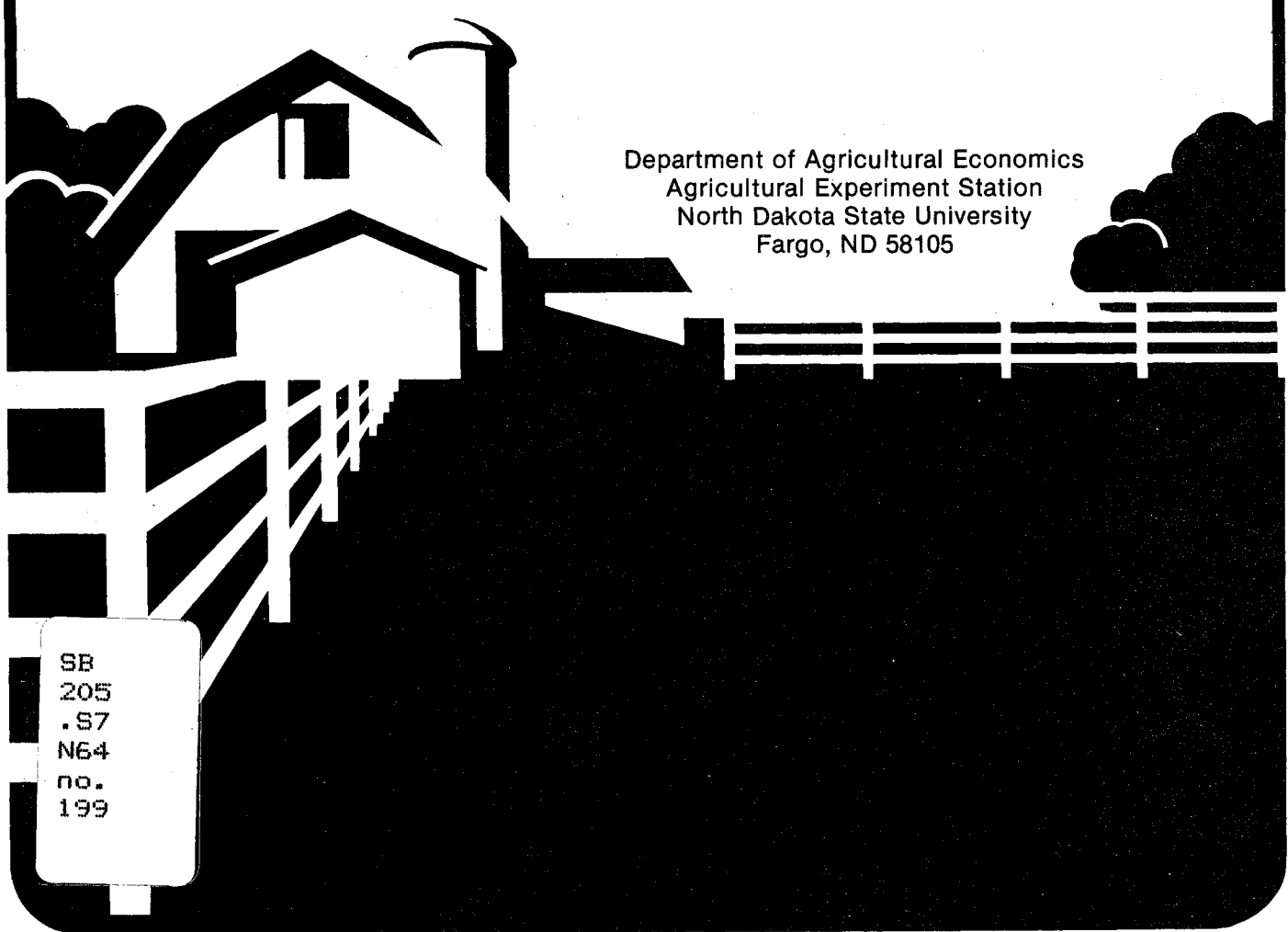


Selected Financial and Other Socioeconomic Characteristics of North Dakota Farm and Ranch Operators

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HIGHLIGHTS

This report presents the results of a random telephone survey of 933 North Dakota farmers conducted in March and April 1985. Initial screening questions in these interviews were used to ensure that all respondents were less than 65 years old, were operating a farm, considered farming to be their primary occupation, and sold at least \$2,500 of farm products in 1984.

Specific characteristics examined in the survey include the following: (1) demographic characteristics, such as age, marital status, education, and previous migration patterns; (2) employment history and vocational skills and preferences; (3) participation in community organizations and activities; (4) marketing and trading patterns; (5) farm characteristics, such as acreage operated, principal enterprises, and type of business organization; and (6) financial characteristics, such as levels of assets, debt, and income and sources of credit. Following are highlights of the results.

- The average age of these operators was 45.1 years. Only 3 percent of those surveyed were less than 25 years old while 43.9 percent were between 25 and 44.*
- Church was the most common form of organization of which these families were members, followed by farm organizations, and community service clubs.*
- Spring wheat was the principal crop produced by 65 percent of the operators; another 12.5 percent reported durum wheat to be their major crop, and 6.4 percent reported it to be sunflower. Sixty percent of the farmers marketed their grain with an elevator located within 10 miles of their farm.*
- Livestock were produced on 563 farms, or about 60 percent of the total sample. Of the surveyed livestock producers, 80 percent reported beef cattle as their principal livestock enterprise. The average distance to their livestock market was about 65 miles, and about 44 percent of the producers reported distances greater than 50 miles.*
- The acreage operated by surveyed farmers averaged 1,623 acres with about 80 percent of the farms falling in the range of 500 to 3,000 acres. Cropland (including tame hayland) accounted for about 72 percent of the typical farm operation. Overall, the respondents owned about 50 percent of the land they farmed. Only 13 percent of the respondents owned no land, but only 21 percent owned 90 percent or more of the land they operated.*
- Respondents' estimates of their total debt and assets were averaged; average total debt was \$139,870 and average total asset value was \$423,042; this translates into a total-debt to total-asset ratio of 33.06 percent. Some 17.3 percent of the farm operators had no debt against their business, and an additional 43.8 percent had less than \$100,000 of total debt.*

- The average gross cash farm income of North Dakota farmers responding to the survey was \$105,347, and their average net cash farm income was \$14,897. Although the average net cash farm income for the respondents was \$14,897, some 24 percent of the farmers had a negative net cash farm income in 1984.
- Just over three-fifths of the farmers sampled in this survey had debt-to-asset ratios below 40 percent, which is considered to be a strong financial position. An additional 23.6 percent of the farmers had debt-to-asset ratios between 41 and 70 percent, which is a satisfactory to weak financial position, but nearly 15 percent of the farmers had debt-to-asset ratios in the weak category of 70 percent or more.
- Fifty-three percent of the farm operators who started farming in the 1970s or 1980s had debt-to-asset ratios greater than 40 percent while over 78 percent of the operators who started farming before 1960 had debt-to-asset ratios of 40 percent or less. Seventy-seven percent of the farmers with no debt were between the ages of 50 and 64.
- A substantially higher percentage of farmers with over 40 percent debt had gross farm incomes in the \$40,000 to \$250,000 range than farmers with no debt. Contrary to conventional thinking, there was little relationship between the farm operator's age and negative cash farm incomes. A major implication of the relationship between age and net cash farm income is that many farmers in each age group lost significant equity in 1984 beyond the obvious declines in land and machinery values.
- Farm operators and their spouses with high debt-to-asset ratios were more likely to seek work off the farm than their less highly leveraged counterparts. Of the operators with debt-to-asset ratios over 70 percent, about 36 percent worked off the farm in 1984, compared to about 25 percent for the total sample.
- Over 83 percent of all the farmers surveyed were satisfied with farming as an occupation but 87 percent were dissatisfied with current financial returns to agriculture. Almost one-fourth of all farmers thought expansion of their operation was likely but nearly two-thirds of all operators felt it was unlikely.
- About three-fourths of all producers said it was likely that they would be able to continue farming for at least three years, but one-half of the operators with debt-to-asset ratios over 70 percent felt they were likely to be able to continue. Overall, about 7 percent of all farmers surveyed felt their chances of being able to continue farming over the next three years were unlikely.

Despite recent declines in asset values, the overall solvency of North Dakota agriculture remains quite sound. More than 60 percent of the respondents appear to be in relatively strong financial positions. However, the operators with debt-to-asset ratios between 41 and 70 percent (23.6 percent) and particularly those with debt-to-asset ratios exceeding 70 percent (14.6 percent) are probably experiencing considerable financial stress.

SELECTED FINANCIAL AND OTHER SOCIOECONOMIC CHARACTERISTICS
OF NORTH DAKOTA FARM AND RANCH OPERATORS

Arlen G. Leholm, F. Larry Leistritz,
Brenda L. Ekstrom and Harvey G. Vreugdenhil

American farmers are facing their most severe financial crisis since the 1930s. An unprecedented proportion of the farm population is likely to be forced to quit farming in the next two to five years as a result of the cost-price squeeze, high debt loads, high interest rates, and falling land values. The U.S. Department of Agriculture (1985) estimates that nearly 20 percent of all farmers have debt-to-asset ratios of over 40 percent, a ratio considered likely to cause substantial financial stress. Other analyses (Obert and Galston 1985; Office of Technology Assessment 1985) indicate that nearly one-third of farm operators in the heavily agriculturally dependent parts of the Midwest and Plains states may already have such debt-to-asset ratios.

A recent survey conducted by the North Dakota Crop and Livestock Reporting Service and North Dakota State University indicated that 36 percent of North Dakota farm and ranch operators had debt-to-asset ratios over 40 percent (Pederson et al. 1985). These farmers held 37 percent of farm assets but accounted for 74 percent of the debt held by all farm operators surveyed. This study also indicated that 22.8 percent of all farmers and ranchers were delinquent on principal and/or interest in repayment of either real estate or nonreal estate loans and that 13 percent felt they could not continue farming for more than one year under present conditions. Finally, this study indicated that younger operators carried heavier debt loads than older ones; the average debt-to-asset ratio for operators under age 45 was above 40 percent (Pederson et al. 1985).

If a substantial number of North Dakota farmers fail financially, their land may soon be operated by other established producers with stronger equity positions. The tendency for cash rental rates to remain relatively stable or even increase while land prices have fallen indicates that many established farmers are attempting to gain access to more land in order to reduce the average fixed costs of machinery and equipment (Dorow 1984; Johnson 1984). If the current low economic returns in agriculture continue for the next several years, however, the trend for established operators to bid up cash rents could reverse itself and cash rents could begin to fall. Thus, a rapid increase in the rate of farm failures is likely to lead to a substantial decline in the total number of farms and farm families in North Dakota. A substantial decline in farm numbers could, in turn, have very serious implications not only for the affected farm families but also for agribusiness firms, for the entire trade and service sector in many of the state's agricultural trade centers, and for such public services as primary and secondary schools.

Although the North Dakota economy has been diversifying in recent years, agriculture is still the cornerstone of the state's economic base,

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accounting for about one-half of the state's total sales to final demand (Coon et al. 1984).¹ Significant decreases in farm numbers and income can be expected to have major effects on agribusiness firms and on the complete spectrum of main street businesses in agricultural service centers. For those agribusiness sectors which provide durable inputs (for example, farm machinery) the decline in net farm income over the past few years already has led to major decreases in business volume (Coon and Mittleider 1985). For some other agribusiness sectors, total business volume may not be affected greatly by a decline in farm numbers, but individual firms and trade centers may experience substantial losses if the trade patterns of remaining farm operators differ significantly from those of farmers who were unable to survive financially. Trade and service firms (for example, grocery stores) whose business depends largely on the number of local families would probably experience substantial reductions in sales as a result of declining farm numbers. As in the case of agricultural supply firms, the effects on individual firms and communities also will depend on the consumption and trade patterns of the families leaving agriculture compared to those that remain.

A substantial decline in farm numbers could also have significant effects on such public services as primary and secondary schools as well as on the viability of, and levels of participation in, a variety of community organizations. Declining numbers of farm families will lead to decreasing school enrollments and to changes in demands on other public services and facilities. The magnitude of such changes has been difficult to estimate, however, because of the lack of specific information concerning the demographic characteristics of financially troubled farmers.

The purpose of this study is to examine the characteristics of North Dakota farm operators and their families, particularly those whose current financial status suggests that they are vulnerable to being displaced from farming within the next few years. Specific characteristics examined include the following:

1. Demographic characteristics, such as age, marital status, education, and previous migration patterns
2. Employment history and vocational skills and preferences
3. Participation in community organizations and activities
4. Marketing and trade patterns
5. Farm characteristics, such as acreage operated, principal enterprises, and type of business organization
6. Financial characteristics, such as levels of assets, debt, and income and sources of credit

¹Other components of sales to final demand include energy extraction and conversion (20.2 percent), federal payrolls and construction expenditures (16.7 percent), agricultural processing and miscellaneous manufacturing (9.0 percent), and tourist expenditures (3.8 percent).

The report first briefly explains the study procedures, then examines specific characteristics of North Dakota farm operators before drawing conclusions and discussing future implications.

Study Procedures

Information concerning these characteristics was obtained from a survey conducted in March and April 1985. A random sample of farm operators was selected, and telephone interviews were conducted. Initial screening questions in these interviews were used to ensure that all respondents (1) were less than 65 years old, (2) considered farming to be their primary occupation, and (3) sold at least \$2,500 of farm products in 1984. Of 1,206 farm operators contacted who met these criteria, 933 completed the survey, for a response rate of 77 percent.

