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SAVE

# **Changing Farm Financial and Credit Conditions in North Dakota and Neighboring States**

by  
Glenn D. Pederson

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## Abstract

The farm sector is currently in recession. Between one-fifth and one-third of farm operators in North Dakota, Minnesota, Montana, and South Dakota are experiencing moderate-to-severe financial stress as a result of low farm earnings and higher debt loads than can be serviced out of farm cash flows. Symptoms of financial problems include: increased loan delinquencies, higher default rates, and rising farm liquidations. Farm sector financial problems are the result of reduced farm profitability and liquidity; and deregulation of interest rates in financial markets during 1980-85. Factors which reflect changing farm credit conditions include: 1) increased use of variable rate term loans, 2) greater emphasis on cash flow and projected repayment capacity when making a loan decision, and 3) required additional collateral to secure new loans or refinance existing loans. These adjustments reflect lenders' responses to increased interest rate risk and credit risk. Lenders are using various methods of rescheduling and deferring debt in an effort to buy time for borrowers with debt repayment problems. Asset and liability restructuring is the most effective means of relieving severe financial stress. Through liquidation the debt load is reduced and liquidity is restored to the farm business. Existing tax and bankruptcy laws, state laws prohibiting farm lenders from holding farmland long term (or taking an equity position in farmland), and lack of institutions for channeling equity funds into agriculture serve as impediments to adjustment of farm asset/liability positions.

## Changing Farm Financial and Credit Conditions in North Dakota and Neighboring States

Glenn D. Pederson\*

Farm financial and credit conditions have changed dramatically in recent years. Financial growth achieved in the latter 1970s has been reversed in the early 1980s. The boom and bust cycle, which began in the early 1970s in agriculture, is continuing to force financially stressed farmers out of business. Continued low profitability and financial stress through 1990 is a possibility. Farm credit institutions are also undergoing a number of fundamental adjustments in response to changing financial market conditions and the deepening of the farm sector recession.

Impacts of financial stress are expected to be quite different in North Dakota than in surrounding states due to differences in the types of agricultural activities, sizes of farms, and numerous other geographic, demographic, and economic factors. For that reason, this paper makes a financial comparison of North Dakota's farm sector with those of its bordering states (Minnesota, Montana, and South Dakota). One objective is to illustrate that major financial changes have occurred in these states over time. Primary factors contributing to the current farm financial dilemma are reviewed. A second objective is to analyze how farm credit institutions have responded to farm sector financial problems. Farm credit policy issues and options are also discussed in terms of their potential impacts on farmers and ranchers in the four-state region.

### Development of the Farm Financial Problem

Increased farm debt load (including its distribution), decline of farm liquidity and debt repayment capacity, higher and more volatile costs of debt service, and the decline of farm asset values (and equity capital) are related components of the farm financial problem.

### Growth and Distribution of Farm Debt

Farm debt expanded at a rapid rate through the latter 1970s and early 1980s. Nationally, real estate debt grew by 218 percent (an 11 percent compound annual growth rate) between 1973 and 1984. Nonreal estate debt escalated by 246 percent (a 12 percent compound annual growth rate) over that same period. A similar pattern of debt increase developed in North Dakota and surrounding states (Table 1). Nonreal estate debt grew most rapidly between 1973 and 1983 in North Dakota and Minnesota, followed by Montana and South Dakota. Real estate debt increased at a slower pace than nonreal estate debt

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in all four states. North Dakota and Minnesota showed relatively more rapid increases in outstanding real estate debt.

Growth in debt was not matched by the increase in asset values during 1973-83 (Table 1). Total assets increased by 225 percent in Minnesota but only 140 percent in South Dakota. Real estate asset value increases were the primary contributor to the rise in farm asset values. Aggregate farm real estate values increased by 293 percent in Minnesota (a 14.7 percent growth rate) and 282 percent in North Dakota (a 14.4 percent growth rate). Farm and ranch real estate in Montana and South Dakota also increased in value, but at a more moderate rate. More rapid increases in outstanding debt levels than asset values resulted in generally higher financial leverage positions (debt/asset ratios) throughout the region. Rising real estate asset values through 1981 provided sufficient wealth for real estate and nonreal estate debt expansion to occur. Incentives for this agricultural boom were temporary growth in export market demand and escalating domestic inflation. Aggressive farmers leveraged their unearned equity gains at low (or negative) real interest rates during the latter 1970s in anticipation of accelerating the financial growth process.

TABLE 1. PERCENTAGE INCREASES AND RATES OF GROWTH IN ASSETS AND DEBT BY STATE, 1973-83

State	Assets			Debt		
	Nonreal Estate <sup>a</sup>	Real Estate	All	Nonreal Estate	Real Estate	All
	----- percent -----					
North Dakota	128 8.6	282 14.4	215 12.2	361 16.5	262 13.7	315 15.3
Minnesota	139 <sup>b</sup> 9.1 <sup>c</sup>	293 14.7	225 12.5	319 15.4	257 13.5	287 14.5
Montana	96 6.9	206 11.8	168 10.4	269 13.9	211 12.0	234 12.8
South Dakota	89 6.6	182 10.9	140 9.1	274 14.1	200 11.6	241 13.1

<sup>a</sup>Nonreal estate assets include financial assets (e.g., stocks, bonds, savings and time deposits, etc.).

<sup>b</sup>Top number indicates change expressed as the percentage increase in value from 1973 to 1983.

<sup>c</sup>Bottom number indicates growth is expressed as the compound annual rate of increase between 1973 and 1983.

SOURCE: U.S. Department of Agriculture 1984 and 1985.

Farm debt became more concentrated over time in the hands of leveraged farm and ranch operators. Results of a 1984 national farm financial survey indicate that approximately 18 percent of all farms were carrying debt loads exceeding 40 percent of the value of total farm assets (USDA 1985). Farms with debt exceeding 70 percent of total assets represented 6.6 percent of all farms.

Recent surveys in Minnesota, Montana, and North Dakota indicate that the distribution of farm debt varies significantly among states. Survey data also reveal that an uneven distribution of debt exists among farm and ranch operators. Estimates contained in Table 2 indicate that about 35 percent of all farm operators in Montana and North Dakota carried debt in excess of 40 percent of their assets. Indebted operators owe a high percentage of the total debt (64 to 74 percent) but own a much lower proportion of total farm assets (37 to 39 percent). Another large group of farm operators owe little or no farm debt but own a sizeable percentage of farm assets. Adjusted Minnesota survey data estimates reveal that 19 percent of farm operators reported debt/asset ratios exceeding .40. Estimates from the ERS/USDA national survey indicate that about 17 percent of farm operators with debt/asset ratios exceeding .40 accounted for 46.3 percent of total farm debt.

TABLE 2. DISTRIBUTIONS OF FARM OPERATORS AND FARM DEBT FOR STATES AND THE U.S. BY DEBT/ASSET GROUPS IN 1984

State	Category	Debt/Asset Ratio Groups			
		Under .10	.10-.40	.40-.70	over .70
		----- percent -----			
Montana	Operators	33	32	28	7
	Debt	2	34	49	15
North Dakota	Operators	36	28	20	16
	Debt	2	24	37	37
Minnesota	Operators	81 <sup>a</sup>		11	8
	Debt	n.a.		n.a.	n.a.
U.S.	Operators	83.4 <sup>a</sup>		10	6.6
	Debt	53.7		22.6	23.7

<sup>a</sup>Survey data were not disaggregated sufficiently to report the percentages for both the .10 (and under) and .10-.40 debt/asset ratio groups. Percentages are reported for all farmers surveyed with debt/asset ratios less than .40.

SOURCE: Montana Crop Reporting Service 1984; Pederson et al. 1985; USDA, Economic Research Service 1985.

