

經營學碩士 學位論文

A Study on Regional Income  
Inequalities in China: 1997~2004

중국의 지역간 소득 격차에 관한 연구

指導教授 鄭鴻悅

2006年 8月

韓國海洋大學校 大學院

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# **A Study on Regional Income Inequalities in China**

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## **Abstract**

### **A Study on Regional Income Inequalities in China: 1997~2004**

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Since the economic reform has been put in practice in China from 1978, Chinese economy has been changed profoundly and immensely. The income of the people in China has been increased observably. At the same time, income inequality and an imbalance of Chinese development also have emerged. And this trend has enlarged more quickly from the end of period 1990.

In this paper, I used the recent data, investigated the regional development in China from 1997~2004, analyzed the income disparity of Chinese regions with the dispersion of extreme values, CV, WCV, Gini's coefficient and Theil's index. I used these kinds of mathematic measures, in order to search direct numerical value for explaining the trends of these disparities and discuss future development strategies which can lead to relevant conclusions for policymakers.

Through the empirical studies, I found that Chinese economy had shown a high growth rates during 1997~2004. At the same time, however, the inequalities of regions in China have been increased. After study, I also found that the regional inequalities have not been only showed between rural and urban, but also been showed between coastal and inland area especially. And the Chinese central government also had actualized some policies to reduce this inequality such as 'the strategy of developing the western region'. Through the numerical change, I can find whether these policies are active or not. And then I try to give some countermeasures to the government to reconsider the economic strategy.

## Chapter1. Introduction

### 1.3 The background and purpose

Since economic reforms were introduced in the late 1970s, China has followed Deng Xiaoping's 'get rich first'<sup>1</sup> policy and 'coastal development strategy',<sup>2</sup> which have historically switched the national development priority from the inland to the eastern coastal regions. And the Open Door Policy consists of two major types of policy change: the opening up of geographic regions to foreign investment, and the opening of specific institutions nationwide.

The geographic opening began in July 1979, when China granted the frontier provinces of Guangdong and Fujian preferential policy flexibility. In May, 1980, the Shenzhen, Zhuhai, Shantou and Xiamen Special Economic Zones were created. In February, 1982, the Yangtze River Delta, Zhu River Delta and three other regions in Fujian, Liaoning, and Shangdong were opened. May, 1984, 14 additional coastal cities were opened. In 1988, Hainan Island Province-heretofore a fishing community-became the largest Special Economic Zone.<sup>3</sup>

During the new round of reform in 1990s, first, Pudong of Shanghai was opened. In 1991, four border cities on China-Russia frontier were opened. In August, 1992, 15 more hinterland cities were opened, and since that time, major cities all over China have followed suit.

Compared to the speed of geographic opening, institutional openings for foreign trade and foreign capital were slower, and have always been driven by the geographic opening.

By the same time, China's dynamic economy has one of the highest sustained growth rates in the 20<sup>th</sup> century. Gross Domestic Product (GDP) growth averaged more than 8 percent per year from these periods. By 2004, China had been the 6<sup>th</sup> biggest economic entity of the world. And the incomes of Chinese people have increased obviously. But the income inequality has been a bigger and bigger problem in China. The result of

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<sup>1</sup> Deng's 'get rich first' principle was derived from his famous 'white and black cats' philosophy: it doesn't matter whether a cat is white or black; if it can catch mice, it is a good cat.

<sup>2</sup> The 'get rich first' and 'coastal development strategy' was formally endorsed by the CCP (Chinese Communist Party) at the Party's conference in early 1988.

<sup>3</sup>, 200 James K. Galbraith, "Sustainable Development and the open-Door Policy in China", *UTIP Working Paper Number 160*.

increasing inequality may cause many kinds of problems to counteract the growth of economic, imperiling the stabilization of society, even overthrowing the regime of the country. And at present, China is being in an essential development phase that average per person income has been from 1,000 US dollars to 3,000 US dollars. So it is necessary to solve the income disparity problem and construct the harmonious society. Only this way can let China smoothly pass this encumbrance, enter the benign movement and the healthy development track.

#### **1.4 The plan of the paper**

In general, recent studies<sup>4</sup> on regional income inequalities were only lasted to 2000 year before ‘the strategy of developing the western region’ executed in China. Therefore, it can not show the right trend of regional income inequalities in China and the correctness of ‘the strategy of developing the western region’ also can not be rightly reflected. And recent studies on regional income inequalities only show us a result of data where it got, and measures were not explained in detail. In this paper, aiming at this problem, I give the detail of mathematic measures and use the most original and newest data (1997~2004) as far as possible.

In the rest of this paper, firstly, I explain our methodology for analyzing the inequality such as the dispersion of extreme values, CV, WCV, Gini’s coefficient, and Theil’s index in Chapter2. Secondly, I explain the situation of the inequality in China and the data I used, then give an empirical result and explain the results I got in Chapter3. Thirdly, in Chapter4, I analyze the cause of income inequality in China and countermeasures, and finally, I summarized my paper in conclusion.

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<sup>4</sup> See references

## Chapter2. Estimation measures for income disparities

There are many concepts of disparities from different points of view. In this paper, I will explain some of these and show what concept I will use from the economic view.

### 2.1 What is inequality?

What does inequality mean? It has many meanings: <sup>5</sup>

#### 1. The quality of being unequal or uneven:

- A. lack of evenness;
- B. social disparity;
- C. disparity of distribution or opportunity;
- D. the condition of being variable: changeableness;

#### 2. An instance of being unequal

We only focus on the economic inequality that means inequality measures the disparity between a percentage of population and the percentage of resources (such as income) received by that population. Inequality increases means disparity increases. On the other hand, inequality also can be defined as if a single person holds all of a given resource, inequality is at a maximum. If all people hold the same percentage of a resource, inequality is at a minimum. Inequality studies explore the levels of resource disparity and their practical and political implications. And economic inequalities can occur by several reasons as follows:

- a. physical attributes-distribution of natural ability is not equal
- b. personal preferences-relative valuation of leisure and work effort differs
- c. social process-pressure to work or not to work varies across particular fields or disciplines
- d. public policy-tax, labor, education, and other policies affect the distribution of resources

And we also must get to know why inequality measures. Measuring changes in equality helps determine the effectiveness of policies aimed at affecting inequality and generates the data necessary to use inequality as an explanatory variable in policy analysis.

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<sup>5</sup> Oxford Advanced Learner's English-Chinese Dictionary Extended fourth edition, The Commercial Press and Oxford University Press, 2002, P.760

## 2.2 Estimation measures for income disparities <sup>6</sup>

There are many measures for estimating the regional income disparities. In this paper, I will introduce the measures such as dispersion of extreme values, CV, WCV, Gini's coefficient and Theil's index in detail.

### 2.2.1 Measurement of the dispersion of extreme values

This measurement can be called Relation between extreme values.

$$R = \frac{x_1}{x_2}$$

In this ratio, we choose 10 percent highest and 10 percent lowest regions of average per capita income. Also we can use this ratio to get every region extreme values' dispersion only between rural and urban to get the inequality of the two.

### 2.2.2 CV and WCV

The measuring techniques examined in the previous section have in common that they take into consideration only the extreme values and do not measure the dispersion of the observations as a whole.

We distinguish three measures of total dispersion:

- a. the mean deviation
- b. the standard deviation
- c. the variance (the variance can be decomposed into a 'within-group' and a 'between-groups' variance)
- d. the coefficient of variation (this coefficient can be decomposed in the same way as the variance into a within-set and a between-set variation)

To compare countries and periods, the coefficient of variation is the only adequate indication of dispersion. The coefficient of variation is defined as:

$$CV = s/\bar{x} \text{ in which } s \text{ is the standard deviation and } \bar{x} \text{ the mean.}$$

The weighed CV is equal to:

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<sup>6</sup> N.Vanhove & L.H. Klaassen, *Regional Policy: A European Approach*, 1987, pp.84-88,

$$CV = \frac{\sqrt{\sum_i (y_i - \bar{y})^2 \frac{P_i}{n}}}{\bar{y}}$$

In which:

$\bar{y}$  = average national income's per capita

$y_i$  = average income per capita in region i

$P_i$  = the population (share) of region i

### 2.2.3 Gini's coefficient

The Gini's coefficient and the computation of Gini's coefficient method is that the Italian economist (C.Gini1912) proposes in the Lorenz curve foundation. Afterwards, Ricci (1916), Dalton (1920), Yntema(1938), Atkinson(1970), Newbery(1938), Sheshinski(1972) had further studied. It is used in further calculating the income assignment of the difference degree. According to international usual standard, the Gini's coefficient below 0.3 is the best average condition and that above 0.4 is the alert posture, but that above 0.6 to be the critical condition which the social turmoil occurs as necessary.

For simply, Gini's coefficient (G) formula is:  $G = \frac{S_a}{(S_a + S_b)}$

In this formula,  $S_a$ ,  $S_b$  expressed separately the area between the Lorenz curve and the absolute fair line, the area between the Lorenz curve and the absolute unfair line encircled, these are well described in Figure 2-1. When  $G=0$ ,  $S_a=0$ , it indicates the Lorenz curve and the absolute fair line superpose. In this case, the income assignment is absolutely equaled to share of population; when  $G=1$ ,  $S_b=0$ , it indicates the Lorenz curve and the absolute unfair line superpose. In this case, all income of the country concentrates on a person hand. Obviously, it is surely found that Gini's

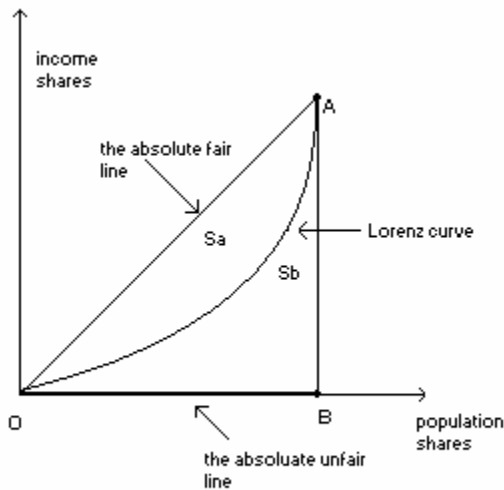
coefficient ends up to  $0 \leq G \leq 1$ .

