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Working Paper

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IZA Discussion Papers, No. 2758

Provided in Cooperation with:

IZA – Institute of Labor Economics

Suggested Citation: Gustafsson, Björn; Quheng, Deng (2007) : Social assistance receipt and its importance for combating poverty in urban China, IZA Discussion Papers, No. 2758, Institute for the Study of Labor (IZA), Bonn,
<https://nbn-resolving.de/urn:nbn:de:101:1-20080402161>

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IZA DP No. 2758

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April 2007

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Discussion Paper No. 2758

April 2007

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ABSTRACT

Social Assistance Receipt and its Importance for Combating Poverty in Urban China*

Since the second half of the 1990s economic restructuring in urban China has led to widespread joblessness and income insecurity. The rapid expansion of the system of social assistance, *Di Bao*, can be understood from this perspective. Using a survey covering large parts of urban China in 2002, we investigate factors affecting receipt and how receipt affects urban poverty. Results from estimating probability models indicate that social assistance receipt is strongly linked to joblessness among household members, the household's expenditure burden, as well as the lack of financial assets. Further, a long education of the household head and membership in the Communist Party reduces the probability of receiving social assistance while having been sent to rural China during the Cultural Revolution increases it. For some types of households, receipt of *Di Bao* differs greatly across cities in China. The social assistance payments appear strongly targeted to the poor. However, as the *Di Bao* payments typically are small and many of the urban poor are not receivers, much urban poverty remains.

JEL Classification: I32, I38, P36

Keywords: social assistance, poverty, China, cultural revolution

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* We wish to acknowledge grants from the Swedish International Development Cooperation Agency (SIDA) and the Ford Foundation for funding the collection of the data uses for this study. Our work was facilitated by grants from the Swedish School of Advanced Asia Pacific Studies (SSAAPS).

1. Introduction

Since the introduction of reform at the end of the 1970s, China's economy has grown rapidly and rural poverty has been reduced impressively, although progress has been uneven across time and space.¹ One prevailing characteristic of the People's Republic of China is that the urban population is on average much better-off than the larger rural population. During the planned epoch, urban workers had stable employment at their work unit (*danwei*) with little risk of joblessness. The urban registration system (*Hukou*) efficiently prevented rural persons from residing in the cities. At that time, urban poverty was not much of a social and political problem, although foreign visitors quickly perceived that the standard of living in China's cities was much lower than in cities in rich countries. This situation has now changed. On the one hand, the gap in the average living standard between China's urbanites and their counterparts in the West has narrowed. On the other hand, a new kind of poverty has emerged and become a serious problem in China's cities.

The economic reforms which led to rapid economic growth are also the cause of poverty in China's cities; their influence has come through several channels. The lessened restrictions for rural persons to migrate have enabled people without urban residence permits to live in China's cities. This "floating" population is large, perhaps around 100 million, and constitutes a lower segment of the emerging labour market in urban China. The migrants are typically young and work many hours on temporary contracts.² Unlike the registered urbanites, they cannot benefit from the package of compensation provided by the work unit. This means that rural residents living in urban China typically have no access to subsidised housing nor the opportunity to buy housing at a price substantially lower than the market price. Further, they are not covered by programs of subsidised health care. From this background it is not surprising that Khan (2007) reports that in 2002, rural migrants have higher poverty rates than urban residents when an urban poverty line is applied.

A second channel through which economic reform has caused poverty to appear in urban China is the consequence of establishing markets for goods and services. In this process, prices paid by people at the bottom of the income distribution have increased more rapidly than for others. This has occurred as the administrative allocation of necessities was abolished

¹ See Yao (2000), Gustafsson and Wei (2000), Khan and Riskin (2001), Gustafsson and Li (2004), Ravallion and Chen (2007), and Khan (2007).

² See for example Appleton et al (2004), Knight and Song (2005) and Li (2006).

in the reform process and the price for food increased rapidly (Meng et al, 2005). Further, the fees schools and hospitals charge have risen sharply. Finally, economic reform has led to the restructuring of work units, leading to bankruptcy, redundancy and job separation (a situation critical to the emergence of the social assistance program studied here). This process has gained speed during the second part of the 90s and contributed to unemployment as well as the involuntary retirement of many workers.³

At the individual level, the consequences of joblessness differ by worker. Some have been re-employed after a period of unemployment (Giles et al 2006B), although joblessness appears to negatively affect subsequent earnings (Knight and Li, 2006A). Some have, voluntarily or not, dropped out of the labour force completely and into early retirement. In such cases, non-workers can receive a stable income, although at a lower level than the original wages. Others are eligible for unemployment benefits if they are registered as unemployed and their previous work unit had paid contributions. While these three alternatives are similar to what can be observed in mature market economies, along with re-employment centres, China also introduced in the 1990s a special form of shedding redundant workers. The term *Xia gang* means that such workers are off-duty but keep ties with the work unit; if the work unit can afford it, the workers receive a low wage and some welfare benefits (Wong and Ngok, 2006).

At the household level, economic consequences of job losses can be cushioned by income from other household members who are still working. However, public and private safety nets have holes; the expansion of social assistance in urban China since the mid 1990s can best be understood as the policymaker's response to the unfilled need for income support, a need created by the transition towards a market economy. Building on a previous, but much more limited programme, the number of recipients and sums expanded rapidly as joblessness spread. While in 1999, 2.66 million persons lived in households receiving *Di Bao* (sometimes referred to as the minimum living guarantee, MLG), the number had increased to 22.34 million in 2005 (NBS, various years). The social assistance program in urban China is focused on urban residents; rural residents who have migrated to the cities are not entitled to it.

³ According to Giles et al (2006A), who applied definitions in line with recommendations from ILO, the Labour Force Participation Rate in urban China decreased by 8.9 percent between January 1996 and November 2001, and the Employment Rate dropped by as much as 12.2 percent. The unemployment rate increased from 7.1 percent to 12.5 percent.

