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On the Relations between Income Structural Change and Consumption of Rural Residents in China

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Abstract The relations between income structural change and consumption of rural residents in China were discussed through theoretical and empirical analysis based on studying the status of income structural change and consumption of rural residents in China.

Key words Income structure; Marginal propensity to consume (MPC); Inverted U; China

As a great agricultural power, income and consumption of rural residents is always a significant part of "agriculture, rural areas and peasants" problems in China. Since the reform and opening up, urbanization and industrialization of China has been developed rapidly, secondary and tertiary industries also have been greatly promoted; the ratio of wage income to per capita net income of rural residents has been gradually increased, and the income structure has been optimized; both income and consumption level of rural residents have been stably improved. However, due to the unbalanced regional development, the income structure of rural residents in some regions is unitary which leads to the low income level and further hinders the promotion of consumption level. Therefore, it is necessary to analyze the relations between income structural change and consumption of rural residents, so as to improve their income and consumption level through optimizing the income structure.

Among the previous studies on the relations between income and consumption of rural residents, the influence of income level on consumption structure of rural residents has always been paid more attention. For example, YUAN Chun-mei discussed how to open rural consumption market to promote rural consumption through analyzing the income of peasants in *Increasing Peasants' Income to Promote Consumption Demands*^[1]; CAI Xin-yan *et al.* analyzed the factors restricting the consumption structure of rural residents in Henan Province, and on the basis of which put forward policy alternatives to promote the rationalization of consumption structure^[2]; WANG Shan-shan *et al.* analyzed the characteristics, problems and restraining factors of rural residents' consumption structure in China in *On the Changes of Peasants' Consumption Structure*^[3], and based on which put forward corresponding suggestions for optimizing rural residents' consumption structure. However, there are hardly studies on the relations between income and consumption from the perspective of income structural change. In view of the actual conditions in rural areas, that is, the ratio of property transferred income to per capita net in-

come is too low and fluctuates irregularly, thus the ratio of wage income to per capita net income can effectively reflect the change of rural residents' income structure, which means that the higher the ratio of wage income to per capita net income, the higher the level of income structural change. Therefore, the authors adopted empirical studies on the relations between the consumption and the ratio of wage income to per capita net income from the perspective of rural residents' income structural change.

1 Analysis of rural residents' income structural change and consumption status in China

Since the reform and opening up, the income structure of rural residents in China has experienced unceasing changes, the income and consumption level has been greatly promoted. However, due to the differences in natural environment, social culture, economic and technological level, policy and legal system of different areas, the income level, income structural change and consumption level of rural residents also differ greatly. Based on analyzing *China Statistical Yearbook*, both the structural changes of income and the consumption status of rural residents were analyzed.

1.1 Analysis of rural residents' income structural change The income structure of rural residents in China has experienced unceasing changes in the past few years, and the ratio of each income source to per capita net income has fluctuated greatly, which showed an overall transition from the unitary structure (mainly depends on income of household business operation) to the diversified structure (depends on both income of household business operation and wage income). In 1990, the net income of rural household business operation achieved 518.55 yuan which was 75.56% of the per capita net income, while wage income was only 138.80 yuan and 20.22% of the total; in 2007, the absolute amount of rural household business operation net income increased to 2 193.67 yuan, but only took up 52.98% of the per capita net income of rural residents which decreased by 22.58% from that of 1990, while the wage income increased to 1 596.22 yuan and accounted for 38.55% of the per capita net income which increased by 18.33% from the 1990 level;

comparatively speaking, the ratio of property transferred income to per capita net income had increased during this period, but never exceeded 10%, thus only had insignificant influence, additionally, it changed irregularly due to the joint-influence of economic, social and cultural aspects of different areas on its source and component. Therefore, due to the less contribution of property transferred income to per capita net income and its irregular change caused by the imperfect social security system, financial investment system and other relevant systems in China, it is reasonable to utilize the ratio of wage income to per capita net income to evaluate the structural change of rural residents' income in China which is in accordance with the actual conditions of China.