Selected characteristics of survey respondents were compared with North Dakota data from the 1982 Census of Agriculture to determine representativeness. The respondents' age distribution corresponds quite closely to that of all North Dakota farm operators less than 65 years old, except that operators under age 25 represent only 3 percent of the sample compared to 6.2 percent for the Census (Table 1). A probable explanation for this difference is that difficult

TABLE 1. DISTRIBUTIONS OF NORTH DAKOTA FARMS BY AGE OF OPERATOR FROM THE 1982 CENSUS OF AGRICULTURE AND THE 1985 FARM OPERATOR SURVEY

Age	1982 Census ^a		1985 Survey	
	Number of Farms	Percent of Farms	Number of Farms	Percent of Farms
Less than 25	1,974	6.2	28	3.0
25 to 34	6,843	21.4	191	20.5
35 to 44	6,774	21.1	218	23.4
45 to 54	7,858	24.5	239	25.6
55 to 64	8,594	26.8	257	27.6
Total	32,043	100.0	933	100.0

^aIncludes only farm operators less than 65 years old.

economic conditions have discouraged young people from entering farming in the last few years. The number of survey respondents by state planning region (see Figure 1) indicates a close correspondence with the Census count of farms whose operators reported farming as their principal occupation (Table 2). The survey responses represent about 3 percent of the farm and ranch operations in the state whose operators consider farming their principal occupation. Survey respondents include a smaller percentage of small farms (less than 500 acres operated) than was reported by the 1982 Census (Table 3). A possible explanation is that many of these smaller units are operated by individuals

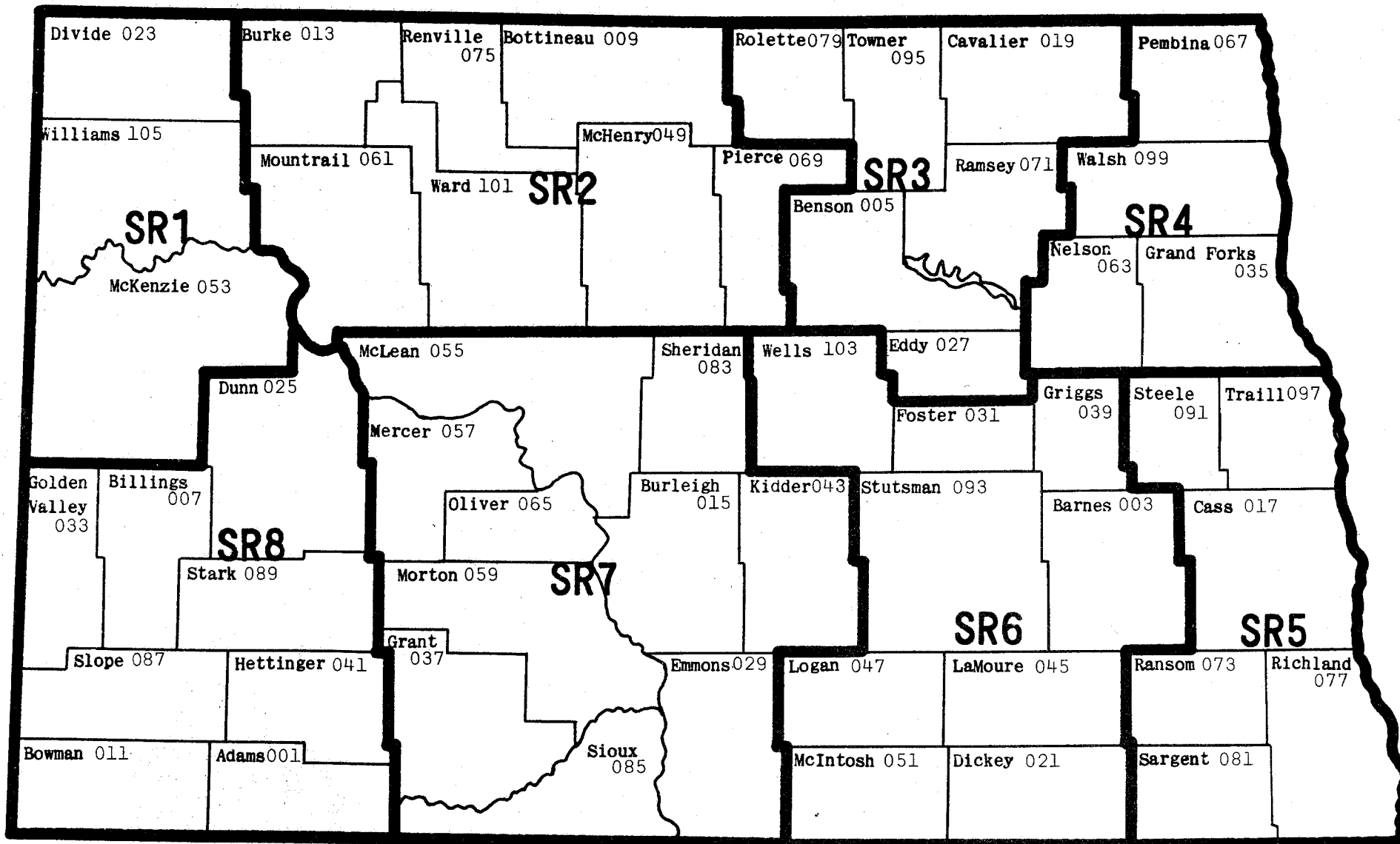


Figure 1. North Dakota State Planning Regions

TABLE 2. DISTRIBUTIONS OF NORTH DAKOTA FARMS BY STATE PLANNING REGION FROM THE 1982 CENSUS OF AGRICULTURE AND THE 1985 FARM OPERATOR SURVEY

Region	1982 Census ^a		1985 Survey	
	Number of Farms	Percent of Farms	Number of Farms	Percent of Farms
1	1,890	6.2	46	4.9
2	4,571	14.9	141	15.1
3	3,353	11.0	102	10.9
4	2,978	9.7	91	9.8
5	4,098	13.4	123	13.2
6	5,431	17.8	167	17.9
7	5,319	17.4	167	17.9
8	<u>2,952</u>	<u>9.7</u>	<u>96</u>	<u>10.3</u>
Total	30,592	100.0	933	100.0

^aIncludes only farms whose operator reported farming as principal occupation.

TABLE 3. DISTRIBUTIONS OF NORTH DAKOTA FARMS BY ACRES OPERATED FROM THE 1982 CENSUS OF AGRICULTURE AND THE 1985 FARM OPERATOR SURVEY

Acreage Operated	1982 Census		1985 Survey	
	Number of Farms	Percent of Farms	Number of Farms	Percent of Farms
Less than 180	5,439	14.9	12	1.3
180-499	6,577	18.0	77	8.3
500-999	9,758	26.8	240	25.8
1000-1999	10,042	27.6	367	39.3
More than 1999	<u>4,617</u>	<u>12.7</u>	<u>236</u>	<u>25.3</u>
Total	36,433	100.0	932	100.0

(excluded from the survey) over 65 years of age or who do not consider farming to be their principal occupation.

General Characteristics of North Dakota Farm Operators

The characteristics of the North Dakota farm operators who responded to the survey are summarized in this section. The summary is organized into six sections which describe the following characteristics: demographic, employment, organizational participation, marketing and trade patterns, farm,

and financial. Subsequent sections of the report then analyze these characteristics for operators with different levels of debt-to-asset ratios.

Demographic Characteristics

The demographic characteristics of the North Dakota farm operators surveyed are summarized in Table 4. Their average age was 45.1 years. Only 3 percent of those surveyed were less than 25 years old while 44 percent were between 25 and 44. The average age of spouses was 42.7.

TABLE 4. SELECTED DEMOGRAPHIC CHARACTERISTICS OF NORTH DAKOTA FARM OPERATORS

Item	Units	Value	N
Operator age:			
Average age	Years	45.1	931
Distribution:			
less than 25	Percent	3.0	
25 to 34	Percent	20.5	
35 to 44	Percent	23.4	
45 to 54	Percent	25.6	
55 to 64	Percent	27.6	
Spouse age:			
Average age	Years	42.7	799
Marital status:			
Single	Percent	12.2	933
Married	Percent	85.7	
Separated or divorced	Percent	1.3	
Widowed	Percent	0.8	
Household size:			
Average size	Number	3.5	931
Distribution:			
One	Percent	5.0	
Two	Percent	27.5	
Three	Percent	20.5	
Four	Percent	23.5	
Five	Percent	14.6	
Six or more	Percent	8.9	
Race:			
White	Percent	99.8	933
Other	Percent	0.2	
Respondent sex:			
Male	Percent	98.7	933
Female	Percent	1.3	

-CONTINUED -

TABLE 4. SELECTED DEMOGRAPHIC CHARACTERISTICS OF NORTH DAKOTA FARM OPERATORS
(CONTINUED)

Item	Units	Value	N
Years lived in county of present residence	Number	38.5	924
Number of areas outside county where respondent has lived one year or longer:			
None	Percent	60.2	933
One	Percent	24.2	
Two	Percent	9.0	
Three	Percent	3.2	
Four	Percent	1.6	
More than four	Percent	1.8	
Number of years respondent has lived outside county:			
None	Percent	60.7	933
Less than four	Percent	18.1	
Five to nine	Percent	7.8	
Ten or more	Percent	13.4	
Has respondent ever lived outside state:			
No	Percent	60.7	933
Yes	Percent	39.3	
Number of years lived outside state:			
None	Percent	80.0	933
Less than four	Percent	13.7	
Five to nine	Percent	3.0	
Ten or more	Percent	3.3	
Highest level of education completed by operator:			
Eighth grade or less	Percent	16.1	917
Some high school	Percent	9.1	
Completed high school	Percent	36.1	
Attended college or other postsecondary school	Percent	26.5	
Completed college	Percent	12.2	

- CONTINUED -

TABLE 4. SELECTED DEMOGRAPHIC CHARACTERISTICS OF NORTH DAKOTA FARM OPERATORS (CONTINUED)

Item	Units	Value	N
Highest level of education completed by spouse:			
Eighth grade or less	Percent	6.7	793
Some high school	Percent	5.7	
Completed high school	Percent	37.5	
Attended college or other postsecondary school	Percent	34.0	
Completed college	Percent	16.1	

Note: N indicates the number of respondents to each question.

Almost 86 percent of the operators surveyed were married, about 12 percent were single, and 2 percent were separated, widowed, or divorced. The average household size was 3.5, and the median household size was 2.

Almost all of the farm operators surveyed were white males, and most had always lived in the county where they now resided. About 60 percent of these operators had never lived outside their present county for more than one year, and about 60 percent had never lived outside North Dakota for more than one year.

About three-fourths of the respondents had completed at least high school, and about 39 percent had attended college or received some other form of postsecondary education. Their spouses had higher levels of educational attainment; about 88 percent had completed high school and 50 percent had postsecondary education.

Employment Characteristics

The off-farm employment experience of the farm operators and their spouses is summarized in Table 5. Of the operators surveyed, nearly one-fourth had worked off the farm in 1984, but only 24 percent of these had worked full-time (at least one 40-hour workweek). Although 49 percent of the operators who worked off the farm were able to obtain employment within 10 miles of their place of residence, 25.6 percent traveled more than 20 miles. About 29 percent of the spouses were employed off the farm, and 41 percent of them worked at full-time jobs. Distances traveled to work by spouses were quite similar to those reported by the respondents.

