



Munich Personal RePEc Archive

Poverty Reduction in Urban China: The Impact of Cash Transfers

Wu, Alfred M. and Ramesh, M.

2014

Online at <https://mpra.ub.uni-muenchen.de/54358/>
MPRA Paper No. 54358, posted 16 Mar 2014 10:58 UTC

Poverty Reduction In Urban China: The Impact Of Cash Transfers

Alfred M. Wu and M Ramesh¹
Department of Asian and Policy Studies
The Hong Kong Institute of Education

Tel: 852-2948-7058

Email: wumuluan@gmail.com

Social Policy and Society, 13(2): 285–299, 2014

Abstract

The extent to which social protection programs in general and targeted programs in particular actually alleviate poverty has been a central issue in development debates for decades. The objective of this paper is to contribute to the debate by empirically examining the poverty-alleviation effects of one of the largest targeted programs in the world: the Minimum Living Standard Assistance (MLSA) or Dibao in China. Using newly available data on MLSA spending and a unique panel survey dataset covering the 1993-2009 period, this research investigates the impact of the MLSA on poverty alleviation. The analyses using fixed- and random- effects logit models and hierarchical liner models offer insights that go beyond the existing studies on the subject. Findings from the study confirm that targeted social protection programs are an effective tool for reducing poverty.

Keywords: Dibao, poverty, public assistance, development policy, China

1 Introduction

It is now broadly recognized that economic growth is the best way to address poverty in the long run (*The Economist*, 1 June 2013). It is also widely accepted that all countries need a modicum of social protection, because economic growth alone cannot

¹ Research for this paper was supported by the Research Grants Council of the Hong Kong Special Administrative Region, China (HKIED 751510). The research uses data from the China Health and Nutrition Survey (CHNS) published by the Carolina Population Center. The authors would like to thank Ka Ho Mok, Zhirong Zhao, Shufa Du, Robert Walker, Matthew Gray, Jiantuo Yu, Maggie Lau, and Xiaofang Wu for helpful input.

entirely eliminate poverty (OECD, 2001; UNRISD, 2006; Wiman et al., 2007).

Notwithstanding the broad agreements, debates among scholars and practitioners persist on the extent to which governments should focus on social protection and the form the protection should take. The debate is particularly divisive over the extent to which the benefits should be available on a universal or targeted basis.

China's impressive record in reducing poverty makes it an excellent case for shedding light on the debates over poverty alleviation. Yet little is known about the extent to which social protection programs have contributed to the decline of poverty in China. The present study seeks to close the gap by empirically examining the effects of the Minimum Living Standard Assistance (MLSA) or Dibao - the key social protection program in China - on poverty alleviation. The findings will contribute to the ongoing debates on the determinants of poverty reduction in China and elsewhere (Kenworthy, 1999; Devereux and Sabates-Wheeler, 2007). In addition to shedding light on the theoretical debates, the paper is intended to contribute to evidence-based policy making as China moves forward to strengthen its social protection system.

Dibao was established, first as a pilot in the early 1990s and as a nation-wide programme in 1999, to provide income support to the poor. MLSA benefits are in the form of cash transfer to households sufficient to cover the cost of basic necessities (OECD, 2011). To receive benefits, households must meet both income and assets criteria set by their local governments. The number of MLSA beneficiaries rose from 0.9 million in 1997 to around 23 million in 2000 and has broadly remained at that level since (Statistical Report on the Development of Civil Affairs in China, 1999-2011). The increase in coverage and benefits was accompanied by increased government spending, which increased from CNY 2.72 billion in 2001 to CNY 61.73 billion in 2011 (Solinger, 2008; Statistical Report on the Development of Civil Affairs in China, 1999-2011). Other benefits such as subsidies for medical and education expenditures have been offered to dibao recipients in recent years (Peng and Ding, 2012). Coverage and expenditures are likely to increase further in future as the government expands the program to the countryside.

The initial motivation for establishing MLSA was to contain the fallouts from the restructuring of state owned enterprises that were causing financial hardships for households and threatening social and political order. Its launch not only provided some financial relief to households but also helped state enterprises by absolving them of responsibility for looking after retrenched workers (Solinger 2008, p.38). However, the launch was not a commitment on the part of the Chinese government to establish a comprehensive or long-term social protection system in the country. It was instead seen as a residual arrangement to assist those adversely affected by economic reforms. Indeed, in 1999 the government stated unequivocally that MLSA was a temporary program and that the policy to promote “self-support” remained unchanged (Solinger, 2008, p. 38). Notwithstanding the government’s hesitation, the Dibao program gradually transformed into a core component of the Chinese government’s long-term poverty alleviation strategy (Ngok, 2010; Chan, 2010).

