# Employment Generation, Unemployment Impact and Variation of Urban Poverty in China

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## Abstract

This paper examines the size and trend of Urban Poverty in China since 1995, especially the relationship between unemployment & coming off sentry and the variation of the Urban Poverty Originating Rate. While it is clear that China's Urban Poverty phenomenon pops out since the middle of 1990s, and gets highly related to the background of national enterprises' restructure and reform, turning this consensus into effective empirical analysis will require considerable technical efforts. There are so many factors which may impact differently upon the variation of Urban Poverty, and the government's compensation also plays an important role. All the above constitutes the core and also the challenge of my research work.

The paper will be in three parts. The first reviews the background of the incidence of Urban Poverty in China since 1990s, and considers various factors whose impacts may be concerned. The second conducts empirical tests using 2002 panel data of Urban Household Income, we separately calculate the Poverty Originating Rate and Poverty Intensity index of sample cities, and use the probit model to analyze the relationship between the probability of individual's poverty and its family member's unemployment & coming off sentry. The third examines and assesses the impact of Government Policies (such as by way of compensation). The paper concludes with some suggestions about China's Urban Poverty alleviation policy proper to employment generation.

# Employment Generation, Unemployment Impact and Variation of Urban Poverty in China[1]

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## 1. Background and introduction

In the ending years of the 20th century there is a growing sense that the low-income and poverty generation, which was once thought of as the rural phenomenon, is shifting toward the urban area and has become a new dominant social problem in China. For all the enthusiasm about China's remarkable economic success in the past 20 years—the notable growth rate, its GDP's volume and so on, one must recognize that the country is also home to considerable low–income and poverty generation. It's estimated that there are about 22.46 million unemployment & coming off sentry in 2003(Ministry of Civil Affairs of PRC, 2003). Considering the remaining unemployment & coming off sentry of the former years, the real figure is far more than the government's statistics.

Of course, the newly-born phenomenon of Urban Poverty has its profound domestic social、economic、institutional causes and also international influence. With the further reform and opening of China's economy from the middle of 1990s, China's total social security system including employment、income、housing、transportation、education、pension and so on faces disintegration, while the new proper social security system especially the flexible labor market hasn't been shaped up. So the contradiction arises out of the transfer from the old system to the new system and the income gap connected with the market economy give rise to the quick increase of the urban low income and poverty generation.

It's not difficult to find that unemployment & coming off sentry is an important reason for the generation of Urban Poverty, but it's not all. Another important reason is that the government and the firms haven't compensated enough, it's found a lot of people coming off sentry didn't get their living expense from the local government and the firms (National Labor Science institute, 2000 ).

Compared with a lot of literature focusing on rural poverty, the research on urban poverty, especially on the relationship between urban unemployment and the poverty originating rate since 1990s is still limited. This paper will do some deep

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research into such an aspect. Using the recent data, we get the estimation of the urban poverty originating rate and some poverty intensity index. We also use probit model to find the relationship between the probability of the individual's poverty and his family member's unemployment. Some meaningful suggestions have been drawn from our research results.

## 2. Trend of China's Urban Poverty and its relationship with Unemployment

### (1) Data Description

We use the data from the third sample survey of Urban Household Income (2002[2]), which follows 1995, 1999. All three surveys are held by the State Statistics Bureau and the Economic Research Institute of the Chinese Academy of Social Sciences. The survey uses random sample, taking into account regional representation, size of the cities and industrial distribution and so on. The details are in Table 1a, b.

**Table 1a, Sample survey and Data description in 1995,1999,2002**

| | 1995 (year) | | 1999(year) | | 2002(year) | |
|---|---|---|---|---|---|---|
| **province** | **household** | **individual** | **household** | **individual** | **household** | **individual** |
| Beijing | 500 | 1528 | 840 | 2464 | 498 | 1457 |
| Liaoning | … | 400 | 1098 | 2757 | 700 | 2110 |
| Jiangsu | 300 | 896 | 938 | 1663 | 748 | 2166 |
| Henan | 300 | 949 | 1059 | 3082 | 698 | 2085 |
| Sichuan | 298 | 874 | 1169 | 3349 | 891 | 1707 |
| Gansu | 300 | 961 | 848 | 2589 | 400 | 1197 |
| Sample of six | 2098 | 2453 | 5952 | 15904 | 3445 | 10722 |
| Total | 6868 | 21533 | 5952 | 15904 | 6976 | 20634 |

**source:** sample survey data of 1995,1999 are cited from the paper China Urban Unemployment, Poverty and Income Distribution Gap, written by Xue Jinjun, Weizhong. For the 2002 data, here We select 6provinces just to make a simple comparison.

**Table 1b, Comparison of poverty in three sample surveys**

| **Province/municipality** | **Urban Poverty Originating Rate** | | | | |
|---|---|---|---|---|---|
| | **1995** | **1999** | **2002** | **Rate of** | **Rate of** |

[2] The 2002 sample survey was conducted in the spring of 2003, covering 12 provinces, municipalities and 70 cities. Data includes 6,976 urban households and 20,634 individual samples.

| | | | | variation (1995 - 1999) | variation (1999 - 2002) |
|---|---|---|---|---|---|
| Beijing | 0.11 | 0.16 | 0.14 | 45.5 | -12.5 |
| Liaoning | 4.11 | 5.23 | 3.46 | 27.3 | -33.8 |
| Jiangsu | 0.25 | 0.59 | 1.91 | 136.0 | 223.7 |
| Henan | 7.50 | 9.11 | 3.67 | 21.5 | -59.7 |
| Sichuan | 2.80 | 7.26 | 6.89 | 159.3 | -5.1 |
| Gansu | 15.10 | 6.71 | 2.18 | -55.5 | -67.5 |
| Sample of six | 4.98 | 6.71 | 3.14 | 34.8 | -53.2 |

**source:** data of 1995 is cited from Zhao renwei、Lishi、Li shiqin（1999，p 416），data of 1999 is cited from Xue Jinjun, Weizhong（2003）。For the 2002 data, here We select 6 provinces just to make a simple comparison.