The structural change of rural residents' income in China varies greatly in different areas. For example, in the areas with advanced industrialization and urbanization, wage income accounts for more than 50% of the per capita net income, and even exceeds far more than the ratio of household business operation income to per capita net income. In 2007, the wage income of rural residents in Beijing achieved 5 605.65 yuan which accounted for 59.38% of its per capita net income, and the wage income of rural residents in Shanghai even achieved 7 353.42 yuan which accounted for 72.49% of its per capita net income while its household business operation net income only accounted for 7.43%. On the contrary, in some western areas in China, the income of household business operation is still the dominant part of rural residents' income. For example, the wage income of rural residents in Xinjiang only was 330.75 yuan in 2007 which only accounted for 10.39% of its per capita net income, while the net income of household business operation had always contributed more than 80% of the per capita net income. The income level of rural residents varies greatly in different regions in China, the ratio of wage income to the per capita net income gradually declines from eastern to central and western regions, and the structure of rural residents' income in areas with relatively advanced industrialization and urbanization level changes more drastically, and their overall income and consumption level are relatively higher.

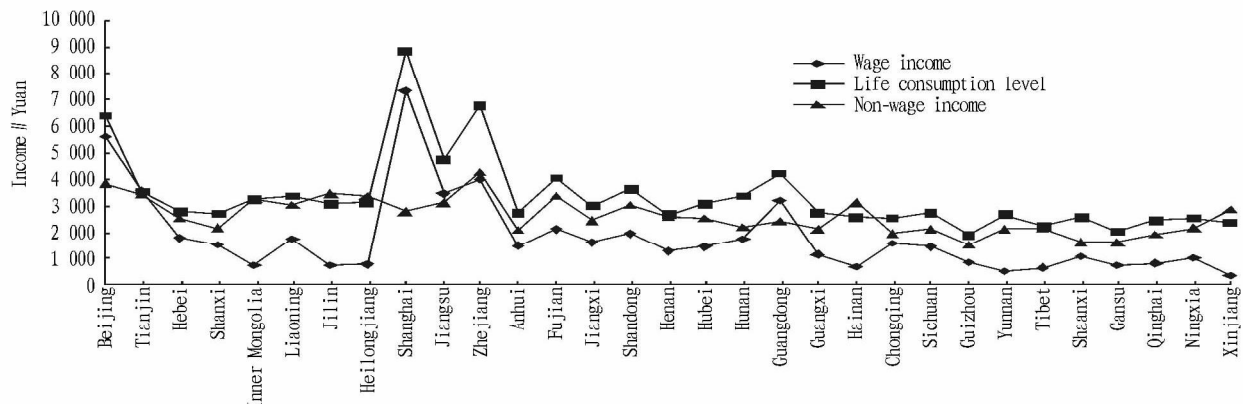


Fig.1 Relations between life consumption level and income structure in different areas of China

With a vast territory and unbalanced regional development, income and consumption level of rural residents differ greatly. It

1.2 Analysis of rural residents' consumption status in China In recent years, the consumption level of rural residents in China has been greatly promoted. In 2000, the per capita living expenditure of rural households in China was only 1 670.13 yuan and increased to 3 223.85 yuan by 2007 which almost doubled. From the perspective of living expenditure structure, the ratio of the expenditure on foods of rural residents had decreased from 58.80% of 1990 to 43.08% of 2008, while the ratio of transportation, communication, and cultural, recreation and service activities had increased from 6.81% of 1990 to 19.67% of 2007, that is, the level of consumption structure had been optimized to some extent during this period.

From the perspective of MPC, Absolute Income Hypothesis of Keynes puts forwards that MPC is declining with the increasing income level^[4], therefore, the per capita annual consumption expenditure of each urban household was 9 997.47 yuan in 2007 which was much higher than that of rural household, however, the rural MPC was higher than the urban MPC. In view of this, WANG Xin-rong put forward through empirical studies that people with high income do not show a low consumption propensity, and the economic development certainly has restraining influence on the consumption^[5]. Thus, the authors will further explore the relations between income structural change and MPC through empirical analysis as below.