Notwithstanding the vast size of the MLSA program in terms of both population coverage and fiscal spending, its effects on poverty alleviation have not been subjected to comprehensive and systematic analysis. In this paper we seek to overcome the limitations of subjective data on poverty reduction in China by combining micro-level individual and household data with macro-level objective regional data.

To fully understand the poverty reduction effects of MLSA, we conduct both time series and cross-sectional analysis of the China Health and Nutrition Survey (CHNS) panel data for six rounds of survey between 1993 and 2009. By using panel survey data to track changes at both household and regional levels over time, the study is able to investigate the effects of the MLSA program on poverty in China in ways not possible using traditional methods. The drivers of poverty and its reduction involve complex patterns of variability which can only be studied through multilevel analysis capable of handling the nested sources of variability (Snijders and Bosker, 2012). The multilevel analysis employed in this paper allows us to highlight nested relationships between variables which the standard linear analysis cannot exploit. Analysis in the paper shows that the poverty rate declined at a faster rate in provinces with higher spending on MLSA, indicating that cash transfer programs are an effective tool for reducing poverty.

2. The Debate on universal versus targeted programs

There are two broad approaches to providing social protection: universal and targeted. Universal social protection programs offer “a minimum level of income or consumption granted as a right by the state to all citizens and residents of a country” without means-test or condition (UNRISD 2010, p. 136). They serve as a social contract between citizens and the state with the latter assuming the responsibility for caring for its citizens. Its proponents argue that universal programs are more effective in addressing “the underlying causes of poverty or to achieve adequate levels of coverage” (UNRISD, 2010, p.134). Critics, however, argue that universal programs are wasteful, expensive, and distortionary, in addition to undermining self-reliance on the part of the beneficiaries (see Herd, 2005).

Targeted social protection programs, on the other hand, aim to provide temporary income support to the neediest residents within a jurisdiction. Under such arrangements, residents with no or insufficient income – identified through means and/or asset test - are provided income support to assist with maintaining a minimum standard of living. The stated rationale for the selectivity is to promote self-reliance, maintain work incentive, and cause minimum market distortions (UNRISD, 2010). Proponents argue that such programs reduce poverty and promote social inclusion while causing less economic and other distortions than universal programs (Devereux and Sabates-Wheeler, 2007; Sabates-Wheeler and Devereux 2007). Critics of targeted program retort that such programs stigmatize and marginalize recipients, involve substantial administrative costs, and suffer from targeting errors. Drawing on cross-national evidence from low- and middle-income countries, Ulriksen (2012) suggests that universal social protection systems are more effective in reducing poverty than targeted pro-poor programs.

The broader debate on the superiority of targeted or universal programs has parallels in China. Some Chinese point out that the MLSA programme involves substantial administrative costs and mis-targeting and needs to be completely

overhauled.² Others argue for greater selectivity so that benefits are available only to those who truly need it.

However, both the proponents and opponents of targeted programs overstate their case. The effectiveness of any social protection program depends as much on the surrounding social, economic and political contexts as specific program design elements (Gentilini, 2009). Instead of engaging in broader theoretical or ideological debates, it would be more useful for policy makers and scholars to acknowledge that there are problems with both targeted social protection and move on to focussing on how to design and implement workable targeted programs (Ravallion, 2003). Findings from this study suggests that the MLSA program is effective in reducing poverty and that reforms should focus on improving it rather than finding an alternative to it.

3. Empirical Tests

3.1. Data

The study analyses the China Health and Nutrition Survey (CHNS) data collected in 1993, 1997, 2000, 2004, 2006, and 2009 (<http://www.cpc.unc.edu/projects/china>) and the newly-available fiscal data on MLSA spending (<http://www.mca.gov.cn/>) to understand the links between social protection programs and poverty alleviation in China. The CHNS data provides longitudinal information on health, nutrition, and family characteristics and offers reliable information for studying patterns of poverty and inequality in China over time (Liu, 2008; Zhang and Wan, 2006). High quality panel data are a rarity in developing countries, making CHNS a valuable resource for understanding socio-economic patterns in developing economies. It is especially useful when used in conjunction with other data sets, such as the MLSA spending data.