Similar to the last safety net in other countries, there are several processes at the individual level that cause people to become recipients of *Di Bao*. Although old age pensions are comparatively generous in urban China, coverage is not universal.⁴ Far from all residents are covered by sickness insurance and therefore ill health and large health expenditures can lead to economic problems.⁵ The expenditure burden of younger dependents can also cause households to fall into the last income safety net. For example, having a child in school can be a substantial financial burden as schools typically charge fees. While many Western welfare states have family allowance payments to support families with children, this is not the case in urban China, although one should understand that the one-child policy means that families with two or more children are rare. Further, since reform in China, the transition from education to working life is a process similar to that of many countries in the West; a period of joblessness.

Several recent studies of poverty among urban residents in China have been reported⁶ and some traits of the *Di Bao* system have been documented in the literature. In one such recent contribution, Leung (2006), who also provides detailed references to this literature, notes the lack of a comprehensive and unified dataset at the national level on the overall profile of the recipients. This paper aims to fill such a gap. As the first research question we ask: What affects receipt of *Di Bao*? We analyse how characteristics of the household as well as of the city where the household lives affect the probability of receiving social assistance. The second research question is to investigate the importance of *Di Bao* for combating urban poverty. For our study we use a household sample for 2002 covering many cities in urban China.⁷

Turning to results, we find that in our sample 3.7 percent of registered urban persons lived in households receiving social assistance in 2002, meaning a beneficiary population of about 19 million persons. As expected, social assistance receipt is strongly linked to joblessness among household members, the expenditure burden of the household, as well as a lack of financial

⁴ For more on poverty and hardship among the aged in urban China see Saunders and Lujun (2006). Palmer and Deng (2007) provide a detailed description of the pension system in China and its recent change.

⁵ The proportion of urban residents lacking sickness insurance increased from 27.3% in 1993 to 44.8% in 2003 (UNDP, 2005, pp. 66).

⁶ See for example Fang et al (2002), Zhang and Wan (2005), Meng et al (2005), Knight and Li (2006B), Li and Sato (2006) and Khan (2007).

⁷ Using China's Urban Household Survey (UHSS) for 2003/2004 Chen et al (2006) analyse *Di Bao* receipt and its effects on urban poverty. Our data has greater coverage as it is not restricted to China's 35 largest cities., while UHSS' sample is larger.

assets. A long education of the household head and membership in the Communist Party reduces the probability of receiving social assistance. Having been sent down to rural China during the Cultural Revolution also increases the probability of receipt. The probability of receiving social assistance is negatively affected by average income in the city where the household lives as well as its employment rate. The social assistance payments appear strongly targeted to the poor. However, as the *Di Bao* payments to a household are most often small and as many urban poor do not even receive them, much of the poverty among urban residents remains.

The rest of the paper is laid out as follows: The next section describes the system of *Di Bao*, while Section 3 presents the data used for the study. The profile of recipients and results from estimating probability models explaining receipt are presented in Section 4. Section 5 contains the analysis of how *Di Bao* receipt affects urban poverty and finally the study is summed up in Section 6.

2. The *Di Bao* system

For many years, China operated only a limited relief program for its urban residents. As is the case for many reforms in China, the stimulus for change did not come centrally, but rather from the Shanghai government which decided to restructure its traditional relief programme in 1993. The reform provided an extension of coverage and increase of benefit levels and in order to function it required securing funding for the resulting increase in public expenditures. Once it was in operation, the Ministry of Civil Affairs encouraged other cities to follow and the reform spread rapidly. This diffusion process was facilitated after the State Council decided to establish the *Di Bao* system in all of urban China, as stated in the promulgation of “Circular on Establishing MLSGS in All Cities by the State Council” in 1997. By 1999, all of China’s 68 cities and 1638 towns where the local county governments reside had set up the program (People’s Daily, 1999).

In conjunction with the fiftieth anniversary of PRC on 1 October 1999, the central government proclaimed the Regulations on Minimum Living Standards for Urban Residents which codify provision of *Di Bao*. The number of recipients increased sharply from 1.84 million in 1998 to 2.66 million in 1999 (MCA, 1999; NBS, 2003). In the same year, benefit levels were increased by 30%. Most (80%) of the increased expenditure was financed by the

state (Tang, 2003). The central government also made funds available to less prosperous local governments to match increased expenditures due to the desired increases of benefit levels; this ensured that a larger number of households could gain from the system.

The central government's policy on expanding *Di Bao* provision must be considered successful if one applies the number of recipients as a yardstick. Compared to the previous year the number of recipients increased by 51 percent in 2000, by as much as 191 percent in 2001 and by 76 percent in 2002 (NBS, various years). By these standards the expansion rate of 9 percent in 2003 was modest. The number of recipients has remained relatively unchanged and is currently slightly above 22 million at the end of year 2005 according to the most recent figures (NBS, various years; MCA, 2006a).

From a legal framework standpoint, China's local governments (above the county level) are responsible for providing *Di Bao* and they also define its operational policy. According to the *Regulations on Minimum Living Standards for Urban Residents*, the county Bureau of Civil Affairs, the local street office and the township government (called administration departments), are responsible for the administration of the *Di Bao* system and approval of *Di Bao* applicants. The local residential committee may take on daily administration of the *Di Bao* system upon request of administration departments (the State Council, 1999).⁸ In practice, the claimants formally apply to their local residential committee, which assesses the eligibility of the applicants at the preliminary stage. The street office or the local township government verifies the candidacy of applicants and make the name of the applicant public.⁹ The final decision is made at the Bureau of Civil Affairs of the local county. This practice probably reflects the information advantage that grassroots organizations enjoy, that of being advocated by the central government and supported by means of finance and human resources (GOSC, 2001; MCA, 2001).

