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Changes in Poverty Profile in China

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Abstract

This study presents a comprehensive picture of poverty changes in China in the period of 1978-95. Using two micro-data sets from Household Income Surveys of 1988 and 1995, the author examines poverty distribution among various localities and population sub-groups. The results show that poverty has been and still is a location-specific phenomenon, especially in rural areas. Little difference of the incidence of poverty exists between males and females in both rural and urban areas. The poverty incidence presents a life-cycle pattern among age groups. The fact that poverty remains a greater threat to children and aged people implies that part of the poverty is transitional between age groups. There is a close relationship between the growth of household income and the speed of poverty reduction in rural areas. Poverty has become more closely related with unemployment in urban areas since 1990. The increasing inequality of income distribution in both rural and urban areas has created increasing difficulties in reducing poverty since the mid-1980s.

Keywords: poverty, poverty measures, growth, income, inequality

JEL classification: D63, I32, I38, O53

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1 Introduction

There are no precise data or estimates to indicate how many people were living in poverty in the pre-reform period. Some researchers believed that poverty was more pervasive and more severe in rural China in that period than after 1978. Their argument is that it was a big harvest year in 1978 when the output of grain increased by 7.8 per cent and the net income per capita increased by 14 per cent in rural China, while net income per capita grew by only 3 per cent of the growth in the previous 7 years (Zhou and Gao 1993).

In 1978, the earliest year which has the estimated figures for the poverty in China, even though mainly in rural areas, the poor population estimated by the World Bank was 260 million, with the poverty incidence being 33 per cent (World Bank 1992). The State Statistical Bureau (SSB) provided very close estimates, 250 million poor people and 30.7 per cent of the poverty incidence in rural China in 1978, using 100 yuan as the rural poverty line (He et al. 1993). The estimates by SSB and World Bank for the subsequent years indicate that the number of poor people in rural China fell sharply during the first half of the 1980s, to 125 million and 89 million in 1985. This great achievement in the poverty reduction was vastly believed to be due to the economic reforms and changes in agricultural policies in the rural areas in that period. Starting in 1979 the Family Responsibility System, assisted with continuous increases in the procurement prices of agricultural products, stimulated a big jump in the production of grain and other agricultural products up to 1985. As a result, rural household income per capita increased enormously, from 223 yuan (in 1985 prices) in 1978 to 398 yuan in 1985, average annual increase being 8.6 per cent.

However, poverty alleviation in rural China was not so successful in the second half of the 1980s. Though the SSB and World Bank were not consistent in their estimated figures of the rural poor in some particular years, the basic trends reported by both the organizations suggest that the poverty reduction was much more moderate or even failed in the late 1980s. For instance, both the SSB's and World Bank's estimates show that the number of the rural poor and even the trends in poverty incidence appeared to begin increasing in 1986 and 1989 (He et al. 1993; World Bank 1992).

In any case, no attention was paid to urban poverty until 1990. According to the World Bank figures, the urban poverty, in terms of either the absolute number of the poor or the poverty incidence, did not appear to be a serious social problem in the 1980s. The SSB started to do research on absolute poverty lines for the urban households in 1989 (Ren and Chen 1996). Absent a robust absolute poverty line, some studies had to utilize a relative poverty line (Zhang and Li 1992; Gustafsson and Li 1995). Since 1990, urban poverty issues have been more widely addressed as the problem of unemployment was becoming more serious due to the continued need to reform the state-owned enterprises and the increasing competition from the non-state-owned enterprises, especially from the rural township enterprises.

This paper attempts to make the following contributions. First, a comprehensive picture of historical changes in the poverty reduction in China in the period of 1978-1995 will be provided, and the different estimates of the poverty incidence in both the rural and urban areas will be discussed. Second, with two micro-data sets from Household Income Surveys of 1988 and 1995 and the poverty measure suggested by Foster et al. (1984), the paper will present relevant results of poverty distribution among various

localities and population sub-groups. Third, key causes of poverty and factors having direct or indirect impacts on the poverty reduction will be analyzed. The analyses will be based on macroeconomic indicators and the household data from the Survey of 1995. Fourth and finally, anti-poverty policies in China will be evaluated and policy implications will be addressed.

2 Changes in poverty reduction in China

Most quantitative assessments of the poverty in China have adopted an approach of the subsistence basket of goods in defining poverty lines. Based on assumptions of subsistence consumption and grouped data of income distribution published by the SSB, the World Bank produced a time series of estimates for the period of 1978-1990 (World Bank 1992). The information indicates very little poverty in urban China and a sharp reduction in the number of poor people in rural China from the end of the 1970s to the middle of the 1980s. A huge progress of the poverty reduction happened in the period 1978-84, as a result of the successful implementation of the institutional reforms in rural areas. According to the estimated figures by the SSB, the number of the rural poor decreased from 250 million in 1978 to 125 million in 1984, and again to 65 million in 1995.

Table 1 summarizes various estimates of the poverty lines and poverty incidence estimates for rural, urban and entire China from 1978 to 1995. The estimated figures provided by the SSB are not complete and those by the World Bank only cover the period of 1978-90. In order to present a comprehensive picture, the author has provided estimates for some years in which figures are not available. A simple method of estimation is applied, i.e., by reckoning the poverty lines for the missing years by adjusting those available in the nearest years by the inflation rate. The estimation of poverty incidence was made by adopting two alternative specifications of the Lorentz curve, the General Quadratic (Villasenor and Arnold 1989) and the Beta Model (Kakwani 1980). The calculation of the estimates of head-count index was done by the Povcal Programme compiled by Chen Xiaohua et al. (1991), in the Policy Research Department, World Bank.

Table 1 shows a large disparity between the two sets of estimates of the poverty incidence for rural China for the period of 1984-90. For instance, the figure of poverty incidence estimated by the World Bank for 1984 is 11.1 per cent, the lowest in the 1980s, but the figure provided by the SSB is 15.1 per cent, 4 percentage points higher. At the same time, the estimated poverty incidence in 1990 by the SSB is 9.4 per cent, 5 percentage points lower than that by the World Bank. These differences in the estimated poverty incidence make it difficult to assess the progress of poverty alleviation and therefore the impacts of the government anti-poverty policies during that period.

To sum up, there is no doubt that China has achieved a very impressive progress in reducing poverty, especially in rural areas, after rapid growth in the last two decades. But, when attempting to make an assessment for poverty reduction in particular years, we are still confronted with problems of imprecise poverty lines. Therefore, reliable and solid research on poverty lines for both rural and urban China is desperately needed.

Table 1
Poverty lines and poverty incidence in China, 1978-95

	1978	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
Poverty line (yuan)																	
World Bank:																	
Urban			171	169	178	190	215	226	247	289	304	321	337*	366*	425*	532*	621*
Rural	99	135	160	170	175	178	193	206	222	249	292	301	308*	322*	367*	452*	532*
SSB:																	
Urban	314*	344*	352*	360*	367*	377*	422*	451*	491*	593*	672	696	752	837	993	1300	1547
Rural	100	150*	159*	163*	170*	200	206	213	227	236	259	268	320	335*	380*	469*	530
Poverty																	
World Bank:																	
Urban			80	79	83	88	100	105	115	134	141	149	157	170	198	247	289
Rural	51	70	83	88	91	92	100	142	115	129	151	156	156	167	190	124	276
SSB:																	
Urban	48	73	77	79	82	97	100	106	113	126	144	151	155	162	184	227	256
Rural	74	82	83	85	87	89	100	107	116	141	163	165	178	198	221	308	367
Absolute poverty (million people)																	
World Bank:																	
Urban			4	2	1	1	1	1	1	1	1	1					
Rural	262	221	202	148	123	88	100	108	109	106	132	121	127*	93*	94*	72*	56*
National			206	150	124	89	101	109	110	107	133	122					
SSB:																	
Urban			45*	53*	51*	35*	43*	26*	25.5*	22.6*	26.3*	22.3*	14.15	11.25	13.26	15.26	12.42
Rural	250					128	125	131	122	96	102	85			75	70	65
Poverty incidence (%)																	
World Bank:																	
Urban			2.32	0.95	0.43	0.41	0.40	0.38	0.36	0.35	0.34	0.33					
Rural	33.2	27.8	25.3	18.4	15.7	11.1	12.4	13.3	13.4	12.9	15.9	14.4	14.8*	10.9*	11.1*	8.6*	6.5*
National			20.6	14.8	12.1	8.6	9.5	10.1	10.1	9.6	11.9	10.7					
SSB:																	
Urban			22.4*	25.2*	21.1*	13.8*	17.0*	9.8*	9.2*	7.9*	8.9*	7.4*	5.8	4.5	5.1	5.7	4.4
Rural	30.7					15.1	14.8	15.5	14.3	11.1	11.6	9.4			8.8	8.2	7.6