Similar to panel surveys in developed economies, the CHNS utilizes a multistage, random cluster process to survey about 4,400 households in nine provinces (Liaoning, Heilongjiang, Jiangsu, Shandong, Henan, Hubei, Hunan, Guangxi, and Guizhou

² For example, the opinion appeared in the internet forum run by People's Daily—the mouthpiece of the Chinese Communist Party: <http://ezheng.people.com.cn/proposalPostDetail.do?id=653473&boardId=1>

Provinces). Though the CHNS does not contain a national representative sample, the population of the nine provinces accounts for 42 per cent of the total population in mainland China. The provinces vary greatly with regard to economic development, socio-economic indicators, fiscal capacity, and social welfare spending. County units³ in the provinces are stratified by income and a weighted sampling scheme is used to randomly select four counties in every province. Urban/suburban neighbourhoods are selected in urban area while villages and townships comprise rural areas. Since 2000, the survey has included 216 primary sampling units comprising 36 urban neighbourhoods, 36 suburban neighbourhoods, 36 towns, and 108 villages.⁴

3.2. Poverty trends in China

Poverty rate in any given locality depends substantially on the poverty line used to measure it. In developed countries, it is common for poverty to be measured in terms of the share of population living below a certain percentage (usually 50 per cent) of median income. In developing countries, on the other hand, poverty is typically measured as the share of population living on income below the minimum level necessary to sustain a healthy existence. In line with the bulk of existing studies on poverty in China, this study uses absolute poverty rate. China is still a developing country with a significant share of the population unable to afford basic necessities, which is best captured by absolute poverty measures. Indeed it is difficult to construct meaningful relative poverty measures for China given the lack of regional household or individual income data necessary for calculating relative poverty rates.

Following Chen and Ravallion (2008), we employ three absolute poverty lines to estimate poverty rate in China. Poverty line 1 refers to the share of sample population living under the poverty line of US\$1 a day at 2005 PPP⁵. Poverty line 2 refers to share of

³ The Chinese government comprises five levels of governments: central government, 31 provincial units, 333 municipal units, 2,859 county level units, and 40,828 township level units (China Statistical Yearbook, 2009).

⁴ More information on the CHNS available at <http://www.cpc.unc.edu/projects/china>

⁵ Purchasing Power Parity conversion rate was retrieved from the World Bank. See Zhang and Zhang (2010).

sample population living below US\$2 a day at 2005 PPP. Poverty line 3 is set at, following Ravallion and Chen (2007) CNY 1200 per month for urban areas in 2002 price. As evident in Table 1 below, Poverty line 3 broadly mirrors poverty line 1.

Table 1 Poverty lines, Income per person per month, PPP CNY , 1993-2009

	Poverty Line 1	Poverty Line 2	Poverty Line 3
1993	932	1,864	743
1997	1,275	2,550	1,217
2000	1,213	2,426	1,204
2004	1,251	2,502	1,251
2006	1,265	2,530	1,290
2009	1,362	2,723	1,410

Source: author.

Poverty in China has declined consistently against all three measures over the past 16 years, as shown in Table 2 and depicted in Figure 1.⁶ The decline in extreme poverty (Lines 1 and 3) is remarkable in that it nearly halved over seven years between 1993 and 2000, halved again between 2000 and 2006, and halved yet again in the following three years from 2006 to 2009. The share of population that is poor or near-poor, measured by Line 2, also declined drastically albeit at a slightly slower rate.

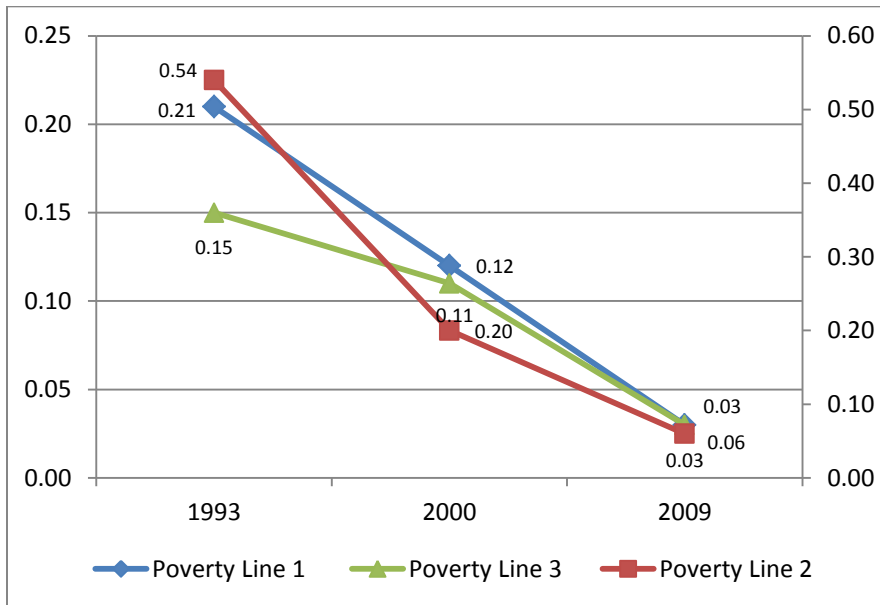
Table 2 Poverty headcount ratio by year, 1993-2009

