FARM FINANCIAL STRESS IN NORTH DAKOTA

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The period 1981-85 has produced a significant downturn in the financial health of North Dakota's farm sector. This financial reversal of pre-1981 conditions is evidenced by declining farm asset values, rising farm debt, erosion of equity capital, rising farm loan delinquencies, voluntary liquidations, and foreclosures. A special farm finance survey was conducted by the North Daktoa Crop and Livestock Reporting Service and North Dakota State University in January 1985 with funding provided by the North Dakota Department of Agriculture. The purpose of the survey was to document the extent and severity of farm financial problems as perceived by farmers[1] in the state. Results of the survey are providing state policymakers with valuable information on which to base farm financial assistance initiatives. This article summarizes the results of the survey.

Survey Procedures

Questionnaires were mailed to 4,099 farmers and ranchers drawn at random. A total of 1,308 operators responded to the farm survey either through the mail or through a follow-up phone interview. Survey responses represent approximately 3.6 percent of the farm and ranch operations in the state. Survey data were compared with data from the 1982 Census of Agriculture to determine representativeness of respondents to the farm finance survey. Survey respondents are not completely representative of farms in the state. Small farms (those under 180 total acres) represented only 3.7 percent of the respondents (Table 1). Farms with over 1,000 acres responding to the survey represented a relatively greater percentage of the total than was reported in the Census. A similar comparison of the farm operator age distributions indicated a close correspondence between the farm finance survey and the 1982 Census.

Debt Load of Farm Borrowers

The current financial position of farmers and ranchers responding to the survey is summarized by age of operator, size of farm, and type of farm. Table 2 data indicates that younger operators carry heavier debt loads than older operators. The average debt/asset ratio for operators under age 45 is above .40. This indicates that a moderate-to-severe debt management problem exists within that group. Younger operators also have a smaller total farm investment and lower levels of owner equity. They rely more on nonfarm income sources and report a greater percentage of loan delinquencies than other age categories. Figure 1 illustrates the debt load differences between age categories. The height of the bar chart indicates the average real estate plus nonreal estate debt/asset ratio of operators within age groups. Each bar is broken into real estate and nonreal estate debt components to show the proportion of each in the total debt structure.

Table 1. Distributions of Farms by Size from the 1985 Farm Finance Survey and the 1982 Census of Agriculture

	Acres				
	Less Than 180	**180-499**	**500-999**	**1,000-1,999**	**More Than 2,000**
1985 Survey					
Number of Farms	49	176	350	475	258
Percent of Farms	3.7	13.5	26.8	36.3	19.7
1982 Census					
Number of Farms	5,439	6,577	9,758	10,042	4,617
Percent of Farms	14.9	18.0	26.8	27.6	12.7

Table 2. Average Farm Financial Position by Age of Operator

		Operator Age					
Item	**Unit**	**Under 25**	**25-34**	**35-44**	**45-54**	**55-64**	**Over 64**
Complete Reports[1]	(#)	35	264	274	289	289	139
Assets	($000)	201.0	295.0	468.0	544.0	448.0	334.0
Real Estate	($000)	127.0	176.0	294.0	375.0	327.0	243.0
Nonreal Estate	($000)	74.0	119.0	173.0	168.0	121.0	92.0
Liabilities	($000)	120.0	143.0	204.0	183.0	82.0	41.0
Real Estate	($000)	86.0	94.0	126.0	125.0	53.0	26.0
Nonreal Estate	($000)	34.0	49.0	78.0	58.0	29.0	15.0
Equity	($000)	81.0	152.0	264.0	360.0	367.0	293.0
Debt/Asset Ratio		0.60	0.48	0.44	0.34	0.18	0.12
Real Estate Debt/ Total Debt Ratio		0.72	0.66	0.62	0.68	0.64	0.63
Income from Non-farm Sources	(%)	14.1	15.0	10.4	12.3	10.4	12.9
Delinquencies[2]							
Real Estate	(%)	17.1	12.4	18.2	14.6	8.5	5.0
Nonreal Estate	(%)	22.9	18.8	24.3	21.4	15.0	4.3

[1] Complete reports include asset and debt information.

[2] Percent of all operators, not just borrowers.

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[1] **North Dakota Farm Finance Survey**, North Dakota Crop and Livestock Reporting Service, Fargo, January 1985.

