt-to-asset ratio was 59.0% for farms with no crop land ownership, 54.6% for farms with 1-20% crop land ownership, 53.3% for farms with 21-40% crop land ownership, and 48.1% 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 2009, median net farm income ranged from $68,624 for farms with 1 to 20% crop land ownership to $38,518 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 higher asset turnover ratios and lower interest expense as a percent of gross revenue.

Figure 9. Median Net Farm Income by Crop Land Tenure, 2000-2009, N.D. Farm Mgt Program

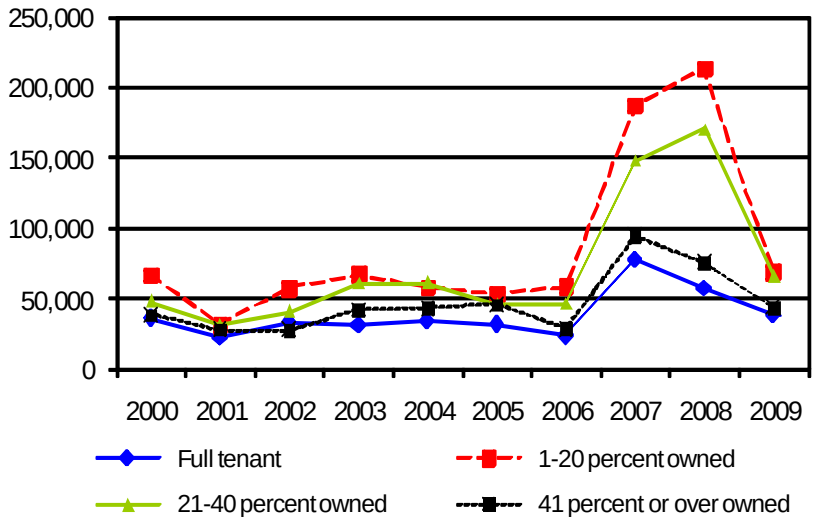


Figure 10. Median Asset Turnover Ratio by Crop Land Tenure, 2000-2009, N.D. Farm Mgt Progam

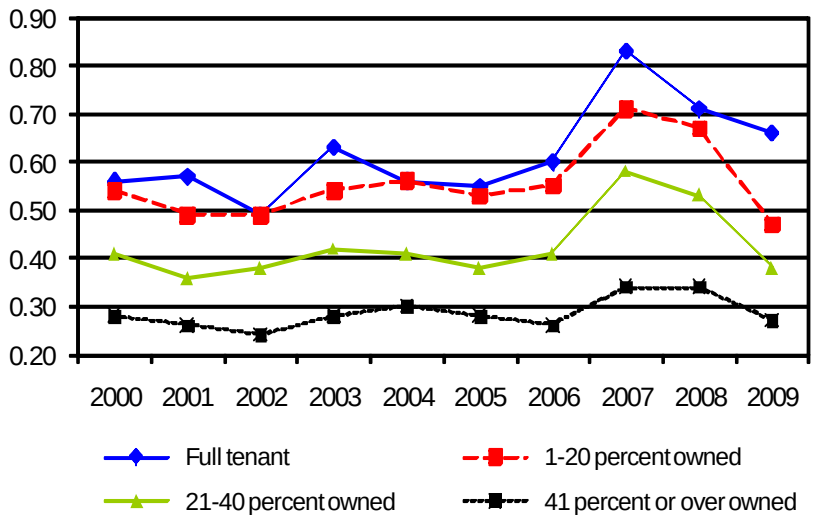


Figure 11. Median Net Farm Income by Debt-to-Asset Group, 2000-2009, N.D. Farm Mgt Program

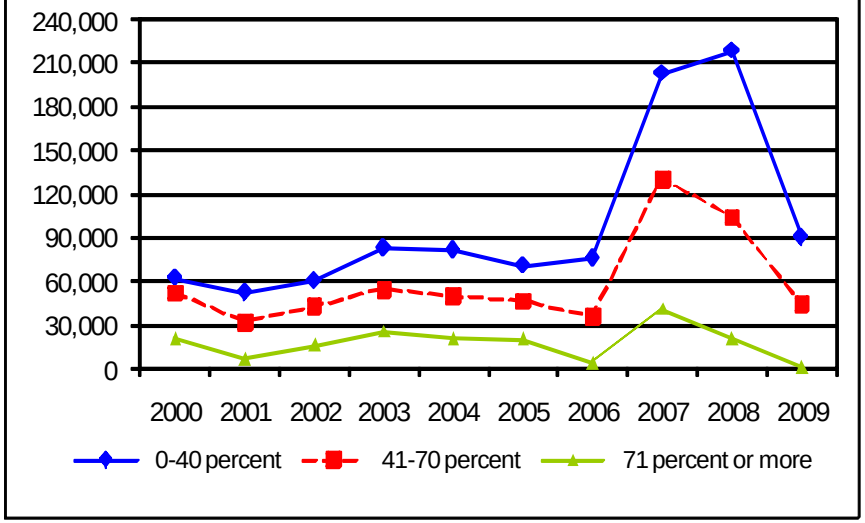
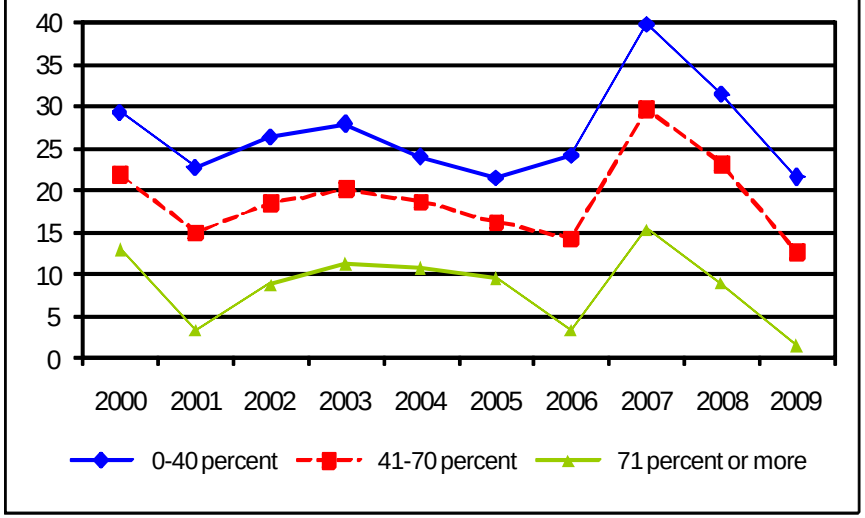


Figure 12. Median Net Farm Income as a Percent of Gross Revenue by Dept-to-Asset Group, 2000-2009, N.D. Farm Mgt Program



NET FARM INCOME

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

$19,999 or less
$20,000 - $49,999
$50,000 - $99,999
$100,000 or more

Highlights

- Farm profit is volatile. Year-to-year changes in median net farm income within regions and farm types averaged about 60% the past 10 years. The largest change occurred in 2007. Statewide, median net farm income decreased 58% in 2009 and 10% in 2008, after increasing 255% in 2007.

- The highest median net farm income in the 2000-2009 period was $127,791 in 2007 followed by $114,520 in 2008 and $49,181 in 2003. The lowest was $27,729 in 2001.