Sources: He Huanyan et al. (1993), 'Evaluation and Inspection on Poverty in Rural China' (in Chinese), Information of Economic Research, No. 3; The World Bank (1992), *Strategies for Reducing Poverty in China*, Washington; Ren Caifang and Chen Xiaojie (1996), 'Size, Situation and Trend of Poverty in Urban China' (in Chinese), Research reference, No. 65; Zhou Binbin and Gao Hongbin (1993), 'Survey of Poverty Studies and Antipoverty Practice', (in Chinese) *The Tribune of Economic Development*, No. 1.

Notes: 1) Poverty lines by the World Bank are those estimated with procurement prices of agricultural products. 2) Poverty lines with * mean they are interpolated with the poverty lines in the nearest years and inflation rates and so the poverty incidence with * are estimated with the corresponding poverty lines and Povcal Programme.

3 Methodological issues of poverty measures

The evaluation on the changes in poverty reduction in a country will depend on how to define and identify poor people and how to measure the poverty severity the poor suffer from. Four issues are particularly relevant: (i) The indicator which can best capture and reflect the real situation of welfare of households or individuals and its variation; (ii) The perception of poverty; (iii) The establishment of poverty line and (iv) The measurement and aggregation of poverty.

3.1 Indicator of welfare

While there are different indicators which can reflect the situation of welfare of households or individuals, two of them, i.e. income and consumption expenditures, are most often used by researchers. As an indicator of welfare, income has an advantage in that it can reflect the real or potential capability of individuals or households to maintain a socially required minimum living standard. For this reason, this report insists on using the household income per capita as the indicator in estimating poverty measures.

3.2 Poverty lines

The following discussion will be concentrated on the estimation of poverty measures to see how poverty is distributed among various localities and population sub-groups in 1995, using the micro-data sets from the survey of 1995. Further studies on the poverty lines would be necessary, but it is out of the scope of this report. Here the author adopts the poverty lines set by the SSB for both the rural and urban areas, that is, in 1995 prices, 530 yuan and 1,547 yuan respectively in 1995. In order to compare poverty measures in 1995 with those in 1988, the author borrows some relevant results from Gustafsson and Li Shi (1995), which also provides a detailed discussion on the estimation procedure). The results of the poverty measures in 1988 were based on a national relative poverty line.

3.3 Method of aggregating poverty

After the seminal work by Sen (1976), there have been many suggestions about how to incorporate poverty intensity and inequality among poor people into aggregate poverty measures rather than counting the number of poor alone. In recent applied work, the most often used alternative is a family of indices suggested by Foster et al. (1984):

$$\mathrm{FGT}(\alpha) = \frac{1}{N}\sum_{i=1}^{q}\left[1-\frac{y_i}{z_i}\right]^{\alpha} = \frac{1}{N}\sum_{i=1}^{q}\left[\frac{g}{z}\right]_i^{\alpha}$$

Here, Z_i is poverty line; y_i is income of ith person who has income below the poverty line; $g_i=z_i-y_i$, poverty gap of ith person; α is parameter whose higher number gives increasing weights to large poverty gaps. When $\alpha=0$, FGT becomes head-count ratio; when $\alpha=1$, FGT is proportionate poverty gap and $\alpha=2$, FGT is squared proportionate poverty gap, which is more sensitive to income distribution among the poor.

An advantage of this family of indices is that it is additively decomposable by population sub-group. Total poverty is the weighted sum of poverty in mutually exclusive sub-groups. With use of these measures, therefore we can find out not only which group of population has higher incidence of poverty, but also which group has a higher proportion of the total poor.

4 Empirical results of poverty measurement in China

4.1 Data description

The data sets used in the paper come from two surveys, the Household Income Survey 1988 and the Household Income Survey 1995, both conducted by Institute of Economics, the Chinese Academy of Social Sciences (CASS), with the assistance of the Central Team of Rural Household Survey and the Central Team of Urban Household Survey in the SSB. Foreign cooperators participating in the project provided the consulting assistance to the surveys. The first survey referring to the year of 1988 and conducted in the spring of 1989, covers 28 provinces in rural areas and 10 provinces in urban areas. There are in total 19,000 households in the survey, 10,000 households in rural sample and 9,000 households in urban sample respectively. The second survey referring to 1995, was conducted in early 1996, and the sample consists of 15,000 households, 8,000 selected from 19 provinces in rural sample and 7,000 from 11 provinces in urban sample.

Both surveys followed the same procedures in drawing samples of households, that is, obtaining sub-samples from the SSB's large sample frame. Eichen and Zhang (1993) made a detailed description as to how the urban and rural sub-samples were derived. Moreover, a further discussion on the SSB's survey system and the reliability of its data in rural China is provided in Chen and Ravallion (1995).

4.2 Rural-urban divide and regional aspects of poverty

China is a country with huge population and geographical variety. A large proportion of population still lives in rural areas, even though the fast progress of urbanization has been made since the end of the 1970s. Rural–urban divide is a special feature of the present China, as a result of the impact of long-term policy of restricting rural people from moving to urban areas. A comparison of poverty incidence and poverty severity between rural and urban areas is presented in Table 2.

Table 2
Poverty measures: nationwide and by rural-urban

		Income per capita			As % of nationwide		
	% of sample	Head count (%)	Poverty gap (x100)	FGT (α=2) (x100)	Head count (%)	Poverty gap (%)	FGT (α=2) (%)
1995:							
Nationwide	100	7.08	2.10	1.08	100.0	100.0	100.0
Rural	70.0	8.60	2.69	1.43	121.5	128.1	132.1
Urban	30.0	3.54	0.73	0.25	50.0	34.8	23.2
1988:							
Nationwide	100	13.49	4.30	2.33	100.0	100.0	100.0
Rural	74.7	17.57	5.60	3.02	130.3	130.2	129.6
Urban	25.3	0.36	0.12	0.08	2.7	2.8	3.4

Sources: Gustafsson, B. and Li Shi (1995); The data of 1995 household income survey.

Note: Equivalent income per capita is used for poverty measures in 1988 and income per capita for poverty measures in 1995.

Even with the urban poverty line as high as 2.9 times of the rural one, the urban poverty incidence appears to be much lower than the rural one, the latter being 2.4 times higher than the former. Furthermore, most poor people in urban sample are distributed closer to the poverty line than those in rural sample. It is mirrored by decline of a family of FGT measures with increase in value of α in the urban sample and the opposite case is found in the rural sample.