The average urban poverty rate of the six provinces in survey rises from 4.98% in 1995 to 6.71% in 1999, then falls to 3.14% in 2002, showing an increase of 34.8% in the first period, then a decrease of 53.2% in the second period. As to the provinces, Sichuan, Liaoning and Henan are relatively more serious, especially Sichuan, its poverty rate rises from 2.80%(1995) to 7.26%(1999) and 6.89%(2002).on the other hand, the incidence of poverty in Gansu and Henan is reduced rather significantly, compared to 1999, the two provinces' poverty rates of 2002 dropped by 67.5% and 59.7% respectively. Generally speaking, over the last 10 years(1995-2005), the Urban Poverty Rate in China shows an "inverted-U-shaped" trend. Before 1999, it shows a rising curve shape; after 1999, it shows a downing curve shape.

### (2) Explanation of China's Urban Poverty variation

### a. Poverty Line

**Table 2 Poverty Line of Sample Cities in 1999 and 2002**

| province | Poverty Line Of 1999 (yuan) | Poverty Line Of 2002 (yuan) |
|---|---|---|
| Beijing | 3830 | 3118 |
| Shanxi | —— | 1616 |
| Liaoning | 2296 | 2203 |
| Jiangsu | 2709 | 2228 |
| Anhui | —— | 2138 |
| Henan | 1913 | 1904 |

| | | |
|---|---|---|
| Hubei | —— | 2283 |
| Guangdong | —— | 3061 |
| Sichuan | 2328 | 2004 |
| Chongqing | —— | 2214 |
| Yunnan | —— | 2359 |
| Gansu | 2006 | 1819 |
| The whole country | —— | 2310 |

Note: The poverty line is the yardstick to divide families and individuals in poverty. Here we use " the lowest social security " as the evaluation criterion. " The lowest social security "means the lowest living expense per person which is needed to maintain the survival needs of the workers and the people supported by them. It is generally expressed by a certain amount of money. The index is mainly formulated by the Ministry of Civil Affairs of PRC. The general poverty is usually obtained by calculating the food and non-food expenditures synthetically.

**source:** The poverty line of 1999 is cited from “the worsening and the reasons of China urban poverty at the end of 1990s " by Lishi,2003; The poverty line of 2002 is cited from “the Chinese Economy Times" by The State Council's Development and Research Center, 2002.10.26

People’s living expense differs in different scale cities, so the city poverty line should be different from the province poverty line. Lacking of data, here we have to adjust the city poverty line subjectively. The basic principle is that, based on the province poverty line, the poverty line of capital city rises by 5%, other cities poverty line declines by 5%[3]. Table 3 lists the adjusted poverty line of sample cities. For analyzing convenience, we just choose some representative cities from the following province capitals. Our calculation shows, whether judging from their absolute value or the comparative percentage, the poverty lines are definitely different in various provinces. In the investigated 70 cities, Beijing’s maintenance is the highest, 36% higher than Zhengzhou’s and 42% higher than Kaifeng’s. However, the calculation of figures in 1999 suggests the maintenance in Beijing is 90% and 110% higher than that in Zhengzhou and Kaifeng respectively. The main reason for the changes may be related to the sharp descent of poverty line standard in Beijing(in 1999,the poverty line standard in Beijing is 3830 yuan, while it is 3118 yuan in 2002,droping nearly 18.6%). As far as the percentage of poverty line accounting for income per head (table 3), the poverty line is between 23% and 34% in all cities. But from the calculation of figures in 1999, the incidence of poverty is between 34% and 47% in above cities. The significant reason for this change is that the monetary income per head in primary cities all rise in different extent from 1999 to 2002. In addition, compared to 1999, the descending trend of poverty line standard in primary cities in2002 may have some

[3] Some cities are the exceptions. We mainly consider their obvious development characteristics. For instance Pingdingshan comparing with the capital city Zhengzhou, its average income is higher. The similar situation also happens between Shenyang and Dalian, Wuxi and Nanjing and so on.

relations to the deflation factor of price level in this period. So poverty line standard for poor population is also reduced. Poverty line and income level is negatively correlated. As a result, with the development of city economy, the ceaseless appearance of affluent cities result in the descending trend of poverty line which is measured by the percentage of income per head. If we consider the change of poverty line level itself, this trend will be more obvious.