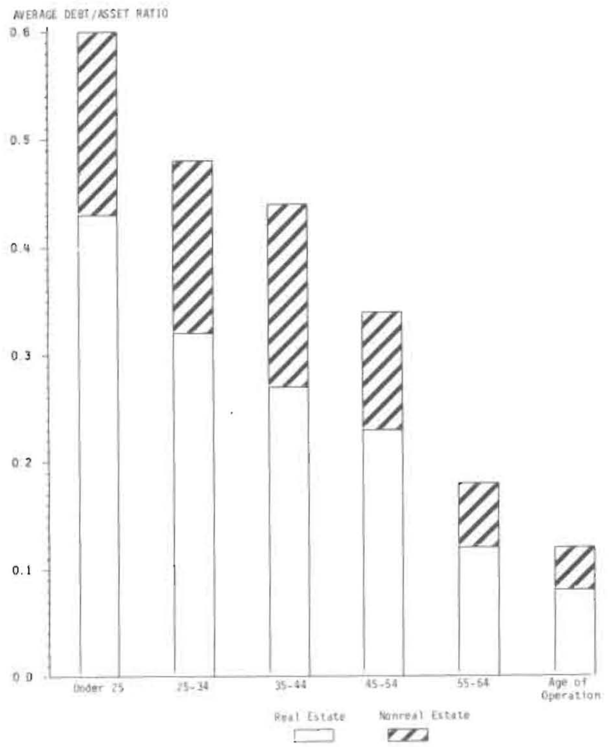

Figure 1. Debt/Asset Ratios by Farm Operator Age Group

Table 3 contains financial information by farm size category. The debt load of farms with over 1,000 acres is significantly higher than the debt load of reporting small farms. As expected, smaller farms exhibit both lower total investment and debt levels. They also have a lower relative debt burden as shown by the lower average debt/asset ratio. Larger farms report greater average equity but also indicate a higher incidence of loan delinquency. Operators of small farms report a significantly higher percentage of income from nonfarm sources than operators of large farms.

Table 3. Average Farm Financial Position by Size of Farm

		Total Acres in Farm				
Item	Unit	Less Than 180	180-500	500-1000	1000-2000	More Than 2000
Complete Reports[1]	(#)	47	175	345	468	254
Assets	($000)	94.0	178.0	272.0	441.0	826.0
Real Estate	($000)	57.0	124.0	193.0	292.0	553.0
Nonreal Estate	($000)	35.0	54.0	79.0	149.0	273.0
Liabilities	($000)	14.0	38.0	81.0	134.0	323.0
Real Estate	($000)	10.0	24.0	52.0	86.0	215.0
Nonreal Estate	($000)	4.0	15.0	28.0	49.0	108.0
Equity	($000)	79.0	139.0	192.0	307.0	503.0
Debt/Asset Ratio		0.15	0.21	0.30	0.30	0.39
Real Estate Debt/ Total Debt Ratio		0.71	0.63	0.64	0.64	0.67
Income from Non-farm Sources	(%)	44.1	24.7	11.9	7.4	6.5
Delinquencies[2]						
Real Estate	(%)	10.2	6.3	12.3	13.1	17.1
Nonreal Estate	(%)	8.2	8.0	19.4	20.8	20.9

[1] Complete reports include asset and debt information.

[2] Percent of all operators, not just borrowers.

Table 4 contains information by type of farm. Farms are categorized as crops, beef, or dairy if more than 50 percent of gross farm income was generated from that enterprise in 1984. Other farms are classified as mixed. Crop farms report slightly higher assets, debts, and equity than other farm types. However, the debt/asset ratio is quite uniform across all farm types. Dairy farms do carry a heavier debt burden than other farm types. Dairy operators also report a lower percentage of nonfarm income (2.4 percent).