In surveying income disparity literature, the Gini's coefficient use is most widespread. The Gini's coefficient has the merits as follows:

1. The Gini's coefficient can reflect overall income disparity condition by a value.
2. The Gini's coefficient is the most popular index which the international economy educational world uses. Thus, it has the comparison convenient advantage.
3. There are many kinds of Gini's coefficient computational methods. So it is convenient for using each kind of material.
4. Also it is advantageous for using the Gini's coefficient carrying on the decomposition analysis. The gross income Gini's coefficient with each sub-item income relations can be wrote as:  $G = \sum (U_i \times C_i)$ .

$U_i$  and  $C_i$  respectively are the  $i_{th}$  share of income which occupies in the gross income and the centralized rate.

Figure 2-1: Gini's coefficient



The Lorenz curve shows the relationship between regional distribution of the product, as an ordinate, and of the population, on the abscissa. The concentration curve L is nearer to the diagonal of equi-distribution OA as income disparities are lower. From the application of the Lorenz curve we

can derive Gini's coefficient.

Gini's coefficient of concentration corresponds to twice the area enclosed between the diagonal of equidistribution and the concentration curve. It varies, therefore, between 0 and 1, the former value indicating absolute equality, the latter absolute inequality. It is defined as:

$$G = \frac{1}{2} \sum_{i=1}^n \sum_{j=1}^n P_i P_j \left| \frac{Y_i}{P_i} - \frac{Y_j}{P_j} \right|$$

Where P and Y are, respectively, the shares of total population and of product in each region. If ten regions are considered, there are 10×9

differences,  $\left| \frac{Y_i}{P_i} - \frac{Y_j}{P_j} \right|$  each weighted by the corresponding  $P_i P_j$ .

Because it gives a variable weighting to different observations, Gini's coefficient constitutes a better methodological approach than previously mentioned ways to measure dispersion. However, the coefficient of variation can also be weighted. We draw attention to the fact that Gini's coefficient like any measure of dispersion is influenced by the number of regions considered.

## 2.2.4 Theil's index

The biggest merit of using the Theil's index to calculate the disparities is that it may calculate the disparity in the group and the group disparity to the total disparity contribution.

From economic point of view, Theil proposes to characterize disparities in regional products per inhabitant by the entropy of their distribution. I.e. by the measurement of the 'disorder' of the observed values.

$$I_T = \sum_{i=1}^n \frac{Y_i}{Y} \log \frac{Y_i/P_i}{Y/P}$$

In which  $Y_i/Y$  represents the share of each region in the total product of the regions, and  $\frac{Y_i/P_i}{Y/P}$  the relation of the product per capita of each region to

the product per inhabitant of the regions taken as a whole. It can vary



between 0 and  $\log \frac{P}{P_i}$ . The value 0 corresponds to the case of perfect equality

in regional products per capita. The value  $\log \frac{P}{P_i}$  corresponds to the case of

maximum inequality in regional products per inhabitant, in which the whole of the product is concentrated in the region where the population is smallest. Gini's coefficient of concentration and Theil's index are both weighted. But while the former is weighted by population, the latter is weighted by product to conform more to the economic significance of the desired measurement.

Theil's index has, in addition, possibilities of aggregation into sub-assemblies (e.g. groups of regions) which make it particularly interesting from the point of view of analysis of regional disparities: total variation is variation of national average incomes per capita between China's provinces plus variations of regional average income per capita in the China's provinces.

$$I_T = \sum_{i=1}^n \frac{Y_i}{Y} \log \frac{Y_i/P_i}{Y/P} = \sum_{g=1}^G Y_g \log \frac{Y_g}{P_g} + \sum_{g=1}^G Y_g \left[ \sum_{i \in S_g} \frac{Y_i}{Y_g} \log \frac{Y_i/Y_g}{P_i/P_g} \right]$$

Where:

$Y_i$  = part of province i in China product

$P_i$  = part of province i in China population

$Y_g$  = part of region g in China product

$P_g$  = part of region g in China population

$G$  = number of regions

$S_g$  = number of provinces in region g ( $i \in S_g$  i is one element of the group  $S_g$ )

$N$  = number of province in China

## Chapter3. Income inequalities in China

### 3.1 The geography distributing of China

Figure 3-1: The map of three regions in China



In this paper, I compared the regional disparities by the extreme value, CV, WCV, Gini's coefficient and Theil's index. Therefore, I must command how to divide all of China to regions. The meaning of the whole China in my paper is the mainland of China except Taiwan, Hong Kong and Macao as the map shows. According to the map above, China has been divided into 3 regions as coastal/ eastern region, middle/ centre region and western region. The netted part of this map (including 12 provinces) is the coastal region; the transverse lined part of this map (including 9 provinces) is the middle region; the diagonal lined part of this map (including 10 provinces) is the western

region.

Although there is another method to divide the regions in economy (eastern region including 10 provinces except Liaoning province and Guangxi province; middle region only including 6 provinces except Neimenggu province, Heilongjiang province and Jilin province; western region including 12 provinces contained Guangxi province and Neimenggu province; and another traditional region called northeast region including Heilongjiang province, Jilin province and Liaoning province), I follow the geography distribution because it is similar in numbers of provinces in each region and it is the direct sense from this map above also.

### **3.2 Data sources**

From China Statistic Yearbook 1998, Chongqing is divided from the Sichuan province for a municipality. Chongqing which was part of Sichuan before 1997 is smaller than the Chongqing municipality according to the geography. So it is very difficult and complex to collect and calculate the data. Therefore, in this paper, I used the data started from 1997 (the year that Chongqing was divided from Sichuan province) based on China Statistic Yearbook 1998-2005. On the other hand, China Statistic Yearbook 2006 has not come out by now. So, I can only use the last 8 year's data from the State's Statistic Bureau.

According to the geography distribution of China, Hong Kong, Macao and Taiwan have not been vested in the mainland of China because of different system of economy, so these three will not be considered. And the data of urban annual disposable income per capita (1997 ~1998) in Tibet had not been promulgated by the State's Statistic Bureau (see Table3-5). Hence, the actual information must be some difference from the research in this paper.

I have collected the last 8 years' Chinese statistic data from the Chinese Statistic Yearbook published by the State's Statistic Bureau and tidied up the population, GDP and average GDP per capita as follows:

(Table 3-1) The population of China from 1997-2004

(In ten thousands)

	1997	1998	1999	2000	2001	2002	2003	2004
Beijing	1240	1246	1257	1382	1383	1423	1456	1493
Tianjin	953	957	959	1001	1004	1007	1011	1024
Hebei	6525	6569	6614	6744	6699	6735	6769	6809
Shanxi(山)	3141	3172	3204	3297	3272	3294	3314	3335
Neimenggu	2326	2345	2362	2376	2377	2379	2380	2384
Liaoning	4138	4157	4171	4238	4194	4203	4210	4217
Jilin	2628	2644	2658	2728	2691	2699	2704	2709
Heilongjiang	3751	3773	3792	3689	3811	3813	3815	3817
Shanghai	1457	1464	1474	1674	1614	1625	1711	1742
Jiangsu	7148	7182	7213	7438	7355	7381	7406	7433
Zhejiang	4435	4456	4475	4677	4613	4647	4680	4720
Anhui	6127	6184	6237	5986	6328	6338	6410	6461
Fujian	3282	3299	3316	3471	3440	3466	3488	3511
Jiangxi	4150	4191	4231	4140	4186	4222	4254	4284
Shandong	8785	8838	8883	9079	9041	9082	9125	9180
Henan	9243	9315	9387	9256	9555	9613	9667	9717
Hubei	5873	5907	5938	6028	5975	5988	6002	6016
Hunan	6465	6502	6532	6440	6596	6629	6663	6698
Guangdong	7051	7143	7270	8642	7783	7859	7954	8304
Guangxi	4633	4675	4713	4489	4788	4822	4857	4889
Hainan	743	753	762	787	796	803	811	818
Chongqing	3042	3060	3075	3090	3097	3107	3130	3122
Sichuan	8430	8493	8550	8329	8640	8673	8700	8725
Guizhou	3606	3658	3710	3525	3799	3837	3870	3904
Yunnan	4094	4144	4192	4288	4287	4333	4376	4415
Xizang	248	252	256	262	263	267	270	274
Shanxi(陕) <sup>7</sup>	3570	3596	3618	3605	3659	3674	3690	3705
Gansu	2494	2519	2543	2562	2575	2593	2603	2619
Qinghai	496	503	510	518	523	529	534	539
Ningxia	530	538	543	562	563	572	580	588
Xinjiang	1718	1747	1774	1925	1876	1905	1934	1963
Nation 1	123626	124810	125909	125933	127627	128453	129227	129988
Nation 2	122322	123282	124219	126228	126783	127518	128373.3	129415

<sup>7</sup> Shanxi(山) and Shanxi(陕) are two different provinces in China: First belongs to the Central region, second belongs to the Western region

(Table 3-2) GDP of China from 1997-2004

(100 million yuan)

