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ANTI-POVERTY EFFECTIVENESS OF THE MINIMUM LIVING STANDARD ASSISTANCE POLICY IN URBAN CHINA

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Since its inception 15 years ago, the Minimum Living Standard Assistance (MLSA) has served as a last resort for China's urban poor. Using national household survey data, this study provides updated evidence on the participation rate, receipt amount, and anti-poverty effectiveness of MLSA. Families eligible for MLSA make up 2.3 percent of the urban population, but only about half of them are actual beneficiaries. City MLSA generosity and household entitled benefit amount both positively correlate with participation rate and household receipt amount. MLSA lowers the poverty rate somewhat, but substantially reduces the poverty gap and severity for its eligible participants. Nevertheless, the poverty reduction role of MLSA is restricted by its partial coverage and delivery. Consequentially, poverty remains a serious problem for MLSA's target population. The anti-poverty effectiveness of MLSA can be strengthened by full coverage and delivery of benefits and by paying special attention to disadvantaged subgroups.

1. INTRODUCTION

Since the early 1990s, a series of economic and social policy reforms have created a new group of urban poor in China. On the one hand, during the market reform process, many state-owned and collective enterprises went bankrupt, and others had massive layoffs in an attempt to improve economic productivity and efficiency, yielding a sharply rising unemployment rate in urban China. The number of laid-off workers from state-owned enterprises (SOEs) was 5.9 million in 1998 and peaked at 6.6 million in 2000 (NBS, 2005). The official urban unemployment rate rose from 2.0 percent in 1988 to 3.1 percent in 2000 and kept increasing to 4.2 percent in 2004 (NBS, 2005). Still, these figures are underestimates. They leave out the many who are not officially laid off but stay on the job roster and

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receive very low or no earnings. Those who have no jobs but are not officially registered as unemployed are also excluded.

On the other hand, a series of social policy changes in the urban areas have focused on shifting the welfare burden from employers to employees to facilitate market economy reforms. The state-owned and collective enterprises, which were the major providers of social benefits, needed to lower costs and improve productivity. Consequently, urban social benefits have transformed from their original broad coverage and generous provision to a marginal role in the lives of families (Croll, 1999; Zhu, 2002; Guan, 2005; Gao, 2006; Hussain, 2007). The financing of most social benefits has shifted from work units to general taxes or shared responsibilities among individuals, employers, and sometimes the government. More social benefit programs such as pension and health care now require direct individual contributions (Gao, 2006). Empirical evidence shows that, on average, social benefits comprised one quarter of urban families' total household income in 2002, shrinking significantly from 44 percent in 1988 (Gao and Riskin, 2009).

As a consequence of economic and social policy reforms, the new urban poor have been left behind by both market competition and social protection. To lift the economic well-being of this group and to prevent potential social unrest, the government launched the Minimum Living Standard Assistance (MLSA) program to serve as a last resort for the urban poor. The program was initiated in several cities in the early 1990s and adopted nationwide in 1999. As the major public assistance program in urban China, MLSA has developed rapidly. The number of MLSA beneficiaries rose from 0.89 million in 1997 to 2.66 million in 1999. The central government enacted a regulation in 1999 to require all cities to implement MLSA. Since then the number of participants increased dramatically and has remained around 22.40 million since 2003 (MCA, 2006). Recent empirical work identifies MLSA as the only progressively distributed social benefit in urban China that targets the poor and reduces income inequality (Gao and Riskin, 2009).

How effective has MLSA been in poverty reduction since its inception more than a decade ago? Despite the increasing number of relevant studies, the lack of national household survey data has limited empirical investigations on this topic (Leung, 2006). To build upon recent work that has started to fill this gap, this study empirically examines the poverty reduction outcomes among MLSA eligible families. We focus on eligible families because they are the primary targets of MLSA and because concentrating on them can provide a direct evaluation of MLSA's poverty reduction effectiveness. Specifically, we first examine the participation rate and benefit receipt amounts and gaps among MLSA eligible families and then focus on MLSA's impact on three poverty reduction outcomes among these families: poverty rate, depth, and severity.

This study uses the China Household Income Project (CHIP) 2002 urban dataset. CHIP covers 77 cities representing various geographic regions and developmental stages. It contains detailed information on household demographics, income sources, and social benefit receipt. Gustafsson and Deng's recent work (2007) used the same data source and found that, although MLSA has successfully lessened poverty severity, it has not helped to actually lift many families out of poverty and rather serves as an income supplement for recipients. In this study, we take a more focused approach to examine poverty reduction outcomes among

MLSA eligible families. To do this, we utilize administrative data on city MLSA assistance lines and the rich household income data available in CHIP to simulate MLSA eligibility. Another unique contribution of our study is that we not only examine the actual anti-poverty effects of the MLSA program, but also simulate the potential effects given full coverage and delivery of MLSA to all eligible families. This analysis allows us to discuss the policy implications more fully to better inform the ongoing MLSA reforms.

It should be noted that another important transition during the reform period has been the migration tide from rural to urban China. The number of migrants jumped from 18 million in 1989 to 70 million in 1993 and to 150 million by 2004 (Liang, 2001; Zhu and Zhou, 2005). Migrants now make up 11 percent of the national population and more than 20 percent of urban residents. However, due to the lack of registered local city resident status, they are not entitled to MLSA benefits and thus are excluded from this analysis. This exclusion, however, is a huge omission. If the migrants had been allowed access to MLSA, it is estimated that at least 15 million (i.e. about 10 percent of all migrants) would have been eligible.[1] Further, excluding migrants also underestimates poverty in urban China as migrants on average earn much less than their peers with urban registration status. For instance, in 2002, the average migrant household's income was only two thirds of that among those with urban registration status (Khan and Riskin, 2005).

2. Policy Background

Establishment History

A combination of increased unemployment, low wages, inadequate pensions, and rampant inflation yielded a growing number of urban poor in China in the early 1990s (Saunders and Shang, 2001; Guan, 2005; Gao, 2006; Leung, 2006). To establish a basic safety net for this group, Shanghai initiated its MLSA in 1993. The city government set up the assistance lines and committed a financial budget. Based on the successful experience in Shanghai, the Ministry of Civil Affairs in 1994 encouraged other cities to adopt this program. In 1995, 12 cities established MLSA. The number increased to 116 cities in 1996 and 334 cities in 1997. By October 1999, all 668 cities and 1,689 counties had implemented MLSA (IOSC, 2002, 2004; Leung, 2006).

To regulate MLSA across the country, the central government in 1999 enacted the Regulation on Assuring Urban Residents' Minimum Standard of Living (hereafter "the Regulation"). The Regulation stipulated that urban residents whose household *per capita* income was lower than the local minimum living standard line were entitled to basic assistance from the local government. The

[1]This is based on the authors' calculations using the CHIP 2002 migrant data. This figure, however, is likely to be an underestimate because it is very possible that the CHIP 2002 migrant sample represents a relatively better-off subgroup than the overall migrant population in China. Families in provincial capital cities were more likely to be in the sample, and within a given city, those who had more stable employment and better economic conditions—namely those living in resident communities rather than in city margins, construction sites, or slums—were more likely to be selected. In general, migrants in smaller cities and living in less stable conditions tend to have lower incomes.

Regulation prescribed that all local governments include MLSA expenses in their city budget. The central government may provide financial support to cities with difficulty (IOSC, 2002, 2004; Leung, 2003).

Assistance Lines

The MLSA assistance lines are set up by city governments following general guidelines issued by the central government to reflect the local minimum living standards. These lines are set as a monthly amount in yuan. In principle, the assistance line should be computed according to the local minimum standard of living, which is based on local average *per capita* income and basic consumption needs. According to the Regulation, the assistance should cover basic food, clothing, and shelter needs, taking into consideration utility, medical care, and tuition expenses (Ru *et al.*, 2002; Hong, 2005a). In reality, however, the determination of the assistance lines is often restricted by local governments' financing capacity (Du and Park, 2007). As a result, the assistance lines in many less developed cities tend to be lower than what is required to fulfill families' actual basic needs (Guan, 2005).

