

Poverty Statistics in China

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ABSTRACT

This paper will focus on the introduction of official methodology and estimates of poverty statistics in rural China, since urban poverty indicator monitoring system has not been well established.

In the methodology part, the following issues will be addressed:

- Describe the indicators used to measure poverty, and why we use both income and consumption indicators to generate poverty line.
- Describe the method we use to generate poverty line. By comparing previous “food share method” and current method suggested by Martin Revillion , point out why we adopt present method.
- Explain why we set different poverty lines to reflect the steadily improving living standards of rural households in China.

In the estimates part, this paper will give some main results we get by using the methods described above. While data from rural household survey is used to generate poverty indicators, brief description of the survey will also be given.

1. Poverty Alleviation in Post-reform China

Poverty alleviation is one of the largest challenges in the developing process of China. After years of strenuous endeavor, China has achieved great success in anti-poverty struggle. Along with socio-economic changes and shifting of the anti-poverty policies and strategies, the poverty alleviation in post-reform China could be roughly divided into 4 phases:

1978-1985. During this period, economic and social transitions have played a dominant role in poverty alleviation. The reduction of poverty incidence was mainly due to general economic growth, in particular the institutional transitions around 1980 when the whole nation was dominated by planned economy with relatively equal income allocation. The population in poverty dropped from 250 million (poverty headcount rate = 30.7%) in 1978 to 125 million (14.8%) in 1985 with the continuous 7 years of rapid economic growth in rural areas.

1986-1993. With further economic reform, the gap between rural and urban income gradually widened. The overall rural economic growth had less and less impact on poverty reduction. Since 1986, the poverty reduction programs targeted to poor population and poor areas played a more prominent role in poverty alleviation. The Chinese government has been planning and organizing a lot of large-scale anti-poverty programs all over China. The infrastructure was largely improved in order to enhance both the capacity of poor areas and of poor rural households. At the same time, farmers contributed their own investment (self-accumulation) and self-development for solving their own subsistence problems and achieving some poverty alleviation and a better life. By the end of 1992 (1993 data is not available), after 7 years of development-oriented anti-poverty activities, the rural poverty population was reduced to 80 million and poverty headcount rate of 8.8%.

1994-2000. The launch of 8-7 Poverty Alleviation Plan (1994-2000) opened a new page in rural China's poverty reduction. The main point of 8-7 Plan is that the Chinese government will basically eliminate the absolute poverty in 7 years through the tax favorite policy, financial support and social-economic development program. 592 poorest counties, selected from more than 2000 counties of China, were designated as "national poor counties". It's estimated that more than 70% of the 80 million poor concentrated in the 592 counties with very bad natural environments and backward social-economic conditions in 1994. Anti-poverty approaches aiming at the poor population different from the regional development approach were gradually adopted. Livestock raising and cash crops planting was one of the focus. At the same time, labor migration was encouraged

to reduce poverty and to provide possibilities for farmers in the non-agricultural sector. Through years of efforts, the poor population dropped to 32.1 million, and the poverty headcount rate is 3.4% by the end of 2000.

2001-2010. In 2001, The Development Orientated Poverty Alleviation Program in Rural China (2001-2010) has been promoted and implemented, aiming to solve the subsistence problems of the remaining absolute poor, and to help the low-income group to improve their development capability. Firstly, poverty alleviation work is not only to solve the subsistence problem of the poor, but it should also assist vulnerable populations in guaranteeing their sustainable subsistence by increasing their income and improving their living and working conditions. Secondly, focusing on integrated and comprehensive development means to improve infrastructure, technology, education, public health care and cultural development so that the social and economic sectors of poor areas will develop in a harmonious and comprehensive way by enhancing community development and living standards. Thirdly, farmers' participation is emphasized again, as a participatory bottom-up mechanism has been applied in poverty alleviation planning and implementation. By the end of 2003, the absolute poverty population is 29 million (3.1%) and the population of low-income group (people living above poverty line but under low-income line) is 56.2 million (6.0%).

2. Current Poverty Monitoring System for Rural China

2.1 Evolution of Poverty Monitoring

Poverty monitoring in China has changed a lot in response to the shifting of anti-poverty policies. In 1986 the poverty headcount rate instead of the mean per capita net income was introduced to measure poverty. The poverty threshold was estimated using the internationally accepted method based on income and consumption data from the National Rural Household Survey (RHS) in 1995. A poverty monitoring sample survey covering 592 poor counties listed in national poverty reduction program has been carried out since 1997. This survey had a close look at these selected poor counties and together with the RHS, formed the basic data source for poverty monitoring.