**Table 3 The Adjusted City Poverty Line in 2002**

| Province/municipality | **Poverty line** | **Income per head** | **Poverty line as measured by the percentage of income per head** |
|---|---|---|---|
| Beijing | 3118 | 13620 | 23 |
| Shanxi | 1616 | 6481 | 25 |
| Taiyuan Capital | 1697 | 7236 | 23 |
| Datong city | 1535 | 6659 | 23 |
| Liaoning | 2203 | 7713 | 29 |
| Shenyang capital | 2313 | 7784 | 30 |
| Jinzhou city | 2093 | 7568 | 28 |
| Jiangsu | 2228 | 8686 | 26 |
| Nanjing capital | 2339 | 9776 | 24 |
| Xuzhou city | 2117 | 8506 | 25 |
| Anhui | 2138 | 6612 | 32 |
| Hefei capital | 2245 | 7795 | 29 |
| Huainan city | 2031 | 6047 | 34 |
| Henan | 1904 | 5953 | 32 |
| Zhengzhou capital | 1999 | 6653 | 30 |
| Kaifeng city | 1809 | 5490 | 33 |
| Pingdingshan city | 1999 | 6847 | 29 |
| Hubei | 2283 | 6821 | 33 |
| Wuhan capital | 2397 | 7648 | 31 |
| Xiangfan city | 2169 | 6385 | 34 |
| Yichang | 2169 | 7150 | 30 |
| Guangdong | 3061 | 11845 | 26 |
| Guangzhou capital | 3214 | 14266 | 23 |
| Foshan city | 3214 | 14156 | 23 |
| Huizhou city | 2908 | 11278 | 26 |
| Sichuan | 2004 | 6590 | 30 |
| Chengdu capital | 2104 | 7920 | 27 |
| Luzhou city | 1904 | 7295 | 26 |
| Nanchong city | 1904 | 5773 | 33 |
| Chongqing | 2214 | 8435 | 26 |
| Yunnan | 2359 | 7533 | 31 |
| Kunming capital | 2477 | 7783 | 32 |
| Gejiu | 2241 | 6684 | 34 |

| | | | |
|---|---|---|---|
| Gansu | 1819 | 6381 | 29 |
| Lanzhou capital | 1910 | 6697 | 29 |
| Pingliang city | 1728 | 5673 | 30 |
| Wuwei city | 1728 | 6451 | 27 |
| **The whole country** | 2310 | —— | —— |

Note: The adjusted city poverty line is figured from the poverty line of each province listed in table 2. The poverty line of province capital is received from multiplying the figure in table 2 by 1.05. Other cities' data is multiplied by 0.95 except those with * mark.

## b. Poverty Originating Rate(POR) and Poverty Structure

Besides poverty line, poverty gap(PG) and weighted poverty gap(WPG) index are used to measure the general poverty status. We make some corresponding calculation by use of the Foster et al.1984, and the results are listed in table4.

**Table 4 Urban Poverty Originating Rate 2002**

| **Province/municipality** | **Unweighted sample originating rate（%）** | **weighted sample originating rate（%）** |
|---|---|---|
| Beijing | 0.14 | 0.14 |
| Shanxi | 3.11 | 2.02 |
| Taiyuan Capital | 2.06 | |
| Datong city | 1.92 | |
| Liaoning | 3.46 | 1.81 |
| Shenyang capital | 1.69 | |
| Jinzhou city | 2.12 | |
| Jiangsu | 1.91 | 1.24 |
| Nanjing capital | 0.00 | |
| Xuzhou city | 3.14 | |
| Anhui | 2.46 | 1.36 |
| Hefei capital | 0.00 | |
| Huainan city | 2.69 | |
| Henan | 3.67 | 3.26 |
| Zhengzhou capital | 3.09 | |

| | | |
|---|---|---|
| Kaifeng city | 4.59 | |
| Pingdingshan city | 2.33 | |
| Hubei | 3.70 | 2.52 |
| Wuhan capital | 2.40 | |
| Xiangfan city | 2.33 | |
| Yichang | 3.07 | |
| Guangdong | 3.47 | 1.74 |
| Guangzhou capital | 1.97 | |
| Foshan city | 0.00 | |
| Huizhou city | 2.55 | |
| Sichuan | 6.89 | 6.81 |
| Chengdu capital | 5.83 | |
| Luzhou city | 5.02 | |
| Nanchong city | 10.82 | |
| Chongqing | 0.00 | |
| Yunnan | 2.45 | 2.17 |
| Kunming capital | 1.02 | |
| Gejiu | 3.47 | |
| Gansu | 2.18 | 2.18 |
| Lanzhou capital | 1.51 | |
| Pingliang city | 4.73 | |
| Wuwei city | 1.00 | |
| **The whole country** | 3.84 | 3.42 |

Note: weighted samples gained by weighting main cities in a province listed.

It shows whether the samples are weighted, urban general poverty rate fluctuates between 3% to 4%. We draw a conclusion that the population of urban poverty in

2002[4] is 15,060,000 to 20,080,000. It should be noted that this data excluded rural immigrants whose poverty originating rate is possibly higher. But compared to 1999, poverty originating rate reduced 2%( It was estimated urban poverty population in 1999 was about 19,500,000 to 23,300,000.). It also indicates differences between different provinces and cities. The poverty originating rates of Beijing and Jiangsu are lower than those of others. while the indexes of Sichuan and Henan are higher, reaching 6.89% and 3.67% , the poverty originating rate of Sichuan is 44.3% higher than national average level. In 37 cities listed, the poverty originating rates of Nanchong in Sichuan and Kaifeng in Henan are especilly high, which are 2.1 times and 1.2 times higher than national average level.

We list poverty gap and weighted poverty gap index of sampling cities in table5.