⁸ A resident committee is a neighbourhood-based mass organisation, supervised by the street office. (Read, 2000)

⁹ According to the *Regulations on Minimum Living Standards for Urban Residents*, the final approved list of *Di Bao* applicants must be publicized to be monitored by the masses. In practice, some provinces publicize in different stages of processing *Di Bao* application to minimize the targeting error.

The central determinant of eligibility for *Di Bao* is the income test.¹⁰ This is typically formulated as a single amount, the *assistance line* (*Di Bao Xian*), which forms the boundary between being eligible or not. The amount of assistance is computed to fill the gap up to the assistance line. For a particular household, eligibility is tested by comparing income from all sources against an amount calculated as the number of household members multiplied by the relevant assistance line. Many other circumstances are typically taken into consideration, however. For example, households with mobile phones, motorcycles, computers or air conditioners are not eligible for *Di Bao* in Guizhou province (BCAGZ, 2001). In Hunan province, households investing in the stock market are not allowed to apply for *Di Bao* (HNPG, 2003) while capital gains from stocks are counted as sources of household income in some other provinces which implicitly permit investing in the stock market.

In the second quarter of 2006, the average assistance line in urban China was 158.15 *yuan* per month. The highest assistance line was 390 *yuan* while the lowest was only 12 *yuan* (MCA, 2006b).¹¹ Compared to the poverty line and the low-income lines for rural China applied by the National Bureau of Statistics (NBS), this line is not particularly low. However, consumer prices are higher in urban China than in rural China (Brandt and Holz, 2006).

Comparisons with average wages in urban China are indicative for how the assistance line balances between need and incentive. The average social assistance line is not higher than what an average worker brings home if working approximately 43 hours during one full month.¹² In contrast, the average paid worker working full time could maintain not only him or herself but also an additional 2.5 family members before income would fall below the assistance line. These comparisons clearly show that giving up work to live on *Di Bao* would not be an attractive alternative for most of China's urban workers. However, the situation is rather different for low-income earners; according to our data a worker at the first decile earns only 0.51 *yuan* per hour meaning that if living alone, he or she has to work at least 310 hours a month to cross the assistance line.

¹⁰ According to the State Council (1999), household income refers to income from all household members, including monetary and in-kind income. Definitions can vary by province but in reality there is little variation. Generally, household income is composed of wage, bonus, subsidy, allowance, pension, unemployment insurance, living allowance for *xiagang* workers, savings and interest, stocks, bonds, other securities, income from lottery, income from renting out rooms, estovers, alimony, bequest and other income that should be counted.

¹¹ Chen et al. (2006) also reports a similar variation across the 35 largest cities in 2003/04.

¹² This comparison is based on the data presented in the next section.

3. Data

This study uses a large survey of urban residents conducted in the spring of 2003 for the reference year 2002. The survey instruments were designed by the researchers of the project “Income Distribution, Growth and Public Policy in China”, which involved a group of researchers at the Institute of Economics, Chinese Academy of Social Sciences, Beijing and scholars from other countries. The project was assisted by the General Team of Urban Surveys at the National Bureau of Statistics (NBS) that conducted the fieldwork.

The survey was obtained from larger samples used by NBS to produce official statistics for China. In much policy making in China there is a division between the eastern, central and western regions. Economic reform was first introduced in the eastern regions, while more recent policymaking emphasises the development of the western region which lags behind. At a first stage of selecting the sample, the municipality of Beijing and the provinces of Liaoning, Jiangsu and Guangdong were chosen to represent the eastern region, the provinces Shanxi, Anhui, Henan and Hubei, the central region and the municipality of Chongqing and the provinces of Gansu, Sichuan and Yunnan the western region.

From these provinces a sample of 6 835 households living in 77 cities was obtained. The sample frame for the urban sample is based on registers of people possessing a *hukou*. Thus it does not cover rural migrants living in urban China. This is not a problem when addressing our first research question, that of analysing who receives *Di Bao*, as rural migrants are not entitled to it. For the second research question on the importance of *Di Bao* for urban poverty, we have to narrow it to poverty among registered urban residents, a subset of all poor actually living in urban China.

Two questions were asked in the survey regarding whether the individual receives *Di Bao* benefit or not; one in the main part and the other in the appendix of the questionnaire. We combine the answers to identify households receiving *Di Bao*. However, we find 37 *Di Bao* households have unreasonably high incomes for being receivers of *Di Bao*. We consider this misreport and impute zeros for the variable *Di Bao*. After this adjustment we end up with 235 households receiving *Di Bao*. We define a recipient as one person living in a household that received *Di Bao* at least once in 2002 and find this to be the case for 3.7 percent of urban residents, or 19 million persons. This is an estimate reasonably close to the numbers of

official statistics as they recorded 20.65 million persons and a rate of receipt of 4.11 percent in the urban population.

4. Patterns and determinants of receipt

In this section we first study the pattern of *Di Bao* receipt and thereafter determinants of receipt by estimating probability models. To put the age structure of recipients into perspective, we also compute the age structure of persons living in households with at least one unemployed member and households with at least one elderly person without an old age pension.

In our data, 7.73 percent of the individuals aged between 16 and 60 were recorded as unemployed. Typically, unemployed persons live in households of at least one working member. On the one hand, this means that household members' earnings act as a powerful safety net for unemployed individuals. On the other hand, it also means that a fairly large proportion of China's households have at least one unemployed member. According to our data as many as 21.9 percent of the urban population live in households with at least one unemployed member (where unemployment is defined broadly). They are "touched by unemployment".¹³ The probability of living in a household touched by unemployment is particularly high if the person is at the age of leaving school, or is at the age of being parent to a school leaver. See Figure 1. In our data 7.70% of the persons live in a household with at least one elderly person who lacks an old age pension. However, this relative frequency is as high as 30 percent among those over 60.

