capitalism economy continued to develop fast during 1950-60s, so called Golden Age. However, there occurred stagflation in capitalism economy since the beginning of 1970s. Keynes could not give effective advice again. J. M. Keynes had not found the real reason for insufficient effective demand In fact. The real reason is the private ownership and its outcome, the polarization between the rich and the poor. “I want to consume but I have no money, I have money but I can’t consume so much”. Social polarization results from distribution according to capital, which just results from private ownership.

In conclusion, in order to realize distribution according to labor, public ownership should be established. To solve insufficiently effective demand, distribution according to labor should be performed. To guarantee continuous and fast development of economy, sufficient effective demand should be achieved.

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1. "The Inequality and Regional Differentiation of the Distribution of China's Rural Income", Chinese Rural Economy, May, 2005.
2. "An Empirical Research on the Spatial Distribution Characteristics of Rural Labor Migration in China", Economic Surveys, February, 2006.
3. "Empirical Study on Reasons and Characteristics of Regional Differentiation of China's Food Supply", Economic Surveys, February, 2005.
4. "An Empirical Analysis of the Income Difference of rural Areas and its Geographical Features in China", Journal of Finance and Economic, May, 2005.
5. "The Actualities and Characteristics of Regional Differentiation of China's Food Supply", Chinese Rural Economy, Monograph, 2005.

An Empirical Analysis of Income Difference of Rural Areas and its Geographical Features in China

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I. Problems to Be Addressed

Since Kuznets proposed his empirical Inverted-U Hypothesis in 1955, persistent efforts have been made in the in-depth research on the long-term evolution of income distribution. The reason is that income level is a measure of distribution equality as well as a means to know the contribution made by economic growth to the improvements of living standards. In the market economy, inequality is certainly unavoidable if income distribution is determined by the market mechanism. But if such inequality widens in China's rural areas, it is undoubtedly the result of institutional changes, the deviation in the fulfillment and development of economic policies and the serious problems in the current policies of income distribution.

What are the current situation and the pattern of income distribution in China's rural areas? How serious is the problem of inequality? What are the present status, the character and the trend of regional disparities in income distribution in China's rural areas of different provinces (regions and cities)? How to make a quantitative analysis of the principle factors that contribute to the income growth of China's rural population? The paper conducts with great care and on the basis of existing achievements, an in-depth research on the current inequality and regional disparities in income distribution among China's rural population as well as on the effects of non-agricultural income on income distribution in rural areas. Conclusions of analyses of this kind are of great necessity and value to addressing the problems facing China's agriculture, rural areas and Chinese peasants and to the formulation of corresponding policies by the central government.

II. Literature Review

Although in-depth researches on regional disparities in the income of Chinese residents have been made from various perspectives by a number of scholars from home and abroad, the situation in rural areas have been studied only by a handful of scholars,

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including Zhang Ping (1997), Wan Guanghua (1998), Peng Yusheng (1998), Cai Fang et al (2001), Tang Ping et al (2001), Zhang Xiaohui (2001, 2003) and Zhu Nong (2002), who, through empirical analyses of sampling data, have conducted fruitful meticulous researches from various perspectives on the current situation of income distribution among rural residents as well as its regional disparities and the causes. Most researches have proved that the distribution pattern of non-agricultural income is not as regular as that of agricultural income. Although non-agricultural income can, in the main, contribute to the improvement of peasants' income, the development of non-agricultural industries may aggravate the inequality in income distribution and give rise to regional disparities, especially in the impoverished areas. It has been found out by a research that there exists a significant regional imbalance in the degree of influence of non-agricultural income upon the average income of rural residents. Except in one type of regions where the revenue of township enterprises made up 14.5% of the annual net income, the ratios in the other regions during the same period were as low as 4.6%, 2.8% and 1.3% respectively. Thus, the author holds that the idea of increasing peasants' income and addressing the imbalance in regional development is by no means easy to realize. The reason is that township enterprises have not been developed at the same pace throughout the country, especially since 1998, when they began to be challenged by the reforms of state-owned enterprises, the entry of foreign-invested companies into the market and the development of urban private enterprises. The imbalance in the progress of township enterprises in different regions is undoubtedly one of the crucial causes of the widening inequality in peasants' income. For the moment, it is absolutely unwise to insist on improving the income of rural population and addressing the imbalance in regional development by means of promoting the development of non-agricultural industries in the middle and western regions of the country.