The assistance lines have been adjusted annually according to changes in consumer prices and local governments' financial capacities. Some cities have raised their assistance lines constantly, while some others had to lower their lines. In 2003, the average assistance line throughout the country was only 14 percent of the average wage and 23 percent of the average *per capita* disposable income of urban residents (Leung, 2006).

Eligibility Rules

In principle, any urban resident whose family's *per capita* income is lower than the local MLSA line is entitled to the benefits. However, the Regulation differentiates two groups of beneficiaries (Hong, 2005a; Leung, 2006). The first group is made up of the traditional recipients of social assistance; that is, those without an income source, working capability, or legal guardian or supporter (known as the "Three Without" Households). This group can receive the full amount of benefits offered by the local assistance line. The second group is the newly emerged urban poor, including families with financial difficulties due to unemployment, those who are unemployed but ineligible for unemployment benefits or whose time-limited unemployment benefits are terminated, and pensioners with inadequate income. This group often has family members who are in their working ages and/or have some level of income. Their entitled benefit amount is the local assistance line less their total household income.

As a strictly means-tested program, the MLSA conducts two tests for families' eligibility (Hong, 2005a). The first is a financial investigation. The value of an eligible family's total financial resources, including income and assets, must be below the local assistance line. MLSA adopts a very inclusive income definition to decide each family's eligibility. Household income is measured as cash income from any source, including earnings, social benefits, and private transfers. Savings and stocks are also counted as part of income. However, due to difficulties of income measurement, some other indicators, such as financial assets, employment,

health status, and housing conditions, are also considered (Chen *et al.*, 2006; Du and Park, 2007). Many cities also take into account ownership of durable goods. For example, Beijing has specified that families who own luxury goods such as a vehicle, motorcycle, cell phone, or who have pets, are ineligible for MLSA benefits (Hong, 2005a).

The second eligibility test concerns residency status and family formation (Hong, 2005a). Only members who have official local urban residency status are eligible. Cities treat adult children who still live with parents in the same household differently: some consider them members of the family and some treat them separately, while some others have not yet established specific rules regarding such cases.

3. Previous Research

Eligibility and Participation

Three recent studies have examined MLSA eligibility and participation rates. Using a sample of 35 of the largest cities from the NBS's Urban Household Survey for 2003/04, Chen *et al.* (2006) found that 7.7 percent of all urban households were eligible for MLSA benefits. However, among these households, only 28 percent were actually covered by MLSA, while 43 percent of the households that received MLSA were actually ineligible. The authors argued that, based on international standards, such targeting performance is excellent for a means-tested public assistance program. Using data collected from five big cities (Shanghai, Wuhan, Shenyang, Fuzhou, and Xi'an) in 2001 and 2005, Du and Park (2007) found that about 51 percent of households eligible for MLSA were covered, while 42 percent of participating households were ineligible. Also, using the 2004 Urban Employment and Social Protection Survey, which contains a sample of 14 cities of various sizes, Wang (2007) revealed that 39 percent of eligible households received MLSA benefits, while 40 percent that were covered were ineligible.

Because eligibility is largely decided by income, it is important to understand what income sources have been included in previous studies and whether they match those specified in the MLSA regulations. In order to estimate household income, Chen *et al.* (2006) relied on a single question available in the survey that provided their data: "What is your household's total income?" This is unlikely to accurately measure whether a given family's income met the MLSA regulations. Du and Park (2007) explained that their pre-transfer income measure excluded laid-off allowances, unemployment insurance, and MLSA payments, but the sources of the included components were not elaborated. In Wang's (2007) study, it was not specified whether certain income sources such as income from property and in-kind supports were counted, nor is it clear whether, and if so, how, public transfer income was considered. The present study addresses these limitations by utilizing detailed income data available in CHIP and by closely mimicking the income definitions used in MLSA regulations.

Another common weakness of these previous studies is the inconsistency between the actual and analytical accounting period. The MLSA assistance lines are set as monthly amounts and eligibility is determined based on income during

the current month. However, income and MLSA participation in surveys have usually been reported in annual terms. Thus only the annual accounting period can be used in most survey data analyses. Because income varies over the course of a year, it is possible for annual income to be above the MLSA eligibility level but for income in some months to be below the MLSA level. Consequentially, studies based on survey data have tended to overestimate the number of mis-targeted families (i.e. ineligible participants). Unfortunately, our study also relies on survey data and cannot address this issue.

Determinants of MLSA Participation

Unemployment, low wages, inadequate pensions, and other hardships such as health problems have been identified as the major factors associated with MLSA participation (Hong, 2005a; Leung, 2006; Du and Park, 2007). The MCA reports that, in 2002, over half of MLSA recipients were unemployed (either laid-off or nominally on the job roster but not working or receiving any income). Another 10 percent had low wages and 5 percent were retired. About 30 percent received MLSA because they had family members who were unemployed, had low wages, or were retired. An additional 5 percent of recipients were the traditional "Three Without" households (Hong, 2005b). A national survey of 10,000 MLSA recipients conducted by the MCA in 2003 indicated that 34 percent of these households had disabled members, and 65 percent had chronically sick members (Leung, 2006). In a study of five major cities in 2003, Tang (2004) found that 53 percent of all MLSA recipients were unemployed and 12 percent were retired, chronically sick, or disabled.[2]

In addition to the socioeconomic disadvantages identified above, some demographic characteristics, such as low education, poor health or disability, retired or unemployed household heads, lower financial wealth, larger household size, and not being a Communist Party member, have also been linked to higher probability of MLSA participation (Chen *et al.*, 2006; Du and Park, 2007; Gustafsson and Deng, 2007). City-level variables such as employment rate and average income were also found to affect the probability of receiving MLSA (Gustafsson and Deng, 2007).

Despite the increasing body of studies on MLSA participation, little work has been done to explore the determinants of the amount of MLSA benefits received. The Chinese government's specific goal for MLSA is full coverage and delivery (*yin bao jin bao*), which implies two elements: to provide assistance to all eligible families and to assure full delivery of the entitled benefits. While the first element concerns participation, the second requires the MLSA benefit amount received by families to match the entitled level. This study makes a pioneering effort to directly examine the determinants of MLSA receipt amount.

As MLSA is regulated and administered by city governments, city level MLSA generosity is expected to have a strong impact on MLSA participation and amount received by families. More generous local MLSA benefits would provide higher incentives for families to participate and lift their incomes more substantially; conversely, low MLSA assistance lines may be insufficient to motivate

[2]Another 26 percent of the recipients were children in this study.

families to apply for the benefits, especially given that they have to go through a strict means testing process and bear the associated stigma. Only one existing study has indirectly explored this issue (Chen *et al.*, 2006). As expected, the authors found that higher public spending on MLSA at the city level was associated with a larger poverty reduction impact and better targeting performance.

Anti-Poverty Effectiveness

Recent studies have found that MLSA has some impacts on poverty reduction, but this effect is only noticeable among the participants and insignificant for the urban population as a whole. Further, MLSA has had a larger impact on reducing poverty depth and severity than on the poverty rate (Chen *et al.*, 2006; Gustafsson and Deng, 2007).

More specifically, Gustafsson and Deng (2007) used a poverty line developed by Khan (2004) according to the minimum food intake required to sustain energy and found that MLSA reduced the poverty rate by 16 percent among its participants and by 5 percent among all urban households. More significantly, the poverty gap was narrowed by 29 percent among MLSA participants and by 12 percent among all urban households. The authors also found that MLSA had successfully lessened poverty severity (by 38 percent for MLSA participants and by 20 percent for all urban households). The impact sizes are larger if a lower poverty line is used. Using NBS survey data from the 35 largest cities in China, Chen *et al.* (2006) discovered that, for participants, MLSA lowered the poverty rate by 20 percent, poverty depth (as measured by the poverty gap index) by 29 percent, and poverty severity by 37 percent. For all urban households, the reductions were 6, 10, and 14 percent, respectively.[3] They also find that MLSA did better at reaching the chronically poor than the transiently poor.

