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Financing North Dakota's Agriculture

Gary W. Rourke
Cole R. Gustafson
Dale H. Beyer

Department of Agricultural Economics
Agricultural Experiment Station
North Dakota State University
Fargo, ND 58105

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FINANCING NORTH DAKOTA'S AGRICULTURE

Gary W. Rourke, Cole R. Gustafson, and Dale H. Beyer*

This report describes agricultural financial markets in North Dakota. Currently, these markets are in the midst of significant change. Impetus for the change includes more export-oriented farm legislation, tax reform, tight monetary policy, and deregulation of financial markets. These changes have altered the farm decision environment. At the present, farmers are rebounding from the worst financial crisis since the Great Depression of the 1930s.

In order to cope in this new environment, many farmers and their lenders are reorganizing their businesses, eliminating unprofitable enterprises, cutting costs, reducing investment, and restructuring debt. Consolidation of businesses increases as existing firms acquire assets of those that fail. All of these changes impact the future efficiency of agricultural financial markets.

The report consists of three sections. The first section summarizes North Dakota farmers' use of debt capital. It reports the type of debt held by farmers in North Dakota, purposes for which farmers have used debt, and likelihood of repayment. The second section describes lenders that have extended credit to North Dakota farmers. Market share, operating practices, and source of funds for each lender are reported. The final section reviews various public programs of agricultural credit that are available to farmers in the state.

Use of Debt Capital By North Dakota Farmers

This section details the financing of farms in North Dakota and is divided into four parts. The first part identifies different levels of debt held by North Dakota farmers. The second part describes assets held by these farmers. The third part compares equity ratios for the years of 1976 to 1985. Profitability of farms in North Dakota and likelihood of debt repayment are discussed in the last part.

Debt Held By North Dakota Farmers

Total farm liabilities or debt held by farmers in North Dakota rose from $1.9 billion in 1976 to a high of $5.6 billion in 1985 (Table 1). Total debt increased each year until 1983. It fell slightly in 1984 and rose again in 1985 due to increased CCC loans. Total farm debt consists of real estate debt, nonreal estate debt, and Commodity Credit Corporation (CCC) loans.

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*Rourke is a graduate research assistant, Beyer was formerly a student, and Gustafson is assistant professor, Department of Agricultural Economics, North Dakota State University, Fargo.

TABLE 1. ASSETS AND LIABILITIES OF NORTH DAKOTA FARMS, DECEMBER 31[a], 1976 TO 1985

Year	1976	1977	1978	1979	1980
Number of farms	0 1,000	41,000	40,500	40,000	38,500
Assets	---------- million dollars ----------				
Total farm assets	14,646	16,155	19,311	22,211	23,373
Real estate[b]	10,670	11,660	13,700	15,799	17,107
Livestock and poultry[c]	494	534	967	1,114	981
Machinery & motor vehicles[d]	1,974	2,302	2,583	2,951	2,999
Crops[e]	992	1,083	1,344	1,529	1,412
Financial assets	517	577	716	818	874
Liabilities					
Total farm debt	1,985	2,368	3,094	3,714	4,076
Real estate debt[f]	856	987	1,256	1,544	1,925
Nonreal estate debt[g]	1,011	1,099	1,409	1,804	1,883
CCC loans[h]	118	282	429	366	268
Equity	12,662	13,787	16,217	18,496	19,298
Ratios	---------- ratio ----------				
Equity/assets	86	85	84	83	83
Debt/equity	16	17	19	20	21
Debt/assets, total	14	15	16	17	17
Debt/assets, real estate	8	9	9	10	11
Debt/assets, nonreal estate and CCC	28	31	33	34	34
Returns to operator/total debt	5	21	11	4	0

See footnotes at end of table.

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TABLE 1. ASSETS AND LIABILITIES OF NORTH DAKOTA FARMS, DECEMBER 31[a], 1976 TO 1985 (CONTINUED)

Year	1981	1982	1983	1984	1985
Number of farms	38,500	37,000	36,500	35,500	34,000
Assets	---------- million dollars ----------				
Total farm assets	24,389	24,189	23,937	20,806	19,164
Real estate[b]	17,732	17,117	17,126	14,051	12,349
Livestock and poultry[c]	893	892	910	883	823
Machinery & motor vehicles[d]	3,164	3,231	3,126	2,888	2,796
Crops[e]	1,624	1,814	1,560	1,564	1,821
Financial assets	977	1,135	1,214	1,420	1,376
Liabilities					
Total farm debt	4,592	5,392	5,535	5,486	5,563
Real estate debt[f]	2,036	2,167	2,276	2,291	2,221
Nonreal estate debt[g]	2,080	2,274	2,310	2,294	2,097
CCC loans[h]	476	951	949	902	1,245
Equity	19,797	18,797	18,402	15,320	13,601
Ratios	---------- ratio ----------				
Equity/assets	81	78	77	74	71
Debt/equity	23	29	30	36	41
Debt/assets, total	19	22	23	26	29
Debt/assets, real estate	12	13	13	16	18
Debt/assets, nonreal estate and CCC	38	46	48	47	49
Returns to operator/total debt[i]	4	6	4	11	11

[a]Data are for farms with sales of $1,000 or more annually.
[b]Excludes value of operator dwellings.
[c]Excludes horses, mules, and broilers.
[d]Includes only farm share value for trucks and autos.
[e]All crops held on farms including crops under CCC and crops held off farms by operators.
[f]Excludes debt on operator dwellings.
[g]Excludes debt for nonfarm purposes.
[h]Nonrecourse CCC loans secured by crops, and storage and drying facilities owned by farmers.
[i]Total debt in this ratio is an average for the year.

SOURCE: USDA(1986b), Economic Indicators of the Farm Sector: State Income and Balance Sheet Statistics.

Real estate debt rose from $0.9 million in 1976 to $2.3 million in 1984, a 268 percent increase. After adjusting for inflation over this period, real estate debt increased more than 151 percent. Acquisition of too much debt during the 1970s and early 1980s is currently burdening some of the state's farmers. These farmers, expecting continual prosperity or inflation in the agricultural sector, expanded the size of their farm operations with debt capital. In the current environment of high real interest rates and low commodity prices, they are having difficulty repaying this debt.

As a percentage of total debt, real estate debt fell from a 47.2 percent share in 1980 to 39.9 percent in 1985. Over the past decade, real estate's share of total debt has remained near constant. The level of real estate debt as a percentage of total debt among North Dakota farmers is substantially lower than the national average. In 1984 real estate debt accounted for 51 percent of all debt held by farmers nationally.

The share of nonreal estate debt in the portfolios of North Dakota farmers has steadily declined from a high of 50.9 percent of total debt in 1976 to 37.7 percent in 1985. In nominal dollars, nonreal estate debt reached a peak of $2.3 billion in 1983 and declined to $2.1 billion in 1985.

Declines in real estate and nonreal estate debt since 1981 have been offset by rapid increases in CCC loans. CCC loans are nonrecourse loans provided by the federal government to aid farmers in marketing their commodities. CCC loans increased from 5.9 percent of total debt in 1976 to 22.4 percent in 1985. These loans totaled $1.2 billion in 1985 for North Dakota.

Although they are intended for marketing purposes, CCC loans have been an important source of financing to farmers facing cash flow difficulties. CCC loans provide immediate cash to farmers at harvest time. Farmers can use these funds to either pay existing nonreal estate debt incurred for operating purposes or purchase inputs for the next production period.

Assets Held By North Dakota Farmers

From 1976 to 1985 the number of North Dakota farms declined 17 percent from 41,000 to 34,000 farms. Part of the decrease can be attributed to the farm financial crisis, while the remainder reflects the ongoing migration to urban areas and farmer retirement.

A majority of North Dakota farms are located in the eastern part of the state, as shown in Figure 1. Farmland in the western portion of the state is less productive; hence, large farm and ranch sites are required to financially support a farm family.