Following the 2001-2010 poverty alleviation program, National Bureau of Statistics (NBS) reformed the national poverty monitoring program in 2001 in order to better reflect the multi-dimensionality of poverty and to evaluate the impact of poverty reduction activities more objectively. Questions related to household participation, fund allocation and performance of the projects in the villages were added to the questionnaire. NBS also

began to collect more information on rural education and health services, environment and credit through other government agencies. Now the published data include income and expenditure of households, poverty line and poverty headcount rate and gaps, food availability and nutrition condition, assets and living conditions, education and health, social disparity, rural infrastructure and basic social service in education and public health, market accessibility, social security and the coverage, targeting, impact and household participation in poverty reduction projects. The disseminated data also include the poverty distribution by province, education attainment, ethnic group and household structure.

2.2 Survey Ability

Rural Survey Organization (RSO) of NBS is responsible for poverty monitoring. There is one survey branch in each province. County survey teams directly under central government set up in 857 sampled counties all over country.

RSO has more than 8,000 staff. The results of most surveys can be disaggregated by province. RSO is also responsible for gathering data from other government agencies and evaluating the quality of these data.

2.3 Data Source

The three main sources of poverty statistics are the National Rural Household Survey, the National Rural Poverty Monitoring Survey and regional statistics through administrative reports.

2.3.1 National Rural Household Survey

This annual sample survey was first introduced in 1984. It follows the methodology of the UN Household Survey Capability Program. The survey collects data from community, household and individual levels. Community information include rural infrastructure and basic social services (accessibility to road, electricity, telephone, public transportation, primary school and clinic etc.) Household information include agricultural production, housing conditions, income, expenditure, consumption and ownership of durable goods and fixed assets. Information for individuals include basic education attainment, employment and seasonal labor migration. In collaboration with the Ministry of Health, every five years a nutrition module is added to the regular questionnaire to collect information on food consumption.

To select the sample, RSO uses a combination of multi-stage, stratified and systematic sampling. 68,000 households are selected from 7,100 villages in 857 counties

throughout the nation. The sample frame is constructed by sequencing per capita net income and using a supplementary population index. Furthermore, a rotation sampling scheme is used with a 5-year rotation cycle. The sample frame is updated annually using the latest census results according to the changes in household composition in the sample. The sampled households record their economic activities including sales, purchases, income and expenditures in cash and in kind in a diary. An assistant enumerator is employed to help those with little education keep the diary to eliminate bias in response pattern. The raw data are entered electronically in the form of accounting tables after they are checked by enumerators of the county survey team on a monthly basis. The county team reports the data to the national survey unit via the provincial survey unit.

Poverty headcount rate is published annually in the *Rural Poverty Monitoring Report* . Some data related to poverty such as the proportion of rural households by per capita annual net income are published annually in *China Statistical Yearbook, Rural Statistical Yearbook of China* and *Rural Household Survey Yearbook* annually. Data collected from the survey are used to estimate the national rural poverty line.

2.3.2 National Rural Poverty Monitoring Survey

In 1997, NBS established a poverty monitoring system in 592 poor and poverty-reduction priority counties. The survey shifted to the 592 key counties of the national poverty reduction program. The detailed results from the survey are disseminated to government agencies through special meetings periodically, and are published in the *Rural Poverty Monitoring Report annually* .

Survey methodology and data collected are similar to those of the RHS. However, modules on nutrition, health condition, children schooling, credit ability and training opportunity of households, detailed labor migration, household participation in poverty alleviation, and poverty reduction project activities carried in counties, villages as well as households are added to this particular survey.

In addition, there are several special poverty monitoring surveys, such as South-West Poverty Monitoring Survey (SWPMS), Qinba Mountain Area Poverty Monitoring Survey (QMAPMS) and Western Poverty Monitoring Survey (WPMS). Detailed data as well as analyses on poverty headcount rates, poverty gap, and poverty distribution by level of education, ethnic group, county town and household structure are disseminated through RSO's annual publication, *Poverty Monitoring Report* .

2.3.3 Regional Statistics through Administrative Reports

The regional statistics include the disaggregated data by county and township in population and natural resource, economic level and structure, condition of rural infrastructure, fiscal condition, environment. Most of the data are from administrative reports and some are from population census and agricultural census. The regional statistics are disseminated annually through the *China Statistical Yearbook* , *Statistical Yearbook of Rural China* , *Statistical Yearbook of Western China* , *China Statistical Yearbook by County* , *China Statistical Yearbook by Township* .