III. Analysis Model and Data Sources

1. Index

The paper uses Gini coefficient as the measure of income inequality among China's rural residents.

2. Data souces

The analytical data used in the paper in the form of Gini coefficient came from the analyses of the raw data indicating the income distribution of Chinese peasants in different provinces (regions and cities), which were collected by the Ministry of Agriculture and published by China Agriculture Press. The paper also uses the raw data from the social economic investigation in the counties or county-level cities throughout the country, a research conducted by the Social-economic Department of Rural Investigation of National

Bureau of Statistics of China (NBSC), to calculate the indices of income inequality in China's rural areas as a whole. Before the empirical analysis, all the raw data are processed with the rural consumer price index (1985=100) issued by NBSC to ensure the data's spatial comparability and the comparability over time.

IV. Basic Conditions and Distribution Pattern of the Income of China's Rural Population

1. Features and Changes of China's Rural Residents' Income Distribution

The degree of equality in income distribution is usually presented in the form of a curve chart. The quantitative research based on the statistics of income distribution is useful for finding out the patterns of distribution. Table 1 is a list of statistical parameters that describe the general distribution of the country's rural population from 1998 to 2003. On this basis, a chart was drawn (Figure 1) to show the distribution of the country's rural population as a whole during the same period. It can be concluded from Figure 1 that the logarithmic distribution of the country's rural income is in the pattern of skew-normal distribution, a kind of asymmetric normal distribution consistent with international practices. But on the other hand, the pattern changes from the "slim" negative skew-normal distribution in 1998 to the "squat" positive skew-normal distribution in 2003, which indicates an increased number of peasant households whose income is below the average level. In fact, such families made up more than half of the total number of peasant households in the country, a sign of the increasingly serious inequality in their income.

Table 1 Distribution Coefficient of the Income of China's Rural Population (Grouped According to Village)

	1998	2003
Median	2000.24	2218.75
Mode	2127.13	2187.49
Standard Deviation	11.52	10.41
Skewness Coefficient	0.9707	0.8936
Kurtosis Coefficient	0.7487	0.6283

Source of Information: The table was designed by the author based on each year's *China Agricultural Statistical Data* (China Agriculture Press).

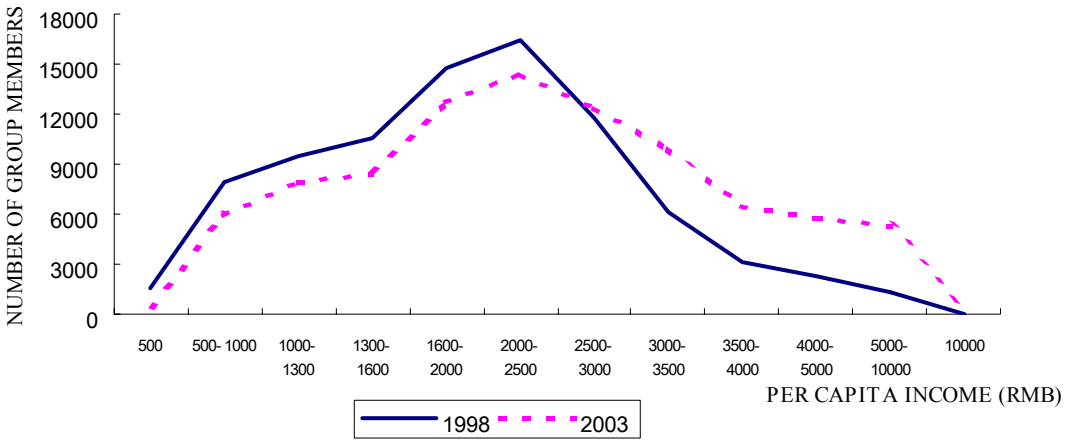

Figure 1: Income Distribution of China's Rural Population (Grouped According to Village)

Source of Information: The table was designed by the author based on each year's *China Agricultural Statistical Data* (China Agriculture Press) compiled by the Ministry of Agriculture.