The high frequency of households with an unemployed member, in combination with the rate of *Di Bao* receipt reported in the previous section (3.7 percent), illustrates that the overwhelming proportion of persons who live in households with an unemployed member do not receive *Di Bao*. Figure 1 reports some variation between age and receipt of *Di Bao*, but the variation is not very pronounced. The highest rates of receipt (6 and 5 percent) are found among persons aged 16 to 20, and for ages 41 to 45. The lowest rates of receipt (around 3 percent) are for people 21 to 35 and for those 51 and older.

¹³ As many as 18.6 percent live in a household with one unemployed member, 3.0 in a household with two unemployed members and only 0.3 percent in a household with three or more unemployed members.

/ Figure 1 about here/

Table 1 shows frequencies of receipt for adult individuals and children by characteristics. For comparison we also report frequencies for people touched by unemployment in their household, finding that those two frequencies do not always vary in the same way. *Di Bao* receipt is clearly related to low education, no membership in the Communist Party, location and work status. Some examples: While as many as 8.6 percent of adults with a below-primary level education lived in a household receiving social assistance, the corresponding number was only 1.3 percent for those with college educations and above. While 2.0 percent of adults living in the eastern region received *Di Bao*, the corresponding rate in the western region was 5.2 percent. Not surprisingly, non-working adults have higher rates of *Di Bao* receipt than workers, although the rate of receipt for the first mentioned group is not higher than 5.1 percent. In Table 1 we also use two variables indicating migration experiences. One stands for voluntary migration and measures if the adult is rural-born, the other indicates forced migration to rural areas during the Cultural Revolution followed by return migration to urban China.¹⁴ It turns out that rates of *Di Bao* receipt differ only marginally between those with such experiences and those lacking them. The estimated rates of *Di Bao* receipt among adults and children for ethnic minorities are very similar to those for the ethnic majority.¹⁵

/Table 2 about here/

In Table 2 we report descriptive statistics for households receiving *Di Bao*, for other households, and for the combined category all households. The frequency of non-workers is much higher among *Di Bao* receivers and average financial wealth among *Di Bao* receivers is less than one-third of that of non-receivers. While 15 percent of *Di Bao* households have one elderly member not receiving a pension, the corresponding frequency is only half as high among non-receivers. Among *Di Bao* receivers, 18 percent have a head reporting poor health, a percentage three times as high as among non-receivers. The average number of children is

¹⁴ As many as 14 million educated young people, for the most part graduates of secondary schools, were sent to the countryside (Beijing Daily, 1998, see also Bernstein, 1977). However, the overwhelming majority of educated youth returned to cities after the end of the Cultural Revolution.

¹⁵ This does not mean that generally ethnic minorities in China as a category are on a par with the ethnic majority regarding economic well-being. A disproportionately large proportion of China's ethnic minority persons live in the rural west where household income is considerably lower than in urban China.

higher among *Di Bao* receivers than among non-receivers. Still, there are many households receiving *Di Bao* that are without children. In *Di Bao* households the education of the head is lower than among other households, and a smaller fraction of the heads are members of the Communist Party. While 38 percent of the *Di Bao* receivers live in the western region, 27 percent of non-receivers do the same. The average per capita income as well as the employment rate in the city where *Di Bao* receivers live is lower than where non-receivers live.

/Table 3 about here/

In the next step we estimate probability models for receipt of *Di Bao* using the household as unit of analysis. Results from four different specifications are reported in Table 3. There are two examples of the expenditure burden of the household increasing the probability of receipt. The positive coefficients for the variable “number of children”, and the variable “number of elderly without pension” are similar in size. On the other hand, the variable “number of adults working” and the variable “number of elderly receiving a pension” both negatively affect the probability of receipt. The size of the coefficient for the number of elderly receiving a pension is particularly large. Further, we find financial wealth to negatively affect receipt, but at a decreasing rate.¹⁶

Several characteristics of the household head affect probability of receipt. Bad health has a strong positive coefficient estimated with a high t-statistic. A college education of the head works in the opposite direction. However, coefficients for other levels of education are estimated with lower t-statistics suggesting that the bivariate relation between education of the person and *Di Bao* receipt is due to other circumstances that vary with education and affect receipt.¹⁷ Further, we find that the head’s membership in the Communist Party reduces the probability of receiving social assistance. CPC party members are often in a better economic

¹⁶ While the coefficient for financial wealth is negative, the coefficient for the variable financial wealth squared is positive. The estimated coefficients imply that wealth has a negative effect on *Di Bao* receipt up until 1.53 million *yuan* of wealth. In our entire sample there are only four households (0.06 percent) with financial wealth larger than this.

¹⁷ Households with a longer educated head possess on average financial wealth about 2.5 times as large as households with the shortest educations. Further, the fraction reporting poor health is only 4 percent among those with the longest educations while 40 percent of them are CPC members. In contrast 16 percent of household heads with the shortest educations report poor health and only 21 percent are CPC members. In the questionnaire there is a question asking about the health status (compared with other people with the same age) with 5 alternatives: answers, excellent, good, so-so, poor, very poor. We combine the first two into “good health”, the last two into “poor health” and the remaining one is labelled “normal”.

situation and have more social capital than non-members with the same characteristics. In contrast, and consistent with the descriptive results, gender as well as ethnic status of household head are not found to affect the probability of *Di Bao* receipt.

In the second specification we include a variable measuring voluntary migration experience and in the third specification, forced migration experience. When in the fourth specification both variables are included, the coefficient for voluntary migration is estimated with a low t-statistic, while the positive coefficient for forced migration is estimated with a high t-statistic of significant magnitude. This supports the view that being sent down to the countryside during the Cultural Revolution has produced long-lasting negative effects on the ability to support oneself in reform China.¹⁸

In all specifications we have included several variables measured at the city level. We find both a negative coefficient for mean city income and a negative coefficient for the employment ratio estimated with high t-statistics. In contrast, once these variables are included in the estimated model, variables for city size as well as region are estimated with a low t-value. This makes sense and means that once we control for the economic situation of the city, its size and regional location, there is no independent effect on the probability of *Di Bao* receipt.