- The Red River Valley region had the highest median net farm income every year from 2000 to 2009, except for 2005, 2007 and 2009. The west region farms had the lowest median net farm income six of the ten years.

- Typically, crop farms have been more profitable than livestock farms. The five year average, 2004-2008, median net farm income was $97,618 for crop farms and $24,518 for livestock farms.

- In 2009, 39% of crop farms had net farm income greater than $50,000 compared to one out of ten livestock farms. About eight of ten livestock farms earned less than $20,000.

- As expected, net farm income is strongly associated with farm sales and farm size. In 2009, over one-half of farms with sales greater than $500,000 had net farm income greater than $100,000. Over 70% of farms with less than $100,000 sales earned less than $20,000. Over 40% of farms larger than 2,000 acres had net farm income greater than $100,000, compared to 15% of smaller farms.

- In all years, from 2000 to 2009 except two, 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 and 2009.

- 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 51.2% in 2009, 48.4% in 2008, and 50.0% in 2007 after ranging from 53.3% to 57.5% between the years 2000 to 2006.

- 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 from 2000 to 2006.

- 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 high sales (greater than $500,000 sales) always had lower median debt-to-asset than other farm size and farm sales groups, respectively, during the 2000-2009 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 2009, farms in the low, medium and high debt-to-asset categories had median current ratios of 3.4, 1.3 and 1.0; term debt coverage ratios of 2.69, 0.93, and 0.39; interest expense as a percent of gross revenue of 2.4, 6.2 and 7.7; and net farm income as percent of gross revenue of 21.6, 12.6 and 1.5, respectively.

- In 2007 and 2008, farms with sales less than $100,000 were three 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 2009, median debt-to-asset was 62.1% for farmers younger than 40 years, 57.3% for farmers 40-49 years and 38.0% for farmers 50 years or older.

- In 2009, median net farm income declined for the low debt-to-asset category to $89,919 from $218,042. It dropped to $44,814 from $104,110, and to $1,979 from $20,849 for the medium and high debt-to-asset categories, respectively.

- In 2009, one-half of farms with low debt had net farm income greater than $100,000, compared to one-tenth 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 2009, 31% of farm operators were under 40 years old and 26% were 40 to 49 years old. The percent of farmers 50 and older has steadily increased from 19% in 1996 to 43% in 2009.

- Prior to 1999, the age of farmers tended to increase slightly from east to west, but from 1999 to 2009, the age distribution of farm operators has been similar across regions.

- Farmers in the middle age and older age groups 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 and 2009, when the median net farm income was highest for farmers older than 50 years.

- For each age group, the years 2007 and 2008 had much higher median net farm income than any other year during the 2000-2009 period. In 2009, it dropped 32% to $37,611 for farmers under 40 years old, 70% to $45,098 for farmers 40-49 years old, and 53% to $62,334 for farmers 50 years and older.

- Median total assets were lowest, 2000-2009, for farm operators less than 40 years old. However, median total assets of farmers between 40 and 49 years old and the older age group of farmers (50 years and older) is close.

- 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 2009, median debt-to-asset was 62.1% for farmers less than 40 years old, 57.3% for farmers in the 40 to 49 age group and 38.0% for farmers 50 or older.

- In 2007 through 2009, median current ratio improved with farmer age. However, from 2000-2006, there was not a clear relationship between median current ratio and age groups.

- In each year, 2000-2009, 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 measures of ROA, ROE, and asset turnover.

Figure 13. Median Total Farm Assets and Liabilities by Farmer Age, 2009, N.D. Farm Mgt Program

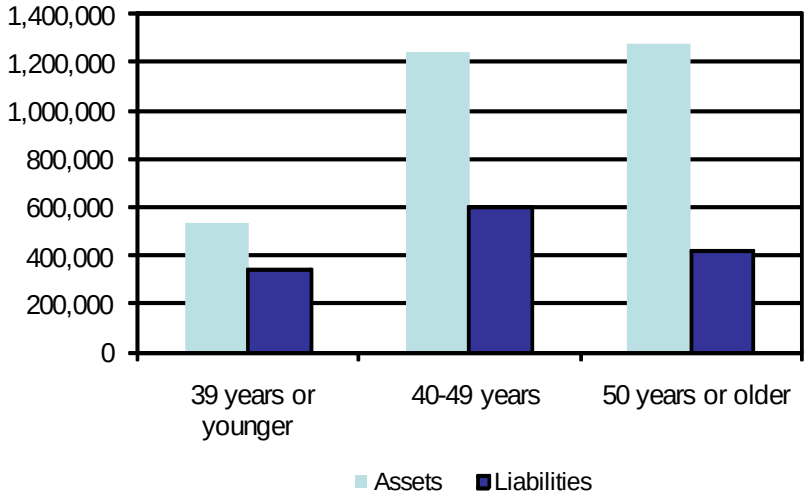


Figure 14. Median Net Farm Income by Farmer Age, 2000-2009, N.D. Farm Mgt Program

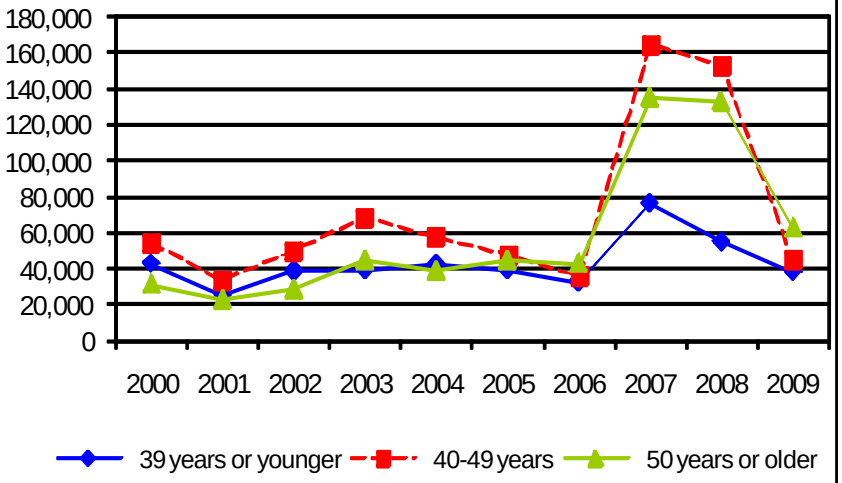


Figure 15. Median Term Debt Coverage Ratio by Farmer Age, 2000-2009, N.D. Farm Mgt Program