Du and Park's (2007) findings indicated that MLSA had become the dominant social assistance program in urban China, with the poorest 20 percent of the population receiving 55 percent of its transfers in 2001 and more than 80 percent in 2005. Their results also showed that MLSA's poverty reduction effect had increased over time. The poverty rate was lowered by 3 to 15 percent in 2001 and by 2 to 32 percent in 2005, depending on the poverty line used. Specifically, the impact size was measured to be significantly larger when a lower poverty line was adopted.[4]

Existing studies have either restricted their samples to MLSA participants or have studied MLSA's impact on the urban population as a whole. In this study, we go a step further and specifically focus on MLSA's anti-poverty effectiveness among its target population; that is, all families that are eligible for MLSA regardless of participation status. We estimate MLSA eligibility and compare the outcomes for eligible participants and non-participants. This allows us to detect to what extent MLSA achieves its embedded goal—full coverage and delivery. It also

[3]These figures were not directly reported by the authors and are calculated by us based on results reported in table 2 of the Chen *et al.* (2006) paper. Percent of poverty reduction is calculated as the difference between the pre- and post-MLSA poverty outcomes divided by the pre-MLSA outcomes. The same method was used in Gustafsson and Deng (2007).

[4]These effect sizes were not directly reported in Du and Park (2007). The figures reported here are our calculations based on the results presented in their table 3-2.

helps us understand MLSA's potential anti-poverty impact through a simulation assuming all eligible families participate and receive their full entitled amounts.

4. Data and Methods

This study uses the China Household Income Project (CHIP) 2002 urban survey data. CHIP is a national, cross-sectional study collectively designed by a team of Chinese and Western scholars and conducted by the Institute of Economics at the Chinese Academy of Social Sciences. Samples of the CHIP study were drawn from larger NBS samples using a multistage stratified probability sampling method. To generate a nationally representative sample, CHIP includes sample provinces from eastern, central, and western regions of China. More specifically, the Beijing municipality and the provinces Liaoning, Jiangsu, and Guangdong represent the eastern region; the provinces Shanxi, Anhui, Henan, and Hubei represent the central region; and the Chongqing municipality and the provinces Sichuan, Yunnan, and Gansu represent the western region. The CHIP 2002 urban sample contains 77 cities, 12 of which are municipalities or provincial capital cities. The dataset has a sample size of 6,835 households and 20,632 individuals.

Estimating Eligibility and Participation

As discussed earlier, MLSA eligibility rules vary substantially across cities, especially with respect to how to treat financial and other assets. Families have the incentive not to report certain income components that are difficult to detect, such as income from property and private transfers. In addition, government officials who are in charge of deciding the eligibility for and receipt amount of MLSA could vary from being lenient to very strict.

In estimating families' MLSA eligibility, we strive to approximate the MLSA eligibility guidelines, assuming all income components specified by the regulations are captured by local government officials. Our income measure thus contains the following sources: earnings of working members, pensions of retirees, and other public transfers such as unemployment insurance and lump-sum payment for layoffs from employers, all of which are relatively easy to detect; income from private or individual enterprises, an income source that should be counted for MLSA purposes but is not always easy to detect, especially when some low-income families engage in irregular small businesses; and three other income sources that could be easy to hide, including private transfers, in-kind housing subsidies, and income from property (i.e. interest, shareholder dividends, insurance benefits, dividends from other kinds of investments, income from renting out house or apartment, income from intellectual property, and other). We also take into account families' ownership of two durable goods—vehicles and motorcycles. Even though some cities have regulations restricting families who own other durables such as air conditioners and cell phones from receiving MLSA, we choose to ignore them in this study because in reality such durables tend to be necessities and are easy to hide from the officials.

MLSA participation is estimated by whether families in the CHIP study reported receiving any MLSA benefits. The CHIP 2002 urban data contain two

data files: a main survey from the NBS "mother" questionnaire and an appendix survey using a more detailed questionnaire designed by the CHIP research team. The two surveys asked about MLSA participation differently. In the NBS survey, a question was directly asked about the amount of MLSA benefits received; in the appendix survey, families were asked about the amount of "social assistance" that they received, which is commonly interpreted as MLSA in urban China. We adopt the estimation of MLSA participation using data from the appendix survey because the calculation based on the NBS survey yields a MLSA participation rate of 2.1 percent, which is substantially lower than the official estimate of 4.1 percent by the Ministry of Civil Affairs as well as those reported in previous studies (ranging between 6.2 and 9.0 percent) using large scale national survey datasets (Chen *et al.*, 2006; Du and Park, 2007; Wang, 2007). The participation rate estimated based on the appendix survey is 3.7 percent, which is not only close to the official estimate, but also consistent with what was used by Gustafsson and Deng (2007).[5] If we were to use the lower participation rate estimated based on the NBS survey, the poverty reduction effects of the MLSA would be smaller than the findings in this study.

If any member of a household received MLSA in 2002, all members of the household are considered to be MLSA participants. MLSA benefits received by all family members are summed at the household level and divided by household size to yield a *per capita* receipt amount.

To examine the targeting effectiveness of the MLSA, we compare families' participation status against estimated eligibility to compute the leakage and mis-targeting rates. The leakage rate refers to the proportion of families who are eligible but did not benefit from MLSA among all eligible families. The mis-targeting rate measures the proportion of ineligible recipient families out of all recipients. These two indicators, which are widely used to measure targeting effectiveness (for example, Coady *et al.*, 2004; Chen *et al.*, 2006; Du and Park, 2007; Wang, 2007), are compared to those estimated in previous studies. Unfortunately, like previous research, because of the inconsistency between the annual accounting period in the data and the monthly accounting period for determining MLSA eligibility, we may overestimate mis-targeting. Our further analyses mostly focus on MLSA eligible families.

Determinants of Participation and Receipt Amount

Regression models are used to detect the determinants of MLSA participation and amount received. Specifically, we examine two key independent variables. The first is city MLSA assistance line, which measures city MLSA generosity. Presumably, the more generous a city's MLSA, the higher the participation rate and the amounts of benefits received by participating families will be. The second is the amount of the household *per capita* entitled benefit. A higher amount of entitled benefit is expected to create a higher incentive for families to participate and to result in families actually receiving more money.

A rich array of family demographic and policy contextual characteristics is controlled for. Family demographics include household head characteristics such

[5]Gustafsson is one of the principal investigators of the CHIP 2002 survey.

as age, education, self-rated health, marital status, ethnicity, Chinese Communist Party (CCP) membership, employment status, and whether he/she was sent to the countryside during the Cultural Revolution. Household level characteristics include household size, the numbers of children and older persons in the household, whether the family live in a municipality or a provincial capital city, and region of residence. Several provincial level policy contextual variables are also controlled for, including GDP growth rate, mean *per capita* income, and unemployment rate. Alternatively, province fixed effects are included in place of these policy variables to account for the unobserved heterogeneity among provinces.

Determinants of participation are examined among two samples. The first is made up of all urban households and the second is made up of all eligible families, the target population of MLSA. Effects of the two key independent variables as well as other controls are expected to be stronger in the second sample than in the first one. Because participation is a dichotomous variable, logistic regression models are used.

Determinants of the MLSA benefit amount received are also examined among two samples: all eligible families who are potential benefit recipients and the eligible families who are actual participants. Again the effects of the determinants are expected to be stronger in the second sample. Tobit regression models are run among all eligible families, with a fixed censoring value of receiving no MLSA benefits for the non-participants. Ordinary least squares (OLS) regression models are run among all eligible participants.

Anti-Poverty Effectiveness

We compare families' pre- and post-MLSA poverty status, depth, and severity to detect the impacts of MLSA on poverty reduction. The main poverty line that we adopt is the same used by Gustafsson and Deng (2007). It is developed by Khan (2004) and set at 2,534 yuan *per capita* per year using the minimum food energy requirement in urban China. To conduct a sensitivity test, we consider two other poverty lines: a lower absolute poverty line set at 70 percent of the above line, which has been adopted in a series of recent studies using CHIP data (Khan and Riskin, 2001; Khan, 2004; Gustafsson and Deng, 2007; Riskin and Gao, 2009) and is equal to 1,774 yuan *per capita* per year; and a widely used relative poverty line set at 50 percent of median income and is estimated to be 3,485 yuan *per capita* per year. As suggested by existing studies, MLSA's poverty reduction effect is expected to be larger when a lower poverty line is used. Further, using a relative poverty line allows us to understand the anti-poverty impact in terms of reducing inequality at the bottom of the income distribution.