/Table 4 about here/

In order to illustrate the magnitude of the estimated effects we predict the probability of receipt for households with various characteristics. The predictions, based on the fourth specification reported in Table 3, are reported in Table 4. For all types of households selected we show predictions for households with one alternatively two non-elderly members working. The base household (Household number 1) has an expenditure burden of one child. The head is male, is not a CPC member, has a primary education, poor health, belongs to the ethnic majority and the household owns financial wealth at the sample mean. This household lives in a small city located in the west with city income and working ratio at the sample mean. We predict that if there are two workers in the household, the probability of social assistance

¹⁸ This is consistent with the findings reported by Zhou and Huo (1999) who investigated the consequences of being sent down during various years (1978, 1987 and 1993) While there were little indication of having been sent down affecting personal income negatively during the first follow-up periods, such existed for 1993.

receipt is 10 percent. However, if there is only one worker the probability increases to 16 percent. The importance of financial wealth is illustrated by Households 2 to 4. Stripping the household completely of financial wealth causes the predicted probability of receipt to go up to 32 percent in the case of only one worker, while possessing a high amount of financial wealth pushes it down to as low as 2 percent.

The importance of demographic composition is illustrated in simulations 5 to 9. Increasing the expenditure burden by one additional child or an elderly person without pension makes the predicted probability for the two-worker case to go up from 10 to 15 or 16 percent respectively, and in case of only one worker from 16 to 23 alternatively 25 percent. When including both a second dependent child and an elderly person without pension and when stripping the household of financial wealth, the predicted probability of *Di Bao* receipt is as high as 57 percent. In contrast, if the base household takes in an elderly person who receives a pension, the probability of receipt is down to 7 percent even if only one member is working.

Simulations 10 to 14 illustrate the importance of characteristics of the household head. The experience of being sent down to rural China during the Cultural Revolution makes the predicted probability for the base household with one working member rise from 16 to 32 percent. On the other hand, being a member of CPC reduces probability of receipt to 8 percent. Such a reduction is even larger if the head has good health (to 5 percent) or a college education (to 4 percent). Combining these two characteristics causes the probability of receipt to be lower than one percent.

/Figure 2 about here/

We illustrate the importance of location for receipt by predicting the probability of receipt for a household with one or two working members living in each of the 77 cities in our data; we insert the cities' employment rates and mean household incomes. The predictions are shown in Figure 2 where cities are sorted by mean income. We choose to illustrate the case of a household with a high expenditure burden that also lacks financial assets. In low-income cities, the predicted probability of receipt is already over 50 percent in the case of two earners, and then increases further when only one adult member is working. In contrast, if living in a high-income city, the predicted probability of receipt is lower than 20 percent even if only one

adult member is working. A set of favourable economic circumstances in a city can thus hinder the unfavourable composition of household characteristics to lead to a high probability of social assistance receipt.

5. How *Di Bao* affects poverty among urban residents

/Table 5 abut here/

In this section we analyse the importance of *Di Bao* for combating poverty among urban residents. Our data makes it possible to show the amounts received and relate them to other income sources of the households, and to compute total income for receiving households and other households. Table 5 clearly illustrates that *Di Bao* on average is not a large income source among receiving households. We report that *Di Bao* households generally receive not more than 310 RMB per capita during a full year, an amount representing only 10 percent of total income. The annual total income of 3 104 per capita for *Di Bao* receivers is only 37 percent of the corresponding income for non-receivers.

As among non-receivers, the largest income components for *Di Bao* households are earnings followed by pensions; *Di Bao* income ranks only third. However, *Di Bao* differs from the main income sources by having a profile benefiting those worse off. This becomes evident when inspecting Table 5 which also shows concentration coefficients for various income components computed for *Di Bao* households, other households and all households.¹⁹ We report a concentration coefficient for *Di Bao* computed over all households is as high as -0.74 meaning that the payments are rather strongly targeted to those at the bottom of the income distribution.²⁰ However, when computed for the category of *Di Bao* receivers, the concentration coefficient is as low as +0.05 meaning virtually no relation between total income and amount of *Di Bao*.

¹⁹ While the Gini coefficient can vary between 0 and 1, the concentration coefficient which expresses the association between total income and the income component can assume values from -1 to +1. See Lambert (2001).

²⁰ Our data shows that 54 percent of households receiving *Di Bao* are located in the first decile of the distribution of income, 20 percent are in the second, 16 percent in the third and 10 percent in the fourth decile. No *Di Bao* household can be found in the fifth or in any higher decile. Among households in the bottom decile, 15 percent are *Di Bao* receivers.

The distributional profile of *Di Bao* also appears very favourable for those worse off when compared with *xiagang* benefit (unemployment benefits), as the latter has a concentration coefficient among all households of - 0.06. While *xiagang* benefits are found not to be particularly targeted towards those worse off, the sums transferred to the households through this channel are larger. Thus, *xiagang* benefits are not at all unimportant for alleviating poverty among China's urbanites. The point is that *xiagang* benefits aid persons higher up in the income distribution to a much larger extent than *Di Bao* benefits do.

When analysing how *Di Bao* affects poverty among urban residents in China we work with the assumption that *Di Bao* receipt does not affect household behaviour. Given how stringently applications are processed, this could be a reasonably good first approximation. Following Khan (2007) we apply two alternative poverty lines, one set to 1 774 RMB per person and per capita, and the other to 2 534 RMB per person and per capita.

Table 6 (row 7) reports that 2.1 and 6.0 percent respectively of urban residents fall below these levels.²¹ Poverty among *Di Bao* receivers (row 2) is much higher than among non-receivers (row 4). This applies to all three indices belonging to a family suggested by Foster et al (1984): The head count ratio, the poverty gap ratio and the severity of poverty index. For example, while 4.6 percent of non-receivers fall below the higher poverty line, this is the case for as many as 41.4 percent of *Di Bao* receivers.

