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OFF-FARM INCOME AS A FACTOR IN THE IMPROVEMENT OF LOW-FARM-INCOME FARMERS*

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Problem Statement

Dramatic change continues to characterize the structure of the American farm as well as the economic interaction of farm families with the nonagricultural sector. The 1969 Census of Agriculture revealed a continuing consolidation of farms in the United States, occurring simultaneously with a steady increase in off-farm employment by all segments of farmers. Between 1964 and 1969, for example, the number of farms in Illinois changed from 132,820 to 123,560--a decrease of 7 percent [1]. Of this decline, 49 percent was confined to farms with gross farm sales of $2,500 to $9,999. Most of the ones in that group were not capable of producing a satisfactory level of family income on the basis of farm income alone. Unable to earn a satisfactory farm income for various reasons, a number of Illinois farmers like others across the country must either accept an inadequate living for their families or search out other alternatives.

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Income from nonfarm sources has become increasingly important to farm families. Nonfarm income in 1971 was estimated by the ERS to account for 53 percent of the average total income to a farm family in the United States [9, p. 72]. A statewide study of Michigan farmers revealed that farm families averaged $4,230 from nonfarm sources, an amount almost equal to the average amount earned from the farm [11, p. 11-13]. Reinsel found wage and salary income accounted for 65 percent of the total off-farm income flowing to at least 85 percent of the individuals reporting some income from farming on federal income tax returns [6, p. 12-13]. In a later study, Reinsel suggested that off-farm income has not only improved the average income of farm people but has also narrowed the income disparity, benefiting low income families the most [7, p. 21].

Within Illinois, a growing number of farmers have turned to off-farm employment in order to supplement their farm income. For instance, the proportion of farmers working 100 days or more off the farm increased from 19 percent in 1954 to 34 percent by 1969 [1]. In another study, commercial farm operators reported that nonfarm income comprised 20 percent of the total farm family income [2].

Low farm income has become a public policy issue of increasing concern over the past several years. The extent and persistence of poverty among farmers as well as the general poverty characteristics of rural areas has been documented. The President's Commission on Rural Poverty, in particular, has improved understanding about the problems of rural poverty and has developed recommendations leading toward possible solutions [4] [5]. Moreover, the recent developments indicated here have dramatized low farm income as a policy concern. For the first time in the history of federal price and income legislation, Title IV of the 1970 Agricultural Act focused on rural development as the means of maintaining a sound balance between rural and urban America [3, p. 26-27]. In addition, the passage of the Rural Development Act of 1972 ushered in a new era of attention to the rural community and a search for ways to improve it economically [10].

Purposes of the Study

Although various alternatives for improving the economic status of farmers have been identified, this analysis focuses on the off-farm component. The purposes of the study reported herein were to identify in detail the flow of off-farm income to Illinois farm families with a low farm income, and to determine the relationships between off-farm earnings and various factors.1/

The findings reveal the types of farm family labor used off the farm to earn additional income, sketch the nature of the farming operations of these families, describe some of the personal characteristics of the farmers and of their wives, and indicate the uses made of their income earned off the farm. Finally, the results of this study increase the reliable information about this growing source of income flow to agriculture, and serve as an indication of policy directions that can be used to help tap this potential source of income assistance for farm families whose income from farming is low.

Sample Data and Background

The data for the study were obtained from a random sample of 4,000 Illinois farmers, drawn by the Illinois State Crop and Livestock Reporting Service. Their list, with minor modifications, was found to be consistent with Illinois farms--as defined for Census purposes--according to geographic distribution, the age distribution of the farmers, the size of farm by acreage, and the economic class of farm by the level of gross farm product sales.

A mail survey questionnaire was developed, carefully pretested, and sent out. Approximately 40 percent of the 4,000 questionnaires mailed to the statewide sample were returned, and 1,400 or 35 percent of the total sample were selected to provide the evidence for this study. Some questionnaires were omitted because of incompleteness, inaccuracies, or the individual not being the actual operator of the farm; but none seemed to be associated with selectivity factors that might bias the data for this study. Farm operators completing the questionnaire provided 1971 farm and off-farm income data for their farm and their family.

For the purposes of this study, low-farm-income farmers are those who received less than $10,000 from their 1971 gross farm product sales.[2/] This definition would include Census Economic Classes IV, V, VI, as well as part-time and part-retirement farms.