Table 4. Average Farm Financial Position by Type of Farm

		Type of Farm			
Item	Unit	Crops	Beef	Dairy	Mixed
Complete Reports[1]	(#)	939	146	59	145
Assets	($000)	442.0	416.0	364.0	335.0
Real Estate	($000)	298.0	283.0	233.0	229.0
Nonreal Estate	($000)	144.0	133.0	131.0	106.0
Liabilities	($000)	145.0	139.0	143.0	102.0
Real Estate	($000)	96.0	85.0	96.0	61.0
Nonreal Estate	($000)	49.0	54.0	47.0	41.0
Equity	($000)	297.0	277.0	221.0	232.0
Debt/Asset Ratio		0.33	0.33	0.39	0.30
Real Estate Debt/ Total Debt Ratio		0.66	0.61	0.67	0.60
Income from Non-farm Sources	(%)	11.5	18.1	2.4	14.4
Delinquencies[2]					
Real Estate	(%)	10.1	18.4	28.3	16.9
Nonreal Estate	(%)	16.5	21.8	31.7	20.9

[1] Complete reports include asset and debt information.

[2] Percent of all operators, not just borrowers.

The distribution of assets and debt among farm operators in the state is illustrated in Figure 2. A significant imbalance exists between the distribution of farm assets and the distribution of farm debts. Approximately 36 percent of the operators (those with debt/asset ratios less than .10) own 32 percent of the assets and account for only 2 percent of total farm debt. Farm operators with debt/asset ratios above .40 represent another 36 percent of the operators. These farmers hold 37 percent of the farm assets, but account for 74 percent of the debt.

The debt imbalance results in a similar variation in cash flow needs to cover interest payments. January 1985 indebtedness and interest rates indicate an average need for about $2,000 per farm for those with debt/asset ratios of .10 and less. Calculations of interest for other debt/asset categories indicate a need for $18,000, $34,000, and $39,000 to meet interest payments within the .10-.40, .40-.70, and over .70 debt/asset ratio categories, respectively. The average interest amount across all farms reporting was $30,000.

An important finding of the survey is that about 42 percent of all respondents carry no real estate debt. approximately 36 percent of the responding farmers have no nonreal estate (machinery, livestock, or operating) debt and 24 percent of the operators have no debt at all.

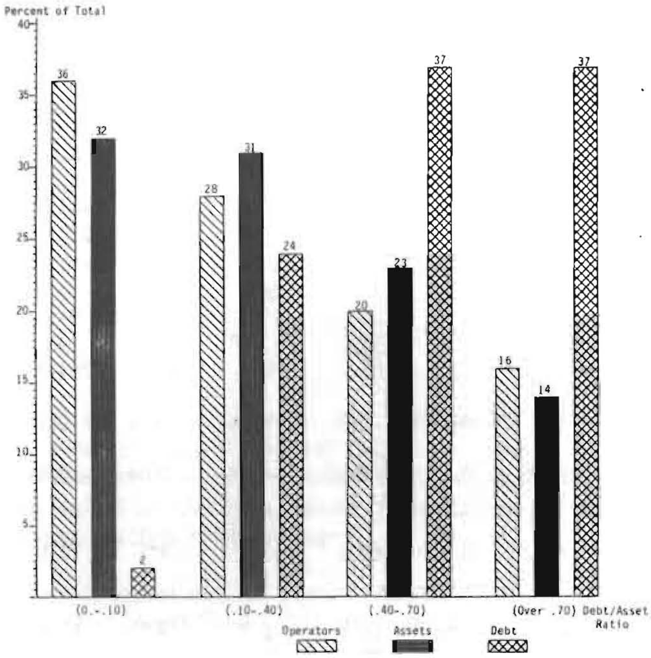

Figure 2. Distribution of Farm Operators, Assets and Debt by Debt/Asset Ratio Category

Effect of High Interest Rates

The most significant financial problem farm borrowers face is the current high level of interest rates and the related inability to service their existing debt out of current income. Average interest rates paid by reporting farmers is 10.1 percent for real estate loans and 13.4 percent for nonreal estate loans. Fifty-three percent of all farm borrowers report average nonreal estate interest rates above 14 percent. Interest rates have remained at their current high levels since 1981.

High interest rates dramatically reduce farm profitability and farmer liquidity reserves and eventually result in eroding farm equity. The average annual income generated as a percentage of total farm assets for all farms in North Dakota between 1978-82 was estimated to be 2.3 percent (Pederson 1984). This rate of return in significantly below the average interest rates paid in the state. The impact of this divergence between interest rates and farm earnings will be felt more severely by operators with substantial real estate and nonreal estate debt. Farmers renting a substantial percentage of their total acreage are not likely to experience as serious a cash flow problem. Higher debt burdens coupled with high interest rates create cash flow problems and jeopardize farm viability. The first sign of deterioration in farm financial health due to high debt burdens and interest rates is an increase in farm loan delinquencies.