Value of assets held by North Dakota farmers in 1976 and 1985 is quite similar. However, asset values have varied considerably within the decade. From 1976 to 1981 farm assets went from $14.6 billion to $24.4 billion. Since then farm asset values have dropped. Total farm assets in 1985 fell to $19.2

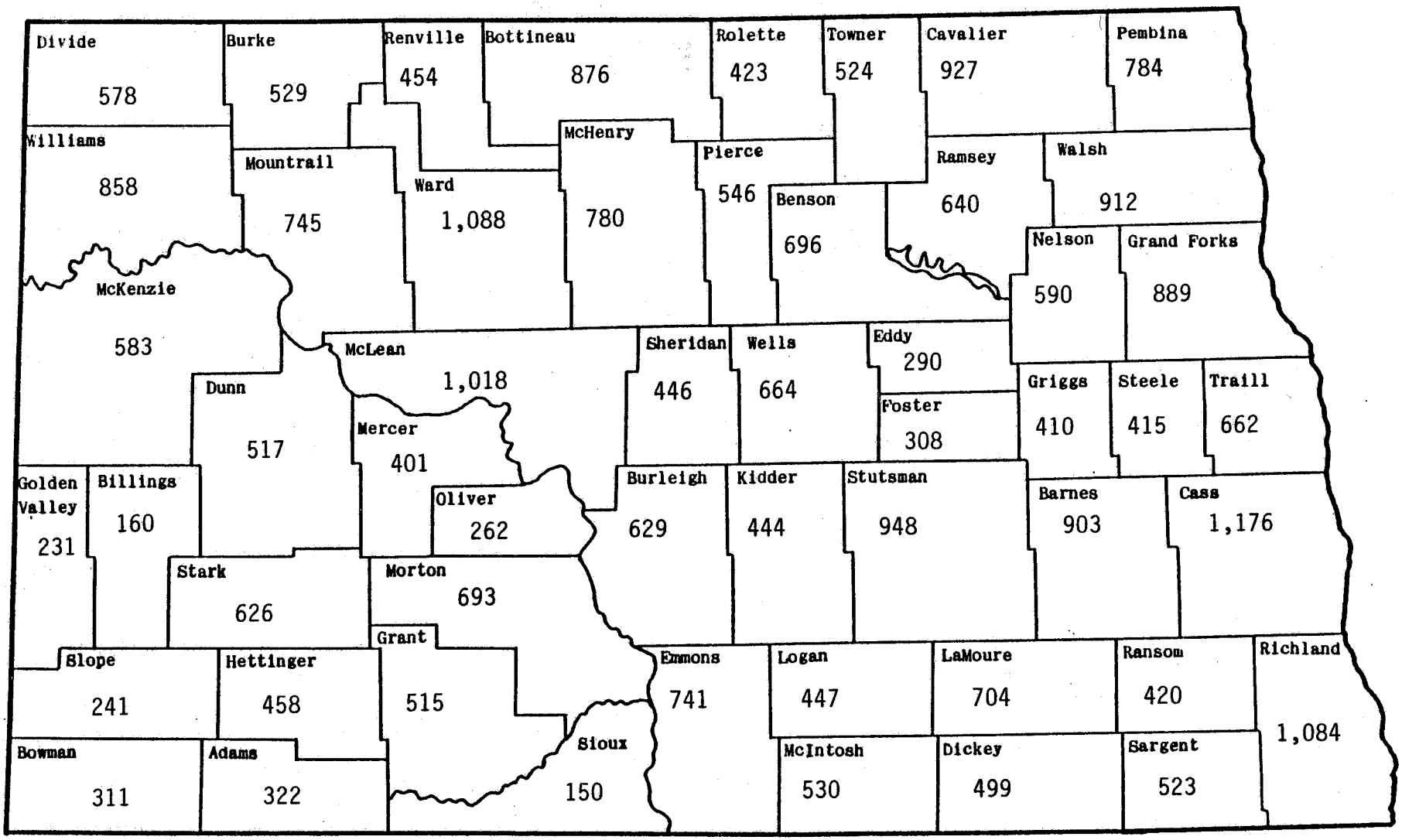

Figure 1. Number of Farms Per County, 1982

billion. In percentage terms, the value of all farm assets fell 21 percent from their 1981 highs.

Real estate has always comprised the largest percentage of total farm assets. Real estate ranged from a high of 72.7 percent in 1981 to a low of 64.4 percent in 1985. Overall, from 1976 to 1985 real estate values increased from $10.6 billion to $12.3 billion.

The amount of agricultural land in North Dakota did not change appreciably from 1972 to 1985 (Table 2). Acreage of farm land in North Dakota was 41.8 million acres during 1972. In 1985 farm acreage was slightly reduced to 40.9 million acres. Therefore, as the number of farms was declining, average farm size was increasing. In 1985 the average farm size in North Dakota was 1,203 acres (nearly three times the national average). From 1972 to 1985 average farm size increased by 253 acres or nearly 27 percent. These trends follow those occurring elsewhere in the nation.

Livestock, machinery, crop inventories, and financial assets constitute the remaining assets held by North Dakota farmers. These assets have remained in fairly constant proportions since 1976. Value of livestock and poultry in the state equals 3 to 5 percent of total assets. Machinery and motor vehicle assets (farm share only) totaled $2.8 billion, down slightly from earlier levels. Crop inventories have ranged from a low of 6 percent in 1981 to high of 9.5 percent in 1985. Financial assets (bonds, savings, etc.)

TABLE 2. NUMBER OF FARMS, LAND IN FARMS, AVERAGE SIZE AND VALUE, 1972 TO 1986

	North Dakota		United States		
Year	All Land in Farms	Average Size of Farms	Number of Farms	All Land in Farms	Average Size of Farms
	-1,000 acres-	-acres-	-number-	-1,000 acres-	-acres-
1972	41,800	950	2,869,710	1,093,017	381
1973	41,800	961	2,843,890	1,089,530	383
1974	41,700	970	2,820,570	1,086,937	385
1975	42,300	1,007	2,521,420	1,059,420	420
1976	42,000	1,012	2,497,270	1,054,075	422
1977	41,800	1,020	2,455,830	1,047,785	427
1978	41,700	1,017	2,436,250	1,044,790	429
1979	41,700	1,030	2,432,300	1,042,015	428
1980	41,700	1,043	2,432,510	1,038,885	427
1981	41,300	1,073	2,433,920	1,034,190	425
1982	41,000	1,108	2,400,550	1,027,795	428
1983	41,000	1,123	2,370,200	1,024,195	432
1984	41,000	1,155	2,328,400	1,019,378	438
1985	40,900	1,203	2,284,630	1,015,583	445

SOURCE: USDA, (1986).

have trended from 3.5 percent of total assets in 1976 to 7.2 percent in 1985, still a minor portion of total assets.

Financial Leverage of North Dakota Farmers

Financial ratios are a useful means of relating levels of debts to levels of assets when each changes in magnitude over time. When debt-to-asset ratios rise, financial leverage and returns to equity increase. However, risk also increases because contractual obligations associated with interest and principal payments are fixed while incomes remain variable. Table 1 provides three debt-to-asset ratios: total debt to assets, nonreal estate and CCC debt to nonreal estate assets, and real estate debt to real estate assets. These ratios increased during the past decade. This indicates farmers increased financial leverage in part because asset values were declining in the 1980s.

Nonreal estate leverage was far greater than real estate leverage in all years. This ratio was 28.4 percent in 1976, increasing to 49 percent by 1985. As noted in an earlier section, this increase was due to greater CCC financing because nonreal estate debt actually dropped over the period.

Real estate leverage doubled during the past decade, rising from 8 to 18 percent. The ratio increased steadily over the period although it rose more rapidly at the end as land values began to deteriorate in response to the financial stress in the agricultural sector.

Since nonreal estate exceeds real estate leverage, some North Dakota farmers could refinance some of their intermediate debt with longer-term financing. Interest rates on real estate debt are generally lower than corresponding rates on nonreal estate debt. In addition, real estate loans are amortized over longer periods of time, which reduces cash flow pressures.

Profitability of North Dakota Farmers

The main source of funds available to farmers in North Dakota for purposes of debt repayment is in the form of net income from current farm operations. This subsection begins with a description of gross farm income and its components and then details expenses associated with producing income. Finally, a discussion of net farm income and off-farm income is presented.

Gross Farm Income

Gross farm income of North Dakota farmers consists of cash receipts from farm marketings, government payments, nonmoney income (patronage dividends), and other farm income. Farm marketings of crop and livestock products in 1985 were valued at $2.7 billion, comprising 83 percent of total farm income (Table 3). In 1974 cash receipts from farm marketings were $2.4 billion or 95 percent of the total farm income.