Farm operators most often obtained employment in agriculture, manufacturing, or construction. Only 15 percent of the operators who were employed reported working more than 200 days off the farm while 32 percent had

TABLE 5. SELECTED EMPLOYMENT CHARACTERISTICS OF NORTH DAKOTA FARM OPERATORS

Item	Units	Value	N
Did operator work off the farm in 1984:			
No	Percent	76.0	933
Yes	Percent	24.0	
Employment status of operators working off the farm:			
Part-time	Percent	76.2	223
Full-time	Percent	23.8	
Distance traveled to off-farm job:			
Less than 5 miles	Percent	35.1	208
5 to 9 miles	Percent	13.9	
10 to 14 miles	Percent	13.5	
15 to 20 miles	Percent	12.0	
More than 20 miles	Percent	25.5	
Did spouse work off the farm in 1984:			
No	Percent	71.3	933
Yes	Percent	28.7	
Employment status of spouses:			
Part-time	Percent	58.9	248
Full-time	Percent	41.1	
Distance traveled by spouse:			
Less than 5 miles	Percent	30.1	246
5 to 9 miles	Percent	20.3	
10 to 14 miles	Percent	16.3	
15 to 20 miles	Percent	12.6	
More than 20 miles	Percent	20.7	

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TABLE 5. SELECTED EMPLOYMENT CHARACTERISTICS OF NORTH DAKOTA FARM OPERATORS
(CONTINUED)

Item	Units	Value	N
Industry in which operator was employed off the farm:			
Agriculture	Percent	23.3	215
Mining	Percent	7.4	
Construction	Percent	14.4	
Manufacturing	Percent	17.7	
Wholesale trade	Percent	5.1	
Retail trade	Percent	6.0	
Professional	Percent	10.7	
Government	Percent	5.6	
Other	Percent	9.8	
Number of days operator worked off the farm in 1984:			
1 to 24	Percent	15.1	218
25 to 49	Percent	14.2	
50 to 99	Percent	23.9	
100 to 200	Percent	31.7	
Over 200	Percent	15.1	
Number of years operator has worked off the farm:			
One or less	Percent	13.1	222
Two to three	Percent	20.7	
Four to five	Percent	14.9	
Six to ten	Percent	24.8	
More than ten	Percent	26.5	
Industry in which spouse was employed:			
Manufacturing	Percent	6.8	235
Retail trade	Percent	14.9	
Finance and business	Percent	7.2	
Personal service	Percent	5.5	
Professional	Percent	46.4	
Government	Percent	6.8	
Other	Percent	12.4	
Number of days spouse worked off the farm in 1984:			
Less than 100	Percent	23.4	244
100 to 200	Percent	36.9	
More than 200	Percent	39.7	

- CONTINUED -

TABLE 5. SELECTED EMPLOYMENT CHARACTERISTICS OF NORTH DAKOTA FARM OPERATORS
(CONTINUED)

Item	Units	Value	N
Number of years spouse has worked off the farm:			
One or less	Percent	14.1	248
Two to three	Percent	21.4	
Four to five	Percent	21.0	
Six to ten	Percent	21.8	
More than ten	Percent	21.7	
Does operator plan to look for off-farm job in 1985:			
No	Percent	90.4	732
Yes	Percent	9.6	
Does spouse plan to look for off-farm job in 1985:			
No	Percent	93.4	588
Yes	Percent	6.6	
Number of full-time nonfarm jobs operator has held:			
None	Percent	43.5	931
One	Percent	23.6	
Two	Percent	13.7	
Three	Percent	8.5	
More than three	Percent	10.7	
Number of years operator has worked in full-time nonfarm jobs:			
None	Percent	44.4	930
Less than 5	Percent	28.3	
5 to 10	Percent	15.9	
More than 10	Percent	11.4	

worked 100 to 200 days and the remaining 53 percent had worked less than 100 days. On the other hand, about 40 percent of employed spouses had worked more than 200 days off the farm and another 37 percent had worked 100 to 200 days. These patterns suggest that farm operators' employment was often in seasonal jobs whose demands could be reconciled with the farming operation. Spouses, however, were more likely to engage in activities that required a continuing commitment, but often for less than the traditional 40-hour workweek. Spouses most often were employed in professions, such as teaching and nursing, or in retail trade.

About one-third of those operators who were employed off the farm had worked off the farm for less than 3 years, about 40 percent had worked off the farm for 3 to 10 years, and 26 percent had worked more than 10 years. The spouses exhibited similar patterns, but a somewhat smaller percentage had worked more than 10 years off the farm.

A relatively small, but important, percentage of the survey respondents and spouses who had not worked off the farm in 1984 planned to seek off-farm jobs in 1985--9.6 percent of the operators and 6.6 percent of the spouses.

Finally, considering the respondent group overall, it must be noted that their experience in full-time off-farm employment was relatively limited. Of the respondents, about 44 percent had never worked in a full-time job off the farm, and an additional 28 percent had less than five years of such experience.

Organizational Participation

Participation by farm families in a variety of community organizations and activities in 1984 is summarized in Table 6. Church was the most common form of organization of which these families were members (92 percent), followed by farm organizations (70 percent), and community service clubs (40 percent). The frequency with which the operator or spouse served as an officer in such organizations followed a similar pattern. Organizations in which offices were most frequently held were, again, churches (30 percent), farm organizations (9 percent), and service clubs (8 percent). About one family in six was involved in 4-H activities.

A substantial majority of the farm operators surveyed (64 percent) attended extension meetings or experiment station field days. About half of the respondents also requested publications or enrolled in short courses.

Marketing and Trade Patterns

Marketing and trade patterns of North Dakota farm operators are summarized in Table 7. Spring wheat was the principal crop produced by 65 percent of the operators, followed by durum wheat (13 percent). Sixty percent of the farmers delivered their grain to an elevator located within 10 miles of their farm. Another 29 percent marketed through a facility located between 11 and 20 miles from the farm.

Livestock were produced on 563 farms, or about 60 percent of the total sample. (The 1982 Census of Agriculture reports that 56.8 percent of all North Dakota farms raised livestock.) Of these producers, 80 percent reported beef cattle as their principal livestock enterprise. Livestock producers traveled considerable distances to market their livestock. The average distance reported was 65 miles, and about 44 percent of the producers reported distances greater than 50 miles.

Distances which farm families traveled to obtain selected items or services also are reported in Table 7. Food, hardware, and banking services

TABLE 6. ORGANIZATIONAL MEMBERSHIP AND PARTICIPATION CHARACTERISTICS OF NORTH DAKOTA FARM OPERATORS

Item	Units	Value	N
Was operator or spouse a member of:			
Farm organization			
No	Percent	29.7	933
Yes	Percent	70.3	
Commodity group			
No	Percent	74.8	933
Yes	Percent	25.2	
Service club			
No	Percent	59.9	933
Yes	Percent	40.1	
PTA or other school organization			
No	Percent	77.5	933
Yes	Percent	22.5	
County commission			
No	Percent	71.7	933
Yes	Percent	28.3	
Church			
No	Percent	8.4	933
Yes	Percent	91.6	
Was operator or spouse an officer of:			
Farm organization			
No	Percent	90.9	933
Yes	Percent	9.1	
Commodity group			
No	Percent	95.6	933
Yes	Percent	4.4	
Service club			
No	Percent	91.9	933
Yes	Percent	8.1	
PTA			
No	Percent	93.9	933
Yes	Percent	6.1	

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TABLE 6. ORGANIZATIONAL MEMBERSHIP AND PARTICIPATION CHARACTERISTICS OF NORTH DAKOTA FARM OPERATORS (CONTINUED)

Item	Units	Value	N
Church			
No	Percent	70.1	933
Yes	Percent	29.9	
Is family involved in 4-H:			
No	Percent	83.3	933
Yes	Percent	16.7	
Is operator or spouse a 4-H leader:			
No	Percent	93.0	933
Yes	Percent	7.0	
Does operator attend extension meetings or experiment station field days:			
No	Percent	35.8	933
Yes	Percent	64.2	
Does operator request publications or enroll in short courses of extension service or experiment station:			
No	Percent	49.8	933
Yes	Percent	50.2	

reflected trade patterns usually associated with convenience items. The average distance traveled to obtain these three items fell within 16.7 to 18.2 miles, and more than half of the respondents obtained each of these items at a location within 15 miles of their place of residence. Furniture and automobiles, on the other hand, are items which represent major, although infrequent, expenditures. Farm families traveled considerably farther to shop for these items; average distances traveled to obtain furniture and automobiles were 36.5 and 32.6 miles, respectively.

Farm machinery reflects a combination of attributes. Initial purchase typically represents a major investment and one which occurs infrequently, but the need for periodic service suggests the desirability of dealing with a local supplier. The purchase patterns of farmers surveyed appear to reflect these factors. Average distance to the farmer's primary farm machinery dealer was 21.1 miles. About 29 percent of the respondents obtained machinery from a supplier located within 10 miles of their farm, whereas about 27 percent traveled 26 miles or more.

TABLE 7. MARKETING AND TRADE PATTERNS OF NORTH DAKOTA FARM OPERATORS

Item	Units	Value	N
Principal crop produced:			
Spring Wheat	Percent	65.3	895
Durum Wheat	Percent	12.5	
Sunflower	Percent	6.4	
Other	Percent	15.8	
Distance to firm that purchased a majority of principal crop in 1984:			
Average distance distribution:	Miles	12.9	815
0-5 miles	Percent	28.5	
6-10 miles	Percent	31.5	
11-15 miles	Percent	20.9	
16-20 miles	Percent	8.4	
21-50 miles	Percent	8.5	
Over 50 miles	Percent	2.2	
Principal livestock enterprise:			
Beef Cattle	Percent	79.9	563
Dairy	Percent	12.6	
Hogs	Percent	3.9	
Sheep	Percent	3.0	
Other	Percent	0.6	
Distance to firm that purchased a majority of principal livestock type in 1984:			
Average distance distribution:	Miles	64.7	539
Less than 10 miles	Percent	7.1	
10-25 miles	Percent	19.9	
26-50 miles	Percent	29.5	
51-100 miles	Percent	30.2	
More than 100 miles	Percent	13.4	

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TABLE 7. MARKETING AND TRADE PATTERNS OF NORTH DAKOTA FARM OPERATORS
(CONTINUED)

Item	Units	Value	N
Distance traveled to purchase:			
Food			
Average distance	Miles	18.2	933
Distribution:			
0-5 miles	Percent	21.5	
6-10 miles	Percent	18.1	
11-15 miles	Percent	16.7	
16-20 miles	Percent	11.5	
21-25 miles	Percent	9.5	
26-50 miles	Percent	17.8	
More than 50 miles	Percent	4.9	
Hardware			
Average distance	Miles	18.1	933
Distribution:			
0-5 miles	Percent	20.3	
6-10 miles	Percent	19.1	
11-15 miles	Percent	18.5	
16-20 miles	Percent	13.4	
21-25 miles	Percent	8.2	
26-50 miles	Percent	15.5	
More than 50 miles	Percent	5.0	
Banking services			
Average distance	Miles	16.7	933
Distribution:			
0-5 miles	Percent	18.5	
6-10 miles	Percent	21.2	
11-15 miles	Percent	19.3	
16-20 miles	Percent	15.3	
21-25 miles	Percent	9.3	
26-50 miles	Percent	13.8	
More than 50 miles	Percent	2.6	
Furniture			
Average distance	Miles	36.5	928
Distribution:			
0-5 miles	Percent	8.9	
6-10 miles	Percent	8.5	
11-15 miles	Percent	8.2	
16-20 miles	Percent	11.3	
21-25 miles	Percent	10.1	
26-50 miles	Percent	30.8	
More than 50 miles	Percent	22.2	

TABLE 7. MARKETING AND TRADE PATTERNS OF NORTH DAKOTA FARM OPERATORS
(CONTINUED)

Item	Units	Value	N
Automobile			
Average distance	Miles	32.6	929
Distribution:			
0-5 miles	Percent	11.5	
6-10 miles	Percent	10.7	
11-15 miles	Percent	11.0	
16-20 miles	Percent	12.5	
21-25 miles	Percent	8.7	
26-50 miles	Percent	27.7	
More than 50 miles	Percent	17.9	
Farm machinery			
Average distance	Miles	21.1	924
Distribution:			
0-5 miles	Percent	13.9	
6-10 miles	Percent	15.5	
11-15 miles	Percent	17.3	
16-20 miles	Percent	16.3	
21-25 miles	Percent	10.5	
26-50 miles	Percent	21.1	
More than 50 miles	Percent	5.4	

Farm Characteristics

Some additional characteristics of the farms operated by survey respondents are summarized in Table 8. The acreage operated by these farmers averaged 1,623 acres with about 80 percent of the farms falling in the range of 500 to 3,000 acres. Cropland accounted for 72 percent of the total acreage of the typical farm operation.

Few producers owned all the land they operated--a pattern typical in North Dakota. Only 13 percent of the respondents owned no land, but only 21 percent owned 90 percent or more of the land they operated. Overall, the respondents owned about 50 percent of the land they farmed.

The sole proprietorship is the predominant form of farm business organization in North Dakota, and 80 percent of the respondents fell into this category. Another 17 percent reported a partnership organization (almost invariably with relatives) while about 3 percent were part of a family corporation. This information, together with the fact that 98 percent of the respondents reported that their family provided at least 50 percent of the labor for the farm operation, suggests that almost all of the producers surveyed can be appropriately described as operating "family farms."

TABLE 8. SELECTED FARM CHARACTERISTICS OF NORTH DAKOTA FARM OPERATORS

Item	Units	Value	N
Acres operated:			
Average	Acres	1622.52	932
Distribution:			
Less than 180 acres	Percent	1.3	
180 to 499 acres	Percent	8.2	
500 to 999 acres	Percent	25.8	
1,000 to 1,499 acres	Percent	24.7	
1,500 to 1,999 acres	Percent	14.7	
2,000 to 2,999 acres	Percent	14.6	
3,000 to 5,000 acres	Percent	7.5	
More than 5,000 acres	Percent	3.2	
Percent cropland:			
Average ^a	Percent	71.6	932
Distribution:			
0 to 20 percent	Percent	4.5	
21 to 40 percent	Percent	9.2	
41 to 60 percent	Percent	18.3	
61 to 80 percent	Percent	22.8	
81 to 100 percent	Percent	45.2	
Percent owned:			
Average ^a	Percent	50.2	932
Distribution:			
0 percent	Percent	13.0	
0.1 to 10 percent	Percent	4.5	
11 to 20 percent	Percent	7.8	
21 to 30 percent	Percent	7.5	
31 to 40 percent	Percent	9.1	
41 to 50 percent	Percent	11.2	
51 to 60 percent	Percent	7.1	
61 to 70 percent	Percent	9.0	
71 to 80 percent	Percent	6.4	
81 to 90 percent	Percent	3.4	
91 to 100 percent	Percent	21.0	
Type of business organization:			
Sole proprietorship	Percent	80.3	933
Partnership	Percent	16.6	
Family corporation	Percent	2.7	
Other corporation	Percent	0.1	
Other	Percent	0.3	
Does the family provide at least 50 percent of the labor on the farm?			
No	Percent	2.3	993
Yes	Percent	97.7	

^aRepresents an unweighted average of the percentage for each farm.