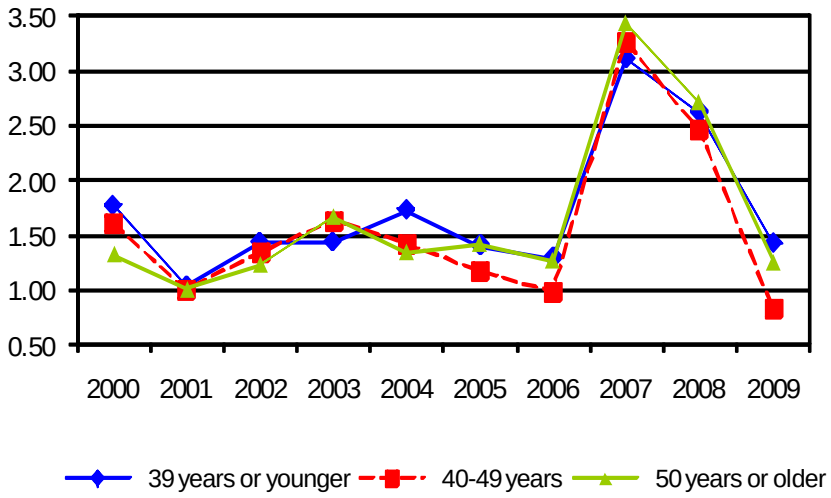


Figure 16. Median Net Farm Income as a Percent of Gross Revenue by Farmer Age, 2000-2009, N.D. Farm Mgt Program

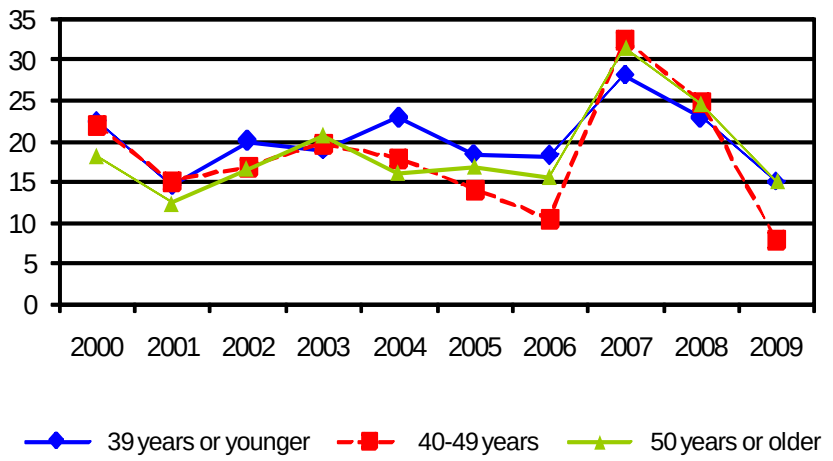


TABLE 3. CURRENT ASSETS AND CURRENT LIABILITIES, QUARTILE VALUES FOR 2009, MEDIAN VALUES FOR 2008, AND 5-YEAR AVERAGE, 2004-2008, OF MEDIAN VALUES, NORTH DAKOTA FARM BUSINESS MANAGEMENT EDUCATION PROGRAM PARTICIPANTS

Farm Group	2009 Upper Quartile	2009 Lower Quartile	2009 Median	2008 Median	Average of 2004-2008 Medians	2009 Upper Quartile	2009 Lower Quartile	2009 Median	2008 Median	Average of 2004-2008 Medians
	Current Farm Assets ($)					Current Farm Liabilities ($)				
All Farms	548,523	142,118	305,912	325,622	227,668	70,625	326,674	177,828	156,221	132,678
Region										
Red River Valley	663,135	199,737	373,427	461,952	319,457	76,624	404,169	201,442	201,776	162,944
North Central	569,066	157,304	318,809	360,498	226,725	71,339	300,039	166,089	155,661	135,014
South Central	512,124	146,533	290,790	309,919	221,983	78,489	323,573	165,965	160,754	127,073
West	495,078	85,311	247,977	193,354	174,003	53,219	312,386	159,817	108,398	95,350
Farm Enterprise										
Crop	645,492	213,940	374,469	422,444	279,836	95,186	362,986	204,946	189,198	156,202
Livestock	239,336	60,080	103,648	118,077	120,258	34,000	184,621	70,723	74,548	71,008
Mixed	395,865	111,737	217,776	182,000	168,551	62,561	265,823	142,026	150,486	127,127
Farm Sales										
$99,999 or less	73,864	28,027	48,221	43,122	45,446	16,058	46,466	33,465	34,242	31,509
$100,000-$249,999	195,741	75,808	130,693	120,768	118,338	38,595	157,647	83,056	80,237	90,572
$250,00-$499,999	397,006	191,262	280,609	286,074	257,440	104,386	266,825	173,440	142,346	155,470
$500,000 or more	901,115	407,359	575,936	596,919	524,681	185,207	487,789	310,309	262,240	279,345
Farm Size										
1,999 acres or less	311,075	73,293	171,121	188,765	139,448	37,369	207,325	104,810	92,192	89,902
2,000 acres or more	823,013	298,636	489,612	526,318	339,916	150,214	432,847	270,423	232,710	189,452
Cropland Tenure										
Full tenant	335,897	70,161	169,403	159,902	133,381	36,507	216,561	97,064	85,094	80,136
1-20 percent owned	684,899	245,886	438,778	492,094	316,716	151,178	411,069	265,822	242,155	191,939
21-40 percent owned	689,881	260,474	407,861	442,146	296,385	130,334	401,573	234,977	194,803	162,746
41 percent or more owned	483,105	124,174	274,905	301,950	205,101	55,063	261,705	136,675	135,562	109,353
Net Farm Income										
$19,999 or less	342,804	60,276	169,403	105,024	89,486	46,871	310,309	138,821	71,304	83,831
$20,000-$49,999	297,221	99,870	186,661	150,012	136,668	35,367	222,570	128,261	81,512	92,314
$50,000-$99,999	433,711	205,822	337,462	251,970	223,311	89,830	289,629	169,502	134,814	135,565
$100,000 or more	930,585	402,752	617,539	556,341	451,033	135,591	399,283	261,762	223,857	190,284
Debt-to-Asset Ratio										
0-40 percent	733,007	253,386	456,100	480,015	330,138	46,859	233,675	126,843	122,363	98,410
41-70 percent	487,507	147,731	287,031	304,013	225,524	102,306	381,930	217,619	189,528	158,885
71 percent or more	346,435	73,157	174,634	150,012	125,228	73,570	370,653	188,457	159,659	137,118
Farmer Age										
39 years or younger	316,951	67,571	171,670	159,902	143,592	37,317	222,235	109,168	91,262	93,716
40-49 years	649,587	229,065	403,166	468,105	316,749	133,382	435,521	264,148	226,946	180,281
50 years or older	657,829	193,630	379,378	390,275	254,389	71,317	321,563	185,341	159,619	129,266

TABLE 4. LIQUIDITY MEASURES, QUARTILE VALUES FOR 2009, MEDIAN VALUES FOR 2008, AND 5-YEAR AVERAGE, 2004-2008, OF MEDIAN VALUES, NORTH DAKOTA FARM BUSINESS MANAGEMENT EDUCATION PROGRAM PARTICIPANTS.

