

Regional Income Inequality Variations in China

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One of the most important problems for China is the gaps between the economies of the different regions of China. The analysis shows that there is no supports for the view that regional inequality in China fell significantly during periods such as that of the Cultural Revolution or rose as a result of market-oriented reforms. The reality in China in the 1980s is in fact quite in contradiction to the most people's perceptions. The rich did not grow richer nor did the poor grow poorer.

I. Introduction

A major objective of the economic reforms in china has been to achieve a greater standard of living. As a result, one of the greatest economic consequences directly attributable to the economic reform program is the dramatic increase in per capita income. However, many reports suggest that the income gap among the provinces in China has been diverging in the post-reform period. For example, per capita GDP in Shenzhen of Guangdong province reached 35,532 yuan (about 6,436 dollars) in 1992 whereas per capita GDP in the hinterland Guizhou province was 1,009 yuan (about 183 dollars) (*TJNJ*(1993), p.691; *TJNJ*(1994), p.37). Thus, a common assumption both inside and outside of China was that the reforms would lead to a worsening of the distribution of income, at least regionally; better endowed areas in terms of resources, infrastructure, and markets

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would be better able to take advantage of the reforms.

The purpose of this paper is to measure the interprovincial inequality from 1952 to 1990 with the help of more accurate and complete statistics and explain the time trends of the inequality indexes among the provinces. In section II we explain the data and measurement of regional inequality. Section III reports the interprovincial income inequality indexes during 1952-1990 and section IV explores the regional inequality in detail in the post-reform period. Finally, concluding remarks are made in section V.

II. The Data and Measurement

A. National Income Data for the Chinese Provinces

China's national income is approximately comparable to the United Nation's Net Material Product. The English edition of *Statistical Yearbook of China* (1986) defines national income as follows:

National Income (*Guomin Shouru*) is an important indicator reflecting level of economic development, economic efficiency and distribution relations. It refers to the newly created value in a given period by workers engaged in material production sectors, which is the sum of net output value of agriculture, industry, construction, transport and commerce, obtained by deducting the value of the material consumption of those sectors from the total product of society.

Though national income still excludes a large share of the service sector, these data are undoubtedly superior to the gross value of output employed in previous analysis of regional inequality (e.g., see World Bank (1990), Yang (1990), Riskin (1987), Lakshmanan and Hua (1987), Lardy (1978, 1980)). We adopt provincial per capita national income as indicators of levels of economic development.

For the first time, the Chinese has released time series of National Income (NI; *Goumin Shouru*) for almost all provinces for the period 1952-1985 in State Statistical Bureau (SSB), *Guomin Shouru Tongji Ziliao Huibian (GSTZH) (A Collection of Chinese National Statistics) 1949-1985*, 1987. Besides this, time series of provincial per capita NI are also published. The data for the period 1986-1990 are found in SSB, *Zhongguo Tongji Nianjian (TmxJ) (Statistical Yearbook of China)*, 1988, 1989, 1990, 1991.

Unfortunately, the data for Zhejiang, Guangxi, Anhui, Qinghai, and Tibet are not complete. In order to maintain a continuous and complete time trends of interprovincial inequality for the period 1952-1990, these provinces are excluded from our analysis. Hainan, which became a province in early 1988, is included in the Guangdong province after 1988. Therefore, 24 provinces (9 coastal provinces and 15 interior provinces) out of 29 provinces in China are included in the below analysis.¹

B. Measurement of Regional Inequality

Most of the studies on China's regional inequality used the coefficient of variation (Lardy (1978, 1980), Paine (1981), Riskin (1987), World Bank (1990), Tsui (1991)). Therefore, the use of the coefficient of variation does have the merit of facilitating comparison with previous studies. However, there is no sound theoretical reason that it should be selected over other measures. In the following discussion, the coefficient of variation, the Gini coefficient, and cross-sectional standard deviation of the log of per capita income are calculated for per capita national income.²

According to Riskin (1987), since it is obviously possible to change the measure of inequality in any country by simply redrawing regional boundaries, the inequality indexes calculated from merging the three centrally administered municipalities (*zhe xia shi*: Beijing, Tianjin, and Shanghai) with their adjacent provinces (Beijing and Tianjin with Hebei, and Shanghai with Jiangsu) are reported. The inequality indexes calculated from excluding the three large cities are also presented.