	1997	1998	1999	2000	2001	2002	2003	2004
Beijing	1810.1	2011.3	2174.5	2478.8	2845.7	3212.7	3663.1	4283.3
Tianjin	1235.3	1336.4	1450.1	1639.4	1840.1	2051.2	2447.7	2931.9
Hebei	3953.8	4256	4569.2	5089	5577.8	6122.5	7098.6	8768.8
Shanxi(山)	1480.1	1486.1	1506.8	1643.8	1780	2017.5	2456.6	3042.4
Neimenggu	1099.8	1192.3	1268.2	1401	1545.8	1756.3	2150.4	2712.1
Liaoning	3582.5	3881.7	4171.7	4669.1	5033.1	5265.7	6002.5	6872.7
Jilin	1446.9	1557.8	1669.6	1821.2	2032.5	2246.1	2522.6	2958.2
Heilongjiang	2708.4	2798.9	2897.4	3253	3561	3882.16	4430	5303
Shanghai	3360.2	3688.2	4035	4551.2	4950.8	5408.8	6250.8	7450.3
Jiangsu	6680.3	7200	7697.8	8582.7	9511.9	10631.8	12460.8	15403.2
Zhejiang	4638.2	4987.5	5364.9	6036.3	6748.2	7796	9395	11243
Anhui	2669.9	2805.5	2908.6	3038.2	3290.1	3553.6	3972.4	4812.7
Fujian	3000.4	3286.6	3550.2	3920.1	4253.7	4682	5232.2	6053.1
Jiangxi	1715.2	1852	1963	2003.1	2175.7	2450.5	2830.5	3495.9
Shandong	6650.0	7162.2	7662.1	8542.4	9438.3	10552.1	12435.9	15490.7
Henan	4079.3	4356.6	4576.1	5137.7	5640.1	6168.7	7048.6	8815.1
Hubei	3450.2	3704.2	3858	4276.3	4662.3	4831	5401.7	6309.9
Hunan	2993	3118.1	3326.8	3691.9	3983	4140.9	4638.7	5612.3
Guangdong	7315.5	7919.1	8464.3	9662.2	10647.7	11735.6	13625.9	16039.5
Guangxi	1817.3	1903	1953.3	2050.1	2231.2	2455.4	2735.1	3320.1
Hainan	409.9	438.9	471.2	518.5	546	597.5	670.9	769.4
Chongqing	1350.1	1429.3	1479.7	1589.3	1749.8	1971.3	2250.6	2665.4
Sichuan	3320.1	3580.3	3711.6	4010.3	4421.8	4875.1	5456.3	6556
Guizhou	793	841.9	911.9	993.5	1084.9	1185	1356.1	1591.9
Yunnan	1644.2	1793.9	1855.7	1955.1	2074.7	2232.3	2465.3	2959.5
Xizang	77	91.2	105.6	117.5	138.7	161.4	184.5	211.5
Shanxi(陕)	1300	1381.5	1487.6	1660.9	1844.3	2101.6	2398.6	2883.5
Gansu	781.3	869.8	932	983.4	1072.5	1161.4	1304.6	1558.9
Qinghai	202.1	220.2	238.4	263.6	301	341.1	390.2	465.7
Ningxia	210.9	227.5	241.5	265.6	298.4	329.3	385.3	460.4
Xinjiang	1050.1	1116.7	1168.6	1364.4	1485.5	1598.3	1877.6	2200
Nation 1	74462.6	78345.2	82067.5	89468.1	97314.8	105172.3	117390.2	136875.9

Nation 2 <sup>8</sup>	76825.2	82494.7	87671.4	97209.6	106766.6	117514.8	135539.1	163240.4
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(Table 3-3) Average GDP per capita of China from 1997-2004

(yuan)

	1997	1998	1999	2000	2001	2002	2003	2004
Beijing	16735	18482	19846	22460	25523	28449	32061	37058
Tianjin	13796	14808	15976	17993	20154	22380	26532	31550
Hebei	6079	6525	6932	7663	8362	9115	10513	12918
Shanxi(山)	4736	5040	4727	5137	5460	6146	7435	9150
Neimenggu	4961	5068	5350	5872	6463	7241	8975	11305
Liaoning	8525	9333	10086	11226	12041	12986	14258	16297
Jilin	5504	5916	6341	6847	7640	8334	9338	10932
Heilongjiang	7243	7544	7660	8562	9349	10184	11615	13897
Shanghai	25750	28253	30805	34547	37382	40646	46718	55307
Jiangsu	9344	10021	10665	11773	12922	14391	16809	20705
Zhejiang	10515	11247	12037	13461	14655	16838	20147	23942
Anhui	4390	4576	4707	4867	5221	5817	6455	7768
Fujian	9258	10369	10797	11601	12362	13497	14979	17218
Jiangxi	4155	4484	4661	4851	5221	5829	6678	8189
Shangdong	7590	8120	8673	9555	10465	11645	13661	16925
Henan	4430	4712	4894	5444	5924	6436	7570	9470
Hubei	5899	6300	6514	7188	7813	8319	9011	10500
Hunan	4643	4953	5105	5639	6054	6565	7554	9117
Guangdong	10428	11143	11728	12885	13730	15030	17213	19707
Guangxi	4356	4076	4148	4319	4668	5099	5969	7196
Hainan	5698	6022	6383	6894	7135	7803	8316	9450
Chongqing	4452	4684	4826	5157	5654	6347	7209	9608
Sichuan	4029	4339	4452	4784	5250	5766	6418	8113
Guizhou	2215	2342	2475	2662	2895	3153	3603	4215
Yunnan	4042	4355	4452	4637	4866	5179	5662	6733
Xizang	3194	3716	4262	4559	5307	6093	6871	7779
Shanxi(陕)	3707	3834	4101	4549	5024	5523	6480	7757
Gansu	3137	3456	3668	3838	4163	4493	5022	5970
Qinghai	4066	4367	4662	5087	5735	6426	7277	8606
Ningxia	4025	4270	4473	4839	5340	5804	6691	7880
Xinjiang	5904	6229	6470	7470	7913	8382	9700	11199

<sup>8</sup> Nation 1 and Nation 2 data of population and GDP's difference is the error of State's Statistic and the Regional Statistic

Nation	6054	6308	6551	7086	7651	8214	9111	10561
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Source: China Statistic Yearbook 1998~2004 published by the State's Statistic Bureau

However, we can find that the total sum of population and GDP of all regions do not equal to the nations. From the Chinese Statistic Yearbook, we can easily know that it is the statistic error. So in my paper, I used my checked data which is the mathematic total sum of each province, because the total sum of each province's GDP's share is over 1. The same as the total population, I used my checked data in my paper too. Another one I must indicate is that I consider the average GDP per capita the same as the average income per capita because the two data equals approximately. And by my transacted data, there must have some error away from the actual result.

### 3.3 Results of Measurement of income disparity

#### 3.3.1. The range ratio of 10% highest average income per capita with 10% lowest in China.

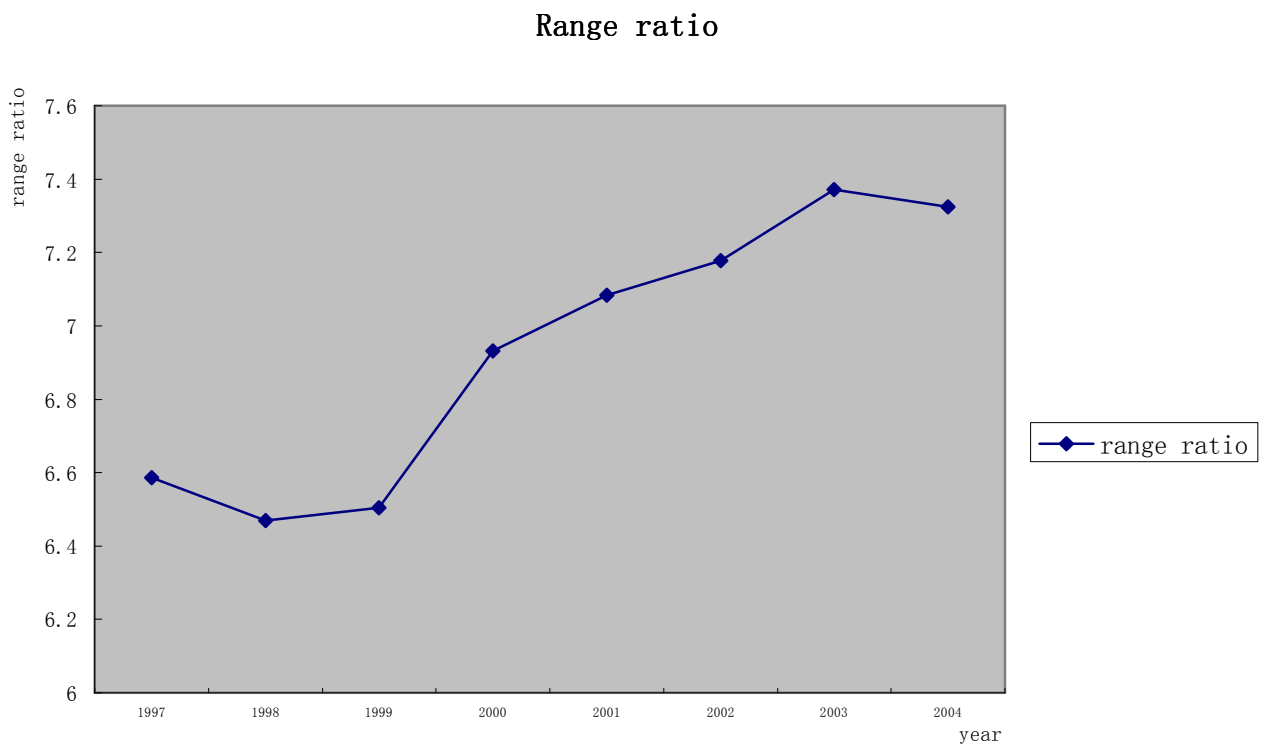
(Table 3-4) The range ratio of 10% highest average income per capita with 10% lowest.

1997		1998		1999		2000	
Shanghai	25750	Shanghai	28253	Shanghai	30805	Shanghai	34547
Beijing	16735	Beijing	18482	Beijing	19846	Beijing	22460
Tianjin	13796	Tianjin	14808	Tianjin	15976	Tianjin	17993
Xizang	3194	Xizang	3716	Shanxi	4101	Guangxi	4319
Gansu	3137	Gansu	3456	Gansu	3668	Gansu	3838
Guizhou	2215	Guizhou	2342	Guizhou	2475	Guizhou	2662
6.59		6.47		6.50		6.93	
2001		2002		2003		2004	
Shanghai	37382	Shanghai	40646	Shanghai	46718	Shanghai	55307
Beijing	25523	Beijing	28449	Beijing	32061	Beijing	37058
Tianjin	20154	Tianjin	22380	Tianjin	26532	Tianjin	31550
Guangxi	4668	Guangxi	5099	Yunnan	5662	Yunnan	6733
Gansu	4163	Gansu	4493	Gansu	5022	Gansu	5970
Guizhou	2895	Guizhou	3153	Guizhou	3603	Guizhou	4215
7.08		7.18		7.37		7.32	

Source: calculated based on formula  $R = \frac{x_1}{x_2}$  from Table 3-3

In the last 8 years, Shanghai, Beijing and Tianjin's average income per capita are always the highest 3 in all of China, and Guizhou and Gansu provinces are the lowest 2 in all of China. Even though there are no changes in the last 8 years, the range ratio of the 3 highest with 3 lowest provinces waved. I can find some tendency easily from the following figure3-2.