For each poverty line, we calculate the poverty rate (or head count ratio), poverty gap index (i.e. the mean income shortfall relative to the poverty line as a proportion to the line), and poverty severity ratio (measured by the squared poverty gap index so that individual poverty gaps are weighted by the gaps themselves). The poverty gap index measures poverty depth. The poverty severity ratio emphasizes income distribution among the poor—the more uneven the distribution, the more severe the overall poverty (Foster *et al.*, 1984).

Finally, a simulation on families' post-MLSA poverty status, poverty gap, and poverty severity is conducted, assuming full participation and benefit delivery to fill the receipt gap (i.e. the difference between the self-reported MLSA benefit received and the entitled benefit level), to reveal the potential anti-poverty effects of MLSA. This exercise allows us to project the full poverty reduction impact of MLSA and thus provide direct policy implications for its ongoing reforms.

5. Results

Eligibility, Participation, and Targeting Effectiveness

Using city MLSA assistance lines and the income definition specified earlier to approximate MLSA regulation and administrative process, we estimate that 2.3 percent of all urban residents were eligible for MLSA. This is equivalent to 138 households in the CHIP 2002 urban sample. This is much lower than prior estimates (ranging between 7.7 and 13.6 percent) in the literature using large scale datasets (Chen *et al.*, 2006; Du and Park, 2007; Wang, 2007). This is probably because of the very inclusive income measure adopted in this study which assumes the strictest implementation of MLSA regulations, whereas some important income components such as income from property, private transfers, and in-kind housing subsidies were not captured in previous studies.

Among eligible families, slightly less than half (63 households) participated in MLSA, while the other half (75 households) were leaked and did not receive assistance, yielding a leakage rate of 54.3 percent (i.e. 75 of 138 households). This is in the range of previous estimates of 49 to 72 percent and is excellent for a means-tested public assistance program based on international standards (Coady *et al.*, 2004; Chen *et al.*, 2006). Through an extensive review of 122 targeted transfer programs in 48 low and middle income countries, Coady *et al.* (2004) identified several leading factors for leakage (or non-take-up of benefits), including inefficient administration, opportunity cost (such as forgone work or income opportunities, transportation to and from program offices, and cash costs for obtaining certifications required for the program), and stigma associated with receiving the benefits. Evidence from ethnographic work suggested that most of these factors indeed contributed to the leakage of MLSA (Tang *et al.*, 2003; Tang, 2004; Leung, 2006; Solinger, 2008).

The MLSA participation rate, as noted earlier, is estimated to be 3.7 percent (equivalent to 240 households), which is larger than the eligibility rate (i.e. 2.3 percent). However, 177 families who were ineligible actually received MLSA, yielding a mis-targeting rate of 73.8 percent (i.e. 177 of 240 households). As discussed above, mis-targeting is overestimated in all studies because of the inconsistency in the official and data accounting periods, but our estimate is much higher than the previous estimates (about 40 percent), almost certainly because of the more inclusive income measure used in this study.[6]

Who are these ineligible participants? Our data show that their average pre-MLSA annual income (4,805 yuan) was more than three times that of the eligible

[6]If we were to use the NBS survey instead of the appendix survey to estimate MLSA participation, the leakage rate would be 76.8 percent while the mis-targeting rate would be 76.3 percent.

families (1,398 yuan). However, the majority of these families had incomes close to the MLSA line (averaging 2,138 yuan across cities). Eleven percent of these families had incomes below the MLSA line but were classified as ineligible due to the asset test. The fact that they actually received MLSA benefits suggests that the two assets that we consider in the eligibility estimation, namely vehicles and motorcycles, are probably easy to hide and thus hard to be detected and taken into account by local government officials. The remaining 30 percent of the ineligible participants had incomes more than double the MLSA line, suggesting serious mis-targeting. But many, if not most, of those with annual incomes above the eligibility line may have had sufficiently low incomes during some months of the year to be actually eligible. Further research needs to be devoted to investigating who these mis-targeted families were and what factors contributed to their access to the MLSA benefits. Inefficiency in the administration process and corruption among government officials may be among the leading factors as revealed by earlier ethnographic work (Tang *et al.*, 2003; Tang, 2004; Leung, 2006; Solinger, 2008).

Table 1 compares the demographic characteristics of MLSA participants and non-participants among eligible families, with the ineligible families as a comparison group. As expected, overall, eligible families tended to have less human capital and fewer socioeconomic resources than the ineligible ones. Among the eligible families, MLSA participants tended to fare worse than the non-participants.

Relative to ineligible families, the household heads of eligible families tended to have lower education levels and poorer health status and were more likely to be unmarried and less likely to be CCP members. In general, the eligible families were also larger, had more children and older members, and were more likely to be from the central and western regions, which are less developed than the eastern region. These differences are statistically significant.

Among eligible families, household heads of participating families tended to be older and to have poorer health than non-participants. They were also more likely to have a larger household size, to be residing in the central region, and to be ethnic minorities, non-CCP members, retired, or unemployed. Finally, these household heads were also more likely to be from cities other than provincial capitals.

MLSA Generosity, Receipt Amount, and Gap

Before examining the MLSA receipt amounts and gaps, we first describe variations in city MLSA generosity and entitled benefits. Figure 1 shows variations in city MLSA generosity by region. The vertical axis indicates city monthly MLSA assistance lines in yuan. Each dot on the three lines represents the MLSA assistance line of a specific city in one of the three regions. It is clear that on average, cities in the eastern region had higher assistance lines than in the other two regions, and seven of the eastern cities (i.e. the seven dots at the right end of the eastern region line) had assistance lines that were more generous than any other cities. MLSA benefits were more generous in the western region than the central region, despite that the western region is less developed. This could be an

TABLE 1
Demographic Characteristics of Families by MLSA Eligibility and Participation (%)

Eligibility	Eligible		
Participation status	Yes	No	Ineligible
Household head characteristics			
Age (mean)	48.55	47.12	47.67
18–29	1	2	2
30–39	19	22	23
40–49	44	41	35
50–59	21	22	24
60+	15	13	15
Education (mean years of schooling)**	8.63	8.39	10.71
Primary school or less	17	19	7
Junior high school	49	47	29
Senior high school	32	32	37
2-year college+	2	1	27
Self-rated health**			
Excellent	10	16	21
Good	29	29	40
Fair	38	42	33
Poor	23	13	6
Unmarried**	7	7	4
Ethnic minority	5	2	4
CCP member**	6	9	38
Sent to countryside during cultural revolution	17	16	18
Employment status**			
Employed	50	58	71
Retired	19	14	25
Unemployed	31	28	4
Household characteristics			
Household size (mean)**	3.71	3.67	3.21
Number of children <18 (mean)**	0.81	0.84	0.58
0	32	29	46
1	54	60	51
2	14	11	4
Number of older persons >60 (mean)**	0.35	0.39	0.36
0	73	71	75
1	20	18	13
2+	7	11	12
Region**			
Eastern	26	30	37
Central	42	36	37
Western	32	33	27
Provincial capital city	37	42	37
N of households	63	75	6,697
N of individuals	219	251	20,162

Notes: ANOVA tests are run for continuous variables and chi-square tests are run for categorical variables to detect statistically significance differences across the three groups. †significant at 10%; *significant at 5%; **significant at 1%.

indication that the local governments are responding to the lower pre-MLSA income levels, or that the western city governments have increased their financial capacity since the Western China Development movement started in 1999.

The city MLSA generosity is expected to be positively correlated to the mean city *per capita* income. Figure 2 indicates that as city mean *per capita* income increased, its MLSA line also rose, especially among the cities whose mean *per*

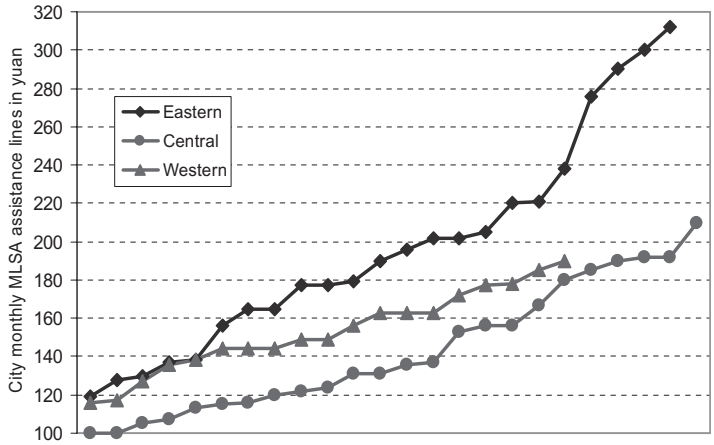

Figure 1. Variation in City MLSA Assistance Lines by Region

Note: Each dot on the three lines represents the MLSA assistance line of a specific city in one of the three regions.