State farm financial surveys may be biased by heavier response from farmers with financial problems. This makes it difficult to accurately describe the current financial situation using those data sources exclusively. However, survey data do substantiate that an imbalance generally exists between the distributions of operators, assets, and debt.

#### Deteriorating Repayment Ability

Rapid growth and concentration of debt exacerbated the problem of inadequate debt-service repayment capacity. Total farm sector debt was about three times annual net farm income in the early 1970s. Farm sector debt had ballooned to eight times annual net farm income by 1983-84. Aggregate data indicate that debt repayment ability seriously deteriorated in all four states between 1974 and 1983 (Table 3). Debt levels were rising while net farm incomes remained static through this period. It would take 10 times the average net farm income in North Dakota to retire average outstanding farm debt during 1980-83. Repayment ability in Montana was dramatically lower from 1975 through 1983 as a reflection of depressed livestock earnings.

The repayment problem could be alternatively expressed as the number of years it would take to retire an existing dollar of outstanding indebtedness at current income and interest rate levels if all net farm income was applied to reduce farm debt.<sup>1</sup> Assuming an average interest rate of 10 percent on debt, a repayment ratio of 8 indicates that it would take 16 years to retire that debt. If the repayment ratio is increased to 10 it would take 60 years to fully repay the existing debt.

#### Loss of Farm Liquidity

Inflationary and disinflationary market forces and farmers' actions have combined to dramatically restructure farm balance sheets. The consequence is that farmers are currently less liquid than they were in the early 1970s. Inflation increased the value of real estate, machinery, and equipment relative to the value of more liquid assets such as livestock, crop inventories, and financial assets. Nationally, the ratio of liquid asset value to the value of total farm assets fell from 21 percent in 1972 to 13 percent in 1984 (USDA 1984.) This decline in farm liquidity was reflected within the four-state region (Table 4). While all four states remained above the national average, asset liquidity declined in the region by one-third to one-fourth during the same 12-year period. Stability of the liquid asset ratio from 1980 to 1984 in large part reflects the decline of real estate values in the post-1981 period. South Dakota and Montana experienced slightly smaller overall declines in asset liquidity than North Dakota and Minnesota. This differential is due in part to the less rapid changes in land values which occurred in South Dakota and Montana.

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<sup>1</sup>The repayment ratio (debt/net farm income, as shown in Table 3) can be converted to an amortization factor by dividing the ratio into 1.0. By locating the resulting decimal value in a standard amortization table, one can determine the number of periods required to repay each dollar of debt.

TABLE 3. RATIOS OF TOTAL FARM DEBT TO NET FARM INCOME (BEFORE INVENTORY ADJUSTMENT) BY STATE, 1970-83

Year	Minnesota	Montana	North Dakota	South Dakota
	----- ratios -----			
1970	3.3	4.9	3.8	3.6
1971	3.7	5.8	4.4	4.3
1972	3.2	3.2	2.2	2.8
1973	1.7	2.6	1.1	1.9
1974	1.7	3.3	1.0	1.9
1975	3.5	6.8	2.6	2.5
1976	4.6	10.4	5.2	3.2
1977	5.3	24.0	7.6	24.8
1978	4.4	10.6	5.7	6.1
1979	6.2	37.6	7.6	9.0
1980	5.9	42.2	5.4	6.9
1981	8.9	--a	12.9	9.1
1982	9.3	91.1	15.3	18.6
1983	8.7	38.7	6.6	10.4
Averages:				
1970-73	3.0	4.1	2.9	3.1
1980-83	8.2	--b	10.0	11.2

<sup>a</sup>Net farm income (before inventory adjustment) was negative.

<sup>b</sup>Average could not be computed due to data problem in 1981.

In the past liquid assets provided a safety valve to help meet cash demands of the farm business or household without forcing an untimely liquidation of productive farm assets (e.g., land, machinery, or breeding stock). However, acquisitions of land and machinery with debt during the latter 1970s and early 1980s increased the current liability of debt service without a matching increase in current assets to meet the higher level of cash demand. Indebted farm operators have partially offset the loss of farm

business liquidity by increasing off-farm earnings to meet debt service and other cash needs.

TABLE 4. RATIO OF LIQUID ASSETS TO TOTAL FARM ASSETS BY STATE IN SELECTED YEARS, 1972-84<sup>a</sup>

Year	Minnesota	Montana	North Dakota	South Dakota
1972	.29	.24	.27	.31
1976	.21	.17	.19	.23
1980	.17	.15	.17	.23
1984	.19	.16	.17	.23

<sup>a</sup>Liquid assets include: livestock and poultry inventories, crop inventories, and all financial assets.

SOURCE: USDA, Economic Research Service 1984 and 1985.

#### Declining Land Values

Loss of farm liquidity is compounded by a decline in market values of farm and ranchland in the region. That decline continued from 1981 to the present at varying rates. Generally, land values in areas which increased rapidly in the 1970s also declined rapidly in the post-1981 period. Land values in Nebraska, Kansas, and Missouri have reportedly fallen by 20 percent between 1983-84 and by about 30 percent in the three years following their peak in 1981 (Kansas City Federal Reserve 1985). Minnesota average land values fell 8 percent in 1982-83, 7 percent in 1983-84, and 24 percent in 1984-85. North Dakota average land value estimates declined 4 percent from 1982-83, 8 percent from 1983-84, and 18 percent from 1984-85. Estimated value of farmland in Montana fell 4 percent in 1982-83, increased 2 percent in 1983-84, but declined 16 percent in 1984-85. South Dakota land values remained stable in 1982-83 but declined in 1983-84 and 1984-85 by 3 percent and 26 percent, respectively (USDA, Economic Research Service 1985).

Declining land values represent less owner equity for farm owner-operators and for nonfarm owners alike. However, falling equity for indebted owner-operators presents the additional serious dilemma that remaining credit reserves in the form of unborrowed real estate equity are diminishing at a time when the need to refinance is the greatest. Therefore, farms have become less liquid on two counts: 1) asset liquidity has fallen through the 1970s and asset values and debt levels increased, and 2) liquidity obtainable through borrowing against credit reserves has fallen in the post-1981 period due to falling land and depreciable asset values. Asset and debt restructuring through partial liquidation has become the only financially feasible alternative for restoring liquidity to some farm businesses.

## High and Volatile Interest Rates

Interest rate fluctuations introduce another source of financial instability into agriculture. It is generally accepted that market interest rates reflect a premium for anticipated inflation. The inflationary premium protects the lender's debt claim from loss of real purchasing power. Escalating inflation in the latter 1970s and early 1980s, interest rate deregulation on time deposits, the introduction of NOW accounts, and changes in monetary policies of the Federal Reserve combined to create a new financial market environment for agriculture. Changes in the cost of money are now more quickly reflected in interest rates paid by farmers. Rates at commercial banks respond quickly to changes in monetary conditions, while rates charged at Production Credit Associations (PCAs) and Federal Land Banks (FLBs) adjust more gradually.<sup>2</sup> Figure 1 illustrates both changes in the level of interest rates charged by farm lenders in the four-state area and volatility of those rates between 1976 and 1984. Average rates shown for PCAs and FLBAs exclude the capital stock requirement; therefore, they are lower and not directly comparable with the average rural bank rates shown.

Higher, more-volatile interest rates affect farm business financial performance in three ways: 1) higher rates narrow profit margins and reduce short-term profits, 2) fluctuations of interest rates increase farm financial risk due to uncertainty about the total debt obligation, and 3) higher rates reduce liquidity and financial flexibility since a larger proportion of current cash flow must be committed to debt service (Barry 1981). Those interest rate effects are magnified when financial leverage is increased.