There are various alternative methods in classifying regions. Traditionally China is classified into three geographical parts: Eastern, Central and Western. Following this classification and comparing poverty across the three major parts, Gustafsson and Li Shi (1995) produced some estimates of FGT indices for the three parts, using 1988 data and adopting the relative poverty line approach. The results are presented in Table 3. Their estimates show a very clear and expected difference of poverty among the three parts, especially the difference of poverty between eastern China and the other two parts. While 9 per cent of the population in the eastern part is counted as poor, the figures are 20 per cent in the central part and 27 per cent in the western part.

To find out changes in the poverty alleviation in the three parts in the 1990s, we estimate FGT indices for each of them in rural areas, using the 1995 household income data. As it is shown in Table 3, we can draw two conclusions. First, whatever poverty lines we used in estimating poverty measures, within rural China there exists a monotonically increasing poverty incidence from eastern, to middle and then to western part, as suggested by the head-count ratio of poverty increasing from 9.37 to 19.97 and 26.96 per cent in 1988, and from 5.24 to 8.29 and 13.79 per cent in 1995. Secondly, the poor on average are even poorer in rural eastern part than those in rural western part of China. This conclusion is more pronounced in the 1995 survey than in the 1988 survey.

Table 3
Poverty measures: three regions in rural China

	% of sample	Income per capita			As % of nationwide		
		Head count (%)	Poverty gap (x100)	FGT (α=2) (x100)	Head count (%)	Poverty gap (%)	FGT (α=2) (%)
1995:							
Total (rural)	100	8.60	2.69	1.43	100.0	100.0	100.0
Rural-east	36.34	5.24	1.94	1.19	60.9	72.3	83.3
Rural-middle	37.94	8.29	2.61	1.41	96.4	97.1	98.1
Rural-west	25.71	13.79	3.85	1.81	160.3	143.4	126.5
1988:							
Total (rural)	100	17.57	5.60	3.02	130.3	130.2	129.6
Rural-east	38.5	9.37	2.96	1.64	69.5	68.8	70.4
Rural-middle	36.5	19.97	6.44	3.41	148.0	149.8	146.4
Rural-west	25.0	26.96	8.51	4.63	199.9	197.9	198.7

Sources: Gustafsson, B. and Li Shi (1995); The data of 1995 household income survey.

Note: Equivalent income per capita is used for poverty measurements in 1988 and income per capita for poverty measurements in 1995.

In 1995, the head-count ratio is 60.9 per cent of the rural average level, the poverty gap is 72.3 per cent and the FGT(α=2) is 83.3 per cent in rural eastern China. In contrast, the corresponding figures are monotonously decreasing from 160 per cent to 143.4 per cent and again to 126.5 per cent in rural western China, as it is presented in Table 3.

The fact that the miserable situation the poor suffer from is more severe in rural eastern part has been associated with the anti-poverty policy of the Chinese governments. The policy has concentrated on the regional aspect of poverty (Riskin 1994), which overlooked the poverty problems in some prosperous areas. The relief funds and development loans initiated by this policy have given priority to some particularly poor regions, mainly located in western part. The task to support the poor households in some prosperous areas has been left for local governments, especially village committees.

4.3 Poverty measures in rural China

4.3.1 Poverty measure by province

In order to make further comparisons of the incidence and structure of poverty among various localities, the author has estimated FGT indices for each of 19 provinces in the 1995 rural sample. The results are presented in Table 4. It is apparent that there is an unequal distribution of the poverty incidence among 19 rural provinces. For instance, Gansu has as high as 30.5 per cent of total population living in poverty in 1995, while Zhejiang and Guangdong have only 2 per cent and 2.6 per cent respectively.

Table 4
Poverty measures by province in rural China, 1995

		Income per capita			As % of nationwide		
	% of sample	Head count (%)	Poverty gap (x100)	FGT (α=2) (x100)	Head count (%)	Poverty gap (%)	FGT (α=2) (%)
Total	100	8.60	2.69	1.43	100.0	100.0	100.0
Beijing	1.10	7.31	3.08	2.04	85.0	114.5	142.0
Hebei	6.27	10.20	3.48	1.88	118.6	129.4	131.0
Shanxi	3.71	19.80	7.36	3.97	230.2	273.9	277.1
Liaoning	3.41	6.07	2.04	1.11	70.6	75.9	77.4
Jilin	3.43	8.56	2.85	1.72	99.5	105.9	119.9
Jinagsu	5.66	3.31	1.22	0.88	38.5	45.5	61.3
Zhejiang	4.53	1.97	0.52	0.28	22.9	19.5	19.3
Anhui	5.67	7.77	1.67	0.65	90.4	62.0	45.7
Jiangxi	4.97	2.14	0.53	0.37	24.9	19.8	26.0
Shandong	8.29	6.25	2.55	1.70	72.7	95.1	118.8
Henan	9.03	5.39	1.81	1.10	62.7	67.3	76.6
Hubei	5.08	12.81	4.56	2.48	149.0	170.0	173.3
Hunan	6.05	7.18	1.71	0.77	83.5	63.7	53.5
Guangdong	7.08	2.60	1.13	0.74	30.2	42.1	51.7
Sichuan	9.05	6.14	1.70	0.79	71.4	63.2	55.3
Guizhou	4.22	16.93	4.33	2.03	196.9	161.3	141.5
Yunnan	4.18	8.26	1.95	0.72	96.1	72.6	49.9
Shaanxi	3.96	15.63	3.34	1.34	181.7	124.4	93.3
Gansu	4.30	30.50	10.23	5.25	354.7	380.8	366.4

Source: The data of 1995 household income survey.

Furthermore, looking at the poverty gap and the squared poverty gap indices, we find that even among the poor provinces, the difference of poverty severity is striking. Some poor provinces such as Guizhou, Shaanxi, have relatively lower average poverty gap, but some poor provinces such as Gansu and Shanxi have an even higher average poverty gap. This implies that some poor provinces have made greater efforts to support the poorest households than others even if they could not help those households out of poverty completely.

4.3.2 Poverty by officially-designated poor and minority region

Based on different criteria, China is classified into minority areas and non-minority areas, and poor areas and non-poor areas. It is generally perceived that people in minority areas have disadvantages in competing with ethnically majority people in

economic activities and thus in earning income, because they are living in mountainous and remote areas and are cut off from the general process of economic growth.

By 1990, 331 counties were designated by the central government and another 357 counties by provincial governments as officially designated poor counties. The poor counties therefore have become main targets of the government anti-poverty policies (Zhu Ling and Jiang Zhongyi 1994). To support the development of local economy in minority areas, the government has implemented various special policies. To have a sense of how poor the people in minority areas and officially designated poor areas, data from the 1995 survey are used to estimate FGT indices. The results are presented in Table 5. Our analysis indicates that there is a higher poverty incidence in minority areas and even much higher poverty incidence in the designated poor areas in 1995. However, it is more interesting that minority areas have lower average poverty gap and even lower FGT index than non-minority areas in 1995. This may indicate that the poverty in minority areas has been reduced in 1990s. The same judgement can also be applied to the poor areas. Compared the FGT indices in 1988 and 1995, FGT index as percentage of average level in the poor areas is sharply decreasing with rising of parameter α in 1988[1], but this did not take place in 1995. It means that though the number of poor people became smaller, the average poverty gap became wider in the poor areas in 1995, compared with those in 1988.

Table 5
Poverty measures by poor and non-poor areas in rural China

		Income per capita			As % of nationwide		
	% of sample	Head count (%)	Poverty gap (x100)	FGT (α=2) (x100)	Head count (%)	Poverty gap (%)	FGT (α=2) (%)
Data of 1995:							
Total	100	8.60	2.69	1.43	100.0	100.0	100.0
Nationality:							
Minority	7.90	11.48	2.29	0.84	133.5	85.4	58.8
Non-minority	92.10	8.34	2.71	1.48	97.0	101.2	103.5
Poverty status:							
Poor areas	23.92	14.95	4.67	2.40	173.8	173.9	167.3
Non-poor areas	70.34	5.87	1.83	1.00	68.3	68.0	70.1
Unknown	5.74	15.54	4.95	2.68	180.7	184.4	186.6

Source: The data of 1995 household income survey.