/Table 6 about here/

If we make a thought experiment by setting *Di Bao* equal to zero, the poverty rate for *Di Bao* receivers is 49.4 percent and 6.3 percent in the entire population (row 1 and 6). *Di Bao* causes the poverty-rate among all households to decrease by 5 percent, while among *Di Bao* households the proportional reduction is 16 percent. Although *Di Bao* does not help many households cross the poverty line, it reduces poverty's severity among the poor. In fact, measured by the poverty severity index (FGT(2)) and the lowest poverty line, poverty among the poor reduces by as much as 49 percent (row 3 in Table 6).

²¹ Khan (2007) report that 5.5 percent and 14.4 percent of rural to urban migrants (not studied in this paper) fell below those two poverty lines in 2002.

6. Conclusions

From 1999 to 2002 the number of *Di Bao* receivers in urban China expanded enormously; today China has probably the largest system of social assistance in the world based on number of recipients. This expansion is due to the policy response aiming to alleviate consequences of job losses induced by China's transition towards a market economy. This system is decentralised in the sense that cities are responsible for carrying out the program, and the social assistance line used in the income test is set at the city level. Cities fund the system, although some receive refunding from the central state.

In this paper we have used a large sample survey for the year 2002 to shed new light on *Di Bao* receipt and its effects on poverty among urban residents. Results from estimating probability models indicate that social assistance receipt is strongly linked to joblessness among the household members, to the household's expenditure burden as well as to the lack of financial assets. Further, a long education of the household head and membership in the Communist Party reduces the probability of receiving social assistance, though being sent down to rural China during the Cultural Revolution increases the probability of *Di Bao* receipt.

We have reported that for some types of households with given characteristics, the probability of receiving *Di Bao* varies greatly across China's cities. A low employment rate and a low average income signify a high probability of receipt, while a high employment rate and a high average income signify a low probability of receipt. The first kind of city is more often found in the western region of China while the second is most often found in the eastern region.

According to our data, *Di Bao* is typically an income supplement, not the main income source for households receiving it. *Di Bao* households have a total per capita income that is as low as 37 percent of the income of non-receivers. However, the absence of *Di Bao* would make the gap even larger. Though the system only helps a few of China's urbanites to cross the poverty line, poverty is lessened for many remaining in poverty. In this sense the system is rather successful, and one can conclude that central and local government funds are well spent.

However, seen as a policy for poverty elimination, we find the record of the *Di Bao* system less impressive. This is hardly surprising as the total sums transferred to the households

through the system are small. Far from all poor residents receive *Di Bao* and for many receivers the amounts are too small to take their household out of poverty. Most importantly, rural residents living in urban China without a residence permit are not eligible.

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Table 1

***Di Bao* rates (persons living in household with social assistance as percent of all persons in the cell) and rates of persons touched by unemployment (persons living in household with at least one unemployed member) as percent of all persons in the cell. Urban China 2002**

By individual characteristics

	Sample size	<i>Di Bao</i> rate Percent	Percent "Touched by unemployment" ^x
Education(adults)			
Below primary school	430	8.6	24.7
Primary school	1215	5.6	23.2
Junior high school	4667	5.0	29.6
Senior high school	4740	4.4	24.2
Technical school	1975	2.1	20.5
College and above	4422	1.3	14.1
Political status (adults)			
CPC	4357	1.4	15.3
Non-CPC	13200	4.4	25.0
Ethnic status (adults)			
Majority	16750	3.6	22.6
Minority	807	4.2	22.1
Ethnic status (children)			
Majority	2785	3.9	18.1
Minority	206	5.3	17.5
Region (adults)			
East	6554	2.0	19.8
Central	6231	4.3	25.4
West	4716	5.2	22.8
Region (children)			
East	908	1.9	17.0
Central	1198	4.8	21.0
West	832	5.0	15.3
Work status(adults)			
Work	10194	2.6	14.2
Not work	7363	5.1	34.1
Permanent migrant (adults)			
Yes	1821	2.7	17.5
No	15736	3.8	23.1
Sent down (adults)			
Yes	1249	4.6	26.1
No	16308	3.6	22.3
Adults	17641	3.7	22.6
Children	2991	4.1	18.0
Total	20632	3.7	21.9

Persons living in households with at least one member reported as a *xiagang* worker, ligang (off-duty), internal retired, unemployed, youth waiting for job, waiting for slots or entering a higher school. A person is considered an adult when aged 16 or older.

Table 2. Descriptive statistics, households with and without *Di Bao*, Mean values

Variables	<i>Di Bao</i> households	Non receivers	All households
Number of children	0.515	0.435	0.438
Number of elderly with pension	0.153	0.279	0.275
Number of elderly without pension	0.153	0.071	0.073
Number of working adults	1.140	1.504	1.491
Number of non-working adults	0.634	0.219	0.233
Household financial wealth (<i>yuan</i>)	12557	40703	39736
Health status of household head compared with others (percent)			
Good	47.23	60.56	60.11
Ordinary	34.89	33.36	33.41
Bad	17.87	6.08	6.48
Education of HH (percent)			
Primary school and below	14.89	6.98	7.25
Junior high	42.98	28.46	28.96
Senior high and Technical school	35.74	36.94	36.90
College and above	6.38	27.62	26.89
With at least one child (percent)	45.53	41.89	42.02
HH CPC member (percent)	14.47	38.40	37.58
Permanent migrant ^x (percent)	20.85	26.82	26.61
Sent down ^{xx} (percent)	24.26	18.06	18.27
Female head (percent)	33.19	32.81	32.82
Ethnic minority head (percent)	4.26	3.86	3.88
Large city (percent)	33.62	40.53	40.30
Eastern region (percent)	19.57	36.48	35.90
Central region (percent)	42.55	36.15	36.37
Western region (percent)	37.87	27.36	27.72
Per capita city income (<i>yuan</i>)	6869.58	7910.68	7874.89
Mean city employment ratio	0.6392	0.6640	0.6632
Number of observations	235	6600	6835

^x Based on 0 – 1 variable for each household indicating if at least one member is a permanent migrant.

