Statistical Analysis of the Composition of Farmers' Income in Hubei Province

Chunjiao Gao

Fuzhou University of International Studies and Trade, Fuzhou 350202, Fujian, China

Abstract: Firstly, the comparative analysis method and descriptive analysis method are used to analyze the status quo and change trend of the per capita net income of farmers in Hubei Province. Then, the multivariate regression statistical analysis method is used to analyze the factors affecting the income of farmers in Hubei Province. Quantitative analysis to find out the main influencing factors of farmers' income and their degree of influence; Finally, based on the qualitative analysis and quantitative analysis of the actual situation of farmers' income in Hubei Province, evaluate the changes in farmers' income composition in Hubei Province, and to Hubei Suggestions for countermeasures to increase the income of farmers in the province.

Keywords: Peasant income Composition; Comparative analysis method; Multiple regression.

1. Introduction

China ,as a big agricultural country in the world, the rural population accounts for about 70% among the 1.3 billion people. The issue of "three rural issues" has always been one of the most basic problems in China, and it is still a hot issue in today's society, especially the "farmers' income". problem. As early as February 9, 2004, "Opinions of the Central Committee of the Communist Party of China and the State Council on Several Policies for Promoting Farmers' Income Increase" clearly stated that if "the peasants' income does not go up for a long time, it will not only affect the improvement of farmers' living standards, but also affect the production of food and the supply of agricultural products. It not only restricts the development of rural economy, but also restricts the development of the entire national economy; it not only affects the progress of rural society, but also the realization of the goal of building a well-off society in an all-round way; it is not only a major economic issue, but also a major political issue." The agricultural population of Hubei Province accounts for 54% of the total population of the province, with a large proportion. In the new century,

Hubei's agriculture and rural economy have developed rapidly. At this stage, farmers' income has increased significantly. The per capita net income of farmers has increased from 2,268.50 yuan in 2000 to 50,35.26 yuan in 2019. This change is related to the income of farmers in our province. The changes in composition are closely related. By analyzing and analyzing the income composition of Hubei farmers and the influencing factors of their changes, the internal mechanism of farmers' income changes in our province can be well explained, and it can provide a reference method and basis for the province to continue to improve farmers' income. Therefore, research The changing situation of the income structure of farmers is particularly important.

This paper mainly analyzes the income of farmers and analyzes how farmers increase their income. The statistical analysis of the income composition of farmers is conducive to the direct cause of the increase in farmers' income. The statistical analysis of the composition of farmers' income is conducive to the formulation and implementation of farmers' income increase policies.

2. Analysis of the Status Quo of Farmers' Income in Hubei Province

The structure of farmers' incomes is changing in recent years. In the early days, there were not many farmers in the pure sense. The typical model of rural households is now a part-time farmer. From the perspective of wage income, it was 547.69 yuan in 2000, and it increased to 1900.69 yuan in 2009, with an average annual growth rate of 24.70%, which is growing fast. From the perspective of family business income, it was 1617.8 yuan in 2000 and 2854.38 yuan in 2009. The average annual growth rate is 7.67%, and the growth is relatively stable. From the perspective of property income, it was 19.55 yuan in 2000, and increased to 50.37 yuan in 2009, with an average annual growth rate of 15.76%. From the perspective of transfer income, it was 83.46 yuan in 2000. In 2009, it grew to 225.81 yuan, with an average annual growth rate of 17.06%. It has grown rapidly in recent years.

Table 1. Proportion of farmers' income in Hubei Province.

Year	% of the sum of wage income and net income from family operations (A)	Ring growth rate A%	% of the sum of transfer income and property income (B))	Ring growth rate B%
2000	95.46		4.54	
2001	96.03	0.60	3.97	-12.56
2002	96.42	0.41	3.58	-9.82
2003	97.09	0.69	2.91	-18.72

2004	97.12	0.03	2.88	-1.03
2005	96.50	-0.64	3.50	21.53
2006	96.34	-0.17	3.66	4.57
2007	96.24	-0.10	3.76	2.73
2008	95.20	-1.08	4.80	27.66
2009	94.52	-0.71	5.48	14.17

Source: Historical Yearbook of Hubei Province

It can be concluded from Table 1 that the percentage of the two together in the income of farmers is 95.46% in 2000 and 94.52% in 2009. However, from the perspective of the growth rate of the chain, the proportion of the sum of wage income and family business income is a slight downward trend, which is due to the increase in transfer income and property income, although the proportion of the combination of transfer income and property income is growing at a higher rate, but because it accounts for farmers' income. The proportion is small, so the effect on the income of farmers is still small. Therefore, the direct factor that determines the increase in farmers' income is still the increase in wage income and family business income.