Farm Group	2009 Upper Quartile	2009 Lower Quartile	2009 Median	2008 Median	Average of 2004-2008 Medians	2009 Upper Quartile	2009 Lower Quartile	2009 Median	2008 Median	Average of 2004-2008 Medians
	Current Ratio					Working Capital($)				
All Farms	2.7	1.1	1.4	1.8	1.4	231,564	7,691	72,683	128,854	63,131
Region										
Red River Valley	3.5	1.1	1.4	1.9	1.5	277,697	7,690	86,995	189,770	85,992
North Central	3.0	1.1	1.5	1.9	1.4	252,455	15,719	84,931	158,805	68,325
South Central	2.2	1.0	1.4	1.6	1.5	208,981	1,010	66,047	112,922	63,145
West	2.3	1.1	1.4	1.7	1.5	167,716	6,298	48,878	66,822	41,804
Farm Enterprise										
Crop	3.0	1.1	1.6	1.9	1.5	298,863	22,343	98,133	183,960	82,069
Livestock	1.7	0.9	1.2	1.4	1.5	65,940	-3,454	19,683	23,365	31,641
Mixed	1.8	1.0	1.3	1.3	1.3	121,850	2,101	39,931	31,471	30,960
Farm Sales										
$99,999 or less	2.2	0.9	1.3	1.2	1.3	27,048	-1,751	15,467	9,008	10,357
$100,000-$249,999	2.2	0.9	1.4	1.4	1.3	76,227	-10,018	24,804	28,016	25,380
$250,000-$499,999	2.4	1.1	1.4	1.7	1.4	175,805	12,365	72,189	109,716	79,944
$500,000 or more	3.4	1.1	1.6	2.2	1.7	486,073	55,741	216,137	296,493	186,087
Farm Size										
1,999 acres or less	2.4	1.0	1.4	1.7	1.4	126,046	-1,409	33,463	65,008	35,293
2,000 acres or more	2.9	1.1	1.5	1.9	1.5	409,846	34,401	128,369	231,809	112,931
Cropland Tenure										
Full tenant	2.4	1.0	1.4	1.7	1.4	129,876	4,672	35,371	57,836	30,507
1-20 percent owned	2.2	1.1	1.3	1.9	1.4	257,842	13,567	79,635	204,514	90,889
21-40 percent owned	3.0	1.1	1.5	1.8	1.5	381,394	15,383	121,596	186,000	88,680
41 percent or more owned	3.1	1.1	1.6	1.7	1.5	242,774	11,804	80,116	103,810	59,705
Net Farm Income										
$19,999 or less	1.6	0.8	1.1	1.2	1.0	73,141	-21,783	12,019	15,093	-944
$20,000-$49,999	2.6	1.0	1.4	1.3	1.3	106,430	10,667	41,610	25,237	22,703
$50,000-$99,999	2.9	1.1	1.4	1.7	1.4	227,319	25,671	79,275	76,665	60,151
$100,000 or more	4.5	1.4	2.1	2.4	2.2	595,758	125,261	282,673	289,827	215,820
Debt-to-Asset Ratio										
0-40 percent	6.5	2.1	3.4	3.5	3.1	543,690	125,121	288,153	345,256	212,335
41-70 percent	1.7	1.1	1.3	1.5	1.3	126,046	12,383	52,504	104,154	55,575
71 percent or more	1.1	0.8	1.0	1.0	1.0	22,710	-45,365	-6,356	2,720	-1,298
Farmer Age										
39 years or younger	2.1	1.0	1.3	1.5	1.4	85,831	-2,181	27,808	43,941	31,496
40-49 years	2.0	1.0	1.3	1.7	1.4	223,377	1,182	76,438	167,114	82,435
50 years or older	3.4	1.2	1.8	2.0	1.6	343,059	25,913	129,935	175,439	87,815

TABLE 5. TOTAL ASSETS AND TOTAL LIABILITIES, QUARTILE VALUES FOR 2009, MEDIAN VALUES FOR 2008, AND 5-YEAR AVERAGE, 2004-2008, OF MEDIAN VALUES, NORTH DAKOTA FARM BUSINESS MANAGEMENT EDUCATION PROGRAM PARTICIPANTS

	2009				Average of	2009				Average of
Farm Group	Upper Quartile	Lower Quartile	Median	2008 Median	2004-2008 Medians	Upper Quartile	Lower Quartile	Median	2008 Median	2004-2008 Medians
	Total Farm Assets($)					Total Farm Liabilities($)				
All Farms	1,718,635	531,294	1,019,147	995,609	766,319	208,915	738,476	444,169	419,979	360,345
Region										
Red River Valley	2,133,266	727,156	1,276,643	1,291,156	1,061,285	208,161	906,094	582,928	538,443	444,784
North Central	1,654,020	534,882	1,035,055	1,067,327	781,038	249,289	677,517	435,420	412,225	367,598
South Central	1,805,667	555,135	930,596	937,187	710,580	235,574	634,176	417,186	391,153	327,080
West	1,443,397	382,170	860,918	785,627	639,680	160,999	739,407	442,681	378,392	316,338
Farm Enterprise										
Crop	2,017,586	679,300	1,170,498	1,147,886	869,665	273,377	771,341	504,611	472,047	397,243
Livestock	1,032,204	286,358	535,796	553,430	562,138	115,026	526,653	278,219	230,128	244,726
Mixed	1,211,110	492,854	740,640	712,016	659,052	176,457	576,670	368,532	391,350	352,907
Farm Sales										
$99,999 or less	416,657	119,305	251,693	221,316	236,194	74,710	207,745	139,505	146,989	141,733
$100,000-$249,999	693,199	338,815	485,337	509,443	504,961	125,438	406,055	239,590	272,410	270,136
$250,000-$499,999	1,209,603	648,748	928,995	799,072	811,875	284,817	603,100	437,559	382,900	378,147
$500,000 or more	2,667,612	1,272,526	1,875,754	1,648,933	1,594,790	444,845	1,084,233	711,257	638,195	664,538
Farm Size										
1,999 acres or less	1,013,687	319,360	582,536	627,035	526,683	142,105	508,711	312,571	283,274	258,491
2,000 acres or more	2,278,945	1,039,183	1,508,075	1,460,520	1,098,834	359,780	974,557	637,963	572,028	482,135
Cropland Tenure										
Full tenant	765,597	213,336	424,966	460,508	383,632	101,060	437,791	206,049	183,719	185,193
1-20 percent owned	1,891,318	799,272	1,170,289	1,157,622	847,905	359,050	775,170	590,116	549,736	449,626
21-40 percent owned	2,138,540	894,529	1,393,700	1,259,945	981,239	343,291	934,466	620,891	548,370	439,242
41 percent or more owned	1,863,092	649,025	1,135,262	1,106,042	852,472	218,984	733,952	418,019	394,001	343,768
Net Farm Income										
$19,999 or less	1,138,244	352,437	646,276	508,010	457,487	179,422	683,982	377,378	266,648	268,534
$20,000-$49,999	1,016,554	287,259	610,595	500,987	518,629	125,766	517,909	253,519	268,910	280,556
$50,000-$99,999	1,476,294	740,793	1,116,799	727,298	733,012	275,567	751,691	510,507	316,557	351,318
$100,000 or more	2,656,952	1,180,342	1,878,678	1,532,277	1,389,300	343,258	923,563	570,186	571,035	475,281
Debt-to-Asset Ratio										
0-40 percent	2,288,326	798,237	1,384,322	1,392,936	1,096,057	129,004	518,166	283,772	290,267	230,128
41-70 percent	1,582,225	545,233	1,001,346	952,871	769,460	295,571	877,208	536,590	489,977	425,035
71 percent or more	942,790	338,403	562,605	608,569	527,875	315,804	769,079	505,789	489,583	442,213
Farmer Age										
39 years or younger	951,507	244,453	535,766	537,506	505,682	144,246	592,256	339,757	321,148	302,370
40-49 years	2,024,589	759,482	1,244,827	1,255,789	961,439	369,252	956,581	600,955	545,686	457,680
50 years or older	2,071,751	708,858	1,273,219	1,256,434	918,335	208,880	726,666	418,083	396,653	327,866

TABLE 6. SOLVENCY MEASURES, QUARTILE VALUES FOR 2009, MEDIAN VALUES FOR 2008, AND 5-YEAR AVERAGE, 2004-2008, OF MEDIAN VALUES, NORTH DAKOTA FARM BUSINESS MANAGEMENT EDUCATION PROGRAM PARTICIPANTS.

