

Research on Increasing Farmers' Income from the Perspective of Adjustment of Income Structure—Take Daqing City of Heilongjiang Province as an Example

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Abstract: Through field investigation and quantitative analysis, this paper studies the problem of increasing farmers' income from the perspective of adjustment of farmers' income structure. The analysis has found that: from the perspective of the composition of farmers' internal income sources, operating income accounts for the largest proportion of peasants in Daqing; property income growth rate is slow; transfer income increases rapidly; the growth rate of wage income is obvious. Considering the characteristics of resource-based cities in the process of transformation, under the condition of guaranteeing farmers' current income level, this paper explores the feasible path to increase farmers' income.

Keywords: Farmers' income; income structure; urban transformation

1. Overview

For a long time, the core work of the government has been around the issue of "agriculture, countryside and farmers". Promoting the increase of farmers' income is an important link to solve the problem of "agriculture, countryside and farmers". Studying the main factors that affecting farmers' income will help to improve the efficiency of precisely alleviate poverty, the quality of farmers' life, the consumption structure of farmers problems, thus promoting the improvement of people's livelihood and the modernization of farmers. The development of industry and the sustained and healthy development of national economy. Therefore, increasing farmers' income is the central task of the work of "agriculture, countryside and farmers". Under the background of the new national economic development and policy, it has certain practical significance to clarify the path of increasing farmers' income.

Daqing City, located in the southwest of Heilongjiang Province, is a typical petroleum resource-based city. The reserves of non-renewable natural resources, such as oil and natural gas, have gradually decreased due to sustained exploitation in the past 60 years. In the background of the depletion of natural resources, it is the

only way to transform resource-based cities like Daqing to actively adjust the industrial structure and seek new supporting industries. Developing modern agriculture is the main industry development direction of Daqing city transformation.

Since the year of 2012, Daqing has started the construction of the National Modern Agricultural Demonstration Zone. Through the development of modern agriculture, Daqing has nurtured a number of agricultural brands with national influence. With the help of "Internet + agricultural products sales" mode, the sales of agricultural products has increased by 7 billion yuan. In Zhaoyuan County, Zhaozhou County, Dulbert County, a number of demonstration farming bases for planting and breeding have been established, and the proportion of animal husbandry output value to total agricultural output value has exceeded 50% for many years, thus forming a sound development of the combination of breeding and breeding. In 2015, the total population of Daqing City was 27.5548 million. The urban population is 1.413 million and the rural population is 1.315 million. The annual per capita disposable income of urban and rural residents in Daqing reached 38,730 yuan and 14,810 yuan respectively, increasing by 6.1% and 6.5% respectively. The per capita disposable income of rural residents continued to grow for many years. Income level is in the forefront of the province [1].

From the year of 2006 to 2015, the per capita disposable income of rural residents in Daqing City has increased year by year, but the growth rate of per capita disposable income among counties is uneven. The per capita disposable income of Zhaozhou, Zhaoyuan and Dulbert increased steadily and continuously in the past ten years, while the per capita disposable income of Lindian County grew well from 2006 to 2011, while the cliff-like decline occurred from 2012 to 2016. However, the per capita disposable income of rural residents in the whole city shows a trend of slow growth to rapid growth. This paper studies the problem of peasants' income structure under the background of urban transformation, and studies the path construction of peasants' income increase from the angle of improving the income

structure, so as to effectively improve the level of peasants' income increase.

2. Analysis of Research Methods, Data Sources and Statistical Results

2.1. Research Methods

Farmers' income is structurally decomposed according to wage income, property income, household operating income and transfer income. The impact of these four statistics on total income is different. Therefore, it is important to find the key factors. This paper studies the relationship between the four kinds of statistics and whether the structural changes of the four kinds of statistics have an impact on farmers' income by means of multivariate analysis of variance.

Multivariate analysis of variance should satisfy the basic conditions of analysis of variance: independence, normality and homogeneity of variance. Variables are correlated, and each group has the same covariance matrix. The dependent variables are multivariate normal distribution [2].

Firstly, descriptive statistical analysis is used to understand the income structure-based income changes of the respondents in 2018. Through questionnaires, the

wage income, property income, household operating income and transfer income of the respondents in 2017 and 2018 were counted respectively.