¹ The 9 coastal provinces included in the analysis are Beijing, Tianjin, Shanghai, Hebei, Liaoning, Jiangsu, Fujian, Shandong, and Guangdong. Zhejiang and Guangxi provinces are excluded out of 11 coastal provinces. The 15 provinces in the interior region are 8 provinces in the central region (Shanxi, Neimenggu, Jilin, Heilongjiang, Jiangxi, Henan, Hubei, and Hunan) and 7 provinces in the western region (Sichuan, Guizhou, Yunnan, Shaanxi, Gansu, Ningxia, and Xinjiang). Anhui, Qinghai, and Tibet are excluded from the 18 interior provinces. We use the word "province" to denote any one of the provincial-level administrative units, including: provinces, centrally administered municipalities, and autonomous regions. It must be pointed out that there exists different regional classifications for china. We have simply adopted the one promulgated in the Seventh Five-Year (1986-90) Plan. For a chronology of the changes in China's administrative division, see Paine (1981) and Hsu (1991).

² Barro and Martin (1991) measured income dispersion among the U. S. states by the cross-sectional standard deviation of the log of per capita income. For the calculation of Gini coefficient, see Fei and Ranis et al. (1978) and Shorrocks (1982).

C. Price index

We lack useful measures of price levels or price indexes for individual provinces. Therefore, we deflate the nominal values for each province by the implicit national income deflator obtained as the ratio of national income in current price to a real national income index with 1952=100. All these data are provided by the SSB, *Zhongguo Tongji Nianjian (Statistical Yearbook of China)*, 1991.

If the price level is the same for all provinces at each point in time, then we can just as well use nominal income figures in our cross-sectional analysis. If prices differ across provinces at a point in time – that is, if there are departures from purchasing-power parity – then it would be preferable to use individual province deflators. Nevertheless, since individual-province deflators are unavailable, we use overall national income deflators.³

Tsui (1991) points out that for a small country with a well-developed transportation network, one may safely assume that the rates of inflation in different regions are similar. According to Tsui (1991), it seems more appropriate to use real per capita NI to compute the inequality indexes since ‘small country’ assumption cannot be maintained in the case of China.⁴ He uses real growth rates of provincial NI at comparable prices (*Kebi jiage*) to recover the real NI series for each province. According to him, since the base year for the real NI is 1952 a real NI index for each province can be inferred with the following formula (Tsui (1991), p.6).⁵

$$\text{RNI}(t) = (1+g_t) \times \text{NI}(1952) \quad (1)$$

where RNI is the real national income; $\text{NI}(1952) = \text{RNI}(1952)$; g_t is the real growth rate of provincial NI at comparable prices for two consecutive periods t and $t-1$; t varies from 1952 to 1985. With 1952 as the base year, the implicit price index can then be derived as

³ In studying convergence across states in the U.S., Barro and Martin (1990, 1991, 1992) use the overall price index to deflate each states income. Barro and Martin (1990) also uses nominal per capita income in studying convergence across European regions.

⁴ Tsui (1991), however, mentioned that significant changes in economic structure and relative prices over the last 30 years may create some well-known index-number problems associated with the computation of the real provincial output series.

⁵ Tsui (1991, p.5) noted that the base year for the real NI series is not specified. After cross-checking the NI statistics published in some provincial yearbook, he found that the base year is 1952.

$$P_{t,1952} = NI(t)/RNI(t) \quad (2)$$

The formula for real NI, however, has a problem. Since g_t is not real growth rate for two periods 1952 and t , but real growth rate for two consecutive periods t and $t-1$, the formula for real NI should be

$$RNI(t) = (1+g_t) \times RNI(t-1) \quad (1a)$$

where $NI(1952) = RNI(1952)$ and t varies from 1953, not from 1952.⁶ Tsui admits that the quality of price indexes has been a major problem in the use of Chinese official statistics (Tsui (1991), p.6, note 7).⁷

Tsui (1991) also includes Beijing and Tianjin in the NI of Hebei, while including Shanghai's NI in that of Jiangsu. But it should be noted that the real growth rates of NI at comparable prices for Beijing and Tianjin are not the same for those of Hebei, likewise Shanghai's real growth rates are different from those of Jiangsu. In addition, real growth rates of NI at comparable prices for Beijing are not reported in *GSTZH* (1987) and are incomplete for Neimenggu. For the comparison, however, the inequality indexes derived from real per capita NI and NIA using individual-province price deflators and merging the three centrally administered municipalities with their adjacent provinces (Beijing and Tianjin with Hebei, and Shanghai with Jiangsu) are also reported in Table 1.

We use the previously mentioned equation (1a) instead of (1) to derive individual-province price deflators. We think, however, that the available price indexes across provinces do not improve on the assumption of a common price level. Thus, we focus on the inequality indexes using the overall national income deflator and treating Beijing, Tianjin, and Shanghai as separate provinces in the following analysis.