	2009				Average of	2009				Average of	2009				Average of
Farm Group	Upper Quartile	Lower Quartile	Median	2008 Median	2004-2008 Medians	Upper Quartile	Lower Quartile	Median	2008 Median	2004-2008 Medians	Upper Quartile	Lower Quartile	Median	2008 Median	2004-2008 Medians
	Debt-to-Asset (%)					Equity-to-Asset (%)					Debt-to-Equity				
All Farms	30.6	68.3	51.2	48.4	53.0	69.4	31.7	48.8	51.6	47.0	0.4	2.2	1.0	0.9	1.1
Region															
Red River Valley	29.1	63.5	48.0	47.3	49.8	70.9	36.5	52.0	52.7	50.2	0.4	1.7	0.9	0.9	1.0
North Central	29.9	69.3	47.7	44.4	52.6	70.1	30.7	52.3	55.6	47.4	0.4	2.3	0.9	0.8	1.1
South Central	37.1	66.8	52.7	49.7	52.5	62.9	33.2	47.3	50.3	47.5	0.6	2.0	1.1	1.0	1.1
West	34.7	70.9	55.1	55.4	57.7	65.3	29.1	44.9	44.6	42.3	0.5	2.4	1.2	1.2	1.4
Farm Enterprise															
Crop	30.2	65.7	47.9	46.9	51.5	69.8	34.3	52.1	53.1	48.5	0.4	1.9	0.9	0.9	1.1
Livestock	35.7	78.5	58.6	57.7	57.0	64.3	21.5	41.4	42.3	43.0	0.6	3.7	1.4	1.4	1.3
Mixed	35.3	76.0	53.8	53.8	58.1	64.7	24.0	46.2	46.2	41.9	0.5	3.2	1.2	1.2	1.4
Farm Sales															
$99,999 or less	47.2	86.9	65.8	63.1	63.9	52.8	13.1	34.2	36.9	36.1	0.9	6.6	1.9	1.7	1.8
$100,000-$249,999	32.7	75.8	53.5	55.8	59.5	67.3	24.2	46.5	44.2	40.5	0.5	3.1	1.2	1.3	1.5
$250,000-$499,999	35.5	67.5	53.3	48.3	50.3	64.5	32.5	46.7	51.7	49.7	0.6	2.1	1.1	0.9	1.0
$500,000 or more	28.0	61.4	44.3	40.9	45.7	72.0	38.6	55.7	59.1	54.3	0.4	1.6	0.8	0.7	0.8
Farm Size															
1,999 acres or less	36.1	71.2	54.6	54.2	57.7	63.9	28.8	45.4	45.8	42.3	0.6	2.5	1.2	1.2	1.4
2,000 acres or more	28.1	62.6	46.4	42.8	48.6	71.9	37.4	53.6	57.2	51.4	0.4	1.7	0.9	0.7	0.9
Cropland Tenure															
Full tenant	35.8	73.6	53.6	52.4	59.0	64.2	26.4	46.4	47.6	41.0	0.6	2.8	1.2	1.1	1.4
1-20 percent owned	34.3	70.6	51.7	46.6	54.6	65.7	29.4	48.3	53.4	45.4	0.5	2.4	1.1	0.9	1.2
21-40 percent owned	31.2	62.9	47.2	47.7	53.3	68.8	37.1	52.8	52.3	46.7	0.5	1.7	0.9	0.9	1.1
41 percent or more owned	24.0	63.1	48.3	47.5	48.1	76.0	36.9	51.7	52.5	51.9	0.3	1.7	0.9	0.9	0.9
Net Farm Income															
$19,999 or less	47.9	79.6	63.6	67.5	70.8	52.1	20.4	36.4	32.5	29.2	0.9	3.9	1.7	2.1	2.4
$20,000-$49,999	28.9	67.2	51.3	61.7	58.5	71.1	32.8	48.7	38.3	41.5	0.4	2.0	1.1	1.6	1.4
$50,000-$99,999	32.0	64.6	50.8	50.0	52.6	68.0	35.4	49.2	50.0	47.4	0.5	1.8	1.0	1.0	1.1
$100,000 or more	23.7	52.5	36.7	39.0	38.0	76.3	47.5	63.3	61.0	62.0	0.3	1.1	0.6	0.6	0.6
Debt-to-Asset Ratio															
0-40 percent	13.1	31.9	25.8	25.2	25.6	86.9	68.1	74.2	74.8	74.4	0.2	0.5	0.3	0.3	0.3
41-70 percent	48.1	62.6	54.7	54.4	55.8	51.9	37.4	45.3	45.6	44.2	0.9	1.7	1.2	1.2	1.3
71 percent or more	76.0	93.1	84.5	82.4	82.6	24.0	6.9	15.5	17.6	17.4	3.2	13.5	5.5	4.7	4.7
Farmer Age															
39 years or younger	45.5	78.6	62.1	60.8	64.8	54.5	21.4	37.9	39.2	35.2	0.8	3.7	1.6	1.6	1.8
40-49 years	37.2	69.4	57.3	51.1	54.0	62.8	30.6	42.7	48.9	46.0	0.6	2.3	1.3	1.0	1.2
50 years or older	20.7	55.8	38.0	38.4	42.9	79.3	44.2	62.0	61.6	57.1	0.3	1.3	0.6	0.6	0.8

TABLE 7. RATE OF RETURN ON ASSETS AND RATE OF RETURN ON EQUITY PROFITABILITY MEASURES, QUARTILE VALUES FOR 2009, MEDIAN VALUES FOR 2008, AND 5-YEAR AVERAGE, 2004-2008, OF MEDIAN VALUES NORTH DAKOTA FARM BUSINESS MANAGEMENT EDUCATION PROGRAM PARTICIPANTS.