Secondly, we use multiple variance analysis and multivariate test to check whether the F values of wage income, property income, household operating income and transfer income have statistical significance. To test whether the average values of multiple groups are equal. That is to say, there are differences in the average farmers' total income in Zhaozhou, Zhaoyuan, Dulbert and Lindian counties. Through multivariate test and inter-subject utility test, the relationship between the four statistics and whether the structural changes of the four statistics have an impact on farmers' income.

2.2. Data Sources

From April 2018 to October 2018, a random field survey was conducted among farmers in Saltu, Longfeng, Jeanhu Road, Datong, Honggang, Zhaozhou, Zhaoyuan, Lindian and Dulbert Mongolian Autonomous Counties in Daqing City, Heilongjiang Province. A total of 200 questionnaires were distributed, 188 questionnaires were recovered and 169 valid questionnaires were sent out (Table 1).

Table 1. Descriptive analysis of farmers' gross income in daqing city.

| The totle income | | | | | | | | |
|------------------|-----|----------|----------------|------------|------------------------------|-------------|---------------|---------------|
| | N | Means | Std. Deviation | Std. Error | 95% Confidence Interval Mean | | Minimum Value | Maximum value |
| | | | | | Lower limit | Upper limit | | |
| Zhao zhou | 36 | 52111.11 | 18367.328 | 3061.221 | 45896.50 | 58325.72 | 28000 | 100000 |
| Duerbote | 46 | 49695.65 | 16718.412 | 2464.995 | 44730.90 | 54660.41 | 28000 | 100000 |
| Lindian | 41 | 37121.95 | 14174.264 | 2213.648 | 32648.00 | 41595.90 | 20000 | 100000 |
| Totle Number | 169 | 45887.57 | 16422.050 | 1263.235 | 43393.71 | 48381.43 | 20000 | 100000 |

3. Statistical Analysis

3.1. One-way ANOVA of Total Income

Using SPSS22.0, 169 valid questionnaires were collected. Firstly, the descriptive statistical analysis of farmers' total income in Daqing City is carried out. Among 169 survey samples, 36 were in Zhaozhou, 46 in Zhaoyuan, 46 in Dulbert and 41 in Lindian. In order to ensure the objectivity and diversity of survey samples, each survey sample comes from only one farmer's family. The average total income of the sample in 2018 was 45,887.57 yuan. In terms of county classification, the average gross income of farmers in Lindian County is lower than that of the other three counties. It is consistent with the statistical yearbook. Zhaozhou County has the highest peasant income. From the extreme situation, the minimum income of farmers is 20,000 in Lindian, and the maximum value is 100,000 in four counties.

According to the results, the variance analysis $F = 7.203$, $DF = 3,165$ of the total income of farmers in Daqing City, the significant difference is $0.000 < a = 0.005$, and there are significant differences among the total income of farmers in different counties. The total income of farmers in Zhaozhou and Dulbert is higher than that of farmers in Zhaoyuan and Lindian.

3.2. Descriptive Statistics of the Composition of Farmers' Gross Income Structure in Daqing City

Wage income refers to all the labor remuneration obtained by the employee through various ways, such as the income earned by the peasant workers in non-local enterprises or local enterprises; "property income" refers to the income earned by the owners of financial assets or tangible non-productive assets, who provide funds to other institutions or control tangible non-productive assets as a return. Generally speaking, it refers to the income from the management of family-owned movable property (such as bank deposits, securities, etc.) and real estate. For example, farmers' rental income and land transfer and operation income [3].

Family operating income refers to the income obtained by peasants in production, operation and management. Transferring income refers to various kinds of transfer payments made by the state and units to peasants and income transfer between peasant families.

4. Characteristics of Farmer's Income in Daqing City

With the change of national agricultural policy, the popularization of urbanization and other factors, agricultural production and business model have changed.

Studying the change of peasants' income from the change of income structure is helpful to study the structural change factors of peasants' income increase, and to provide the basis for the sustained and healthy growth of peasants' income.