3. Poverty Criterion

3.1 Method of Setting Poverty Lines

NBS has principally been using “food share method” for constructing the poverty lines in 1990. It proceeds by first fixing the minimum food energy intake cut-off in calories, and then finding the “basic food bundle” and the relative consumption at which a person typically attains that food energy intake accordingly by using RHS data. Then the poverty line could be generated by dividing minimum food consumption by a “reasonable” share (60%) of consumption going to food. The poverty line was 206 RMB Yuan for 1985 and 300 RMB Yuan for 1990. CPI was used up to update the poverty lines for subsequent years.

Although the food poverty line could be obtained objectively using this method, the main disadvantage is that the non-food component can't be measured precisely since it's hard to determine to what degree the share of consumption going to food is “reasonable”. An improved method of food share, formed by Martin Revillion¹, the World Bank, was adopted by NBS to determine poverty line since 1995.

The steps are as following:

- (1) Select 2100 k-calories per person per day as the minimum nutrition need;
- (2) Determine the essential food expenditure per capita per day based on the actual food consumption bundle and food price of the low income group (the food poverty line);
- (3) Estimate the essential non-food expenditure through the regression model (the non-food poverty line);
- (4) Derive the poverty line by adding the food and non-food poverty lines.

¹ Poverty Comparisons. Martin Revillion. 1994. Harwood academic publishers.

According to this method, the threshold of absolute poverty is 637 Yuan (roughly about 75 cents a day under PPP exchange rate) in 2003. This is the low poverty line in the World Bank method.

To reflect the steadily improving living standards of rural households, RSO set another poverty line in 2000 based on the same food poverty line and 60% food share. This line is now officially called the “lower income line”. In 2003, the line is 882 Yuan per capita (roughly about 1 dollar a day under PPP exchange rate).

3.2 Income or Consumption?

The simplest method to determine if a household is poor is to compare its per capita net income or consumption with poverty line. In practice, when we estimate poverty of rural China, both of the income poverty and consumption poverty are estimated and compared. It's unsurprised to find that the consumption poverty is more stable than income poverty, while the latter is much more sensitive to transitional elements that may affect the income level.

But, if we adopt merely income poverty in China, there are two possible risks because of the large income fluctuation:

- (1) Risk to include households with transitory low income into poor, while they may maintain a normal living condition by using saving when income's below the poverty line in a year.
- (2) Risk to exclude households with income slightly above the poverty line occurrently, while their consumption is well below the poverty line.

There are also other two reasons for us not to only use consumption indicator:

- (1) Consumption is lagged behind income, therefore, it's not a perfect indicator to timely present the accomplishment of anti-poverty activities. Also, it can't reflect the impact of temporary shocks (such as natural disasters) in time, thus can not give rapid information to help those vulnerable households from dropping into poverty.
- (2) In addition, only taking account of consumption poverty certainly will include households whose consumption is below the poverty line but income is largely above the line in one year or in long term. Obviously, what those households need is to change their consumption behavior rather than searching for direct economic assistance.

In this connection, the poverty is measured by both income and consumption. The poor are:

- (1) People with per capita net income below the poverty line and per capita consumption below 1.2 times poverty line. Or,
- (2) People with per capita consumption below the poverty line and per capita net income below 1.2 times poverty line.

4. Main Results and Findings

4.1 Poverty Population and the Regional Distribution

Undoubtedly, China has achieved great success in anti-poverty process since 1978. The poverty population and poverty headcount rate dropped steadily (Table 1), while the annual decrease of poverty population slowed down gradually in recent years. During 1978 to 1990, the annual decrease of poverty population was 10 million, and during 1990 to 2000, 5 million. The poverty population dropped 2.82 million in 2001, 1.07 in 2002. In the year 2003, the poverty population increased 80 thousand mainly due to natural disasters.

The disparity between different regions/provinces is huge. 58.6% of the poor lived in the 12 western regions, 60.8% in 592 national poor counties, 47.7% in main grain production provinces, and 48.8% in mountainous area. Among the 31 provinces, 8 had the poverty headcount rate less than 1%, 13 provinces between 1-5%, 7 provinces between 5-10%, 3 provinces above 10%. The highest rate is 15.6% in one western province.