Of the Illinois farmers in this sample, 58 percent had gross farm sales of $10,000 or more. The remaining 42 percent formed the basis for this analysis. This breakdown was similar to the results of the 1969 Census of Agriculture which showed 45 percent of the farmers in Illinois receiving less than $10,000 from their farm sales [1]. The sample included farmers with high as well as low incomes from farming. This study is concerned only with the latter. Additional phases of this research will focus on the other income segment.

Total Farm Family Income

Table 1 shows the average, total income earned by farm families with a low farm income. These families averaged only $1,450 in net farm income, but they were able to supplement that with almost $8,000 from off-farm sources. Thus, their total farm family income averaged $9,364, which is well above any poverty income standard and is less than $3,000 below the average total family income of the other high-farm-income farmers in Illinois.

Table 2 shows the range of total income for these families. Seventeen percent had a total income of $3,000 or less. Four percent received a total family income of $1,000 or less. Forty percent of these farm families earned a total family income of more than $10,000.

Wage and Salary Earnings

The average wage and salary earnings from off-farm employment ($6,070) accounted for 77 percent of the total off-farm income and 65 percent of the total family income (Table 1). Of this $6,070 from off-farm employment, $4,780 was earned by the farmer while the farm wife or other family members contributed $1,290. Thus, wage and salary earnings were the major source of off-farm income, and even for total family income, for this particular group of Illinois farm families.

The majority of these farmers (66 percent) reported that they worked off the farm in 1971. Furthermore, 32 percent of their wives also held off-farm employment. Trade occupations, such as carpenters, electricians, and repairmen were reported most frequently (33 percent) by the farmers working off the farm. Factory employment (22 percent) and public service employment (21 percent) were also significant.

Factors Affecting the Level of Off-Farm Earnings

Since earnings from off-farm employment represented the major means used by these families to supplement their farm income, a multiple regression analysis was undertaken to determine which factors were significant in affecting those earnings. The factors were classified into three groups: characteristics of the farming operation, personal characteristics of the farmer, and off-farm employment characteristics. Twenty-five independent variables were used in the multiple regression model. Table 3 presents the simple and partial correlation coefficients between the farmer's wage and salary earnings (dependent variable) and each independent variable found significant. In addition to this table, data cited for some of these relationships were developed for farm wives in a similar regression model.

Farm Characteristics. Farm size characteristics generally had little effect on the level of off-farm earnings by low-farm-income farmers in Illinois. Since these farmers (gross farm sales of less than $10,000) were generally on small farms in terms of acres, total assets, and livestock, their farm labor requirements would not be likely to interfere with efforts to search out off-farm employment opportunities. In fact, 76 percent of these farmers reported having time available for off-farm employment after fulfilling their farm labor needs.

The number of acres, net farm income, gross farm sales, and the number of livestock did have a slight inverse relationship with the level of off-farm earnings. However, none of these were significant factors, except for the number of cattle. And even that had a small effect (Table 3). These relationships might well be different for the farmers in the group with a high income from farming.

Personal Characteristics. The age of the farmer, his education level, and the size of the farm family were found to be significant in affecting the level of off-farm earnings realized by the Illinois farmers in this study with a low farm income.

The average age of these farmers was 55 years. Only 10 percent were 34 years or younger. Wage and salary earnings from off-farm employment tended to decrease as the age levels went up. Those who were 44 years old or less averaged over $7,000 from off-farm employment, compared to only $1,140 for farmers 65 or older. The negative simple (-.3656) and partial (-.0331) correlation coefficients provided further evidence that off-farm earnings decrease with the farmer's age (Table 3).

Off-farm earnings increased steadily with higher educational levels, indicated in the positive simple (+.3508) and partial (+.1690) correlation coefficients. Moreover, the distribution shown in Table 4 also supports this relationship. Farmers with college degrees, comprising only 5 percent of the low-farm-income group, earned by far the highest wage and salary income ($12,160). But for many of them, the farm may only be a place of residence in the country, or perhaps a tax deducting enterprise. On the other hand, farmers with a grade school education received only $2,820 from off-farm employment. Forty-eight percent of these low-farm-income farmers in Illinois had less than a high school education, and most of them were also in the older age groups.

