

Off-Farm Employment and Income of North Dakota Farm Families

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Current conditions of economic stress are forcing many farm families to seek additional income sources. On a nationwide basis, off-farm income (including wages and salaries, nonfarm business income, interest and dividends, rent from nonfarm real estate, and social security or pension payments) now accounts for about 60 percent of the total income of farm families. In North Dakota, these same sources accounted for about 30 percent of total farm family income in 1984 and 1985.

While current economic conditions in agriculture are encouraging farm families to consider off-farm employment, other forces are affecting the number of job opportunities that are available. Reduced farm incomes have led to declining sales for many businesses and hence to fewer job opportunities in many agriculturally dependent communities. In 39 North Dakota counties that have been defined as farm-dependent¹, total employment fell 10.6 percent from 1980 to 1985.

This article examines the off-farm employment participation of North Dakota farm and ranch operators and their spouses. Information concerning off-farm employment and farm family income, as well as a number of demographic, farm, and financial characteristics, was obtained from telephone interviews conducted in March 1986. Operators contacted were members of a panel of North Dakota farmers and ranchers established through a survey conducted in 1985 (Leholm et al. 1985). Initial screening questions were incorporated in the 1985 survey to ensure that all respondents were less than 65 years old, were operating a farm, considered farming to be their primary occupation, and sold at least \$2,500 of farm products in 1984.

In the 1986 survey, attempts were made to contact all 933 members of the original panel. Of these, 759 had responded, 99 had refused to participate, 18 had ceased to operate a farm or ranch, four were deceased, and 53 had not yet been contacted at the time of this initial analysis. The 759 farmers who were still farming and who had completed usable questionnaires constitute the data base for this analysis. A comparison of selected characteristics of the 1986 survey respondents with data from the 1982 Census of Agriculture for North Dakota indicated that the sample is

representative of those North Dakota farms whose operators consider farming to be their principal occupation.²

Income Sources of North Dakota Farm Families

For purposes of this analysis, farm family income was categorized into four types: net cash farm income, earnings from off-farm employment, royalties or other payments associated with oil or other mineral leases, and other non-farm income (such as interest on savings, income from investments, or income from other businesses). The relative importance of each of these types of income to North Dakota farm families in 1985 and 1984 is shown in Table 1.

Table 1. Composition of Farm Family Income, North Dakota, 1984 and 1985.

Income Source	1985	1984
Net cash farm income:		
Average	\$15,958	\$15,285
Percent of total	63.2	58.7
Earnings from off-farm employment:		
Average	\$ 4,725	\$ 4,402
Percent of total	18.7	16.9
Mineral lease income:		
Average	\$ 1,720	\$ 2,523
Percent of total	6.8	9.7
Other off-farm income:		
Average	\$ 2,842	\$ 3,811
Percent of total	10.9	14.6
Total farm family income:		
Average	\$25,245	\$26,020
Percent of total	100.0	100.0

Net cash farm income accounted for 63 percent of total farm family income in 1985, up slightly from the 1984 level. Earnings from off-farm employment accounted for 19 percent of total income in 1985, compared to 17 percent in 1984. About 42 percent of all farmers surveyed reported some earnings from off-farm work by either the operator or spouse. Mineral lease income also declined from 1984 levels, which probably reflects the impact of falling oil prices

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¹For a discussion of the classification system used, see Bender et al., 1985.

²For a more detailed discussion of this comparison, see Leistritz et al., 1986a.

on both royalty payments and new leasing activity. Other off-farm income, which consisted primarily of interest or other revenues associated with off-farm investments, was significantly smaller in 1985 than in 1984. Two possible explanations are (1) declining interest rates and (2) unfavorable economic conditions which may have forced some producers to dip into savings or liquidate nonfarm investments. About 45 percent of the operators interviewed reported some income from other off-farm sources. Overall, increases in farm income and off-farm employment earnings were not quite adequate to offset the decreases in other off-farm income and lease payments; total farm family income fell by \$775 (about 3 percent) from 1984 to 1985.

Off-Farm Employment of North Dakota Farm Operators and Spouses, 1984 and 1985

Earnings from off-farm employment are the largest single source of nonfarm income for North Dakota farm operators, and during periods of economic stress, off-farm work may be one of the few means by which farm families can increase their income and cope with cash flow problems. This section examines characteristics of North Dakota farm and ranch operators and spouses who were employed off the farm in 1984 and 1985.