If we use a higher poverty line, the low-income line, 9 provinces had low-income headcount rate less than 5%, 13 between 5-15%, 9 above 15%. The highest figure is 33.5%, in the same western province.

Table 1 Poverty Line and Poverty Headcount Rate, 1978-2003

Year	Poverty line (Yuan/person)	Population of rural poor (million)	Headcount rate (%)
1978	100	250	30.7
1984	200	128	15.1
1985	206	125	14.8
1986	213	131	15.5
1987	227	122	14.3
1988	236	96	11.1
1989	259	102	11.6
1990	300	85	9.4
1992	317	80	8.8
1994	450	70	7.7
1995	530	65.4	7.1
1997	640	49.6	5.4
1998	635	42.1	4.6
1999	625	34.1	3.7
2000	625	32.1	3.4
2001	630 872 ²	29.2 90.3	3.2 9.7
2002	627 869	28.2 86.5	3.0 9.2
2003	637 882	29.0 85.2	3.1 9.1

4.2 Multi-dimensional Poverty in Rural China

Poverty is well beyond income and consumption aspects. A multi-dimensional understanding in poverty monitoring has been gradually adopted.

Not only the income and consumption level of rural households largely increased after 1978, the significant improvement could also be seen in the improvement of community facilities and people's education attainment.

1. Community facilities. Nationally, the proportion of villages accessible to road increased from 74% to 96.8% in 2002. The proportion of villages accessible to telephone increased from 43% to 92.2%. The proportion of villages accessible to electricity increased from 86% to 93.7%. It goes without saying that there are gaps between the poor and the non-poor, but the larger difference lies in the household level facilities. It seems that the poor households can't fully share the benefits of community development.

² Based on "low-income line".

2. Education attainment. In 1990, 20.7% of adults were illiterate or semi-illiterate. The proportion dropped to 10.7% in 2002. 7-15 children enrolment rate increase from 82.9% to 94.5%. Partly due to the improvement of education attainment of labors, nowadays the rural labors are able to work far away from home. The labor migration rate thus increased from 1.4% in 1990 to remarkable 18.5% in 2002.

Other improvements, such as empowerment (village election, opening of village affairs), more accessible to market, and more development opportunities for rural households, could also be cheerfully expected in recent years.

However, significant disparities between the poor and the non-poor still exist. Sometimes, the poor could not proportionally enjoy the benefits brought about by economic growth, leading to a considerable increase in income inequality and also social-oriented inequality in rural China. Those issues have draw more and more attentions from governments.

Table 2 Community Facilities and Education Attainment, 1990 and 2002

Items	1990	2002
% of villages accessible to road	74%	96.8%
% of villages accessible to telephone	43%	92.2%
% of households accessible to electricity	86%	93.7%
Adults illiteracy rate	20.7%	10.7%
7-15 children enrolment rate	82.9%	94.5%
Labor migration rate	1.4%	18.5%

4.3 Poverty Dynamics in Rural China

Poverty is a dynamic phenomenon with households moving in and out of poverty all the time, especially the case in rural China. Between 2002 and 2003, more than half of the households dropped into or jumped out of poverty. Also, there is a high level of transitory poverty with a large proportion of households experiencing only one year of poverty during 2000-2003. Further researches on this topic are to be carried out.

5. Recent progress

5.1 Poverty mapping exercise

In order to be able to disaggregate national poverty data to make statements on smaller

areas, NBS, supported by World Bank, is making use of data from the agricultural census and population census together with data from the household sample survey to estimate the poverty head-count rate on township level during 2002-2003. This exercise has been carried out for Yunnan Province, one of the provinces with a very complicated poverty situation. The results from the Yunnan exercise show that the poverty mapping method could provide reliable information to assist the allocation of poverty reduction project and to evaluate their impact.

5.2 Comparing poverty lines between rural and urban China

As a big country with uneven development progress, it is very necessary for China to have poverty lines by region and separately for rural and urban area. Recently, NBS carried out research on comparing poverty lines between rural and urban China, supported by the Country Statistics Capacity Building Program of World Bank. Comparable poverty lines (food poverty line, low poverty line and upper poverty line) are measured separately for rural and urban areas and by region. The results could provide important information for the proposal of lower income security system of China, which will cover rural areas.

5.3 Special surveys related to the multi-dimensionality of poverty

A series of special surveys and investigations on the accessibility of rural education and health service, credit market, and the satisfaction of rural residents of government agency were/will be carried out. Those surveys shed some light on the multi-dimensionality of poverty in rural China.