Nominal interest rates paid by farmers currently vary from 12-14 percent on fixed and variable rate operating loans and term debt. However, commodity prices received by farmers have remained virtually unchanged from 1980-84 (Council of Economic Advisers 1984) and farmers pay little (or no) income taxes on their farm earnings (losses) (Pederson et al. 1985). The result is that real, after-tax interest rates currently paid by farm and ranch operators on new borrowings equal nominal rates. These rates are unprecedented in modern commercial agriculture.

Farmers and ranchers have historically averaged a net cash return between 2 and 4 percent (Melichar 1984). This suggests that even farms and ranches with relatively low debt-to-asset ratios and average costs of borrowed capital have been generating substantial annual losses and shortages in cash flow. Table 5 contains estimates of the cash shortfall generated in 1983 by farms and ranches at various levels of annual gross sales and debt/asset ratio (USDA/ERS 1985). Cash shortfalls occurred for most farms with debt/asset ratios exceeding .40. Large farms with sales exceeding \$100,000 and low debt/asset ratios generated cash surpluses.

Estimated average annual net cash surplus (or shortfall) in 1983 by farm type are shown in Table 6. Cash surpluses were generated by cash grain

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<sup>2</sup>Farm Credit System rates are based on the average cost of acquired funds to the system. The average cost of funds reflects both historical and current levels of interest rates.

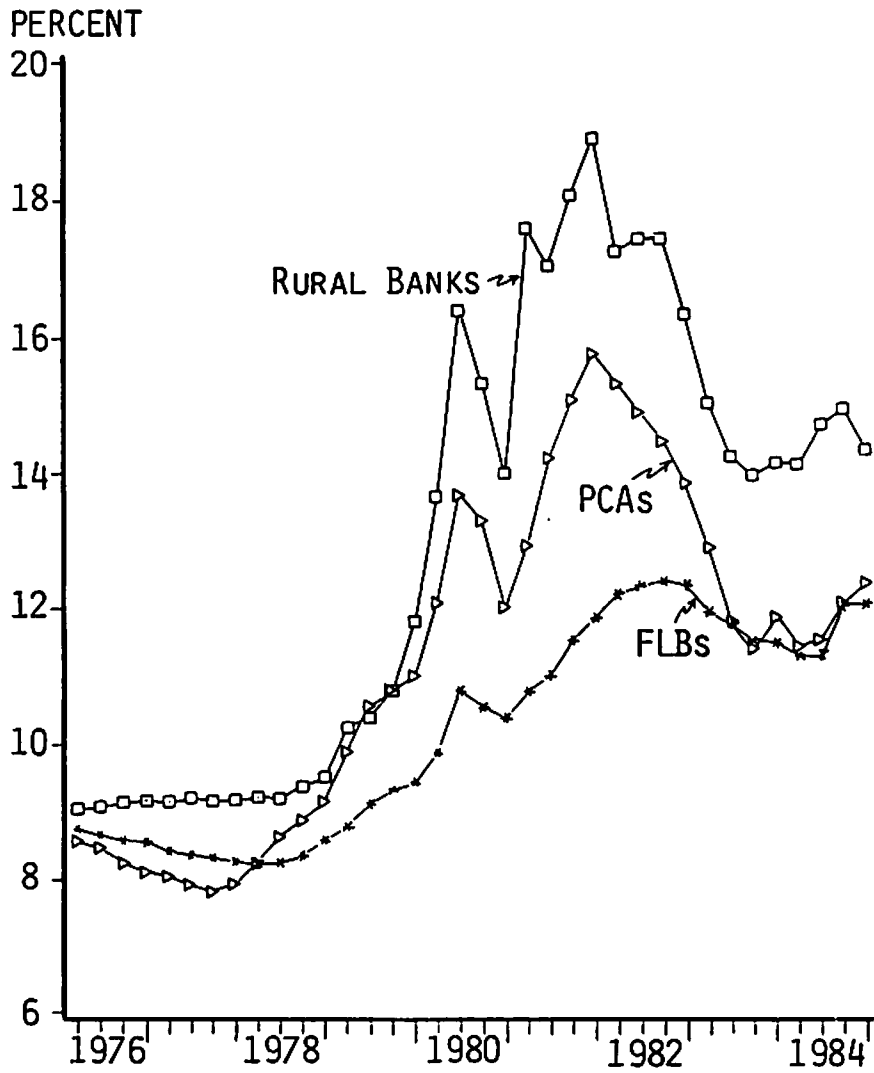


Figure 1. Representative Interest Rates Charged on Farm Loans by FLBs, PCAs, and Agricultural Banks in the Four-State Region, 1976-84

TABLE 5. AVERAGE ANNUAL NET CASH POSITION OF U.S. FARMS BY SALES CLASS AND DEBT/ASSET RATIO, 1983

Sales Class	Debt/Asset Ratio		
	0.-.40	.40-.70	Over .70
	----- dollars -----		
\$10,000-24,999	\$(6,823) <sup>a</sup>	\$(22,404)	\$(30,135)
\$25,000-49,999	(7,788)	(21,057)	(24,690)
\$50,000-99,999	(1,336)	(22,443)	(21,606)
\$100,000-249,999	14,397	(4,840)	(21,592)
\$250,000-499,999	50,956	7,222	(5,510)
Over \$500,000	140,484	6,978	(56,456)

<sup>a</sup>Figures in parentheses indicate a cash shortfall.

SOURCE: USDA 1985.

TABLE 6. AVERAGE ANNUAL NET CASH SURPLUS (SHORTFALL) OF FARM OPERATORS BY TYPE OF FARM AND DEBT/ASSET RATIO, 1983

Type of Farm	Debt/Asset Ratio		
	0.-.40	.40-.70	Over .70
	----- dollars -----		
Cash Grain	14,940	(2,012) <sup>a</sup>	(13,374)
Field Crop	4,497	(946)	8,491
General Crop	(8,433)	(19,742)	(19,758)
General Livestock	(1,977)	(24,936)	(26,283)
Dairy	9,181	(29,605)	(29,605)
Poultry and Egg	34,481	(15,857)	(16,379)

<sup>a</sup>Figures in parentheses indicate a cash shortfall.

SOURCE: USDA 1985.

operators with low debt positions, field crop operators at low and high debt levels, and poultry and egg producers with debt below 70 percent of assets. General crop, general livestock, dairy and cash grain operators with debt/asset ratios above 0.40 showed substantial cash shortfalls. It is likely that the cash flow performance of all farming operations in the region is being adversely affected by reduced profitability. Yet, not all farms are generating cash shortages.

### Changing Farm Credit Conditions

Significant changes have occurred in farm credit conditions in the region in response to farm sector financial problems and changes in financial markets. Farm credit has been generally available but at a high interest cost. Credit quality deteriorated markedly (as will be shown), and in response many farm lenders have adjusted their farm loan practices. Financial markets have been deregulated, which allows the cost of funds to increase and become more volatile at commercial banks. As a result, farm credit conditions now reflect financial developments both in the farm sector and the national economy to a greater extent than in the past.

### Shares of Farm Debt

Although there tends to be uniformity in market shares of farm lenders in the four-state region, some dissimilarities and changes over time are notable. Real estate debt comprised a somewhat higher proportion of total debt in Montana (56.8 percent) in 1983 than in other states as shown in Table 7. Also, a relatively greater percentage of that debt was held by individuals and other credit sources such as merchants and dealers (24.5 percent). FLBs accounted for the other major share of real estate debt in all four states. Nonreal estate debt shares are dominated by commercial banks in the region. The Farmers' Home Administration (FmHA) played a comparatively larger role in North Dakota and South Dakota in both real estate and nonreal estate debt categories. Commercial bank shares of total farm credit market declined from 26 percent in 1973 to about 20 percent in 1983. Farm Credit System (FCS) lenders increased their market share from about 22 percent in 1973 to 29.5 percent of total farm debt in the region in 1983. The FmHA increased its overall share of farm debt slightly, while individuals and others provided about 22 percent of total farm credit in 1983 compared with 27 percent in 1973.

