

A Study on China Rural Income Gap Based on the Perspective of Property Income

Xu Bo

PhD Candidate

Central University of Finance and Economics

Lecturer at Yunnan University of Finance and Economics

Kunming, Yunnan

China

Zhou Wen

Professor

Yunnan Normal University

Kunming, Yunnan

China

Abstract

According to the relevant data of China from 1993 to 2011, this paper applies a dynamic analysis to the economic indicators of China urbanization, economic growth, property income and rural income gap with the Vector Auto Regression (VAR) mode and carries out a quantitative analysis on the relation between rural income gap, urbanization, economic growth and property income by means of Johansen co-integration test, Granger causality test, impulse response and variance decomposition. The action mechanism between each indicator is discussed in this paper in order to provide theoretical support and policy proposals for rural economic development, urbanization and farmer property income after holding of the Third Plenary Session of the 18th CPC Central Committee.

Keywords: Urbanization, Property Income, Economic Growth, Rural Income Gap, VAR Model

1. Introduction

Comrade Hu Jintao stated clearly that “conditions must be created to enable more citizens to own property income” in the report of 17th national congress of the CPC. This new formulation has aroused a wider concern. But what discussed more is the improvement of property income for urban dweller, while people pay little attention on farmer property income. The CPC central committee put forward at the Third Plenary Session of the 18th CPC Central Committee that we should establish fair, exoteric and transparent market rules, improve the price mechanism which decided by market, set up a unified construction land market for urban and rural area, perfect the financial market system and deepen the reform of the scientific and technological system. It was essentially put forward that farmers should own more property rights and opportunity of getting more property income. Meanwhile, we should promote the equal exchange of essential factors between urban and rural area and balance the allocation of public resource. For farmers, property income is divided into two parts and covers that: The first one is the revenue of transferring or leasing out the possession of real estate (mainly the land). The second one is the interest revenue from savings accumulation.

2. Literature Review

For the study of rural income gap, according to the empirical evidences and figures released by National Bureau of Statistics Survey of Rural Socio-economic Corps (2001), the Gini coefficient of per capita income of rural residents has been rising since 1985, Gini coefficient in 1985, 1990, 1995 and 2000 were 0.23, 0.31, 0.34 and 0.35 respectively. For the study of factors that influenced rural income gap, Li shi and Zhao Renwei (1999) think that the imbalanced development of non-agriculture industry between rural areas is an important reason of causing rural income gap. Research from Tang Ping (2006) indicates that the imbalanced operating income of rural households and the income distribution gap within the areas are the main parts of forming the rural resident income distribution gap.

Gao Mengtao and Yao Yang (2006) analyzed the influential factors in rural resident income gap with distribution-free regression procedure, they consider that the main cause of widening the gap is human capital, which is reflected by education and on-site training. From the view of rural characteristics, Yang Juan et al. think the influence of rural material capital began act less powerfully upon villagers' income, but the effect of human capital and social capital in rural area has been enhancing gradually. From the view of informal finance, Su Jing et al. used multivariable VAR model and pointed out that the expansion of rural informal finance is good for narrowing rural income gap. By constructing a simple two-stage production model, Yang Bin and Shi Yaobo (2013) brought the mechanism that the effect of various costs sharing model of rural public goods on rural household income gap to light, through taxing rural resident income to provide consumptive public goods, only in this way can the income gap will be narrowed. Research from Xue Fengrui et al. shows that after land circulation, the per capital net income of participation farmer is markedly higher than that of non-participation farmer. From the view of land circulation reimbursement mechanism, Qin Jianqin (2011) thinks the low growth of farmer property income is caused by unreasonable compensation of land acquisition, farmers usually are underpaid for it. From the view of improving the land acquisition compensation, Chen Hanbing considers that on the one hand, the standards of land acquisition compensation should be unified and improved, on the other hand, the supervision over the payment of land acquisition compensation and the distribution of settlement compensation must be tightened.