	1993	1997	2000	2004	2006	2009	Average
Poverty Line 1	0.21	0.15	0.12	0.11	0.06	0.03	0.11
Poverty Line 2	0.54	0.30	0.20	0.18	0.11	0.06	0.23
Poverty Line 3	0.15	0.14	0.11	0.11	0.06	0.03	0.10

Source: author.

⁶ The costs of living indices (CPI) for urban areas in each province are based on CHNS survey which includes prices of a basket of 57 commodities in field sites. In this study, nominal prices are deflated by the urban CPI.

Figure 1. Poverty headcount ratio, 1993-2009



Source: author.

The poverty trends by region shows a similar picture (Table 3). While all provinces included in the data made progress in poverty eradication, Henan and Guizhou provinces in inland China were more successful at it between 1993 and 2009.⁷ On the other hand, provinces such as Guangxi experienced only modest success in poverty reduction between 1997 and 2006.

⁷ In a detailed analysis of poverty reduction in Southwest China, Donaldson (2011) also points out the superior performance of Guizhou, an economically backward province, in reducing poverty.

Table 3 Poverty headcount ratio, Poverty Line 1, by region

	1993	1997	2000	2004	2006	2009
Overall	0.21	0.15	0.12	0.11	0.06	0.03
Shandong	0.09	0.10	0.09	0.01	0.01	0.02
Liaoning	0.13		0.05	0.04	0.02	0.01
Jiangsu	0.08	0.04	0.04	0.04	0.02	0.00
Hunan	0.10	0.09	0.05	0.03	0.02	0.02
Hubei	0.22	0.11	0.13	0.10	0.07	0.04
Heilongjiang		0.13	0.11	0.09	0.08	0.04
Henan	0.40	0.28	0.26	0.20	0.09	0.06
Guizhou	0.29	0.21	0.19	0.22	0.11	0.04
Guangxi	0.28	0.22	0.14	0.25	0.15	0.06

Source: author.

The shifts in poverty levels discussed above offers only a superficial picture of poverty trends in China. Further analysis of the drivers of the trends is required to understand poverty dynamics and to draw policy-relevant conclusions. In the next section, we use panel data analysis and multilevel analysis to investigate the effects of social protection programs on poverty reduction in China.

3.3. Methodology

To observe shifts in poverty across households and regions and over time, it is necessary to examine the determinants of poverty at the household level. We use fixed-effects and random-effects logit models to estimate poverty at household level and ascertain what works in reducing poverty.⁸ The CHNS panel data used in this study offers

⁸ The basic equation for the purpose, adapted from Allison (2009, p.28), is:

$$\log\left(\frac{P_{it}}{1 - P_{it}}\right) = \mu_t + \beta x_{it} + \alpha_i + \gamma_t + \varepsilon_{it}$$

exceptional opportunities for analysis. As Hsiao and Tahmiscioglu (2008, p. 2698) point out, panel data offer rich potential for investigating the complexity of social phenomena by “blending inter-individual differences and intra-individual dynamics”. We use Hausman specification test in this study to assess random- versus fixed- effects in the panel data and confirmed that the fixed effects model should be preferred in this study. Therefore, in the following section, the findings refer mainly to fixed effects models.

Dependent variable is calculated using Poverty line 1 (US\$1.00 a day at 2005 PPP prices). While poverty lines 2 and 3 were also tested, only the results from analysis employing Poverty line 1 are reported in this paper because the regression results showed insignificant difference. A number of independent variables are examined to understand changes in the dependent variable. Drawing on previous studies (Gao, Garfinkel and Zhai, 2009; Gustafsson and Deng, 2011; You, 2011), The household head’s age, completed years of formal education, occupation, and firm type of employment are incorporated in the model. On the occupation category and firm type of employment, we follow Goh, Luo, and Zhu (2009).⁹ Household head with cadre status is also included in the specifications on the assumption that that political status and connections to the Chinese Communist Party (CCP) matter in determining individual and household income and other benefits (Morduch and Sicular, 2000). We further incorporate household size, the number of children under the age of 18 years, and the number of household members

where i indicates household, t denotes time, P_{it} is the probability of the dependent variable being 1. x_{it} is a battery of the characteristics of household head and household as a whole. α_j and γ_t refer to household-fixed effects and year-fixed effects. ε_{it} is a standard normal error term.