Figure 3-2: The trend of range ratio



Even there has a little undulation, the range ratio's tendency is going up from 6.586 to 7.324. As already mentioned above, the 3 highest provinces are all belonged to the eastern region, and the 3 lowest provinces are all belonged to the western region except 2000, 2001 and 2002. (Guangxi province has been defined to belong to the eastern region.) We can simply



get to know the disparities between east and west are turning bigger as the figure shows. Although all of these provinces' average income per capita increased, the speed of increasing around eastern regions is quicker than the western regions. So it caused the numerical value of the range ratio rise up.

### 3.3.2 The ratio of urban and rural annual disposable income per capita in China.

(Table 3-5) The ratio in each regions of urban and rural annual disposable income per capita

1997		1998		1999		2000	
云南	4.041	云南	4.356	西藏	5.276	西藏	5.580
贵州	3.421	贵州	3.421	云南	4.298	云南	4.277
重庆	3.240	重庆	3.177	贵州	3.620	贵州	3.728
新疆	3.220	新疆	3.125	新疆	3.611	陕西	3.549
陕西	3.142	陕西	3.002	重庆	3.395	新疆	3.489
甘肃	3.031	青海	2.976	甘肃	3.297	青海	3.469
青海	3.028	甘肃	2.878	青海	3.207	甘肃	3.441
四川	2.834	四川	2.866	陕西	3.197	重庆	3.316
广西	2.725	广西	2.745	四川	2.972	广西	3.129
湖南	2.557	湖南	2.632	广西	2.743	四川	3.096
安徽	2.543	安徽	2.561	湖南	2.733	宁夏	2.849
宁夏	2.537	广东	2.506	安徽	2.665	湖南	2.830
海南	2.530	海南	2.404	海南	2.557	安徽	2.736
广东	2.469	宁夏	2.389	宁夏	2.550	广东	2.671
河南	2.361	河南	2.264	广东	2.515	内蒙古	2.516
山西	2.295	湖北	2.222	山西	2.450	山西	2.479
山东	2.265	山西	2.205	内蒙古	2.382	海南	2.455
湖北	2.223	福建	2.201	湖北	2.351	山东	2.441
内蒙古	2.216	内蒙古	2.197	河南	2.326	湖北	2.435
福建	2.205	山东	2.193	山东	2.278	河南	2.400
河北	2.169	北京	2.144	天津	2.243	江西	2.390
北京	2.134	河北	2.114	福建	2.219	吉林	2.378
天津	2.037	天津	2.094	江西	2.217	福建	2.301
浙江	1.997	江西	2.076	河北	2.197	黑龙江	2.287
辽宁	1.963	浙江	2.054	北京	2.173	河北	2.284
江西	1.932	黑龙江	1.895	浙江	2.135	辽宁	2.275
吉林	1.917	辽宁	1.790	黑龙江	2.121	北京	2.248
黑龙江	1.772	江苏	1.782	上海	2.021	天津	2.247

江苏	1.763	吉林	1.765	吉林	1.982	浙江	2.181
上海	1.599	上海	1.623	辽宁	1.959	上海	2.094
西藏	No data	西藏	No data	江苏	1.871	江苏	1.892
全国	2.469	全国	2.509	全国	2.649	全国	2.787
2001		2002		2003		2004	
西藏	5.605	西藏	5.525	西藏	5.184	西藏	4.892
云南	4.432	云南	4.501	云南	4.504	云南	4.759
贵州	3.862	贵州	3.990	贵州	4.199	贵州	4.253
青海	3.759	陕西	3.966	陕西	4.062	陕西	4.014
新疆	3.739	甘肃	3.868	甘肃	3.979	甘肃	3.983
陕西	3.678	新疆	3.703	青海	3.760	广西	3.770
甘肃	3.568	青海	3.697	广西	3.717	青海	3.739
广西	3.428	广西	3.635	重庆	3.655	重庆	3.673
重庆	3.410	重庆	3.451	新疆	3.406	新疆	3.342
四川	3.201	宁夏	3.164	宁夏	3.196	广东	3.121
宁夏	3.041	四川	3.137	安徽	3.186	内蒙古	3.117
湖南	2.949	湖南	2.902	四川	3.158	宁夏	3.111
安徽	2.806	内蒙古	2.901	河南	3.098	四川	3.061
内蒙古	2.805	山西	2.900	内蒙古	3.093	山西	3.052
广东	2.763	安徽	2.849	广东	3.053	湖南	3.037
山西	2.756	广东	2.847	山西	3.047	河南	3.018
海南	2.622	河南	2.819	湖南	3.030	安徽	3.005
山东	2.532	海南	2.816	湖北	2.853	湖北	2.776
河南	2.511	湖北	2.778	江西	2.808	海南	2.746
湖北	2.490	江西	2.747	海南	2.805	福建	2.733
江西	2.467	吉林	2.721	吉林	2.768	江西	2.713
福建	2.459	福建	2.597	福建	2.678	山东	2.691
吉林	2.447	山东	2.583	山东	2.666	吉林	2.614
黑龙江	2.379	黑龙江	2.536	黑龙江	2.662	北京	2.534
北京	2.304	河北	2.488	河北	2.537	河北	2.507
河北	2.299	浙江	2.371	北京	2.478	黑龙江	2.486
浙江	2.284	辽宁	2.371	辽宁	2.467	浙江	2.447
天津	2.269	北京	2.309	浙江	2.446	辽宁	2.421
辽宁	2.266	天津	2.182	天津	2.259	上海	2.361
上海	2.194	上海	2.129	上海	2.234	天津	2.285
江苏	1.949	江苏	2.055	江苏	2.185	江苏	2.205
全国	2.899	全国	3.111	全国	3.231	全国	3.209

Source: Calculated based on formula  $R = \frac{x_1}{x_2}$

The lowest disparity in urban and rural from 1997 to 1998 is in Shanghai, from 1999-2004 is in Jiangsu. The highest disparity in urban and rural from 1997 to 1998 is in Yunnan, from 1999-2004 is in Tibet. Even from 1997 to 1998, there has no data in Tibet from the Chinese Statistic Yearbook. And a majority of eastern regions' disposable income per capita in urban and rural turns more equal than western regions'. The Nation regions' disposable income per capita in urban and rural shows a increasing trend.

### 3.3.3 Result of CV and WCV

(Table 3-6) CV of East, Center West and Nation

	1997	1998	1999	2000
East	0.193	0.201	0.207	0.224
Center	0.063	0.062	0.062	0.066
West	0.076	0.074	0.072	0.079
Nation	0.141	0.151	0.159	0.167
	2001	2002	2003	2004
East	0.218	0.217	0.216	0.214
Center	0.070	0.069	0.068	0.065
West	0.079	0.077	0.081	0.083
Nation	0.170	0.176	0.184	0.188

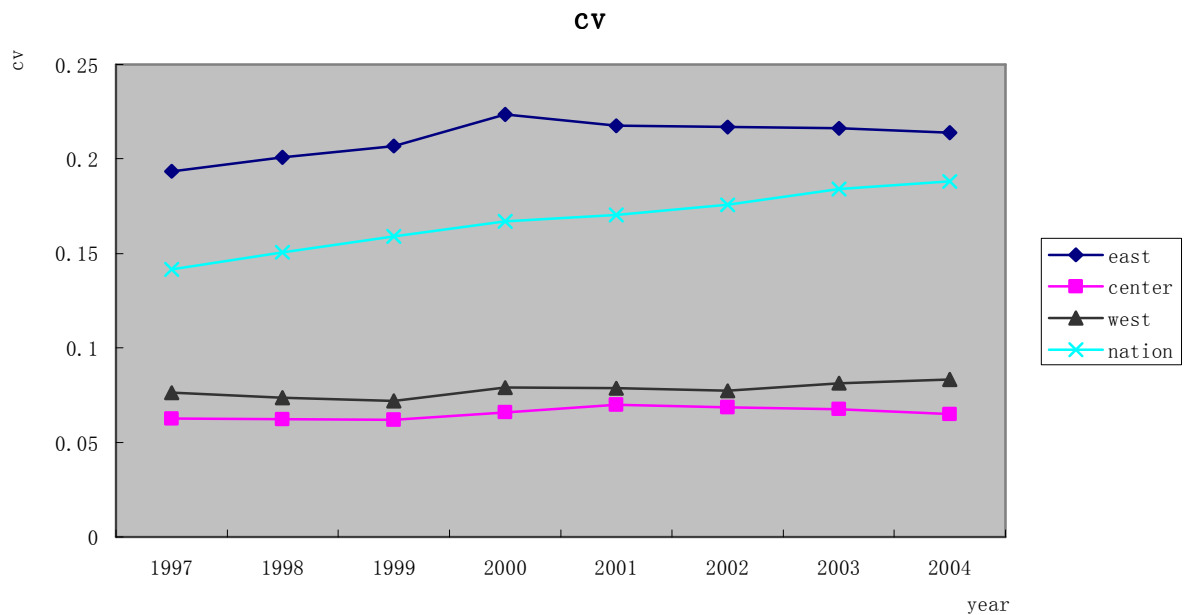
Source: calculated based on CV formula

From Table 3-6, it is clear that the ascending and descending of the economy did affect the changing pattern of disparities. The disparity between the counties of China increased during the last 8 years. But the eastern region turned a decreased tendency after 2000 year. On the other hand, the western region turned down until 1999, and then it showed an increasing trend. The national CV changed biggest. Therefore, the disparity was turning bigger from 1997 to 2004.

