

A Comparative Study of Income from Multiple Employment Channels for Rural Land Transfer Households under the Background of Industrial Integration

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Abstract: Industrial integration development is a crucial lever for promoting industrial prosperity. With the continuous advancement of China's rural revitalization strategy, rural industrial integration development has begun to take shape in various regions. The integration of industries has led to a significant demand for land, and land transfer has become an important means to address the shortage of land resources. Through land transfer, rural households can break free from land constraints and engage in other industries. In rural areas before the integration of industries, the employment opportunities for rural households were relatively limited. However, with the continuous progress of rural industrial integration, employment opportunities for rural households have been expanding, injecting new variables into rural development and household income. This study aims to analyze the impact of different employment channels on changes in household income for land-transferring households before and after land transfer, using the Ologit model. The goal is to provide rational suggestions for increasing household income and promoting rural revitalization.

1. Introduction

In 2018, the No.1 Central Document emphasized the implementation of the rural revitalization strategy, with industrial prosperity as a key focus and industry integration as a crucial lever for achieving prosperity. The "Fourteenth Five-Year Plan" and the 2035 Vision Outline further outlined the continuation of the integrated development of the primary, secondary, and tertiary industries in rural areas, extending the agricultural industry chain, enriching rural economic forms, and expanding income sources for farmers. Rural industrial integration has become a key concern of the CPC Central Committee and the State Council's "agriculture, rural areas, and farmers" policies [1]. The integration of rural industries is of great significance for the implementation of major national strategies [2,3]. Rural industrial integration refers to the integration of the primary industry with the secondary and tertiary industries in rural areas, establishing a modern industrial system based on agriculture and rural areas to develop the secondary and tertiary industries. Currently, there is extensive research on the theme of "industrial integration and rural revitalization," but there is relatively little research on rural employment, rural ecology, and the social lives of farmers within the context of industrial

integration [4]. Therefore, this paper attempts to explore changes in rural employment under the background of industrial integration, focusing on the group of rural households involved in land transfer. It analyzes their employment issues, proposes optimization and improvement suggestions, assists in increasing farmers' income, and promotes rural revitalization.

Industrial integration development is a crucial lever for promoting industrial prosperity. With the continuous advancement of China's rural revitalization strategy, rural industrial integration development has begun to take shape in various regions [5,6,7]. In the process of industrial integration development, there is a growing demand for land from all parties involved. Land transfer has become an important means to address the shortage of land resources. During land transfer, a large amount of labor—represented by land-transferring households—can break free from land constraints and engage in other industries [8]. Prior to industrial integration, rural households had limited employment options, mainly centered around farming and off-farm work.

As rural industrial integration progresses, employment opportunities for rural households have expanded, including entering family farms, engaging in off-farm work, joining agricultural cooperatives, working for local enterprises, and engaging in individual entrepreneurship. The diversification of employment channels injects new variables into rural development and income generation for rural households. Meanwhile, rural land transfer is an important issue in China's land system reform, and research on land transfer has rich theoretical value and practical significance for China [9,10,11]. Based on the research data from the Hubei Province College Students' Innovation and Entrepreneurship Training Program, this paper uses descriptive statistics to analyze the impact of land transfer on household income and the employment situation of land-transferring households. Additionally, it attempts to use the Ologit model to analyze the effects of different employment channels on changes in household income before and after land transfer, and provides an analysis of the reasons behind these effects. The aim is to provide reasonable suggestions for addressing rural employment, achieving income growth for farmers, and promoting rural revitalization.

2. Text data sources

The data for this study were obtained from the research results of the Hubei Province College Students' Innovation and Entrepreneurship Training Program titled "A Comparative Study on the Welfare of Multi-channel Employment of Land-transferring Households under the Background of Industrial Integration." The research area was identified as three towns and four villages in Guangping County—Nanzhangmeng Village in Dongzhangmeng Town, Niuzhuang Village in Dongzhangmeng Town, Damao Village in Pingudian Town, and Nanhoubao Village in Nanyangpu Town. Four collective questionnaires and 141 individual questionnaires were used for analysis of relevant issues.