III. Overall Trends of Interprovincial Inequality

Using the data described above, interprovincial inequality is

⁶ According to formula (1), real NI is underestimated and thus price index is overestimated.

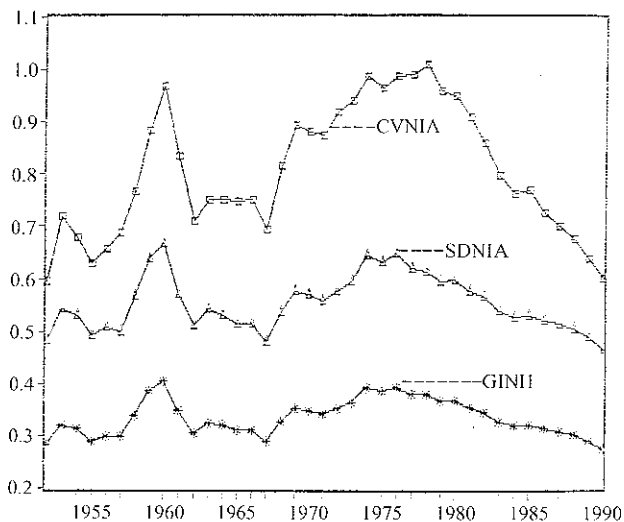
⁷ See also Yeh ((1992), p.501, note 3) for the problems of Chinese national income data in comparable prices. According to him, the series in comparable prices for the period 1952-80 is a chain index linking the constant price series for sub-periods 1952-57, 1957-70 and 1970-80. The series for 1952-80 therefore is not strictly in constant prices. More seriously, biases in the series for the sub-periods are imbedded in the comparable price series. He also points out that some deflators are apparently understated so that an upward bias is imparted into the output series.

measured based on provincial per capita NI deflated by overall national income deflator in 1952 constant prices. We also present interprovincial inequality indexes using individual-province deflators. To gain a better perspective of our empirical evidence, it is useful to summarize some previous quantitative findings of the trend of regional inequality. Without exception, the inequality indexes derived in previous studies suggested a declining trend in regional inequality in terms of gross value of industrial output in the pre-reform period (Lardy (1980) for the years of 1952, 1957, and 1974; Riskin (1987) for the years of 1965, 1967, 1979). They all conclude that regional inequality may be largely attributed to regional differentials in industry. As noted by Lardy (1980), however, since both agriculture and services are excluded, the use of provincial industrial output may result in an overstatement of the rate of decline of aggregate income inequality. Riskin (1987) also points out that differences in per capita output do not translate directly into income differentials in China, as they tend much more to do in market economies, because of state control of personal incomes in virtually all non-agricultural sectors. Therefore, differences in regional per capita industrial output in China overstate the corresponding differences in personal incomes. Consequently, the impact of the missing sectors can be assessed in our analysis.

Table 1 presents the values of the inequality indexes derived from

Figure 1

Interprovincial Inequality Indexes based on Per capita National Income



per capita NI. The higher the values of these indexes, the greater is the degree of regional income inequality. Since the data for the years around the Great Leap Forward (1958-62) are not very reliable (Chow (1985), Tsui (1991)), less weight is put on them. The focus is on the long-term trend of interprovincial inequality, and thus less attention is to be paid on the year-to-year fluctuations.

Table 1

Interprovincial Inequality Indexes based on Per Capita National Income (NI), 1952-1990^a

Year	CVNIA	CVNIB	CVNIC	CVNID	SDNIA	SDNIB	SDNIC	GINI1
1952	0.596	0.399	0.393	0.399	0.482	0.373	0.365	0.283
1953	0.720	0.425	0.425	0.423	0.542	0.401	0.378	0.323
1954	0.681	0.529	0.440	0.506	0.531	0.470	0.391	0.315
1955	0.631	0.390	0.393	0.405	0.493	0.371	0.354	0.290
1956	0.658	0.391	0.403	0.410	0.507	0.374	0.365	0.300
1957	0.689	0.371	0.378	0.421	0.500	0.342	0.328	0.301
1958	0.766	0.436	0.448	0.534	0.567	0.396	0.377	0.341
1959	0.884	0.499	0.514	0.628	0.640	0.455	0.430	0.388
1960	0.970	0.533	0.542	0.660	0.666	0.472	0.436	0.407
1961	0.834	0.384	0.367	0.471	0.570	0.381	0.345	0.394
1962	0.710	0.342	0.340	0.417	0.511	0.344	0.325	0.306
1963	0.751	0.365	0.365	0.439	0.542	0.371	0.354	0.324
1964	0.752	0.363	0.348	0.426	0.531	0.360	0.333	0.320
1965	0.748	0.346	0.331	0.425	0.516	0.336	0.306	0.313
1966	0.750	0.339	0.335	0.425	0.515	0.325	0.305	0.313
1967	0.694	0.324	0.309	0.380	0.479	0.305	0.276	0.289
1968	0.817	0.371	0.332	0.439	0.537	0.353	0.309	0.328
1969	0.895	0.399	0.346	0.451	0.576	0.370	0.314	0.352
1970	0.883	0.368	0.330	0.453	0.571	0.342	0.292	0.349
1971	0.877	0.357	0.317	0.454	0.559	0.332	0.284	0.343
1972	0.919	0.366	0.314	0.455	0.576	0.335	0.282	0.352
1973	0.941	0.394	0.342	0.498	0.596	0.363	0.309	0.365