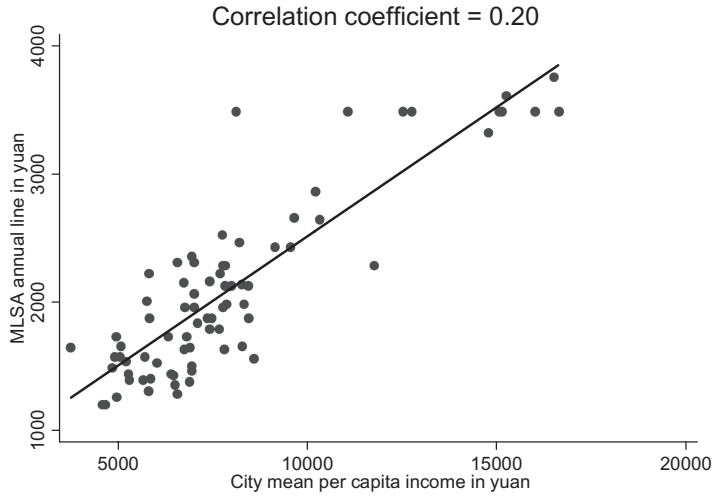

Figure 2. Correlation between City MLSA line and Mean *Per Capita* Income (annual amount in yuan)

capita income was not extremely high (i.e. annual city mean *per capita* income of less than 11,000 yuan). The correlation coefficient between the two was 0.20, indicating that while a relationship exists, many other factors may have influenced MLSA participation. To validate the survey data used in this study, we calculate the correlation coefficient between the city total MLSA spending based on administrative data and city aggregate MLSA receipt amounts reported in CHIP. The computed correlation coefficient is 0.61, which indicates a high correlation and helps validate the survey data we use.

TABLE 2

Entitled and Received MLSA Amounts and Remaining Gaps among Eligible Families (annual amounts in yuan)

	Entitled	Received	Gap
All	679	169	−510
Eastern region			
City average by province			
Beijing	355	287	−68
Liaoning	581	159	−422
Jiangsu	627	104	−523
Guangdong	1,238	247	−991
Provincial capital city			
Yes	896	289	−607
No	554	105	−449
All	707	188	−519
Central region			
City average by province			
Shanxi	503	254	−249
Anhui	748	172	−576
Henan	674	107	−567
Hubei	636	117	−519
Provincial capital city			
Yes	694	172	−522
No	603	148	−455
All	642	159	−483
Western region			
City average by province			
Chongqing	1,658	455	−1,203
Sichuan	547	43	−504
Yunnan	494	187	−307
Gansu	291	198	−93
Provincial capital city			
Yes	1,183	335	−848
No	473	88	−385
All	702	168	−534

Table 2 presents the results on the amounts of MLSA benefits (both entitled and received) as well as the remaining gaps for the entire urban sample and their variations by region and city. The overall mean entitled benefit was 679 yuan, but families on average only received 169 yuan, leaving a gap of 510 yuan. This gap was wider in the least developed western region and narrower in the central region, with the eastern region in between. This indicates that the western region was less effective in delivering MLSA benefits than the central region, despite the fact that the western region had more generous assistance lines as shown above. Within each region, the provincial capital cities tended to have significantly wider receipt gaps than the non-capital cities, probably because the capital cities had higher assistance lines and more people in extreme poverty that needed assistance. Among all provinces as well as municipalities, Beijing had the narrowest receipt gap at 68 yuan, suggesting that Beijing had been more effective than other cities in delivering MLSA benefits. The widest receipt gap existed in the Chongqing municipality. Its receipt gap was at an astonishingly high level of 1,203 yuan.

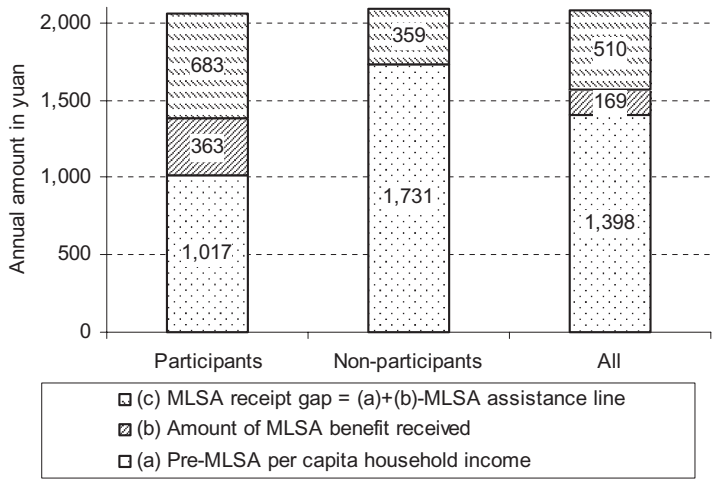

Figure 3. MLSA Receipt Amounts and Gaps by Participation among Eligible Families (annual amount in yuan)

Notes: (d) Entitled MLSA amount = (b) + (c). For participants, (d) = 1,046 yuan; for non-participants, (d) = 359 yuan; and for all eligible families, (d) = 679 yuan.

At the aggregate level, Figure 3 presents the MLSA receipt amounts and gaps among all eligible families and compares the results for participants and non-participants. Overall, MLSA was not able to sufficiently lift the incomes of its target population to the assistance line levels, nor did it raise the incomes of participants to a level comparable with their non-participant peers.

On average, the participants' pre-MLSA annual *per capita* household income was significantly lower than that of the non-participants with a difference of over 700 yuan, which accounted for about 70 percent of the participants' income. As a result, the participants were entitled to an average of 1,046 yuan in MLSA benefits, an amount even slightly higher than their pre-MLSA *per capita* household income. The non-participants were entitled to an average amount of 359 yuan, about one fifth of their pre-MLSA *per capita* household income. These entitlements can be defined as pre-MLSA receipt gaps.

Nevertheless, these entitled benefits were either under-delivered (to participants at an average amount of 363 yuan) or not provided at all (for non-participants). Consequently, the participants' post-MLSA average income was still 683 yuan less than the average MLSA assistance line, and this post-MLSA receipt gap was 359 yuan for the non-participants.

Determinants of MLSA Participation and Receipt Amount

Next, we examine the determinants of MLSA participation and receipt amount. As mentioned earlier, we focus on two key independent variables: city MLSA generosity as measured by city MLSA assistance lines and the amount of household *per capita* entitled MLSA benefit. These two variables are controlled for in the regressions separately. We expect that the effects of entitled household benefit amount are larger than the effects of the city MLSA generosity because the

former captures both variations in city MLSA generosity and how much individual households stand to gain from participation. Both variables are expressed as monthly values divided by ten so that the results are easier to interpret.

First, to understand the determinants of MLSA participation, two samples—namely all families (full sample) and the eligible families—are used. Table 3 presents the complete regression results on MLSA participation among all families. The first column shows the results on city MLSA generosity controlling for demographics and provincial policy contextual variables, while the second column replaces these policy variables with province fixed effects. The results in the third and fourth columns are similar to those in the first two, with the only difference being that the key independent variable is now the household entitled benefit amount.

The results in Table 3 suggest that more generous MLSA and higher entitled amounts both significantly predicted higher odds of participation. More specifically, a 10 yuan increase in the monthly MLSA generosity was associated with 5 percent higher odds of participation, and a 10 yuan increase in the monthly entitled benefit was associated with more than 50 percent higher odds of participation. As expected, the impact of the household level entitled benefit amount was significantly larger than that of city level MLSA generosity, which indicates that household entitled benefit amount provided stronger incentives for families to actually participate than the general city assistance lines. Indeed, these results appear to confirm that the further a family's income falls below the MLSA assistance line, the more motivated the family is to participate and the more likely their application for assistance is accepted.