[1] In 1988, head count in the poor areas is equivalent to 179 per cent of the average level in entire rural areas, but FGT (α=2) is 124 per cent of the average level.

4.3.3 Poverty by gender and age

As China has been in transition from a centrally planned economy to a market-oriented economy, it is often suggested that the transition would degrade the social and economic status of women. However, the data of 1988 survey indicate that wage gap between male and female workers was not substantial in urban China in 1988 (Knight and Song 1993). Moreover, assuming equal distribution of income within households, the gap of household income per capita between male and female individuals in the 1988 survey appeared even smaller (Gustafsson and Li 1993). The main reason is that unlike many industrial countries, China has had very small proportion of single-mother families, especially in rural areas. With the data of 1995 available, it is interesting to know changes in poverty status of women in the last seven years since 1988.

The results presented in Table 6 suggest that, first, the differences of the incidence and severity of poverty between males and females appear to be not substantial in 1995. Second, there are no large changes in relative status of female poverty in the 1990s. But it should be noted that these results are based on the assumption that women and men are equal in the distribution of total income within households.

The results of poverty measures by age group in rural areas, presented in Table 6, indicate that there seems to be a life-cycle of poverty incidence among different age groups. Children under 7 years have the highest possibility falling in poverty. This finding is associated with small-child families in which young mothers have to take care of newborn babies or small children rather than work for income. The incidence of poverty is declining for older age groups of 8-13 years, 14-18 years and 19-25 years. For the age group of 26-35, the incidence of poverty is going up again, from 7.5 per cent in the previous age group to 9.6 per cent. For the age group of 36-45, the incidence of poverty turns to be declining, which arrives at the lowest level of 7.1 per cent for the age group of 40-60 years. It is not surprising that the 1995 data show that the retired people suffer more from poverty after their retirement.

Table 6
Poverty measures by gender and age in rural China, 1995

		Income per capita			As % of nationwide		
	% of sample	Head count (%)	Poverty gap (x100)	FGT (α=2) (x100)	Head count (%)	Poverty gap (%)	FGT (α=2) (%)
Total	100	8.60	2.69	1.43	100.0	100.0	100.0
Gender:							
Male	51.1	8.48	2.61	1.39	98.6	97.2	96.8
Female	48.9	8.72	2.76	1.48	101.4	102.9	103.4
Age group:							
- 7	8.96	11.57	3.55	1.82	134.5	132.1	127.0
8 - 13	12.42	10.29	3.02	1.57	116.7	112.4	109.7
14 - 18	10.84	7.78	2.49	1.35	90.5	92.8	93.9
19 - 25	14.77	7.52	2.36	1.28	87.4	88.0	89.2
26 - 35	14.27	9.60	2.92	1.52	111.6	108.7	106.0
36 - 45	16.61	7.75	2.34	1.23	90.1	87.0	85.8
46 - 60	15.63	7.13	2.45	1.40	82.9	91.3	97.9
61 -	6.52	8.57	2.86	1.54	99.7	106.4	107.3

Source: The data of 1995 household income survey.

4.4 Poverty measures in urban China

4.4.1 Poverty by province

Using 1,547 yuan as a poverty line, this report has calculated the poverty measures for 11 provinces in urban China. The results are presented in Table 7.

At the national level, there was 3.45 per cent of urban population living in poverty in 1995 and the absolute number of the poor was 12 million. Moreover, what was rather unexpected is that the distribution of the urban poor people was fairly unequal among provinces. For instance, Henan province had as high as 11.2 per cent of urban population living in poverty, while the corresponding figure for Guangdong province was 0.16 per cent. This has been associated with unequal growth of wages and household income among provinces since the mid-1980s. The provinces with higher poverty incidence, such as Henan, Gansu and Shanxi, have had slower increases in average wages and consequently slower growth of household income. From the official statistics, in the period of 1988-95, the average wages of workers increased by 21 per cent in Gansu province and by 22 per cent in Shanxi province, with average annual growth of 2.8 per cent and 2.9 per cent respectively. In the same period, the average wages of workers increased by 67 per cent in Guangdong province and by 36 per cent in Jiangsu province, with average annual growth of 7.7 per cent and 4.5 per cent respectively.

Table 7
Poverty measures by province in urban China, 1995

		Income per capita			As % of nationwide		
	% of sample	Head count (%)	Poverty gap (x100)	FGT (α=2) (x100)	Head count (%)	Poverty gap (%)	FGT (α=2) (%)
Total	100	3.54	0.73	0.25	100.0	100.0	100.0
Beijing	7.04	0.13	0.03	0.01	3.7	4.4	3.1
Shanxi	9.72	9.25	2.03	0.69	261.3	277.4	273.5
Liaoning	10.20	2.40	0.40	0.11	67.8	54.8	43.2
Jiangsu	11.29	1.02	0.32	0.15	28.8	43.4	58.4
Anhui	7.04	2.42	0.21	0.03	68.4	28.8	11.4
Henan	8.94	11.24	2.08	0.65	317.5	284.6	258.1
Hubei	10.65	1.39	0.39	0.21	39.3	52.7	81.9
Guangdong	8.39	0.16	0.17	0.17	4.5	22.5	65.6
Sichuan	11.46	2.53	0.45	0.12	71.5	61.0	47.3
Yunnan	9.26	2.59	0.47	0.12	73.2	63.8	48.8
Gansu	6.01	6.75	1.75	0.59	190.7	239.3	235.5

Source: The data of 1995 household income survey.

4.4.2 Poverty and education

Analyses of the 1988 survey data show that elementary education played an important role in reducing poverty incidence among rural individuals, but education had a decreasing impact on poverty reduction at above-primary-school education level (Gustafsson and Li 1995). For instance, the head-count index indicates 23.8 per cent of individuals in poverty if their household heads were illiterate or semi-literate, which was 7.6 percentage points higher than the group of individuals headed by persons whose education attainment was primary school. However, similar analysis was not done for the urban data of 1988 survey since a negligible number of poor are found in the urban areas.[2]

This report has analyzed the 1995 survey data and produced the FGT indices for urban individuals in the sample, which can be found in Table 8. It is quite clear that the incidence of poverty shows it to be monotonously decreasing with the rise of education level of household heads in the urban sample. There appears to be a very low incidence of poverty among urban individuals headed by persons with college education. Meanwhile, a much higher head-count index (more than two times higher than the average) is found amongst the urban individuals headed by persons whose education attainment is equal to or less than primary school.

Table 8
Poverty measures by education of household head in urban China, 1995

		Income per capita			As % of nationwide		
	% of sample	Head count (%)	Poverty gap (x100)	FGT (α=2) (x100)	Head count (%)	Poverty gap (%)	FGT (α=2) (%)
Total	100	3.54	0.73	0.25	100.0	100.0	100.0
Education of household head							
1. 4-5 year college	8.89	0.21	0.08	0.03	5.9	10.5	11.4
2. 2-3 year college	14.50	1.27	0.20	0.05	35.9	27.0	20.8
3. Technical school	16.13	2.09	0.41	0.16	59.0	56.0	64.0
4. Upper middle	19.84	3.93	0.78	0.24	111.0	107.1	97.1
5. Lower middle	30.49	4.61	0.96	0.34	130.2	131.9	133.4
6. Primary school	10.14	8.05	1.80	0.64	227.4	146.3	253.9

Source: The data of 1995 household income survey.

2 Using a relative poverty line for entire China, 0.36 per cent of urban individuals were defined as the poor, compared with 17.8 per cent for rural individuals (Gustafsson and Li 1995).