Table 1 (continued)

Interprovincial Inequality Indexes based on Per Capita
National Income (NI), 1952-1990^a

Year	CVNIA	CVNIB	CVNIC	CVNID	SDNIA	SDNIB	SDNIC	GINI1
1974	0.988	0.439	0.391	0.550	0.646	0.415	0.359	0.394
1975	0.967	0.426	0.381	0.541	0.632	0.396	0.340	0.387
1976	0.987	0.453	0.408	0.582	0.647	0.423	0.368	0.394
1977	0.991	0.416	0.357	0.522	0.619	0.381	0.320	0.381
1978	1.011	0.415	0.334	0.521	0.614	0.366	0.296	0.382
1979	0.960	0.396	0.306	0.509	0.594	0.352	0.284	0.368
1980	0.949	0.404	0.326	0.509	0.598	0.358	0.292	0.369
1981	0.909	0.374	0.297	0.482	0.576	0.341	0.281	0.355
1982	0.859	0.369	0.300	0.478	0.567	0.351	0.297	0.346
1983	0.797	0.349	0.287	0.476	0.538	0.325	0.275	0.327
1984	0.763	0.349	0.293	0.482	0.527	0.326	0.280	0.320
1985	0.769	0.351	0.287	0.494	0.531	0.326	0.278	0.322
1986	0.727	0.355	0.301	0.504	0.520	0.331	0.288	0.314
1987	0.700	0.362	0.314	0.508	0.516	0.340	0.301	0.310
1988 ^b	0.676	0.356	0.303	0.517	0.505	0.327	0.296	0.302
1989	0.640	0.337	0.299	0.502	0.489	0.324	0.294	0.291
1990	0.602	0.314	0.279	0.490	0.465	0.307	0.280	0.274

Notes: a: NI per capita is deflated by the national income deflator (1952=100) except series CVNID, which is obtained by using individual-province price deflator described in the text.

b: Hainan is included in the Guangdong province for the period 1988-90.

CVNI=coefficients of variation of per capita NI; SDNI=standard deviations of log per capita NI; GINI1=Gini coefficient of per capita NI. Beijing, Tianjin, and Shanghai are treated as separated province in deriving GINI1; Series A treats Beijing, Tianjin, and Shanghai as separate provinces; Series B includes Beijing and Tianjin in Hebei province, Shanghai in Jiangsu province; Series C excludes Beijing, Tianjin, and Shanghai; Series D includes Beijing and Tianjin in Hebei province, Shanghai in Jiangsu province. NI per capita is deflated by individual-province price deflator to derive series D.

Sources: SSB, *Guomin Shouru Tongji Ziliao Huibian*, 1987 and SSB, *Zhongguo Tongji Nianjian*, 1988, 1989, 1990, 1991.

With regard to the NI-based indexes, they all fluctuate in a similar manner overtime (see Figure 1). With the exception of the years around the Great Leap Forward, the coefficients of variation do not seem to display any significant trend in the period before the mid-1960s. From 1967 to 1976, a 10 year period which the Chinese officially refer to as the period of the Cultural Revolution, there seems to be a sustained upward movement of the NI-based indexes. Thereafter, the indexes indicate that a phase of declining interprovincial inequality has set in. Compared with the pre-Great Leap Years, the levels of the NI-based indexes are higher in the 1970s and the first half of the 1980s. However, there was no upward trend in the level of per capita NI-based indexes during the post-reform period; for example, the coefficient of variation decreased from 0.949 in 1980 to 0.602 in 1990. Our findings clearly show that the results of such previous studies as Lardy (1980) and Riskin (1987) are not supported by per capita NI-based analysis. The view that regional inequality was declined in the pre-reform period should thus be revised.