3. Factors affecting the growth of farmers' income in Hubei Province

3.1 Indicator definition

There are many factors affecting the per capita net income (y) of farmers. Only five representative factors are selected for analysis: labor quality (x1), rural surplus labor transfer level (x2), agricultural product purchase price index (1990= 100) (x3), agricultural labor per capita possession of cultivated land (hectares) (x4), rural fixed asset investment (x5), government financial support level (x6). Among them, the per capita net income of farmers (RMB) = the total income of farmers in Hubei Province / the total number of farmers.

(1) Scale of rural land: The per capita possession of cultivated land (ha) by the agricultural labor force indicates that the per capita cultivated land of the agricultural labor force (ha) = the total area of cultivated land occupied by the rural population per year / rural labor

(2) Labor quality: refers to the proportion of the population with a junior high school education or above to the total rural population. Among the total rural population in Jiangsu Province, the proportion of the population receiving junior high school education and above is the proportion of the total population.

(3) The level of rural surplus labor transfer: expressed by the rural surplus labor

transfer rate (%), rural surplus labor transfer rate = rural surplus labor transfer volume / rural labor. Among them, the amount of rural surplus labor transferred = the number of non-agricultural workers in the township area + the number of people working in the field.

(4) Agricultural product purchase price index: based on 1990, calculated by weighting.

(5) Rural fixed assets investment: The per capita rural fixed assets investment (RMB) indicates that the per capita rural fixed assets investment = annual rural fixed assets investment / rural population at the end of the year.

(6) Government financial support for agriculture: According to the per capita financial support for farmers (RMB), the annual per capita financial support for agriculture = annual fiscal support for agriculture / rural population at the end of the year.

3.2 Model Establishment

Construct a multivariate regression statistical analysis model: $Y = a_i + \beta_i * X_i$ ($i = 1, 2, ..., 6$); where Y represents the per capita net income of farmers in Hubei Province, X_i is the i-th influencing factor, a_i and β_i The parameters to be evaluated. Using the spss software, the results of the model are:

$$Y = 2127.978 + 12.516 X_1 + 2.750 X_4 + 18254.436 X_6$$

3.3 Result analysis

It can be seen from Table 2 that there is a significant linear relationship between the per capita net income of farmers and the three influencing factors of X1, X4 and X6. It shows that the per capita net income of farmers is mainly affected by the level of government financial support for agriculture, the quality of labor force, and the per capita possession of cultivated land by agricultural labor.

Table 2. Main parameters of linear regression equations affecting the per capita total income of farmers in Hubei Province.

	Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std.	Beta		
1	(Constant)	2127.978	106.984		19.891	.000
	Government financial	12.516	.912	.979	13.717	.000
2	(Constant)	-3559.774	2257.156		-1.577	.159
	Government financial	8.921	1.591	.698	5.607	.001
	Labor quality level	89.369	35.442	.314	2.522	.040
3	(Constant)	-8903.367	1333.658		-6.676	.001
	Government financial	2.750	1.268	.215	2.169	.073

	Labor quality level	97.952	15.085	.344	6.493	.001
	Agricultural labor force per capita possession of	18254.436	3176.650	.475	5.746	.001

4. Conclusion

This paper constructs that the per capita net income of farmers in Hubei Province is generally on the rise. The income from family business mainly comes from the sales of agricultural products, and is affected by the purchase price of agricultural products, the price of agricultural production materials, the investment of farmers in agricultural fixed assets, and the structure of supply and demand in the market. The main factors restricting wage income are the transfer rate of rural surplus labor, urbanization rate and labor quality. The changes in the structure of the agricultural industry and the government's policy factors on agriculture also have a certain impact on the income of farmers. The agricultural labor force has the greatest impact on the per capita possession of cultivated land, followed by the impact of rural fixed asset investment, rural surplus labor transfer level and labor quality level. The government's fiscal support level is relatively least affected.