TABLE 3. FARM INCOME OF NORTH DAKOTA FARMERS, 1976 TO 1985

Item	1976	1977	1978	1979	1980
	million dollars				
Gross farm income[a]	1,911	1,777	2,464	2,681	2,319
Cash income	1,799	1,769	2,163	2,402	2,742
Farm marketings	1,749	1,624	1,864	2,332	2,603
Crops	1,269	1,149	1,343	1,638	1,830
Livestock and products	480	474	521	694	773
Government payments	23	123	278	47	117
Other farm income	27	23	22	24	22
Machine hire/custom work	16	17	15	18	16
Other farm-related income[b]	11	5	6	6	7
Noncash income	107	120	137	155	176
Value of home consumption	14	13	23	23	22
Rental value of dwellings	93	107	114	132	154
Operators' dwellings	91	105	112	130	152
Hired laborers' dwellings	3	2	2	2	2
Value of inventory adjustment	5	-111	164	124	-599
Total production expenses[a]	1,552	1,601	1,862	2,180	2,487
Intermediate product expenses	706	730	836	1,020	1,149
Farm origin	134	140	140	183	197
Feed	59	53	62	85	90
Livestock	14	22	25	32	27
Seed	62	65	54	66	80
Manufactured inputs	302	314	350	431	563
Fertilizer and lime	133	139	150	172	223
Pesticides	45	44	65	86	91
Fuel and oil	113	116	115	152	226
Electricity	11	15	20	21	22
Other	270	276	346	406	389
Repair and operation	147	153	168	182	185
Other miscellaneous[c]	122	123	177	225	204
Interest	156	183	228	317	420
Real estate	63	76	89	114	154
Nonreal estate	93	107	139	203	266
Contract and hired labor expenses	83	76	84	88	88
Cash labor expenses[d]	75	69	77	80	80
Perquisites	8	7	7	8	8
Net rent to nonoperator landlords[e]	154	152	203	236	187
Capital consumption	390	391	439	445	563
Business taxes	64	70	72	75	81
NET FARM INCOME	359	176	602	501	-168
Off-farm income[f]	284	262	279	297	305

See footnotes at end of table.

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TABLE 3. FARM INCOME OF NORTH DAKOTA FARMERS, 1976 TO 1985 (CONTINUED)

Item	1981	1982	1983	1984	1985
	million dollars				
Gross farm income[a]	3,021	3,146	3,051	3,471	3,322
Cash income	2,737	2,837	3,319	3,024	3,265
Farm marketings	2,582	2,610	2,738	2,533	2,746
Crops	1,989	2,004	2,090	1,839	2,060
Livestock and products	592	606	648	693	686
Government payments	131	200	558	463	484
Other farm income	25	27	23	28	35
Machine hire/custom work	17	18	13	15	21
Other farm-related income[b]	8	9	10	13	14
Noncash income	183	197	183	185	153
Value of home consumption	16	14	14	14	13
Rental value of dwellings	167	183	168	171	139
Operators' dwellings	165	181	166	169	137
Hired laborer's dwellings	2	2	2	2	2
Value of inventory adjustment	102	-112	-450	263	-95
Total production expenses[a]	2,795	2,798	2,800	2,834	2,748
Intermediate product expenses	1,205	1,165	1,159	1,153	1,186
Farm origin	200	193	211	218	219
Feed	84	73	90	83	85
Livestock	24	28	35	35	37
Seed	92	92	87	100	98
Manufactured inputs	602	558	526	520	537
Fertilizer and lime	205	159	140	130	161
Pesticides	112	117	114	130	136
Fuel and oil	260	252	240	227	210
Electricity	26	31	32	33	31
Other	403	414	422	416	429
Repair and operation	182	181	181	185	172
Other miscellaneous[c]	221	232	241	231	257
Interest	506	556	556	551	495
Real estate	191	222	234	228	219
Nonreal estate	315	334	322	323	276
Contract and hired labor expenses	81	89	85	86	88
Cash labor expenses[d]	74	81	77	77	80
Perquisites	8	9	8	9	8
Net rent to nonoperator landlords[e]	328	296	297	371	348
Capital consumption	595	606	620	587	538
Business taxes	80	86	83	86	95
NET FARM INCOME	226	348	251	638	574
Off-farm income[f]	315	320	325	333	359

[a]Includes operator households.
[b]Includes forest product sales, recreational income, and other farm business-related income. Estimates for 1982 and later include income from custom feeding services.
[c]Includes machine hire and custom work expenses; marketing, storage, and transportation expenses; and miscellaneous expenses. Definitions and data sources for 1978 and later are not directly compatible with those of earlier years.
[d]Includes contract labor expenses, hired labor wages, and Social Security payments.
[e]Uses different data sources for periods before 1979, 1979-1983, and 1984 and later. Estimates are not directly compatible among periods.
[f]Includes off-farm income for members of farm operators' households only.

SOURCE: USDA (1985b), Economic Indicators of the Farm Sector: State Financial Summary.

This reduction in farm sales was offset by increased government payments. Government payments increased from $31 million in 1974 (1 percent of total farm income) to $483.7 million in 1985 (15 percent of total farm income). Farmers receive government payments when they participate in various government conservation, acreage diversion, and commodity storage programs.

North Dakota farmers have depended on the sale of crops for one-half to two-thirds of their income (Table 4). This figure has varied over time due to fluctuations in prices and the influence of weather on yields. Wheat is the largest source of gross farm income for North Dakota, accounting for up to 50 percent of total farm income.

In 1985 North Dakota ranked first in the United States in the production of durum wheat, spring wheat, barley, flaxseed, and sunflower. Also in 1985, North Dakota was the second largest producer of pinto beans. The state was third in rye and dry edible beans, fourth in sugarbeets, fifth in oats, and sixth in potatoes.

The diversity of crops produced in North Dakota has changed over the years as high-valued specialty crops, such as dry beans, sunflower, and flaxseed, replace traditional cereal crops of wheat, barley, oats, and rye. Sunflower and soybean receipts also have made significant contributions to gross income over the last few years.

Sunflower is a relatively new addition to the list of crops grown in North Dakota and currently ranks third in importance as a source of crop revenue. Sunflower income has risen from $59 million in 1975 to $233 million in 1985. Most of the increase was due to increased production as sunflower acreage expanded from 367 thousand acres in 1975 to 2.03 million in 1985.

Figure 2 shows the sales of crops by county for the year 1982. The level of crop sales varies greatly between the eastern and western parts of the state due to differences in land productivity. Value of crops grown in the eastern part of the state is much higher in value per acre. More livestock is raised in the western part of the state since that part of the state has more grazing land.

An important source of cash income for North Dakota farmers comes from the sale of livestock products. The greatest share of livestock income comes from the sale of cattle and calves. Since 1974, receipts from the sale of cattle and calves have accounted for 70 percent of the total livestock and products income.

In 1985 the sale of milk products at the wholesale level generated $122 million. Milk receipts, as a percentage of total livestock receipts, have ranged from 13 percent in 1974 to a high of 20 percent in 1983. Sales of hogs, turkey, sheep and lambs, and chickens amounted to less than 5 percent of the total livestock and product income.

TABLE 4. NORTH DAKOTA CASH FARM INCOME BY COMMODITIES, 1969 TO 1985

Item	1969	1970	1971	1972	1973
	thousand dollars				
Crops					
Corn	2,888	3,629	4,102	8,249	15,891
Wheat	284,046	312,059	318,578	526,900	1,207,645
Oats	28,725	34,375	28,387	35,559	63,419
Barley	59,263	48,969	64,494	80,395	153,505
Rye	4,129	3,675	5,486	5,387	8,849
Flaxseed	35,117	35,397	32,421	17,459	51,529
Potatoes	21,691	23,664	22,500	24,270	51,925
Hay	4,712	5,954	6,472	7,098	8,670
Soybeans	7,271	6,509	10,233	10,932	15,227
Sugarbeets	18,501	15,622	18,542	16,531	33,127
Dry field peas	118	80	---	---	---
Dry field beans	1,524	2,367	3,082	5,128	16,904
Alfalfa[a]	199	248	208	79	128
Other products	11,213	11,316	17,982	28,927	49,464
Total Crops	479,397	503,864	532,487	766,914	1,676,283
Livestock and products					
Cattle & calves	185,043	192,085	223,956	276,875	353,959
Hogs	22,483	20,980	23,642	28,588	37,890
Sheep & lambs	6,200	6,368	5,691	5,802	7,472
Turkeys	3,908	4,140	4,182	4,437	9,013
Chickens	127	123	127	108	144
Eggs	5,312	3,839	2,789	2,581	4,308
Milk, wholesale	27,267	31,525	33,412	37,853	53,235
Milk, retail	821	809	698	698	744
Milkfat in cream	10,462	8,961	7,186	4,699	3,274
Wool	1,120	1,138	695	1,026	2,295
Other	2,142	2,593	2,582	4,063	4,839
Total Livestock & Products	264,885	272,561	304,960	366,730	477,173
Total Crops & Livestock	744,282	776,425	837,447	1,133,644	2,153,456

[a]Includes sweetclover seed previous to and including 1971.