4.4.3 Occupation and poverty

There have been many discussions about the appearance of the high income group in China, even though criteria for defining high income group have varied (Lu 1996). There is no doubt that income groups are somewhat related with occupations. In other words, workers in some occupations are more likely to become richer than those in other occupations. In the mid-1980s, for instance, people such as taxi drivers, individual sellers in the urban areas appeared to be among the rich. In the 1990s, the rich people are concentrated in the occupations such as business men, speculators in stock markets and rent-seekers.

When discussing the high income group, people usually had little interest in knowing the characteristics of low income groups and consequently in asking whether it is related with occupations in the 1980s. In the 1990s, there is greater concern about the low income groups in urban China as more urban workers become unemployed and laid-off (Xiagang in Chinese).[3] A question is raised about whether the low income group or poverty more easily befalls in some particular occupations. To answer this question, this report produced FGT indices for each group of individuals with household heads in eight occupations defined in the 1995 survey. The results are presented in Table 9.

It is apparent that urban individuals headed by persons having occupations of professional, technicians, and managers or heads of enterprises or institutions had a much lower possibility of falling into poverty in 1995. On the contrary, the occupation of unskilled workers is associated with the highest incidence of poverty, apart from the occupation of self-employed and owners of private enterprises.[4] Concretely speaking, the head-count ratio is 8.2 per cent among families headed by persons being unskilled workers, compared with 1.1 per cent among families with household heads being professional or technicians.

5 Analysis of causes of poverty reduction

This section attempts to find key factors, both macroeconomic and personal or household characteristics, which contribute to China's success in reducing poverty since the end of the 1970s. It also tries to explain why some people and households are remaining in poverty in the 1990s.

The poverty in rural China, as in many other developing countries, is a many faceted problem. In analyzing the causes of poverty in China, we need an appropriate

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3 According to the latest official statistics (SSB 1996), number of unemployment reached 5.2 million, 2.9 per cent of total urban labour forces at the end of 1995. In addition, it is estimated there were about 8 million Xiagang workers in urban areas.

4 The author was told by officials in the SSB that the reason why the occupation group of self-employed and private owners had lower income and higher poverty incidence in the 1995 data than expected was that most rich people in the group were unwilling to participate in the survey. It cannot be ruled out that the average income of this occupation group has been decreasing, as the number of self-employed and private business persons increased from 4.5 million in 1985 to 6.9 million in 1990, and 20 million in 1995, and that there was a larger variation of their yearly income.

Table 9
Poverty measures by occupation of household head in urban China, 1995

		Income per capita			As % of nationwide		
	% of sample	Head count (%)	Poverty gap (x100)	FGT (α=2) (x100)	Head count (%)	Poverty gap (%)	FGT (α=2) (%)
Total	100	3.54	0.73	0.25	100.0	100.0	100.0
Occupation of household head							
1. Self-employed & private owner	1.49	12.38	1.93	0.53	349.7	263.7	209.9
2. Professional & technician	22.50	1.11	0.23	0.07	31.4	31.2	27.4
3. Manager & leader	16.22	1.51	0.26	0.06	42.7	36.0	24.9
4. Office worker	19.59	3.44	0.59	0.18	97.2	81.0	73.4
5. Skilled worker	19.65	3.14	0.73	0.26	88.7	100.1	103.8
6. Unskilled worker	12.46	8.22	1.57	0.47	232.2	214.7	187.5
7. Other	8.09	6.78	1.90	0.89	191.5	259.1	353.0

Source: The data of 1995 household income survey.

framework. Poverty can be perceived to be determined by two elementary factors, i.e. low average income level and inequality of income distribution, in a society. This perception is usually formulated as $P = f[\mu, L(c)]$, in which P is poverty measure, μ is mean income of population and L(c) is Lorentz curve measuring inequality of income distribution among population. From the point of view of dynamics, we can deduce, therefore, that the poverty reduction is dependent on the income growth of households or individuals and the changes in income distribution among them. To put it concretely, the growth of household income is furthermore largely dependent on positive institutional changes, changes in economic structure and full employment and improvement of human resources. There is no doubt that a low inequality of income distribution would contribute positively to the reduction of poverty given mean income in a society. While it is not easy to explain changes in income distribution in China, we demonstrate the relationship between inequality and poverty reduction by focusing on some key issues such as uneven economic growth among various localities, fiscal decentralization system, social security network and public transfer system, which are relevant to both income distribution and poverty reduction.

A market economy, which China is moving to, on the one hand stimulates individuals to work harder and offers rewards to those with better initial conditions in the competition, resulting in increasing inequality. Therefore, it would be of interest to know how the household or personal characteristics are related to poverty as well as to income and the changes in their impact on income growth.

It should be noted that the causes of poverty in rural China are quite different from those in urban areas, thus should be explained separately. When interpreting the causes of

poverty, the different factors will be emphasized in the rural areas from those in the urban areas.

5.1 Macroeconomic performance and poverty reduction

5.1.1 Economic growth

The successful performance in Chinese macroeconomic growth and changes in economic and social institutions since the late 1970s have played a substantial role in leading a large number of people out of poverty in the past two decades, especially in rural China and in the period up to 1985. According to the estimates by the SSB, while the net income per capita in the rural areas increased annually by 11.6 per cent in the period of 1978-1985, the incidence of poverty declined from 30.7 per cent in 1978 to 14.8 per cent in 1985 (He et al. 1993). The figures provided by the World Bank appear to be more impressive in the poverty reduction in this period (World Bank 1992). Chart 1 shows the changes of both the real household income per capita and the number of the poor people in rural China from 1978 to 1995. The chart gives a very clear picture that the number of the rural poor decreased with rising income per capita and vice versa. During the second half of the 1980s, while the economic growth and household income was stagnant, so also was the reduction of rural poverty, with the number of the poor slightly increasing from 128 million in 1984 to 131 million in 1986 according to the SSB's estimates.[5]

In the first five years of the 1990s, the rural household income was growing faster again, with 5.5 per cent of average annual growth rate, compared with 0.9 per cent in the period of 1986-90. The faster growth of the household income brought about a further reduction of poverty in the countryside in the 1990s, as illustrated in Chart 1.[6]

5.1.2 Increasing inequality and poverty

Relevant analyses indicate that inequality of income distribution has been increasing in both rural and urban areas, and in the entire country as well since the mid-1980s (Li Shi et al. 1998; Zhang Ping 1996). However, it should be noted that the inequality increased faster in one period than in another. Based on the data of Ginis in the period of 1978-95, Chart 2 shows the changes in the inequality of income distribution in both rural and urban China.

According to the SSB's estimates, there was a sharp decline in the incidence of poverty in urban China in the first half of the 1980s. This is believed to be associated with the high rate of growth in wages and income and a rather small increase in the inequality of income distribution. For example, the number of the urban poor decreased from 22.4

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5 According to the estimates by the World Bank, the number of the rural poor increasing from 88 million in 1984 to 108 million in 1986, and again to 132 million in 1989 (World Bank 1992).

6 There is no doubt that changes in political and economic institutions starting in the late 1970s have played a significant role in the rapid growth of rural economy and the remarkable improvement of the living conditions of rural households. There are many studies on this issue (Perkins 1988; J. Lin 1992).

million in 1980, to 9.8 million in 1986. While the urban inequality measured by Gini coefficients has increased more rapidly since the mid-1980s, the reduction of poverty has become less successful. A simulation analysis (Khan 1996) has shown that the incidence of poverty in rural China would have been reduced by 9.6 percentage points in 1994 if the inequality of income distribution had remained the same as in 1980. The incidence of urban poverty would have been reduced by 11.3 percentage points in 1994 if the income distribution had remained the same as in 1981.