The results on the demographic and policy contextual variables are largely as expected and consistent with the existing literature. Unemployment, poor health, being unmarried, larger household size, and residing in a less developed region (central or western) were all significant predictors of participating in MLSA. Being sent to the countryside during the Cultural Revolution was associated with higher odds of participating in MLSA, manifesting the long-term negative effects of this experience as previously documented (Gustafsson and Deng, 2007). Higher education levels and CCP membership of the household heads were both associated with lower odds of MLSA participation. With regard to policy contextual variables, provincial GDP growth rate and unemployment rate were found to be positively related to participation, while mean *per capita* income was negatively associated with participation.[7]

Table 4 summarizes the logistic regression results of the two key independent variables on MLSA participation. The top panel repeats the results on the full sample as shown in Table 3. The bottom panel limits the sample to eligible families only. The results suggest that the positive effects of both city MLSA generosity and household entitled benefit amount were larger among those who are eligible than among all families. More specifically, a 10 yuan increase in the monthly MLSA generosity was associated with 1.17 to 1.30 times the odds of participation, and a 10 yuan increase in the monthly entitled benefit amount was associated with 1.37 to 1.64 times the odds of participating in MLSA.

[7]Some of the policy variables were not statistically significant in the results in Table 3, but they turned out to be significant in the same direction and their magnitudes turned out to be larger in most of the later models. These results are not shown but are available upon request.

TABLE 3

EFFECTS OF CITY MLSA GENEROSITY AND HOUSEHOLD ENTITLED BENEFIT AMOUNT ON PARTICIPATION AMONG ALL FAMILIES

	City MLSA Generosity		Household Entitled MLSA Amount	
Province Fixed Effects Included	No	Yes	No	Yes
MLSA generosity or entitled amount	1.05**	1.02	1.55**	1.59**
	(2.99)	(1.39)	(18.99)	(19.52)
Household head characteristics				
Age (18–39 omitted)				
40–49	1.34*	1.36**	1.40**	1.45**
	(2.50)	(2.62)	(2.75)	(3.01)
50–59	0.90	0.95	0.90	0.95
	(0.73)	(0.37)	(0.66)	(0.31)
60+	0.84	0.89	0.59*	0.59*
	(0.81)	(0.54)	(2.26)	(2.25)
Education (primary school or less omitted)				
Middle school	0.85	0.82	0.91	0.86
	(1.22)	(1.51)	(0.67)	(1.04)
High school or secondary technology school	0.56**	0.53**	0.61**	0.58**
	(4.26)	(4.51)	(3.30)	(3.65)
Two-year college or higher	0.26**	0.23**	0.29**	0.25**
	(7.50)	(7.91)	(6.50)	(7.03)
Self-reported health status (very healthy omitted)				
Healthy	1.05	1.06	1.13	1.12
	(0.40)	(0.52)	(1.04)	(0.96)
Fair	1.26*	1.32*	1.14	1.17
	(2.02)	(2.35)	(1.03)	(1.25)
Bad	3.14**	3.17**	3.05**	3.06**
	(8.34)	(8.33)	(7.59)	(7.54)
Unmarried	2.13**	2.03**	2.25**	2.16**
	(4.88)	(4.50)	(4.97)	(4.68)
Ethnic minority member	1.01	0.92	1.07	0.95
	(0.04)	(0.45)	(0.33)	(0.25)
Chinese Communist Party member	0.69**	0.66**	0.81*	0.78*
	(3.70)	(4.08)	(2.01)	(2.33)
Sent to countryside during Cultural Revolution	1.35**	1.36**	1.39**	1.40**
	(3.06)	(3.08)	(3.08)	(3.15)
Employment status (employed omitted)				
Retired	1.00	0.97	1.24†	1.20
	(0.03)	(0.22)	(1.65)	(1.39)
Unemployed	4.22**	4.32**	2.82**	2.94**
	(12.92)	(12.96)	(8.10)	(8.29)
Household characteristics				
Household size	1.27**	1.26**	1.12†	1.08
	(4.28)	(3.98)	(1.85)	(1.20)
Number of children aged <18 (none omitted)				
One	1.06	1.10	1.09	1.15
	(0.57)	(0.95)	(0.81)	(1.26)
Two or more	2.19**	2.12**	2.04**	2.01**
	(4.34)	(4.09)	(3.60)	(3.49)
Number of elders aged >60 (none omitted)				
One	1.10	1.15	1.32†	1.43*
	(0.74)	(1.01)	(1.95)	(2.50)
Two or more	0.64*	0.67†	0.81	0.92
	(2.09)	(1.85)	(0.94)	(0.37)
Provincial capital city	0.88	0.89	0.87	0.83*
	(1.25)	(1.02)	(1.46)	(1.98)
Region (eastern omitted)				
Central	1.75**	–	1.31	–
	(2.59)		(1.18)	
Western	2.23**	–	1.71**	–
	(4.33)		(2.85)	
Province characteristics				
GDP growth rate	1.09†	–	1.02	–
	(1.93)		(0.56)	
Per capita income divided by 1000	0.83**	–	0.85**	–
	(2.84)		(2.74)	
Unemployment rate	1.08	–	1.06	–
	(1.12)		(0.78)	

Notes: Both city MLSA generosity and household entitled amount are measured in monthly yuan divided by 10. Odds ratios from logistic regression models are presented with *t* statistics in parentheses. †significant at 10%; *significant at 5%; **significant at 1%.

TABLE 4

Effects of City MLSA Generosity and Household Entitled Benefit Amount on Participation

	Without Province Fixed Effects	With Province Fixed Effects
Full sample		
City MLSA generosity	1.05**	1.02
	(2.99)	(1.39)
Household entitled MLSA amount	1.55**	1.59**
	(18.99)	(19.52)
Eligible sample		
City MLSA generosity	1.17**	1.30**
	(3.39)	(4.09)
Household entitled MLSA amount	1.37**	1.64**
	(8.45)	(8.69)

Notes: Both city MLSA generosity and household entitled amount are measured in monthly yuan divided by 10. Odds ratios from logistic regression models are presented with *t* statistics in parentheses. †significant at 10%; *significant at 5%; **significant at 1%.

TABLE 5

Effects of City MLSA Generosity and Household Entitled Benefit Amount on Monthly Receipt Amount

	Without Province Fixed Effects	With Province Fixed Effects
Eligible sample (tobit model)		
City MLSA generosity	3.18**	4.28**
	(1.02)	(1.10)
Household entitled MLSA amount	3.64**	3.70**
	(0.21)	(0.20)
Eligible participant sample (OLS model)		
City MLSA generosity	0.81	1.55†
	(0.83)	(0.93)
Household entitled MLSA amount	2.04**	2.40**
	(0.14)	(0.15)

Notes: Both city MLSA generosity and household entitled amount are measured in monthly yuan divided by 10. OLS or tobit regression coefficients are presented with standard errors in parentheses. †significant at 10%; *significant at 5%; **significant at 1%.

Table 5 presents tobit (for all eligible families) and OLS (for eligible participants only) regression results on the monthly amount of MLSA benefit received. For all eligible families, a 10 yuan increase in monthly city MLSA generosity was associated with a 3.18 to 4.28 yuan increase in the monthly amount of benefits received, while a 10 yuan increase in the monthly entitled benefits was associated with an increase of 3.64 to 3.70 yuan in the monthly receipt amount. Further, in the most restrictive sample (i.e. the eligible participants), a 10 yuan increase in monthly city MLSA generosity was associated with a 1.55 yuan increase in the monthly receipt amount, and a 10 yuan increase in the entitled benefit amount was linked to a 2.04 to 2.40 yuan increase in the monthly amount received.