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TABLE 4. NORTH DAKOTA CASH FARM INCOME BY COMMODITIES 1969 TO 1985 (CONTINUED)

Item	1974	1975	1976	1977	1978
	thousand dollars				
Crops					
Corn	19,364	11,931	11,649	19,378	26,729
Wheat	1,331,533	931,966	748,811	637,925	740,054
Oats	60,153	16,827	20,133	17,505	16,838
Barley	221,509	137,620	153,202	118,002	131,326
Rye	9,888	7,198	5,592	3,885	7,200
Flaxseed	55,972	47,131	29,850	31,939	21,947
Sunflower	---	59,102	66,420	123,043	190,370
Hay	83,625	49,929	56,589	54,986	50,254
Soybeans	13,964	17,579	20,454	14,281	17,206
Sugarbeets	25,900	13,858	12,838	15,842	20,666
Dry field peas	60,449	51,870	39,833	54,782	69,937
Dry field beans	23,239	16,943	15,683	13,296	16,044
Alfalfa seed	119	116	330	266	348
Other products	72,310	14,340	18,490	43,127	34,228
Total Crops	1,978,025	1,376,410	1,199,909	1,148,257	1,343,147
Livestock and products					
Cattle & calves	325,361	329,448	339,272	336,257	372,843
Hogs	37,147	39,780	40,800	33,614	40,023
Sheep & lambs	8,133	6,056	4,190	6,561	7,526
Turkeys	3,960	5,772	4,681	4,944	6,669
Chickens	149	166	146	64	46
Eggs	4,366	3,495	3,330	2,798	2,409
Milk, wholesale	59,760	60,778	73,530	75,680	80,220
Milk, retail	907	725	818	600	856
Milkfat in cream	2,003	1,424	1,137	807	524
Honey & beeswax	3,346	4,362	7,306	6,306	9,782
Wool	1,483	774	1,126	1,224	1,236
Other	1,857	2,133	2,451	3,705	4,728
Total Livestock & Products	448,472	454,913	478,787	472,560	526,862
Total Crops & Livestock	2,426,427	1,831,323	1,678,696	1,620,817	1,870,009

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TABLE 4. NORTH DAKOTA CASH FARM INCOME BY COMMODITIES 1969 TO 1985 (CONTINUED)

Item	1979	1980	1981	1982	1983
	thousand dollars				
Crops					
Corn	24,043	34,882	47,164	60,802	61,280
Wheat	893,147	1,005,083	1,042,949	1,184,747	1,051,171
Oats	12,087	10,568	19,137	18,734	22,641
Barley	137,980	105,488	187,347	134,310	208,858
Rye	6,607	3,399	4,742	5,329	7,446
Flaxseed	27,434	28,435	30,482	27,422	30,556
Sunflower	314,534	337,648	314,973	301,343	415,320
Potatoes	45,909	71,805	93,967	60,006	74,130
Hay	20,015	26,918	27,811	18,765	13,105
Soybeans	31,956	29,693	30,163	47,219	60,915
Sugarbeets	78,566	93,387	55,247	88,393	85,102
Dry beans	25,775	66,493	101,919	31,356	34,149
Other crops	18,093	21,532	35,857	20,960	25,387
Total Crops	1,637,146	1,835,331	1,991,758	1,999,386	2,090,060
Livestock and products					
Cattle & calves	526,130	592,645	400,586	398,105	436,379
Hogs	39,801	37,989	35,785	40,680	32,472
Sheep & lambs	5,338	6,021	6,856	7,848	6,790
Turkeys	6,536	7,952	7,069	6,529	4,524
Chickens, farm	67	134	138	116	118
Eggs	3,193	2,280	2,665	2,960	4,991
Milk, wholesale	91,300	106,672	120,960	123,125	131,875
Wool	1,397	1,671	1,600	1,122	972
Other livestock	19,156	18,110	22,344	25,774	29,469
Total Livestock & Products	693,885	773,474	598,003	606,259	647,590
Total Crops & Livestock	2,331,031	2,608,805	2,589,761	2,605,645	2,737,650

- CONTINUED -

TABLE 4. NORTH DAKOTA CASH FARM INCOME BY COMMODITIES 1969 TO 1985 (CONTINUED)

Item	1984	1985
	------- thousand dollars -------	
Crops		
Corn	67,214	74,971
Wheat	872,381	1,056,342
Oats	21,565	15,118
Barley	245,998	299,105
Rye	9,329	5,664
Flaxseed	24,788	27,672
Sunflower	272,163	233,240
Potatoes	59,098	71,591
Hay	17,046	17,680
Soybeans	109,821	86,192
Sugarbeets	85,433	85,433
Dry beans	25,356	54,248
Other crops	28,891	32,627
Total Crops	1,839,083	2,059,883
Livestock and products		
Cattle & calves	480,521	479,238
Hogs	34,887	34,475
Sheep & lambs	8,385	10,834
Turkeys	7,503	8,952
Chickens, farm	148	160
Eggs	6,270	4,130
Milk, wholesale	124,845	122,094
Wool	1,155	937
Other livestock	29,674	25,246
Total Livestock & Products	693,387	686,066
Total Crops & Livestock	2,532,470	2,745,949

SOURCE: USDA (1986).

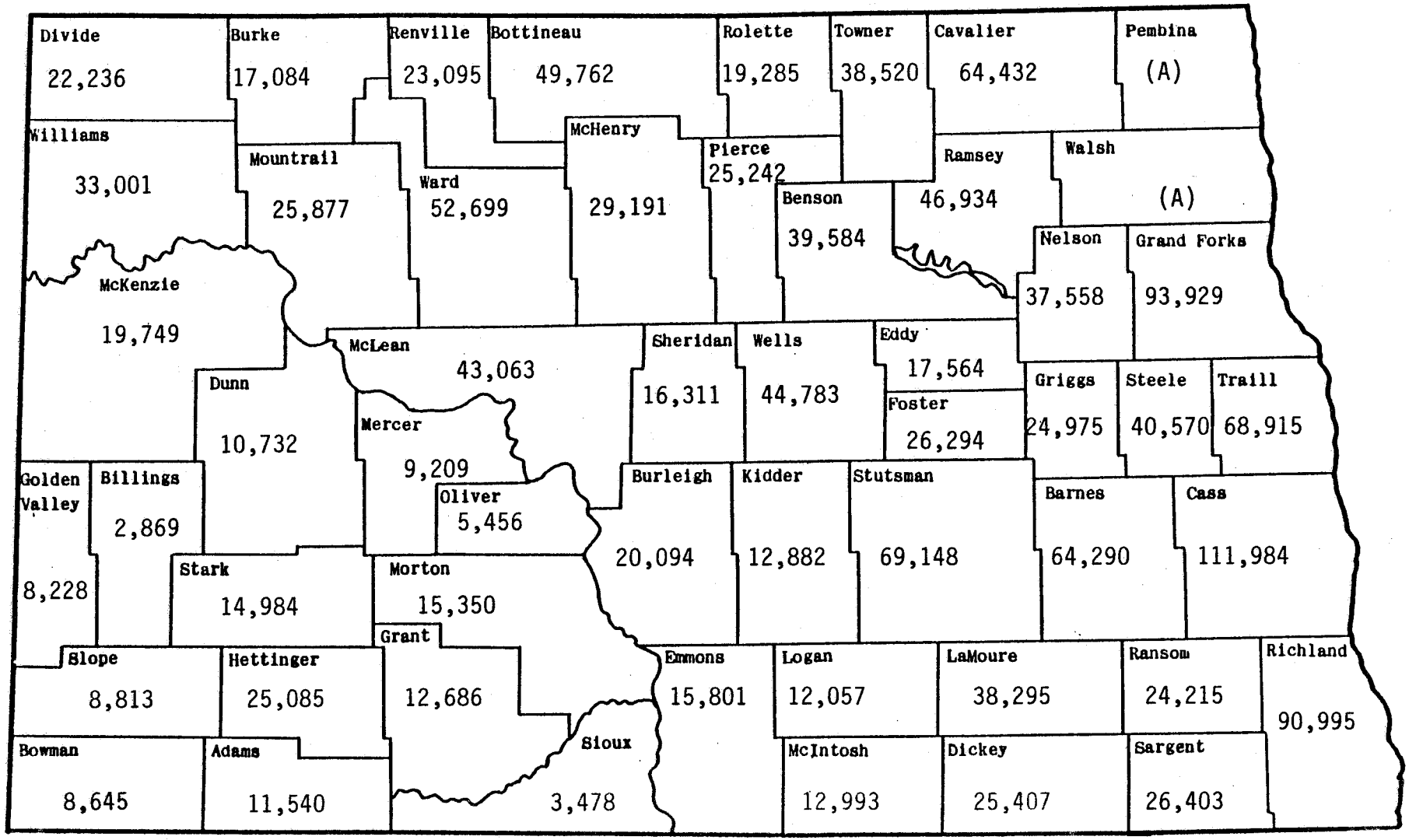

Figure 2. Sales By County 1982 ($000)

Note: Sales include all crops, nursery, and greenhouse products.
(A) withheld to avoid disclosing data for individual farms.