Chart 1

Income growth and poverty reduction in rural China, 1978-95

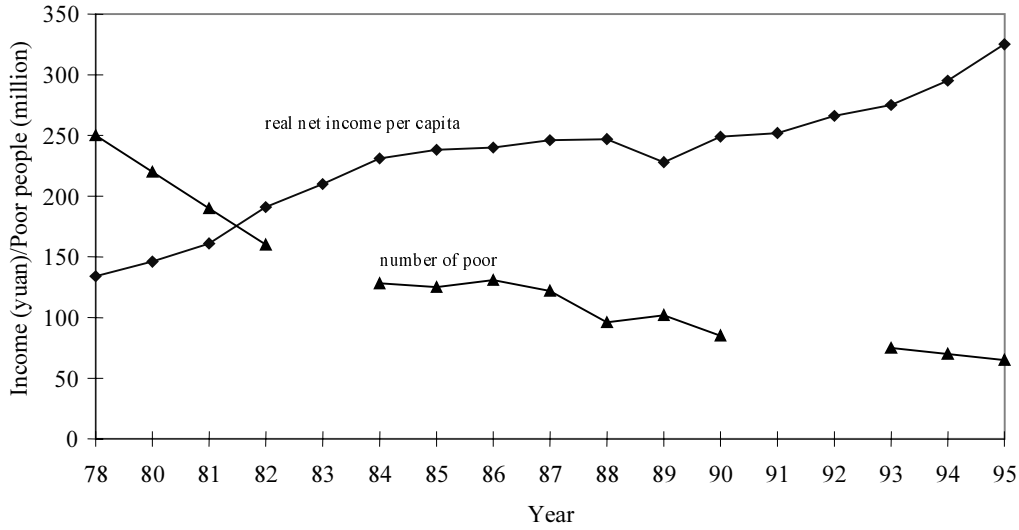
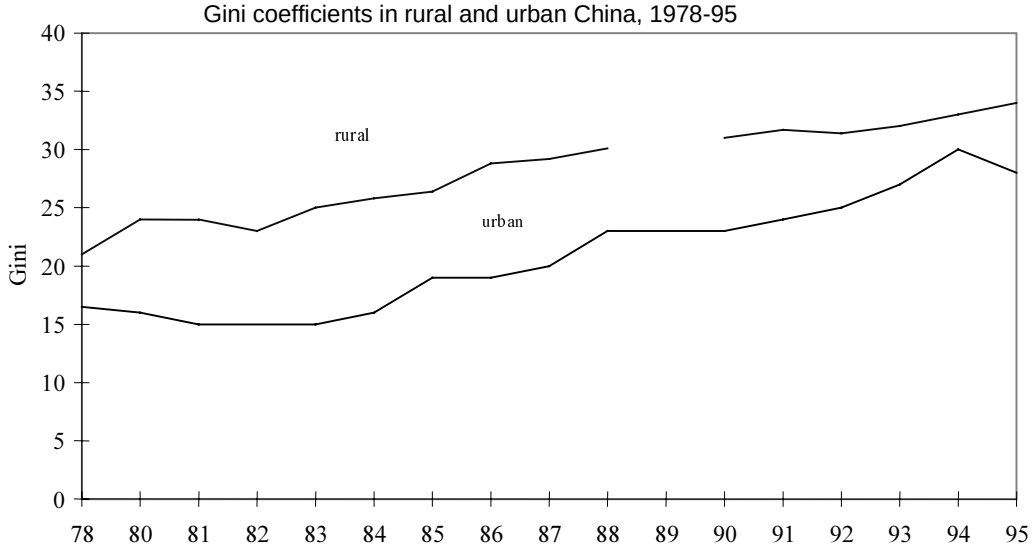


Chart 2

Gini coefficients in rural and urban China, 1978-95



5.2 Micro-data analysis

To understand why some households and individuals were left in poverty in 1995, we did two kinds of exercises using the 1995 household income data. First, some regression analyses of household income have been performed to see how growth of household income was related to characteristics of households and individuals in 1995. The analyses were done for the rural and urban samples separately. Second, two groups of logistic analyses have been tried to predict the probabilities of households or individuals to fall in poverty.

5.2.1 Household income analysis

For an analysis of household income growth, the household income function was often used to find out to what extent the growth of household income depends on capability of households, in terms of physical, financial and human resources. Two alternatives of dependent variables i.e. household income and its logarithm, were undertaken in our analyses. The same dependent variables but different independent variables were adopted for rural and urban functions.

In the rural function, the independent variables we have chosen are irrigated and non-irrigated land, financial and production assets, number of labour engaged in both agricultural and non-agricultural activities, and average education years of workers, with dummy variables of province, poor or non-poor areas, minority or non-minority areas, and with or without sick or disabled members. The results of the regression analyses are given in Table 10. It is clear that most estimates of coefficients of independent variables are statistically significant in two functions.

In the urban equation, we have chosen the following independent variables: number of workers, financial assets, average years of education of workers, age of household heads, occupation, ownership of work unit, working institution and employment status of household heads, with province as dummy variable. The results are shown in Table 11. Most coefficients of the independent variables have statistically significant estimators and fairly high adjusted R^2.

As in most developing countries, the number of income earners is one of the most important determinants of household income in rural China. The results presented in Table 10 displays that one more income earner in agriculture would make household income increase by 11 per cent, meanwhile one more worker engaged in non-agricultural activity such as township enterprises would increase household income by 20 per cent.

The stock of financial and production assets is another contributor to the growth of household income in the countryside. A simple exercise shows that a household with 5,000 yuan more production assets would have 1,100 yuan more income, as other things being equal. In the urban function, the financial assets did not appear as important as in the rural function. Nevertheless, the urban households on average had financial assets of 11,700 yuan in 1995, much higher than for the rural households. The income that the urban households gained from financial assets was about 1,000 yuan per household in 1995, according to the estimates in Table 11.

Table 10
Regression analysis of household income in rural China, 1995

Independent variable	Mean value	Coefficients (HY)	Coefficients (LHY)
Irrigated farming land	4.15	0.22	0.61E4
Non-Irrigated land	3.35	10.57	0.66E3
Production assets	2702	0.22*	0.18E4*
Financial assets	4750	0.20*	0.14E4*
Number of labour working in agriculture	2.19	605.32*	0.11*
Number of labour working in non-agricultural activities	0.69	1582.93*	0.20*
With one or more sick or disabled labour	0.06	-435.10	-0.02
Without sick or disabled labour	0.94	___	___
Average years of education of labour	8.1	70.17*	0.02*
Minority areas	0.07	-139.21	0.01
Non-minority areas	0.93	___	___
Poor areas	0.23	-735.74*	-0.19*
Non-poor areas	0.77	___	___
Beijing	0.013	2851.35*	0.30*
Hebei	0.062	724.31	0.31*
Shanxi	0.038	-510.05	0.01
Liaoning	0.038	598.98	0.28*
Jilin	0.038	1015.16**	0.29*
Jiangsu	0.063	3530.90*	0.57*
Zhejiang	0.050	1991.56*	0.47*
Anhui	0.056	1366.46*	0.40*
Jiangxi	0.044	2477.22*	0.59*
Shandong	0.088	1589.00*	0.36*
Henan	0.088	994.87**	0.30*
Hubei	0.050	1497.41*	0.33*
Hunan	0.063	1415.86*	0.37*
Guangdong	0.063	7894.88*	0.90*
Sichuan	0.100	575.19	0.22*
Guizhou	0.038	676.24	0.22*
Yunnan	0.038	529.20	0.26*
Shaanxi	0.038	-692.09	0.03
Gansu	0.038	___	___
Constant		1366.61*	7.69*
Mean of dependent variable		7305.66	8.64
Adj-R^2		0.328	0.288
F-value		140.60	116.44
Observations		7998	7998

Notes: HY=household net income; LHY=logarithm of HY.