As shown in Table 1 and Figure 2, merging the three centrally administered municipalities with their adjacent provinces (see CVNIB in Figure 2) or excluding these three large cities (see CVNIC in

Figure 2

Interprovincial Inequality Measures based on Per Capita NI,
with separating, merging, and excluding three centrally
administered municipalities

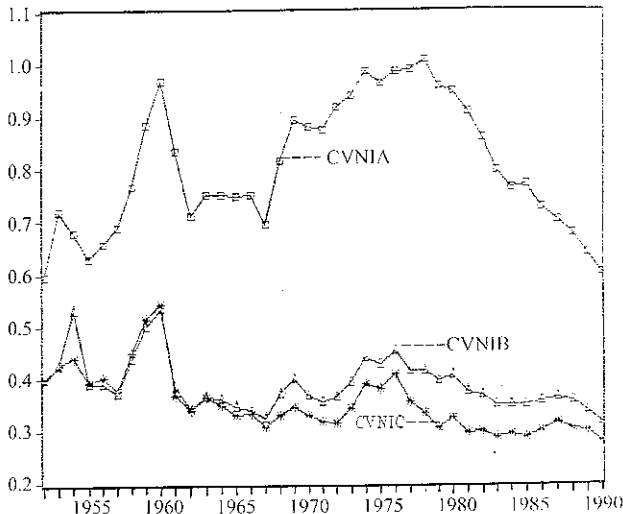


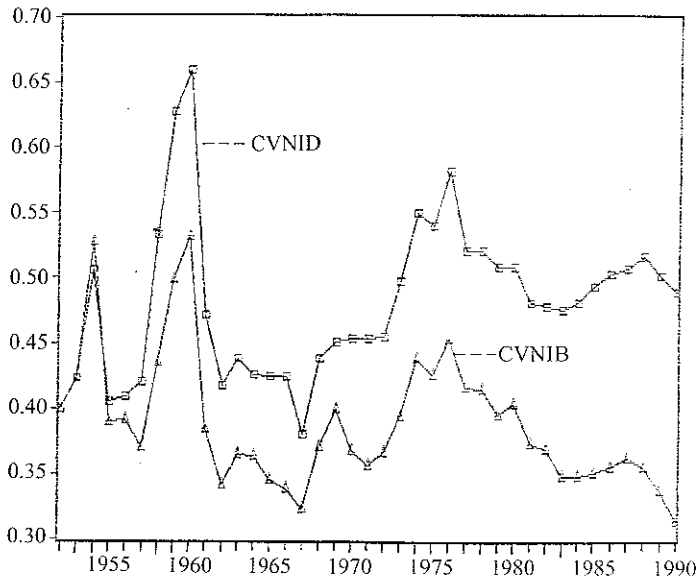
Figure 2) reduces the coefficient of variation of provincial per capita NI. This is because these cities are outliers in the distribution, having much NI per capita than any province. Treated as separate province-level units, they thus add greatly to the dispersion of the distribution.

It also shows that the downward trend of the coefficient of variation after the mid-1970s is not substantial when Beijing, Tianjin, and Shanghai merged into their adjacent province or excluded from the sample. This is because the downward trend after the mid-1970s, especially in the reform period, has been dominated by the relatively poor performance of these three large cities as will be seen in section 5.2.

Figure 3 shows that the overall trends of inequality indexes using individual-province price deflators (see CVNID in Figure 3) and common price deflators (see CVNIB in Figure 3) are similar. Thus, although we lack useful measures for individual-province deflators, this may not result in a distorted overall trends of interprovincial inequality. We are here focusing on the *change* in measures of

Figure 3

Interprovincial Inequality Measures using Individual-province Price Deflator and using Overall National Income Deflator, 1952-90



inequality instead of focusing on the absolute *size* of the measures.

IV. Assessment of Regional Inequality Variations in the Post-Reform Period

A common assumption both inside and outside of China was that the reforms would to some degree increase the disparity in development and income levels between China's provinces. What actually happened during the reform period? Table 2 shows that between 1980 and 1990 the per capita national income of five of the nine coastal provinces increased, compared to fourteen out of fifteen in the interior. The only exception in the interior region was Heilongjiang.⁸ During the 1980-90 decade provinces that were relatively poor at the beginning of the period tended to grow more rapidly than the richest provinces. The five poorest provinces (Guizhou, Yunnan, Henan, Sichuan, Shaanxi) at the beginning of the decade had, on average, higher growth rates than the five richest provinces (Shanghai, Beijing, Tianjin, Liaoning, Heilongjiang). As shown in Table 2, the five wealthiest provinces at the beginning of the period lost ground relative to the national average, while the five least prosperous provinces all gained ground. But the highest growth rates were achieved neither by provinces that started off "rich" nor