Financial Characteristics

The general financial characteristics of the North Dakota farm operators surveyed are summarized in Table 9. The average gross cash farm income of North Dakota farmers responding to the survey was \$105,347 and their average net cash farm income was \$14,897. Gross farm income included all cash sales of grain and livestock including government payments and custom work performed for others. Over 40 percent of the respondents had gross cash farm income between \$40,000 and \$99,999 and an additional 32 percent had gross cash farm income between \$100,000 and \$249,999. Net cash farm income included gross cash farm income less gross cash farm expenses and depreciation in 1984. Net cash farm income does not take into account principal payments or changes in inventory of grain and livestock products during the year. Although the average net cash farm income for the respondents was \$14,897, some 24 percent of the farmers had a negative net cash farm income in 1984.

TABLE 9. SELECTED FINANCIAL CHARACTERISTICS OF NORTH DAKOTA FARM OPERATORS

Item	Units	Value	N
Total debt			
Average	Dollars	139,870.0	901
Distribution:			
No debt	Percent	17.3	
\$1 to \$24,999	Percent	13.5	
\$25,000 to \$49,999	Percent	11.7	
\$50,000 to \$74,999	Percent	8.0	
\$75,000 to \$99,999	Percent	10.6	
\$100,000 to \$149,999	Percent	9.7	
\$150,000 to \$199,999	Percent	9.2	
\$200,000 to \$249,999	Percent	5.0	
\$250,000 to \$499,999	Percent	10.4	
\$500,000 to \$999,999	Percent	3.9	
\$1,000,000 and over	Percent	.7	
Total assets			
Average	Dollars	423,042.0	890
Distribution:			
\$0 to \$49,999	Percent	4.4	
\$50,000 to \$99,999	Percent	8.7	
\$100,000 to \$249,999	Percent	31.2	
\$250,000 to \$499,999	Percent	32.6	
\$500,000 to \$749,999	Percent	10.6	
\$750,000 to \$999,999	Percent	7.6	
\$1,000,000 to \$1,999,999	Percent	3.2	
\$2,000,000 and over	Percent	1.7	
Distribution of debt:			
Long term	Percent	54.1	764
Intermediate term	Percent	35.8	
Current	Percent	9.5	

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TABLE 9. SELECTED FINANCIAL CHARACTERISTICS OF NORTH DAKOTA FARM OPERATORS
(CONTINUED)

Item	Units	Value	N
Distribution of assets:			
Long term	Percent	56.6	906
Intermediate term	Percent	31.0	
Current	Percent	11.9	
Debt-to-asset ratio:			
.00-.10	Percent	28.6	884
.11-.20	Percent	11.2	
.21-.30	Percent	10.4	
.31-.40	Percent	11.5	
.41-.50	Percent	10.3	
.51-.60	Percent	6.6	
.61-.70	Percent	6.7	
.71-.80	Percent	5.5	
.81-.90	Percent	3.7	
Greater than .90	Percent	5.4	
Gross cash farm income			
Average	Dollars	105,346.7	884
Distribution:			
Less than \$10,000	Percent	1.1	
\$10,000 to \$19,999	Percent	4.3	
\$20,000 to \$39,999	Percent	15.7	
\$40,000 to \$99,999	Percent	40.1	
\$100,000 to \$249,999	Percent	31.6	
\$250,000 to \$499,999	Percent	5.1	
\$500,000 and over	Percent	2.1	
Composition of gross farm income:			
Crops	Percent	70.1	919
Beef cattle	Percent	19.8	
Dairy	Percent	5.5	
Other livestock	Percent	2.4	
Other	Percent	.9	
Net cash farm income:			
Average	Dollars	14,897.0	856
Distribution:			
Negative	Percent	24.0	
\$0 to \$4,999	Percent	8.5	
\$5,000 to \$9,999	Percent	12.7	
\$10,000 to \$19,999	Percent	24.5	
\$20,000 to \$29,999	Percent	11.0	
\$30,000 to \$49,999	Percent	12.4	
\$50,000 to \$99,999	Percent	5.9	
\$100,000 and over	Percent	1.0	

Respondents' estimates of their total debt and total assets were averaged; the average total debt of the operators was \$139,870 and the average of their total assets was \$423,042. This translates into a total-debt to total-asset ratio of 33.06 percent; that is, the average North Dakota operator was carrying 33.06 cents of debt for every dollar of assets he controlled.

Over 17 percent of the farm operators had no debt against their business, and an additional 44 percent had less than \$100,000 of total debt. Over 63 percent of the operators had total asset holdings valued between \$100,000 and \$500,000.

The average distribution of debt and assets between current-, intermediate-, and long-term categories is also shown in Table 9. Nearly 57 percent of the total assets were held as long-term assets. Long-term assets include land and other assets with a useful life over 10 years. Intermediate- and current-term assets accounted for 31 percent and 12 percent, respectively, of the respondents' average total assets. Intermediate-term assets have a useful life of two to five years and include machinery and breeding livestock. Current assets are those easily convertible to cash within one year.

The average long-term debt as a percentage of total debt was 54.1 percent. Long-term debt is debt on land and buildings and is usually amortized over 10 or more years. Intermediate-term and current-term debt accounted for about 36 percent and 10 percent, respectively, of the respondents' average total debt. Intermediate-term debt is usually on machinery, cars, and breeding livestock. Current debt is due within one year and includes debt for feed, seed, fuel, fertilizer, and real estate taxes.

The total-asset and total-debt information obtained from the respondents represents a snapshot of the financial picture of North Dakota farmers as of January 1, 1985. One of the better indicators of the financial health of a farm business is the debt-to-asset ratio. The larger this ratio becomes, the less likely the farm business will be able to survive times of poor economic return such as we have witnessed in the 1980s. Farmers with debt-to-asset ratios below 40 percent may not be making a very good return to management and on their capital investment but are usually able to meet their out-of-pocket expenses (cash farm expenses, taxes, and family living expenses). Just over three-fifths of the farmers sampled in this survey had debt-to-asset ratios below 40 percent. Farmers with debt-to-asset ratios between 41 and 70 percent are generally in satisfactory to weak financial positions but are also usually able to meet their out-of-pocket expenses. An additional 24 percent of the operators had ratios in this category. Most farmers with debt-to-asset ratios exceeding 70 percent are currently experiencing extreme difficulty meeting cash flow needs of the farm and for family living. Nearly 15 percent of the respondents had ratios in this category. (For a discussion of financial ratios see Leholm et al. 1983). Because so much of a farmer's chances of being able to survive the financially troubled times of the 1980s is contingent on the percentage of debt he is carrying, the next major section of this report presents a comparison of various characteristics of the farm or farmer by debt-to-asset ratio categories.

Detailed Characteristics of
North Dakota Farm Operators

The detailed characteristics of North Dakota farm operators are discussed in the following subsections: demographic, income, employment, farm, community participation, trade patterns, and satisfaction with farming.

Demographic Characteristics

The year the farm operator started farming by debt-to-asset ratio categories is shown in Table 10. Sixty-four percent of the farm operators with debt-to-asset ratios greater than 70 percent started farming in the 1970s or 1980s, while over 70 percent of the operators with no debt started farming before 1960. Similar strong relationships between age of the respondents and debt categories are shown in Table 11; 77 percent of the farmers with no debt were between the ages of 50-64 years.

TABLE 10. YEAR STARTED FARMING BY DEBT-TO-ASSET RATIO CATEGORIES OF NORTH DAKOTA FARMERS

Year Started	No Debt		1% to 40% Debt		41% to 70% Debt		Over 70% Debt		Row Total and Percent	
	N	%	N	%	N	%	N	%	N	%
	Before 1945	29	19.74	27	6.76	5	2.37	4	3.09	65
1945-49	30	20.41	41	10.28	7	3.37	8	6.15	86	9.73
1950-54	26	17.69	51	12.78	15	7.21	6	4.62	98	11.09
1955-59	18	12.24	50	12.53	24	11.54	9	6.92	101	11.43
1960-64	6	4.08	56	14.04	28	13.46	8	6.15	98	11.09
1965-69	10	6.80	38	9.52	27	12.98	12	9.23	87	9.84
1970-74	11	7.48	62	15.54	33	15.87	25	19.23	131	14.82
1975-79	10	6.80	44	11.03	49	23.58	36	27.69	139	15.72
1980-84	7	4.76	30	7.52	20	9.62	22	16.92	79	8.94
Total	147	100.00	399	100.00	208	100.00	130	100.00	884	100.00
Column Percent of Total (N=884)	16.63%		45.14%		23.53%		14.71%		100.00%	

The formal education of the farm operators by debt-to-asset ratio categories and by age is shown in Tables 12 and 13, respectively. The more formal education a farmer had obtained, the higher the debt load he was carrying. Perhaps the fact that younger operators typically have more formal

TABLE 11. AGE OF RESPONDENT BY DEBT-TO-ASSET RATIO CATEGORIES OF NORTH DAKOTA FARMERS

Age of Respondent	No Debt		1% to 40% Debt		41% to 70% Debt		Over 70% Debt		Row Total and Percent	
	N	%	N	%	N	%	N	%	N	%
Less than 25	4	2.72	9	2.26	7	3.37	7	5.38	27	3.05
25-29	5	3.40	26	6.52	27	12.98	24	18.46	82	9.28
30-34	7	4.76	42	10.53	34	16.35	19	14.62	102	11.54
35-39	8	5.44	46	11.53	33	15.87	21	16.15	108	12.22
40-44	2	1.36	53	13.28	30	14.42	16	12.31	101	11.43
45-49	8	5.44	55	13.78	28	13.46	15	11.54	106	11.99
50-54	24	16.33	62	15.54	22	10.58	11	8.46	119	13.46
55-59	43	29.25	55	13.78	20	9.62	10	7.69	128	14.48
60-64	46	31.29	51	12.78	7	3.37	7	5.38	111	12.56
Total	147	100.00	399	100.00	208	100.00	130	100.00	884	100.00
Column Percent of Total (N=884)	16.63%		45.14%		23.53%		14.71%			

education can explain why farmers with more formal education have higher debt. Over 64 percent of the respondents under age 25 had attended some college or completed college compared to only 22 percent of the respondents over age 60.

The number of persons living in the household by debt-to-asset ratio is illustrated in Table 14. Farm families with debt had a substantially larger household size than farm families with no debt. Over 69 percent of the farmers with 1 to 40 percent debt lived in households larger than two people, while 80 percent and 73 percent of the farmers in the 41 to 70 percent debt category and over 70 percent debt category, respectively, lived in households larger than two people. Only 44 percent of the farm families with no debt consisted of households larger than two people. Two-thirds of the farm families carrying over 40 percent debt loads had children under the age of 19, and only 30 percent of the families with no debt had children under 19 (Table 15).

The average size of the farm households was 3.5 with an average of 1.2 children under 19 years old and 1.0 children between the ages of 5 and 18. Farm families with high debt loads had a larger number of people in the household and significantly more children of school age. Farm families with debt-to-asset ratios between 41 and 70 percent had 3.8 household members with an average of 1.5 children under 19 years old and 1.1 children between 5 and 18 years old (Table 16). Farm families with over 70 percent debt had an

TABLE 12. FORMAL EDUCATION OF FARMER BY DEBT-TO-ASSET RATIO CATEGORIES OF NORTH DAKOTA FARMERS

Education	No Debt		1% to 40% Debt		41% to 70% Debt		Over 70% Debt		Row Total and Percent	
	N	%	N	%	N	%	N	%	N	%
Some grade school	4	2.76	4	1.02	1	.49	3	2.38	12	1.38
Completed 8th grade	33	22.76	58	14.76	23	11.22	9	7.14	123	14.15
Some high school	14	9.66	34	8.65	18	8.78	10	7.94	76	8.75
Completed high school	49	33.79	152	38.68	67	32.68	47	37.30	315	36.25
Attended some college or trade school	33	22.76	97	24.68	64	31.22	39	30.95	233	26.81
Completed 4 years or more of college	12	8.28	48	12.21	32	15.61	18	14.29	110	12.66
Total	145	100.00	393	100.00	205	100.00	126	100.00	869	100.00
Column Percent of Total (N=869)	16.69%		45.22%		23.59%		14.5%			

average of 1.6 children under 19 years old and 1.2 children between 5 and 18 years of age. Because farm families with higher debt-to-asset ratios are more vulnerable to financial failure, a major impact on North Dakota's primary and secondary schools seems possible.