Anti-Poverty Effectiveness: Observed and Simulated

To examine the anti-poverty effectiveness of MLSA among eligible families, we present the observed and simulated (assuming full coverage and delivery)

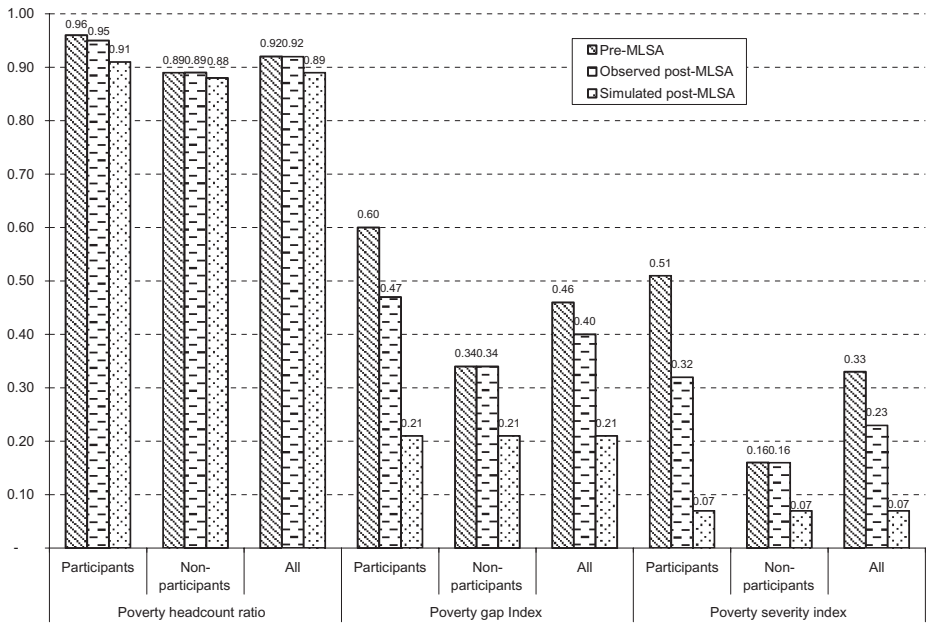

Figure 4. Observed and Simulated Poverty Outcomes by Participation among Eligible Families (poverty line determined by the minimum food energy requirement and set at 2,534 yuan *per capita* per year)

poverty rates, gaps, and severity by families' participation status. Figures 4 to 6 respectively illustrate the extent to which MLSA actually and potentially was able to change these poverty outcomes according to the three different poverty lines described earlier, while Table 6 reports percent changes in poverty outcomes due to observed and simulated MLSA benefits calculated as the difference between pre- and post-MLSA poverty outcomes divided by the pre-MLSA outcomes following Gustafsson and Deng's (2007) method.

Figure 4 and the top panel of Table 6 show the results using the main poverty line set at 2,534 yuan *per capita* per year according to minimum amount of food energy required. Overall, MLSA's poverty reduction effects were most prominent on the severity of poverty, followed by poverty gaps and then poverty rates, which is consistent with what the literature has documented (Chen *et al.*, 2006; Gustafsson and Deng, 2007). More specifically, MLSA lowered participants' poverty rate by only 1 percent (from 0.96 to 0.95) but reduced their poverty gap by 22 percent (from 0.60 to 0.47) and poverty severity by 37 percent (from 0.51 to 0.32). However, these impacts could be much larger if full coverage and delivery of MLSA were a reality. Specifically, the poverty rate would be reduced to 0.91, a reduction of 5 percent; the poverty gap would be brought down to only 0.21 (a 65 percent reduction); and most substantially, poverty severity would be lowered to 0.07, representing a reduction of 86 percent.

The non-participants did not benefit from any MLSA benefits that they were entitled to, but the potential effects were significant, especially where poverty gap and severity are concerned. If full coverage and delivery had been supplied to this

TABLE 6

Changes in Poverty Outcomes due to Observed and Simulated MLSA Benefits by Participation among Eligible Families

		(a) Observed	(b) Simulated	(b) – (a)
By minimum food energy requirement poverty line (2,534 yuan)				
Poverty headcount ratio	Participants	0.01	0.05	0.04
	Non-participants	0.00	0.01	0.01
	All	0.00	0.03	0.03
Poverty gap index	Participants	0.22	0.65	0.43
	Non-participants	0.00	0.38	0.38
	All	0.13	0.54	0.41
Poverty severity index	Participants	0.37	0.86	0.49
	Non-participants	0.00	0.56	0.56
	All	0.30	0.79	0.48
By low poverty line (1,774 yuan)				
Poverty headcount ratio	Participants	0.15	0.63	0.48
	Non-participants	0.00	0.30	0.30
	All	0.08	0.48	0.39
Poverty gap index	Participants	0.35	0.87	0.52
	Non-participants	0.00	0.75	0.75
	All	0.23	0.83	0.60
Poverty severity index	Participants	0.53	0.98	0.45
	Non-participants	0.00	0.83	0.83
	All	0.46	0.96	0.50
By relative poverty line (50% of median observed post-MLSA income, or 3,485 yuan)				
Poverty headcount ratio	Participants	0.02	0.04	0.02
	Non-participants	0.00	0.02	0.02
	All	0.01	0.03	0.02
Poverty gap index	Participants	0.14	0.42	0.28
	Non-participants	0.00	0.20	0.20
	All	0.08	0.32	0.23
Poverty severity index	Participants	0.26	0.67	0.41
	Non-participants	0.00	0.34	0.34
	All	0.19	0.56	0.37

Notes: This table presents changes in poverty outcomes due to observed and simulated MLSA benefits. The bases for these changes are presented in Figures 4 (using the minimum food energy requirement poverty line), 5 (using the low poverty line), and 6 (using the relative poverty line), respectively. Changes in poverty outcomes due to *observed* MLSA transfers are listed in column (a) and are calculated as the difference between pre-MLSA and *observed* post-MLSA poverty outcomes divided by the pre-MLSA outcomes. Changes in poverty outcomes due to *simulated* MLSA transfers are labeled as column (b) and are calculated as the difference between pre-MLSA and *simulated* post-MLSA poverty outcomes divided by the pre-MLSA outcomes. This practice follows Gustafsson and Deng (2007). The last column presents the difference between the simulated and observed changes, calculated as (b) – (a), measuring the additional impact that MLSA can have (over and above the observed impact) given full coverage and delivery.

group, their poverty rate would have been reduced by 1 percent (from 0.89 to 0.88), their poverty gap by 38 percent (from 0.34 to 0.21), and their poverty severity by 56 percent (from 0.16 to 0.07). The fact that these simulated effect sizes were smaller for the non-participants than for the participants confirms that the participants fare worse with regard to demographic and socioeconomic conditions and therefore benefit the most from MLSA. Indeed, the poverty line itself reflects that MLSA participants had lower pre-transfer income than the non-participants.

When eligible participants and non-participants are merged, the overall poverty reduction impact remained notable, especially where poverty gap and

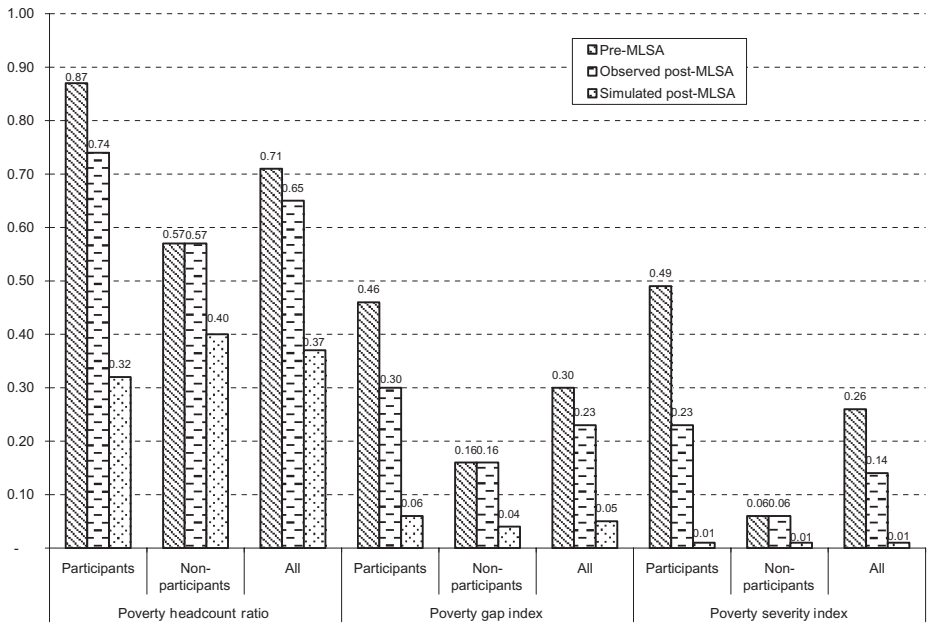

Figure 5. Observed and Simulated Poverty Outcomes by Participation among Eligible Families (low poverty line set at 70% of the minimum food energy requirement line and equal to 1,774 yuan *per capita* per year)

severity are concerned, and the magnitudes fell somewhere between those among the respective participant and non-participant groups. MLSA reduced the poverty gap and severity among all eligible families by 13 and 30 percent respectively, despite having virtually no impact on the poverty rate. If full coverage and delivery had been provided, the effect sizes would have been much larger at 3 percent for the poverty rate, 54 percent for the poverty gap, and 79 percent for the poverty severity.