By Figure3-3, the National disparity showed an obvious ascending trend according to the analysis of CV, and the East turned an ascending trend by

2000, and then showed a descending trend by now. The West and Center showed an approximately invariable trend from 1997~2004. The Chinese economy showed a rapid growth rate in the last 10 years, but the results effect only on the East region. The West and Center regions even have no change or no obvious increase according to the Figure3-3.

Figure 3-3: The trend of CV



(Table 3-7) WCV of East, Center, West and Nation

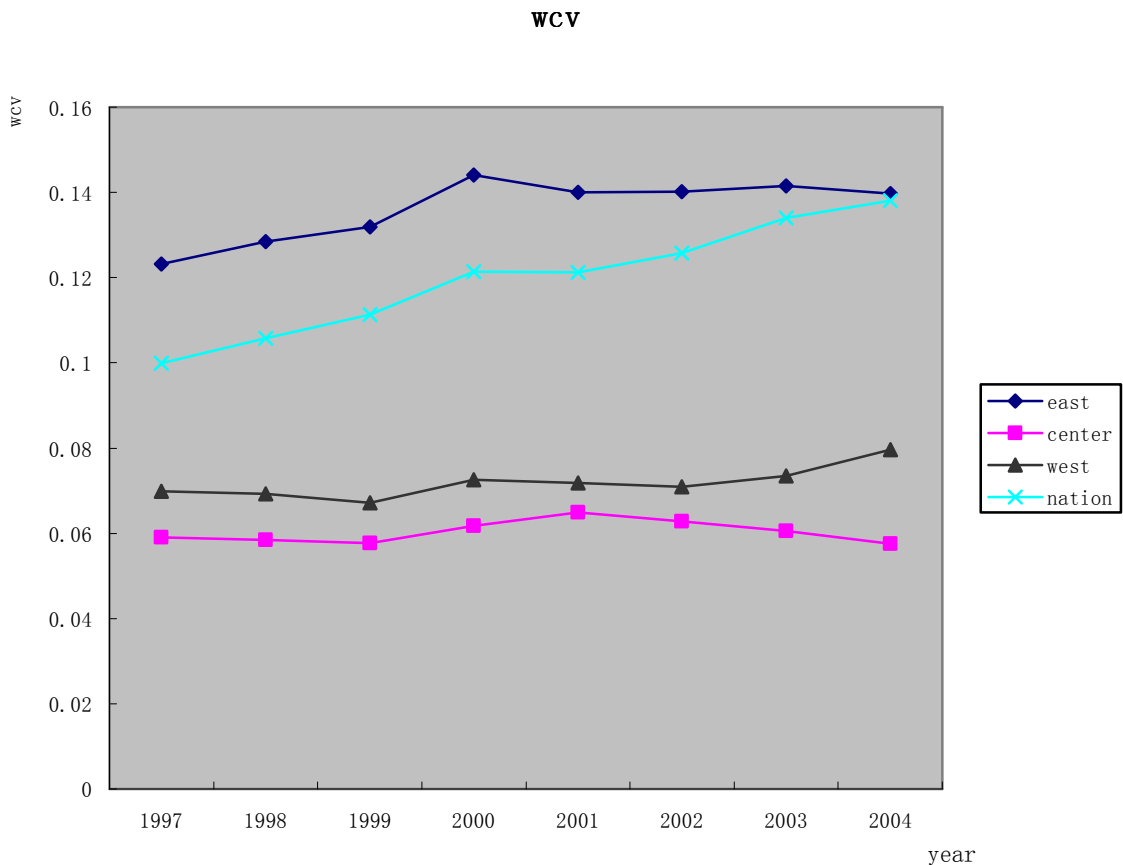
	1997	1998	1999	2000
East	0.123	0.128	0.132	0.144
Center	0.059	0.058	0.058	0.062
West	0.070	0.069	0.067	0.073
Nation	0.100	0.106	0.111	0.121
	2001	2002	2003	2004
East	0.140	0.140	0.141	0.140

Center	0.065	0.063	0.060	0.058
West	0.072	0.071	0.074	0.080
Nation	0.121	0.126	0.134	0.138

Source: calculated based on the WCV formula

Compared Table 3 with Table 4, the estimated values of the weighted CV (WCV) is smaller than that of the CV. And when we weighted the CV, it is more exactable because of we concerned the population factor. Meanwhile, the western region difference between 1997 and 2004 showed that western region has the smallest change in the last 8 years. And the eastern region showed the biggest one. Also the national WCV showed the increasing trend in the last 8 years. So it illustrated that the highest income disparities are to be found in the East. Figure3-4 showed it clearly.

Figure 3-4: The trend of WCV



### 3.3.4 Result of Gini's coefficient

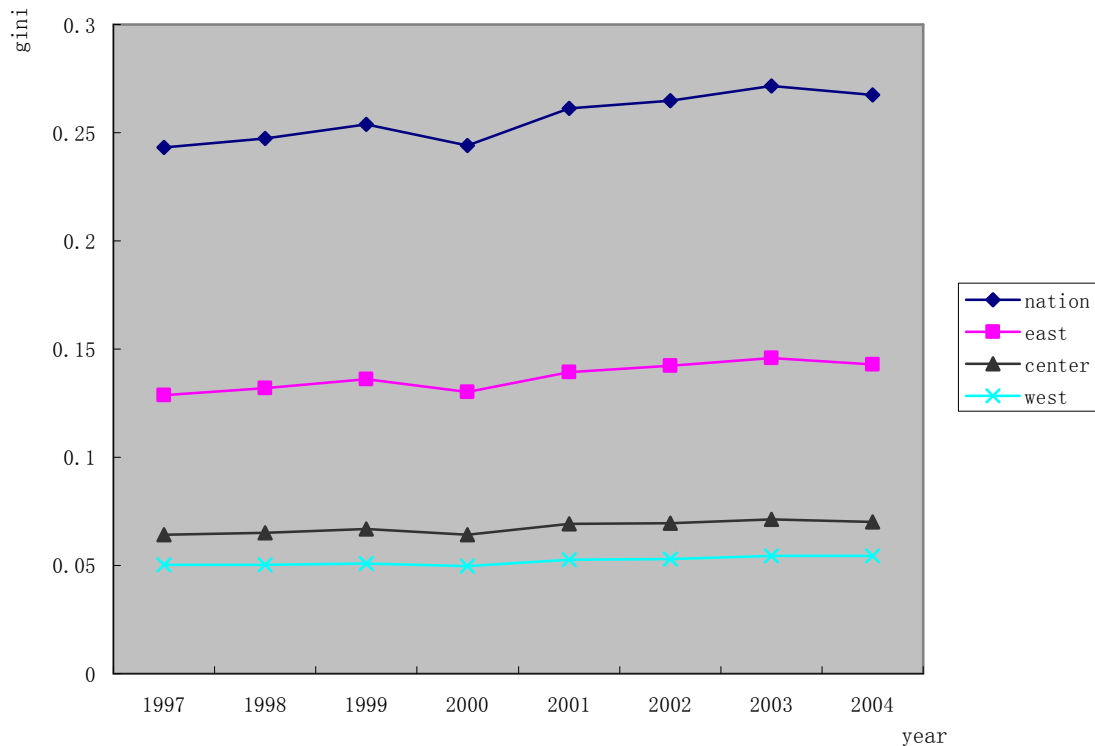
(Table 3-8) Gini's coefficient of nation and regions

	1997	1998	1999	2000
East	0.129	0.132	0.136	0.130
Center	0.064	0.065	0.067	0.064
West	0.050	0.050	0.051	0.050
Nation	0.243	0.247	0.254	0.244
	2001	2002	2003	2004
East	0.139	0.142	0.146	0.143
Center	0.069	0.070	0.071	0.070
West	0.053	0.053	0.054	0.054
Nation	0.261	0.265	0.271	0.268

Source: calculated based on the Gini's coefficient formula

Figure 3-5: The trend of Gini's coefficient

### Gini's Coefficient



According to the CV and WCV figure, the increase of disparity trend turned down from 2000. The Gini's coefficients showed the same tendency. But the Gini coefficient goes on increasing means the disparity in China goes on increasing. The analyses of the Gini's coefficients within or between China's three regions imply that, to a large extent, inequality relates to and is influenced by dramatic political events, severe natural disasters, and economic instability. Because of China's "the strategy of developing the western region", it can explain the figure's flexion. The Gini's coefficients showed a much more stable picture with an obvious trend. The intraregional inequality dropped. That is, the eastern provinces were forming the rich club while the provinces from the west were forming the poor club. It is easy to reject the possibility that the provinces from the central region were sliding into the rich one. However, there is no evidence that the central region was joining the poor club or that it was forming its own income club.