Nationally, some trends established during 1973 to 1983 have reversed in the post-1983 period (Table 8). Commercial banks are increasing their share of the farm real estate market and the Federal Land Bank share has grown more slowly in the 1983-85 period. The FmHA has increased its outstanding real estate debt. This change likely reflects repayment problems of FmHA borrowers and the need to restructure loans and defer existing debt rather than an attempt to expand real estate lending. Commercial banks and the FmHA increased their share of the nonreal estate market at a time when Production Credit Associations have reduced outstanding debt. The FmHA also increased its outstanding nonreal estate debt. The percentage increases at commercial banks and FmHAs were just opposite of the two-year reduction in total farm indebtedness.

TABLE 7. LENDER SHARES OF OUTSTANDING FARM DEBT BY STATE AND TYPE OF DEBT, JANUARY 1, 1983

Lender	Minnesota		Montana		North Dakota		South Dakota		Four States Combined
	Real Estate	Nonreal Estate	Real Estate	Nonreal Estate	Real Estate	Nonreal Estate	Real Estate	Nonreal Estate	
	----- percent -----								
Commercial Banks	2.4	18.8	0.5	14.2	2.1	16.1	0.9	23.8	20.2
Farm Credit System									
Fed. Land Banks	20.8	--	19.8	--	22.1	--	14.6	--	19.7
Prod. Credit Assoc.	--	9.1	--	10.6	--	11.2	--	7.1	9.4
Fed. Inter. Credit Banks	--	0.5	--	0.1	--	0.5	--	0.1	0.4
Farmers Home Admin.	2.9	3.9	4.0	5.4	5.4	9.4	7.9	14.1	11.8
Life Insurance Cos.	3.9	--	8.0	--	1.0	--	2.7	--	3.7
Individuals and Others	17.1	6.9	24.5	4.7	10.1	5.4	13.0	6.3	22.2
Commodity Credit Corp.	--	13.7	--	8.1	--	16.7	--	9.5	12.6
Total	47.1	52.9	56.8	43.2	40.7	59.3	39.1	60.9	100.0

SOURCE: Amols and Kaiser 1984.

TABLE 8. CHANGES IN OUTSTANDING U.S. FARM SECTOR DEBT BY LENDER AND TYPE OF DEBT, DECEMBER 31, 1984

	Percent of Total	% change in outstandings from		
		Year Earlier	2 Years Earlier	5 Years Earlier
----- percent -----				
Farm real estate debt owed to				
Banks	9.1	9.2	20.6	18.0
FLBs	44.0	0.5	2.8	64.5
Life Ins. Cos.	11.1	-2.1	-2.8	2.3
FmHA	9.0	7.3	10.2	40.8
Individual and Others	<u>26.8</u>	-7.5	-6.6	7.2
Total	100.0	-0.8	1.4	30.4
Nonreal estate farm debt owed to				
Banks	39.2	1.8	9.9	28.1
PCAs/FICBs	18.6	-6.6	-11.9	0.1
FmHA	15.5	6.9	6.0	74.2
CCC	8.8	-17.7	-42.4	75.4
Individual and Others	<u>18.0</u>	-3.9	-6.8	9.6
Total	100.0	-2.2	-5.5	25.9
All farm debt owed to				
Banks	23.4	3.2	12.0	25.9
Farm Credit System	31.9	-1.6	-1.7	39.6
Life Ins. Cos.	5.8	-2.1	-2.8	2.3
FmHA	12.1	7.0	7.6	59.5
CCC	4.2	-17.7	-42.4	75.4
Individual and Others	<u>22.6</u>	-6.2	-6.7	8.1
Total	100.0	-1.5	-2.0	28.2

SOURCE: Benjamin 1985.

Reduced total farm debt in the past two years reflects several underlying factors. First, farm loan demand has fallen as financially stressed farmers have reduced or postponed operating and investment expenditures. Second, lenders have adopted more cautious lending policies due to declines in both farm earnings and asset values. Third, increases in farm liquidations and charge-offs on existing loans by farm lenders have reduced total farm debt.

### Commercial Agricultural Banks

Credit conditions at agricultural banks reflect several financial adjustments. Indices of loan availability and demand for loanable funds in the Ninth Federal Reserve District (Minneapolis) indicate that agricultural banks are quite liquid but that farm demand for credit is mixed.<sup>3</sup>

Figure 2 illustrates that loanable funds at these agricultural banks have been adequate to cover the level of demand for short-term (operating) farm loans in most years, except for 1974-79. The index of fund availability declined during the latter 1970s when many banks became loaned-up to their practical limit attempting to meet expanded loan demand.<sup>4</sup> In the post-1979 period farm loan demand fell sharply due to higher interest rates.<sup>5</sup> Both bank liquidity and availability of loanable funds increased again. Figure 3 illustrates that the demand for intermediate term (machinery and livestock) loans declined dramatically in 1979. Further, the demand for capital investment loans at agricultural banks has not recovered as rapidly as short-term loan demand in the post-1979 period. Most farmers and ranchers are postponing capital purchases.

Increased demand for debt extension and slower repayment rate on farm loans are additional indicators of credit problems at agricultural banks in the region. Figure 4 illustrates that the level of demand for extending debt repayment terms and the rate of farm loan repayment have moved in opposite directions over time. Typical debt repayment rate at agricultural banks has trended downward and debt term extensions have trended higher. Farmers who have found current income levels inadequate to meet family living needs and make principal and interest payments have requested longer terms through reamortizations, extensions, and other refinancing methods.

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<sup>3</sup>The Ninth Federal Reserve District includes the areas of Minnesota, Montana, North Dakota, South Dakota, northwestern Wisconsin, and the Upper Peninsula of Michigan.

<sup>4</sup>The index of loan availability was derived from quarterly bank survey summaries by subtracting the percentage of banks reporting expected problems in meeting normal farm loan requests in the current quarter from 100, dividing by the average of all such responses during the 1969-85 period, then multiplying by 100. The resulting index exceeds 100 in periods of above normal farm loan fund availability.

<sup>5</sup>The indices of demand for farm loans were derived from quarterly agricultural bank survey reports. The percentage of bankers reporting below-average demand was subtracted from the percentage reporting above-average demand. The percentage difference was then multiplied by 100.