2. Influence of the Changes in Income Sources on Income Distribution among China's Rural Residents

Table 2: Factors of the Income Growth of Chinese Peasants

	Total Income 98' (RMB10,000)	Total Income 02' (RMB10,000)	Increased Amount (RMB10,000)	Growth Rate	Contribu -tion	Contribu -tion Rate (%)
Total	59332643	69814564.19	10481921.19	0.1767	0.1767	1
1. Total Business Income	283803231.6	370020140.2	86216908.6	0.3038	1.4531	8.223
1) Primary Industry	70101940.1	74632291	4530350.9	0.0647	0.0764	0.432
2) Secondary Industry	158901584	223552708	64651124	0.4069	1.0896	6.168
3) Tertiary Industry	45297939.5	606379112	15081172.5	0.3329	0.2542	1.439
4) Others	9501768.07	11456028.87	1954260.8	0.2057	0.0329	0.186
a) Township Enterprises	67478661.77	93575322.02	26096660.25	0.3867	0.4398	2.490
b) Village Enterprises	49136893.8	44377253.17	-4759640.63	-0.0969	-0.0802	-0.450
c) Household Businesses	151982920	190329816.6	38346896.6	0.2523	0.6463	3.658
d) Other Businesses	15204756	41737748.41	26532992.41	1.7451	0.4472	2.531
2. Investment Income	414373.99	440973.99	26600	0.0642	0.0005	0.003
3. Service Income of Immigrant Peasants	5663451.24	10052392.45	4388941.21	0.7750	0.0740	0.419
4. Peasants' Redistributed Income from Collectives	1110288.78	1412721.13	302432.35	0.2724	0.0051	0.029
5. Total Business Expenditure	215296488	290868646.9	75572158.9	0.3510	1.2737	7.210
1) Production	177795283.6	239132163.1	61336879.5	0.3450	1.0338	5.852
2) Management	13496147.85	21493452.41	7997304.56	0.5926	0.1348	0.763
6. Taxes paid to the State and Owned by Rural Collectives	16362214.57	21243016.81	4880802.24	0.2983	0.0823	0.466
1) Taxes paid to the State	5380098.97	8044120.56	2664021.59	0.4952	0.0449	0.2542
2) Turned over to the Related	847070.61	929474.94	82404.33	0.0973	0.0014	0.008

Departments						
3) Planned by Townships and Retained by Villages	358838.83	-1269382.29	-1269382.29	-0.3537	-0.0214	-0.121
4) Service Income Taken away by Migrant Workers	1972967.48	1507420.85	1507420.85	0.76404	0.0254	0.144

Notes: 1、Total Income = Total Business Income + Investment Income + Service Income of Migrant Workers + Peasants' Redistributed Income from Collectives –Total Business Expenditure-Taxes Paid to the State and the Sum planned by Townships and retained by Villages

2、Total Business Revenue = Primary Industry + Secondary Industry + Tertiary Industry + Other Sources of Income =Township Enterprises + Village Enterprises + Household Businesses + Other Businesses

3、Taxes Turned over to the State and the Sum planned by Townships and retained by Enterprises = Taxes paid to the State +Taxes Paid to Related Departments + Division of Profits among Foreign Investors + Service Income Taken Away by Migrant Workers +Profits Retained by Enterprises +The Sum Owned by Rural Collectives

4、In the Function Y=aX+b, $\triangle X/Y$ is expressed as "Contribution of Factor X to Y", "Contribution" for short; $\triangle X/\triangle Y$ is expressed as "Contribution of Factor X to the Changing Rate of Y", "Contribution Rate" for short.