Off-farm earnings rose steadily as the number of children in the farm family increased, too. In farm families with five or more children, the average was $8,170 from off-farm earnings, compared to $3,020 for families with no children. Family size had a strong, positive, simple correlation with the wage and salary earnings (+.3957), but less so for the farm wives (+.0310). This was expected since farm wives with larger farm families usually do not have much excess time available for employment outside the home. Farm wives with five or more children averaged only $430 from off-farm employment. On the other hand, living expenses may be a strong motivation for farmers with a low farm income to supplement that as the family size increases.

Although vocational training and the farmer's health were not found to be significant factors in the regression analysis, average earnings varied when these characteristics changed. Those farmers who had received some type of vocational training earned a slightly higher average wage and salary income ($5,460) than those without ($5,020). Furthermore, those reporting excellent or good health averaged over $5,600 from off-farm earnings, while those reporting a poor health condition averaged only $1,580.

Employment Characteristics. The ones that significantly affected the level of off-farm earnings were the number of years of off-farm work experience, the number of days the farmer worked off the farm, the distance traveled to off-farm employment, and the distance from the farm to the nearest metropolitan area.

Low-farm-income farmers reported a stable employment pattern, working at their present off-farm job for an average of thirteen years. The farm wives averaged nine years. As the number of years at a particular job increased, wage and salary income also went up (Table 5), with simple correlation coefficients of (+.4986) for the farmers and (+.5821) for their wives.

These farmers traveled an average of 16 miles to their off-farm job, while farm wives averaged 10 miles. Some 40 percent traveled 9 miles or less, while 20 percent traveled 20 miles or more. Among the farm wives, 56 percent traveled 9 miles or less, but only 6 percent traveled 20 miles or more. Thus, low-farm-income farmers will travel a substantial distance to obtain employment and are more willing to do so than farm wives, with the latter less mobile due to transportation and family responsibilities. Off-farm earnings tended to increase with the miles traveled to off-farm employment for both low-farm-income farmers and farm wives (Table 6). The positive simple correlations, respectively, were (+.4323) and (+.5104). The farmers and farm wives who traveled the farthest distance earned the highest wage and salary incomes.

The farmers in this study worked an average of 240 days off the farm, with their smaller farming operations permitting ample excess available labor for full-time employment. Eighty-one percent worked off the farm on a full-time basis, i.e., 200 days or more.

As could well be expected, wage and salary income increased as more days were worked off the farm. Farmers working off the farm 300 days or more averaged $9,650 from off-farm employment, while those working less than 100 days averaged $1,300. Table 3 shows a high positive simple (+.7544) and partial (+.5118) correlation between off-farm earnings and the number of days worked off the farm.

Metropolitan areas offer a greater number and variety of off-farm jobs.[3/] Farmers, for instance, may be able to select the type of off-farm job that will fit their capabilities best and will yield the highest earnings. Table 7 indicates that low-farm-income farmers and farm wives living within 25 miles of a metropolitan area averaged the highest wage and salary earnings. Beyond 26 miles, however, distance to metropolitan areas did not seem to have much effect on the level of off-farm earnings. The negative simple correlations for farmers (-.0924) and for wives (-.0410) suggest that a minor relationship exists.

Reasons for Working Off the Farm

Low-farm-income farmers currently working off the farm (66 percent of the total) were asked to check their reasons for holding off-farm employment. Retirement income and old age security were the most frequent explanations given (17 percent). Another 15 percent indicated income needed for home improvements and family expenses. Additional income to invest in their farming operation or the reduction of farm debts was checked by 14 percent, which does not suggest a strong desire to expand their farming operations and improve their equity position.

The majority of the low-farm-income farmers apparently prefer to stay in agriculture. Only 9 percent of the farmers in the sample expected to give up farming during the next five years. Very few indicated that a desire to leave farming was the reason for working off the farm. The results of the study suggest that most low-farm-income farmers were satisfied with their dual employment on and off the farm as a way of earning an adequate total family income.

Those farmers not working off the farm were asked to indicate the reasons for their choice. Age or retirement were the most frequent reasons given (57 percent). This is understandable since 54 percent of the farmers studied were 55 years old or more. Only 7 percent indicated that jobs were not available, while 9 percent responded that they were not interested in off-farm employment. Only 15 percent of the low-farm-income farmers not presently working off the farm desired some type of off-farm employment.