Income Characteristics

The gross farm income and net cash farm income of the operators by debt-to-asset ratio categories are shown in Tables 17 and 18, respectively. About 40 percent of all farmers surveyed had gross farm incomes between \$40,000 and \$99,999, and an additional 31 percent had gross farm incomes between \$100,000 and \$249,999. Farmers with over 40 percent debt had substantially higher percentages of gross farm incomes in the combined \$40,000

TABLE 13. FORMAL EDUCATION CATEGORIES BY RESPONDENT'S AGE OF NORTH DAKOTA FARMERS

Education Category	Respondent's Age																		Row Total and Percent	
	Less Than 25		25-29		30-34		35-39		40-44		45-49		50-54		55-59		60-64			
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Some grade school	0	0.00	0	0.00	0	0.0	0	0.00	1	1.01	0	0.00	4	3.10	8	5.63	0	0.00	13	1.42
Completed 8th grade	1	3.57	0	0.00	2	1.9	4	3.64	8	8.08	15	14.02	30	23.26	31	21.83	44	38.60	135	14.72
Some high school	1	3.57	5	6.02	2	1.9	4	3.64	6	6.06	8	7.48	16	12.40	27	19.01	14	12.28	83	9.05
Completed high school	8	28.57	36	43.37	29	27.62	32	29.09	36	36.36	52	48.60	55	42.64	52	36.62	31	27.19	331	36.10
Attended college	15	53.57	33	39.76	42	40.00	41	37.27	31	31.31	20	18.69	17	13.18	20	14.08	24	21.05	243	26.50
Completed college	3	10.71	9	10.84	30	28.57	29	26.36	17	17.17	12	11.21	7	5.43	4	2.82	1	.88	112	12.21
Total	28	100.00	83	100.00	105	100.00	110	100.00	99	100.00	107	100.00	129	100.00	142	100.00	114	100.00	917	100.00
Column Percent of Total (N=917)	3.05%		9.05%		11.45%		12.00%		10.80%		11.67%		14.07%		15.49%		12.43%		100.00%	

TABLE 14. NUMBER OF PERSONS IN THE HOUSEHOLD BY DEBT-TO-ASSET RATIO CATEGORIES OF NORTH DAKOTA FARMERS

Number in Household	No Debt		1% to 40% Debt		41% to 70% Debt		Over 70% Debt		Row Total and Percent	
	N	%	N	%	N	%	N	%	N	%
1	8	5.44	20	5.01	5	2.43	11	8.46	44	4.99
2	75	51.02	102	25.56	37	17.96	24	18.46	238	26.98
3	32	21.77	83	20.80	45	21.84	23	17.69	183	20.75
4	24	16.33	92	23.06	52	25.24	37	28.46	205	23.24
5	5	3.40	65	16.29	45	21.84	18	13.85	133	15.08
6	2	1.36	21	5.26	16	7.77	7	5.38	46	5.22
7 & Over	1	0.68	16	4.01	6	2.92	10	7.69	33	3.74
Total	147	100.00	399	100.00	206	100.00	130	100.00	882	100.00
Column Percent of Total (N=882)	16.67%		45.24%		23.36%		14.74%			

TABLE 15. NUMBER OF CHILDREN IN HOUSEHOLD UNDER 19 YEARS OF AGE BY DEBT-TO-ASSET RATIO CATEGORIES OF NORTH DAKOTA FARMERS

Number in Children	No Debt		1% to 40% Debt		41% to 70% Debt		Over 70% Debt		Row Total and Percent	
	N	%	N	%	N	%	N	%	N	%
0	105	71.43	172	43.11	70	33.65	43	33.08	390	44.12
1	20	13.61	67	16.79	39	18.75	21	16.15	147	16.63
2	17	11.56	76	19.05	48	23.08	35	26.92	176	19.91
3	4	2.72	57	6.45	36	17.31	18	13.85	115	13.01
4	0	0.00	15	3.76	12	5.77	10	7.69	37	4.19
5	0	0.00	10	2.51	3	1.44	2	1.54	15	1.70
6	1	0.68	2	0.50	0	0.00	1	0.77	4	0.45
Total	147	100.00	399	100.00	208	100.00	130	100.00	884	100.00
Column Percent of Total (N=884)	16.63%		45.14%		23.53%		14.71%			

TABLE 16. NUMBER OF CHILDREN UNDER AGE 19 AND NUMBER OF PERSONS IN HOUSEHOLDS BY DEBT-TO-ASSET RATIO CATEGORIES OF NORTH DAKOTA FARMERS

Item	No Debt	1% to 40% Debt	41% to 70% Debt	Over 70% Debt
Number of children under age 19	0.49	1.29	1.47	1.56
Number of children between age 5 and 18	0.38	1.06	1.12	1.16
Number of persons in household	2.68	3.53	3.82	3.72

TABLE 17. GROSS FARM INCOME BY DEBT-TO-ASSET RATIO CATEGORIES OF NORTH DAKOTA FARMERS

Gross Farm Income	No Debt		1% to 40% Debt		41% to 70% Debt		Over 70% Debt		Row Total and Percent	
	N	%	N	%	N	%	N	%	N	%
Less than \$10,000	2	1.40	6	1.53	2	.97	0	0.00	10	1.15
\$10,000-\$19,999	12	8.39	19	4.83	5	2.43	1	0.79	37	4.26
\$20,000-\$39,999	35	24.48	60	15.27	25	12.14	16	12.60	136	15.65
\$40,000-\$99,999	52	36.36	164	41.73	72	34.95	59	46.46	347	39.93
\$100,000-\$249,999	37	25.87	110	27.99	84	40.78	44	34.65	275	31.65
\$250,000-\$499,999	4	2.80	20	5.09	14	6.80	7	5.51	45	5.18
\$500,000 and over	1	0.70	14	3.56	4	1.94	0	0.00	19	2.19
Total	143	100.00	393	100.00	206	100.00	127	100.00	869	100.00
Column Percent of Total (N=869)	16.46%		45.22%		23.71%		14.61%			

TABLE 18. NET CASH FARM INCOME BY DEBT-TO-ASSET RATIO CATEGORIES OF NORTH DAKOTA FARMERS

Net Cash Farm Income	No Debt		1% to 40% Debt		41% to 70% Debt		Over 70% Debt		Row Total and Percent	
	N	%	N	%	N	%	N	%	N	%
Negative	13	9.09	54	14.48	59	30.41	48	42.11	174	21.12
\$0-\$4,999	8	5.59	40	10.72	13	6.70	13	11.40	74	8.98
\$5,000-\$9,999	19	13.29	39	10.46	37	19.07	13	11.40	108	13.11
\$10,000-\$19,999	42	29.37	106	28.42	38	19.59	23	20.18	209	25.36
\$20,000-\$29,999	17	11.89	48	12.87	18	9.28	10	8.77	93	11.29
\$30,000-\$39,999	19	13.29	24	6.43	14	7.22	6	5.26	63	7.65
\$40,000-\$49,999	14	9.79	23	6.17	7	3.61	0	0.00	44	5.34
\$50,000-\$74,999	6	4.20	26	6.97	4	2.06	1	0.88	37	4.49
\$75,000-\$99,999	4	2.80	6	1.61	3	1.55	0	0.00	13	1.58
\$100,000 and over	1	0.70	7	1.88	1	0.52	0	0.00	9	1.09
Total	143	100.00	373	100.00	194	100.00	114	100.00	824	100.00
Column Percent of Total (N=824)	17.35%		45.27%		23.54%		13.83%			

to \$250,000 range than did farmers with no debt. A very strong relationship between negative net cash farm incomes in 1984 and higher debt ratios is shown in Table 18; over 42 percent of the farmers with more than 70 percent debt suffered negative net cash farm income while only 9 percent of the farmers with no debt had negative net cash farm income in 1984.

The relationship between gross farm income and net cash farm income is illustrated in Table 19. It appears that a farmer's debt-to-asset ratio affects his net income more than his gross income, although obviously very high net cash farm incomes are correlated with high gross farm incomes. An extremely interesting relationship between net cash farm income and age is revealed in Table 20. Contrary to conventional thinking, there was no apparent relationship between the farm operator's age and negative net cash farm incomes. The lowest percentage of negative net cash farm income was 20.91 percent for the age cohort 60 to 64, and the highest percentage was 27.27 percent for the 40- to 44-year-old farmers. About 22 percent of farmers under 30 years old also had negative net cash farm incomes; however, farmers over 55 years old had a wider range of net cash farm incomes than did those under 55.

Cash farm income was the major source of cash to the farm family; however, off-farm income sources (i.e., interest income, oil leases, off-farm

TABLE 19. NET CASH FARM INCOME OF NORTH DAKOTA FARMERS BY GROSS FARM INCOME CATEGORIES IN 1984

Gross Farm Income Category	Net Cash Farm Income Category									
	Negative		\$0-\$4,999		\$5,000-\$9,999		\$10,000-\$19,999		\$20,000-\$29,999	
	N	%	N	%	N	%	N	%	N	%
Less than \$10,000	2	1.22	2	2.70	1	0.90	2	0.94	0	0.00
\$10,000-\$19,999	9	5.49	10	13.51	11	9.91	4	1.88	0	0.00
\$20,000-\$39,999	33	20.12	24	32.43	25	22.52	41	19.25	3	3.16
\$40,000-\$99,999	53	32.93	27	36.49	50	45.05	120	56.34	51	53.68
\$100,000-\$249,999	58	35.37	10	13.51	21	18.92	39	18.31	38	40.00
\$250,000-\$499,999	7	4.27	1	1.35	3	2.70	5	2.35	2	2.11
\$500,000 and over	1	.61	0	0.00	0	0.00	2	0.94	1	1.05
Total	164	100.00	74	100.00	111	100.00	213	100.00	100	100.00
Column Percent of Total (N=822)	19.93%		8.99%		13.49%		25.88%		11.54%	

- CONTINUED -

TABLE 19. NET CASH FARM INCOME OF NORTH DAKOTA FARMERS BY GROSS FARM INCOME CATEGORY IN 1984 (CONTINUED)

Gross Farm Income Category	Net Cash Farm Income Category										Row Total and Percent	
	\$30,000-\$39,999		\$40,000-\$49,999		\$50,000-\$74,999		\$75,000-\$99,999		\$100,000 and Over			
	N	%	N	%	N	%	N	%	N	%	N	%
Less than \$10,000	0	0.00	0	0.00	0	0.00	1	7.69	0	0.00	8	0.97
\$10,000-\$19,999	0	0.00	0	0.00	1	2.70	0	0.00	0	0.00	35	4.25
\$20,000-\$39,999	1	1.59	0	0.00	0	0.00	1	7.69	0	0.00	128	15.55
\$40,000-\$99,999	15	23.81	6	13.64	7	18.92	0	0.00	0	0.00	330	40.10
\$100,000-\$249,999	41	65.08	32	72.73	18	48.65	5	38.46	2	22.22	264	32.08
\$250,000-\$499,999	5	7.94	4	9.09	8	21.62	2	15.38	3	33.33	40	4.86
\$500,000 and over	1	1.59	2	4.55	3	8.11	4	30.77	4	44.44	18	2.19
Total	63	100.00	44	100.00	37	100.00	13	100.00	9	100.00	823	100.00
Column Percent of Total (N=823)	7.65%		5.35%		4.50%		1.58%		1.09%			

TABLE 20. NET CASH FARM INCOME BY RESPONDENT'S AGE OF NORTH DAKOTA FARMERS

Net Cash Farm Income	Respondent's Age																		Row Total and Percent	
	Less Than 25		25-29		30-34		35-39		40-44		45-49		50-54		55-59		60-64		N	%
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%		
Negative	6	22.22	18	21.95	25	24.75	24	23.30	27	27.27	24	24.49	32	26.45	30	23.08	23	20.91	209	24.00
\$0-\$4,999	3	11.11	8	9.76	13	12.87	12	11.65	5	5.05	10	10.20	9	7.44	7	5.38	7	6.36	74	8.50
\$5,000-\$9,999	8	29.63	17	20.73	12	11.88	16	15.53	11	11.11	8	8.16	10	8.26	16	12.31	13	11.82	111	12.74
\$10,000-\$19,999	7	25.93	20	24.39	19	18.81	21	20.39	25	25.25	31	31.63	26	21.49	40	30.77	24	21.82	213	24.45
\$20,000-\$29,999	1	3.70	9	10.98	13	12.87	11	10.68	10	10.10	8	8.16	17	14.05	12	9.23	15	13.64	96	11.02
\$30,000-\$39,999	1	3.70	5	6.10	11	10.89	4	3.88	10	10.10	4	4.08	10	8.26	8	6.15	11	10.00	64	7.35
\$40,000-\$49,999	0	0.00	2	2.44	4	3.96	4	3.88	3	3.03	6	6.12	5	4.13	12	9.23	8	7.27	44	5.05
\$50,000-\$74,999	1	3.70	3	3.66	2	1.98	5	4.85	4	4.04	7	7.14	9	7.44	3	2.31	4	3.64	38	4.36
\$75,000-\$99,999	0	0.00	0	0.00	1	0.99	5	4.85	1	1.01	0	0.00	2	1.65	2	1.54	2	1.82	13	1.49
\$100,000 and over	0	0.00	0	0.00	1	0.99	1	0.97	3	3.03	0	0.00	1	0.83	0	0.00	3	2.73	9	1.03
Total	27	100.00	82	100.00	101	100.00	103	100.00	99	100.00	98	100.00	121	100.00	130	100.00	110	100.00	871	100.00
Column Percent of Total (N=871)	3.10%		9.41%		11.60%		11.83%		11.37%		11.25%		13.89%		14.93%		12.63%			

jobs, and other income) also contributed to their incomes. The age groups over age 40 were much more likely to have cash incomes over \$40,000 than the under-40 age groups (Table 21).

A major implication of the relationship between age and net cash farm income is that farmers of all age groups quite likely lost significant equity in 1984 beyond the obvious declines in land and machinery values. Family living expenses, principal payments, and income and social security taxes must be subtracted from net cash farm income to obtain an overall cash flow outlook for the farm and household. Off-farm income sources must be added into the overall picture of farm family income, but even after accounting for the off-farm income of farm families at least 40 percent of all farmers in all age categories lost equity in 1984.