Based on the research objectives, this paper selected data from the collective questionnaires related to the industrial development of each village and data from the individual questionnaires regarding changes in household income after land transfer for analysis. Among the individual questionnaires concerning income changes after land transfer, the questionnaire was designed based on the principle of operability. It included questions such as "Has the total household income increased after land transfer?", "Has the operational income of the household increased after land transfer?", "Has the salary income of the household increased after land transfer?", "Has the property income of the household increased after land transfer?", and "Has the transfer income of the household increased after land transfer?", with options provided including "increased significantly", "slightly increased", "remained unchanged", "slightly decreased", and "decreased significantly".

3. Descriptive statistics

3.1 The Impact of Rural Land Transfer on the Income of Farmers Transferring Farmland

This paper uses changes in household income before and after land transfer as a specific indicator to measure the impact of land transfer on household income. Table 1 presents a preliminary analysis of the changes in household income before and after land transfer for households in four villages. The assessment of the impact of land transfer on household income change is as follows: "Decreased significantly" = 1, "Slightly decreased" = 2, "Remained unchanged" = 3, "Slightly increased" = 4, "Increased significantly" = 5. The average impact of land transfer on the change in total household income for the four villages is 3.45.

Table 1: Analysis of Changes in Farmer Income

Village	Income change value				
	Total income	Operating income	Salary income	Transfer income	Property income
Damao Village	3.73	1.56	3.61	3.27	4.29
Nanzhangmeng Village	3.14	2.64	3.04	2.79	3.86
Nanhoubao Village	3.56	1.97	3.25	3.16	4.19
Niuzhuang Village	3.36	2.13	3.15	3.23	3.9
Average value	3.45	2.08	3.26	3.11	4.06

From Table 1, the average change value of household total income is 3.45, indicating that after land transfer, villagers' total income increased, with the most significant growth observed in Da Temple Village. The average change value of operating income is 2.08, indicating a continuous decrease in household operating income, which is related to the significant reduction in family agricultural production after land transfer. The average change value of wage income is 3.26, indicating a continuous increase in household wage income, which is closely related to the ongoing industrial integration, driving more villagers' employment. The average change value of property income is 3.11, indicating an increase in household property income. With the continuous development of local industrial integration, the collective economic income of local villages continues to increase, bringing more benefits to local households. For example, Da Temple Village increases various subsidies for villagers annually using collective economic income, and helps some households pay for medical insurance and pension insurance. The average change value of transfer income for households is 4.06, indicating a significant increase in this aspect of income, which is closely related to the income from land rents.

Table 2: Analysis of Changes in Farmer Income

Village	Households	Agricultural land transfer rate (%)
Damao Village	41	72.21
Nanzhangmeng Village	28	2.64
Nanhoubao Village	33	1.97
Niuzhuang Village	39	2.13
Average value		2.08

Table 2 presents the basic situation of land transfer rates, where the land transfer rate equals the area of land transferred out divided by the sum of the contracted land area and the area of land transferred out. The land transfer rates in Damiao Village and Hounanbao Village are extremely high, and based on our research, the degree of industrial integration in these two villages is also much faster

than that in Nanzhangmeng Village and Niuzhuang Village. This indicates that the deepening of industrial integration requires large-scale land transfer to be matched.

3.2 Employment situation of rural land transfer households

Table 3 shows the basic distribution of employment channels, with no employment=0, within the establishment=1, entering family farms=2, going out for work=3, entering agricultural cooperatives=4, local enterprises=5, farming=6.

Table 3: Basic distribution of employment channels

Distribution of employment modes			
Distribution of employment modes	Frequency	Percentage (%)	Accumulated percentage (%)
0	13	9.22	
1	6	4.26	
2	8	5.67	
3	53	37.59	
4	1	0.71	
5	9	13.48	
6	41	29.08	
Total	141	100	100

From Table 3, it can be seen that in villages where industrial integration continues to advance, the employment opportunities for rural land transfer households have been greatly expanded, from only two previously to six. The employment mode with the highest distribution of people is going out for work, which is closely related to the rapid development of urbanization in China and is in line with the current situation. Compared with before the promotion of industrial integration, its proportion has greatly decreased. The second employment option is farming. According to research at that time, most of these people were elderly and could no longer meet the age requirements for going out to work or entering local enterprises, so they could only engage in agricultural production. The third employment path is to enter local enterprises, which has significantly increased compared to before promoting industrial integration. This is where industrial integration has brought the most significant changes to the local employment situation. According to research, the majority of rural land transfer households working in local enterprises are women, with fewer men. This may be because male rural land transfer households have already gone out to work before land transfer, and the family labor force (mainly female labor force) released after land transfer is more inclined towards local non-agricultural employment. After the transfer of agricultural land, the unemployed rural land transfer households are mostly individuals who are difficult to work due to age or physical reasons. Solving their living security issues is the key to promoting agricultural land transfer and rural governance at present.