^{xx} Based on 0 – 1 variable for each household indicating if at least one member was sent down during the Cultural Revolution.

Note: A person is defined as a child if under 16 years old and elderly if over 60 years old. A person not defined as a child or elderly is defined as an adult.

Table 3.
Estimated Logit models of receiving *Di Bao*

Specification	1	2	3	4
<i>Variables measuring the number of various categories of household members</i>				
Number of children	0.419*** (0.129)	0.408*** (0.129)	0.494*** (0.134)	0.477*** (0.134)
Number of elderly with pension	-1.003*** (0.179)	-1.001*** (0.179)	-0.946*** (0.181)	-0.949*** (0.180)
Number of elderly without pension	0.520*** (0.181)	0.537*** (0.181)	0.562*** (0.182)	0.572*** (0.182)
Number of working persons in the household	-0.524*** (0.099)	-0.532*** (0.099)	-0.518*** (0.099)	-0.525*** (0.099)
Financial wealth/10000	-0.245*** (0.044)	-0.247*** (0.044)	-0.251*** (0.044)	-0.252*** (0.044)
Financial wealth/10000 squared	0.0008*** (0.0002)	0.0008*** (0.0002)	0.0008*** (0.0002)	0.0008*** (0.0002)
<i>Health status of household head</i>				
Good				
Ordinary	0.268* (0.156)	0.254 (0.156)	0.261* (0.156)	0.250 (0.156)
Poor	1.188*** (0.206)	1.192*** (0.206)	1.182*** (0.206)	1.186*** (0.206)
<i>Education of household head</i>				
Primary school or below				
Junior high school	-0.195 (0.219)	-0.206 (0.220)	-0.234 (0.220)	-0.241 (0.221)
Senior high school	-0.414* (0.228)	-0.417* (0.229)	-0.449** (0.229)	-0.449* (0.229)
College or above	-1.526*** (0.336)	-1.515*** (0.337)	-1.534*** (0.336)	-1.524*** (0.337)
<i>Political affiliation of household head</i>				
Not party member				
CPC party member	-0.800*** (0.198)	-0.770*** (0.199)	-0.786*** (0.198)	-0.762*** (0.199)
<i>Variables measuring migration experience of household head</i>				
Urban born				
Permanent migrant		-0.781* (0.460)		-0.664 (0.462)
Not sent down during Cultural Revolution				
Sent down			1.042** (0.468)	0.946** (0.474)
<i>Gender of household head</i>				
Female				

Male	-0.110 (0.152)	-0.113 (0.152)	-0.106 (0.152)	-0.109 (0.152)
<i>Ethnic status of household head</i>				
Minority				
Han	-0.032 (0.350)	-0.017 (0.351)	-0.037 (0.349)	-0.023 (0.350)
<i>Variables measuring the household's location</i>				
Small city				
Large cities	0.265 (0.178)	0.251 (0.178)	0.254 (0.178)	0.243 (0.179)
Eastern region				
Middle region	-0.066 (0.207)	-0.041 (0.208)	-0.059 (0.207)	-0.040 (0.208)
Western region	0.249 (0.206)	0.272 (0.206)	0.257 (0.205)	0.274 (0.206)
Mean city income/1000	-0.229*** (0.059)	-0.230*** (0.059)	-0.232*** (0.059)	-0.232*** (0.059)
Mean city working ratio	-4.006*** (1.045)	-3.823*** (1.053)	-4.038*** (1.049)	-3.884*** (1.057)
Constant	2.461** (0.969)	2.402** (0.970)	2.405** (0.971)	2.363** (0.971)
Log likelihood	-842.46	-840.92	-840.12	-839.03
Pseudo R-squared	0.1761	0.1776	0.1784	0.1795
Number of observations	6824	6824	6824	6824

For variable definitions see the text and notes to Table 2. Households are the unit of analysis.

Table 4
Predicted probabilities of receiving *Di Bao* for different typical households. Percent

Household number	Characteristics of household	Two non-elderly working	One non-elderly working
1	Base: The household consists of two non-elderly and one child. The head is male, not a CPC member, is of majority ethnicity, has a primary education, and poor health. The household head has no migration experience and has not been sent down. The household is situated in a small city located in the western region with a city income and employment rate at the sample means (7 875 <i>yuan</i> and 0.6632). Financial wealth is at the sample mean (39 735 <i>yuan</i>)	9.9	15.6
2	Same as 1 but with low financial wealth (at observed mean for <i>Di Bao</i> households: 12 557 <i>yuan</i>)	16.8	25.5
3	Same as 1 but with 0 financial wealth	21.7	31.9
4	Same as 1 but with high financial wealth (mean value plus one standard deviation = 125 000 <i>yuan</i>)	1.3	2.2
<i>Demographic change</i>			
5	Base households but with two, not one child.	15.0	23.0
6	Base household, but with one elderly without pension	16.2	24.7
7	Base household, but with two children and one elderly without pension	23.8	34.6
8	As 7 but with no financial wealth	44.2	57.3
9	Base household but with one elderly with pension.	4.1	6.7
<i>Changed characteristics of household head or household</i>			
10	Experience of being sent down	22.0	32.3
11	The head is member of CPC	4.9	7.9
12	Head has college or longer education	2.3	3.9
13	Health status of head is good	3.2	5.3
14	Head is member of CPC, has college or longer education and good health status	0.3	0.6

Table 5. Income Components, Per capita income and Concentration coefficients among *Di Bao* households, other households and all households