⁹ Skilled workers include senior professional/technical worker (doctor, professor, lawyer, architect, and engineer); junior professional/technical worker (midwife, nurse, teacher, editor, and photographer); administrator/executive/manager (working proprietor, government official, section chief, department or bureau director, administrative cadre); army officer; and police officer. Unskilled workers refer to office staff (secretary, office helper.); service worker (housekeeper, cook, waiter, doorkeeper, hairdresser, counter salesperson, launderer, child care worker); skilled worker (foreman, group leader, craftsman); non-skilled worker (ordinary laborer, logger) ordinary soldier, policeman; driver. Farmers include farmer, fisherman, and hunter. Out of employment includes the rest.

In terms of the firm type of the employment, state and collective units refer to government department, state service/institute, state-owned enterprise, small collective enterprise, and large collective enterprise. Farming units include family contract farming while private units cover private, individual enterprise and three-capital enterprise (owned by foreigners, overseas Chinese and joint venture).

above the age of 60 years because they affect patterns of income and expenditure in households. As elaborated later in the paper, household size is expected to positively affect poverty reduction while larger number of children and elderly in the family affect it negatively.

As poverty is a complex phenomenon, teasing out the nestedness in determinants of poverty – not only factors related to household, but also other compounding factors – is crucial. We apply Hierarchical Linear Model (HLM) to individual and household level data as well as macro demographic data in the region to explore the relationship between MLSA spending and poverty reduction (Albright and Marinova, 2010; Raudenbush and Bryk, 2002). In the implementation of HLM, we follow Albright and Marinova’s (2010) approach in this study. Recognizing that both government and family supports play a role in alleviating poverty, the HLM model employed in this study combines household level poverty data with provincial governments’ spending on MLSA to assess their respective impacts on poverty reduction.

As a first step, using a panel data analysis with only one level data, we analyse the impact of household characteristics on poverty. Next, we analyse government spending on MLSA as a proxy for governments’ poverty reduction efforts. When controlling for household characteristics (level one data), the multilevel analysis aims to assess the extent to which MLSA spending (level two data) affects poverty reduction.

More specifically, in line with the HLM model used in this study, we analyse two-level data in this study. Level 1 variables include all variables in fixed-effects and random-effects logit models while level 2 variables include two types of the MLSA spending: MLSA Spending 1 refers to the MLSA spending as a percentage of local GDP whereas MLSA Spending 2 denotes the MLSA spending per capita.

Table 4. MLSA Spending as a percent of GDP and Per Capita, Per Year, 2000-2009

	MLSA Spending 1 (%)	MLSA Spending 2 (CNY) Per Year
2000	0.03	2.59

2004	0.14	15.00
2006	0.14	19.82
2009	0.18	39.21
Average	0.12	19.45

Source: author.

Table 4 indicates that the total MLSA spending as a percentage of GDP in China is still rather modest, despite the increase from 0.03 per cent in 2000 to 0.18 per cent in 2009. The average spending on MLSA over the 2000-2009 period was 0.12 per cent of GDP which is considerably below other countries in East Asia.¹⁰

3.4. Results

Table 5 contains the results of application of fixed-effects and random-effects logit models on poverty levels. A variance inflation factor (VIF) test shows no significant multicollinearity problem. The fixed-effects approach reveals that the education level of household head contributes to poverty reduction, other things being equal, in line with other studies showing a positive link between human capital development and poverty reduction (You, 2011). The employment skill level of the household head is significantly and negatively associated with poverty in China. There is also a positive and significant correlation between farming household heads and poverty status. These correlations suggest that household with heads who are less educated and are farmers face high likelihood of living in poverty. Conversely, households with heads who are educated and formally employed are less likely to be poor. Household heads working in state and collective enterprises also face less likelihood of living in poverty.

¹⁰ The “Social Assistance Index (unweighted)” for the poor in China is 0.075, compared to 0.181 in Korea and 0.154 in Thailand. See ADB (2013, Table A3.5).