The analysis and judgments, which are about the development trend in rural resident income gap after the rural reform in 1980s, are basically the same, the gap is still expanding. Ordinarily the research angle mainly concentrates on the income structural changes caused by imbalanced development in non-agriculture industry, the reasons of causing a rural income gap usually come down to the development speed of rural non-agriculture economy, human capital, education, technology, public goods and so on, and scholars who study on rural income gap often treat the rural economic structure changes as the primary explanatory variable of causing rural resident income gap, but a few of them use urbanization and property income as the explanatory variables, there are also a few researches use the urbanization as the explanatory variable of property income. Mainly from the angel of urbanization and property income, this paper will construct VAR model and decomposition model of rural Gini coefficient with urbanization, etc as explanatory variables, to discuss the relation between urbanization, property income, economic growth and rural income gap.

3. Empirical Analysis Based on VAR Model

A sufficient dynamic analysis can be conducted on a number of interrelated economic indicators, therefore, I will apply VAR model to analyze the action mechanism between rural income gap, urbanization, economic growth and property incomes structure. Based on this, I will also analyze the relation between rural income gap (GNI), urbanization (CZHL), economic growth (JJZZ) and property incomes structure (CCSR) quantitatively with Johansen co-integration test, Granger causality test and impulse response and variance decomposition. Without the consideration of exogenous variables in this article, the theory evidence model will be set as follow:

$$Y_t = \alpha_1 Y_{t-1} + \alpha_2 Y_{t-2} + \alpha_3 Y_{t-3} + \cdots + \alpha_n Y_{t-n} + \mu_t, \quad t \text{ is time variable, } t = 1, 2, 3, \cdots, T,$$

$$Y_t = \begin{bmatrix} GNI \\ CZHL \\ JJZZ \\ CCSR \end{bmatrix}$$

Formula (1) is matrix, $\alpha_1, \alpha_2, \alpha_3, \cdots, \alpha_n$ are parameters to be estimated, n is autoregressive lag order, μ_t is random disturbance term.

3.1 The Data Sources and Model Specification

The data come from Chinese Rural Statistical Yearly Book (2012) and Chinese Household Investigation Statistical Yearly Book (2012). Because of the constraint on data of property income, this paper choose data from 1993-2011 as the subject investigated, to measure the indicator of rural income situation, equation specification in this paper focuses on direct and indirect factors of property income, such equation investigates the contribution to rural Gini coefficient made by each factor and adopts rural Gini coefficient (GNI) as explained variable.

Urbanization rate (CZHL), economic growth (JJZZ) (the growth rate of farmer per capital net income over the years and the arithmetical average of agriculture costs in financial expenditures over the years are used as measurable indicators), property income (CCSR) (the proportion of property income to rural resident income over the years is adopted as measurable indicator). The preliminary logical equation is studied out as follow:

$$GNI = c + \alpha CZHL + \beta JJZZ + \gamma CCSR + \mu \quad (2)$$

c is constant term, α 、 β 、 γ are coefficients to be estimated, μ is disturbance term.

3.2 Augmented Dickey-Fuller Test

In order to ensure the stability of time serious data, unit root test need to be carried out, results are shown in figure 1. From the test results we concluded that the variables of rural Gini coefficient (GNI), urbanization rate (CZHL), economic growth (JJZZ) and property income (CCSR) do not comply with co-integration, data at significance level of 5% features with nonstationarity, thus the situation is not qualified to meet the requirements of construction a VAR model. While the first difference is a stationary series at significance level of 5%, so the VAR model (1) can be established.

Figure 1: The Unit Root Test Results of Every Series

variable	Level					First difference				
	test type (c,t .d)	ADF	Critical value: 5%	P value	stationarity	test type (c,t d)	ADF	Critical value: 5%	P value	stationarity
GNI	(0,0,4)	1.52	-1.96	0.96	Non-stationary	(0,0,4)	-2.55	-1.96	0.00	Stationary
CZHL	(0,0,4)	3.50	-1.96	0.99	Stationary	(0,0,4)	-2.23	-1.96	0.03	Stationary
CCSR	(0,0,4)	-0.40	-1.96	0.53	Non-stationary	(0,0,4)	-5.86	-1.96	0.00	Stationary
JJZZ	(0,0,4)	-0.54	-1.96	0.82	Non-stationary	(0,0,4)	-5.00	-1.96	0.00	Stationary
Residual u	(0,0,4)	-7.44	-1.96	0.00	stationary	(0,0,4)	-8.09	-1.96	0.00	stationary

Notes: c、t、d stand for nodal increment, time trend, lagging order respectively.