Policy Implications

Although 53 percent of the low-farm-income farm families in this sample, which was representative of Illinois, received a net farm income of less than $1,000, these families generally were able to supplement this income substantially from off-farm sources (Table 1). In terms of farm income alone, most of these farm families would be below the usual poverty income standard. However, considering their total family income from both farm and off-farm sources, most were well above the poverty income group. Thus, careful attention must be given to identifying those low-farm-income farmers who are unable to earn an adequate farm income and are also unable to supplement it sufficiently from off-farm sources [8].

Welfare Assistance. This study indicates that farmers who were in the older age groups, who received inadequate educations (grade school or only some high school), and who were in poor health earned both the lowest income from the farm and from off-farm sources. Table 2 previously showed that 31 percent of the low-farm-income farm families in Illinois (approximately 17,000) received a total income of $5,000 or less. Twenty percent of all farmers in the state were in this income category. Most of these farm families deserve the direct attention of public welfare policies in order to provide a satisfactory standard of living. The President's Commission on Rural Poverty recommended that the federal government administer and support programs providing medical treatment, monetary assistance, and housing for low-income residents of rural areas who are in need and who are unable to meet their own needs [4, p. 72-97].

Education and Training. Most low income farmers are under-employed on their farming operations. Farms generating less than $10,000 of farm sales are usually not able to utilize all of the farm operator's available labor. Consequently, a large majority (76 percent) of these farmers in Illinois reported having time available for off-farm employment after fulfilling their farm labor requirements. Of those having such time available, two-thirds desired full-time employment.

A portion of this group have the potential to become full-time farmers. They need education to improve their managerial skills and access to adequate financing in order to make the necessary changes and improvements in their farming operations. Other low-income farmers also need managerial assistance in order to better organize their farming operations, which would then allow them to accept off-farm employment. Economic development efforts in rural communities to provide employment opportunities would be most beneficial to those farmers desiring off-farm work or wishing to continue working off the farm.

During 1971, 66 percent of the Illinois low-farm-income farmers reported working off the farm. Of those working off the farm, 81 percent worked 200 days or more and almost half could be characterized as stable employees with twelve years or more at their present off-farm job. Employment and job training programs as proposed by the President's Commission on Rural Poverty should be directed to these farmers who desire off-farm work but are unable to find such employment [4, p. 28-34]. Such programs should be helpful in improving the capabilities of these farmers for off-farm employment, since 48 percent had not completed high school.

However, only 15 percent of the low-farm-income farmers not working off the farm desired to do so. Therefore, public programs may be most useful in this region of the nation by improving the productivity of those already committed to dual employment. Again, 54 percent of these Illinois low-farm-income farmers were 55 or older. Thus, age may be a limiting factor in realizing these programs. Perhaps direct welfare assistance would be the best alternative in providing certain farm families with an adequate family income.

Dual Employment. Most low-farm-income farmers in Illinois seemed to be satisfactorily combining part-time farming with off-farm employment. Very few indicated any desire for or expectation of leaving agriculture. The President's Commission proposed relocation assistance programs to provide financial payment and supportive services for individuals who cannot find suitable job opportunities and training programs in their local area [4, p. 35]. Yet, few Illinois low-farm-income farmers desire such a move. Only 1 percent of the farmers in this study indicated their reason for working off the farm was to earn additional income in order to finance a move off the farm. As noted previously, only 7 percent of the low-farm-income farmers not working off the farm indicated that they were unable to find off-farm employment.

In order for ample employment to be available both for farmers seeking off-farm employment and for those already working off the farm, rural development efforts are needed to help locate stable job opportunities within a reasonable commuting distance, enhancing the welfare of farm families and society as a whole. The pattern of dual employment revealed in this study can provide a productive outlet for excess farm labor, improve the overall labor productivity of the economy, and help avoid further urban congestion caused by forced migration.

FOOTNOTES

1. Off-farm earnings refer to the wage and salary income received from off-farm employment. Off-farm income refers to the total income received by the farm family from all types of nonfarm sources.
2. It is reasonable to expect that these farm families face relatively low net farm incomes for family living purposes. USDA estimates show realized net farm income per farm for farms in this category of cash farm sales averaged $3,500 or less, approximating the usual poverty standard [9, p. 70].
3. Metropolitan cities were defined as population centers with 50,000 or more residents. Farmers were asked the distance (miles) from their farm to the nearest metropolitan city.