Production Expenses

Increasing production expenses have partially offset rises in gross farm income during the past decade. These expenses rose from $1.5 billion in 1976 to $2.7 billion in 1985. There are two types of intermediate production expenses: (1) farm origin, which consists of feed, livestock, and seed; and (2) manufactured inputs, such as fertilizer, lime, pesticides, fuel, oil, and electricity. The relative shares of farm origin and manufactured inputs have remained nearly constant over time at 8 and 20 percent of total expenses, respectively. In 1976 farm origin expenses were $134 million, rising to $219 million by 1985. During the same period, manufactured inputs increased from $302 million to $537 million.

Interest is a large part of production expenses. In 1985 farmers paid $495 million in interest on real and nonreal estate debt. The average interest rate on real estate debt was 11.4 percent, while the average rate on nonreal estate debt was higher at 14.7 percent.

Another significant production expense is capital consumption. Capital consumption is the amount of funds farmers in North Dakota have to set aside to replace machinery and equipment that is used during a production year. In 1976 capital consumption was $390 million, 25 percent of total production expenses. Due to rising machinery prices, more mechanization and larger farm sizes, capital consumption increased to $538 million by 1985.

Net Farm and Off-Farm Income

Net farm income is defined as the difference between income and expenses. During the last decade net farm income has been highly variable. The highest level occurred in 1984 at $638 million, while the lowest level occurred in 1980 when farmers lost $168 million. Farmers netted $574 million in 1985.

Even though North Dakota is a rural state, farmers do generate substantial levels of off-farm income. In 1985 North Dakota farmers earned $359 million in off-farm work. As opposed to net farm income, off-farm income has been steadily increasing over time.

Financial Institutions Serving North Dakota Farmers

Agricultural lenders provide a unique service to North Dakota farmers--financial intermediation. Their purpose is to mobilize available funds from the multitude of individual sources throughout the country and channel or distribute them to farmers who want to use the credit. To do so, lenders must arbitrage between the diverse demands of savers and borrowers.

Savers demand high rates of return, liquidity, and a low possibility of default. Borrowers, on the other hand, want the financial institution to assume a portion of their firm's risk and to supply credit at low cost and for long periods of time. In addition, savers like to invest small quantities of

funds frequently, whereas borrowers want large quantities of funds infrequently. Without financial intermediation, savers and borrowers would have to search out each other individually. Large farm borrowers would have to borrow directly from many individual savers in order to acquire the funds they need.

Since financial institutions deal with large number of savers and borrowers, they are able to specialize and pool funds from available sources to meet the diverse needs of borrowers. When the supply of funds is fully adequate to meet demands, lenders compete for loans by reducing interest rates and related costs. When the supply of funds is tight (lenders do not have enough funds to meet all demands), lenders raise interest rates and loan requirements. These actions serve as a means of rationing available funds to those farmers with the highest demands. Through this process of financial intermediation, the supply and demand of loanable funds is always equal with the interest rate as the equilibrating factor.

Extending credit to farmers in North Dakota is only one of the functions of an agricultural lender. In addition to servicing debt, they provide a wide array of financial services including insurance, tax preparation, leasing, and estate planning.

Financial institutions, like the farmers they serve, have developed over time. Prior to World War I, farmers' short-term financing needs were met primarily by merchants and dealers. Long-term mortgages were of short duration (three to five years), high cost, and not amortized. Hence, these loans often involved large lump-sum or balloon payments when the loan matured. Renewals of these loans were possible, but not automatic. Therefore, farmers faced great credit uncertainty.

Lenders extending credit to agriculture fall into groups, depending upon the type of institution involved. Five types of lenders discussed in this section are (1) the Farm Credit System (FCS); (2) commercial banks; (3) the Farmers Home Administration (FmHA) and other government lenders; (4) life insurance companies; and (5) merchants, dealers, and others. Total volume of agricultural debt in North Dakota has risen from $1.5 billion in 1974 to $5.8 billion in 1985 (Table 5). In 1985 FCS, FmHA, commercial banks, and CCC all had agricultural loan portfolios exceeding $1.0 billion.

More than 30 percent of North Dakota's total farm debt is held by FCS. Its share trended upwards until it exceeded $2.0 billion in 1980. Since then it has declined. Commercial banks have seen a decline in their total from a high of 32 percent in 1975 to 18 percent at the present.

The share of individuals and others also has declined from a high of 24 percent in 1974 to 12 percent in 1985. Life insurance companies' share of agricultural debt has remained fairly constant over the past decade. The only lenders that have increased their market share have been public lenders: Farmers Home Administration (FmHA) and Commodity Credit Corporation (CCC). CCC's market share rose to 21 percent in 1985.

TABLE 5. TOTAL FARM DEBT BY LENDER, NORTH DAKOTA, JANUARY 1, 1974 TO 1985

Year	FCS		FmHA		Banks		Individual		Life Ins.		CCC		Total
	$[a]	%	$[a]	%	$[a]	%	$[a]	%	$[a]	%	$[a]	%	$[a]
1974	455	30	206	14	472	31	365	24	21	1	6	--	1,519
1975	556	30	231	13	588	32	425	23	21	1	10	--	1,831
1976	691	31	246	11	659	30	475	21	24	1	119	5	2,213
1977	814	30	336	13	644	24	552	21	45	2	282	11	2,673
1978	942	29	472	14	737	23	615	19	60	2	429	13	3,256
1979	1,272	33	592	15	883	23	729	19	67	2	366	9	3,910
1980	1,511	37	683	17	815	20	772	19	68	2	268	7	4,119
1981	1,767	37	830	17	847	18	844	17	67	1	476	10	4,831
1982	1,949	35	839	15	963	17	885	16	59	1	951	17	5,645
1983	2,009	35	853	15	1,039	18	881	15	62	1	949	16	5,793
1984	1,996	35	911	16	1,060	18	819	14	58	1	902	16	5,747
1985	1,762	30	1,006	17	1,022	18	725	12	56	1	1,245	21	5,816

[a]Millions of dollars.

SOURCE: USDA (1985b), Economic Indicators of the Farm Sectors: State Financial Summary

When debt is classified as real estate and nonreal estate debt, market shares do not change. In terms of real estate debt, FCS continues to hold the largest share, 55 percent in 1985 (Table 6). FCS has maintained this share since 1980. Individuals and others rank second with 21 percent. This is down from 35 percent in 1974. The shares of FmHA and commercial banks have not changed significantly during the past decade.

The most significant growth in nonreal estate debt has occurred for FmHA and CCC lending (Table 7). FmHA's share has risen from 5 percent in 1974 to 20 percent in 1981. CCC has made even greater gains--from 6 percent in 1974 to 36 percent in 1985. In 1985 its loan portfolio exceeded $1.0 billion--surpassing commercial banks. Historically, commercial banks held the largest portion of nonreal estate agricultural debt in North Dakota.

Farm Credit System

The Farm Credit System (FCS) is a member-owned cooperative, organized to provide credit and related services to farmers, ranchers, and related businesses. FCS is controlled by member borrowers and their elected representatives and directors. FCS operates under the supervision of the Farm Credit Administration (FCA), an independent regulator. FCS is a national cooperative consisting of 12 districts. North Dakota together with Michigan, Minnesota, and Wisconsin comprise the St. Paul District.

TABLE 6. REAL ESTATE DEBT BY LENDER, NORTH DAKOTA, JANUARY 1, 1974 TO 1985

Year	FCS		FmHA		Life Ins.		All Operating Banks		Individuals and Others		Total
	$[a]	%	$[a]	%	$[a]	%	$[a]	%	$[a]	%	$[a]
1974	249	33	169	22	21	3	60	8	267	35	765
1975	297	35	175	20	21	3	65	8	296	35	854
1976	384	39	180	18	24	2	72	7	327	33	986
1977	497	42	186	16	45	4	68	6	374	32	1,170
1978	579	43	182	14	60	5	90	7	420	32	1,332
1979	721	44	249	15	67	4	93	6	501	31	1,631
1980	931	50	263	14	68	4	65	3	542	30	1,870
1981	1,156	54	285	13	67	3	62	3	571	27	2,142
1982	1,270	56	307	13	59	3	68	3	575	25	2,279
1983	1,342	56	327	14	62	3	80	3	580	24	2,392
1984	1,358	56	353	15	58	2	100	4	537	22	2,406
1985	1,273	55	386	17	56	2	128	5	488	21	2,331

[a]Millions of dollars.