Source of Information: Ibid, table made by the author

Table 2 is a comparison table that describes the nation-wide distribution of rural economic returns in 1998 and 2002, which had been deflated by the rural consumer price index (1985=100). According to the table, the total income of rural residents in 2002 went up by 10481921.19 (10,000 RMB) compared to 1998, an increase rate of 17.67%. It can also be found out, by analyzing the items contributing to the increased amount, that, the change rates of taxes paid to the state and owned by rural collectives reached 35.1% and 29.83% respectively, compared to the change rate of total business income as high as 30.38%, while the growth rate of rural laborers in the same period was 4.51%. The high-speed increase of the three items above had severely affected the income growth of Chinese peasants.

In order to analyze in a detailed matter the difference in the degree of influence of various factors and the impact of changes in income sources upon the sum of total rural income, the paper conducts a decomposition analysis of the constituents of total income and have the sources of income classified and decomposed according to their industries and functions by applying the accounting analysis of economic growth factors. It can be observed from the table that, compared to the net income growth of 10481921.19 (10,000 RMB) and the increase rate of 17.67%, the contributions of total business income, investment income, service income of immigrant peasants and peasants' redistributed income from collectives were 145.31%, 0.05%, 17.4% and 0.51% respectively whereas the

contributions of total expenditure, the taxes turned over to the state and owned by rural collectives were 127.37% and 8.23%. Under the heading of total business income, the contributions of primary, secondary, tertiary and other industries, classified according to the domains of income sources, were 7.64%, 108.96%, 25.42% and 3.29%; the contributions of township enterprises, village enterprises, household businesses and other businesses, classified according to their functions, were 43.98%, -8.02%, 64.63% and 44.72% respectively. A few conclusions are hereby made: Firstly, the contribution of the secondary industry to the total income reached 108.96%, while the contributions of the primary industry and other income sources were comparatively low. Secondly, compared to the negative contribution of village enterprises, household business income remained the largest contributor. The contribution of township enterprises was even lower than that of other business income (44.72%). Thirdly, the contribution of the service income of immigrant peasants has already been quite close to that of the primary industry and exceeded the contribution of village enterprises.

Moreover, compared to the contribution of total business income, which was145.31%, that of total expenditure was 127.37%, of the taxes paid to the state, planned by the township and retained by the village 8.23%. Under the heading of total expenditure, the contributions of the expenditure on production and on management were 103.38% and 13.48% respectively, whereas the contributions of the taxes (agricultural tax, tax on special agricultural products and other taxes) paid to the state and owned by rural collectives (retained by villages, planned by villages and townships) were 4.49% and –2.14% respectively, which is particularly noticeable.

As such it can be inferred that, despite the policy of “three cancellations, two adjustments and one reform” stipulated in Letter No. 7 (2000) by General Office, CCCPC, the soaring expenditure is undoubtedly one of the crucial factors that led to the low speed of peasants’ income growth. The reason is that rural income distribution is positively related with the expenditure on production and taxes and that the peasants’ income is closely related with investment on the reproduction of agriculture and non-agriculture. Consequently, the sum of the contribution of taxes paid to the state (4.49%) and that of service income taken way by migrant workers (2.54%), which was 7.03%, still made up as high as 7.40% of the service income of immigrant peasants, though there was a marked decline in the sum planned by townships and retained by villages, the contribution of which was negative. Equally innegligible is the contribution of expenditure on production to income growth (103.38%). In spite of the decreasing ratio of income from crop-plantation, it is still the principle source of income of rural households in the main grain-producing areas, since household business income remains an important part of the rural household income.