Farm Loan Delinquencies

Farm loan delinquency is a major problem in North Dakota. Approximately 22.8 percent of **all** farmers and ranchers in the sample are delinquent on principal or principal and interest in repayment of either real estate or nonreal estate loans. Delinquent operators report average debt of $268,000 and a debt/asset ratio of .60. Approximately 18.3 percent of **all** operators are delinquent on nonreal estate loans, and 12.6 percent are delinquent on their real estate loans (Table 5). About 8.1 percent of all farmers are delinquent on both.

Table 5. Farm Loan Delinquency Rates by Farm Size and Type of Debt

Farm Size Category (Total Acres)	Type of Debt: Real Estate		Type of Debt: Nonreal Estate	
	% of All Operators	% of Indebted Operators[1]	% of All Operators	% of Indebted Operators[2]
Less than 180	10.2	35.7	8.2	26.7
180-499	5.7	20.8	8.1	19.2
500-999	12.3	24.3	19.5	32.4
1,000-1,999	13.0	19.9	20.8	30.1
More than 2,000	17.1	21.6	21.0	26.0
All sizes	12.6	21.6	18.3	28.6

[1] Percent of operators reporting real estate debt.
[2] Percent of operators reporting nonreal estate debt.

The percentage of all operators reporting loan delinquency increases with size of farm. Average delinquency rates for farm-size categories greater than 500 acres are consistently more than 12 percent for both nonreal estate and real estate debt. Farmers and ranchers with total farm assets between $200,000 and $500,000 have a higher than average incidence of nonreal estate delinquency. About 30 percent of the survey respondents report equity under $100,000. This low-equity group reports the highest level of nonreal estate loan delinquency (45 percent) and real estate loan delinquency (46 percent).

A comparison of delinquency rates including only **indebted** farm operators revealed that loan delinquencies are actually quite high (Table 5). Between one-fifth and one-third of indebted operators are delinquent in all farm size classes.

Table 6 contains information on the financial position of farm operators by Crop Reporting District. The debt burden and reported delinquency levels indicate that financial stress exists throughout the state but is more significant in the southwest, south central, and central areas of the state. An important observation of the survey is that the level of nonreal estate loan delinquency is higher than real estate delinquency in all districts. Farmers are having greater difficulty meeting short- and intermediate-term debt obligations which carry higher average interest rates. Immediate financial aid measures might productively focus on the nonreal estate debt problem.

Farm loan delinquency rates are especially high among dairy operators. Dairy farms show above average rates of real estate and nonreal estate delinquency. Approximately 31.7 percent of all dairy operators report delinquency of nonreal estate debt. This com-

Table 6. Farm Economic Information by Crop Reporting District

Item	Units	NW	NC	NE	WC	C	EC	SW	SC	SE	State
		Crop Reporting District									
Complete Reports[1]	(#)	167	122	245	100	133	155	98	99	170	1289
Assets	($000)	363.0	330.0	507.0	403.0	460.0	481.0	415.0	323.0	424.0	424.0
Real Estate	($000)	256.0	229.0	324.0	271.0	322.0	321.0	285.0	210.0	292.0	286.0
Nonreal Estate	($000)	107.0	102.0	182.0	132.0	137.0	160.0	130.0	113.0	132.0	138.0
Liabilities	($000)	102.0	113.0	151.0	121.0	160.0	159.0	147.0	124.0	163.0	140.0
Real Estate	($000)	73.0	79.0	98.0	78.0	108.0	101.0	91.0	72.0	104.0	91.0
Nonreal Estate	($000)	29.0	34.0	52.0	43.0	52.0	59.0	56.0	51.0	59.0	49.0
Equity	($000)	261.0	217.0	357.0	282.0	300.0	322.0	269.0	199.0	261.0	284.0
Debt/Asset Ratio		0.28	0.34	0.30	0.30	0.35	0.33	0.35	0.38	0.38	0.33
Real Estate Debt/ Total Debt Ratio		0.72	0.70	0.65	0.64	0.68	0.64	0.62	0.58	0.64	0.65
Income for Nonfarm Sources	(%)	16.8	16.0	11.2	20.6	5.8	9.2	10.4	13.7	8.7	12.1
Delinquencies[2]											
Real Estate	(%)	10.6	15.0	9.7	12.9	14.0	10.8	19.4	20.2	9.2	12.6
Nonreal Estate	(%)	17.1	20.5	12.6	12.9	24.3	18.5	30.6	20.2	16.2	18.3

[1] Complete reports include asset and debt information.