The employment status of farm operators and spouses who responded in both 1984 and 1985 is compared in Table 2. The number of operators who worked off the farm dropped slightly in 1985; of the 175 operators who had been employed off the farm in 1984, 41 or 23 percent did not work off the farm in 1985, but 37 operators who had not worked off the farm in 1984 began off-farm work in 1985. Employment of spouses in off-farm jobs increased between 1984 and 1985, rising from 31 percent in 1984 to almost 34 percent in 1985.

Past research would suggest that operators of larger farms would be less likely to work in an off-farm job (Leistritz et al., 1986b; Johnson, Baum, and Prescott, 1985). The relationship between gross farm income and off-farm employment is summarized in Table 3. A definite relationship between gross farm income and off-farm work by the operator is obvious in both 1984 and 1985. A similar relationship appeared to exist for spouses in 1984; however, in 1985 off-farm employment decreased for spouses in the lowest gross income category and increased for those in all of the other three groups.

Table 2. Off-Farm Employment in 1984 and 1985, North Dakota Farm Operators and Spouses.

Respondent Worked Off the Farm in 1985:	Respondent Worked Off Farm in 1984			Total
	No	Yes		
No	547	41		588
Column percent	93.7	23.4		77.5
Yes	37	134		171
Column percent	6.3	76.6		22.5
Total	584	175		759
Column percent	100.0	100.0		100.0

Spouse Worked Off the Farm in 1985:	Spouse Worked Off the Farm in 1984			Total
	No	Yes	Not Married	
No	412	21	4	437
Column percent	92.0	10.3	57.1	66.4
Yes	36	182	3	221
Column percent	8.0	89.7	42.9	33.6
Total	448	203	7	658
Column percent	100.0	100.0	100.0	100.0

In 1985, as in 1984, highly leveraged operators and their spouses were more likely to be employed in off-farm jobs (Table 4). Between 1984 and 1985, however, the percentage of operators in the highest debt category (debt-to-asset ratio of 70 percent or greater) who worked off the farm fell substantially. Spouses' off-farm work participation increased in all the categories with debt and declined for the no debt category.

It was expected that an inverse relationship would exist between net cash farm income and the percentage of farm operators and spouses who worked in nonfarm jobs. Information in Table 5 generally supports this hypothesis because both operators and spouses whose net cash farm incomes were less than \$10,000 tended to have above average rates of off-farm work participation.

Table 3. Off-Farm Employment in 1984 and 1985, North Dakota Farmers and Spouses, by Gross Farm Income.

Employment Status	Gross Farm Income				Total
	Less than \$40,000	\$40,000 to \$99,999	\$100,000 to \$249,999	\$250,000 or More	
Percentage of operators employed off the farm:					
1984	35.3	22.7	20.7	7.0	23.2
1985	35.1	23.3	14.6	7.5	22.0
Percentage of spouses employed off the farm:					
1984	41.7	32.5	27.3	22.2	31.3
1985	31.9	37.7	33.0	29.2	34.4

The relationships between the age and education of farm operators and spouses and their employment off the farm were also examined. Younger operators and spouses were much more likely to work off the farm. More than one-third of the operators who were less than 35 years old and almost one-half of the spouses in this age group were employed off the farm in 1985. Similarly, both operators and spouses who had completed some postsecondary education had higher than average rates of off-farm work.

Off-farm employment by region (see Figure 1 for regional map) is reported in Table 6. Rates of off-farm work for operators were highest in the western regions (Regions 1, 2, and 8) while rates for spouses were highest in the northeast (Regions 3 and 4). It may be noteworthy that both Regions 1 and 8 registered substantial decreases in participation by operators, and Region 1 showed a sizeable decrease in employment of spouses also. These decreases in off-farm work may be resulting, either directly or indirectly, from the decline of the oil industry.