Selected financial characteristics of North Dakota farm operators by region (see Figure 1) are illustrated in Table 22. The average debt-to-asset ratios of farm operators by region ranged from a low of 31.9 percent in Region 1 (Williston region) to a high of 39 percent in Region 8 (Dickinson region). In other words, there was very little variability of debt-to-asset ratios by region, which indicates that the overall average solvency of operators varies very little across the state. However, average net cash farm incomes varied considerably by region, with a low of \$7,995 in Region 7 (Bismarck region) to a high of \$25,350 in Region 5 (Fargo region). The percentage of farm operators with negative net cash farm incomes in 1984 varied significantly by region. Regions 1 and 8 had 37.5 and 38 percent, respectively, of their farmers with negative net cash farm incomes, but Regions 4 and 5 had 14.8 and 12.1 percent of their operators with negative net cash farm incomes (Table 22). The large difference in negative net cash farm incomes between western and eastern North Dakota can partially be explained by the farm enterprises. Regions 1 and 8 have a much higher percentage than Regions 4 and 5 of cow-calf operators and a much lower percentage of specialty crops farmers. In addition, Region 1 suffered from a drought in 1984.

Although the percentage of farmers with negative net cash farm incomes varies greatly by region, about the same percentage of farmers in every age category for every region had negative net cash farm incomes in 1984. A similar relationship between age and negative net cash farm income was found at the state level.

Employment Characteristics

Farm operators with high debt-to-asset ratios were more likely to seek work off the farm than their less highly leveraged counterparts (Table 23). About 39 percent of operators with debt-to-asset ratios of 41 to 70 percent had worked off the farm or planned to seek off-farm jobs. Of the operators with debt-to-asset ratios over 70 percent, 36 percent had worked off the farm in 1984, compared to 25 percent for the total sample. Of the operators with debt-to-asset ratios over 70 percent who had not worked off the farm in 1984, 23 percent indicated they would seek such employment in 1985, compared with 10 percent for the total sample (Table 24). Thus, more than 51 percent of the farm operators with debt-to-asset ratios over 70 percent either had worked off the farm or planned to seek off-farm employment, compared to 34 percent of farm operators for the entire sample.

TABLE 21. NET CASH FARM INCOME PLUS ALL OTHER OFF-FARM CASH INCOME SOURCES BY RESPONDENT'S AGE OF NORTH DAKOTA FARMERS

Total Cash Income	Respondent's Age																		Total Row Number and Percent	
	Less Than 25		25-29		30-34		35-39		40-44		45-49		50-54		55-59		60-64			
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Less than \$10,000	9	39.13	24	32.00	29	31.18	19	20.21	15	17.44	21	22.58	17	16.67	34	28.33	17	16.67	185	23.48
\$10,000-\$19,999	9	39.13	20	26.67	19	20.43	24	25.53	30	34.88	33	35.48	31	30.39	22	18.33	26	25.49	214	27.16
\$20,000-\$39,999	3	13.04	23	30.67	29	31.18	32	34.04	26	30.23	18	19.35	31	30.39	32	26.67	26	25.49	220	27.92
\$40,000-\$99,999	2	8.70	8	10.67	14	15.05	15	15.96	9	10.47	18	19.35	20	19.61	26	21.67	26	25.49	138	17.51
\$100,000 and over	0	0.00	0	0.00	2	2.15	4	4.26	6	6.97	3	3.23	3	2.94	6	4.99	7	6.86	31	3.93
Total	23	100.00	75	100.00	93	100.00	94	100.00	86	100.00	93	100.00	102	100.00	120	100.00	102	100.00	792	100.00
Column Percent of Total (N=792)	2.92%		9.52%		11.80%		11.93%		10.91%		11.80%		12.94%		15.23%		12.94%			

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33
1

TABLE 22. SELECTED FINANCIAL CHARACTERISTICS BY REGION OF NORTH DAKOTA FARMERS

Region	Average Debt-to-Asset Ratio	Average Net Cash Farm Income	Percentage of Farms with Negative Net Cash Farm Incomes
1	31.9	\$16,157	37.5
2	33.5	\$13,660	29.5
3	33.9	\$10,661	18.8
4	35.7	\$20,357	14.8
5	32.5	\$25,350	12.1
6	38.1	\$16,827	23.9
7	36.7	\$ 7,995	25.0
8	39.0	\$10,128	38.0

TABLE 23. OFF-FARM EMPLOYMENT IN 1984 BY DEBT-TO-ASSET RATIO CATEGORIES OF NORTH DAKOTA FARMERS

Did you work in off-farm job in 1984?	No Debt		1% to 40% Debt		41% to 70% Debt		Over 70% Debt		Total Row Number and Percent	
	N	%	N	%	N	%	N	%	N	%
No	124	84.35	310	77.69	150	72.12	83	63.85	667	75.45
Yes	23	15.65	89	22.31	58	27.88	47	36.15	217	24.55
Total	147	100	399	100	208	100	130	100	884	100
Column Percent of Total (N=884)	16.63%		45.14%		23.53%		14.71%			

Highly leveraged operators who worked off the farm were more frequently employed full-time (at least one 40-hour workweek) than those with lighter debt loads (Table 25). When debt-to-asset ratios were compared with the number of days worked off the farm, however, no clear relationship was apparent (Table 26).

Spouses of highly leveraged operators were also more likely to be employed off the farm or to seek off-farm jobs. Examination of Table 27 indicates that 33 percent of the spouses of operators whose debt-to-asset ratios exceeded 70 percent were employed off the farm in 1984, compared with 29 percent of spouses for the total sample. Of the spouses who were not employed

TABLE 24. FARMERS PLANNING TO LOOK FOR OFF-FARM EMPLOYMENT IN 1985 BY DEBT-TO-ASSET RATIO CATEGORIES OF NORTH DAKOTA FARMERS

Do you plan to look for off-farm employment in 1985?	No Debt		1% to 40% Debt		41% to 70% Debt		Over 70% Debt		Row Total and Percent	
	N	%	N	%	N	%	N	%	N	%
	No	125	99.21	297	92.81	132	85.16	67	77.01	621
Yes	1	0.79	23	7.19	23	14.84	20	22.99	67	9.74
Total	126	100.00	320	100.00	155	100.00	87	100.00	688	100.00
Column Percent of Total (N=688)	18.31%		46.51%		22.53%		12.65%			

TABLE 25. OFF-FARM EMPLOYMENT IN 1984, FULL-TIME VERSUS PART-TIME, BY DEBT-TO-ASSET RATIO CATEGORIES OF NORTH DAKOTA FARMERS

Did you work full-time or part-time in off-farm employment?	No Debt		1% to 40% Debt		41% to 70% Debt		Over 70% Debt		Row Total and Percent	
	N	%	N	%	N	%	N	%	N	%
	Part-time	19	82.61	68	77.27	45	77.59	32	68.09	164
Full-time	4	17.39	20	22.73	13	22.41	15	31.91	52	24.07
Total	23	100.00	88	100.00	58	100.00	47	100.00	216	100.00
Column Percent of Total (N=216)	10.65%		40.74%		22.41%		21.76%			

TABLE 26. NUMBER OF DAYS OF OFF-FARM EMPLOYMENT IN 1984 BY DEBT-TO-ASSET RATIO CATEGORIES OF NORTH DAKOTA FARMERS

Number of days employed off-farm	No Debt		1% to 40% Debt		41% to 70% Debt		Over 70% Debt		Row Total and Percent	
	N	%	N	%	N	%	N	%	N	%
1-24	2	9.09	15	16.85	9	15.79	7	15.91	33	15.91
25-49	4	18.18	15	16.85	8	14.04	3	6.82	30	14.15
50-99	3	13.64	23	25.84	11	19.30	13	29.55	50	23.58
100-149	3	13.64	9	10.11	13	22.81	7	15.91	32	15.09
150-200	5	22.73	15	16.85	6	10.53	8	8.18	34	16.04
Over 200	5	22.73	12	13.48	10	17.54	6	3.64	33	15.57
Total	22	100.00	89	100.00	57	100.00	44	100.00	212	100.00
Column Percent of Total (N=212)	10.38%		41.98%		26.89%		20.75%			

TABLE 27. OFF-FARM EMPLOYMENT OF SPOUSE IN 1984 BY DEBT-TO-ASSET RATIO CATEGORIES OF NORTH DAKOTA FARMERS

Was your spouse employed in off-farm job in 1984?	No Debt		1% to 40% Debt		41% to 70% Debt		Over 70% Debt		Row Total and Percent	
	N	%	N	%	N	%	N	%	N	%
No	120	81.63	282	70.68	140	67.31	87	66.92	629	71.15
Yes	27	18.37	117	29.32	68	32.69	43	33.08	255	28.85
Total	147	100.00	399	100.00	208	100.00	130	100.00	884	100.00
Column Percent of Total (N=884)	16.63%		45.14%		23.53%		14.71%			

off the farm in 1984, 16 percent of those with debt-to-asset ratios exceeding 70 percent planned to seek off-farm work in 1985, compared to 7 percent for the total sample (Table 28).

TABLE 28. SPOUSE PLANNING TO LOOK FOR OFF-FARM EMPLOYMENT IN 1985 BY DEBT-TO-ASSET RATIO CATEGORIES OF NORTH DAKOTA FARMERS

Do you plan to look for off-farm employment in 1985?	No Debt		1% to 40% Debt		41% to 70% Debt		Over 70% Debt		Row Total and Percent	
	N	%	N	%	N	%	N	%	N	%
	No	98	98.99	249	96.14	111	88.10	61	83.56	519
Yes	1	1.01	10	3.86	15	11.90	12	16.44	38	6.82
Total	99	100.00	259	100.00	126	100.00	73	100.00	557	100.00
Column Percent of Total (N=557)	17.77%		46.50%		22.62%		13.11%			

The status (part- or full-time) of the off-farm employment of spouses and the number of days worked off the farm in 1984 were compared with the debt-to-asset ratio in Tables 29 and 30, respectively. Neither comparison revealed a clear relationship.

Past nonfarm work experience of farm operators was compared with their debt-to-asset ratio in Table 31. A significant finding is that more than one-third of the operators in the two highly leveraged categories had no experience in full-time nonfarm employment. Further, more than 60 percent of the operators in each category had three years experience or less.

Farm Characteristics

Comparison of farm size with debt-to-asset ratio indicates that highly leveraged operators were found in all farm size groups (Table 32). Operators with no debt tend to be operating farms of less than 1,500 acres. Highly leveraged operators were distributed across size groups in a pattern similar to that of the total population.

Examination of the debt-to-asset ratios for different types of farm business structures indicates that a higher percentage of single proprietorships than partnerships and family corporations appears in the category with debt-to-asset ratios over 70 percent (Table 33). The overall

TABLE 29. OFF-FARM EMPLOYMENT OF SPOUSE IN 1984, FULL-TIME VERSUS PART-TIME, BY DEBT-TO-ASSET RATIO CATEGORIES OF NORTH DAKOTA FARMERS

Did your spouse work full-time or part-time in off-farm employment	No Debt		1% to 40% Debt		41% to 70% Debt		Over 70% Debt		Row Total and Percent	
	N	%	N	%	N	%	N	%	N	%
	Part-time	12	48.00	65	60.75	37	56.92	26	61.90	140
Full-time	13	52.00	42	39.25	28	43.08	16	38.10	99	41.42
Total	25	100.00	107	100.00	65	100.00	42	100.00	239	100.00
Column Percent of Total (N=239)	10.46%		44.77%		27.20%		17.57%			

TABLE 30. NUMBER OF DAYS OF OFF-FARM EMPLOYMENT OF SPOUSE IN 1984 BY DEBT-TO-ASSET RATIO CATEGORIES OF NORTH DAKOTA FARMERS

Number of days employed off-farm	No Debt		1% to 40% Debt		41% to 70% Debt		Over 70% Debt		Row Total and Percent	
	N	%	N	%	N	%	N	%	N	%
	1-24	0	0.00	10	9.43	9	13.85	1	2.44	20
25-49	2	8.33	7	6.60	1	1.54	4	9.76	14	5.93
50-99	5	20.83	9	8.49	3	4.62	5	12.20	22	9.32
100-149	1	4.17	17	16.04	7	10.77	1	2.44	26	11.02
150-200	4	16.67	25	23.58	18	27.69	14	34.15	61	25.85
Over 200	12	50.00	38	35.85	27	41.54	16	39.02	93	39.41
Total	24	100.00	106	100.00	65	100.00	41	100.00	236	100.00
Column Percent of Total (N=236)	10.17%		44.92%		27.54%		17.37%			

TABLE 31. NUMBER OF YEARS FARMERS HAVE WORKED IN A FULL-TIME NONFARM JOB SINCE AGE 18 BY DEBT-TO-ASSET RATIO CATEGORIES OF NORTH DAKOTA FARMERS

Number of Years	No Debt		1% to 40% Debt		41% to 70% Debt		Over 70% Debt		Row Total and Percent	
	N	%	N	%	N	%	N	%	N	%
	None	79	53.74	179	44.97	79	38.16	46	35.38	383
1 year	9	6.12	32	8.04	26	12.56	12	9.23	79	8.96
2 years	12	8.16	44	11.06	18	8.70	15	11.54	89	10.09
3 years	6	4.08	23	5.78	13	6.28	7	5.38	49	5.56
4-6 years	14	9.52	52	13.07	29	14.01	15	11.54	110	12.37
7-10 years	7	4.76	31	7.79	19	9.18	16	12.32	73	8.27
11-15 years	3	2.04	21	5.28	10	4.83	10	7.70	44	4.98
Over 15 years	17	11.58	16	4.01	13	6.28	9	6.91	55	6.35
Total	147	100.00	398	100.00	207	100.00	130	100.00	882	100.00
Column Percent of Total (N=882)	16.67%		45.12%		23.47%		14.74%			

differences in the distribution of each type of farming operation by debt-to-asset ratio are not great, however.