Table 5 Fixed-effects and random-effects logit models on poverty status

	Fixed Effects	Random Effects
Household head characteristics		
Age of household head	-0.002 (0.005)	-0.012** (0.005)
Completed years of formal education of household head	-0.036*** (0.006)	-0.053*** (0.006)
Occupation of household head (Reference category: out of employment)		
Skilled workers	-1.640*** (0.401)	-1.897*** (0.395)
Unskilled workers	-0.884*** (0.261)	-1.005*** (0.252)
Farmers	1.074*** (0.243)	0.987*** (0.235)
Firm type of household head (Reference category: out of employment)		
State and collective	-0.794*** (0.259)	-0.087 (0.235)
Agricultural	-0.232 (0.282)	-0.609** (0.274)
Private	-0.020 (0.306)	-0.289 (0.294)
Household head with cadre status	-0.141 (0.367)	0.384 (0.361)
Household characteristics		
Household size	0.199*** (0.054)	0.273*** (0.053)
Number of children <18 years old	0.264* (0.140)	0.193 (0.137)
Number of elders >60 years old	0.013 (0.075)	-0.009 (0.072)
No. of observations	5908	5931
Log likelihood	-1367.405	-1446.536
Pseudo R-squared	0.244	

Notes:

1. *** p<0.01, ** p<0.05, * p<0.1;
2. The standard errors are shown in parentheses.
3. Poverty Line 1 is used in this analysis.

The cadre status of household head shows no discernible effect on poverty status in our regression analysis, despite the widespread perception that the Communist Party

membership bestows significant advantages to members. Our finding in this respect is consistent with previous studies on the linkage (Sicular, Yue, Gustafsson, and Li 2007; Nee, 1991).

This study also finds that the size of household hinders poverty eradication as household size is significantly and positively associated with poverty status. Large household size, it is sometimes reasoned, is conducive to poverty reduction as demand for food and other daily necessities declines with household size in per capita terms (see Deaton and Paxson, 1998; Drèze and Srinivasan, 1997). However, the bulk of literature on poverty alleviation in developing countries indicates that larger families tend to suffer from higher incidence of poverty (De Silva, 2008).¹¹ In China, the positive relationship between household size and poverty may be due to economic reforms which saw the elimination of food price subsidies, which used to take household size into account. After the reforms, income and other benefits have depended on individualized, salaried employment which reduced the effects of household scale economies (see Meng, Gregory, and Wan, 2007).

Dependency ratio in China is associated with poverty, with number of children in the household being positively and significantly related to poverty status. This is consistent with findings of other studies that find positive relationship between child dependency and incidence of poverty (Baulch and McCulloch, 2002). Surprisingly, our study shows that the number of elders does not affect households' poverty status, which is in line with the finding of Riskin and Gao (2009) using different dataset.

Our regression results using fixed-effects and random-effects logit models are consistent with many findings in existing research (Meng, Gregory, and Wan, 2007; Riskin and Gao, 2009). However, to understand how the nature and extent of poverty is changing in China, there is a need for analysing the drivers of poverty reduction in China, as undertaken in the following discussion.

¹¹ Lanjouw and Ravallion (1994) advise caution regarding this stylized fact as different poverty measures may generate different results.

Results of application of Hierarchical Linear model to the provincial government's spending on *dibao* are reported in Table 6. HLM Model 1 in the table uses the government's total spending on MLSA as a percentage of provincial GDP whereas Model 2 uses MLSA spending as a percentage of the total population in a given province. After controlling for the variations in economic activities and the total population in a given province, the impact of MLSA spending on poverty reduction reveals the linkage between government policy and policy outcome, regardless of the level of economic development and population size. For example, a high total spending on MLSA in a rich province may still form only a small share of local GDP compared to a poor province where the total spending may be lower but nevertheless form a larger share of local GDP. Indeed a key finding of our study is that poorer provinces have a superior poverty reduction record than their richer counterparts, confirming the correlation between government policy and poverty reduction.

Table 6. Hierarchical linear models on poverty status

	Model 1	Model 2
Level 1 variables		
Age of household head	-0.001*** (0.000)	0.003 (0.002)
Completed years of formal education of household head	-0.004*** (0.000)	-0.004*** (0.000)
Occupation of household head (Skilled workers)	-0.022 (0.020)	-0.028 (0.020)
Unskilled workers	-0.036* (0.019)	-0.039** (0.019)
Farmers	0.098*** (0.023)	0.097*** (0.022)
Firm type of household head (State and collective)	-0.033* (0.019)	-0.029 (0.019)
Agricultural	-0.026 (0.026)	-0.029 (0.026)
Private	-0.021 (0.020)	-0.018 (0.020)
Household head with cadre status	-0.023 (0.025)	-0.019 (0.024)
Household size	0.023*** (0.005)	0.021*** (0.005)
Number of children <18 years old	0.040** (0.016)	0.039** (0.016)
Number of elders >60 years old	-0.002 (0.006)	-0.001 (0.006)
Level 2 variables		
MLSA spending	-0.250*** (0.069)	-0.001*** (0.000)
No. of observations	3930	3930
Log restricted-likelihood	154.433	151.02
AIC [Akaike information criterion]	-276.865	-270.04
BIC [Bayesian information criterion]	-176.4427	-169.617

Notes:

1. *** p<0.01, ** p<0.05, * p<0.1
2. Standard errors are shown in parentheses;
3. The AIC and BIC statistics suggest that the models are preferable compared with the models using poverty line 2 and poverty line 3.