Farm Group	2009 Upper Quartile	2009 Lower Quartile	2009 Median	2008 Median	Average of 2004-2008 Medians	2009 Upper Quartile	2009 Lower Quartile	2009 Median	2008 Median	Average of 2004-2008 Medians
	Return on Farm Assets(%)					Return on Farm Equity(%)				
All Farms	9.4	-0.9	4.0	10.6	8.4	13.9	-7.4	3.0	15.8	10.9
Region										
Red River Valley	6.3	-2.9	2.0	14.9	9.4	7.5	-10.0	0.0	20.3	12.0
North Central	10.7	2.6	7.3	14.5	9.1	17.8	0.0	9.0	22.3	12.9
South Central	8.5	-3.1	3.0	10.0	9.0	13.2	-10.9	0.9	14.2	11.5
West	7.5	-4.5	1.4	1.2	5.0	9.2	-17.2	-0.1	-0.2	5.2
Farm Enterprise										
Crop	10.7	0.7	5.3	14.7	10.3	16.7	-2.7	5.6	21.7	14.9
Livestock	4.6	-5.0	-0.1	1.0	3.7	4.0	-22.2	-3.2	-1.8	2.4
Mixed	4.4	-5.4	0.4	3.6	5.2	3.2	-15.8	-1.4	0.0	5.0
Farm Sales										
$99,999 or less	7.6	-10.0	-1.7	1.8	2.5	6.9	-38.7	-6.9	0.0	0.8
$100,000-$249,999	8.5	-3.8	1.3	3.7	5.2	10.2	-15.5	0.0	0.3	4.6
$250,000-$499,999	8.5	0.4	4.3	8.3	8.8	13.3	-3.4	2.9	11.2	11.7
$500,000 or more	10.5	0.7	5.3	16.1	10.9	15.0	-2.4	5.7	23.7	15.4
Farm Size										
1,999 acres or less	8.8	-4.4	2.9	9.7	7.5	13.2	-14.3	0.7	17.5	9.9
2,000 acres or more	10.1	0.7	4.8	12.2	9.4	14.9	-2.4	4.8	13.9	11.8
Cropland Tenure										
Full tenant	14.1	-1.4	6.5	10.3	9.5	27.4	-6.2	9.1	16.2	13.8
1-20 percent owned	10.0	-2.9	4.3	15.7	10.7	14.5	-11.3	4.2	24.9	16.8
21-40 percent owned	8.7	0.0	3.6	13.4	9.3	11.6	-3.7	2.6	18.6	11.8
41 percent or more owned	7.2	-0.5	3.2	7.0	6.4	9.1	-6.2	2.3	8.0	7.1
Net Farm Income										
$19,999 or less	-0.7	-7.4	-4.0	-2.8	-1.5	-6.4	-31.2	-15.4	-12.5	-11.6
$20,000-$49,999	7.0	1.6	3.6	4.8	5.1	12.9	-1.4	1.8	2.8	3.5
$50,000-$99,999	8.3	3.8	4.7	8.5	8.6	13.3	2.4	4.7	11.0	12.0
$100,000 or more	15.3	7.7	10.7	16.7	14.5	23.3	9.1	14.7	26.6	22.4
Debt-to-Asset Ratio										
0-40 percent	10.0	1.3	5.0	14.6	10.0	12.4	0.4	5.0	16.7	11.4
41-70 percent	10.2	-2.2	4.3	11.9	9.4	16.9	-9.3	3.1	18.8	13.7
71 percent or more	6.2	-6.8	0.3	4.0	4.3	9.2	-49.9	-10.9	0.0	2.8
Farmer Age										
39 years or younger	11.8	-0.5	6.2	10.9	9.8	22.5	-12.0	7.0	20.7	17.9
40-49 years	8.3	-2.6	2.9	11.9	8.8	11.4	-10.1	0.1	18.3	12.2
50 years or older	8.2	-0.7	3.5	9.4	7.0	9.7	-4.7	2.9	12.8	7.7

TABLE 8. OPERATING PROFIT MARGIN AND NET FARM INCOME PROFITABILITY MEASURES, QUARTILE VALUES FOR 2009, MEDIAN VALUES FOR 2008, AND 5-YEAR AVERAGE, 2004-2008, OF MEDIAN VALUES, NORTH DAKOTA FARM BUSINESS MANAGEMENT PROGRAM PARTICIPANTS.

Farm Group	2009 Upper Quartile	2009 Lower Quartile	2009 Median	2008 Median	Average of 2004-2008 Medians	2009 Upper Quartile	2009 Lower Quartile	2009 Median	2008 Median	Average of 2004-2008 Medians
	Operating Profit Margin(%)					Net Farm Income($)				
All Farms	21.6	-3.7	9.7	20.8	18.1	122,929	2,576	47,547	114,520	73,098
Region										
Red River Valley	13.0	-5.6	4.0	23.8	17.9	77,731	-1,463	41,555	201,875	107,204
North Central	25.0	5.5	14.8	24.7	17.9	151,591	24,073	73,452	149,156	82,608
South Central	20.1	-7.8	8.9	20.5	18.8	123,623	-4,893	37,422	92,127	70,350
West	19.5	-20.3	3.4	5.0	13.0	88,635	-7,389	27,807	18,956	37,875
Farm Enterprise										
Crop	22.1	1.7	11.8	23.9	18.2	151,732	20,801	70,912	170,181	97,618
Livestock	19.4	-31.6	-0.9	5.0	14.2	37,999	-7,403	11,392	14,343	24,518
Mixed	13.6	-19.1	1.6	10.9	15.6	48,561	-16,623	21,870	33,562	41,947
Farm Sales										
$99,999 or less	22.6	-52.7	-8.8	9.4	10.9	21,623	-8,001	1,539	9,106	10,817
$100,000-$249,999	18.3	-10.9	3.4	10.8	13.5	45,173	-4,109	20,321	28,510	32,586
$250,000-$499,999	19.6	1.3	10.1	18.6	18.4	92,524	20,667	48,983	87,755	82,224
$500,000 or more	22.8	1.7	12.2	26.5	20.6	243,354	36,656	120,323	257,152	183,059
Farm Size										
1,999 acres or less	17.5	-12.6	6.0	19.2	16.3	62,474	-6,180	25,524	62,035	46,400
2,000 acres or more	22.9	1.8	12.6	22.0	19.2	201,918	25,636	86,149	205,321	115,671
Cropland Tenure										
Full tenant	19.9	-3.5	9.7	16.0	13.7	81,677	6,619	38,518	57,565	45,031
1-20 percent owned	18.4	-5.1	8.1	21.7	17.6	148,158	-768	68,624	213,096	113,710
21-40 percent owned	21.0	0.0	9.1	22.5	18.5	130,503	14,147	65,130	170,215	94,062
41 percent or more owned	23.8	-2.5	11.7	20.9	20.3	118,987	4,178	43,407	75,319	57,156
Net Farm Income										
$19,999 or less	-2.9	-26.5	-12.0	-9.5	-4.5	3,960	-38,151	-12,695	-4,335	-1,404
$20,000-$49,999	13.3	3.8	8.5	12.0	13.5	44,696	26,561	36,530	33,562	34,038
$50,000-$99,999	19.6	8.7	12.3	16.9	18.5	84,779	61,426	73,037	70,576	71,029
$100,000 or more	31.1	17.3	23.2	28.3	27.5	295,016	132,324	193,147	250,130	183,613
Debt-to-Asset Ratio										
0-40 percent	25.2	4.2	14.3	27.1	22.9	203,321	32,701	89,919	218,042	129,572
41-70 percent	22.0	-5.6	10.3	20.4	18.4	99,187	-769	44,814	104,110	73,231
71 percent or more	10.2	-16.1	0.6	10.3	9.3	47,791	-19,733	1,979	20,849	21,515
Farmer Age										
39 years or younger	22.5	-0.9	10.4	18.7	18.5	83,560	4,085	37,611	55,012	49,024
40-49 years	20.2	-5.0	6.7	21.4	17.2	129,474	-12,441	45,098	152,317	91,372
50 years or older	21.5	-3.6	10.1	21.0	18.1	151,591	11,112	62,334	132,454	78,684

TABLE 9. REPAYMENT CAPACITY MEASURES, QUARTILE VALUES FOR 2009, MEDIAN VALUES FOR 2008, AND 5-YEAR AVERAGE, 2004-2008, OF MEDIAN VALUES, NORTH DAKOTA FARM BUSINESS MANAGEMENT EDUCATION PROGRAM PARTICIPANTS.