SOURCE: USDA (1985b), Economic Indicators of the Farm Sectors: State Financial Summary.

FCS obtains most of their loan funds from the sale of Federal Farm Credit Banks Consolidated Systemwide Bonds in national financial markets. The term of bonds varies with the needs of the system and the current structure of interest rates. When systemwide bonds have a maturity of no more than nine months, they carry a stated rate of interest and are sold at par. At maturity, principal is paid with accrued interest. Longer-term bonds have a stated interest to be paid on specified dates and are sold at par. During intervening bond issues, FCS also may borrow directly from commercial banks and other private lenders.

The equity capital of the system comes from the sale of system stock that each new borrower is required to purchase. Each stockholder has only one vote in the affairs of the local association, regardless of how much stock is owned.

FCS is charged with making long- and short-term loans to farmers, ranchers, and other rural residents in cities with populations less than 2,500. Table 8 shows what purposes borrowers from across the nation have used short-term financing. These loans may carry either variable or fixed interest rates depending on the preferences of the customer.

TABLE 7. NONREAL ESTATE DEBT BY LENDER, NORTH DAKOTA, JANUARY 1, 1974 TO 1985

Year	FCS		FmHA		Commercial Banks		Individuals and Others		CCC		Total
	$[a]	%	$[a]	%	$[a]	%	$[a]	%	$[a]	%	$[a]
1974	206	27	37	5	412	54	98	13	6	1	754
1975	259	27	56	6	523	54	129	13	10	1	977
1976	307	25	66	5	587	48	148	12	119	10	1,227
1977	317	21	150	10	576	38	178	12	282	19	1,503
1978	363	19	290	15	647	34	195	10	429	22	1,924
1979	551	24	343	15	790	35	228	10	366	16	2,279
1980	580	26	420	19	750	33	230	10	268	12	2,249
1981	611	23	545	20	785	29	273	10	476	18	2,689
1982	679	20	532	16	895	27	310	9	951	28	3,366
1983	667	20	526	15	959	28	301	9	949	28	3,401
1984	638	19	558	17	960	29	282	8	902	27	3,341
1985	489	14	620	18	894	26	237	7	1,245	36	3,485

[a]Millions of dollars.

SOURCE: USDA (1985b), Economic Indicators of the Farm Sectors: State Financial Summary.

Interest rates on FCS loans were generally lower than those of competing lenders during the 1970s and early 1980s. This was primarily due to their loan pricing practices as well as the system's quasi-government status and general efficiency. Instead of charging borrowers the cost of additional funds (marginal cost pricing), FCS banks base their charges on the average interest rate of all outstanding bonds (average cost pricing).

In recent periods of decreasing interest rates, FCS loan rates have trailed those of other lenders. To compete, FCS has adopted policies of marginal cost and multi-tiered pricing whereby its most credit worthy customers receive preferential interest rates.

FCS, as well as other agricultural lenders in North Dakota, face considerable economic stress at present. Since all of its loans are made directly to farmers, FCS has had to make significant adjustments to the depressed agricultural credit environment. The system nationwide continues to be plagued with a record level of nonperforming loans ($12.9 billion as of December 31, 1986) and the need for large provisions for loan losses to cover future write-offs. As a result, FCS experienced its second consecutive year of negative earnings and is rapidly approaching the need for further cost-cutting measures to remain solvent.

TABLE 8. PURPOSE OF PRODUCTION CREDIT ASSOCIATION LOANS

Purpose of The Loan	Percent of Total
Custom service	0.6
Operating-living	38.5
FLB installment	1.0
Other mortgage installment	2.1
Buy poultry	0.9
Buy custom-fed cattle	6.0
Buy farm feeder cattle	12.7
Buy cattle feed	5.8
Buy feeder pigs	0.4
Buy other livestock	5.2
Machinery, equipment	7.4
Improve, repair	3.8
Buy real estate	2.1
Refinance with PCA	8.5
Stock, other purposes	5.0
Total	100.0

SOURCE: Farm Credit Administration (1972).

To deal with this stress, FCS has undergone major reorganization and developed a number of innovative programs. The FCS district that includes North Dakota has been the most aggressive district in terms of reorganization. The district has centralized its management and organizational structure. There are now four regional offices in North Dakota located at Fargo, Grand Forks, Mandan, and Minot. Each of these offices administer both long-term and short-term credit and provide a variety of other financial services.

Two programs receiving greatest public attention were the sale of acquired property at below market interest rates and the recently announced program where FCS guarantees the future value of acquired property that is sold. Other programs have restructured the debts of delinquent farm borrowers. Overall thrust of these programs is to turn nonperforming loans and acquired property into profitable assets in an expedient fashion. The strategy placed nonaccrual loans on an accrual basis even if significant write-offs occurred.

Commercial Banks

Commercial banks are a leading source of nonreal estate credit and a major avenue for real estate credit. The most important type of farm loans made by commercial banks is for production purposes. Loans for intermediate-

term purposes such as equipment purchases and breeding livestock rank second, and real estate loans rank third. Short-term and intermediate-term loans account for about three-fourths of the total volume of commercial bank credit (Barry et al.).

Commercial banks offer a number of unique services to farm borrowers. They give prompt credit service with a minimum of paperwork, are readily accessible, and provide a full range of financial services including checking accounts, savings accounts, estate planning, investment counseling, charge cards, and safety deposit boxes.

All banks in North Dakota are unit banks, a system in which an individual bank maintains only one office or place of business. Although North Dakota does not allow banks to branch, banks are permitted to establish receiving and paying stations within a 35-mile radius of the home office. Banks do maintain "correspondent relationships" wherein one bank, usually the smaller one, places deposits in the larger bank and utilizes its services. Included among these services are check clearing, collections, buying, selling, or holding securities, foreign exchange, etc. There are approximately 180 commercial banks in North Dakota.

Perhaps the greatest change affecting commercial banking was the financial deregulation legislation enacted in 1980 and 1982, which eliminated control on interest rates on bank deposits and broadened the range of financial services that banks can offer. Effect of this legislation on agricultural credit is unknown. On one hand, it should improve efficiency as funds will now flow to their highest demand. Also, loan pricing policies will be more responsive to market conditions. A major concern, however, is the possibility that money center banks located in major metropolitan areas will drain funds from rural agricultural banks.

Markovich studied bank performance in North Dakota during 1985. Key variables were bank size, geographic region, and operational structure. At that time the largest banks in the state were the least profitable, while those with deposits of $10-$24 million (the second smallest banks in the state) were the most profitable. This situation continued in 1986 as large financial institutions increased loan loss reserves for nonperforming agricultural loans (Saxowsky et al.).

The Red River Valley area, the largest economic region in North Dakota, was least profitable for banks. The western portion of the state exhibited varying economic activity but was the most profitable for banks.

Independent banks, which had relatively fewer loans and lower service income than holding companies, were more profitable. Net interest spreads and returns on assets were higher than the national average but are narrowing. As competition increases and adverse economic conditions continue, they will likely be reduced further in the future.

In a study of delinquent agricultural loans, Saxowsky et al. found that most commercial banks in North Dakota do not rely heavily on agricultural loans. Lenders in the survey indicated that less than 35 percent of their

loan volume was agricultural related. Since commercial banks are not dependent on agriculture, the amount of loanable funds available to farmers is probably increased as banks try to diversify. However, these same farmers probably face more stringent credit standards than farmers in other states as they compete directly with nonfarm firms for credit.

Public Lenders

The three largest public lenders to farmers in North Dakota are the Farmers Home Administration (FmHA), Commodity Credit Corporation (CCC), and Bank of North Dakota. Other federal and state agencies provide small levels of credit but are not discussed here. FmHA administers credit to beginning farmers, those with limited resources, and farmers who have the potential for ultimate success but are unable to find sufficient financing from other commercial sources. As these farmers become established, they are expected to use commercial sources of financing. FmHA also originates loans to farmers who suffer a loss due to natural disasters and to rural communities for various development projects.

FmHA offers at least 22 different types of loans; however, the major portion of their portfolio consists of farm ownership, operating, and emergency loans. FmHA is not designed to compete with other commercial lenders. Instead, they provide financial assistance to borrowers that private lenders are unwilling or unable to service. A label frequently used to describe FmHA is "the lender of last resort."

Funds that are loaned to farmers come from three sources. Funds for FmHA-insured loans are obtained from the sale of certificates of beneficial ownership to investors. Funds for direct loans come from federal government appropriations. Funds for loans that are guaranteed by the FmHA are provided by commercial lending institutions. The guarantee applies to 90 percent of any loss that may occur. However, the federal government does place lending limits on all loan types.