Nature of Employment of North Dakota Farm Operators and Spouses

North Dakota farm operators were most often employed in agricultural or construction jobs while their spouses most

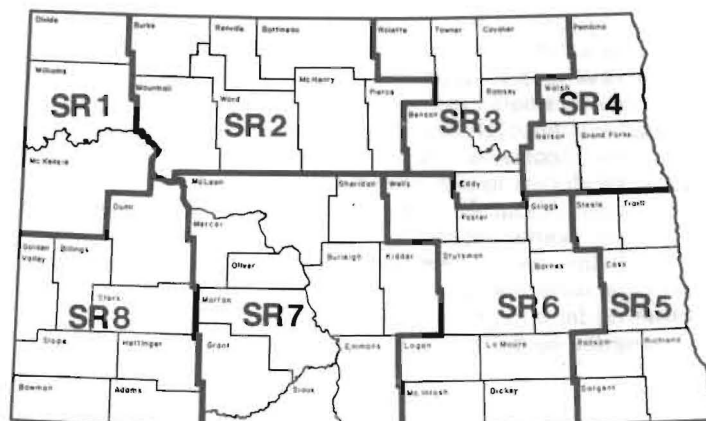


Figure 1. The Eight State Planning Regions in North Dakota.

frequently were employed in professions, such as teaching or nursing, or in retail trade (sales). Selected attributes of the off-farm work performed by these persons are summarized in Table 7.

Table 4. Off-Farm Employment in 1984 and 1985, North Dakota Farmers and Spouses, by Debt-to-Asset Ratio.

	Debt-to-Asset Ratio				Total
	No Debt	0.1 to 40 Percent	41 to 70 Percent	71 Percent or More	
Percentage of operators employed off the farm:					
1984	15.6	21.7	27.0	34.0	23.7
1985	13.5	20.9	29.8	25.2	22.4
Percentage of spouses employed off the farm:					
1984	22.1	29.7	36.1	39.1	31.4
1985	16.2	34.5	41.6	39.6	34.0

Table 5. Off-Farm Employment in 1984 and 1985, North Dakota Farmers and Spouses, by Net Cash Farm Income.

	Net Cash Farm Income					Total
	Zero or Negative	\$1 to \$4,999	\$5,000 to \$9,999	\$10,000 to \$19,999	\$20,000 or More	
Percentage of operators employed off the farm:						
1984	25.9	40.7	24.5	20.9	18.4	23.4
1985	24.8	38.0	27.8	22.0	12.9	22.6
Percentage of spouses employed off the farm:						
1984	35.7	51.0	31.5	30.5	24.6	31.5
1985	38.4	36.5	43.8	29.2	32.5	34.9

Table 6. Off-Farm Employment In 1984 and 1985, North Dakota Farmers and Spouses, by Region.

Employment Status	Region 1	Region 2	Region 3	Region 4	Region 5	Region 6	Region 7	Region 8	State Total
Percentage of operators employed off the farm:									
1984	29.0	30.1	25.3	25.0	24.5	16.9	13.7	31.0	23.1
1985	26.3	29.2	24.1	25.0	23.5	15.4	18.0	26.2	22.5
Percentage of spouses employed off the farm:									
1984	29.0	24.0	39.1	42.1	30.3	32.8	21.9	39.7	31.2
1985	22.6	30.3	45.3	47.5	31.5	33.9	24.4	38.4	33.6

Table 7. Selected Employment Characteristics of North Dakota Farm Operators and Spouses, 1985.

Item	Units	Operator	Spouse
Distance traveled one-way to off-farm job:			
Average	Miles	18.2	13.1
Distribution:			
Less than 5 miles	Percent	35.1	32.1
5 to 9.9 miles	Percent	19.9	23.1
10 to 14.9 miles	Percent	13.2	15.6
15 to 19.9 miles	Percent	9.9	9.0
20 to 29.9 miles	Percent	7.3	13.7
More than 30 miles	Percent	14.6	6.6
Number of years employed in present off-farm job:			
Average	Years	8.4	7.3
Distribution:			
One or less	Percent	12.0	13.3
Two to three	Percent	19.8	23.4
Four to five	Percent	14.4	20.6
Six to ten	Percent	28.1	20.2
More than ten	Percent	25.8	22.5
Number of days/year worked off the farm:			
Average	Days	115	154
Distribution:			
1 to 24	Percent	10.8	13.3
25 to 49	Percent	20.5	13.3
50 to 99	Percent	18.8	20.5
100 to 149	Percent	15.3	16.3
150 to 200	Percent	17.6	18.7
More than 200	Percent	17.0	18.1
Gross earnings/year:			
Average	Dollars	12,244	8,032
Distribution:			
Less than \$1,000	Percent	13.8	12.1
\$1,000-\$2,999	Percent	12.6	12.6
\$3,000-\$4,999	Percent	12.0	14.0
\$5,000-\$9,999	Percent	24.0	23.4
\$10,000-\$19,999	Percent	16.8	32.2
\$20,000 or more	Percent	21.0	5.6