**Table5 Index of Sample Cities**

| | | Absolute value | | Percentage accounting for sample average | | |
|---|---|---|---|---|---|---|
| **Province /city** | **POR (%)** | **PG (*100)** | **WPG (*100)** | **POR (%)** | **PG (*100)** | **WPG (*100)** |
| Beijing | 0.14 | 0.01 | 0.000 | 4 | 3 | 0 |
| Shanxi | | | | | | |
| Taiyuan | 2.06 | 0.52 | 0.000 | 54 | 131 | 0 |
| Datong | 1.92 | 0.54 | 0.102 | 50 | 134 | 2538 |
| Liaoning | | | | | | |
| Shenyang | 1.69 | 0.29 | 0.001 | 44 | 74 | 13 |
| Jinzhou | 2.12 | 0.46 | 0.022 | 55 | 115 | 555 |
| Jiangsu | | | | | | |
| Nanjing | 0.00 | 0.00 | 0.000 | 0 | 0 | 0 |
| Xuzhou | 3.14 | 0.33 | 0.003 | 82 | 83 | 83 |
| Anhui | | | | | | |
| Hefei | 0.00 | 0.00 | 0.000 | 0 | 0 | 0 |
| Huainan | 2.69 | 0.00 | 0.000 | 70 | 1 | 0 |
| Henna | | | | | | |
| **Zhengzhou** | 3.09 | 0.46 | 0.036 | 81 | 114 | 908 |
| **Kaifeng** | 4.59 | 0.80 | 0.100 | 120 | 200 | 2510 |
| Pingdingshan* | 2.33 | 0.35 | 0.004 | 61 | 88 | 90 |
| Hubei | | | | | | |
| Wuhan | 2.40 | 0.89 | 0.007 | 62 | 222 | 168 |
| Xiangfan | 2.33 | 0.30 | 0.001 | 61 | 74 | 28 |

[4] Based on the urban population of 50212, cited from National Economy and Social Development Statistics Report(1992-2003), National Bureau of Statistics, www.stats.gov.cn

| | | | | | | |
|---|---|---|---|---|---|---|
| Yichang | 3.07 | 0.26 | 0.016 | 80 | 65 | 388 |
| Guangdong | | | | | | |
| Guangzhou | 1.97 | 0.32 | 0.000 | 51 | 81 | 3 |
| Foshan* | 0.00 | 0.00 | 0.000 | 0 | 0 | 0 |
| Huizhou | 2.55 | 0.70 | 0.052 | 66 | 175 | 1300 |
| Sichuan | | | | | | |
| Chengdu | 5.83 | 2.17 | 0.008 | 152 | 542 | 195 |
| Luzhou | 5.02 | 0.99 | 0.006 | 131 | 246 | 153 |
| **Nanchong** | 10.82 | 2.67 | 0.021 | 282 | 667 | 518 |
| Chongqing | 0.00 | 0.00 | 0.000 | 0 | 0 | 0 |
| Yunnan | | | | | | |
| Kunming | 1.02 | 0.24 | 0.020 | 27 | 60 | 490 |
| Gejiu | 3.47 | 0.77 | 0.023 | 90 | 193 | 573 |
| Gansu | | | | | | |
| Lanzhou | 1.51 | 0.10 | 0.000 | 39 | 24 | 0 |
| Pingliang | 4.73 | 1.35 | 0.117 | 123 | 336 | 2933 |
| Wuwei | 1.00 | 0.16 | 0.009 | 26 | 40 | 220 |
| **Sample average** | 3.84 | 0.40 | 0.004 | 100 | 100 | 100 |

**Data resource**: Investigation data in 2002.

Poverty gap index measures the gap between income of poverty population and poverty line, while weighted poverty gap measures the situation of unbalance of their income. Generally speaking, if the income of poverty population is much lower than poverty line, it seems that the gap between poverty population and poverty line enlarges which may cause the increase of poverty gap and weighted poverty gap. But there are exceptions meanwhile, for example, if the poverty originating rate is high, but the average income of poverty population is quite higher, and is much close to the poverty line, the poverty gap and weighted poverty gap may not be pretty high. From this data analysis, if average level is 100%, poverty originating rate of Kaifeng in Henan reaches 120%, its poverty gap reaches 200%, and the weighted poverty gap jumps to 2510%. It means the income of a large quantity of Kaifeng poverty population is more lower than poverty line. The same interpretation works on Zhengzhou of Henan, Nanchong of Sichuan and Huizhou of Guangdong, etc. it's also interesting that, if counted on average level, there is less differences between the poverty originating rate between Shenyang and Jinzhou in Liaoning province, but the poverty gap and weighed poverty gap of Jinzhou are higher than that of Shenyang, which reflects that local government's assistance to poverty population differs even in the same province. an extrusive phenomenon is that on average level, weighed poverty gap of many cities climbs up and the differences are enlarged. Considering the descending trend of general poverty rate, the weighed poverty gap enlarged

represents great unbalance changes may take place in the poverty structure. which may have much relationship with the power of government compensation.

**(3) Gender, Age , Health and poverty variation**

We further examine differences in the incidence of poverty caused by the different age groups , especially focus on the linkage between different gender and poverty rates. We divide samples into 14 age groups, and calculate their originating rates, These results are in table 6.

**Table 6: POR of different gender and age groups**

| Age group | Absolute value | | | Percentage accounting for sample average | | |
|---|---|---|---|---|---|---|
| | Total sample | Male | Female | Total sample | Male | Female |
| Below 7 | 3.46 | 1.50 | 1.76 | 100 | 43 | 51 |
| 7 - 15 | 3.53 | 3.87 | 3.16 | 100 | 110 | 89 |
| 16 - 20 | 4.99 | 5.27 | 4.67 | 100 | 106 | 94 |
| 21 - 25 | 1.74 | 2 | 1.50 | 100 | 115 | 86 |
| 26 - 30 | 3.12 | 2.67 | 3.51 | 100 | 86 | 112 |
| 31 - 35 | 3.67 | 3.42 | 3.90 | 100 | 93 | 106 |
| 36 - 40 | 4.23 | 3.63 | 4.77 | 100 | 86 | 113 |
| 41 - 45 | 4.31 | 4.88 | 3.80 | 100 | 113 | 88 |
| 46 - 50 | 3.19 | 2.80 | 3.60 | 100 | 88 | 113 |
| 51 - 55 | 2.21 | 2.14 | 2.29 | 100 | 97 | 103 |
| 56 - 60 | 1.50 | 1.73 | 1.22 | 100 | 116 | 82 |
| 61 - 65 | 1.76 | 1.18 | 2.35 | 100 | 67 | 133 |
| 66 - 70 | 1.63 | 1.93 | 1.33 | 100 | 118 | 81 |
| Above 70 | 4.24 | 2.76 | 5.78 | 100 | 65 | 136 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Total sample | 3.29 | 3.16 | 3.42 | 100 | 96 | 104 |