Community Participation

Farm families' participation in community activities does not appear to be affected by their financial status. When the number of community organizations in which either the operator or spouse was a member in 1984 was compared to the debt-to-asset ratios, no consistent relationships were discernable (Table 34). A similar comparison of community participation with level of net cash farm income likewise revealed no clear patterns, although there appears to be some tendency for families with higher incomes to participate in more activities and organizations.

Trade Patterns

As in the case of community participation, trade patterns appear to have little relationship to financial status. When trade patterns for six major items were compared to the debt-to-asset ratio (see Appendix Tables 1 through 6), no consistent relationships were discerned. Future analysis of these patterns after controlling for such influences as age and region of residence would be desirable, however.

TABLE 32. TOTAL ACRES OPERATED BY DEBT-TO-ASSET RATIO CATEGORIES OF NORTH DAKOTA FARMERS

Acres Operated	No Debt		1% to 40% Debt		41% to 70% Debt		Over 70% Debt		Row Total and Percent	
	N	%	N	%	N	%	N	%	N	%
	Less than 180	5	3.40	5	1.26	1	.48	1	.77	12
180-499	22	14.97	30	7.54	13	6.25	10	7.69	75	8.49
500-999	46	31.29	89	22.36	53	25.48	35	26.92	223	26.92
1000-1499	36	24.49	108	27.14	47	22.60	28	21.54	219	24.80
1500-1999	15	10.20	58	14.57	36	17.31	20	15.38	129	14.61
2000-2999	12	8.16	60	15.08	41	19.71	19	14.62	132	14.95
3000-4999	10	6.80	33	8.29	11	5.29	12	9.23	66	7.47
5000 and over	1	.68	15	3.77	6	2.88	5	3.85	27	3.06
Total	147	100.00	398	100.00	208	100.00	130	100.00	883	100.00

Column Percent of Total (N=883)	16.65%	45.07%	23.56%	14.72%
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TABLE 33. DEBT-TO-ASSET RATIO CATEGORIES BY TYPE OF FARM BUSINESS STRUCTURE OF NORTH DAKOTA FARMS

Debt Categories	Single-Family Operation (Sole Proprietorship)		Partnership		Family-held Corporation		Row Total and Percent	
	N	%	N	%	N	%	N	%
	No debt	118	16.60	25	17.24	4	16.67	147
1%-40%	314	44.16	70	48.28	12	50.00	399	45.14
41%-70%	166	23.35	34	23.45	7	29.17	208	23.53
Over 70%	113	15.89	16	11.03	1	4.17	130	14.71
Total	711	100.00	145	100.00	24	100.00	884	100.00

Column Percent of Total (N=884)	80.43%	16.40%	2.71%	99.54% ^a
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^a"Nonfamily" and "other" business types represented 0.11 percent and 0.34 percent of the total, respectively.

TABLE 34. NUMBER OF COMMUNITY ACTIVITIES BY DEBT-TO-ASSET RATIO CATEGORIES OF NORTH DAKOTA FARMERS

Number of Community Activities	No Debt		1% to 40% Debt		41% to 70% Debt		Over 70% Debt		Row Total and Percent	
	N	%	N	%	N	%	N	%	N	%
None	4	2.72	6	1.50	1	0.48	2	1.54	13	1.47
One	20	13.61	47	11.78	30	14.42	22	16.92	119	13.46
Two	47	31.97	105	26.32	55	26.44	32	24.62	239	27.04
Three	42	28.57	124	31.08	54	25.96	40	30.77	260	29.41
Four	30	20.41	78	19.55	46	22.12	27	20.77	181	20.48
Five	3	2.04	34	8.52	20	9.62	5	3.85	62	7.01
Six	1	0.68	5	1.25	2	0.96	2	1.54	10	1.13
Total	147	100.00	399	100.00	208	100.00	130	100.00	884	100.00
Column Percent of Total (N=884)	16.63%		45.14%		23.53%		14.71%			

Note: Community activities include farm organizations, commodity groups, civic or service clubs, PTA, elected official, and church.

Satisfaction of Farm Families With Farming

Over 83 percent of all the farmers surveyed were either satisfied or completely satisfied² with farming as an occupation (Table 35). Respondents with high debt loads were much less satisfied with farming as an occupation than those with smaller debt loads. Farmers were also asked how satisfied they were with current financial returns to agriculture (Table 36). Eighty-seven percent of all farmers were dissatisfied with current financial returns in agriculture. The overall satisfaction with farming by debt-to-asset ratio is illustrated in Table 37. Overall satisfaction with farming was highly related to a farmer's debt load. Nearly 50 percent of the farmers with over 40 percent debt were dissatisfied with farming in general, compared to 37 percent for the overall sample.

Operators were asked how likely it is they will be expanding their farm operations during the next three years. Almost one-fourth of all farmers

²Hereafter in this section, the term satisfied will be used to denote responses in both the satisfied and completely satisfied categories. Likewise, the term unsatisfied will be used for both unsatisfied and completely unsatisfied; likely for likely and very likely; and unlikely for unlikely and very unlikely.

TABLE 35. SATISFACTION WITH FARMING AS AN OCCUPATION BY DEBT-TO-ASSET RATIO CATEGORIES OF NORTH DAKOTA FARMERS

Satisfaction Category	No Debt		1% to 40% Debt		41% to 70% Debt		Over 70% Debt		Row Total and Percent	
	N	%	N	%	N	%	N	%	N	%
Completely satisfied	64	43.54	163	40.85	64	30.92	40	30.77	331	37.49
Satisfied	70	47.62	176	44.11	104	50.24	58	44.62	408	46.21
Neither satisfied nor dissatisfied	9	6.12	22	5.51	13	6.28	7	5.38	51	5.78
Dissatisfied	3	2.04	33	8.27	21	10.14	18	13.85	75	8.49
Completely dissatisfied	1	0.68	5	1.25	5	2.42	7	5.38	18	2.04
Total	147	100.00	399	100.00	207	100.00	130	100.00	883	100.00
Column Percent of Total (N=883)	16.65%		45.19%		23.44%		14.72%			

thought expansion was likely while nearly two-thirds of all farmers felt it was unlikely (Table 38). It is interesting to note that more of the most highly leveraged farmers felt expansion was likely than farmers with no debt.

In addition, farmers were asked whether they felt they could continue farming for at least three years (Table 39). About three-fourths said it was likely that they would be able to continue. The most highly leveraged farmers were less optimistic, however; one-half of the operators with debt-to-asset ratios over 70 percent felt they were likely to be able to continue. Overall, about 7 percent of all farmers surveyed felt their chances of being able to continue farming over the next three years were unlikely.

Farmers were asked their opinion of their financial position compared to other farmers in their area. These results are illustrated in Table 40. Nearly two-thirds of all farmers felt they were in about the same financial position as other farmers in their area. As would be expected, the farmer's opinions of their financial well-being were highly correlated with their debt-to-asset ratio. Interestingly, three-fourths of the farmers with over 70 percent debt felt their financial position was about the same as other farmers in their area.

TABLE 36. SATISFACTION WITH CURRENT FINANCIAL RETURNS TO FARMING BY DEBT-TO-ASSET RATIO CATEGORIES OF NORTH DAKOTA FARMERS

Satisfaction Category	No Debt		1% to 40% Debt		41% to 70% Debt		Over 70% Debt		Row Total and Percent	
	N	%	N	%	N	%	N	%	N	%
Completely satisfied	1	0.68	2	0.50	1	0.48	0	0.00	4	0.45
Satisfied	23	15.65	27	6.77	7	3.38	1	0.77	58	6.57
Neither satisfied nor Dissatisfied	14	9.52	27	6.77	9	4.35	5	3.85	55	6.23
Dissatisfied	75	51.02	189	47.37	87	42.03	45	34.62	396	44.85
Completely dissatisfied	34	23.13	154	38.60	103	49.76	79	60.77	370	41.90
Total	147	100.00	399	100.00	207	100.00	130	100.00	883	100.00
Column Percent of Total (N=883)	16.65%		45.19%		23.44%		14.72%			

Producers were asked if they thought that state government should provide assistance to financially stressed farmers. Just over 45 percent of all respondents thought that state government should provide assistance (Table 41). Farmers with no debt were almost two to one against state help while over 58 percent of the farmers with over 70 percent debt felt that state government should help financially distressed farmers.

Finally, farmers were asked if the federal government should assist financially stressed farmers. Over 55 percent of all respondents felt the federal government should help financially stressed farmers (Table 42). Only 44 percent of the farmers with no debt favored federal assistance to financially stressed farmers compared to 63 percent of the farmers with over 40 percent debt.

Summary and Implications

North Dakota farm families have experienced a high degree of financial stress in the past few years. Low farm profitability, high debt loads, high real rates of interest, and declining asset values have all contributed to the

TABLE 37. OVERALL SATISFACTION WITH FARMING BY DEBT-TO-ASSET RATIO CATEGORIES OF NORTH DAKOTA FARMERS

Satisfaction Category	No Debt		1% to 40% Debt		41% to 70% Debt		Over 70% Debt		Row Total and Percent	
	N	%	N	%	N	%	N	%	N	
Completely satisfied	16	10.88	17	4.27	10	4.83	3	2.31	46	5.22
Satisfied	69	46.94	162	40.70	56	27.05	37	28.46	324	36.73
Neither satisfied nor dissatisfied	28	19.05	88	22.11	42	20.29	24	18.46	182	20.63
Dissatisfied	29	19.73	116	29.15	83	40.10	52	40.00	280	31.75
Completely dissatisfied	5	3.40	15	3.77	16	7.73	14	10.77	50	5.67
Total	147	100.00	398	100.00	207	100.00	130	100.00	882	100.00
Column Percent of Total (N=882)	16.67%		45.12%		23.47%		14.74%			

financial stress. This study was an attempt to describe in detail the socioeconomic characteristics of farm families in today's economic environment. There are widespread differences in the economic health among farm families.

Despite recent declines in asset values, the overall solvency of North Dakota agriculture is very sound. The average farm operator had 33.06 cents of debt against every dollar of assets he controlled. Over 17 percent of the farm operators had no debt at all. Just over three-fifths of the farmers had debt-to-asset ratios below 40 percent, including those with no debt. An additional 23.6 percent had debt-to-asset ratios between 41 and 70 percent and nearly 15 percent had debt-to-asset ratios greater than 70 percent. The debt-to-asset ratios varied very little over the eight North Dakota regions--ranging from 31.9 percent in Region 1 (Williston region) to 39 percent in Region 8 (Dickinson region).

Although the average net cash farm income in North Dakota was \$14,897, about 24 percent of all farmers had negative net cash farm incomes in 1984. This study revealed no substantial differences in negative net cash farm incomes by age of the farm operators. A major implication of this fact is that a significant percentage of farmers of all ages lost equity in 1984

TABLE 38. FARMER'S OPINION OF WHETHER HE WILL EXPAND HIS OPERATION IN THE NEXT THREE YEARS BY DEBT-TO-ASSET RATIO CATEGORIES OF NORTH DAKOTA FARMERS

How Likely	No Debt		1% to 40% Debt		41% to 70% Debt		Over 70% Debt		Total Row Number and Percent	
	N	%	N	%	N	%	N	%	N	%
Very likely	12	8.16	44	11.03	16	7.73	14	10.77	86	9.74
Likely	15	10.20	55	13.78	32	15.46	19	14.62	121	13.70
Don't know	12	8.16	47	11.78	36	17.39	18	13.85	113	12.80
Unlikely	39	26.53	120	30.08	52	25.12	29	22.31	240	27.18
Very unlikely	69	46.94	133	33.33	71	34.30	50	38.46	323	36.58
Total	147	100.00	399	100.00	207	100.00	130	100.00	891	100.00
Column Percent of Total (N=891)	16.65%		45.19%		23.44%		14.72%			

beyond the obvious declines in land and machinery value. At least 40 percent of farmers regardless of age were unable to cash flow their farm operations and households when family living expenses, income and social security taxes, and principal payments were subtracted from net cash farm income. The liquidity of North Dakota farmers as a whole is not nearly as favorable as their solvency. Net cash farm incomes varied greatly by region in North Dakota with the Red River Valley having substantially higher average net cash farm incomes than the western North Dakota regions. Farm operators on the average in western North Dakota need a substantially lower debt-to-asset ratio to service their debt loads than operators in eastern North Dakota which has higher-earning enterprises and lower yield variability.

Nearly one-third of the farm operators either had worked off the farm or planned to seek off-farm employment. Fifty-one percent of the farm operators with over 70 percent debt and 39 percent of operators with between 41 and 70 percent debt had engaged in or planned to seek off-farm employment. Forty-eight percent of the spouses with over 70 percent debt either had engaged in or planned to seek off-farm employment, compared to 35 percent of all spouses.