#### 3.3.5 Result of Theil's index

Table 3-9: Theil's index

	1997	1998	1999	2000
Total inequality	0.104	0.109	0.115	0.105
Between-set inequality	0.060	0.062	0.066	0.061
Within-set inequality	0.044	0.047	0.049	0.044
Between-set inequality%	0.570	0.570	0.576	0.582
	2001	2002	2003	2004
Total inequality	0.126	0.121	0.125	0.121
Between-set inequality	0.069	0.071	0.075	0.073
Within-set inequality	0.057	0.050	0.050	0.047
Between-set inequality%	0.545	0.588	0.600	0.606

Source: calculated based on the Theil's index formula

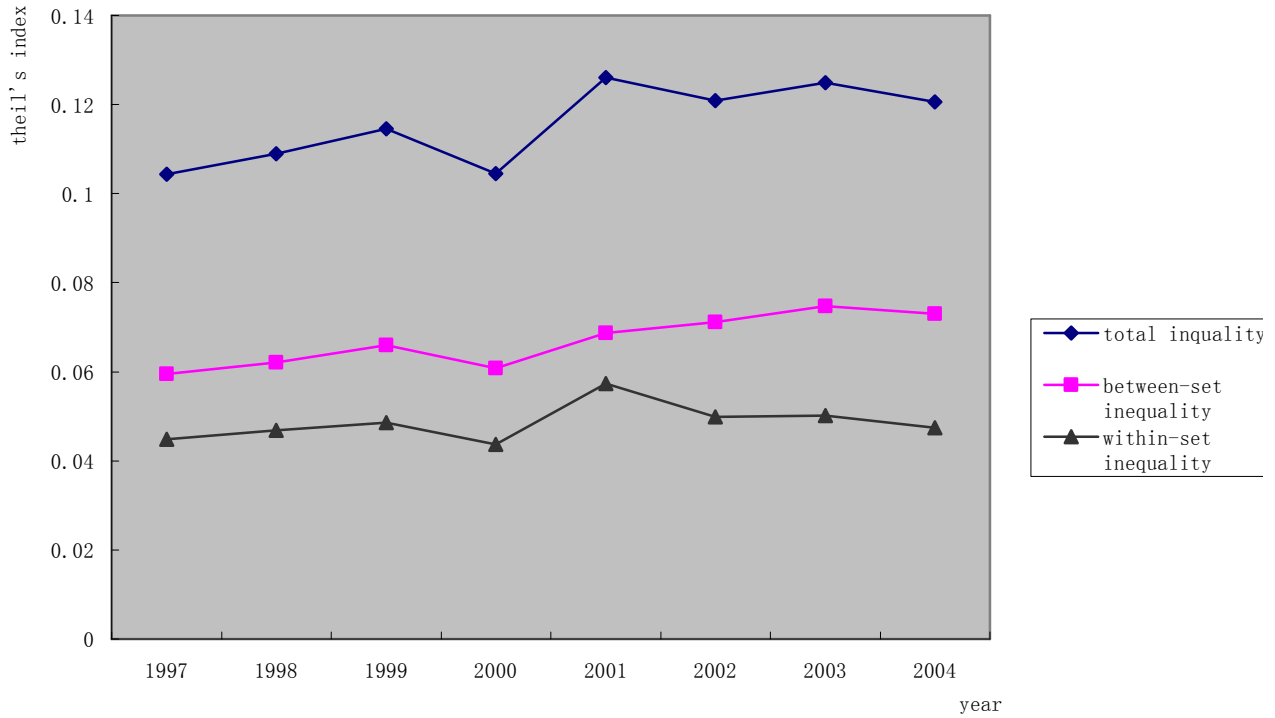
Note: Between-set inequality% means between-set inequality as a percentage of total inequality

From the Figure 3-6, the three curves showed the same trend. But if we focus on the 2000 year, the decrease trend is the biggest of the all. After 2000, the curve turned mildly again.

Figure 3-6: The trend of Theil's index



### Theil's index



Through the Figure 3-6, we can get the changing pattern more clearly than that of the table. All of the three curves, the total inequality, between-set inequality and within-set inequality showed the same obvious trend of decreasing in 2000 year as the same as CV, WCV and Gini coefficient (see figure 3-3,3-4 and 3-5). And the Theil's index, which between-set inequality as a percentage of total inequality rise up from 57 up to 61. This result shows that inequality between regions is a larger contributor to overall growth of inequality in China than is inequality within regions. The rise in inequality in China from 1997 to 2004 was more geographic than structural<sup>9</sup>. Still, under either calculation in east region increases in inequality exceeded the nation increases.

<sup>9</sup> James K.Galbraith, "Increasing Inequality in China: Further Evidence from Official Sources,1987-2000", *Association of Comparative Economic Studies*, Atlanta, 2001

This geographic inequality can be described to the regional inequality (between the coastal area and the inland area). This means the inequality between East and West is the biggest of all. Even though the increase trend of inequality has turned down from the Figure 3-6, but result of calculating of the inequality between coastal and inland area achieved at 61 percentages now from the Table 3-9. On the other hand, the income inequality within eastern regions at the province level is smaller than the inequality between regions at the region level.

I infer from this analysis that the data provided in the Statistical Yearbook can be manipulated to provide meaningful measures of the year-to-year evolution of inequality in China, and fruitful decompositions by region. This is important because it points to the possibility of monitoring developments within a year or less of their occurrence, and also of pinpointing exactly where-within highly detailed region decomposition - major changes are being observed.

All of these results (range ratio, CV, WCV, Gini's coefficient and Theil's index) showed us the income inequality in China is going on increasing. But the increasing trend has turned down. The income inequality between urban and rural, and the income inequality between coastal regions and inland regions are the biggest two problems to the Chinese government from my results.

#### **Chapter4. The causes and countermeasures of income inequalities in China**

## 4.1 The causes of income inequalities in China

Major factors leading to the growth of or even extraordinary income disparity are many. The causes of rapid growth of disparity in people's income at many levels are very complicated. There also are some special characteristics in China. To sum up, they mainly involve the following aspects.

1. The government's preferential policy towards coastal zones is the biggest cause of income disparity.<sup>10</sup>

Over a longer time period, China's regional development strategies since reform may have contributed directly to the widening spatial income inequalities. As early as 1980, China formally established four special economic zones in the coastal provinces of Guangdong and Fujian, and then, another 14 coastal cities were opened in order to attract foreign direct investment and trade in 1984. These special economic zones and coastal open areas acquired considerable autonomy, enjoyed superior tax treatments, and received preferential resource allocations. As part of the Coastal Area Development Strategy, the government gradually extended these special policies to all coastal areas in the late 1980s. Although many cities in the interior regions were eventually opened in 1994, these time lags may have differential effects on attracting investments and generating growth, putting the inland provinces at significant disadvantages. Throughout the 1980s and early 1990s, the coastal provinces attracted disproportionately high shares of foreign investments and trade and became the cradle of rural enterprises, which have been the deriving force behind China's income growth. During this period, the income levels of interior and coastal regions diverged. As a result, the inland-coastal contribution to overall inequality increased several folds, becoming the largest component in the regional inequality decomposition.<sup>11</sup>

2. Market competition is the basic cause of income disparity.<sup>12</sup>

After more than 20 years of reform, fundamental changes have taken place in China's economic structure. The framework of a market economy has

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<sup>10</sup> Gene H. CHANG, "The cause and cure of China's widening income disparity", *China Economic Review*, Vol.13, 2002, pp.335-340

<sup>11</sup> Dennis Tao Yang, "What has caused regional inequality in China?", *China Economic Review*, Vol.13, 2002, pp.331-334

<sup>12</sup> Ge Yanfeng, "Analysis of Growing Disparity in People's Income Since the Start of Reform", *China Development Review*, Vol.2 No.3, 2000, pp.90-101

been basically established. The market has become the major force in the allocation of resources. In the field of income distribution, market mechanisms have basically taken the place of the traditional planned distribution. A distribution system in which distribution according to work is dominant and multiple essential factors of production participating in distribution has been established. In the course of market competition, the emergence and growth of income disparity is inevitable since different members of society and different economic organizations have different abilities in competition, make different contributions in work and put in different productive factors. Competition leads to disparity, especially in primary distribution. It is an inevitable outcome of the economic marketization. In general, it is conducive to the comprehensive improvement in the economic efficiency and is worth confirming.

3. Difference in the initial conditions of competition created by historical and traditional structures is an important cause of the growth of disparity.

Although the emergence of disparity resulting from market competition is reasonable, it should not be ignored that the present pattern of competition is based on historical and traditional structures, and on extremely unequal basic economic conditions and economic structures. Apparent differences in initial conditions exist in the competition. Such a situation had an outstanding impact on the growth of income disparity, especially on group income disparities between urban and rural areas and between regions.

There are many factors affecting income disparity, but in the final analysis, the basic one is the barriers that had been in existence over a long period of time between the urban and rural economies. They weakened the base for rural economic development. Furthermore, too few resources could be utilized. Labor productivity as well as the total volume of wealth could not increase rapidly. As a result, peasant income could only grow at a slow pace.

Between different regions, whether it is between urban areas or between the rural areas of those regions, tremendous differences exist with regard to geographic locations, natural conditions, economic bases and the availability of various resources. These vastly different starting points obviously affect the outcome of competition. As a result, the disparities had been generally determined at the very outset, no matter whether it is the disparity in the economic development, or the disparity between people's incomes.

The disparity between the basic conditions and incomes of different urban and rural areas and regions often creates very strong "Matthew effect". The more developed a region, the greater its ability to assemble resources, the greater its development potential and, as a result, the higher the income of its

residents. The situation in places with poor basic conditions is just the opposite. Under such conditions, in the absence of special factors, the gradual growth of disparity is unavoidable.

The disparity between initial conditions of competition also exists between different trades, especially between different industries. As results of long-standing system of planned economy, there have been outstanding problems with China's industrial structure always had. Quite some industries with oversupplies, while quite a few could hardly satisfy the demands. It is apparent that different industries face different market competition conditions. Industries that oversupplied are engaged in excessive competition and their returns are naturally low. The incomes of their staff and workers are bound to be low as well. Industries in short supply enjoy vigorous demand and are able to reap super-profits. The incomes of their staff and workers are bound to be relatively high. Though from a long-term point of view, market mechanism will gradually equilibrate the development of industries, the disparities that appeared in the process should not be underestimated.

Disparity in initial conditions of competition exists not only between large groups, but also at more specific levels. Take state-owned enterprises as an example. It is rational and necessary to allow state-owned enterprises to compete as independent market entities. The problem is that in the course of reform, different enterprises have to shoulder vastly different historical legacies, such as the burden of personnel, technology and equipment, and debts. Such a problem has a prominent impact on the outcome of competition. Income disparities and non-reciprocity between income and labor contributed among staff and workers of different enterprises will inevitably emerge. There are of course many more such problems, for instance, the unequal initial conditions of enterprises of different economic categories.

Undoubtedly, the disparities in development bases and natural endowments lead to different starting points in competition. Such a condition is widespread in any country or society. It is even more so in China, a large country with a long history of uneven development. However, the case in point is that some of the problems confronting China could have been avoided in general or at least should not be as severe as it is. For instance, the starting-point disparity between state-owned enterprises was due to a large extent to the fact that many reform policies were imposed on the enterprise with rapid uniformity. Disparities between many regions were due to a relatively large extent to past investment systems related to

infrastructure facilities and key projects. It was also related to the sequence of implementing reform and opening to the outside world and to the differential policies practiced in the course of development. In other words, historical and traditional systems created the tremendous disparities in initial conditions in competition. Yet many policies implemented since the initiation of reform has led to the further growth of the disparities.