[2] Percent of all operators, not just borrowers.

pares with 21.8 percent for beef operations and 16.5 percent for crop farms. Real estate delinquency for dairy farms is 28.3 percent compared with 18.4 percent for beef farms and 10.1 percent for crop farms.

Figure 3 provides an illustration of how outstanding nonreal estate debt of delinquent farm borrowers is distributed. Commercial banks hold 44 percent of the nonreal estate debt of farmers reporting delinquencies on nonreal estate debt. Production Credit Associations account for another 28 percent of the nonreal estate debt of these operators. The Farmers Home Administration has approximately 17 percent. This distribution of debt raises legitimate concern for the ability of banks heavily committed to agricultural lending to continue to service credit needs of farmers.

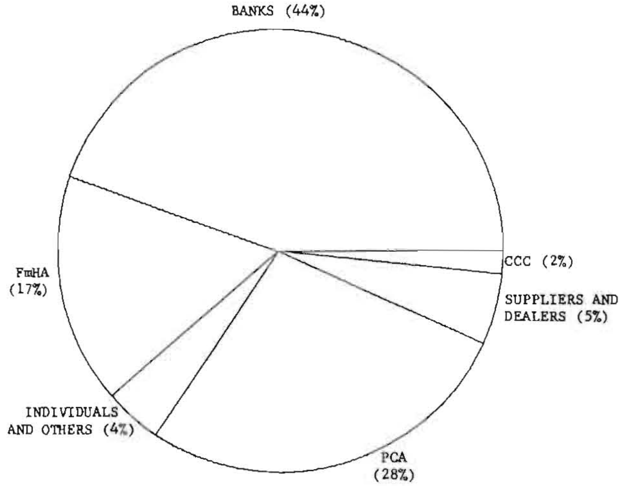

Figure 3. Outstanding Nonreal Estate Debt Obligation Percentages of Delinquent Farm Operators

Ability to Survive

Over half of the farmers and ranchers reporting delinquency indicated that they will not be able to stay in business for another year if economic and financial conditions do not change (Table 7). Thirteen percent of all farmers and ranchers reporting indicate they cannot continue more than one year. An additional 42 percent indicate they will be unable to farm beyond five years. Thirty-six percent of the operators responding indicate they can continue until retirement. Farmers unable to continue one year or less carry significantly higher debt loads and report lower average equity than other operators. Farmer responses likely indicate both the inability to continue financially and the desire to leave farming if current conditions persist.

Conclusions and Implications

Farm financial stress is widespread in North Dakota. The current farm financial crisis is the culmination of several financial and economic forces at work. Low farm profitability, high interest rates, high debt loads, and declining asset values all contribute to the current high level of farm loan delinquencies, farm liquidations, and potential foreclosures.

Restructuring farm debt has become increasingly difficult through existing credit institutions due to the erosion of equity and the inability of increasing numbers of farm operators to demonstrate repayment ability. Some