**Data sourse:** investigation data in 2002.

It can be seen from the table that the difference in poverty rate by gender is not large. Generally speaking, women's poverty rate is only 0.26 percent higher than men's. However, by age group, young people in the cities are more likely to getting into poverty than older persons. we also find the poverty rates of 21-25 years and 56-60 years are relatively less. assuming these are two generations in the same family, they get fully employed, their maintenance rates would be less. **This indicates a closer relationship between urban poverty and unemployment.** Figures show that the poverty rate of the retirement age group (55 years old) is not high. but a higher incidence of poverty for the age group over 70 years. The reason is that in this age group, women get a higher incidence of poverty.

To reveal the relationship between employment and poverty rate, we have calculated the incidence of poverty within different groups by employment status. All the samples are grouped into 14 according to their employment status in 2002, Each group is then divided into healthy and unhealthy group according to individual health status, and calculate the corresponding incidence of poverty. Concrete results are in table 7.

**Table 7 health, employment and the incidence of poverty**

| employment status | ORP | | | Percentage as accounts for average | | |
|---|---|---|---|---|---|---|
| | Total sample | Healthy | Unhealthy | Total sample | Healthy | Unhealthy |
| employed | 2.35 | 3.84 | 12.61 | 100 | 164 | 538 |
| Retired for leaving | 4.76 | 2.86 | 14.29 | 100 | 60 | 300 |
| retired | 1.45 | 1.97 | 1.39 | 100 | 135 | 96 |
| disabled | 6.56 | 0 | 9.76 | 100 | 0 | 149 |
| *Coming off sentry* | 7.45 | 5.88 | 8.02 | 100 | 79 | 108 |
| *Leaving off sentry (or on long leave)* | 8.40 | 9.80 | 0 | 100 | 117 | 0 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Retired ahead of time | 6.35 | 7.55 | 0 | 100 | 119 | 0 |
| Inner retired | 3.71 | 3.58 | 4.76 | 100 | 96 | 128 |
| unemployed people | 12.06 | 11.61 | 16.33 | 100 | 96 | 135 |
| waiting for job | 9.79 | 10.07 | 0 | 100 | 103 | 0 |
| Domestic worker | 12.61 | 12.62 | 12.5 | 100 | 100 | 99 |
| student | 3.84 | 3.82 | 7.14 | 100 | 99 | 186 |
| People Waiting for allocation or matriculation | 4 | 4.17 | 0 | 100 | 104 | 0 |
| Other non-employed | 3.93 | 4.19 | 0 | 100 | 107 | 0 |

**Data source:** Investigation data in 2002.

Here are three samples of the highest poverty rates, they are **domestic workers, unemployed and people waiting for job**, the poverty rates are 12.61%,12.06% and 9.79% respectively. The groups of ***leaving off sentry and coming off sentry*** also have a higher incidence of poverty. In addition, the unhealthy people are more likely to get into poverty than the healthy people. If someone is sick, whether he is unemployed or employed, retired or at domestic work, His possibility of getting into poverty is 3-4 times higher than that of the general population.

### （4）The Relationship between Unemployment and Poverty

We attempt in this part to analyze the major factors influencing poverty, in particular to the influence of unemployment, and probe into the reasons why those families and individuals get more easier to fall into poverty. Generally speaking, there are many factors, such as unemployment, disease and even the region distribution, which may get closely connected with the incidence of poverty. In the following analysis, we examine the relationship between unemployment and poverty using probit model, our results seem to support Lishi's viewpoint about the critical cause and effect relationship between Unemployment and Poverty (2003).The details are in table 8