3.3 Johansen Co-integration Test

This paper applies Johansen co-integration test to check whether there is a long run equilibrium relation between variables. The co-integration test results are shown in figure 2. There is at least one co-integration relation in each time series, the rural Gini coefficient will be used as explained variable, while urbanization rate (CZHL), economic growth (JJZZ), property income (CCSR) will be used as explanatory variables, meanwhile, according to maximum likelihood, AIC and SIC test, we can know the optimal lag phase is 2, the test results of AR root reveal that the mean value of every root is less than 2, it means all the roots are within unit circle, so the established model features with stationary, the logical equation of VAR model after standardization is as follow:

$$GNI = -0.003CZHL + 0.351CCSR + 0.236JJZZ + (6.6E-05) + (0.04920) + (0.06260) \quad (2)$$

Figure 2: The Characteristic Root Locus (Rank Test)

Hypothesized No.Of CE(s)	Eigenvalue	Trace Statistic	0.05CriticalValue	Prob.**
None *	0.924811	87.99641	47.85613	0.0000
At most 1 *	0.814361	44.00462	29.79707	0.0006
At most 2	0.586400	15.37748	15.49471	0.0521
At most 3	0.021468	0.368925	3.841466	0.5436

Notes:* means we reject the null hypothesis at significance level of 5%; ** stands for p value of MACKINNON-Haug-Michelin

The co-integration equation shows there is a negative correlativity between rural income gap and urbanization, it means rural income gap will be narrowed by 1% for every 0.003% urbanization increase, but such relation is relatively faint, that is to say urbanization has limited effect on narrowing rural income gap. At the same time, Gini coefficient is positively related to property income and economic growth, from the perspective of unit contribution, every 0.351% increasing of property income will raise 1% of Gini coefficient, and every 0.231% increasing of economic growth will also lead to the same result. Although property income can make a larger unit contribution to Gini coefficient, there is a slender gross contribution with it, because property income is low share of farmer incomes structure and with a low growth rate, the imbalance of urbanization is bond to bring imbalance of property income. If we just think about how to increase property income while exclude the sustainability and equilibrium, the property income will expand rural income gap rather than narrow the gap, and this is consistent with the imbalance of rural property income, which is a research conclusion from Zhu Wei, Wang Xiaowen (2010).

3.4 Granger Causality Test

In order to verify the relation between rural Gini coefficient (GNI), urbanization rate (CZHL), economic growth (JJZZ) and property income (CCSR), we conducted a further test with Granger Causality, results are shown in figure 3. With a significance level of 5%, rural Gini coefficient (GNI) is the Granger cause of economic growth (JJZZ), it illustrates that a modest income gap is propitious to economic growth, this conclusion is highly consistent with many other researches'. At the same time, rural coefficient decides the sustainability of rural economic growth, thus it will affect the sustainable development of rural economy; urbanization rate (CZHL) is the Granger cause of economic growth (JJZZ), urbanization will inevitably promote economic development in rural area, but what the traditional urbanization promotes is economic aggregate, this is more like a urbanization policy for urban, and it is worth thinking about whether that will benefit the development of every famer; with a significance of 10%, urbanization rate (CZHL) is the Granger cause of rural Gini coefficient (GNI), the imbalanced promotion of urbanization and the changes of incomes structure will surely increase rural Gini coefficient; economic growth and rural Gini coefficient are mutual Granger cause with each other, on the one hand, economic growth has increased farmer income, and a modest income gap has increased rural economic development; on the other hand, it has also expanded rural income gap, which will inevitably affect the sustainability and stability of rural economic development. Property income (CCSR) is the Granger cause of urbanization rate (CZHL), during urbanization, farmers can share more property income, which is made by transferring a real estate right. And this will help to promote the development of urbanization; economic growth (JJZZ) is the Granger cause of property income (CCSR), not only can economic growth bring property income (analogous to land property income) to farmers, but also other kinds of property income; but property income (CCSR) is not the Granger cause of rural Gini coefficient (GNI), or vice versa. Although co-integration equation reveals the unit contribution of Gini coefficient, which is made by property income, the later one accounts for a low share of the whole farmer income and with a lower growth rate, thus there is little effect on Gini coefficient as a whole. For this means increasing farmer property income to a certain degree not only can increase farmer income, expand domestic demand, promote a new round of economic growth, but also can effectively avoid asset bubbles, which are caused by overabundance of property income.