In addition, the contribution rate of total business income was 822.53% in relation to the total increased amount (10481921.19 (10,000 RMB)). Under this item, the contribution

rates of primary, secondary, tertiary and other industries were 43.22%、616.79%、143.88% and 18.64% respectively, of township enterprises, village enterprises, household businesses and other businesses 248.97%，-45.41%，365.84% and 253.13% respectively. On the other hand, the contribution rate of service income of immigrant peasants (41.87%) had been quite close to that of the primary industry (43.22%). Moreover, the contribution rate of household business income, which was still high, was second only to that of the secondary industry. However, the reason for the negative contribution rate of the income of village enterprises, if clarified, will be very valuable for understanding the changes in peasants' income and will be of great significance with respect to the problem of whether or not non-agriculture can be smoothly developed in the middle and western rural areas. Compared to the contribution rate of total business income (822.53%), that of total business expenditure also reached 720.98%, which, plus that of the amount turned over to the state and owned by rural collectives (46.5%), constitutes the contribution rate of total expenditure as high as 767.54%. As such the effect of the increase of business income on the income growth of Chinese peasants had been seriously diluted.

3. Regional Disparities and Geographical Features of Income Difference of Rural Areas

Table 3: Gini Coefficients of China's Rural Areas

Year / Per Capita Income	1996	1997	1998	2000	2001	2002
Grouped According to County	0.2184	0.2485	0.2386	0.2584	0.2677	
Grouped According to Township		0.2607	0.2620	0.2760	0.2856	0.2828
Grouped According to Village		0.2742	0.2720	0.2890	0.3013	0.3017

Source of Information: Ibid, table made by the author

Table 3 describes the Gini coefficients of income distribution among rural residents, based on different ways of statistical grouping (county, township and village) of per capita income. According to the table, the Gini coefficients on each line all went up continuously, a sign of the increasingly aggravated inequality in the income of China's rural residents. Most noticeable is the last way of grouping in which Gini coefficients rose from 0.2742 in 1997 to 0.3017 in 2002. Thus, it is argued by the author that regional disparities in the

structure of agricultural production and the uneven distribution of non-agricultural industries certainly have great impact on rural residents' income distribution, and that the influence of the structure of physical elements on peasants' income is equally innegligible. The income gap between different regions and between different rural households have been growing wider and wider, while the peasants' income has been going up. A more important factor that has caused the income growth of peasants in the main grain-producing areas and the continuously worsening inequality in income distribution among the country's rural residents is the rising production cost resulted from the souring prices of the means of agricultural production.

Table 4: Changes of Gini Coefficient in China's Rural Areas (Grouped According to Village)

Per Capita Income Groups	Provinces /Cities	Per Capita Income 02'	Gini Coefficient 97'	Gini Coefficient 02'	Improvement Rate of Gini Coefficient	Deterioration Rate of Gini Coefficient
High Income Areas	Beijing	6085	0.2583	0.1591	38.41	
	Shanghai	5249	0.2759	0.2300	16.64	
	Zhejiang	4909	0.2999	0.2496	16.77	
	Jiangsu	4023	0.1840	0.1801	2.12	
	Guangdong	3940	0.2322	0.2272	2.15	
	Tianjin	5328	0.1541	0.1573		2.08
	Fujian	3553	0.1563	0.1995		27.64
Medium Income Areas	Liaolin	2892	0.2189	0.2636		20.42
	Jilin	2758	0.1925	0.1382	28.21	
	Heilongjiang	2155	0.1695	0.2158		27.32
	Hebei	2715	0.1869	0.1957		4.71
	Inner Mongolia	1934	0.1960	0.2527		28.93
	Shandong	3137	0.1454	0.1582		8.8
	Jiangxi	1917	0.1425	0.2032		42.60
	Hubei	2237	0.1826	0.1783	2.36	
	Hunan	1904	0.2448	0.2458		0.41
	Henan	2085	0.1259	0.1751		3.91
	Anhui	2015	0.1469	0.1443	1.77	
	Guangxi	1891	0.1686	0.1700		0.83
	Hainan	2415	0.2399	0.2132	11.13	
Low Income Areas	Xichuan	2033	0.2130	0.1857	12.82	
	Shanxi	2225	0.2178	0.2447		12.35
	Ningxia	1915	0.3273	0.2662	18.67	
	Chongqing	1881	0.2256	0.1951	13.52	
	Xinjiang	2042	0.2945	0.3172		7.71
	Qinghai	1508	0.2033	0.2305		13.38
	Shanxi	1577	0.2466	0.2431	1.42	
	Yunnan	1335	0.3647	0.3187	12.61	
	Guizhou	1379	0.2465	0.2191	11.12	
	Gansu	1523	0.3110	0.2989	3.89	