**Table 8 the analysis of Probit Model and the forecast of Probability—Get individual Characteristic as Variable**

| | Variable | Mean | Coefficient | standard deviation | probability | *100 |
|---|---|---|---|---|---|---|
| Male | sex1 | 0.4965 | -0.0512 | 0 | 0.0019 | 0.19 |
| Remale | sex2 | 0.5035 | -0.0504 | 0 | 0.0015 | 0.15 |
| age-7 | age1 | 0.0362 | -0.4083 | 0.0001 | 0.0307 | 3.07 |
| Age7-15 | age2 | 0.1054 | -0.6514 | 0.0002 | 0.0345 | *3.45* |
| Age16 - 20 | age3 | 0.0692 | -0.2781 | 0.0001 | 0.0462 | *4.62* |
| Age 21 - 25 | age4 | 0.0557 | -0.1495 | 0 | 0.0206 | *2.06* |
| Age 26 - 30 | age5 | 0.0507 | -0.526 | 0.0001 | 0.0319 | *3.19* |
| Age 31 - 35 | age6 | 0.0833 | -0.3902 | 0.0001 | 0.0331 | *3.31* |
| Age 36 - 40 | age7 | 0.1135 | -0.4294 | 0.0001 | 0.0371 | *3.71* |
| Age 41 - 45 | age8 | 0.1047 | -0.5956 | 0.0001 | 0.0344 | *3.44* |
| Age 46 - 50 | age9 | 0.1324 | -0.1845 | 0.0001 | 0.0275 | 2.75 |
| Age 51 - 55 | age10 | 0.0913 | -0.1812 | 0 | 0.0195 | 1.95 |
| Age 56 - 60 | age11 | 0.0509 | -0.1685 | 0 | 0.0192 | 1.92 |
| Age 61 - 65 | age12 | 0.0415 | -0.4043 | 0.0001 | 0.0236 | 2.36 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Age 66 - 70 | age13 | 0.0308 | -0.1136 | 0 | 0.0153 | 1.53 |
| age〉=70 | age14 | 0.0345 | -0.1992 | 0 | 0.0371 | 3.71 |
| employed | emp1 | 0.5029 | -1.9514 | 0.0017 | 0.0214 | 2.14 |
| Retired for leaving | emp2 | 0.0078 | -0.0826 | 0 | 0.026 | 2.6 |
| Retired | emp3 | 0.1542 | -0.3926 | 0.0001 | 0.0149 | 1.49 |
| disabled | emp4 | 0.004 | -0.0476 | 0 | 0.0672 | 6.72 |
| Coming off sentry | emp5 | 0.0172 | -0.2104 | 0 | 0.0664 | 6.64 |
| Leaving off sentry (or on long leave) | emp6 | 0.0062 | -0.0699 | 0 | 0.0761 | 7.61 |
| Retired ahead of time | emp7 | 0.0032 | -0.0268 | 0 | 0.0421 | 4.21 |
| Inner retired | emp8 | 0.0154 | -0.072 | 0 | 0.0263 | 2.63 |
| **unemployed** | emp9 | 0.18 | -0.0959 | 0 | 0.1016 | 10.16 |
| **People waiting for job** | emp10 | 0.0043 | -0.1925 | 0 | 0.1048 | 10.48 |
| **Domestic worker** | emp11 | 0.0229 | -2.8266 | 0.0002 | 0.1164 | 11.64 |
| student | emp12 | 0.0141 | -0.7915 | 0.0003 | 0.035 | 3.5 |
| People Waiting for allocation or matriculation | emp13 | 0.0226 | -0.0614 | 0 | 0.0394 | 3.94 |
| Other non- | emp14 | 0.0452 | -0.4148 | 0.0001 | 0.041 | 4.1 |

| | | | | | | |
|---|---|---|---|---|---|---|
| employed | | | | | | |
| Healthy | heal1 | 0.7385 | -0.8465 | 0.0005 | 0.0357 | 3.57 |
| Unhealthy | heal2 | 0.2615 | -0.8295 | 0.0006 | 0.0398 | 3.98 |
| Beijing | city1 | 0.0487 | -0.0785 | 0 | 0.0014 | 0.14 |
| Shanxi province | city2 | 0.0617 | -0.2444 | 0 | 0.0311 | 3.11 |
| Taiyuan | city3 | 0.0196 | -0.0595 | 0 | 0.0206 | 2.06 |
| Datong | city4 | 0.0088 | -0.0113 | 0 | 0.0192 | 1.92 |
| Liaoning province | city5 | 0.071 | -0.5011 | 0.0001 | 0.0346 | 3.46 |
| Shenyang | city6 | 0.0259 | -0.2285 | 0 | 0.0169 | 1.69 |
| Jingzhou | city7 | 0.0095 | -0.0236 | 0 | 0.0212 | 2.12 |
| Jiangsu province | city8 | 0.0725 | -0.0758 | 0 | 0.0191 | 1.91 |
| Nanjing | city9 | 0.0148 | 0 | 0 | 0 | 0 |
| Xuzhou | city10 | 0.0097 | -0.0198 | 0 | 0.0314 | 3.14 |
| Anhui province | city11 | 0.0493 | -0.1276 | 0 | 0.0246 | 2.46 |
| Hefei | city12 | 0.0098 | 0 | 0 | 0 | 0 |
| Huainan | city13 | 0.01 | -0.0998 | 0 | 0.0269 | 2.69 |
| Henna province | city14 | 0.0698 | -0.2418 | 0 | 0.0367 | 3.67 |
| Zhengzhou | city15 | 0.0196 | -0.0648 | 0 | 0.0309 | 3.09 |
| Kaifeng | city16 | 0.0095 | -0.0542 | 0 | 0.0459 | 4.59 |
| Pingdingshan | city17 | 0.0101 | -0.0187 | 0 | 0.0233 | 2.33 |
| Hubei province | city18 | 0.0693 | -0.0936 | 0 | 0.037 | 3.7 |
| Wuhan | city19 | 0.0253 | -0.0446 | 0 | 0.024 | 2.4 |
| Xiangfan | city20 | 0.0101 | -0.0278 | 0 | 0.0233 | 2.33 |
| Yichang | city21 | 0.0088 | -0.0323 | 0 | 0.0307 | 3.07 |
| Guangdong province | city22 | 0.0593 | -0.1203 | 0 | 0.0347 | 3.47 |
| Guangzhou | city23 | 0.0205 | -0.0461 | 0 | 0.0197 | 1.97 |
| Foshan | city24 | 0.0052 | 0 | 0 | 0 | 0 |
| Huizhou | city25 | 0.0053 | -0.017 | 0 | 0.0255 | 2.55 |
| Sichuan province | city26 | 0.0572 | -0.0847 | 0 | 0.0689 | 6.89 |
| Chengdu | city27 | 0.0196 | -0.0498 | 0 | 0.0583 | 5.83 |
| Luzhou | city28 | 0.0094 | -0.0154 | 0 | 0.0502 | 5.02 |
| Nanchong | city29 | 0.009 | -0.0516 | 0 | 0.1082 | 10.82 |
| Chongqing | city30 | 0.0197 | 0 | 0 | 0 | 0 |
| Yunnan province | city31 | 0.0619 | -1.8618 | 0.0003 | 0.0245 | 2.45 |
| Kunming | city32 | 0.0099 | -0.0247 | 0 | 0.0102 | 1.02 |
| Gejiu (county) | city33 | 0.0087 | -0.0252 | 0 | 0.0347 | 3.47 |
| Gansu province | city34 | 0.0402 | -0.1443 | 0 | 0.0218 | 2.18 |
| Lanzhou | city35 | 0.0201 | -0.0899 | 0 | 0.0151 | 1.51 |
| Pingliang (county) | city36 | 0.01 | -0.0465 | 0 | 0.0473 | 4.73 |
| Wuwei (county) | city37 | 0.0101 | -0.0352 | 0 | 0.01 | 1 |
| The number of people in a family | rhm | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| One-person-family | rhm=1 | 0.0035 | -0.159 | 0 | 0.0673 | 6.73 |
| two-person-family | rhm=2 | 0.1326 | -0.6379 | 0.0002 | 0.0292 | 2.92 |
| three-person-family | rhm=3 | 0.619 | -0.8391 | 0.0006 | 0.0299 | 2.99 |
| four-person-family | rhm=4 | 0.1642 | -0.366 | 0.0001 | 0.0712 | 7.12 |
| five-person-family and upon | rhm=5 | 0.0807 | -0.1636 | 0 | 0.0505 | 5.05 |