Table 2

Provincial Distribution and Growth Rate of Per Capita NI

Province	1980 ^a	1985 ^a	1990 ^a	rate ^b
1. Beijing	2.429	2.369	2.274	0.049
2. Tianjin	2.421	2.187	1.858	0.028
3. Hebei	0.709	0.716	0.758	0.062
4. Liaoning	1.392	1.344	1.329	0.050
5. Shanghai	4.794	3.920	3.106	0.010

⁸ Its growth rates of per capita NI during the 1980-90 was also lowest in the interior. According to Ferdinand (1991), Heilongjiang, which in 1956 was contributing 32 percent of its revenue to the centre, and in 1978 50 percent, but by 1982 was receiving the second highest subsidy from central government. A whole combination of circumstances had combined to depress its economic development: declining soil fertility, a number of natural disasters and seriously unbalanced development in mineral extraction industries.

Table 2 (continued)

Provincial Distribution and Growth Rate of Per Capita NI

Province	1980 ^a	1985 ^a	1990 ^a	rate ^b
6. Jiangsu	0.891	1.082	1.132	0.081
7. Fujian	0.563	0.709	0.861	0.102
8. Shandong	0.667	0.830	0.906	0.088
9. Guangdong	0.783	0.936	1.160	0.098
10. Shanxi	0.667	0.763	0.733	0.065
11. Neimenggu	0.547	0.687	0.726	0.086
12. Jilin	0.742	0.854	0.913	0.079
13. Heilongjiang	1.137	0.876	1.092	0.051
14. Jiangxi	0.590	0.582	0.625	0.061
15. Henan	0.518	0.560	0.586	0.069
16. Hubei	0.721	0.842	0.810	0.068
17. Hunan	0.611	0.620	0.649	0.061
18. Sichuan	0.524	0.560	0.600	0.070
19. Guizhou	0.367	0.423	0.432	0.073
20. Yunnan	0.460	0.492	0.635	0.089
21. Shaanxi	0.547	0.565	0.615	0.082
22. Gansu	0.611	0.577	0.618	0.057
23. Ningxia	0.618	0.630	0.677	0.650
24. Xinjiang	0.684	0.772	0.901	0.084
Range	13:1	9:1	7.2:1	
Coeff. of Var.	0.95	0.77	0.60	

Notes : a: Nominal instead of real per capita national income is used because of the unavailability of individual-province price indexes; national average = 100.

b: The variable is the average annual growth rate of real per capita national income for the period 1980-90. The nominal per capita income was divided by overall national income deflator (1952=100).

Sources: See Table 1.

"poor" but by those that began the decade in the middle - Guangdong and Fujian provinces. As a result, both middle and poorer provinces in China gained on the richest provinces.

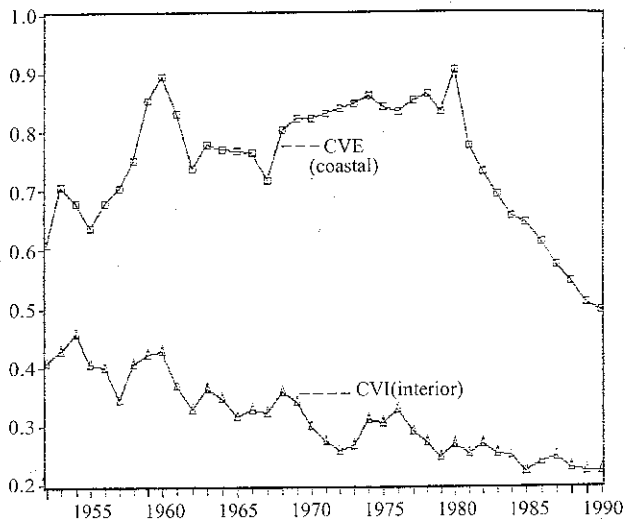
The overall range fell from 13:1 in 1980 to 7.2:1 in 1990. Analysis of the coefficient of variation leads to the same conclusion.

As Table 2 shows, the coefficient of variation of provincial per capita NI declined throughout the period. It declined between 1980 and 1985, and declined again between 1985 and 1990. The main inference from Table 2 is that a lot of the reduction in interprovincial inequality in the post-reform periods reflects the relatively poor performance by the richest three cities in the coastal region.