Note: The way of grouping was borrowed from Yao Qiong(2002)'s *An Analysis of the Regional Features and the Factors of Rural Income*, Shanghai Economic Review (No. 10).

$$\text{Improvement Rate of Gini Coefficient}=\frac{G_{comparativerate}-G_{baserate}}{G_{baserate}}100\% <0$$

$$\text{Deterioration Rate of Gini Coefficient}=\frac{G_{comparativerate}-G_{baserate}}{G_{baserate}}100\% >0$$

Source of Information: Ibid, table made by the author

In the same way, Table 4 was designed to show the trend of Gini Coefficients of the rural population (grouped according to the per capita income of the village) in different provinces and cities of the country (except Tibet). In the high-income region, the improvement rates of Gini coefficient in Beijing, Shanghai and Zhejiang were remarkably high, compared to which, Jiangsu and Canton had only moved a small step forward. On the other hand, the conditions of Fujian and Tianjin had apparently deteriorated. In the medium-income region, Gini Coefficients fell considerably only in Hainan and Jilin, where the improvement rate was as high as 28.21%. In Hubei and Anhui, where the rates fluctuated around 2%, there was hitherto no sign of apparent improvements. The other provinces and cities in this region (except Guangxi) all belong to the main grain-producing areas authorized by the Ministry of Agriculture, including the model areas of the development of township enterprises like Shandong and Liaoning, the old grain production provinces such as Heilongjiang, Jiangxi, Henan and Hunan, the main wheat producing area Inner Mongolia. Even Guangxi is one of the main rice producing areas. Founding out the causes of the worsening inequality of income distribution in the main grain-producing areas is therefore tremendously significant.

In comparison to the worsening conditions in the medium-income region, there was a noticeable improvement of income distribution in the old impoverished provinces and cities that belong to the low-income region. Except Shanxi, Jinjiang and Qinhai, where the deterioration rates of Gini coefficient were 12.35%, 7.71% and 13.38% respectively, the rest, including Ninxia, Shanxi, Yunnan, Guizhou and Gansu, all witnessed an impressive improvement that however was still unknown to the public. The research on its causes will be very valuable for the development of the relatively backward western regions and the fulfillment of the poverty reduction policies in those areas.

V. Conclusion

The conclusions of the paper are summed up as below:

(1) There have been an increasing number of rural households, or over half of rural families whose income is below the country's average level. Income inequality in the

rural areas has become an increasingly serious problem.

(2) Compared to the change rate of total business income (30.38%), total business expenditure and the taxes paid to the state and owned by rural collectives also reached 35.1% and 29.83% respectively. The growth rate of rural laborers during the same period was 4.51%. The high-speed increase of the three items above has seriously affected the income growth of Chinese peasants.

(3) Compared to the worsening conditions in the medium-income region, there was a noticeable improvement of income distribution in the old impoverished provinces and cities that belong to the low-income region. The rising production cost resulted from the souring prices of the means of agricultural production is a noticeably important factor that has caused the income growth of peasants in the main grain-producing areas and the continuously worsening inequality in income distribution among the country's rural residents.

(4) Firstly, the contribution of the secondary industry to the total income reached 108.96%, while the contributions of the primary industry and other income sources were comparatively low. Secondly, compared to the negative contribution of village enterprises, household business income remains the largest contributor. The contribution of township enterprises was even lower than that of other business income (44.72%). Thirdly, the contribution of the service income of immigrant peasants has already been quite close to that of the primary industry and exceeded the contribution of village enterprises.

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