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Table 1. Total Farm Family Income Earned by Illinois Low-Farm-Income Farm Families in 1971 From All Income Sources[a]

Income source	Average
Sources of off-farm family income	
Wage and salary income	
By the farmer	$ 4,780
By the farm wife	1,160
By other family members	130
Net nonfarm business income	792
Custom farm work	46
Interest	280
Dividends	186
Rental income	150
Royalties	21
Trusts and estates	37
Pensions and retirement benefits	306
Miscellaneous	26
Total off-farm family income	7,914
Net farm income	1,450
Total farm family income	9,364

[a] Low-farm-income farm families are defined as those receiving less than $10,000 from gross farm sales.

Table 2. Distribution of Total Farm Family Income Earned by Low-Farm-Income Farm Families in Illinois During 1971 From Both Farm and Off-farm Sources[a/]

Total farm family income	Percent earning this amount
$1,000 or less	4
$1,001 to 2,000	7
$2,001 to 3,000	6
$3,001 to 4,000	8
$4,001 to 5,000	6
$5,001 to 10,000	29
$10,001 or more	40
Total	100

a/ Low-farm-income farmers are those receiving less than $10,000 from gross farm sales.

Table 3. Simple and Partial Correlation Coefficients Between Wage and Salary Income Earned by Illinois Low-Farm-Income Farmers and Independent Variables Significant at the 1 and 5 Percent Confidence Levels

Independent variable	Correlation coefficients	
	Simple	Partial
Total number of cattle	-.1226[a]	-.0544[a]
Farmer's age	-.3656	-.0331
Farmer's education	.3508	.1690
Number of children in the farm family	.3957	.1867
Years of farmer's experience working off the farm	.4986	.2305
Number of days the farmer worked off the farm	.7544	.5118
Distance the farmer traveled to his off-farm job	.4323	.1939
Distance to the nearest metropolitan area	-.0924[a]	-.0398[a]

[a] Independent variables significant only at the 5 percent level.

Table 4. Average Wage and Salary Income Earned by All Illinois Low-Farm Income Family Members in 1971, by the Educational Level of the Farmer.

Wage and salary income	Level of education				
	Grade school	Some high school	High school	Some college	College degree
Earned by the farmer					
Nonfarm employment	$2,820	$5,070	$5,940	$4,920	$12,160
Jobs on other farms	40	20	40	10	0
Earned by the farm wife	800	1,260	1,330	1,540	1,920
Earned by other family members	150	260	20	220	150
Total family wage and salary income	3,810	6,610	7,330	6,690	14,230

Table 5. Average Wage and Salary Income Earned by Illinois Low-Farm-Income Farmers and Farm Wives in 1971, by the Length of Off-farm Work Experience.

Years of off-farm work experience	Wage and salary income	
	Farmers[a]	Farm wives[a]
2 years or less	$5,950	$2,120
3 to 5 years	7,390	3,530
6 to 11 years	8,990	4,340
12 years or more	8,910	5,680

[a] Includes only those working off the farm.

Table 6. Average Wage and Salary Income Earned by Illinois Low-Farm-Income Farmers and Farm Wives in 1971, by the Distance Traveled to Their Off-farm Employment

Distance traveled to off-farm employment	Wage and salary income	
	Farmers[a]	Farm wives[a]
3 miles or less	$7,610	$3,760
4 to 9 miles	7,740	3,930
10 to 14 miles	6,840	3,540
15 to 25 miles	8,910	3,350
25 miles or more	9,010	4,590

a/ Includes only those working off the farm.

Table 7. Average Wage and Salary Income Earned by all Illinois Low-Farm-Income Farmers and Farm Wives in 1971, by the Distance from the Farm to the Nearest Metropolitan Area

Distance to the nearest metropolitan area	Wage and salary income	
	Farmers	Farm wives
25 miles or less	$6,170	$1,340
26 to 50 miles	4,740	1,120
51 to 75 miles	4,920	1,240
76 to 100 miles	4,670	960
101 miles or more	4,680	1,090