4.1. Adjustment of Industrial Structure is The Basis of Farmers' income Growth

The grain production in Daqing is increasing year by year, and the farmers' income is increasing continuously. The growth rate of farmers' income has been higher than that of urban residents for many years. However, there is still a certain gap between the income of urban residents and farmers. Taking Daqing City as an example, this paper puts forward that relying on the development of modern agriculture to promote urban transformation, readjustment and optimization of industrial structure. The modern agricultural production mode is different from the traditional agricultural production mode. Intelligent agriculture, ecological agriculture and other new agricultural production methods have changed the traditional production behavior of farmers. As a result, the growth rate and mode of farmers' income have changed.

4.2. Significant Changes Have Taken Place in the Composition of Farmers' gross Income

The composition of farmers' total income has changed significantly. Property income, operating income, wage income and transfer income all show an increasing trend. Operating income accounts for the largest proportion of total income and continues to increase, while wage income accounts for the lowest but the increasing trend is significant. The growth rate of property income and transfer income is not obvious. With the advancement of urbanization in China, the popularization of capital to the countryside and farmers' concurrent operation, wage income has become the main source of farmers' income growth. Wage income is the necessary condition to promote rural development, and is also the main support point to broaden farmers' income channels at this stage. Farmers' own preferences and knowledge quality determine that most farmers will not take wage income as the main source of income. With the continuous improvement of the social pension system and the increase of peasants' pension income, the implementation of the state's agricultural subsidy policy, peasants directly engage in agricultural production and thus receive subsidies. Low-income families also have social relief and poverty subsidy to increase farmers' transferable income.

4.3. Income Gap of Farmers Tends to Increase

Although the income gap between urban residents and farmers has narrowed year by year, the survey found that the income of farmers has gradually expanded. For the high-income peasants in the survey sample (the annual income exceeds 100,000 yuan), they are mainly engaged in agricultural production. Scale management is the trend of modern agriculture. The acceleration of land transfer

has resulted in many large-scale agricultural production and operators. Family farms and large professional households in the sample often operate dozens of times larger than the average. Some farmers are still engaged in agricultural production at the age of 70. Lack of labor resources, low land productivity and low marketization of agricultural products result in slow income growth.

5. Conclusions and Suggestions

5.1. The Premise of Income Growth is The Stability of The Existing Income Level

Directly engaged in agricultural production and operation activities is the main channel for farmers to get income in Daqing. Because of the existence of agricultural risks, for farmers engaged in different types of agricultural production, their agricultural risks are different and their income is unstable. To study the problem of peasants' income, the precondition is to ensure the stability of peasants' current income level. On the premise of controlling and reducing agricultural risks, it is of great significance to study and broaden new channels for increasing farmers' income so as to maintain a sustained and rapid growth of farmers' income. Agricultural insurance, as a stabilizer of agricultural production, is the most effective tool to guarantee farmers' income at present. Agricultural insurance in China started late, mainly policy-based agricultural insurance, but on the one hand, agricultural insurance can subsidize agricultural producers, on the other hand, it also guarantees the stability of farmers' current income level, which is an effective tool to ensure the existing income level.

5.2. Training Professional Farmers in Modern Agricultural Production

Developing modern agriculture is the inevitable trend of agricultural development. The development of modern agriculture is based on large-scale operation. The operation of large-scale agriculture is different from the traditional scattered agricultural production mode. Modern agricultural production mode needs a large number of professional farmers. Daqing City can rely on nearby universities and scientific research institutes to formulate career planning for professional farmers. Practical "peasants" become a profession, strengthen the training of peasants' vocational skills, and enhance their agricultural management literacy. Focus on the in-depth cultivation of rural human capital, establish and improve the employment security mechanism of migrant workers, so as to enhance the wage appeal ability of migrant workers [4].

5.3. Improving the Agricultural Socialization Service System

With the integration and development of agricultural industry, agricultural socialization service system is needed to cover the whole process of agricultural production and operation. As long as agricultural machinery operation services are provided, agricultural machinery subsidies can be obtained, which is more

conducive to play the role of agricultural socialization services in promoting farmers' transfer income [5]. We should construct inclusive financial system, provide targeted agricultural technology services to farmers, and pay attention to the quality of mechanical services, in order to improve the level of agricultural social services [6]. The construction of agricultural socialized service system needs the support and guidance of the government to change the traditional idea that agriculture pays more attention to production than operation. Perfect service system of agricultural socialization will contribute to the increase of farmers' income.

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