Income	<i>Di Bao</i> households			Other households			All households		
	Amount (yuan)	Percent of Total percapita income	Concentr ation Coeffiici ent	Amount (yuan)	Percent of Total percapita income	Concentr ation Coefficie nt	Amount (yuan)	Percent of Total percapita income	Concentr ation coefficie nt
Earnings	1930	62.17	0.259	6069	72.22	0.318	5927	72.09	0.327
Individual enterprises	226	7.27	0.047	263	3.13	0.056	262	3.18	0.056
Income from property	21	0.66	0.140	56	0.67	0.408	55	0.67	0.411
Pension income	540	17.41	0.441	1995	23.74	0.357	1945	23.65	0.368
<i>xiagang</i> benefit	78	2.50	0.361	21	0.25	-0.012	23	0.28	-0.059
<i>Di Bao</i> benefit	310	9.99	0.051				11	0.13	-0.739
Total percapita income	3104			8404			8221		
(Number of observations)		235			6600			6835	
Gini			0.256			0.319			0.326
Expenditure									
Food	1452	46.23	0.195	2416	28.74	0.232	2382	28.98	0.235
Clothing	237	7.56	0.224	619	7.37	0.273	606	7.38	0.280
Education	409	13.04	0.389	742	8.83	0.428	730	8.88	0.429
Medical	266	8.46	0.367	420	5.00	0.386	415	5.05	0.387
Tele. Commu.	224	7.13	0.299	639	7.61	0.397	625	7.60	0.403
Housing	377	12.00	0.269	649	7.73	0.398	640	7.78	0.398
The sum of six above categories	2965	94.42	0.257	5486	65.27	0.314	5399	65.67	0.317

Note: Total per-capita income among *Di Bao* households amounts to 36.9 percent of total per-capita income of other households.

Table 6
Poverty among households receiving *Di Bao* and non-receiving households measured by FGT indices:

Row / Poverty line		PL=1774			PL=2534	
Poverty index	FGT(0)	FGT(1)	FGT(2)	FGT(0)	FGT(1)	FGT(2)
<i>Di Bao</i> household (N = 235)						
1. Without accounting for <i>Di Bao</i> receipt	0.2708	0.0856	0.0472	0.4935	0.1768	0.0911
2. After considering <i>Di Bao</i> receipt	0.1745	0.0515	0.0240	0.4141	0.1255	0.0563
3. Decrease in poverty due to <i>Di Bao</i> receipt, percent	36	40	49	16	29	38
4. Households not receiving <i>Di Bao</i> (N = 6600)	0.0148	0.0039	0.0018	0.0464	0.0112	0.0045
All households (N = 6835)						
5. Without accounting for <i>Di Bao</i> receipt	0.0243	0.0069	0.0034	0.0630	0.0173	0.0078
6. After considering <i>Di Bao</i> receipt	0.0207	0.0056	0.0026	0.0601	0.0154	0.0065
7. Decrease in poverty due to <i>Di Bao</i> receipt, percent	17	23	31	5	12	20

Note: Row 3 is defined as (row 1 – row 2) / row 1 *100. Row 7) is defined as (row 5 – row 6) / row 5 *100.

Figure 1. Age and economic hardship in urban China 2002

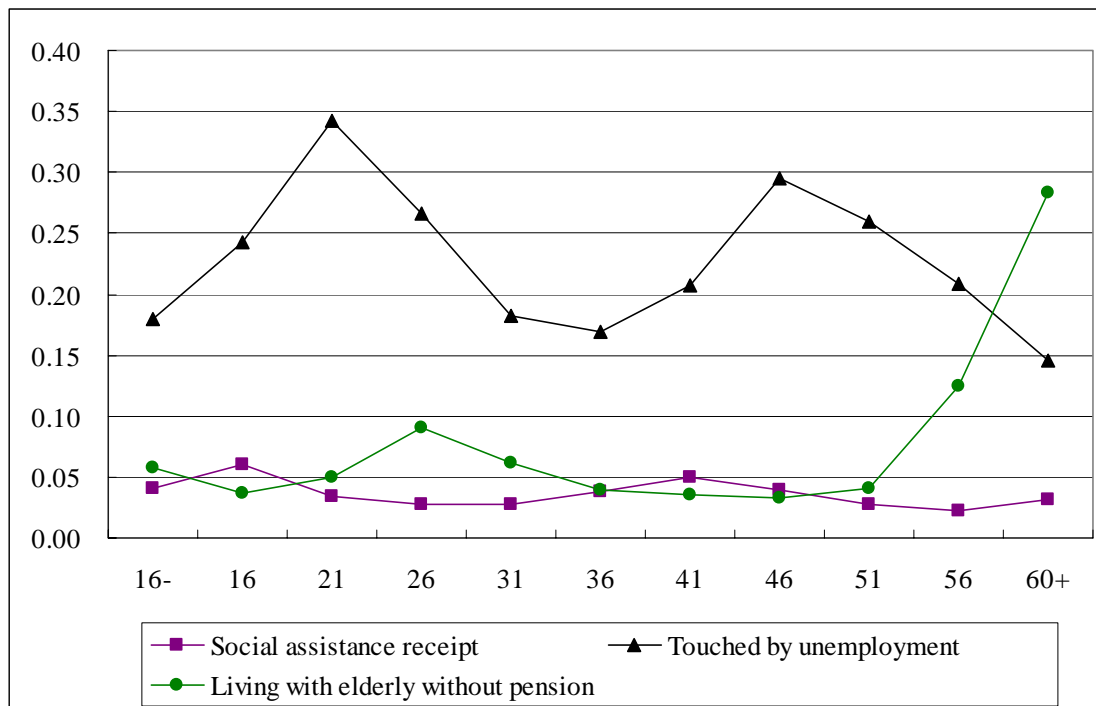


Figure 2

Predictions of Di Bao receipt for a household with given characteristics living in different cities. The prediction refers to household 8 as specified in Table 4 and cities are sorted by average household income.