2 Theoretical analysis of the relations between rural residents' income structural change and consumption in China

Through analyzing the *China Statistical Yearbook of 2008*, it can be known that the higher the level of rural residents' income structural change, the higher the income and consumption level, that is, the ratio of wage income to per capita net income of rural residents in China and their income as well as consumption level show a positive correlation. The differences of rural residents' income and consumption level in different regions in China are mainly caused by different wage income levels, and the relations between which are as Fig. 1 shows:

could be known from Fig. 1 that the non-wage income levels of rural residents in different regions of China are almost equal,

and the differences in per capita net income are mainly caused by the varied wage income level; and the wage income level can directly demonstrate the level of rural residents' income structural change in China (the ratio of wage income to per capita net income). Therefore, the life consumption level of China's rural residents is largely influenced by the structural change level of their income.

Also, there is a minimum hierarchy of rigid demands in the rural residents' consumption in China, that is, the life consumption of rural residents has a minimum value to satisfy their basic life consumption demands. As for the areas with relatively low wage income, such as Inner Mongolia, Liaoning, Jilin and Heilongjiang, wage income of rural residents can not satisfy their basic consumption demands, thus non-wage income that dominates the per capita net income is taken as the supplementation. However, as the wage income of rural residents reaches a certain level, and the basic life consumption demands of them are satisfied, the income structure should be optimized so as to further promote the life consumption level of rural residents. It can be clearly told from Fig. 1 that the non-wage income of rural residents in relatively developed areas, such as Shanghai, Jiangsu, Zhejiang and Guangdong, the high consumption level of their rural residents is completely relied on the change level of rural residents' income structure. Therefore, a higher change level of rural residents' income structure (a higher ratio of wage income to per capita net income) is beneficial to promoting the income and consumption level of rural residents and narrowing the regional gap in income and consumption, which can help realize the sustainable and healthy development of China's rural economy in an all-around way.

3 Empirical analysis of the relations between rural residents' income structural change and consumption in China

The change level of rural residents' income structure in China shows a positive correlation with their income and consumption level, that is, the higher the level of rural residents' income structural change, the higher the level of their income and consumption. Therefore, the income and consumption level of rural residents in China can be classified into 3 levels according to the ratio of wage income to per capita net income: ① Low income and consumption level (the ratio of wage income to per capita net income is 0–35%); ② Moderate income and

consumption level (the ratio of wage income to per capita net income is 35%–60%); ③ High income and consumption level (the ratio of wage income to the per capita net income is above 60%).

The consumption theories of Keynes hold that MPC gradually declines with the increasing income level, that is, the higher the level of rural residents' income structural change, the higher their income, the higher the consumption level of rural residents, and the lower the MPC. To clarify the relations between rural residents' income structural change level and MPC, the income structure of rural residents in China can be classified into 11 levels according to the ratio of wage income to per capita net income with a selected model as: $c_i = a_i + b_i \times y_i$

Where c_i is the life consumption expenditure of the i^{th} level of income structure; a_i is the consumption demands that is not influenced by income level in the i^{th} level of income structure; b_i is the MPC in the i^{th} level of income structure; y_i is the per capita net income in the i^{th} level of income structure. According to the data of 31 provinces in *China Statistical Yearbook 2000–2007*, the regression analysis results can be obtained as Table 1 shows through adopting *Eviews 3.1*.

In terms of rural residents' income and consumption level, 50.40% of China's rural residents belong to low income and consumption level, and the ratio of their wage income to per capita net income is less than 35%, while there are only 3.23% of rural residents belonging to high income and consumption level, that is, the overall income and consumption level of China's rural residents is not high, and most of them are still at the low level. In terms of the rural residents' income structural change level, there are only 20% or even less rural residents whose wage incomes account for more than 45% of the per capita net income; the wage incomes of about 1/4 rural residents only account for 25%–35% of the per capita net income; 20.97% rural residents largely depend on non-wage incomes whose wage incomes contribute even less than 20% to the per capita net income; and there are only 10.89% rural residents whose wage incomes account for more than 50% of the per capita net income, that is, the overall change level of rural residents' income structure in China is low and their wage incomes contribute insufficiently to the per capita net income. In terms of MPC, the relations between MPC and each income and consumption level as well as the change level of income structure are as Fig. 2 shows.