FmHA loans are subsidized two ways. First, interest rates are below comparable rates in the market. Second, each farmer must participate in a management guidance program. In order to obtain financing, each farmer must develop a whole farm plan that is designed to yield revenues sufficient to repay the debt and support a moderate standard of living. Each plan must be approved by a panel of farmers in the community. Such counseling programs with input from other farmers are too costly for most commercial lenders.

Interest rates charged by the FmHA prior to the late 1970s did not reflect changes in the federal government's cost of funds. Interest rates on FmHA loans for real estate purchases were fixed at 5 percent, while the interest rates on loans for nonreal estate purposes were generally above the government's cost of funds. FmHA interest rates were consistently less than rates charged by rural banks for operating loans. In 1978 FmHA interest rates were tied to the government's cost of funds.

Generally, FmHA holds the weakest loans of all agricultural creditors. Of course, this is expected since they are the "lenders of last resort." In a recent USDA survey, nearly half of the farmers having FmHA loans were classified as financially stressed. Although FmHA borrowers had higher debt-to-asset ratios, their profitability as measured by rates of return of assets and equity compared favorably with other agricultural borrowers.

The Commodity Credit Corporation (CCC) is another public credit program, which was established in 1933. To receive a CCC loan, farmers place their farm products in CCC-approved storage for a set time and receive a nonrecourse loan equal to the loan rate times the amount of product in storage. The loan is nonrecourse; if farm prices fall below the loan rate, the commodity pledged as collateral can serve as full repayment of the principal and interest on the loan. CCC also makes recourse loans for storage facilities and for drying and other grain handling equipment.

The interest rate on CCC loans was generally in the 3 to 4 percent range from 1940 until the early 1970s. Those rates were about half the rates charged by other agricultural lenders. Since the mid-1970s, differentials between CCC and commercial rates have narrowed considerably because interest rates on CCC loans are tied to the cost at which the CCC obtains funds from the Federal Treasury.

The CCC had $268 million in outstanding loans on January 1, 1980. By 1985, CCC loans had risen to $1.2 billion in North Dakota, surpassing FmHA's $620 million in nonreal estate loans. Availability of CCC credit reduces farmers needs for alternative credit. Moreover, in some years, infusion of large amounts of CCC money into rural areas permits farmers to repay other lenders and adds to the liquidity of commercial banks.

The Bank of North Dakota (BND) is the only state-owned bank in the nation. It was started in 1919 to promote agriculture, commerce, and industry in North Dakota. It is regulated by the Industrial Commission consisting of North Dakota's governor, commissioner of agriculture, attorney general, and president of the bank. At the end of 1986, it had nearly $1.0 billion of assets including $5.8 million of farm real estate loans and $3.9 million farm survival and agribusiness operating loans. Most of the bank's funds are provided by time and savings deposits maintained by the state treasurer.

Only direct loans made by BND are student and beginning farmer loans as well as loans to other state banks. All other farm loans, including those for debt restructuring, originate through lead banks.

Other Lenders

Other lenders include life insurance companies, merchants and dealers, and other individuals that extend credit to farmers. They held 13 percent of North Dakota's farm debt in 1985.

Life insurance companies are among the largest financial institutions in the country. Their loanable funds essentially come from the premiums or

reserves their customers pay for insurance protection. When the insurance company holds these proceeds, they are invested and generate additional income. When the insured's adverse event occurs, the company uses both the invested funds and interest to pay the indemnity.

Insurance companies provide long-term credit to farmers with the strongest financial positions. Since they have no obligation to serve all farmers, they tend to have very stringent requirements including geographic location. Concentrating on a small area also minimizes the costs associated with servicing agricultural loans. In addition to stringent standards, there are usually minimum loan requirements. In return, farmers can obtain significant financing at very attractive interest rates. The market share of insurance companies in North Dakota has not changed substantially over time.

Other lenders to farmers include merchants, dealers, savings and loan associations, credit unions, and individuals. Their share of total farm debt in North Dakota has declined from a high of 24 percent in 1974 to 12 percent in 1985. Individuals and savings and loan institutions are mainly involved in long-term debt financing, particularly in real estate. Reasons why individuals extend credit vary. Some extend credit as an investment. Many individuals extend credit at favorable terms so a relative can become established in agriculture.

Merchants and dealers are important sources of financing for machinery and other production items. One reason these groups extend credit to farmers is to promote sales. When large amounts of capital are involved, they extend credit as another incentive for purchase. For smaller purchases, trade credit is important since it alleviates the problem of always having to have cash. Farmers are usually billed directly once each month for all purchases. A farmer may be asked to sign a written contract stipulating a maximum credit line or they may have an unlimited open account.

Rates and terms of merchant and dealer credit vary considerably. Generally, expenses per dollar of credit handled tend to be high when compared with the terms of other commercial lenders. Their costs also tend to be high because financial services are not usually the main focus of their business. In addition, they usually do not perform rigorous credit checks. As a result, levels of bad debts and loan losses raise average lending costs. Further deregulation of the financial industry may enable more of these institutions to become involved in agricultural lending.

Public Programs of Agricultural Credit

This section is the third and final section of the report. There are six different parts to this section. Each part describes the characteristics of various loan and financial service programs sponsored by the state of North Dakota and federal government.

The first three parts of this section discuss beginning farmer programs offered by the Bank of North Dakota (BND). The first is the North Dakota Beginning Farmer--Farm Real Estate Loan Program. This loan program has been in operation since 1978 and has a loan size limit of $100,000. As the program's name states, it is intended for beginning farmers only. To be a beginning farmer, a person has to meet certain requirements which will be discussed in a later section.

The second program operated by the BND is the North Dakota Beginning Farmer--Revolving Loan Program. This program was started in July of 1983, and at the present time has $7.2 million outstanding loans.

Two other programs offered by BND are available to both existing and beginning farmers with limited resources. The fifth part of this section discusses the guaranteed and direct loans offered by the Farmers Home Administration (FmHA). The final part of this section describes other related public programs available to North Dakota farmers. Included services are counseling, review boards, and other loan programs available to North Dakota farmers.

Bank of North Dakota - Beginning Farmer - Real Estate Loan

Bank of North Dakota's beginning farmer program consists of a low interest loan to farmers who are buying land for the first time. Certain criteria have to be met in order to be classified as a beginning North Dakota farmer. First, the applicants have to be North Dakota residents. Second, they have to receive more than half of their income from farming. Third, they have to use the real estate that is to be purchased for agricultural purposes. Finally, they must have a net worth less than $100,000.

Beginning farmer loans can be amortized for up to 25 years. An individual loan cannot exceed $100,000. The benefit of this program is that the first three years of interest will be 2.5 percent below BND's current base rate. After three years the interest rate is permitted to increase a minimum of 2 percent per year, but can never exceed 8 percent. Loans must be less than 50 percent of a land parcel's value.

Table 9 illustrates interest and principal payments for the first three years with and without the beginning farmer program. A maximum loan of $100,000 and an interest rate of 8 percent are assumed. Under the beginning farmer program, an individual can save $5,779.92 in interest payments during the first three years of this program. These savings not only reduce cash flow pressures but enable many beginning farmers to repay outstanding principal more rapidly.

To qualify for this program, a farmer has to supply two years of financial statements, the previous three years of tax returns, a projected financial analysis, an appraisal of their property, and also a narrative on their management ability. The farmer also must assign rents and a first mortgage limited to 50 percent of appraised value. BND also requires

TABLE 9. INTEREST PAYMENTS WITH AND WITHOUT BANK OF NORTH DAKOTA BEGINNING FARMER ASSISTANCE

	Year	Total Payment	Interest	Reduction of Principal	Principal Outstanding At End Of Year
Payments with beginning farmer assistance	0	$ 0.00	$ 0.00	$ 0.00	$100,000.00
	1	7,441.22	5,500.00	1,941.22	98,058.78
	2	7,441.22	5,383.23	2,047.99	96,010.79
	3	7,441.22	5,280.59	2,160.63	93,850.16
		$22,323.66	$16,163.82	$6,159.84	
Payments without beginning farmer assistance	0	$ 0.00	$ 0.00	$ 0.00	$100,000.00
	1	9,367.86	8,000.00	1,367.86	90,632.14
	2	9,367.86	7,250.57	2,117.29	81,264.28
	3	9,367.86	6,501.14	2,866.72	71,896.42
		$28,103.58	$21,751.71	$6,351.87	
Interest payments without program			$21,751.71		
Interest payments with program			16,163.82		
Interest savings with program			$ 5,587.89		

financial statements and tax forms from the farmer each year they take advantage of the loan. At the present, BND has 808 outstanding loans totaling $44 million.

