An Empirical Analysis of the Relationship Between Farmers' Income and Economic Growth in Fujian

Qinping Chen

Fuzhou University of International Studies and Trade

Fuzhou, China

Abstract—**Increasing the income of peasants is the key to resolve the problems of peasants, countryside and agriculture. It is not only related to the interests of farmers and rural development, but also directly related to the overall situation of social stability and national economic development. Therefore, how to fundamentally solve the problem of farmers' income growth is still very worthy of attention and research. Taking Fujian Province as an example, the paper uses logarithmic-linear model to verify the fact that farmers' income growth is lower than GDP growth, and puts forward corresponding countermeasures and suggestions to increase farmers' income.**

Keywords—*farmers' income; economic growth; logarithmic-linear model*

I. INTRODUCTION

Farmers' income is not only related to the interests of farmers and rural development, but also directly related to the overall situation of social stability and national economic development. From the perspective of farmers' interests, raising their income is their greatest hope; from the perspective of rural development, backward rural public utilities are closely related to the lower level of farmers' income; in the view of national economy, if farmers' income fails to rise, rural purchasing power will not be improved, expanding domestic demand and developing the economy will be constrained. Farmers can't get rich, and the goal of building a well-off society in an all-round way can't be achieved eventually. Farmers' income is the key to resolve the problems of peasants, countryside and agriculture.

Therefore, it is still an important issue for to research to recognize the current situation of farmers' income and seek effective ways to increase farmers' income. The paper uses logarithmic-linear model to verify the fact that farmers' income growth is lower than GDP growth, and puts forward corresponding countermeasures and suggestions to increase farmers' income.

II. THE EMPIRICAL ANALYSIS

Firstly, the paper studies the relationship between rural per capita net income and per capita GDP in Fujian province, in order to find out whether the growth of farmers' income lags behind the economic growth rate, or to what extent farmers can share the achievements of economic development. Therefore, the log-linear model is established, and the coefficients can directly show the relationship between rural per capita net income and GDP.

$LnRYt = \beta1 + \beta2 \times lnVDPt$

RY: rural per capita net income

VDP: per capita GDP

This paper uses the data from 1978-2009, all the data are from Fujian statistical yearbook (past), to eliminate price changes, the rural per capita net income eliminate the rural consumer price index, per capita GDP eliminate retail price index and all data are converted based on 1977. (See "Table I")

TABLE I. FUJIAN RURAL PER CAPITA NET INCOME AND PER CAPITA GDP

Years	Rural per capita net income (yuan)	Per capita GDP (yuan)	Rural Consumer Price Index (%)	Retail price index (%)	RY(yuan)	VDP(100 million)
1978	138	273	100	100	138	272
1979	142	300	103	103	138	290
1980	172	348	108	109	160	319
1981	232	416	110	113	211	368
1982	268	457	114	117	236	390
1983	302	487	115	119	263	411
1984	345	591	116	121	297	490
1985	396	737	125	134	317	549
1986	419	809	131	143	319	567
1987	485	999	142	157	342	638
1988	613	1349	179	199	343	676
1989	697	1589	213	237	328	672
1990	764	1763	210	233	365	756

Years	Rural per capita net income (yuan)	Per capita GDP (yuan)	Rural Consumer Price Index (%)	Retail price index (%)	RY(yuan)	VDP(100 million)
1991	850	2041	215	241	396	847
1992	984	2557	223	254	441	1006
1993	1211	3556	255	289	475	1229
1994	1578	5193	320	356	493	1460
1995	2049	6526	366	407	559	1603
1996	2492	7646	386	425	646	1798
1997	2786	8775	391	424	713	2067
1998	2946	9603	389	418	757	2297
1999	3091	10323	386	403	801	2559
2000	3230	11194	391	399	826	2805
2001	3381	11691	388	391	871	2990
2002	3539	12739	387	384	913	3314
2003	3734	14125	391	381	954	3708
2004	4089	16235	408	391	1002	4150
2005	4450	18353	420	394	1061	4663
2006	4835	21105	421	396	1149	5336
2007	5467	25582	444	413	1233	6201
2008	6196	29755	464	436	1335	6823
2009	6680	33437	454	427	1471	7832
2010	7427	40025	470	441	1581	9067
2011	8779	47377	495	463	1775	10241
2012	9967	52763	506	471	1968	11204
2013	11405	58145	518	476	2201	12212
2014	12650	63472	528	481	2396	13186
2015	13793	67966	537	481	2569	14134
2016	14999	73951	545	484	2752	15271
2017	16335	82677	549	487	2974	16971

In this paper, Eviews 8.0 is used for regression analysis, and the results are shown in "Table II".