Figure 3: The Results of Granger Causality Test

Null Hypothesis:	Obs	F-Statistic	Prob.
CZHL does not Granger Cause GNI	17	3.23304	0.0753
GNI does not Granger Cause CZHL	17	0.88753	0.4370
CCSR does not Granger Cause GNI	17	0.56711	0.5817
GNI does not Granger Cause CCSR	17	0.23591	0.7934
JJZZ does not Granger Cause GNI	17	3.33615	0.0705
GNI does not Granger Cause JJZZ	17	5.02414	0.0260
CCSR does not Granger Cause CZHL	17	3.29753	0.0722
CZHL does not Granger Cause CCSR	17	0.68713	0.5218
JJZZ does not Granger Cause CZHL	17	1.72725	0.2192
CZHL does not Granger Cause JJZZ	17	8.55978	0.0049
JJZZ does not Granger Cause CCSR	17	3.50503	0.0633
CCSR does not Granger Cause JJZZ	17	1.17764	0.3412

3.5 Impulse Response Function

What the paper focuses on is the effect, which arises from urbanization rate (CZHL), economic growth (JJZZ) and property income (CCSR), on rural Gini coefficient. Here I just analyze the impact-response which is made by rural Gini coefficient to urbanization rate (CZHL), economic growth (JJZZ) and property income (CCSR). Analytic results from impulse response function shows that: firstly, urbanization rate (CZHL) reveals positive effect on rural Gini coefficient (GNI) impact, the positive effect takes on fluctuation trend in first 7 phases, whereafter it began to reduce progressively, and sustained at a lower level, the positive effect presents a degression tendency, this indicates that urbanization widened rural income gap gradually at the initial stage, but because of the improvement of policies, new-urbanization will narrow the gap by degrees as time goes on, urbanization rate (CZHL) presents a long-term effect on rural Gini coefficient (GNI), this is consistent with co-integration, see chart 1; secondly, property income (CCSR) shows negative effect on rural Gini coefficient in first 8 phases, property income narrowed rural income gap in the first stage, this is mainly because farmers have lower income and a few sources, but it reveals positive effect and fluctuation in the later stage, and features with degression tendency, this illustrates that the policies of new-urbanization shows incline to farmer property income. Combined with co-integration analysis, property income made a bigger contribution to Gini coefficient in short-term, but an adverse effect in long-term, the premise is that this kind of property income takes on balance and sustainability, so with a good system design, property income have a long-term effects on rural Gini coefficient impact, see chart 2; thirdly, economic growth (JJZZ) presents positive effect on rural Gini coefficient, it shows negative effect between phase 1.5-3.5, and positive effect in the rest, it reveals up-tail phenomenon during the slow decline , this explained that economic growth has systematic risk that may further widen the rural income gap, see chart 3.

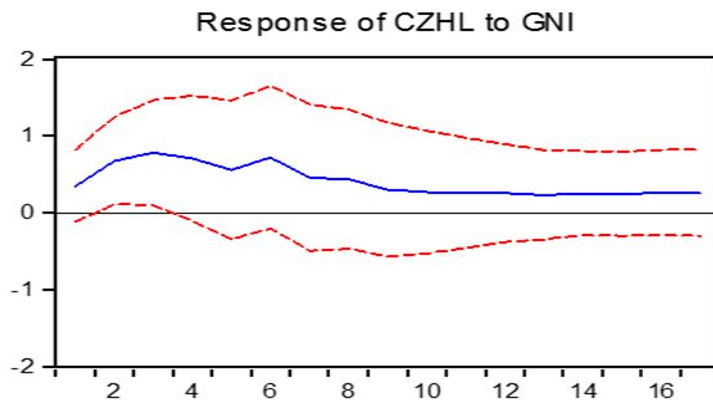


Chart 1: Impulse Response Function of Urbanization Rate to Rural Gini Coefficient