4. Unfair competition, violation of laws and corruption has exacerbated the problem of unequal income.

There exist in the present income distribution not only unequal initial conditions of competition, but also the alienation of public authority caused by conflicts between the old and new systems in the course of the evolutionary reform process. This is especially true when administrative authority, which was of decisive significance in the allocation of resources under the planned economy system, is intertwined with the rapid realignment of benefits under market economy conditions. In addition, there also rather widely exist unfairness in competition as well as violation of laws and corruption that directly affect to the outcome of distribution. These problems have considerable impact on the outcome of distribution and have comprehensively exacerbated the inequality in income.

There are many kinds of unfairness in competition. The most outstanding one is the various kinds of monopolies. In the main, certain departments, trades and even individual members of society restrict market access through a variety of ways. They repel or even assault other competitors and monopolize business, control and manipulate market prices to reap super-profits, make use of information asymmetry or information monopoly to carry out unfair transactions, or even engage in speculation. Such monopoly is fundamentally different from the traditional state monopoly system. The difference is that the benefits resulting from this type of monopoly do not go to the state. Most of the benefits are turned to small-groups of various trades or departments. Its outstanding manifestation is the irrational growth of income disparity between the people working for these trades or departments and other income groups. In other words, by making use of unfair competition such as monopolies, some groups may reap huge benefits with very little input. Unfair competition such as monopolies plays an outstanding part in the existence of disparities in incomes between trades and between various departments and entities.

The present situation shows that some monopolies, such as the industries with natural monopoly, have their own particularities, and some have their roots in the underdeveloped market. However, the majority of the

monopolies are “marriages” with government departments of power. Some departments even make use of their own administrative power to create unequal competition so as to monopolize special benefits for themselves. Because of the contradictions within the system itself, many unfair competitions such as monopolies operate under “legitimate covers”. The present system and policies cannot fully prove that they are illegal. Such a situation will undoubtedly intensify and even consolidate unfair disparity in income and enable unequal income in certain sectors to continue for a long period of time.

Compared with the inequality in competition, another problem merits greater attention that certain members of society use illegal means to directly rake in wealth without engaging in any competition or inputting any essential factors of production, thus creating inequality of income and the possession of wealth. Such problems in everyday life are abundant and varied in their manifestations. Some are clearly crimes according to the present laws, which include tax evasion, stealing and robbing, extortion, graft and corruption. Others are not easily identified as crimes according to the present laws, but are definitely dishonest, which include all kinds of rent-seeking, insider control, etc. Taking advantage of one’s position and power to grab ill-gotten gains is the kind of corruption most detested by society and probably having the greatest impacts on unequal income. Problems related to soliciting and accepting bribes, selling official posts and titles, corruption and degeneration, embezzlement, striking deals between power and money and acting in collusion with lawless persons are all quite glaring.

Lawlessness such as corruption obviously exacerbates inequality of income. On the one hand, it creates cases frequently acquired illegal gains amounting to millions or tens of millions of yuan. These cases fully illustrate such a problem. On the other hand, while some people became rich suddenly, corruption and other lawlessness directly or indirectly divested the benefits of other groups, especially the weaker groups. In the final analysis, illegal income has only two sources: the wealth of individuals of the masses and that of the state or the collective. Divestiture of the wealth individuals directly damages the benefits of individuals of the masses. Divestiture of state or collective wealth ultimately and inevitably transforms into damages on the benefits of other individual members of society. Some damages are huge. For instance, some state-owned enterprises collapsed because of their corrupt chief executives. This of course damages the state. However, the direct victims are the staff and workers.

At the moment there is no way to accurately assess the exact role corruption and other lawlessness play in exacerbating income inequality. Yet from the widespread dissatisfaction of the public and the large number of incidents reported by the media, one can be sure that relevant problems are definitely not small ones that can be ignored. At present, many statistics related to the situation in income distribution are incompatible with the perceptions of the public. These statistics are even unable to explain the huge consumer disparities in real life. This is probably the main reason.

5. Insufficient redistribution capability cannot effectively regulate distribution disparities.

Taxing people with high incomes and carrying out redistribution to people with low incomes through transfer payment is a basic way to alleviate disparities in income distribution and is a basic responsibility of the government. However, the present situation shows that the various ways of redistribution have failed to be as effective as expected. They have failed to effectively regulate distribution disparities caused by market competition and the intervention of non-market factors. In some fields they have even exacerbated income disparities. Related problems have the following 3 manifestations.

First, ineffective regulation of high incomes. Taxation, especially individual income tax, is a basic way to regulate high incomes. Generally speaking, relevant policies did not play a positive role. At present, the problem furthermore manifests itself in two aspects. One is that people's income modes are becoming more and more plural. The government, however, has failed to establish an effective supervisory and regulatory system according to the comprehensive adjustment of the income distribution system and the changes that are taking place in everyday life. Illegal incomes should not be a topic of discussion, because they are absolutely impermissible and as a matter of course they avoid supervision by hook or by crook. Even those "legal" or "rational" incomes are basically beyond the realm of supervision. Widespread "tax evasion" and "tax avoidance" are common among the high-income groups. The percentage taken up by individual income tax in his or her income or in state revenue is very low. Individual income tax basically, cannot regulate high incomes. The other is that obvious shortcomings exist in the taxation system itself. In some fields, the actual tax burden of low-income groups is evidently higher than that of high-income groups. The most typical example is the disparity between the peasants and urban residents.

Second, lack of effective protection for low-income groups. Viewed from



direct income transfer, the work of poverty relief in rural areas has received much attention consistently. A system of ensuring a minimum standard of living has been basically established in urban areas. However, the efforts devoted to implementing these works are obviously not enough. On one hand, the total input is insufficient. On the other hand, protection of low-income groups in poverty-stricken areas is feeble as a result of “sharing the financial revenue at different levels” and the management of social affairs at various levels. Furthermore, many problems exist in the policies regarding indirect protection of low-income groups and their implementation. Indirect protection includes employment protection, employment assistance and minimum wage protection targeting at the poverty-stricken stratum. As a result, quite a large number of the poor find it hard to obtain both direct economic help and indirect protection.

Third, certain transfer payment systems are evidently in favor of high-income groups. Relevant problems are most outstanding in the welfare system such as medical care and housing. Quite portions of welfare are funded by taxation or by the part that should belong to taxation. Providing welfare to members of society is within the framework of redistribution, which should rationally favor low-income groups. However, it is not so in reality. For instance, many welfare projects target solely at urban residents. Rural residents who in general have low incomes are in no position to enjoy such welfare. Within the urban areas the welfare system is implemented by separate departments and entities. As a result, those departments and entities that control or are close to government welfare resources find it easier to benefit from such systems. Actually, these departments and entities are in superior positions during the primary distribution. Similar problems also exist within individual departments and entities. In the past few years a series of reforms have been explored regarding relevant problems, yet generally, not much had changed.

Of course, relevant problems appear not only in the welfare system. Some departments make use of various ways and means to withhold or transfer funds that should be or have already been turned over to the state treasury. They furthermore transform such funds into individual incomes within their small groups. This not only exacerbated income disparity, but also weakened the overall redistribution ability of the government. Such behavior is undoubtedly corruption, but it also shows serious defects in relevant systems.

## **4.2 The countermeasures of income inequalities in China**

The income disparity expansion can affect to the economy grows, intensifies the economic order and the social order confusion, even can threaten to the social politics stabilization, but also has the possibility to do harm to the national unity and the national territory security. Therefore, Chinese government should adopt positive measure, prevented the inhabitant receives the disparity the continuation expansion.

1. Operate the development strategy of giving priority to employment; achieve the goals of employment structure's harmony. To expand employment is fundamental way to narrow income gap. To expand employment is a basic development strategy of our country. In contemporary society, employment is not only a necessary means of making a living, but also the main channel for people participating in the society. We should gradually establish conducive to the expansion of the economic structure and employment pattern of growth. Do everything possible to increase job opportunities, accelerate the development of the tertiary industry employment capacity of large, medium and small enterprises and labor-intensive industries. Create more opportunities to increase the employment
2. Deepen the reforms of the income distribution system. Rationalizing distribution relations, rectify and standardize the order of income distribution is the top priority in Chinese government work. It was in the process of economic restructuring income gap with some inevitability, but at the same time will cause serious social problems such as social injustice, etc. We should uphold distribution according to work as the main body, multiple distribution patterns to coexist system with the distribution according to work by combining the distribution of production factors and must build a sound income distribution incentive and constraint mechanisms, norms for distribution, strengthen the supervision and management of income monopoly industries. Strengthen the regulatory function of the distribution of income tax. Improve the personal income tax system, change the current consumption from the income tax levy and family situation, and establish the annual general personal income tax declaration system.
3. Continue to perfect the social security system. In the course of narrowing the gap between rich and poor, we can not ignore the social security system. In reality, it is necessary to gradually expand the coverage of the

social welfare, but also determine a reasonable level of social welfare, and achieve the sustainability of social welfare. We must further expand the basic pension, basic medical care and unemployment insurance coverage, and further improve the minimum livelihood guarantee system for urban residents

4. Eliminate the policy factors, and strive to increase rural residents' incomes and narrow the income gap between urban and rural residents. The policymaker's construction focus on a harmonious society in the rural areas. Increase the income of peasants is the top priority in current economic work. For this reason, we should promote urbanization; the urban farmers to shift fundamentally solve the problem of their incomes
  - (1) Promote the reform of the household registration system actively, reducing the obstacles of rural farmers' identity when they move to the city
  - (2) Expedite the employment system reform; eliminate the obstacles of rural farmers' employment in the city
  - (3) Deepen Land system reform; eliminate the obstacles of rural farmers' property in the city
  - (4) Establish the Basic framework for the rural social welfare
5. Strengthen the legal system, rectify the illegal income. To strengthen market supervision and management, crack down on smuggling and selling contraband and counterfeit, illegal, illegal acts, it is necessary to enhance the power, increase the transparency of the performance of official duties, check the unwarranted pooling of funds and apportionments phenomenon, punish corruption severely, rectify the illegal income. Through legislative provisions personal property reporting system, strengthen the civil service processes of openness, transparency and procedural, perfect power mechanisms, and improve the tax laws, tightening tax collection and gradually eliminate illicit income formation conditions and environments. To the implementation of the "on administrative licensing," to accelerate the pace of government reforms to reduce the items, and continually reduce government intervention in economic activities, reducing the "rent-seeking" and "conspiracy" and other abuses by the "power elite" and the "economic elite" was improper benefits triggered by the gap between the rich and the poor.