As documented in previous studies (Du and Park, 2007; Gustafsson and Deng, 2007), MLSA's poverty reduction impact tended to be much more substantial when a lower poverty line is adopted. Figure 5 and the middle panel of Table 6 present the results using the lower poverty line set at 70 percent of the above-mentioned line (1,774 yuan *per capita* per year). Indeed the effect sizes for all three poverty measures were larger than when the main poverty line was used. Because of the much lower poverty line, changes in poverty rates were much more noticeable than when the higher poverty line was used: the observed poverty rate for participants was reduced by 15 percent (compared to only 1 percent when the main poverty line was used), and the simulated poverty rates decreased by 63 percent (compared to only 5 percent when the main poverty line was used). Effects on poverty gap and severity were also larger: the observed poverty gap and severity among participants were lowered by 35 and 53 percent, respectively, while the simulated poverty gap and severity for this group decreased by 87 and 98 percent, respectively.

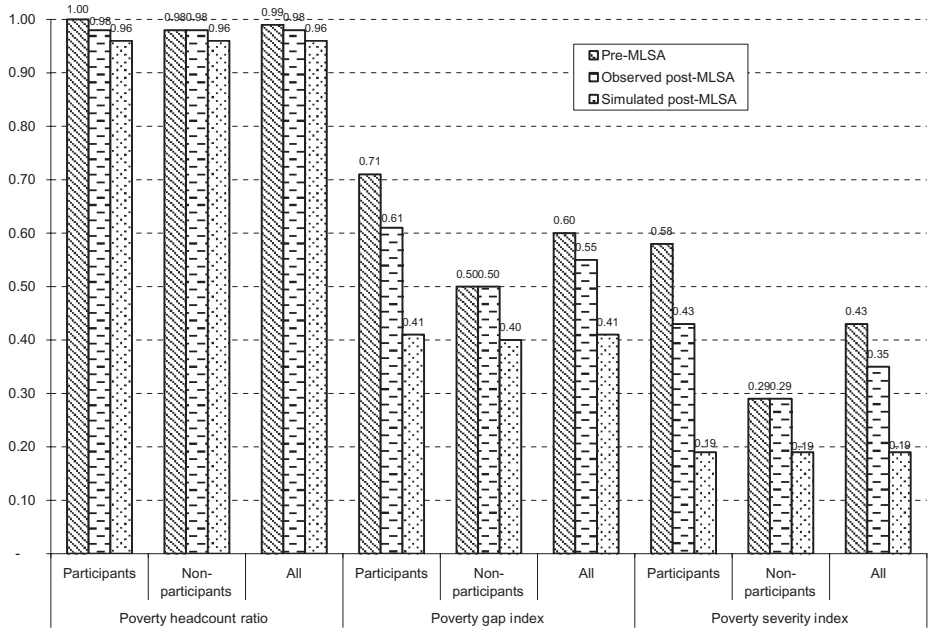

Figure 6. Observed and Simulated Poverty Outcomes by Participation among Eligible Families (relative poverty line set at 50% of median observed post-MLSA income and equal to 3,485 yuan *per capita* per year)

Regardless of which absolute poverty measure is used, the above results suggest that MLSA contributed the most to reductions in poverty severity, followed by poverty gap and lastly by poverty rate. What if a relative poverty line that takes into account the overall income distribution is used? Figure 6 and the bottom panel of Table 6 show the results adopting the widely used relative poverty line set at 50 percent of median observed post-MLSA income, which is estimated to be 3,485 yuan *per capita* per year. Note that this poverty line is much higher than both of the absolute poverty lines used above, therefore we expect the anti-poverty effectiveness of MLSA to be the least significant using this relative poverty line compared to when the two absolute poverty lines are used.

As expected, MLSA's impact on poverty reduction appeared to be less predominant than when the absolute poverty lines are used. Specifically, the relative poverty rate remained at a high level after MLSA transfers (0.98 regardless of participation status); even if full coverage and delivery were assumed, the poverty rate could only be reduced to 0.96 (also regardless of participation status). Reductions in poverty gap and severity were larger than those in the poverty rate, but their effect sizes did not compare to when the absolute poverty lines were used: the observed poverty gap and severity for participants were reduced by 14 and 26 percent, respectively, while the simulated poverty gap and severity for this group decreased by 42 and 67 percent, respectively. We emphasize that these smaller effect sizes are due to the much higher poverty line set at 50 percent of median observed post-MLSA income in comparison to the absolute poverty lines used

earlier, but not due to the relative nature of this poverty line *per se*. However, these results demonstrate the insufficiency of MLSA transfers in lifting the relative positions of eligible families in the overall income distribution.

6. Conclusion and Discussion

Using national household survey data, this study provides updated evidence on the participation rate, receipt amount, and anti-poverty effectiveness of the Minimum Living Standard Assistance (MLSA) policy in urban China. Different from existing studies, our analysis focuses on the target population of MLSA; that is, families eligible for MLSA benefits. We find that 2.3 percent of all urban residents were eligible for MLSA, but only slightly less than half of them were participants. Meanwhile, nearly three quarters of the recipients were ineligible but were mis-targeted. Some of these families may actually have been eligible because of temporarily low incomes, which unfortunately could not be captured by the annual income data available in the dataset we use. Mis-targeting warrants future investigation. City MLSA generosity and household entitled benefit amount were both positively related to participation rate and families' actual receipt amount, and the effect sizes were larger among those who were eligible than among all families.

The anti-poverty effectiveness of MLSA appears to be a tale of two sides. On the one hand, MLSA lowers poverty rates, albeit insignificantly, and reduces poverty gaps and severity substantially for its eligible participants. On the other hand, the poverty reduction role of MLSA has been greatly restricted by its partial coverage and delivery: the participants do not receive the full amount that they are entitled to, while the eligible non-participants which make up almost half of all eligible families do not benefit from it at all. As a result, poverty remains a serious problem for MLSA's target population, especially when the minimum food energy requirement poverty line and the relative poverty line are used. MLSA also plays a limited role in reducing overall income inequality. If full coverage and delivery are provided, MLSA's anti-poverty impact could be much more prominent.

These results suggest that, despite some acclaimed progress, the overall anti-poverty effectiveness of MLSA is under achieved and can be strengthened in several aspects. First, the targeting of MLSA can be improved by providing full coverage for all eligible families in the implementation process. Second, it is important to understand the existence and extent of the receipt gaps, which impedes MLSA from lifting the participants from poverty. Therefore, not only do eligible families need to participate in the program, but they should be guaranteed full delivery of their entitled benefits. Third, understanding the risk factors that lead to participation and receipt gaps can help improve the chances of achieving full coverage and delivery. Certain demographic subgroups, such as those who are less educated, with poorer health, unemployed, or living in larger households, should be paid particular attention. Special considerations should also be given to regions and cities with laggard economic developmental conditions.

This study bears the limitations of a small sample size (138 households or 470 individuals who are eligible for MLSA) and the inconsistency between the actual

(monthly) and analytical accounting (annual) periods due to the nature of the survey data we use. Although the results in this study are very robust, future work using data more suitable for studying the effectiveness of MLSA can provide more reliable evaluations and more sound policy lessons.

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