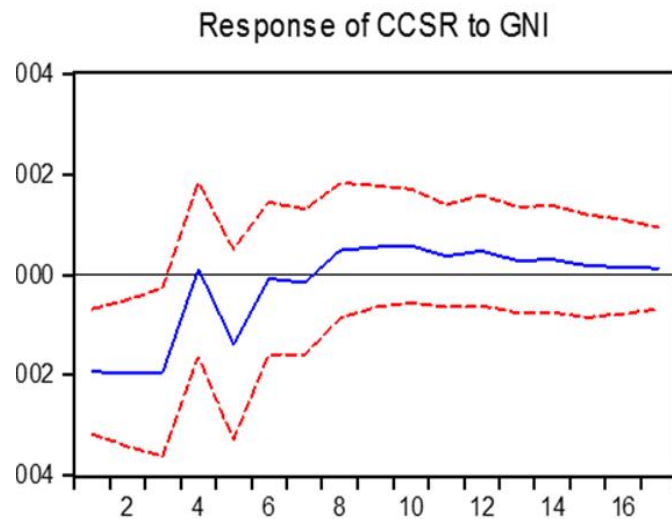


Chart 2: Impulse Response Function of Property Income to Rural Gini Coefficient

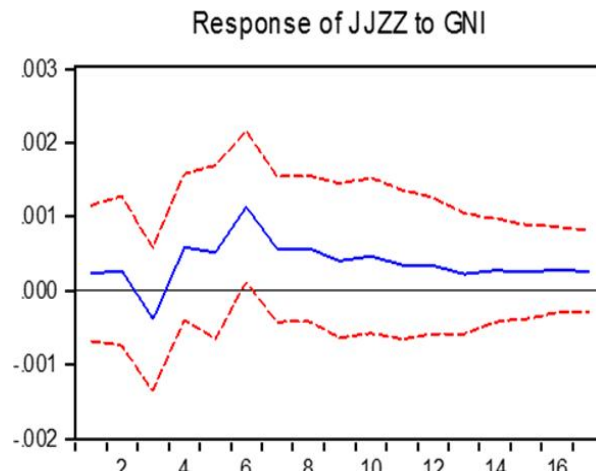


Chart 3: Impulse Response Function of Economic Growth to Rural Gini Coefficient

3.6 Variance Decomposition

Variance decomposition is to decompose endogenous variables in VAR system into the impact of each random disturbance term with contributing factors to assess the significance of different structural impact. We can learn from figure 4 that urbanization has a positive impact on rural Gini coefficient, the proportion keeps to 30% or so, and it has been relatively steady since the second phase. Property income also has positive impact on rural Gini coefficient, and lies in the interval [2% and 4%], the small increasing range and proportion reflect that on the one hand, property income is a small share of gross income, on the other hand, there is a larger space for the growth of property income. Economic growth takes on positive effect to rural Gini coefficient, and has been steady since the sixth phase. In general, each variable shows a long-term trend to Gini coefficient impact, this is consistent with the analysis we did before; figure 5 showed us the impact contribution degree of each variable to urbanization, the impact contribution degree of rural Gini coefficient increased at first, then decreased, this indirectly reflects the improvement and smooth implementation of urbanization polices, property income contributes a lower degree to urbanization, but shows a progressive tendency, it indicates that during the urbanization, more attention should be paid on property income, the positive contribution degree of economic growth to urbanization features with a steady increase tendency, this also reflects that economic growth have promoted the implementation of urbanization, the variance decomposition in figure 6 tells us the contribution degree of two significance indicators, which are urbanization and economic growth, to property income had increased gradually in earlier stage, but it have been steady since the second phase and the fourth phase respectively, the increasing range of impact contribution degree close to zero, this also illustrates that urbanization and economic growth didn't bring too much property income to farmers; from the variance decomposition in figure 7 we can know that the impact of rural Gini coefficient and urbanization on economic growth takes on positive increase, but the positive impact proportion, for property income to economic growth, is not only lower but also shows a degression tendency and weaker impact in the long-term.