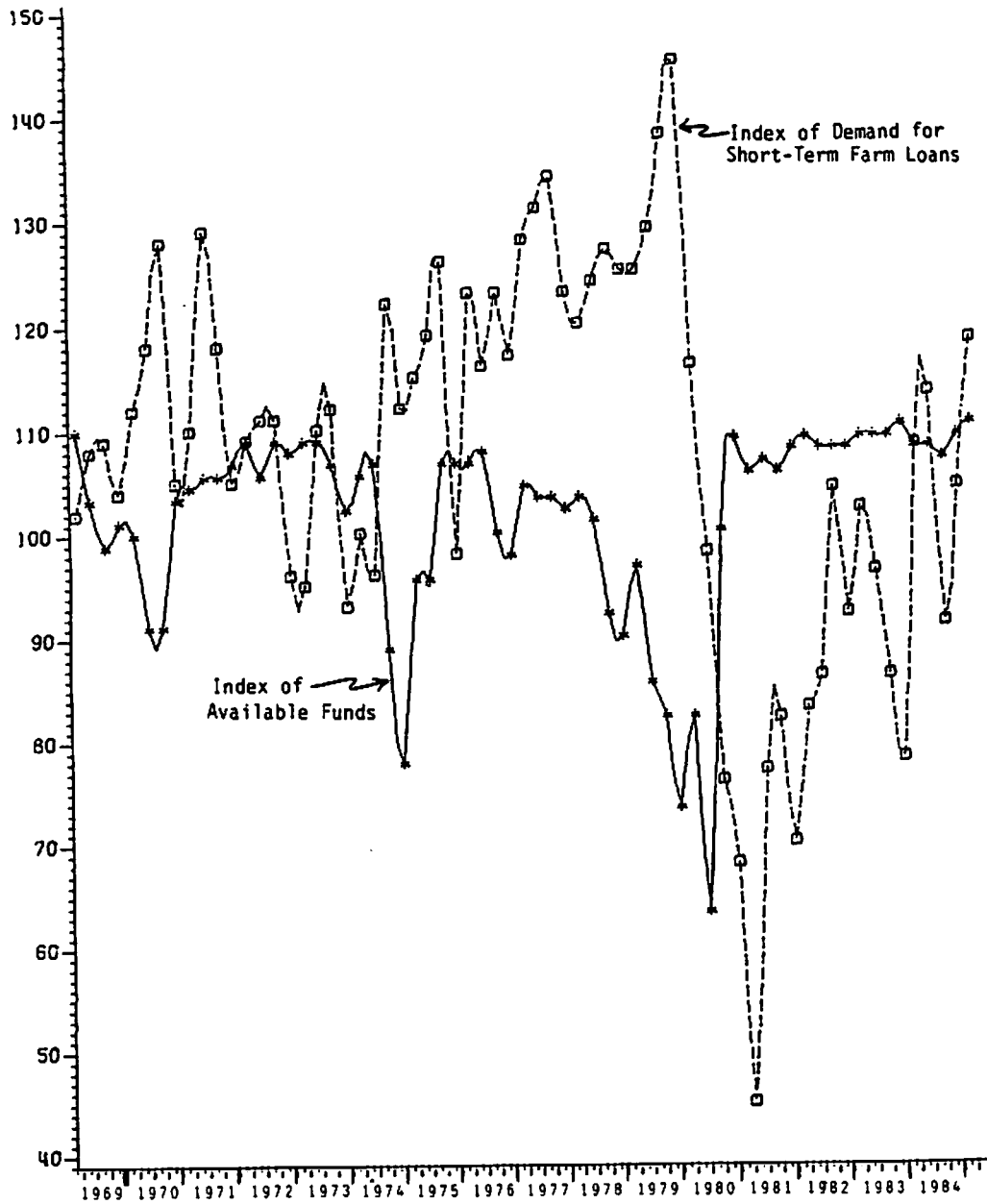


Figure 2. Indices of Farm Loan Funds Availability and Demand for Short-Term Loans at Agricultural Banks in the Ninth Federal Reserve District, 1969-85

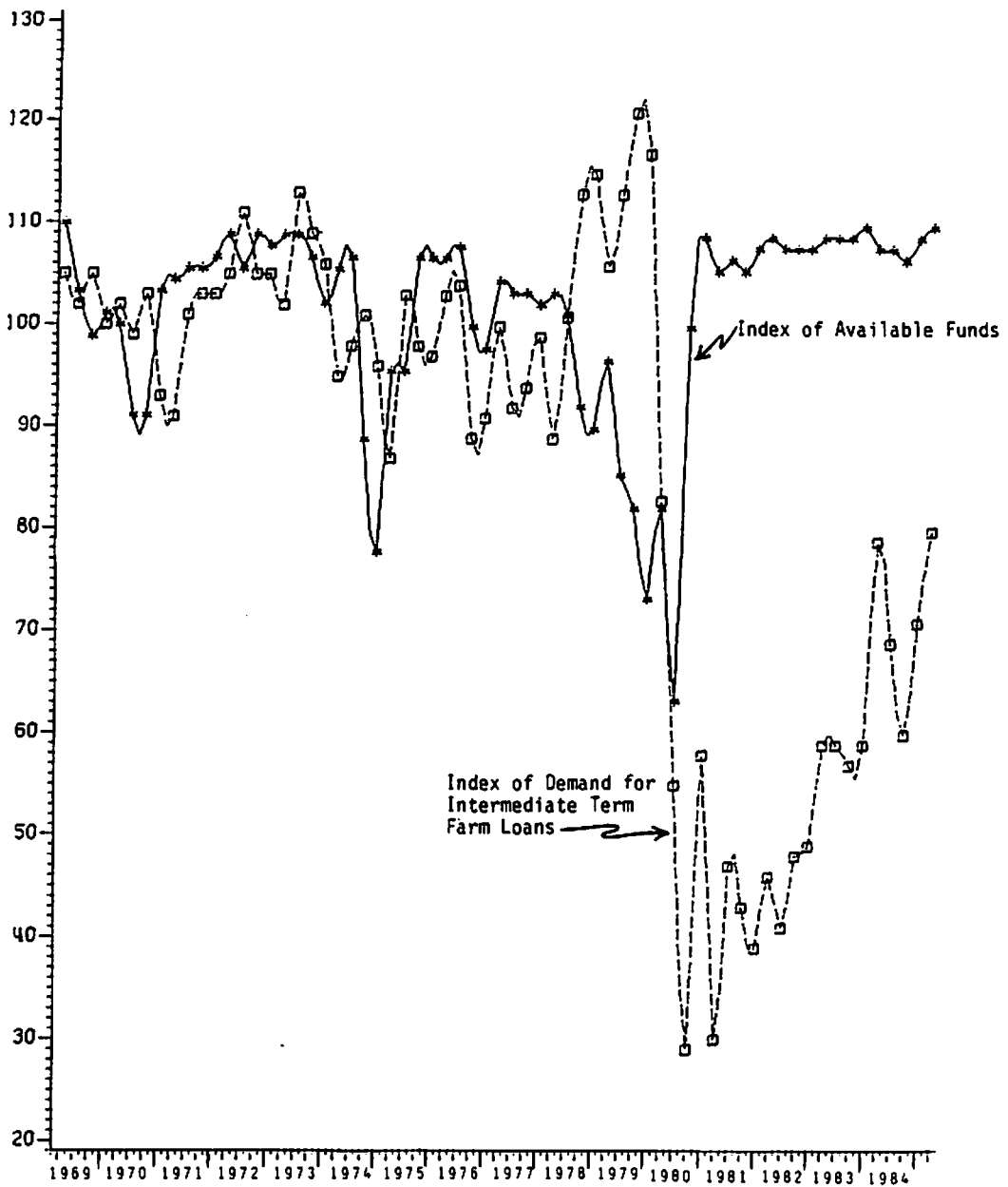


Figure 3. Indices of Farm Loan Funds Availability and Demand for Intermediate Term Loans at Agricultural Banks in the Ninth Federal Reserve District, 1969-85