5. Countermeasures and Suggestions

5.1 Adjust and optimize the structure of agricultural industry

Actively adjust and optimize the agricultural industrial structure, develop high-quality, high-yield, ecological and safe agriculture, focus on market demand, improve the quality of agricultural products, expand the comparative advantages of agricultural products, and improve agricultural and rural economic benefits, such as optimizing grain structure and focusing on the development of high-quality rice. Expand the production of high-quality rice, and vigorously develop organic foods and green foods, improve the quality of food and food safety, and develop green brands to enhance the competitiveness of agricultural products. At the same time, combined with the advantages of water resources in Hubei Province, we will vigorously develop superior aquatic products and increase farmers' income.

5.2 Expand the agricultural product market and establish an industrial system for increasing farmers' income.

First, expand the "green channel" of agricultural products, so that more fresh fruits, fresh vegetables, fresh poultry and livestock, and aquatic products will be circulated. At the same time, promote the establishment of agricultural and sideline products production bases, and support them from funds, credit, land, etc. Accelerated on the basis of family management, the scale of the individual, the overall construction of

regional agricultural and sideline products base, and gradually formed a "product + market + base + farmers" production pattern. The mushroom industry in Suizhou City, Hubei Province is a successful example. The second is to set up and improve various farmer associations, professional cooperation, community cooperatives and joint-stock cooperatives to improve the organization of farmers' self-service and market access; it is also necessary to establish and improve service institutions and business entities such as market information and agricultural products.

5.3 Continue to accelerate the construction of small urbanization, develop rural secondary and tertiary industries, and create more employment opportunities

Accelerating the pace of development of small towns should firstly plan the layout of small towns in a scientific way. It is necessary to rely on the existing county towns to build small county-level cities along the railways and highways. Accelerate the construction of infrastructure such as business, finance, services, communications, medical care, health and culture in small towns. Second, the establishment of small and medium-sized enterprises through the construction of small towns. Encourage the development of rural private and private economy and accumulate in small towns, encourage various economic components to invest in the infrastructure construction of small towns, and encourage farmers and industrial and commercial households to go to small towns to run business enterprises. Increase support for taxation, resources, etc., and prosper the economy of small towns. Develop tourism agriculture, sightseeing agriculture and leisure agriculture, and encourage farmers to start their own businesses and return to their hometowns.

5.4 Increase investment in rural education, strengthen training for farmers, and improve the quality of rural labor

Must be based on the improvement of the quality of the workforce. In addition to increasing capital investment and improving rural education infrastructure, the most important thing is to improve the faculty strength of rural teachers. It is necessary to strengthen the peasants' ideological and conceptual education and professional technical training, which requires first strengthening the education of ideological concepts, so that farmers' cultivation and breeding can keep up with the needs of the market; secondly, setting up modern agricultural concepts, so that they can change the backward tradition from the ideological perspective. The agricultural model boldly adopts modern technology and information; finally, it establishes the concept of scientific and technological innovation. In professional and technical training, various measures such as conducting expert seminars and starting skills training courses can be taken to improve the cultural quality of the workforce. At the same time, we must

also advocate a scientific lifestyle, deepen the reform of the rural medical and health system, and enhance the physical fitness of farmers.

5.5 Increase financial support for rural areas

On the one hand, it has increased the loans of agricultural development banks to support agriculture, agricultural industrialization and rural infrastructure construction from the policy; on the other hand, the government has introduced relevant policies to encourage state-owned commercial banks and rural commercial banks to increase the number of farmers and rural enterprises. Loans, especially to give full play to the role of rural credit cooperatives. At the same time, it is necessary to organize and guide all kinds of private funds to better serve the "three rural", allowing farmers to establish self-service-oriented cooperative and multi-ownership financial organizations to handle rural deposit and loan business.

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