Table 1 Relations between income structural change and MPC of rural residents in China

Income and consumption level	Income structural change level	Ratio of wage income	Ratio of sample from each level//%	Cumulate ratio of sample from each level//%	MPC
Low income and consumption level	1	0%–15%	8.06	8.06	0.674
	2	15%–20%	12.90	20.97	0.670
	3	20%–25%	5.24	26.21	0.698
	4	25%–30%	12.90	39.11	0.726
	5	30%–35%	11.29	50.40	0.609
Middle income and consumption level	6	35%–40%	24.19	74.60	0.678
	7	40%–45%	6.85	81.45	0.799
	8	45%–50%	7.66	89.11	0.967
	9	50%–60%	5.24	94.35	0.606
High income and consumption level	10	60%–70%	2.42	96.77	0.669
	11	Above 70%	3.23	100	0.980

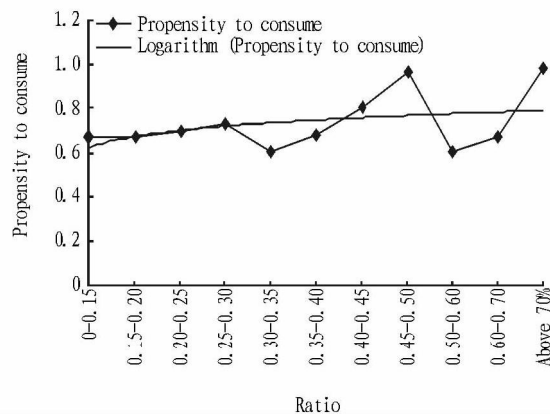


Fig. 2 Relations between income structural change and MPC of rural residents in China

With the improving change level of rural residents' income structure in China, mean propensity to consume has shown a slowly increasing trend, that is, on the whole, rural residents with high income in China do not show a low propensity to consume, and the insufficient consumption is mainly caused by the low income level (Fig. 2). Specifically speaking, with the improving wage income ratio, the MPC of rural residents at all income consumption levels shows an "inverted U" trend in China, which is concretely demonstrated at the following 3 levels:

(1) Low income and consumption level (the ratio of wage income is 0–35%). As the wage income ratio is close to 0, the MPC of rural residents is around 0.67, and then the consumption would be seriously insufficient due to the low income level. Thus, with the improving change level of income structure, the income level of rural residents would be gradually promoted, their MPC would also be increased correspondingly so as to complement the insufficient consumption due to the low income level; until the MPC achieves its highest 0.726, the basic life consumption demands of rural residents at the low income and consumption level would be satisfied, and they would have surplus money with the improving change level of income structure, then they would spend these money according to their actual needs, for example, saving it or using for expanded reproduction, by doing so, the MPC of rural residents would again decline gradually to its lowest 0.609.

(2) Moderate income and consumption level (the ratio of wage income is 35%–60%). With the gradually improving change level of rural residents' income structure, the basic life consumption demands of those at the low income and consumption level would be satisfied, and then they would save surplus money or invest in the reproduction projects. As the ratio of wage income is continuously increasing, rural residents at the low income and consumption level would go into the moderate level, while the basic life consumption demands of those at the moderate level are higher than those at the low level, then again seriously insufficient consumption would be caused due to the low income level of those newly join the moderate level, their MPC would be gradually improved with the further optimization of their income structure which would finally achieve the highest (MPC 0.967) as the change level of income structure satisfy their basic life consumption demands. Similarly, as the

basic life consumption demands of those at the moderate income and consumption level are satisfied, they would place their surplus money as saving or investment with the further improvement of their income structural change, and then the MPC would again decline until the rural residents at the moderate level go into the high level.