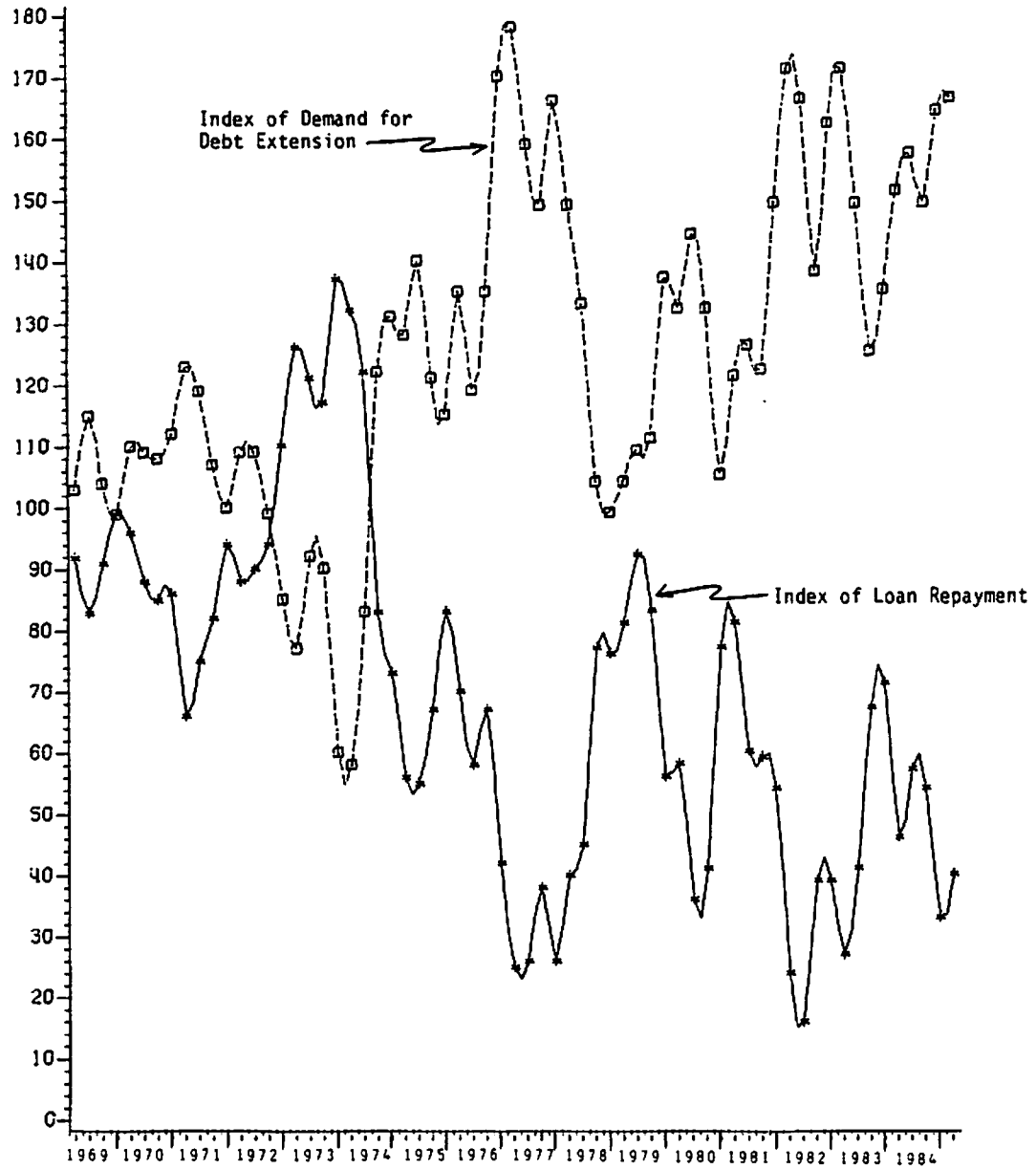


Figure 4. Indices of Loan Repayment and Demand for Debt Extension at Agricultural Banks in the Ninth Federal Reserve District, 1969-85

Trends toward slower debt repayment and increasing loan delinquency are developing in the post-1980 period at agricultural banks. Delinquent farm loans are generally categorized as either performing or nonperforming loans. Performing status is reserved for delinquent loans which are 30-89 days past due and still accruing interest. Nonperforming delinquent farm loans include: 1) those 90 days past due and still accruing interest, 2) nonaccrual loans, and 3) renegotiated, "troubled" debt. Table 9 contains percentages of total farm loan volume outstanding which was delinquent during 1982-84. Delinquent farm loans increased from 3.8 percent in 1982 to 5 percent in 1984 at all commercial banks with farm loans within the Ninth Federal Reserve District. Nonperforming, delinquent farm loans (those over 90 days past due) increased gradually from 1 percent to 1.5 percent in the same period. Montana and Minnesota banks reported a higher incidence of farm loan delinquency in both categories. Comparison of the percentages shown in Table 9 indicates greater increases in 30-89 day delinquencies than in nonperforming loans over 90 days due. More performing loans are expected to move into nonperforming status, creating additional problems for small agricultural banks. Net charge-offs of nonperforming farm loans in the Ninth District by the end of 1984 represented 1.9 percent of total farm loan volume. Minnesota banks reported the highest percentage of net charge-offs (2.3 percent) in 1984. Large commercial banks with farm loans in Minnesota also reported the highest percentage (14.1 percent) of nonaccrual (not earning interest) farm loan volume in the four-state region at the end of 1984.

Partial and total farm liquidations have increased in the region during 1983-85. Bank survey data indicate that the annual percentage of farms going out of business in the Ninth District for reasons of financial problems reached 3.4 percent by March 1984 and 3.2 percent by March 1985 (Table 10). This compares with 0.9 percent in prior years. Farms partially liquidating assets varied from 4.2 to 4.6 percent in the past two years. The three-to-four fold increase in farm liquidation activity indicates that farm financial stress has spread since 1983.

Increased interest rate volatility and greater income and collateral risk in their farm loan portfolios has led commercial banks to adopt more conservative lending practices. Shorter maturities and greater use of variable-rate loans in all categories of farm loans are attempts to reduce interest rate risk for the lender. Increased use of these lending practices, however, tends to exacerbate the level of farm loan delinquency and default as higher interest costs were passed on to farm borrowers. Therefore, bankers and other farm lenders have employed a number of defensive practices to improve their chances for receiving repayment. Additional security is now often required before loan approval or to refinance existing debts of moderate- and high-risk farm borrowers. Secondly, lenders are placing increased emphasis on repayment ability and projected whole-farm cash flow. Declining collateral values have eliminated the safety net of refinancing for those farmers not able to meet the cash-flow test.

#### Cooperative Farm Credit System Lenders

Spreading farm recession and growing debt repayment problems have adversely affected FCS lenders, nationally and regionally. Loan losses at PCAs nationally totaled \$109.5 million between 1970-79 but reached \$468.8 million

TABLE 9. COMMERCIAL BANK FARM LOANS PAST DUE AS A PERCENT OF ALL FARM LOANS OUTSTANDING, 1982-84

State	1982	1983	1984
Percent of farm loans past due over 30 days:			
Minnesota	3.4	3.5	4.3
Montana	5.4	5.5	7.5
North Dakota	4.9	5.5	5.4
South Dakota	3.2	2.6	4.7
Ninth District	3.8	3.9	5.0
U.S.	3.8	3.7	3.8
Percent of farm loans past due over 90 days:			
Minnesota	1.0	1.2	1.5
Montana	1.1	1.2	1.8
North Dakota	1.1	1.3	1.3
South Dakota	0.9	0.7	1.2
Ninth District	1.0	1.1	1.5
U.S.	1.2	1.1	1.2

SOURCE: Melichar 1985.

during 1980-83. Net loan losses at PCAs as a percent of loan loss reserves rose from 7.5 percent in the pre-1981 period to 26.1 percent in 1982 and 42.3 percent in 1983. This dramatic increase in loan losses is a major concern of farmers, credit analysts, and policymakers.

FLB net loan losses were insignificant prior to 1981 but increased to 2.0 percent of loan loss reserves in the 1983 period. Concern over the FLB portfolio has arisen primarily due to the rapid erosion of land values in the 1981-85 period. In an attempt to replenish loan loss reserves at the FLB, interest rates were recently raised by .075 percent on new mortgage loans in the Seventh (St. Paul) Farm Credit District. Increased interest earnings would provide sufficient financial strength to withstand projected higher levels of nonaccrual loans and loan charge-offs.