Farm Group	2009 Upper Quartile	2009 Lower Quartile	2009 Median	2008 Median	Average of 2004-2008 Medians	2009 Upper Quartile	2009 Lower Quartile	2009 Median	2008 Median	Average of 2004-2008 Medians
	Term Debt Coverage Ratio					Term Debt and Capital Repayment Margin($)				
All Farms	2.88	0.24	1.21	2.67	1.99	58,192	-34,517	6,350	67,276	37,668
Region										
Red River Valley	1.83	-0.10	0.87	3.78	2.42	39,182	-83,606	-5,434	154,017	62,769
North Central	3.51	0.61	1.42	3.23	2.05	82,572	-21,381	15,362	91,279	43,688
South Central	3.37	0.13	1.06	2.68	2.16	89,836	-33,988	3,235	58,139	38,892
West	2.39	0.16	0.92	1.04	1.40	41,493	-39,571	-4,062	1,293	13,412
Farm Enterprise										
Crop	3.34	0.35	1.33	3.69	2.41	92,153	-30,014	13,905	117,349	55,665
Livestock	2.17	0.14	0.81	0.84	1.25	22,045	-35,231	-8,686	-3,875	8,789
Mixed	1.77	-0.24	0.61	1.01	1.36	16,669	-54,906	-16,769	34	10,802
Farm Sales										
$99,999 or less	2.61	0.07	1.37	1.03	1.26	20,155	-19,572	5,222	638	3,975
$100,000-$249,999	2.13	-0.02	0.59	1.12	1.25	22,600	-36,018	-12,817	2,831	7,605
$250,000-$499,999	2.46	0.34	1.06	2.24	2.11	50,518	-39,480	3,387	48,486	42,557
$500,000 or more	3.62	0.49	1.33	4.14	2.65	170,798	-45,230	24,348	205,531	119,620
Farm Size										
1,999 acres or less	2.54	-0.03	1.03	2.34	1.77	27,857	-38,389	1,198	40,886	22,444
2,000 acres or more	3.13	0.54	1.32	3.05	2.20	117,554	-32,645	20,324	128,677	67,985
Cropland Tenure										
Full tenant	4.45	0.24	1.64	2.97	2.24	46,673	-18,882	12,802	39,394	26,999
1-20 percent owned	2.37	0.18	1.03	3.72	2.30	60,826	-74,519	3,326	138,704	64,313
21-40 percent owned	2.42	0.35	1.16	3.06	2.09	77,893	-34,491	10,359	105,103	52,588
41 percent or more owned	2.87	0.28	1.12	1.68	1.59	57,427	-33,973	5,222	33,485	24,930
Net Farm Income										
$19,999 or less	0.54	-0.62	0.00	0.28	0.51	-13,904	-87,665	-41,563	-22,671	-16,866
$20,000-$49,999	3.13	0.53	1.12	1.18	1.23	24,149	-23,605	1,848	5,194	6,799
$50,000-$99,999	1.80	0.91	1.27	2.23	1.81	39,738	-5,595	14,596	38,795	33,590
$100,000 or more	6.22	1.77	3.06	4.63	3.57	229,312	60,167	113,354	192,954	132,358
Debt-to-Asset Ratio										
0-40 percent	5.98	1.10	2.69	5.47	3.78	157,131	3,303	47,281	165,847	94,720
41-70 percent	1.89	0.11	0.93	2.25	1.80	31,696	-48,963	-3,340	58,038	35,104
71 percent or more	1.31	-0.18	0.39	0.82	0.94	6,776	-60,504	-19,770	-4,768	-2,818
Farmer Age										
39 years or younger	3.09	0.40	1.42	2.62	2.03	39,193	-17,855	10,470	41,601	26,905
40-49 years	2.31	0.02	0.83	2.46	1.85	50,754	-70,376	-10,371	109,335	50,484
50 years or older	3.12	0.33	1.25	2.71	2.04	84,049	-33,029	7,147	87,001	42,932

TABLE 10. ASSET TURNOVER AND OPERATING EXPENSE AND DEPRECIATION EXPENSE EFFICIENCY MEASURES (AS A PERCENTAGE OF GROSS FARM INCOME), QUARTILE VALUES FOR 2009, MEDIAN VALUES FOR 2008, AND 5-YEAR AVERAGE, 2004-2008, OF MEDIAN VALUES, FARM BUSINESS MANAGEMENT EDUCATION PROGRAM PARTICIPANTS.