Figure 4: Variance Decomposition of Each Variable to GNI (%)

Period	GNI	CZHL	CCSR	JJZZ
1	100.000000	0.000000	0.000000	0.000000
2	45.470533	49.71605	3.025092	1.788325
3	46.421391	32.68656	3.539259	17.35279
4	40.489856	34.30569	2.903584	22.30087
5	36.446989	34.89484	2.770231	25.88794
6	36.665967	32.58259	3.446103	27.30534
7	34.851404	34.59920	3.451256	27.09814
8	33.681152	35.28302	3.732558	27.30327
9	32.936778	35.99467	3.935242	27.13331
10	32.044844	37.29104	3.975596	26.68852

Figure 5: Variance Decomposition of Each Variable to CZHL (%)

Period	GNI	CZHL	CCSR	JJZZ
1	12.135650	87.86435	0.000000	0.000000
2	28.185950	67.22383	1.635908	2.954312
3	36.432755	50.88558	2.191365	10.49030
4	33.477809	46.66271	1.576211	18.28327
5	28.889186	44.72535	2.180654	24.20481
6	29.623023	41.10603	2.600917	26.67003
7	28.039962	42.47566	2.848638	26.63574
8	27.582762	42.39372	3.150658	26.87286
9	26.529413	43.50167	3.406037	26.56288
10	25.765580	44.43090	3.528580	26.27494

Figure 6: Variance Decomposition of Each Variable to CCSR (%)

Period	GNI	CZHL	CCSR	JJZZ
1	43.794061	0.017959	56.18798	0.000000
2	51.465151	14.85574	32.45790	1.221209
3	54.342564	12.77672	24.47227	8.408446
4	45.153260	14.02005	20.51913	20.30756
5	42.595300	14.34706	17.00488	26.05276
6	42.119040	14.57010	16.91448	26.39638
7	41.411280	16.05512	16.60607	25.92753
8	41.561030	16.16931	16.46226	25.80740
9	41.790850	16.29307	16.22437	25.69171
10	41.896540	16.44556	15.89079	25.76711

Figure 7: Variance Decomposition of Each Variable to JJZZ (%)

Period	GNI	CZHL	CCSR	JJZZ
1	1.497236	4.322302	0.553932	93.62653
2	2.047483	3.146135	8.302042	86.50434
3	3.956434	13.44571	7.549166	75.04869
4	7.219918	17.15285	6.101112	69.52612
5	8.151156	26.27137	5.205154	60.37232
6	17.073181	23.59681	4.579459	54.75055
7	17.502581	26.92687	4.412789	51.15776
8	18.029654	27.43939	4.318726	50.21223
9	17.471168	29.18170	4.531002	48.81613
10	17.681929	30.08570	4.531791	47.70058

4. Conclusion and Policy Suggestions

4.1 Conclusion

Firstly, the risk, which farmers are caught in “property poverty”, is increasing. Since China’s reform and opening up for over 30 years, farmers have received a very low property income with a lower growth rate compared to the rest of income composition in income structure, meanwhile, the existing economic growth mode and traditional urbanization mode have not brought property income to farmers, or else the property income features with unsustainability and imbalance, therefore this kinds of situation have aggravated rural income gap to some certain extent, and have also increased the risk that farmers may be caught in “property poverty”.

Secondly, property income is slow at increment speed and makes a little contribution to narrowing the rural income gap.

Because the lower proportion of property income to the existing income structure, the statistical data tells us that compared to other kinds of incomes, property income has a very low increment speed as time goes on, therefore for the problem of farmer income increases at next stage, in addition to the balanced development of non-agriculture industry, there are also much space for the improvement of property income, thus during the new-urbanization and a new round of economic growth, if we can increase farmer property income in a sustainable and balanced way, the rural income gap will not be aggravated further, and so does the bubble economy, which is caused by overmuch farmer property income.

At last, the rural income gap was expanded by traditional urbanization and the imbalanced development mode of economic growth. Farmers in the region, where had a head start in urbanization and with a higher economic development level, have a higher property income, on the contrary, they have a lower property income. In long-term, the universality of property income shows a weakened effect on rural income gap.

4.2 Policy Suggestions

Combined with conclusions of theoretical analysis, this paper will provide some policy suggestions about narrowing rural income gap from the perspective of property income.

Firstly, it is imperative that the existing land system be reformed.