* denotes statistical significance at the one per cent level, and ** at the five per cent level.

Table 11
Regression analysis of household income in urban China, 1995

Independent variable	Mean value	Coefficients (HY)	Coefficients (LHY)
Number of workers	2.21	3644*	0.263*
Financial assets	11735	0.087*	0.38E5*
Av. years of education of workers	10.13	401*	0.030*
Age of household head:	0.008	-1542	-0.143*
(1) ≤25			
(2) 26-35	0.184	-1045*	-0.112*
(3) 36-45	0.350	---	----
(4) 46-55	0.226	-269	-0.029**
(5) 56-65	0.173	-639*	-0.781*
(6) ≥66	0.059	-1988*	-0.189*
Ownership of work unit of household head:			
(1) State-owned	0.833	900*	0.106*
(2) Collective	0.150	---	---
(3) Private & self-employed	0.009	193	0.017
(4) Foreign & joint venture	0.005	2865*	0.174*
(5) Others	0.003	163	0.079
Occupation of household head:			
(1) Private owner, self-employed	0.014	1402	0.082
(2) Professional, technician	0.229	1058*	0.113*
(3) Manager, head of firm	0.160	1542*	0.136*
(4) Office worker	0.197	525**	0.054*
(5) Skilled worker	0.197	352	0.061*
(6) Unskilled worker	0.165	---	---
(7) Other	0.038	330	0.038
Working institution of household head:			
(1) Firm with lose	0.212	-1944*	-0.146*
(2) Firm with profits	0.457	---	---
(3) Government & public sector	0.306	-64	-0.003
(4) Other	0.025	-1204**	-0.087*
Employment status of household:			
(1) Full-employed	0.949	---	---
(2) Part-time employed	0.045	-730	-0.089*
(3) Unemployment	0.006	-1372	-0.242*
Beijing	0.072	6774*	0.496*
Shanxi	0.094	262	0.022
Liaoning	0.101	1813*	0.177*
Jiangsu	0.115	4210*	0.368*
Anhui	0.072	829**	0.107*
Henan	0.087	98	0.030
Hubei	0.107	2396*	0.235*
Guangdong	0.079	13491*	0.773*
Sichuan	0.122	2259*	0.173*
Yunnan	0.094	2004*	0.204*
Gansu	0.057	---	---
Constant		-2577*	8.190*
Mean of dependent variable		14051	9.418
Adj-R^2		0.46	0.52
F-value		181	231
Observations		6936	6936

Notes: HY=household net income; LHY=logarithm of HY.
* denotes statistical significance at the one per cent level, and ** at the five per cent level.

It is noteworthy that the geographic location has a fairly large impact on the growth of the household income in both rural and urban areas. On average, rural households in Guangdong province would have 90 per cent higher income than that in Gansu province. The corresponding figure is 77 per cent in urban China. Moreover, within rural areas, the households living in the designated poor areas would have 19 per cent lower income than households everywhere else.

In the urban areas, household income are more directly determined by personal characteristics of workers or household heads. Table 11 suggests that the high income group consists of those households with heads at the age of 36-45, working in foreign or joint-venture enterprises, in occupations such as being managers or professionals, living in Guangdong, or Beijing or Jiangsu province. We can also find that the low income group mainly includes those households headed by people aged over 65, or working in the collective sector, in occupations such as being unskilled workers, or becoming unemployed, living in Gansu, Shanxi or Hennan province.

5.2.2 Logistic analysis of poverty

To find out what kinds of households are more likely to fall into poverty, we provide logistic analysis for the rural and urban household samples separately, by making use of the 1995 data. Explanatory variables used in the logistic models and the estimated coefficients of the explanatory variables are presented in Appendix 1 (for rural households) and Appendix 2 (for urban households).

Based on the estimated coefficients in the logistic models and with a variety of assumptions, the probabilities of the rural and urban households with different characteristics falling in the poverty were calculated, which are presented respectively in Table 12 and Table 13.

When all the explanatory variables are assumed to take mean values and dummies set at zero, we get benchmark of probability of being poor at 13.6 per cent for rural households and 4.41 per cent for urban households. Besides, we have done a variety of exercises to show how sensitive changes in probability of being poor are to changes of explanatory variables.

Although the estimated coefficient of irrigated land is not significant in rural household income equation, it is highly significant in the logistic model. A question thus has to be asked that if irrigated land has significant impact on reducing poverty among rural households, how important is it? The answer is, assuming all non-irrigated land would be constructed into irrigated land, the probability to be poor for rural people would be reduced by more than 4 percentage points.

Production assets do not appear to be as important in reducing poverty in the logistic model as in increasing household income in the household income function. As our exercise in Table 12 shows, if rural households increased their production assets by 50 per cent, the incidence of poverty would have decreased by 1.5 percentage points.

Household size has fairly large impact on changes in the probability to be poor in rural China, as illustrated in Table 12. When a household would increase its size from two to four and six members, the probability of the household falling in poverty would be 8.9, 12.9 and 18.4 per cent respectively.

Table 12
Predicted probability to be poor in rural China

Assumption	Predicted probability to be poor (%)
Benchmark:*	13.69
(1) If total land would be constructed into the irrigated land	9.45
(2) If production assets increase by 50%	12.32
(3) Number of family members: (a) = 2	8.85
(b) = 4	12.87
(c) = 6	18.35
(4) Family having one (or more) member with chronic disease	16.50
(5) Number of non-agricultural workers doubles	11.54
(6) Average years of education of workers rise by 3 years	12.66
(7) Family living in minority area	14.66
(8) Family living in poor region	18.37
(9) Location:	
Beijing	7.04
Hebei	8.23
Shanxi	10.80
Liaoning	3.80
Jilin	7.23
Jiangsu	2.76
Zhejiang	1.66
Anhui	3.76
Jiangxi	1.24
Shandong	5.02
Henan	3.84
Hubei	9.35
Hunan	2.87
Guangdong	2.34
Sichuan	2.71
Guizhou	6.23
Yunnan	3.99
Shaanxi	10.42
Gansu	13.69

Note: * Benchmark was computed with the mean values of the continuous variables and zero coefficients of the omitted variables.

It is not surprising that the results from the logistic analysis demonstrate once again that poverty in China is more location-specific. People living in different provinces face different probabilities to be the poor in both rural and urban areas. For instance, a rural household living in Gansu province had the probability to fall in poverty as high as of 13.7 per cent, while a rural household in Zhejiang province had 1.7 per cent chance to be poor. The same can be observed for urban households as indicated in Table 13.

Apart from the personal characteristics such as age, education, occupation and so on, the profitability of the work units where household heads are employed also plays an explicit role in determining the probability of being poor in the cities. As indicated in Table 13, a household headed by a worker in a loss making enterprise would have two times higher probability to fall in poverty than a household headed by a worker in a profit making enterprise.

Finally, it is notable that the urban poverty is closely related to unemployment. If the household head becomes unemployed, the household would face a much higher chance to be poor. Therefore, it is anticipated that the urban poverty could become more serious in China after 1995, as accelerated enterprise reform would lead to the bankruptcy of more enterprises.

6 Conclusions and policy implications

This report presented two time series of the estimates on poverty in China, based on the previous studies by the SSB and World Bank. The estimates on the incidence of poverty indicate that China has achieved a remarkable progress in poverty alleviation, especially in the rural areas since 1978. The number of the rural poor people was reduced from 250 (or 265) million in 1978 to 65 million in 1995. The sharp reduction of poverty happened in the early 1980s, when the household income grew rapidly and the inequality of income distribution rose slowly. Changes in the poverty reduction in urban China are not very clear, owing to the lack of the reliable information on urban poverty lines and thus the relevant poverty indices. Poverty in urban China was not considered as a big problem until the 1990s. Therefore, most studies on urban poverty appear to be weaker and unconvincing. The different poverty lines given by the SSB and the World Bank lead to a striking gap in the estimated size of the urban poor. However, many indicators suggest that poverty has become a more serious issue in urban China since 1990. This means that greater attention should be paid to the study of poverty problem in urban China.