6. Strengthen monopolies regulation. At present, government's regulation in monopoly sectors of high-income, limited to the personal income tax, which will not be significantly higher than the average profits of monopoly profits, or high-income workers would have a great impact. To solve this problem, we must learn from the experience of mature market economies, in the form of laws and rules restrict monopoly scope and monopoly price, etc. According to the international practice to improve market access for some degree of monopoly industry and introducing competition mechanism and narrow the scope of the national monopoly industries, reducing the income gap between the monopoly and non-monopoly sectors. To a few industries which must be monopolized by the state, strengthen control and management of income distribution of them, prevent the income gap between this sector and other sector becomes too wide
7. Accelerate the pace of developing the western regions and Central China strategy, reducing regional economic disparities. China should increase transfer payments to the western region, strengthen the central and western region's infrastructure, encourage foreign investors invest to western region, through various forms to enhance the economic strength of the central and western regions, use economic development in the central and western to promote income growth, and narrow income gap between the eastern developed region and the western region.

In summary, our basic judgment regarding income distribution is as follows: Since the initiation of the reform and opening up to the outside world, fundamental changes have taken place in terms of major contradictions in the income distribution field. Before the initiation of the reform and during its initial phase, the major contradiction was that income was overly egalitarian and low efficiency resulted from it. In the middle and end of the 1980s and at the beginning of the 1990s, the major contradictions were the continued existence of egalitarianism in certain fields and the emergence of the growth of income disparity in other fields. Since the middle of the 1990s, the major contradiction became the excessive income disparity. The actual disparity has reached the point that merits a very high degree of attention. Unfairness in distribution merits even greater attention. It is not only a major decisive factor in the growth of disparity, but is also the major source of social dissatisfaction. What needs reflections is that many problems are not new ones. They have been the focus of public attention for quite a long period of

time, but have not been effectively dealt with. Some problems such as illegal and corrupt incomes seem to worsen. If such a state of affairs last for long, it will inevitably affect social stability, or even ruin the future of the reform. So we must get to find solutions to avoid these probabilities. All of these countermeasures are aiming at the actual problems in income inequalities of China. If the Chinese government take the current countermeasures and execute these seriously, the income inequalities of China can be controlled effectively. And the Chinese economy can smoothly pass this developing phase.

## **Chapter5. Conclusion**

In this paper, I aim at the income inequalities of China in the latest 8 year. I used some statistic measurements to analyze the income data of China and

give an empirical result. Then I analyzed the causes of income inequalities and give the government some countermeasures to deal with these questions.

Inequality decomposition on data from 31 Chinese provinces indicates that rural-urban income differentials constitute a large share of total inequality, and the widening rural-urban income gaps in recent years have caused the rising inequality in China (see Table3-5). The income inequality between urban and rural has showed a continual increasing trend. And the west area showed more unequal than the east area.

The analysis of Gini's coefficient and Theil's index above show that the speed of income inequalities rate in China turned faster before 2000 than after 2000. At the same time, the Range ratio, CV and WCV showed a continuous increasing trend. Therefore, the income inequalities showed an increasing trend, but at the same time, the speed of the trend had turned down. All of these figures and tables showed one thing: the income inequalities in China from 1997~2004 have been increasing, but the trend turned down. Now it is necessary to consider this inequality because it may cause many problems even ruin the economy reform.

The main reasons of this inequality mainly involve the following aspects: Government Policy, Market competition, Difference in the initial conditions of competition created by historical and traditional structures, unfair competition, violation of laws and corruption, insufficient redistribution capability of regulating distribution disparities.

To deal with these problems, Chinese government had took some countermeasures like setting out 'the strategy of developing the western region', clearing up economic corruption, lightening the rural residents' tax, adding the rural residents' income, reconstructing the rural infrastructure, supplying more employment for the rural residents, strengthening the legal sanction, reducing the income of monopoly (China Telecom, finance), and so on.

Especially, after the Chinese central government declaring and executing 'the strategy of developing the western region', Chinese government encourages all kind of policies in west regions which are,

1. Promote ecology construction and environmental protection intensively, to realize the ecology improvement and increase the rural residents' earning.
2. Continue to expedite the infrastructure priority project construction, in order to build up the foundation of the rapid development of the western areas.
3. Further strengthen agricultural and the countryside infrastructure

- construction, expedite to improve the living conditions of the rural residents.
4. Adjusts the industrial structure intensively, develops the characteristic superiority industry positively.
  5. Promote development of the key region positively, expedite the cultivation of the region economy growth pole.
  6. Strengthen the social enterprises and so on science and technology educational hygiene culture enterprises intensively.
  7. Deepen the economic system restructuring, create a good environment for western area's development.
  8. Expand the financing channel, provides the fund safeguard for the western area's development.
  9. Enhance the training of talented person in western area, provides the powerful human resource safeguard for the western area's development.
  10. Expedite the consummation of legislative work, strengthens the organization lead of the western area's development work.

But we can not affirm that the income inequalities of China will disappear by the time. In this paper, I only used 8 year's data. It is a very short time of analyzing income inequality, and also it may turn some fluctuation in the coming years. Even Chinese central government has actualized 'the strategy of developing the western region', it also has not been a long time. The excess of exploitation of Chinese economic reform's aftereffect (the coastal strategy) has not disappeared by now just like pollution and etc.

Therefore, if the Chinese central government persists in adopting accurate policies, I can predict Chinese success in solving these income inequalities in the coming years.

## **References**

Pamela C.M. Mar and Frank-Jurgen Richter, *China Enabling A New Era of*

- Changes*, John Wiley & Sons (Asia) Pte Ltd, 2003
- John Wong and Lu Ding, *China's Economy into the New Century*, Singapore University Press, 2000
- Long Gen Ying, "China's Changing Regional Disparities during the Reform Period", *Economic Geography*, Vol.75 No.1, pp.59-70, 1999
- James K.Galbraith, "Increasing Inequality in China: Further Evidence from Official Sources, 1987-2000", *Association of Comparative Economic Studies*, Atlanta, 2001
- James K. Galbraith, "Sustainable Development and the open-Door Policy in China", *UTIP Working Paper Number 16*, 2000
- Bjorn Gustafsson, Li Shi, "Income inequality within and across counties in rural China 1988 and 1995", *Journal of Development Economics* Vol.69, pp.179-204, 2002
- Ge Yanfeng, "Analysis of Growing Disparity in People's Income Since the Start of Reform", *China Development Review*, Vol.2 No.3, pp.90-101, 2000
- X.B. Zhao and S.P. Tong, "Unequal Economic Development in China: Spatial Disparities and Regional Policy Reconsideration, 1985-1995", *Regional Studies*, Vol.34.No.6, pp.549-561, 2000
- T.R. Lakshmanan Chang-I Hua, "Regional Disparities in China", *International Regional Science Review*, Vol.11, pp.97-104, 1987
- Zongyi Zhang, Aying Liu, Shujie Yao, "convergence of China's regional incomes 1952-1997", *China Economic Review*, Vol.12, pp.243-258, 2001
- N.Vanhove & L.H. Klaassen, "A European Approach", *Regional Policy*, pp.84-88, 1987
- Kai-Yuen Tsui, "Decomposition of China's Regional Inequalities", *Journal of Comparative Economics*, Vol.17, pp. 600-627, 1993
- Mary-Francoise Renard, "A pessimistic view on the impact of regional inequalities", *China Economic Review*, Vol.13, pp.341-344, 2002
- Dennis Tao Yang, "What has caused regional inequality in China?" , *China Economic Review*, Vol.13, pp.331-334,2002
- Jongchul Lee, "Changes in the source of China's regional inequality", *China Economic Review*, Vol.11, pp.232-245, 2000
- Kai-Yuen Tusi, "Economic reform and interprovincial inequalities in China", *Journal of Development Economics*, Vol.50, pp. 353-368, 1996
- Gene H. Chang, "The cause and cure of China's widening income disparity", *China Economic Review*, Vol.13, pp.335-340, 2002
- Masahisa Fujita, Dapeng Hu, "Regional disparity in China 1985-1994: The effects of globalization and economic liberalization", *The Annals of*



- Regional Science*, Vol.35, pp.3-37, 2001
- Kai Yuen Tsui, “China’s Regional Inequality, 1952-1985”, *Journal of Comparative Economics*, Vol.15, pp.1-21, 1991
- Ravi Kanbur, “Which Regional Inequality? The Evolution of Rural-Urban and Inland-Coastal Inequality in China from 1983 to 1995”, *Journal of Comparative Economics*, Vol.27, pp.686-701, 1999
- Zhang Ye, “Analysis of Governmental Action in the Distribution of Personal Income during the Marketization Reform”, *Chinese Economic Studies*, Vol.29, No.6, pp.18-40, 1996
- Shujie Yao, “Economic Development and Poverty Reduction in China over 20 Years of Reforms”, *Economic Development and Cultural Change*, Vol.48, No.3, pp.447-474, 2000
- Shen Shuisheng and Yao Yuqun, “On the Problems of Distribution of Social Income in China”, *Chinese Economic Studies*, Vol.29, No.6, pp.6-17, 1996
- Justin Yifu Lin and Yingyi Tsai, “Reform and Development in China: A New Institutional Economics Perspective”, *Seoul Journal of Economics*, Vol.17, No.3, pp.335-381, 2004