Results regarding the impact of household demographic characteristics on poverty status in Table 6 are comparable to those shown in fixed-effects logit models in Table 5. Both household size and the share of children in the household increase the likelihood of poverty in urban China. The education attainment of household head serves as an effective deterrent to poverty. There is a slight difference with regard to the occupation of household head on poverty reduction between the HLM models and logit models. Occupational skills are negatively correlated with poverty status, but not significantly in the HLM models. Households headed by individuals working in state and collective firms are not significantly associated with poverty reduction in the HLM specification using MLSA spending per capita.

More importantly, MLSA spending has a strong impact on poverty reduction in both HLM models. Indeed the significance levels are higher than 0.1 per cent in both scenarios. The HLM analysis reveals that although the MLSA amount is small, the cash transfer has a positive impact on poverty reduction in China. While table 6 only shows results using poverty line 1, testing the data using poverty lines 2 and 3 show similar results. The analysis clearly shows that differences in provincial governments' spending on MLSA account for much of the variations in poverty reduction experiences of different provinces in China.

4. Discussion

The analysis in the paper using fixed-effects and random-effects logit models as well as linear hierarchical models show that both favourable household characteristics and targeted cash transfers play significant roles in reducing poverty in urban China. In the face of scepticism about the effectiveness of targeted cash transfer programs in reducing poverty, the present study shows that the MLSA program in China has contributed significantly to poverty eradication in urban areas in the country.¹² The significant effects have been achieved despite the relatively small benefits offered by MLSA programme and the relatively modest overall expenditures they involve. In 2001,

¹² This finding is similar to some Chinese literature using large-scale first-hand interview data about the effectiveness of the *dibao* program (for example, see Han and Guo, 2012).

the national average MLSA poverty line was lower than 30 per cent of the average income of urban dwellers (Shang and Wu, 2004). Similarly, MLSA spending on average formed a mere 0.18 per cent of local GDP in 2009.

While post-Mao Chinese leaders have expressed commitment to looking after the poor (Mok et al., 2010), they never made a commitment to introducing a universal social protection system in the country. The low dibao benefits were a deliberate choice of policy makers, especially those at the Ministry of Civil Affairs, who feared that generous social welfare would perpetuate the old order and impede economic reforms (Lei and Walker, 2013). Indeed even during the central planning era, cash transfer to the poor was a marginal program with the primary responsibility for income support left to work units. The notion of maintaining public assistance as residual benefits for the poor persisted after the collapse of central planning and firm-based welfare, to be gradually replaced by fragmented programs for assisting the aged and the poor. The fragmented programs eventually led to the emergence of a consolidated MLSA program for all poor during the 1990s which matured in the following decade. Although it remains a relatively small program in terms of the size of benefit it offers, MLSA plays a significant role in reducing poverty. According to some recent studies, the MLSA performs yet better at narrowing poverty gap and poverty severity than reducing poverty rate (Gao and Zhai, 2012; Gustafsson and Deng, 2011).

MLSA has contributed measurably to poverty reduction despite severe implementation problems. Empirical studies have shown that only one-third to one-half of those eligible for MLSA benefit actually receive it, suggesting widespread inclusion and exclusion errors in implementation (Gao and Zhai, 2012). Furthermore, for various reasons beneficiaries only receive a quarter of the benefits to which they are entitled (Gao et al., 2009; Gao and Zhai, 2012). It can be reasonably concluded that poverty levels in China would be considerably lower if the nearly one-half of the poor population who do not currently receive MLSA benefits began to actually receive the benefit and yet more if they received the full amount to which they are entitled.

5. Conclusion

With one of the largest number of poor people in the world, China's success at reducing poverty has bearings for global poverty rates. It is therefore vital that poverty and the forces that drive it in China are analysed, understood and acted upon. The objective of the paper has been to contribute to the understanding by studying the MLSA program using different analytical tools.