Bank of North Dakota - Beginning Farmer - Revolving Loan

This program began in July of 1983 with allocated funds of $5 million. An additional $2.5 million was transferred in 1985. The objective is to provide funds to beginning farmers for farmland purchases at low interest rates. These loans can be secured on first or second mortgages. The loan limit on a first mortgage is 50 percent of land value or $75,000. The limit on a second mortgage is 35 percent of land value or $50,000, whichever is less.

Interest rates in this program are lower than those on the beginning farmer real estate loan program. For the first ten years, interest rates are 4 percent. After ten years interest rates are set at 6 percent. The Commissioner of Agriculture has the power to extend the 4 percent interest rate another five years. To be eligible for this program a farmer must

- have a net worth of less than $100,000,
- earn 50% or more of their income from farming,
- intend to work land purchased, and
- complete a farm management program.

According to the Bank of North Dakota, this program has been used extensively. As of January 1987, 222 loans have been originated with an amount of $7.2 million outstanding. Most of these loans were second mortgage loans.

Bank of North Dakota - Farm Operating Loans

A two-year program that grants operating credit to North Dakota farmers was established in 1985 and reauthorized in 1987. Farmers apply for these loans through their own lender.

Interest rates on BND's portion are 8 percent. Terms of the loan may not exceed one year. Farmers experiencing financial difficulty may apply for a deferral of interest until July 1, 1991.

The interest rate charged by the farmer's financial institution on its share of the loan cannot be greater than BND's base rate plus 2 percent. This rate may vary over time. Currently BND has 145 loans totaling $8 million.

Bank of North Dakota - Financial Assistance to Family Farmers

This program is available to both existing and beginning farmers with limited resources. To qualify, a farmer must be at least 18 years of age, actively engaged in farming, have a net worth of no more than $150,000, be a North Dakota resident, and have the necessary farming experience and training to operate a family farm.

Proceeds from the loan may be used by the borrower to purchase or lease agricultural real estate; permanently improve agricultural real estate; construct or repair farm buildings; purchase farm equipment, livestock, or the farmer's home quarter; or pay debts against agricultural real estate. Proceeds cannot be used to refinance existing machinery or livestock loans.

The term of real estate loans can be up to 15 years, machinery loans 5 years, and livestock loans 7 years. However, real estate loan payments are calculated on the basis of a payment period not exceeding 30 years. The loan cannot exceed $50,000. Livestock and machinery loans may reach 70 percent of appraised value, and real estate loans are limited to the lesser of 75 percent of appraised value or $45,000. All loans must originate with the farmer's own financial institution. That financial institution must agree to assume 10 percent of the loan in exchange for BND's guarantee of the remaining 90 percent. Every borrower must keep records showing the financial condition of their family farm.

Farmers Home Administration

As stated earlier, Farmers Home Administration (FmHA) is a branch of government known as the "lender of last resort." Farmers and farm-related businesses apply to FmHA when they are turned down by other financial institutions.

FmHA issues two separate types of loans--direct loans and guaranteed loans. A direct loan is made and serviced by the personnel of FmHA. Guaranteed loans are made and serviced by a private lender. FmHA guarantees these loans against default up to a certain percentage. The terms of the loan are set by the private lender and the borrower.

FmHA loans to anyone engaged in farming or ranching. These loans may be used for either farm operating or ownership purposes. To be eligible for FmHA loans, certain criteria must be met. A person must have a satisfactory credit history and be able to incur the obligations of the loan, the person must rely on farm income, must not be able to get credit elsewhere, and they also must be a U.S. citizen.

The terms of FmHA loans vary by type of loan. Interest rates charged on these loans reflect the government's cost of borrowing. However, the rate varies if applicants have limited resources or if the loan is guaranteed with another lender. Guaranteed rates must not exceed the rate set by the Secretary of Agriculture. The eligibility for FmHA loans is determined by a committee of three farmers who are knowledgeable of the geographic area where the loan is being applied.

Farm Operating Loans

Farm operating loans offered by FmHA are usually for one year, but can range up to seven years. FmHA will lend up to $200,000 for direct operating

loans and up to $400,000 for guaranteed loans with other borrowers. Purpose for these loans is to help farmers pay for operating expenses such as feed, seed, fertilizer, fuel, and living expenses. Security requirements vary with each loan, although FmHA is required to have enough collateral to cover their obligation.

Farm Ownership Loans

Funds obtained from farm ownership loans can be used to buy land, refinance debt, and improve farm land or buildings. Farm ownership loans that are offered by FmHA can have maturities up to 40 years. For these loans, FmHA will lend up to $200,000 for direct loans and up to $300,000 for guaranteed loans. Terms of each loan again vary depending on the borrower's credit worthiness. FmHA requires enough security to protect their interest and provides technical assistance to their customers at any time.

Other Programs

There are other financial programs offered by the state of North Dakota for the benefit of farmers. Four of these programs are the credit review board, farm credit counseling, the state land department program, and an operating loan program.

The credit review board, established in 1985, provides negotiations and counseling to help financially stressed farmers and lenders reach an agreement that is in the best interest of all parties.

The farm credit counseling program was developed in 1984 and is a one-to-one counseling program for farmers. When a farmer calls in for credit counseling, a counselor is assigned to work with that farmer and his case. The counselor will work with the party involved, determining all options and assisting in identifying the best. If the situation is in need of a certified public accountant or attorney, the counselor will advise one that could be helpful in the case. All of the counselors for this program are either farmers or ranchers.

The credit review board also will refinance or finance for repurchase a home quarter of land for farmers. A home quarter includes a farmer's home and up to 160 acres of land. To be eligible for the program, farmers have to be in a foreclosure situation and have petitioned the credit review board for assistance. If the farmer has a source of financing, the credit review board will provide a subsidy by means of deferring interest for a specified number of years. The subsidy is limited to the first $50,000 of a loan and 10 percent for the first year and up to 6 percent for each of the next two years. The total amount of subsidy cannot exceed $11,000.

At the end of three years, the subsidy is added back to the original loan principal, which is then amortized over the life of the loan. There is no interest charged for the three years of subsidy. As of February 27, 1987, only one proposal for interest deferral had qualified for this program. Twelve other applications were processed during earlier years.

Another North Dakota state program under the auspices of the state land department is the farm loan program. The program makes real estate loans available to North Dakota farmers facing financial stress. This program is intended to enable farmers facing credit stress to remain on their farms.

To be eligible for this program, farmers must use the loan for agricultural real estate and receive no less than 50 percent of their income from farming. The interest rates on these loans are set by the Board on University and School Lands. Rates vary from 10 to 13 percent. The loans cannot exceed more than 65 percent of the land value and are amortized for up to 30 years. This program is being actively used by North Dakota farmers. As of January 1987 there were 924 loans outstanding in this program.

There also is an operating loan program offered by the state through the Bank of North Dakota. To be eligible for this program, a farmer must have a debt-to-asset ratio of more than 50 percent. These loans are strictly for a one year or less period. This program can be used by farmers and by agribusinesses. As of January 1, 1987, there were 429 loans made through this program.

Conclusion

Agricultural financial markets in North Dakota are in the midst of significant change. On one hand, the creditworthiness of farmers has deteriorated from the early 1980s. However, the outlook for the future is still favorable as input prices continue to fall, farmers adopt cost-cutting strategies, cash income and government payments remain strong, and off-farm income supplements continue to trend upward.

The farm sector's financial difficulties are increasingly being passed onto lenders. Problems vary somewhat by lender and location within the state. Generally though, the Farm Credit System is most affected because its loans are agriculturally related. As total agricultural debt in the state continues to decline, lenders will be competing for a smaller loan volume. Nonperforming loans, delinquencies, defaults, write-offs, and acquired property will be problems facing many lenders. Fund availability will remain ample for creditworthy farmers.

For farmers who are not creditworthy, North Dakota has initiated a number of financial assistance programs. Some are tailored towards beginning farmers, while others aid farmers under financial stress. The programs are of modest size, but provide necessary credit to farmers who would otherwise be unserved.

The future of agriculture credit in North Dakota is difficult to predict. Most farmers will undoubtedly survive the current period of stress and continue to use debt. Which lenders survive and are willing to grant this credit remains a question. Deregulation of the financial services industry along with the current period of financial stress continues to force consolidation among lenders. Farmers are benefiting from a greater array of financial services but are also being subjected to tougher credit standards--the same standards being applied to nonfarm commercial businesses.

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