As an important factor of production, land (include homestead) should acquire property income at market price. We should break up the governmental administrative monopoly of land market, reform the system of land acquisition and property rights, create a new land acquisition system, promote the exchange of collective construction land, and increase the proportion of farmer income accounts for incremental benefit of cropland conversion; farmer should be encouraged to share the incremental benefit from soil management with the method of becoming shareholders of land. According to the existing system, there is only a collective land-ownership in rural area, farmers just own half-baked usage right and usufruct, while the ownership and disposal right belong to collectivity. The imbalanced rural land system is on a stage of unsustainability for this moment. Large tracts of cropland lies waste in rural area is an obvious representation. Imperfect land system also led to institutional rent-seeking of government. But reforming of land system is not equal to land privatization, farmers should only acquire property income from parts of their lands, rather than encourage them to get a one-time compensation of all their lands.

Secondly, the leasing and trading market of rural house property should be formed and developed as soon as possible.

The income of leasing or selling a house is primarily the property income analogous to land, but the undetermined right to house and lack of law about property right perspicuity caused the grammaticalization of farmer property right and insulation of urban and rural house market, these are in essence urban-and-rural market fence we mentioned before, which resulted in backwardness of leasing and trading market of house property. Therefore, I would like to suggest government to enact a series of law about farmer house rights protection, create guidance system for house leasing market and promote it to marketization, houses should be admitted to market for transaction, lease and mortgage, more way of acquiring property income should be provided for owners.

Thirdly, a nonlocal (interregional) sharing system of property income analogous to land should be constructed. During new-urbanization, the region with lower urbanization and lower economic growth level should transfer parts of their possession analogous to land to the region with higher urbanization and higher economic level as the property reserve analogous to land for the use of future economic development, and the later region should share parts of property income analogous to land with the former one, in this way it will to some extent meet the requirement of keeping balance of property income analogous to land.

References

- Li Shi, Zhao Renwei.(1994).The Research on the Residents' Income Distribution in China, *Economic Research Journal*,4,5-19.
- Tang Ping. (2006).The Change and Influence Factors on the Rural Residents' Income Gap in China, *Management World*, 5,69-75.
- Gao Mengtao,Yao Yang.(2006). Which Is the Main Reason for Income Inequality in Rural China: Physical Assets or Human Capital, *Economic Research Journal*, 12, 71-80.
- Yang Juan, Zhang Hui,Li Shi.(2013).The Study on the Relationship between the Rural Residents, Income and the Characteristics of the Rura, *Public Finance Research*, 8,43-47..
- Su Jing, Hu Zongyi. (2012). Research on the Rural Internal Income Gap of China Based on Informal Financial Perspective,The Research on Finance and Economic Issue, 7,124-129.
- Yang Bin, Shi Yaobo. (2013).The Effect of the Cost Sharing of Rural Public Goods on the Income Gap of Farmers and Positive Research, *Morden Economic Science*, 2,88-95+127.
- Xue Fengrui, Qiao Guanghua,Su Rina.(2011).The Effect Evaluation of Land Circulation on the Farmers' Income—Based on DID Model, *Chian Rural Survey*, 2,36-42.
- Qin Jianqin. (2011).The Study on Rural Residents' Property Income Based on Land Regulation Reform, Modernization of Management, 1, 41-43.
- Li Shi, Wei Zhong,Ding Sai. (2005).Empirical Analysis on the Inequality and the Reason of China Residents' Property Distribution, *Economic Research Journal*, 6, 4-15.
- Qu Xiaobo, Du Yang. (2010). The Regional Income Gap and Changes In Rural China During 1995 to 2008: Based on the Decomposition of Gini Index, *Economic Theory and Business Management*, 7, 74-80.
- Gao Lianshui, Zhou Yunbo,Wu Peng.(2010).Toward Regional Income Inequality in Rural China : 1997 - 2005,Modern Economic Science, 3,86-95.
- Wan Guanghua, Zhang Ouxiang.(2006). Human Capital and Rural Income Gap in China: research methods and empirical analysis, *Journal of Agrotechnical Economics*, 5, 2-8.
- Hu Ruixian. (2004).The Thinking on Land Circulation and Industrial Land in Beijing, *Chinese Rural Economy*, 2, 57-61.