Figure 4 shows the patterns for the dispersion of the per capita NI within the coastal and interior regions. The dispersion within the coastal regions is substantially higher than that of within the interior regions. In 1990, the coefficient of variation was 0.268 for the interior region. In contrast, the coefficient of variation for the coastal was 0.906 in 1990 - three times as high. The long-term trend in income dispersion among the coastal provinces is similar to that of the all provinces. The increase for the period 1952-80 and sharp decline in the post-reform period are apparent among the coastal provinces. The patterns within the interior provinces are less straightforward. Therefore, we can infer that the long-term trends in per capita income dispersion among all the provinces are dominated

Figure 4

Dispersion of Per Capita National Income
within China Regions, 1952-90



Note: CV = coefficient of variation in each region. Interior region includes both of the central and western regions.

by the income dispersion within the coastal provinces. That is, the downward trends of the whole Chinese interprovincial inequality in the post-reform periods were dominated by the coastal region and it was resulted from poorer performance of the richest coastal provinces of Shanghai, Beijing, Tianjin, and Liaoning.

The perception among many was that inequality is on the rise and in politics perceptions often matter more than the reality. The reality in China in the 1980s is in fact quite in contradiction to these perceptions. What are the sources of declining income inequality in 1980s? Nationwide income inequality in China is driven by what has happened to the distribution of income within the urban and rural sectors and

Table 3
Urban-Rural Per Capita Income Differentials

Year	Urban ^a	Index	Rural ^b	Index	Urban/Rural
1978	316	100	134	100	2.37
1979	378		160		2.36
1980	439	127	191	138.1	2.29
1981	458		223		2.05
1982	495		270		1.83
1983	526		310		1.70
1984	608		355		1.71
1985	685	161.6	398	261.2	1.72
1986	828		424		1.95
1987	916		463		1.98
1988	1,119		545		2.05
1989	1,261		602		2.10
1990	1,387	197.8	686	300.7	2.02
Average Annual Growth Rate (%) :					
1978-85:			7.0 ^c		4.0 ^d
1985-90:			4.0		3.0
1978-90:			6.0		9.0

Notes : a: Urban per capita income available for living (yuan).

b: Rural per capita net income (yuan).

c: Urban growth rate.

d: Rural growth rate.

Source: Xue and Liu (1996), p.7 Table 1 and *TJNJ* (1995), p.257.

to the ratio of income between these two sectors (Perkins (1988)).⁹

The impact of the reforms on the standard of living of the Chinese people was dramatic, particularly in agriculture. The average annual growth rate in agricultural sector was 6.1 percent during 1978-90, and 7.7 percent for the period 1978-84 whereas it was 3.7 percent between 1953 and 1978 (*TJNJ*(1991), p.56). The dramatic growth during 1978-84 was a result of a package of market-oriented reforms (Lin (1992)). The peasants have used their new freedoms and increased incomes rapidly.

Table 3 shows that per capita disposable income in the rural households grew faster than in the urban households during 1978-90. By 1990 peasants real disposable income per capita was more than 3 times from that of 1978. The change was less dramatic in the urban areas. As a result, the urban-rural income gap narrowed from 2.4 to 1 in 1978 to 2.0 to 1 in 1990. Were these increased benefits equitably distributed? Rural income disparity within the rural households can be seen from the provincial rural income distribution. Table 4 shows that there is a significant disparity between the provinces in rural per capita income. For example, per capita income of Shanghai peasants in 1980 was more than two times that of peasants in the poorest province,

Table 4
Regional Disparities in Per Capita Net Income of
Peasants (in Yuan)^a

Province	Per Capita Net Income	
	1980	1990
1. Beijing	290.46	1261.11
2. Tianjin	277.92	1069.04
3. Hebei	175.78	592.21
4. Liaoning	273.02	776.35
5. Shanghai	397.35	1664.65
6. Jiangsu	217.94	883.77
7. Zhejiang	219.18	1044.58
8. Fujian	171.74	764.41
9. Shandong	194.33	644.70
10. Guangdong	274.37	951.71
11. Guangxi	173.68	499.76
Coastal region ^b	242.34	922.47
12. Shanxi	155.78	559.67

^a Kahn et al. (1992) argued that regional differences in income in given sectors are less important a source of spatial inequality than the urban-difference in China.