TABLE 10. PERCENTAGES OF NINTH FEDERAL RESERVE DISTRICT FARMERS GOING OUT OF BUSINESS OR PARTIALLY LIQUIDATING ASSETS<sup>a</sup>

Reasons for Liquidating the Farm Business	Normally in October- March	In October 1983- March 1984	In October 1984- March 1985
	----- percent -----		
<b>Totally Liquidated</b>			
Financial Stress	0.9	3.4	3.2
Bankruptcy Proceedings	0.2	0.7	0.7
Foreclosure	0.4	1.4	1.1
Other Financial Reasons	0.3	1.3	1.4
Reasons Unrelated to Financial Stress	0.7	1.1	0.9
All Reasons	1.6	4.5	4.1
<b>Partially Liquidated</b>	1.3	4.6	4.2

<sup>a</sup>Averages of late March reports by rural bankers on the farmers in their trading areas, based on percentages of all farmers.

SOURCE: Federal Reserve Bank of Minneapolis 1985.

PCAs unable to generate sufficient interest earnings to offset higher loan losses have relied on system wide capital sharing provisions between PCAs within a district and between Federal Intermediate Credit Banks and PCAs in different districts. Only limited data are available on the size of these capital infusions, but they are being used throughout the system to provide financial stability to PCAs severely impaired by farm losses. Some Omaha District PCAs are particularly vulnerable and are projected to require annual capital infusions averaging \$640 million to generate break-even earnings between 1985 and 1989 (Federal Farm Credit Banks Funding Corporation 1985). The FCS is currently considering plans for restructuring portfolios of financially vulnerable PCAs to reduce the need for massive capital infusions. Under these plans PCAs would participate all their high risk loans with other institutions in the FCS. FICBs, FLBs, and Banks for Cooperatives would share risks and costs associated with about \$1.8 billion of the high risk assets.<sup>6</sup>

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<sup>6</sup>It is this type of plan which has been approved for use in the reorganization of the Spokane District FICB/PCAs and is being formulated for use in the Omaha District.

## Farmers Home Administration

The Farmers Home Administration has a unique position in agricultural credit markets, and despite high delinquency rates, the level of loan charge-offs and the percentage of farmer borrowers discontinuing remain quite low.<sup>7</sup> Table 11 contains data on active and discontinuing FmHA borrowers during fiscal years 1983 and 1984 (see Appendix Table 1 for numbers of borrowers under each category). The percentage of borrowers who were delinquent remained quite stable in Minnesota and North Dakota and were similar to the national averages in 1983 and 1984. Montana and South Dakota reported increases in delinquency, but South Dakota was substantially below the national average level in both years. An 8 percent increase in delinquency in Montana indicates a deterioration of credit quality. FmHAs in Minnesota and North Dakota expanded use of loan rescheduling and loan deferrals to assist borrowers in making repayment.

Fewer farmer borrowers in the four-state region discontinued farming due to financial difficulties during 1983-84 than nationally. Most discontinuations were through a nonforeclosure, voluntary sale of the farm. The second most frequently reported method was a voluntary conveyance of farm assets to FmHA to satisfy the debt obligation. But an increase occurred in other foreclosures (those completed by prior or junior lienholders) in Montana, North Dakota, and the nation. Just two years of data make it difficult to evaluate the financial situation across FmHAs in the four-state region. However, a comparison with national statistics indicates that FmHA borrowers in this region are generally in a stronger financial position than in other sections of the country, and the frequency of discontinuation among FmHA borrowers is well under the national average.

### Farm Credit Policy Issues and Options

Policy responses need to be directed toward facilitating the financial transition which is currently under way in agriculture. These policies should recognize two fundamental conditions: 1) the probable duration of the farm credit problem and 2) continuing decline in farm asset values.

Two scenarios could be suggested for agriculture over the next five years. One scenario continues the large federal budget deficits, high real interest rates, and the strong dollar against foreign currencies. Farm income would remain low, and current farm financial problems would worsen. Farmers carrying heavy debt loads would be forced out of business and a number of other indebted operators would voluntarily leave. There would be greater need for public assistance to ease credit problems. Credit assistance would help both farmers and farm lenders. Credit assistance would help financial institutions remain financially viable and rural communities would be stabilized. An alternative and more optimistic scenario would have budget deficits decreasing to under \$100 billion over the next five years. Real

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<sup>7</sup>As a "lender of last resort," the FmHA loan portfolio is dominated by loans to assist young and limited-resource farmers, those suffering economic and natural disasters, and other farmers and ranchers who are highly leveraged and considered to be high-risk borrowers.

TABLE 11. FARMERS HOME ADMINISTRATION FARMER PROGRAM BORROWERS, FISCAL 1983 AND 1984

	Minnesota		Montana		North Dakota		South Dakota		U.S.	
	1983 (%)	1984 (%)	1983 (%)	1984 (%)	1983 (%)	1984 (%)	1983 (%)	1984 (%)	1983 (%)	1984 (%)
Active FmHA farmer borrowers:	--	--	--	--	--	--	--	--		
Behind in scheduled payments	28.0 <sup>a</sup>	31.0	29.0	37.0	30.0	29.0	14.0	19.0	28.0	29.0
Requiring loan rescheduling	8.9	12.1	11.0	5.9	7.7	21.1	22.0	21.0	11.0	11.0
Requiring loan deferral	1.4	2.4	0.3	0.7	0.9	1.7	0.6	0.1	1.0	1.0
Filed bankruptcy	1.2	1.2	0.5	0.4	0.7	0.7	0.8	1.1	1.4	1.4
Total FmHA borrowers who quit farming due to financial difficulties	2.3	2.5	1.4	1.6	1.0	1.2	1.6	1.8	2.7	2.4
Form of discontinuation:										
Bankruptcy	13.0 <sup>b</sup>	12.7	4.5	5.9	9.1	16.7	8.8	6.4	18.5	16.7
FmHA foreclosure	0.4	0.7	6.8	3.9	1.1	--	8.3	4.7	8.2	5.3
Other foreclosure	13.5	13.4	9.1	11.8	5.7	12.0	3.2	2.1	9.9	15.9
Voluntary Conveyance	20.4	26.1	20.4	11.8	22.7	20.4	13.8	20.0	19.7	21.0
Transfer/assumption of others	10.9	6.0	27.3	31.4	17.0	10.2	13.8	12.4	8.3	8.5
Sale (other than foreclosure)	41.7	41.0	31.8	35.2	44.3	40.7	52.1	54.7	35.4	32.6

<sup>a</sup>Percent of total active FmHA farmer borrowers.

<sup>b</sup>Percent of FmHA borrowers who discontinued farming due to financial difficulties.

SOURCE: USDA, Farmers Home Administration, 1983 and 1984.

interest rates would be lower and trending downward with a weaker dollar. Farm financial stress would ease and farm asset values would stabilize reducing the need for widespread public credit assistance to farmers.

It is this author's judgment that a third and more likely scenario would contain elements of both the pessimistic and optimistic scenarios but place slightly more emphasis on the optimistic outlook. The third scenario would have federal deficits moderate more gradually, reducing pressure on money markets, and resulting in generally lower interest rate levels.<sup>8</sup> The dollar would gradually weaken in international money markets and farm sector profitability would gradually improve. These gradual developments would permit highly-leveraged farmers to exit, but at a slower rate than is currently occurring.

Farm asset values will likely continue to decline, although at a slower pace than occurred during the 1982-85 period. Unrealized capital gains in farm real estate that arose in the 1970s still exceed the losses which have occurred during early the 1980s. Further declines in land values will be conditioned by changes in the future course of real borrowing costs and farm profits. Farm real estate comprises about three-fourths of all farm assets and represents a major determinant of the cost structure in agriculture. Continued downward adjustment in land values will weaken the financial condition of farmers and ranchers in the region and further reduce their existing credit reserves. Additional borrowing will be difficult to obtain for highly-leveraged operators during this transition period.