This study used a family of FGT indices in measuring the poverty incidence and poverty severity, with two data sets from the surveys of 1988 and 1995. The results suggest that the structure of poverty remained unchanged in 1988-95, in spite of the increasing incidence of poverty in the urban areas. Poverty is still a location-specific phenomenon in rural areas, and probably in urban areas as well. High incidence of poverty is found in the western part of the country, in the minority areas, and in the government designated poor regions. But the squared poverty gap indices indicate that the poor people are even poorer in the eastern and central parts, in the non-minority areas, and in the non-poor regions. It is mainly reflecting the impact of government locality-oriented anti-poverty policy, which more or less has neglected helping the poor in the economically prosperous areas. Little difference of the incidence of poverty exists between males and

Table 13
Predicted probability to be poor in urban China

Assumption		Predicted probability to be poor (%)
Benchmark:*		4.41
(1) If financial assets increase by 50%		1.77
(2) Number of family members:	(a) = 2	0.80
	(b) = 4	15.1
	(c) = 6	79.80
(3) Age of household head:	(a) ≤25	2.14
	(b) 26-35	10.02
	(c) 36-45	4.41
	(d) 46-55	4.29
	(e) 56-65	5.76
	(f) ≥66	6.51
(4) Occupation of household head:	(a) Private owner, self-employed	2.65
	(b) Professional, technician	1.23
	(c) Manager, head of firm	1.33
	(d) Office worker	3.21
	(e) Skilled worker	1.94
	(f) Unskilled worker	4.41
	(g) Other	5.65
(5) Working institution of household head:		
	(a) Firm with lose	8.51
	(b) Firm with profits	4.41
	(c) Government & public sector	4.90
	(d) Other	10.02
(6) Average years of education of workers rise by 3 years		2.86
(7) Employment status of household:	(a) Full-employed	4.41
	(b) Part-time employed	7.91
	(c) Unemployment	19.23
(8) Location:	Beijing	1.67
	Shanxi	10.38
	Liaoning	4.50
	Jiangsu	1.29
	Anhui	2.40
	Henan	11.76
	Hubei	1.74
	Guangdong	0.13
	Sichuan	3.79
	Yunnan	2.42
	Gansu	4.41

Note: * Benchmark was computed with the mean values of the continuous variables and zero coefficients of the omitted variables.

females in both rural and urban areas. This is mostly due to relatively low divorce rates and correspondingly small proportion of single-mother families. The poverty incidence presents a life-cycle pattern among age groups. Poverty presents a greater threat to children and aged people, that implies that part of the poverty is transitional between age groups.

The causes of poverty and poverty reduction are much more complicated. There are many factors which are directly or indirectly relevant to poverty reduction. Thus it is of important to have a framework emphasizing key factors. Following the framework containing income level and inequality as explanatory variables, this report focused on some major factors which help to explain the income growth of households or individuals and the changes in income inequality. The factors causing poverty in rural areas are quite different from those in urban areas.

Evidence suggests that there is a close relationship between the growth of household income and the speed of poverty reduction in rural China. A sharp decline in the number of poor people in the early 1980s was largely due to the rapid growth of household income. Nevertheless, as a result of slowdown of the growth of rural economy and household income in the second half of the 1980s, a stagnation in poverty reduction took place in the rural areas.

The relationship between changes in inequality and poverty reduction seems to be more apparent in some periods than in others. Evidence indicates that the increasing inequality of income distribution in both rural and urban areas has created more difficulties in reducing poverty since the mid-1980s.

Based on the 1995 data, regression analyses of household income and logistic analyses of poverty have been done. The results from the analyses suggest poverty is more easily falling on people with less production resources, households with all members engaged in agriculture or living poor areas or underdeveloped provinces in rural China. The results also suggest that education plays a more limited role in generating household income and leading poor people out of poverty in the rural areas than in the urban areas.

Our analysis indicates that poverty has become more closely related with unemployment problem in urban China since 1990. Thus poverty is expected to be more serious in the late 1990s, when the acceleration of enterprise reform induces increasing enterprise bankruptcies.

Appendix 1
Logistic analysis of poor household in rural China, 1995

Independent variable	Mean of poor	Mean of non-poor	Coefficients
Irrigated farming land	1.91	4.35	0.127*
Non-Irrigated land	5.75	3.14	0.002
Production assets	1824	2780	0.00009*
Financial assets	2594	4941	0.00004*
Number of family members	4.60	4.32	-0.21*
Number of labour working in agriculture	2.45	2.16	0.03
Number of labour working in non-agricultural activities	0.42	0.72	0.31*
With one or more sick or disabled labour	7.7%	5.8%	-0.22
Without sick or disabled labour	92.3%	94.2%	---
Average years of education of labour	7.61	8.15	0.03**
Minority areas	9.6%	7.1%	-0.08**
Non-minority areas	90.4%	92.9%	---
Poverty areas	39.4%	21.1%	-0.35*
Non-poverty areas	60.6%	78.9%	---
Beijing			0.74
Hebei			0.57*
Shanxi			0.27
Liaoning			1.39*
Jilin			0.71*
Jiangsu			1.72*
Zhejiang			2.24*
Anhui			1.40*
Jiangxi			2.54*
Shandong			1.10*
Henan			1.38*
Hubei			0.43
Hunan			1.68*
Guangdong			1.89*
Sichuan			1.74*
Guizhou			0.87*
Yunnan			1.34*
Shaanxi			0.31
Gansu			---
Constant			1.26*
Log-likelihood			-2752
Mean of dependent variable			0.081
Cases predicted correctly (%)			74.5
Observations			7998

Note: * denotes statistical significance at the one per cent and ** at the five per cent level.

Appendix 2
Logistic analysis of poor household in urban China, 1995

Independent variable	Mean of poor	Mean of non-poor	Coefficients
Number of family members	3.73	3.11	-1.55*
Number of workers	1.84	2.22	1.64*
Financial assets	2636	12011	0.00016*
Average years of education of workers	8.47	10.18	0.15*
Age of household head:			
(1) ≤25			0.75
(2) 26-35			-0.88*
(3) 36-45			--
(4) 46-55			0.03
(5) 56-65			-0.28
(6) ≥66			-0.41
Ownership of work unit of household head:			
(1) State-owned			0.47**
(2) Collective			---
(3) Private & self-employed			-0.82
(4) Foreign & joint venture			-1.37
(5) Others			15.03
Occupation of household head:			
(1) Private owner, self-employed			0.53
(2) Professional, technician			1.31*
(3) Manager, head of firm			1.23*
(4) Office worker			0.33
(5) Skilled worker			0.85*
(6) Unskilled worker			---
(7) Other			-0.26
Working institution of HH. head:			
(1) Firm with lose			-0.70*
(2) Firm with profits			---
(3) Government & public sector			-0.11
(4) Other			-0.88**
Employment status:			
(1) Full-employed			---
(2) Part-time employed			-0.62**
(3) Unemployment			-1.64*
Beijing			2.21**
Shanxi			-0.92*
Liaoning			-0.02
Jiangsu			1.26**
Anhui			0.63
Henan			-1.06*
Hubei			0.96**
Guangdong			3.55*
Sichuan			0.16
Yunnan			0.62
Gansu			---
Constant			2.89*
Log-likelihood			-927
Mean of dependent variable (%)			2.97
Cases predicted correctly (%)			93.2
Observations			6937

Note * denotes statistical significance at the one per cent and ** at the five per cent level.

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