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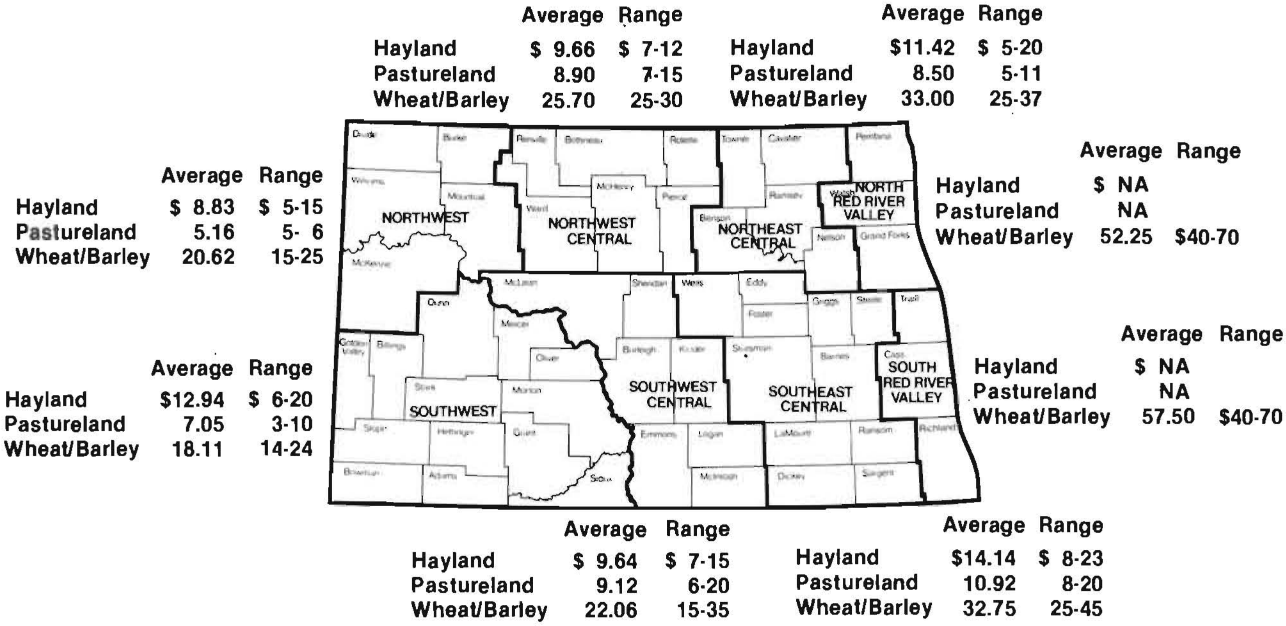

State: Hayland $12.04, Pastureland $9.25, Wheat/Barley $32.14

Figure 3. Average Cash Rent Per Acre for Hayland, Pastureland, and Wheat/Barley Land and the Ranges in Estimates for Eight Farming Areas in 1984

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Table 7. Average Farm Financial Position by Number of Years Respondents Indicate They Will Be Able to Farm

		Number of Years Able to Farm			
Item	Unit	One Year or Less	2-5 Years	6-10 Years	Until Retirement
Complete Reports[1]	(#)	167	542	109	465
Percent of Farmers		13.1	42.5	8.4	36.0
Assets	($000)	421.0	408.0	397.0	447.0
Real Estate	($000)	296.0	274.0	265.0	298.0
Nonreal Estate	($000)	125.0	133.0	132.0	149.0
Liabilities	($000)	263.0	157.0	150.0	73.0
Real Estate	($000)	172.0	102.0	106.0	46.0
Nonreal Estate	($000)	91.0	55.0	44.0	27.0
Equity	($000)	158.0	251.0	247.0	374.0
Debt/Asset Ratio		0.62	0.38	0.38	0.16
Real Estate Debt/ Total Debt Ratio		0.65	0.65	0.71	0.63
Income from Non-farm Sources	(%)	10.2	12.6	10.5	12.8
Delinquencies[2]					
Real Estate	(%)	41.2	14.1	3.7	2.8
Nonreal Estate	(%)	54.7	23.0	5.5	2.6

[1] Complete reports include asset and debt information.

[2] Percent of all operators, not just borrowers.

analysts have advocated that the situation requires an infusion of equity into the farm sector to restructure existing debt and finance it at interest rates consistent with the current level of farm earnings. This may require some form of governmental intervention due to the size and scope of the farm debt problem. Interest rate reduction schemes offer relief for some financially stressed farmers. The survey indicated that a substantial amount of delinquency is related to nonreal estate debt. A reduction of currently high interest rates will likely have a beneficial impact on a significant segment of the farm sector, especially farms which can generate a positive cash flow at somewhat lower interest rates.

Survey data do indicate that a wide variety of financial conditions exist among farm operators in the state. A significant percentage of the farmers responding have little or no debt and are, therefore, not financially stressed. Not all farms will survive the current financial crisis. The challenge to policymakers is to develop programs which will differentiate potentially viable farm operations from those which have a low probability of survival.

References

Pederson, Glenn, Diane Bertelsen, and Michael Janke. "A Financial Profile of North Dakota's Farm Sector." **North Dakota Farm Research** Vol. 42(1), July/August 1984.