Policy solutions to the immediate farm financial dilemma must be selective if they are going to be effective. Farm price and income support programs are not likely to be efficient policy tools since those programs do not focus on the major dimensions of the problem (i.e., loan terms, liquidity, collateral risk, etc.). Policy options which are targeted toward the financial stress problem include: interest rate buy-downs, debt restructuring, asset restructuring, debt moratoria, loan guarantees, and recapitalization. Rearranging liabilities alone is not a long-term solution. Even with additional time to repay, many indebted farmers cannot service existing debt at current interest rates, productivity levels, and projected input and commodity prices. However, debt restructuring is an important step in buying time to implement more permanent financial solutions. Asset restructuring remains the key to long-term survivability of financially-stressed farmers. This involves partial liquidations, debt reductions, and equity infusions when feasible.

Some states have already implemented interest rate reduction programs, but it is too early to evaluate their impact. Most states rejected debt moratoria due to the potential for long-run damage to farm credit markets. Loan guarantees were adopted since they could be used to facilitate the restructuring of liabilities without requiring massive amounts of funds.

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<sup>8</sup>In this scenario interest rate levels will continue to be heavily influenced by the course of monetary policy as implemented by the Federal Reserve through its powers to change the rate of growth in money supply.

A loan guarantee from a federal or state agency indemnifies the lending institution from potential default by the borrower. Provision of a loan guarantee reduces credit risk faced by the lender and encourages loan restructuring and extensions. Loan guarantees may be tied to a lender's willingness to partially write down existing debt and/or offer the borrower a lower rate to improve farm cash flow and increase the chance for survival. A properly structured loan guarantee program provides time to implement longer-term solutions and protect farm resource markets from collapsing due to lack of liquidity and/or ineffective demand.

Debt adjustment and debt deferral programs implemented by the FmHA have met a critical need among heavily indebted, low-equity farm borrowers. The debt deferral program grants the farmer a five-year deferment on repayment of principal and postpones accrual of interest for up to five years. Debt deferral has been used selectively by the FmHA as an option for restructuring problem loans that cannot be restructured with other options.

The FmHA's debt adjustment program provides other commercial farm lenders an option in adjusting the structure or interest terms of a loan to secure a guarantee. Lenders can: 1) reduce a farmer's outstanding indebtedness by a minimum of 10 percent, or 2) lower the rate of interest on a loan to a level which reduces interest costs by an amount equal to 10 percent of current indebtedness, or 3) use a combination of those two measures. The final test is that the restructured debt of the borrower results in a sufficient level of cash flow. The interest rate may be fixed or variable but cannot exceed the rate paid by the lender's prime customers (Heffernan 1985).

Asset restructuring through liquidation weakens land and machinery prices since these asset markets are fairly localized. Lending institutions can cushion these effects in land markets by temporarily taking title to real property and leasing it back to the original debtor or other farmers and ranchers. States with legislation prohibiting the ownership of farmland by nonfarm business entities over an extended period make this alternative useful only as a short-run strategy.

An alternative to asset liquidation is recapitalization of financially stressed farms through equity infusion from outside the firm. Although recapitalization is a desirable objective, it may be difficult to orchestrate due to: 1) the current and projected agricultural economic climate, 2) the need to compensate outside investors at quite high levels to attract significant amounts of capital, 3) potential changes in federal tax regulations, and 4) existing state prohibitions from lenders owning farm real estate long term. Policy options and the potential for institution building should be explored for channeling capital into agriculture.

A final set of policy questions involves current bankruptcy laws and tax rules which apply in the case of farm asset liquidations. Congress is considering allowing farmers to extend the maximum number of years to show repayment with reorganization under Chapters 11 and 13 from five years to 10 years. Another revision would raise the limit on total debt allowed for farmers filing petitions for Chapter 13 bankruptcy to \$1 million. Currently, a farmer cannot have secured debts exceeding \$350,000 and unsecured debts exceeding \$100,000 and qualify under Chapter 13 guidelines. These revisions will streamline the bankruptcy process for some financially stressed farmers,

but they do not address the policy question of how the resulting financial losses should be distributed between private sector lenders and the public sector, or which private sector lenders should absorb the majority of the loss.

Partial and total farm liquidations potentially trigger significant tax liabilities under current tax policy. Rapid liquidation of farm assets usually leads to large tax liabilities due to long-term capital gains, recapture of investment credit, recapture of depreciation, gain from forgiven debts, or the alternative minimum tax. As an example, a farmer who turns an asset over to a lender in return for debt forgiveness (conveyance) will be taxed as if the arrangement were a sale. The federal government's approach in this case is inconsistent. While bankruptcy is discouraged, the tax law penalizes liquidating farmers for pursuing other methods.

### Conclusions

Farm financial stress continues to be a serious problem for highly leveraged farm operators in North Dakota, Minnesota, Montana, and South Dakota. Recent survey data indicate that between one-fifth and one-third of all farm operators in the four-state region are experiencing moderate-to-severe financial difficulties. The indicators of farm financial stress are declining repayment capacity, increasing loan delinquency, widespread cash flow shortages, and rising farm liquidations. High debt loads and declining asset values in the early 1980s are reducing the financial strength of farm businesses. The result is deteriorating credit quality and adoption of cautious lending practices by farm lenders.

Farm credit institutions have been forced to respond to both the farm recession and the gradual deregulation of interest rates in the general economy. Higher costs of funds have been passed on to farm borrowers who were generally illiquid and ill-prepared to deal with higher debt service cash requirements. Lack of borrower liquidity has led to increased incidence of loan delinquency, default, and asset liquidation. Increased demand for loan extensions, yet relatively low (but increasing) farm liquidation percentages, indicate that farm lenders in the region are taking a "wait-and-see" approach in many cases. Lenders and farm borrowers are using various methods for rescheduling or deferring debt repayment in an effort to buy additional time to work out difficult financial situations.

The most effective option for dealing directly with the financial problem is restructuring assets and liabilities of the farm business. Through liquidation, financially stressed farm operators reduce the cash flow drain required to service debt and eventually restore liquidity to the farm business. The "price" paid in this adjustment process is the reduction of asset values and resulting dissipation of owner equity. The adjustment process is difficult, but necessary. Existing federal tax and bankruptcy laws, and state laws prohibiting lending institutions from holding farm real estate long term act as impediments to this adjustment. Additionally, institutions are lacking which can channel outside equity capital funds into agriculture to recapitalize financially-stressed farm businesses.

APPENDIX

APPENDIX TABLE 1. FARMERS HOME ADMINISTRATION FARMER PROGRAM BORROWERS, FISCAL 1983 AND 1984

	Minnesota		Montana		North Dakota		South Dakota	
	1983 (#)	1984 (#)	1983 (#)	1984 (#)	1983 (#)	1984 (#)	1983 (#)	1984 (#)
Active FmHA farmer borrowers:	9,871	10,583	3,022	3,067	8,729	8,918	12,807	12,477
Behind in scheduled payments	2,767	3,378	887	1,159	2,637	2,636	1,879	2,394
Requiring loan rescheduling	882	1,286	338	181	679	1,887	2,812	2,622
Requiring loan deferral	147	260	12	22	82	155	86	23
Filed bankruptcy	116	128	14	11	60	61	99	132
Total FmHA borrowers who quit farming due to financial difficulties	230	268	44	51	88	108	217	234
Form of discontinuation:								
Bankruptcy	30	34	2	3	8	18	19	15
FmHA foreclosure	1	2	3	2	1	0	18	11
Other foreclosure	31	36	4	6	5	13	7	5
Voluntary Conveyance	47	70	9	6	20	22	30	46
Transfer/assumption of others	25	16	12	16	15	11	30	29
Sale (other than foreclosure)	96	110	14	18	39	44	113	128

<sup>a</sup>Percent of total active FmHA farmer borrowers.

<sup>b</sup>Percent of FmHA borrowers who discontinued farming due to financial difficulties.

SOURCE: USDA, Farmers Home Administration, 1983 and 1984.

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