	2009				Average of	2009				Average of	2009				Average of
Farm Group	Upper Quartile	Lower Quartile	Median	2008 Median	2004-2008 Medians	Upper Quartile	Lower Quartile	Median	2008 Median	2004-2008 Medians	Upper Quartile	Lower Quartile	Median	2008 Median	2004-2008 Medians
	Asset Turnover					Operating Expense(%)					Depreciation Expense (%)				
All Farms	.57	.27	.40	.52	.45	64.6	87.3	75.6	66.9	67.6	3.4	7.6	5.2	4.1	5.2
Region															
Red River Valley	.61	.32	.43	.60	.51	74.1	90.5	81.6	65.1	69.0	3.7	7.9	5.4	4.9	5.1
North Central	.57	.30	.42	.55	.46	61.1	80.2	70.8	63.7	67.6	2.8	6.1	4.2	3.1	4.6
South Central	.53	.25	.36	.52	.46	64.7	90.8	75.2	66.5	65.9	4.2	8.5	6.2	4.4	5.8
West	.50	.21	.32	.33	.35	66.1	90.9	83.2	77.4	68.4	3.8	7.5	5.7	5.2	7.0
Farm Enterprise															
Crop	.62	.34	.45	.60	.53	63.9	83.6	74.0	64.4	67.7	3.5	7.3	5.1	3.8	4.9
Livestock	.28	.15	.21	.22	.26	67.4	92.1	81.3	76.5	65.9	3.1	9.0	5.2	5.1	7.7
Mixed	.41	.22	.28	.31	.33	67.2	94.0	81.1	74.6	69.1	3.2	8.6	5.9	5.4	5.7
Farm Sales															
$99,999 or less	.39	.13	.21	.25	.26	60.1	100.4	83.6	69.8	62.6	1.8	9.7	5.5	4.8	6.9
$100,000-$249,999	.59	.21	.33	.36	.37	66.4	88.7	77.1	73.0	69.4	2.8	6.8	4.5	4.1	5.2
$250,000-$499,999	.56	.29	.39	.45	.47	65.6	84.9	75.0	68.6	68.2	3.2	7.2	5.1	3.7	5.1
$500,000 or more	.57	.34	.44	.61	.53	63.6	85.1	74.3	63.2	68.0	3.9	7.8	5.3	4.1	5.3
Farm Size															
1,999 acres or less	.60	.25	.39	.51	.44	66.3	92.1	78.8	67.4	68.0	2.9	7.4	5.2	4.0	5.1
2,000 acres or more	.53	.28	.40	.53	.46	63.8	83.4	72.7	66.1	67.2	3.8	7.8	5.3	4.3	5.4
Cropland Tenure															
Full tenant	1.02	.42	.66	.71	.65	65.6	88.3	76.0	70.7	69.9	2.5	6.2	4.3	3.6	4.8
1-20 percent owned	.62	.39	.47	.67	.60	67.6	88.5	79.1	66.9	69.3	3.2	7.3	5.1	3.8	4.6
21-40 percent owned	.48	.32	.38	.53	.46	66.2	84.6	75.6	64.9	67.7	4.2	7.2	5.6	4.3	5.3
41 percent or more owned	.36	.19	.27	.34	.30	59.9	85.1	71.0	65.5	64.0	3.6	8.2	5.8	4.6	6.0
Net Farm Income															
$19,999 or less	.44	.20	.30	.24	.30	85.2	100.8	92.7	88.2	83.5	3.1	9.4	6.0	5.4	7.7
$20,000-$49,999	.60	.31	.44	.44	.38	68.2	82.2	76.2	71.0	69.6	2.7	6.2	4.5	4.3	5.2
$50,000-$99,999	.55	.28	.42	.51	.47	65.4	77.8	72.0	70.4	68.0	4.2	7.3	5.6	3.0	4.6
$100,000 or more	.60	.35	.45	.61	.52	56.3	70.0	63.5	61.0	60.7	3.6	7.2	5.1	4.1	4.9
Debt-to-Asset Ratio															
0-40 percent	.46	.25	.35	.49	.41	61.3	79.1	69.5	61.3	62.4	4.1	8.4	6.0	4.6	5.9
41-70 percent	.60	.29	.42	.54	.47	64.0	89.8	75.9	67.5	67.6	3.6	7.3	5.2	4.1	4.9
71 percent or more	.69	.26	.43	.51	.48	75.6	97.9	84.1	77.5	75.5	2.4	6.4	4.2	3.6	5.0
Farmer Age															
39 years or younger	.83	.30	.50	.63	.53	63.7	85.3	75.6	67.8	66.1	2.5	6.3	4.2	3.4	4.5
40-49 years	.56	.28	.42	.54	.47	67.3	89.1	78.7	66.6	69.1	3.5	7.5	5.1	4.4	5.2
50 years or older	.45	.25	.35	.46	.38	64.0	86.1	74.0	66.4	67.3	4.2	8.1	6.0	4.5	5.9

TABLE 11. INTEREST EXPENSE AND FARM INCOME EFFICIENCY MEASURES (AS A PERCENTAGE OF GROSS FARM INCOME), QUARTILE VALUES FOR 2009, MEDIAN VALUES FOR 2008, AND 5-YEAR AVERAGE, 2004-2008, OF MEDIAN VALUES, NORTH DAKOTA FARM BUSINESS MANAGEMENT EDUCATION PROGRAM PARTICIPANTS.

Farm Group	2009 Upper Quartile	2009 Lower Quartile	2009 Median	2008 Median	Average of 2004-2008 Medians	2009 Upper Quartile	2009 Lower Quartile	2009 Median	2008 Median	Average of 2004-2008 Medians
	Interest Expense(%)					Net Farm Income (%)				
All Farms	2.7	7.8	4.9	4.4	5.7	25.6	0.5	13.4	24.2	20.7
Region										
Red River Valley	2.4	6.8	3.9	3.4	4.4	17.0	-0.5	7.8	27.7	21.1
North Central	2.7	7.2	4.8	4.2	5.8	29.1	9.3	19.6	26.6	21.4
South Central	2.5	8.3	5.1	4.3	5.4	24.8	-4.6	12.9	24.1	21.4
West	3.8	11.4	5.9	7.8	7.9	22.8	-8.0	6.2	10.2	15.5
Farm Enterprise										
Crop	2.4	6.7	4.1	3.6	4.8	27.0	5.7	16.0	26.9	21.7
Livestock	4.7	13.0	7.7	8.0	8.8	23.2	-10.2	4.0	7.7	15.8
Mixed	3.2	10.7	6.7	7.0	7.7	20.2	-13.9	6.9	11.5	17.2
Farm Sales										
$99,999 or less	4.3	18.6	9.7	11.0	10.5	27.0	-29.2	-2.2	13.8	18.2
$100,000-$249,999	3.2	10.6	6.3	6.8	7.4	24.1	-2.1	11.3	14.6	17.1
$250,000-$499,999	2.9	7.3	5.2	4.9	5.3	24.7	5.3	14.6	21.9	21.0
$500,000 or more	2.4	6.2	3.7	3.2	4.2	26.1	4.2	15.1	28.8	22.0
Farm Size										
1,999 acres or less	2.8	8.5	5.0	4.8	5.9	23.8	-5.5	10.9	23.3	20.1
2,000 acres or more	2.6	7.2	4.7	3.9	5.4	26.6	4.4	15.2	25.3	21.5
Cropland Tenure										
Full tenant	1.8	5.5	3.3	3.4	4.0	26.4	4.0	15.1	21.7	18.9
1-20 percent owned	2.8	7.2	4.7	3.5	4.8	23.1	-0.1	10.8	25.8	20.7
21-40 percent owned	3.1	7.4	5.2	4.4	6.0	24.5	2.6	12.9	25.4	21.4
41 percent or more owned	3.5	10.9	6.3	6.6	7.7	27.5	0.9	15.1	20.8	21.4
Net Farm Income										
$19,999 or less	4.7	12.3	7.3	9.9	10.1	1.5	-19.0	-6.2	-1.8	-0.5
$20,000-$49,999	2.8	6.9	4.6	7.5	6.9	22.0	7.9	12.4	16.9	16.9
$50,000-$99,999	3.2	7.2	5.2	4.5	5.4	23.4	11.7	15.5	20.7	21.2
$100,000 or more	1.8	4.7	2.9	3.2	3.9	35.0	20.5	27.7	31.2	30.0
Debt-to-Asset Ratio										
0-40 percent	1.4	3.7	2.5	2.4	3.0	29.7	11.4	21.6	31.4	28.1
41-70 percent	4.0	8.7	6.2	5.2	6.3	25.0	-1.6	12.6	23.1	20.3
71 percent or more	5.0	13.0	7.7	8.2	8.9	12.2	-12.8	1.5	8.9	9.6
Farmer Age										
39 years or younger	2.7	7.8	5.1	4.8	5.8	27.6	2.7	14.9	22.9	22.1
40-49 years	3.2	8.3	5.3	4.2	5.7	22.1	-3.9	7.9	24.7	19.9
50 years or older	2.2	7.2	4.4	4.3	5.6	25.6	1.7	15.0	24.6	20.9

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 $18,000 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 $18,000 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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