Farmers as a group were satisfied with farming as an occupation but very displeased with the financial returns from farming. Although farmers were unhappy with the financial returns to agriculture, less than 7 percent felt

TABLE 39. FARMER'S OPINION OF WHETHER HE WILL BE ABLE TO CONTINUE FARMING FOR AT LEAST THREE YEARS BY DEBT-TO-ASSET RATIO CATEGORIES OF NORTH DAKOTA FARMERS

How Likely	No Debt		1% to 40% Debt		41% to 70% Debt		Over 70% Debt		Row Total and Percent	
	N	%	N	%	N	%	N	%	N	%
Very likely	89	60.54	164	41.10	50	24.15	20	15.38	323	36.58
Likely	46	31.29	173	43.36	81	39.13	46	35.38	346	39.18
Don't know	8	5.44	53	13.28	56	27.05	39	30.00	156	17.67
Unlikely	3	2.04	5	1.25	16	7.73	20	15.38	44	4.98
Very unlikely	1	0.68	4	1.00	4	1.93	5	3.85	14	1.59
Total	147	100.00	399	100.00	207	100.00	130	100.00	883	100.00
Column Percent of Total (N=883)	16.65%		45.19%		23.44%		14.72%			

they would be unable to continue farming during the next three years. Fifty-five percent of the farmers felt the federal government should help financially stressed farmers, but only 45 percent of the farmers surveyed felt the state government should help.

TABLE 40. FARMER'S OPINION OF HIS FINANCIAL POSITION COMPARED TO OTHER FARMERS IN HIS AREA BY DEBT-TO-ASSET RATIO CATEGORIES OF NORTH DAKOTA FARMERS

Financial Situation	No Debt		1% to 40% Debt		41% to 70% Debt		Over 70% Debt		Row Total and Percent	
	N	%	N	%	N	%	N	%	N	%
Above average	65	44.22	121	30.63	39	18.84	7	5.51	232	26.48
About the same	81	55.10	260	65.82	142	68.60	95	74.80	578	65.98
Below average	1	0.68	14	3.54	26	12.56	25	19.69	66	7.53
Total	147	100.00	395	100.00	207	100.00	127	100.00	876	100.00
Column Percent of Total (N=876)	16.78%		45.09%		23.63%		14.50%			

TABLE 41. OPINION OF STATE GOVERNMENT ASSISTANCE FOR FINANCIALLY STRESSED FARMERS BY DEBT-TO-ASSET RATIO CATEGORIES OF NORTH DAKOTA FARMERS

Should State Government Help	No Debt		1% to 40% Debt		41% to 70% Debt		Over 70% Debt		Total Row Number and Percent	
	N	%	N	%	N	%	N	%	N	%
	No	84	64.12	209	57.10	98	50.26	50	41.67	441
Yes	47	35.88	157	42.90	97	49.74	70	58.33	371	45.69
Total	131	100.00	366	100.00	195	100.00	120	100.00	812	100.00
Column Percent of Total (N=812)	16.13%		45.07%		24.01%		14.78%			

TABLE 42. OPINION OF FEDERAL GOVERNMENT ASSISTANCE FOR FINANCIALLY STRESSED FARMERS BY DEBT-TO-ASSET RATIO CATEGORIES OF NORTH DAKOTA FARMERS

Should Federal Government Help?	No Debt		1% to 40% Debt		41% to 70% Debt		Over 70% Debt		Row Total and Percent	
	N	%	N	%	N	%	N	%	N	%
	No	73	56.15	172	47.78	70	36.27	44	36.67	357
Yes	57	43.85	188	52.22	123	63.73	76	63.33	444	55.29
Total	130	100.00	360	100.00	193	100.00	120	100.00	803	100.00
Column Percent of Total (N=803)	16.19%		44.83%		24.03%		14.94%			

APPENDIX

APPENDIX TABLE 1. DISTANCE TRAVELED TO PURCHASE A MAJORITY OF FOOD BY DEBT-TO-ASSET RATIO CATEGORIES OF NORTH DAKOTA FARMERS

Miles Traveled	No Debt		1% to 40% Debt		41% to 70% Debt		Over 70% Debt		Row Total and Percent	
	N	%	N	%	N	%	N	%	N	%
0 to 5	32	21.77	82	20.55	47	22.60	30	23.08	191	21.61
6 to 10	28	19.05	80	20.05	30	14.42	22	16.92	160	18.10
11 to 15	22	14.97	62	15.54	45	21.63	20	15.38	149	16.86
16 to 20	22	14.97	45	11.28	18	8.65	16	12.31	101	11.43
21 to 25	11	7.48	46	11.53	18	8.65	12	9.23	87	9.84
26 to 30	6	4.08	25	6.27	12	5.77	9	6.92	52	5.88
31 to 35	9	6.12	15	3.76	9	4.33	5	3.85	38	4.30
36 to 40	4	2.72	7	1.75	11	5.29	5	3.85	27	3.05
41 to 45	3	2.04	5	1.25	5	2.40	3	2.31	16	1.81
46 to 50	2	1.36	11	2.76	5	2.40	2	1.54	20	2.267
51 to 75	5	3.40	17	4.26	8	3.85	6	4.62	36	4.074
76 to 100	3	2.04	4	1.00	0	0.00	0	0.00	7	0.79
Total	147	100.00	399	100.00	208	100.00	130	100.00	884	100.00
Column Percent of Total (N=884)	16.63%		45.14%		23.53%		14.71%			

APPENDIX TABLE 2. DISTANCE TRAVELED TO PURCHASE A MAJORITY OF HARDWARE BY DEBT-TO-ASSET RATIO CATEGORIES OF NORTH DAKOTA FARMERS

Miles Traveled	No Debt		1% to 40% Debt		41% to 70% Debt		Over 70% Debt		Row Total and Percent	
	N	%	N	%	N	%	N	%	N	%
0 to 5	32	21.77	82	20.55	41	19.71	29	22.31	184	20.81
6 to 10	32	21.77	80	20.05	32	15.38	25	19.23	169	19.12
11 to 15	23	15.65	78	19.55	42	20.19	21	16.15	164	18.55
16 to 20	25	17.01	51	12.78	22	10.58	19	14.62	117	13.24
21 to 25	10	6.80	36	9.02	18	8.65	10	7.69	74	8.37
26 to 30	6	4.08	21	5.26	9	4.33	8	6.15	44	4.98
31 to 35	6	4.08	13	3.26	6	2.88	2	1.54	27	3.05
36 to 40	5	3.40	8	2.01	12	5.77	5	3.85	30	3.39
41 to 45	1	0.68	4	1.00	5	2.40	1	0.77	11	1.24
46 to 50	0	0.00	9	2.26	7	3.37	3	2.31	19	2.15
51 to 75	5	3.40	12	3.01	12	5.77	7	5.38	36	4.07
76 to 100	2	1.36	5	1.25	1	0.48	0	0.00	8	0.90
Over 100	0	0.00	0	0.00	1	0.48	0	0.00	1	0.11
Total	147	100.00	399	100.00	208	100.00	130	100.00	884	100.00
Column Percent of Total (N=884)	16.63%		45.14%		23.53%		14.71%			

APPENDIX TABLE 3. DISTANCE TRAVELED TO PURCHASE A MAJORITY OF BANKING SERVICES BY DEBT-TO-ASSET RATIO CATEGORIES OF NORTH DAKOTA FARMERS

Miles Traveled	No Debt		1% to 40% Debt		41% to 70% Debt		Over 70% Debt		Row Total and Percent	
	N	%	N	%	N	%	N	%	N	%
0 to 5	29	19.73	71	17.79	42	20.19	23	17.69	165	18.67
6 to 10	34	23.13	86	21.55	36	17.31	32	24.62	188	21.27
11 to 15	26	17.69	80	20.05	46	22.12	21	16.15	173	19.57
16 to 20	24	16.33	60	15.04	29	13.94	21	16.15	134	15.16
21 to 25	14	9.52	40	10.03	17	8.17	13	10.00	84	9.50
26 to 30	6	4.08	21	5.26	13	6.25	9	6.92	49	5.54
31 to 35	5	3.40	16	4.01	7	3.37	1	0.77	29	3.28
36 to 40	2	1.36	7	1.75	6	2.88	4	3.08	19	2.15
41 to 45	1	0.68	4	1.00	3	1.44	1	0.77	9	1.02
46 to 50	1	0.68	5	1.25	4	1.92	1	0.77	11	1.24
51 to 75	2	1.36	5	1.25	3	1.44	4	3.08	14	1.58
76 to 100	1	0.68	3	0.75	0	0.00	0	0.00	4	0.45
Over 100	2	1.36	1	0.25	2	0.96	0	0.00	5	0.57
Total	147	100.00	399	100.00	208	100.00	130	100.00	884	100.00
Column Percent of Total (N=884)	16.63%		45.14%		23.53%		14.71%			

APPENDIX TABLE 4. DISTANCE TRAVELED TO PURCHASE A MAJORITY OF FURNITURE BY DEBT-TO-ASSET RATIO CATEGORIES OF NORTH DAKOTA FARMERS

Miles Traveled	No Debt		1% to 40% Debt		41% to 70% Debt		Over 70% Debt		Row Total and Percent	
	N	%	N	%	N	%	N	%	N	%
0 to 5	11	7.53	35	8.77	21	10.14	14	10.94	81	9.20
6 to 10	14	9.59	32	8.02	19	9.18	11	8.59	76	8.64
11 to 15	14	9.59	33	8.27	17	8.21	8	6.25	72	8.18
16 to 20	27	18.49	36	9.02	23	11.11	16	12.50	102	11.59
21 to 25	16	10.96	46	11.53	20	9.66	9	7.03	91	10.34
26 to 30	10	6.85	28	7.02	18	8.70	10	7.81	66	7.50
31 to 35	11	7.53	26	6.52	9	4.35	7	5.47	53	6.02
36 to 40	10	6.85	21	5.26	20	9.66	15	11.72	66	7.50
41 to 45	4	2.74	13	3.26	10	4.83	5	3.91	32	3.64
46 to 50	7	4.79	24	6.02	10	4.83	3	2.34	44	5.00
51 to 75	13	8.90	61	15.29	22	10.63	21	16.41	117	13.30
76 to 100	5	3.42	37	9.27	14	6.76	7	5.47	63	7.16
Over 100	4	2.74	7	1.75	4	1.93	2	1.56	17	1.93
Total	146	100.00	399	100.00	207	100.00	128	100.00	880	100.00
Column Percent of Total (N=880)	16.59%		45.34%		23.52%		14.55%			

APPENDIX TABLE 5. DISTANCE TRAVELED TO PURCHASE A MAJORITY OF AUTOMOBILES BY DEBT-TO-ASSET RATIO CATEGORIES OF NORTH DAKOTA FARMERS

Miles Traveled	No Debt		1% to 40% Debt		41% to 70% Debt		Over 70% Debt		Row Total and Percent	
	N	%	N	%	N	%	N	%	N	%
0 to 5	18	12.24	44	11.08	26	12.56	16	12.40	104	11.82
6 to 10	22	14.97	41	10.33	21	10.14	11	8.53	95	10.80
11 to 15	13	8.84	42	10.58	25	12.08	16	12.40	96	10.91
16 to 20	25	17.01	39	9.82	32	15.46	15	11.63	111	12.61
21 to 25	15	10.20	43	10.83	12	5.80	9	6.98	79	8.98
26 to 30	11	7.48	31	7.81	15	7.25	12	9.30	69	7.84
31 to 35	7	4.76	36	9.07	11	5.31	9	6.98	63	7.16
36 to 40	9	6.12	17	4.28	9	4.35	11	8.53	46	5.23
41 to 45	3	2.04	15	3.78	10	4.83	4	3.10	32	3.64
46 to 50	1	0.68	20	5.04	4	1.93	4	3.10	29	3.30
51 to 75	13	8.84	45	11.34	24	11.59	11	8.53	93	10.57
76 to 100	6	4.08	17	4.28	9	4.35	5	3.88	37	4.20
Over 100	4	2.72	7	1.76	9	4.35	6	4.65	26	2.95
Total	147	100.00	397	100.00	207	100.00	129	100.00	880	100.00
Column Percent of Total (N=880)	16.70%		45.11%		23.52%		14.66%			

APPENDIX TABLE 6. DISTANCE TRAVELED TO PURCHASE A MAJORITY OF FARM MACHINERY BY DEBT-TO-ASSET RATIO CATEGORIES OF NORTH DAKOTA FARMERS

Miles Traveled	No Debt		1% to 40% Debt		41% to 70% Debt		Over 70% Debt		Row Total and Percent	
	N	%	N	%	N	%	N	%	N	%
0 to 5	18	12.24	51	12.94	33	15.94	20	14.60	122	13.94
6 to 10	27	18.37	62	15.74	25	12.08	22	17.52	136	15.54
11 to 15	26	17.69	65	16.50	39	18.84	21	16.06	151	17.26
16 to 20	30	20.41	61	15.48	37	17.87	17	13.14	145	16.57
21 to 25	17	11.56	53	13.45	17	8.21	9	8.03	96	10.97
26 to 30	9	6.12	23	5.84	16	7.73	12	9.49	60	6.86
31 to 35	5	3.40	26	6.60	12	5.80	4	3.65	47	5.37
36 to 40	4	2.72	14	3.55	8	3.86	5	4.38	31	3.54
41 to 45	3	2.04	9	2.28	4	1.93	3	2.19	19	2.17
46 to 50	0	0.00	11	2.79	5	2.42	2	2.19	18	2.06
51 to 75	5	3.40	11	2.79	9	4.35	11	7.30	36	4.11
76 to 100	2	1.36	5	1.27	2	0.97	0	0.73	9	1.03
Over 100	1	0.68	3	0.76	0	0.00	1	0.73	5	0.57
Total	147	100.00	394	100.00	207	100.00	127	100.00	875	100.00
Column Percent of Total (N=875)	16.80%		45.03%		23.66%		14.51%			

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