Farm operators commuted an average of about 18 miles to their off-farm jobs while spouses traveled about 13 miles one way. About 22 percent of the operators and 20 percent of spouses commuted more than 20 miles. Farm operators had averaged a little over eight years of work at their present off-farm job while spouses averaged about seven years.

Farm operators worked an average of 115 days at their off-farm jobs in 1985; spouses averaged 154 days. Gross earnings from off-farm employment averaged \$12,244 for farm operators and \$8,032 for spouses. About one-fourth of both operators and spouses earned less than \$3,000 in 1985, but 21 percent of the operators and about 6 percent of the spouses earned \$20,000 or more.

Fringe benefits constituted part of the total compensation package for many farm operators and spouses. Health insurance was the most common type of benefit reported by each group (Table 8). Retirement plans were also reported by nearly one-fourth of the spouses. Nearly 30 percent of the spouses and about 12 percent of the operators indicated that they received more than one type of benefit.

Table 8. Fringe Benefits Received by Farm Operators and Spouses Employed Off the Farm, North Dakota, 1985.

Type of Benefit	Farm Operators	Spouses
	percentage of operators or -----spouses who worked off ----- the farm	
Health insurance	17.5	36.7
Life insurance	7.6	15.4
Disability	8.2	10.4
Retirement plan	9.4	24.9
Two or more benefits	12.3 ^a	29.9 ^a

^aThese individuals are also included in the percentage receiving each type of benefit.

The Decision to Look for Off-Farm Work

In addition to the farm operators and spouses who were employed off the farm in 1985, a substantial number indicated the intention to seek an off-farm job in 1986. The propensities of operators and spouses with different socioeconomic characteristics to seek such employment are summarized in Table 9. Highly leveraged farmers and their spouses were more likely to seek off-farm work than their

Table 9. Farm Operators' and Spouses' Intentions to Look for Off-Farm Employment in 1986, by Selected Personal and Financial Characteristics.

Item	Percent of Operators and Spouses Who Plan to Look for Off-Farm Employment in 1986	
	Operators	Spouses
Debt-to-asset ratio:		
No debt	2.6	2.3
1% to 40% debt	8.8	5.1
41% to 70% debt	11.7	13.3
Over 70% debt	27.2	20.3
Total	11.1	8.6
Net cash farm income:		
Zero or negative	18.2	14.4
\$1 to \$9,999	13.8	10.8
\$10,000 to \$19,999	9.9	7.8
\$20,000 or more	5.5	3.5
Age:		
Less than 35	18.4	14.3
35 to 44	9.3	12.5
45 to 54	14.2	7.1
55 and over	6.1	1.1
Education:		
Did not complete high school	9.7	4.5
High school graduate	10.6	9.7
Some college or other post secondary school	10.8	9.1
College graduate	17.1	7.0

counterparts with lower debt-to-asset ratios. As indicated in Table 9, over one-fourth of the operators and one-fifth of the spouses with debt-to-asset ratios over 70 percent were planning to look for off-farm work in 1986. Thus, about 46 percent of all operators and 52 percent of spouses in this high debt category were either working off the farm or seeking off-farm employment.

When operators' and spouses' intentions to seek off-farm work are compared with net cash farm income, age, and education, definite patterns are apparent. Both operators and spouses with lower income levels are more likely to seek off-farm work. In general, younger operators and spouses and those with higher levels of formal education are more likely to be seeking off-farm work than their older and less well-educated counterparts. There are some exceptions to those general trends; however, some of these exceptions may arise from the fact that high percentages of the younger and better-educated groups are already working off the farm.

In conclusion, North Dakota farm families are continuing to seek off-farm employment to supplement their farm income. Increased attention to job search skills and techniques may aid farmers and their spouses in fulfilling their objectives. In addition, expanded economic development efforts may be required to provide the needed nonfarm employment opportunities.

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