TABLE II.   REGRESSION RESULTS

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.463354	0.096725	15.12907	0.0000
LNX	0.660331	0.012482	52.90098	0.0000
R-squared	0.986603	Log likelihood		35.91846
Adjusted R-squared	0.986251	F-statistic		2798.513

According to the regression results, R2=0.98, close to 1, shows the model fits well, and the variable LNX is equal to 0, which is extremely significant. According to the regression results, the regression equation is:

LNRY = 1.4633 + 0.6603*LNVDP

This coefficient is the elasticity of farmers' income to GDP, and the elasticity is less than 1, indicating that the growth rate of farmers' income is less than the growth rate of GDP. For every 1% increase in per capita GDP, the per capita net income of farmers only increases by 0.63%. This shows that although farmers' income is indeed increasing, it is lower than the average growth rate of the society. Moreover, with the increase of price level, farmers' income has increased in nominal terms, but the real purchasing power level has been declining. As a result, farmers have fallen into difficulties in life, especially in coping with the current medical treatment and education. So it is urgent and necessary to speed up agricultural development, promote agricultural efficiency and increase farmers' income

III.   CONCLUSION

Firstly, it's a must to actively promote the urbanization process, and promote the combination of agricultural urbanization and industrialization. Agricultural industrialization is an important way to transform traditional agriculture into modern agriculture and the only way to solve China's agricultural problems. This also is a kind of effective new way that increases farmer income directly. At the same time, through the transfer of surplus rural labor to increase the income level of farmers indirectly.

Secondly, it's a must to invigorate the rural market economy, standardize the agricultural means of production market, and raise grain purchase prices. It is necessary to strengthen the assistance of departments, increase the financial support, control the operating threshold and strengthen market supervision. At the same time, it is necessary to establish and improve the resistance mechanism of business analysis in order to fight against illegal traders and standardize market order.

Finally, it's a must to cultivate new farmers with culture, technology and management skills, step up agricultural restructuring to replace the traditional agriculture with modern farming. Whether it is to develop agriculture or to promote the transfer of employment of farmers, it's needed to constantly improve the quality of farmers, take improving the comprehensive quality of farmers as the support point for the growth of farmers' income, and effectively strengthen the training of farmers. The government should instill farmers' scientific and technological concepts, change their educational ideas, organize various agricultural new technology extension classes in the countryside, improve the

conversion rate of scientific and technological achievements, and benefit the local farmers in real terms.

REFERENCES

[1] Ju-Hong Bai. Analysis of the Relationship between Farmers' Income Level and Rural Human Capital [J]. Journal of Agrotechnical Economics, 2003(1):16- 18.

[2] Feng-Lian Tan, Yu-Wen Peng. Correlation Analysis of Urbanization, Economic Growth and Farmer Income [J].Journal of Hunan Agricultural University (Social Sciences), 2018, 19(05):94-100.

[3] Shan-Xu,Ya-Jun Xiong. Dynamic Analysis of Economic Growth and Farmers' Income — Take Hubei Province as an Example [J]. Henan Science, 2018,36(07):1111-1118.

[4] Zhi-Jun Zhang, Xiong-Jian Guo.Effects of Population Preferences Reversal on Income Growth of Rural Households — Based on the Analysis of Empirical Data of Farmers in Northwest China [J]. Fudan Journal(Social Sciences Edition), 2010(04):72-80.

[5] Hong-Lin Li, Qing-Lian LI, Juan Wang.Research on the Impact of Agricultural Technology Progress on Farmers' Income in Western Regions [J]. Ecological Economy ,2019,35(01):84-89.