4. Model setting, variable selection, and results

To further investigate the impact of different employment paths on household income changes, this article adopts the Ologit simplified model:

$$Y_i = a_0 + \sum_{i=1}^n a_n X_{ni} + a_m D_i + \varepsilon_i \quad (1)$$

In equation (1), Y_i represents the change in total household income of the transferring household. X_{ni} refers to different employment channels for rural land transfer households. The rate of land

transfer in D is. The subscript i represents the i -th farmer. ε_i is the error term, a_0 is the constant term, and a_m and a_n are the coefficients to be estimated. This article uses a mixed data Ologit model to estimate equation (1) and conducts regression analysis on the sample data of migrant workers, where employment path X_{ni} is a dummy variable.

For the convenience of data processing, this article will reduce the total household income by a significant amount, with a slight decrease of income=1, basically unchanged=2, and an increase by a significant amount=3. The following results were obtained using the analysis software SPSSAU (Table 4).

Table 4: Summary of Analysis Results of Ordered Logistic Regression Model

Term	Regression coefficient	P-value
Employment mode 6	-0.480	0.486
Employment mode 5	1.751	0.043
Employment mode 4	-0.475	0.807
Employment mode 3	0.547	0.399
Employment mode 2	17.229	0.988
Employment mode 1	1.772	0.155
Land transfer rate	-0.94	0.891

According to the analysis results, it can be seen that only employment mode 5, namely entering local enterprises for work, passed the p-value test with a regression coefficient of 17.229, which has a significant impact on the total household income and a positive effect. Combining with previous analysis, the majority of rural land transfer households who enter local enterprises for work are women. Compared to those who engage in agricultural labor before rural land transfer, their income situation has significantly improved.

Except for the employment path of entering local enterprises, all other employment methods have not passed the p-value test. Based on descriptive statistical results, it is preliminarily analyzed that this has a significant problem with the size of the data analyzed in this article. The data used in this article is too small, which leads to the extreme value of a single sample having a significant impact on the overall analysis and affecting the overall analysis. In further research, we will supplement the research data and gradually optimize and adjust the model.

5. Conclusion and suggestions

Based on the above descriptive analysis and simplified model analysis, the following conclusions and relevant suggestions are drawn.

1) Encourage land transfer and increase the income of farmers. Through data analysis, it can be concluded that the total income of local farmers continues to increase. However, we have found that villages with a significant increase in total income have a greater decrease in their operating income (mainly agricultural income). This to some extent indicates that although land transfer reduces the operating income of farmers, it has a great driving effect on the growth of total income. Therefore, in order to further increase the income of farmers, the local government should encourage and promote land transfer, optimize the allocation of rural land resources, and promote rural revitalization and development.

2) Accelerate land transfer and promote industrial integration. Through data analysis and on-site research, it was found that villages with high land transfer rates have made deep progress in industrial integration and rapid economic development. This to some extent indicates that promoting rural economic development should focus on industrial integration, and promoting industrial integration requires land transfer to provide development conditions. Only by clearing the obstacles of land

transfer can we better promote the development of industrial integration.

3) Pay attention to the living security of displaced persons and improve the rural security mechanism. Through descriptive statistics, it is found that there are still many rural land transfer households who are in a state of land loss and unemployment due to various reasons such as physical health. Their livelihood security issues are directly related to the stable development of rural areas in China. This requires the country's top-level cracking, continuous improvement of rural security mechanisms, and resolution of the "worries" of rural land transfer households.

4) Pay attention to the construction of local enterprises and improve welfare benefits. Through model analysis, it can be concluded that the work of local enterprises is of great significance in driving the increase of local farmers' income. The construction and promotion of local enterprises can effectively improve the household income situation of farmers. However, there are also certain problems in the construction of local enterprises. The labor force they attract is mostly female and generally older, indicating that the attractiveness of local enterprises is still lacking. In the subsequent construction process, they need to continuously explore how to attract young and middle-aged people to join and retain talents. Only in this way can the vitality of rural areas be guaranteed and the true revitalization of rural areas be achieved.

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