We learn from the data that the young is easier to get into poverty than the old. Among other things, the probability of the unemployed, people waiting for jobs and domestic workers getting into poverty is 5 times more than that of normally employed. When referred to health, the probability of unhealthy people getting into poverty is 16% higher than that of healthy people. But this gap is narrowed much when compared to 1999's (74%), showing that the health condition of individual has been improved, and the influence of the health factor on poverty is weakening. When turning to the factor of area, among other things, people live in Liaoning, Henan and Sichuan are more easier to getting into poverty than people live in other provinces. We also consider the relationship between the quantity of people in a family and the distribution of poverty rate, our results find that the probability of one-person-family getting into poverty is as high as that of four-person-family and five-person-family. A possible explanation is that the person in one-person-family couldn't get help easily when he is in trouble. thus the probability of getting into poverty is higher.

**(5) An Assessment of the Impact of Government Policies**

Since the 1990s, the Chinese government attaches great importance to solving the problem of urban poverty. It has been working to establish and gradually improve the social security system via series of policy and institution arrangements. In so doing, the central government attempts to fulfill its responsibility, guaranteeing the basic livelihood for the urban low income and poor population. To speed up the implementation of this system, in 1999, the Chinese government promulgated the "Regulations on urban minimum living security". Currently, all of China's cities have established a minimum subsistence guarantee system for urban residents. For those with registered permanent residence, if the average income of members of their families is below the minimum living standard of local urban residents. They may take the right to appeal to the local government for grants. The agency of MCA acts as the local government to verify the applicants' household income, and compensate for the margin in the form of cash according to the local minimum living standards. Our concern here is that what's the effect the government's compensation policy may acts on the alleviation of urban poverty in the end? To forecast the effect of policy, we conduct a simulation analysis to assess how far the government's imbursement (through a grant in aid of minimum living standard) reduce the extent of poverty rate? Table 9 provides an assumption of the poverty rate of simulated samples without government's imbursement.

**Table 9 simulation analysis of China's urban poverty in 2002**

| | Poverty index without | Increasing percentage of the real |
|---|---|---|

| | government's imbursement | | | poverty index | | |
|---|---|---|---|---|---|---|
| Municipality/city | **POR** | **PG** | **WPG** | **POR** | **PG** | **WPG** |
| Beijing | 0.1394 | 0.0062 | 0.0002 | 100.7225 | 119.2308 | 200 |
| Shanxi province | 2.0296 | 0.5379 | 0.0414 | 100.6446 | 102.2041 | 132.2684 |
| Taiyuan | 2.0603 | 0.6955 | 0.0007 | 100.0972 | 116.7926 | 116.6667 |
| Datong | 1.9241 | 0.6029 | 0.0975 | 100.052 | 119.8847 | 111.5561 |
| Liaoning province | 1.8054 | 0.4387 | 0.0161 | 100.0554 | 129.5247 | 268.3333 |
| Shenyang | 2.4775 | 0.4883 | 0.0025 | 100.4053 | 125.7533 | 178.5714 |
| Jingzhou | 2.1601 | 0.4707 | 0.0254 | 101.8867 | 126.976 | 167.1053 |
| Jiangsu province | 1.238 | 0.1418 | 0.0023 | 100 | 107.5873 | 176.9231 |
| Nanjing | 0 | 0 | 0 | —— | —— | —— |
| Xuzhou | 3.1659 | 0.197 | 0.0009 | 100.9567 | 105.3476 | 112.5 |
| Anhui province | 0.9214 | 0.0024 | 0 | 112.1743 | 104.3478 | —— |
| Hefei | 1.0445 | 0.0011 | 0 | 100.9667 | 122.2222 | —— |
| Huainan | 0.1435 | 0 | 0 | —— | —— | —— |
| Henna province | 3.3618 | 0.5123 | 0.001 | 103.0658 | 100 | 111.1111 |
| Zhengzhou | 3.8012 | 0.5598 | 0.0521 | 100.5582 | 102.1906 | 123.753 |
| Kaifeng | 4.5936 | 0.6583 | 0.0971 | 100 | 100.1521 | 111.4811 |
| Pingdingshan | 2.5433 | 0.5651 | 0.0083 | 109.0001 | 126.9602 | 113.6986 |
| Hubei province | 2.6152 | 0.6285 | 0.0041 | 103.9758 | 100.3192 | 132.2581 |
| Wuhan | 2.3968 | 0.958 | 0.0103 | 100 | 100 | 110.7527 |
| Xiangfan | 2.3533 | 0.1995 | 0 | 100.8572 | 105.277 | —— |
| Yichang | 2.1157 | 0.1981 | 0.0204 | 110.44 | 111.2296 | 217.0213 |
| Guangdong province | 1.7354 | 0.3359 | 0.0099 | 100 | 100.599 | 111.236 |
| Guangzhou | 1.9672 | 0.4043 | 0.0008 | 100 | 100.4971 | 114.2857 |
| Foshan | 0 | 0 | 0 | —— | —— | —— |
| Huizhou | 2.5478 | 0.6025 | 0.0479 | 100 | 99.66915 | 126.3852 |
| Sichuan province | 7.0142 | 2.314 | 0.0059 | 102.935 | 116.0481 | 120.4082 |
| Chengdu | 5.9419 | 2.7405 | 0.0213 | 101.8862 | 117.0904 | 188.4956 |
| Luzhou | 3.8942 | 0.8152 | 0.0035 | 108.6491 | 102.5151 | 140 |
| Nanchong | 11.0809 | 2.2606 | 0.0238 | 102.4028 | 100.8926 | 172.4638 |
| Chongqing | 0.05 | 0.02 | 0.0003 | —— | —— | —— |
| Yunnan province | 2.2739 | 0.5096 | 0.0207 | 104.6 | 104.085 | 193.4579 |
| Kunming | 3.8543 | 0.4023 | 0.0002 | 102.6636 | 121.0653 | 200 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Gejiu (county) | 3.4749 | 0.6911 | 0.0255 | 100 | 109.5072 | 164.5161 |
| Gansu province | 2.1794 | 0.4529 | 0.0032 | 100 | 107.0939 | 145.4545 |
| Lanzhou | 1.5101 | 0.1847 | 0.0005 | 100 | 112.1433 | 125 |
| Pingliang (county) | 4.7297 | 1.1874 | 0.2036 | 100 | 101.7132 | 196.5251 |
| Wuwei (county) | 0.9967 | 0.1359 | 0.0056 | 100 | 117.2563 | 121.7391 |
| Total sample | 3.31 | 0.86 | 0.007 | 100.6079 | 108.8608 | 116.6667 |