(3) High income and consumption level (the ratio of wage income is above 60%). With the further improvement of wage income ratio of rural residents at the moderate level, they would go into the high income and consumption level. Because the basic life consumption demands of those at the high level are much higher, insufficient consumption would again be caused by the relatively low income level, and the MPC would increase with the improving change level of income structure and achieve another highest point (MPC 0.980); MPC is always less than 1 and more than 0, it can be known that the basic life consumption demands of rural residents at the high income and consumption level could be satisfied as the wage income ratio is around 70%–80%, and the MPC would decline again with the further improvement of income structural change level.

4 Conclusions

The consumption level of rural residents in China is mainly influenced and restricted by their income level, especially the wage income level. On the whole, the income and consumption level as well as the change level of rural residents' income structure in China are on the low side; since the reform and opening up, the ratio of wage income to per capita net income has been promoted only slightly, and the regional development is quite unbalanced. In view of the actual conditions in China, the MPC of rural residents at all income consumption levels shows an "inverted U" curve with the improving change level of rural residents' income structure; and the promotion of rural residents' income consumption level would occur in the process of change level improvement of income structure, that is, the change level of rural residents' income structure in China and their consumption level are mutually promoted and influenced which increase interactively. Therefore, urban and rural development should be uniformly planned, secondary and tertiary industries should be greatly promoted in China, especially, in the regions with relatively underdeveloped industrialization and urbanization, more investment should be placed to promote their development, so as to optimize the income structure of rural residents, improve the change level of their income structure and effectively promote their wage income level, by doing this, the rural consumption would be inspired to drive the domestic demands and finally realize the healthy and rapid growth of rural economy in China.

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农村土地流转需求规模影响因素的实证分析——以山东省日照市为例

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摘要 综述了有关中国土地流转影响因素的文献,在此基础上,提出了已有文献的5点不足。一是部分文献的模型选择与样本数据类型不符;二是缺乏从家庭内部角度进行的分析;三是研究的因素不全面或不准确;四是没有对问题的成因作出分析;五是没有把土地流入和流出分开研究。根据在中国山东省日照市岚山区实地调研所得的109份有效调查问卷,运用最优尺度回归分析法,选取了农村单个家庭人口数、农村家庭年纯收入及种地收入占农村家庭年纯收入的比重3个变量,实证研究了山东省日照市农村的土地流转情况,并建立了农村土地流转需求规模影响因素的函数模型。结果表明,对单个农户家庭而言,种地收入占年纯收入的比重、家庭人口数、家庭年纯收入是3个影响农村土地流转需求规模最显著的因素,且三者都与土地流转需求规模呈正相关关系。

关键词 土地流转需求规模;家庭人口数;家庭年纯收入;种地收入

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我国农村居民收入结构变化与消费关系研究

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摘要 首先,分析了我国农村居民收入结构变化和消费现状,指出我国各地区农村居民收入结构变化的层次水平不平衡,工资性收入占人均纯收入的比重按东、中、西部逐渐递减,且工业化及城市化水平较高的地区,农村居民收入结构变化的层次水平较高,其整体收入及消费水平也相对较高,农村居民边际消费倾向高于城镇边际消费倾向。其次,从理论上分析了我国农村居民收入结构变化与消费关系,指出我国农村居民生活性消费水平的高低在很大程度上是受收入结构变化的层次水平影响,农村居民收入结构变化的层次水平越高(工资性收入占人均纯收入比重越高),越有利于提高我国农村居民收入及消费水平、缩小各区间收入及消费差距从而实现我国农村经济全面稳定的持续发展。最后,实证分析了我国农村居民收入结构变化与消费,按照工资性收入占人均纯收入比重的高低将我国农村居民的收入消费水平划分为低收入消费层次(工资性收入占人均纯收入比重为0~35%)、中收入消费层次(工资性收入占人均纯收入比重为35%~60%)、低收入消费层次(工资性收入占人均纯收入比重为60%以上)3个层次,指出随着工资性比重的提高,我国农村居民在各个收入消费层次的边际消费倾向都呈现近似的“倒U”型关系。

关键词 收入结构;边际消费倾向;"倒U"