Table 4 (continued)

Regional Disparities in Per Capita Net Income of
Peasants (in Yuan)^a

Province	Per Capita	Net Income
13. Neimenggu	181.32	607.15
14. Jilin	236.30	717.34
15. Heilongjiang	205.38	670.78
16. Anhui	184.82	517.01
17. Jiangxi	180.94	579.61
18. Henan	160.78	482.01
19. Hubei	169.88	602.08
20. Hunan	219.71	545.69
Central region	188.32	586.44
21. Sichuan	187.90	505.15
22. Guizhou	161.46	435.14
23. Yunnan	150.12	489.75
24. Tibet	N.A	436.71
25. Shaanxi	142.49	459.72
26. Gansu	153.33	398.99
27. Qinghai	N.A	513.96
28. Ningxia	178.06	534.19
29. Xinjiang	198.01	622.45
Western region	167.34	487.88
Interior region	179.24	537.16
Total	204.89	683.31
Range	2.79:1	3.58:1
Coeff. of var. ^c	0.276	0.411

Notes : a: Nominal per capita net income is used because of the unavailability of individual province price deflators.

b: Regional average.

c: Tibet and Qinghai are excluded in the calculation of coefficients of variation.

Source: *TJNJ* (1991), p.296.

Shaanxi. By 1990 the income gap between the two had risen to a ratio of more than three to one. The rising trend of the interprovincial rural income disparity is also evident from the estimated coefficient of variation which rose from 0.276 in 1980 to 0.411 in 1990.

Trends in the urban income inequality can be inferred from the provincial urban consumption distribution. As indicated in Table 5, the regional consumption disparity within the urban sector declined between 1980 and 1987, then rose slightly during 1987-90. Table 5 also shows that the interprovincial inequality in per capita consumption within all residents has been declining during the 1980s.

Table 5

Interprovincial Inequality based on Per Capita Consumption by all Residents, Peasants, and Non-agricultural Residents, 1980-1990^a

Year	COVT	COVP	COVNA
1980	0.323	0.270	0.136
1981	0.309	0.210	0.127
1982	0.283	0.207	0.121
1983	0.287	0.226	0.128
1984	0.295	0.261	0.132
1985	0.296	0.256	0.127
1986	0.297	0.257	0.127
1987	0.308	0.266	0.131
1988	0.309	0.288	0.141
1989	0.292	0.308	0.138
1990	0.303	0.285	0.136

Notes: a: Shanghai is excluded due to the lack of urban and rural sector data. Jiangxi, Guizhou and Tibet are also excluded due to the unavailability of data for the period 1980-1983.

COVT=coefficient of variation based on all residents.

COVP=coefficient of variation based on peasants.

COVNA=coefficient of variation based on non-agricultural residents.

Sources: Calculated from *GSTZH* (1987), *TJNJ* (1987), p.672, *TJNJ* (1988), p.802, *TJNJ* (1989), p.722, *TJNJ* (1990), p.292, *TJNJ* (1991), p.272, and *TJNJ* (1992), p. 278.

Piecing together the evidence of rural and urban per capita consumption and income distribution, the urban-rural income differences, the regional income disparity appears to have declined in the 1980s, mainly due to the reduction of the urban-rural differences.

That is, the worsening distribution within the rural sector was more than offset by the reduction in the urban-rural differences so as to reduce income inequalities.

Our findings seem to support Denny's (1991) argument that China's decade of economic reform did not produce an ever widening gap between the economic performance of the "have" and "have not" provinces. As indicated by Denny (1991), the regional economic pattern during the post-reform period was primarily a reaction to fundamental economic opportunities open to the various provinces.

The rapidly growing provinces took advantage of "the natural spread effects" that spilled over from nearby relatively developed areas. These provinces had a comparative abundance of resources, open lands and relatively underutilized utilities. The reforms freed them to use their resources to their own advantages.

V. Conclusion

Whether the rich are getting richer faster than the poor are getting less poor is an important question and the answer to that question may have important consequences on the popular support for the reforms in China. The reality in China in the 1980s was in fact quite in contradiction to the most people's perceptions. Despite the lack of the individual-province price deflators, there was no support for the view that regional inequality in China fell significantly during periods such as that of the Cultural Revolution or rose as a result of market-oriented reforms. Whatever the precise trends in inequality turn out to be as a result of further research using better individual-province price data, there was no doubt that the economic benefits of the reforms in the post-reform period were widely shared.

However, it should be noted that analysis of provincial per capita national income differences is only one measure of the effect of China's reform policies on the distribution of economic benefits (Denny (1991)). Provinces are large nation-state type entities and the regional differences within provinces may be as large as those between provinces. That is, China's provinces vary substantially with respect to intra-provincial inequality. These differences cannot be explained by such simple things as location or the level of development. A careful analysis of regional differences in sources of inequality could be of much help in devising policies for improving income distribution.

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