The simulation results show that in 2002, the role of government in helping the low income and poor population is very limited. If the government does not provide the minimal imbursement or grant such relief, the incidence of poverty varies little. It seems the relief policies for the reduction of the incidence of poverty does not have great impact. However, as the relief policy focuses more on the poorest people, In theory, the implementation of such policy will lead to an obvious decreasing of the poverty gap and weighted poverty gap index. For example, the data shows that if the government does not provide financial assistance to the poor families, poverty gap and weighted poverty gap will increase by 8% and 16% respectively. From the analysis of the provincial poverty reduction policy, governments at all levels have provided financial assistance to the poor population, but the difference was significant. For the relatively affluent provinces (Jiangsu) and the cities (Beijing), poverty reduction effects through government-imbursement are quite apparent .The Beijing municipal government’s funding contributed to a decreasing of poverty gap and weighted poverty gap by 19% and 200% respectively. in quite a few not very wealthy city, the government has also provided funding to obtain a good poverty reduction effect. Such as Luzhou and Chengdu of Sichuan, the Pingliang City of Gansu. But the situation of Kaifeng of Henan Province is very different: the poverty rate remained unchanged, there has been no big change from poverty gap, and its weighted poverty gap only reduced by 11%, which means that the city government has provided little assistance to the poor population.

## 3. Conclusion and policy suggestions

Since 1990s, China's urban poverty problem has caused broad attention, a lot of research have been done in order to reveal the reasons, its characteristics and possible influences. Based on the former research work, this paper use 2002 Household Income data to calculate relative poverty indexes and examine its relationship with unemployment. Our research indicated that over the last 10 years(1995-2005), the Urban Poverty Rate in China shows an "inverted-U-shaped" trend. Before 1999, it shows a rising curve shape; after 1999, it shows a downing curve shape. Such a result seems different from those of many other scholars’ viewpoints. But considering the macro- policy and institutional arrangements made by the government, we think this micro-analysis and empirical conclusion to be a persuasive one (in 1999, the Chinese government promulgated the "Regulations on Urban Minimum Living Security". In so doing, the central government attempts to guarantee the basic livelihood for the urban low income and poor population, and set up social security

net to resist urban poverty. It carries out that Urban Minimum Living Security System has played an important role in the maintenance of Urban residents' living rights, ensuring their minimum living standards and resisting expansion of urban poverty scale).

Our empirical analysis shows that unemployment, waiting for job and so on are very important reasons for the incidence of urban poverty. The estimated result of our model shows that the probability of falling into poverty by the unemployed, job-waiter and domestic labor is 5-6 times higher than the employed. Besides, the healthy condition also exercises important influence on the incidence of poverty. The person in bad healthy condition is easier to fall into poverty than the healthy one. If a person falls sick, whenever he is in unemployed or employed, retired or at domestic work, his probability of falling into poverty is 3-4 times higher than the general population. The feature of regional distribution is also considerably important, not just because the influence of natural factor, but what is more important is the discrepancy of the employment opportunities in various area and the different intensity in the aspect of the relief policy given by the local governments. For the total of the cities, the effect of the government's poverty alleviation policy is not very extrusive. Although the central government has made the poverty alleviation policy, but the implementation of the policy still need to be strengthened.

Our simulation analysis shows that increasing employment in the urban area is a proper method to deal with poverty. But for the long-term poverty persons, to give the necessary grant or compensation maybe the effective means.

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