Our findings show that MLSA - which benefits more than 70 million people overall and 23 million urban residents –plays a substantial role in reducing poverty despite the small benefit amount it offers and the light fiscal burden it imposes on the government. Our analysis shows that the poverty rate in China has consistently declined since 1993, even during the financial crisis of 2008-09 (on the impact of financial crises on poverty in the developing countries , see Nikoloski 2011). It also shows relationships between household characteristics and poverty. More importantly, the study shows that public spending on MLSA is positively and significantly related to poverty reduction.

The Chinese government has expressed commitment to expanding the scope and level of social protection it provides to citizens. The MLSA program (along with expanded health insurance) already forms a solid foundation for protecting the population from poverty. The next level of challenge is to direct the program benefits to households more vulnerable to poverty: the less educated, the unskilled, and farming and large households. These household characteristics are long-term drivers of poverty that need to be addressed through long-term programs, in addition to short-term public assistance. To provide effective social protection, policy makers also need to improve program implementation so as to more effectively identify needy households and channel appropriate benefits to them.

References

ADB (2013) *The Social Protection Index: Assessing Results for Asia and the Pacific*, Manila: Asian Development Bank.

- Albright, Jeremy J. and Dani M. Marinova, "Estimating Multilevel Models using SPSS, Stata, SAS, and R" (2010), <http://www.indiana.edu/~statmath/stat/all/hlm/hlm.pdf> (accessed 10 July 2012).
- Allison, Paul David. 2009. *Fixed effects regression models*. Quantitative applications in the social sciences. Vol. 160. Los Angeles, Calif.: Sage Publications.
- Baulch, Bob, and Neil McCulloch. 2002. Being poor and becoming poor: Poverty status and poverty transitions in rural Pakistan. *Journal of Asian and African Studies* 37 (2) (April 01): 168-85.
- Chan, Chak Kwan. 2010. Re-thinking the incrementalist thesis in China: A reflection on the development of the minimum standard of living scheme in urban and rural areas. *Journal of Social Policy* 39 (4): 627-45.
- Chen, Shaohua, and Martin Ravallion. 2008. *The developing world is poorer than we thought, but no less successful in the fight against poverty*. The World Bank, World Bank Policy Research Working Paper 4703.
- Chen, Shaohua, Martin Ravallion, and Youjuan Wang. 2006. *Di Bao: A guaranteed minimum income in China's cities?* The World Bank, World Bank Policy Research Working Paper 3805.
- De Silva, Indunil. 2008. Micro-level determinants of poverty reduction in Sri Lanka: A multivariate approach. *International Journal of Social Economics* 35 (3): 140-58.
- Deaton, Angus, and Christina Paxson. 1998. Economies of scale, household size, and the demand for food. *Journal of Political Economy* 106 (5): 897-930.
- Devereux, Stephen, and Rachel Sabates-Wheeler. 2007. Editorial introduction: Debating social protection. *IDS Bulletin* 38 (3): 1-7.
- Donaldson, John A. 2011. *Small works: Poverty and economic development in Southwestern China*. Ithaca [N.Y.]: Cornell University Press.
- Drèze, Jean, and P. V. Srinivasan. 1997. Widowhood and poverty in rural India: Some inferences from household survey data. *Journal of Development Economics* 54 (2) (12): 217-34.
- Du, Yang, and Albert Park. 2007. *The effects of social assistance on poverty reduction: Evidence from household surveys in urban China*. Paper presented at The International Conference on Policy Perspectives on Growth, Economic Structures and Poverty Reduction, Beijing, China.

- Gao, Qin, and Fuhua Zhai. 2012. Anti-Poverty family policies in China: A critical evaluation. *Asian Social Work and Policy Review* 6 (2): 122-35.
- Gao, Qin, Irwin Garfinkel, and Fuhua Zhai. 2009. Anti-poverty effectiveness of the minimum living standard assistance policy in urban China. *Review of Income and Wealth* 55 (1): 630-55.
- Gentilini, Ugo. 2009. Social protection in the 'real world': Issues, models and challenges. *Development Policy Review* 27 (2): 147-66.
- Goh, Chor-ching, Xubei Luo, and Nong Zhu. 2009. Income growth, inequality and poverty reduction: A case study of eight provinces in China. *China Economic Review* 20 (3) (9): 485-96.
- Gustafsson, Bjorn A., and Quheng Deng. 2011. *Di bao* receipt and its importance for combating poverty in urban China. *Poverty and Public Policy* 3 (1).
- Han, Keqing, and Yu Guo. 2012. The myth of welfare dependency in China: An empirical study on China's urban minimum living-hood guarantee scheme. *Sociological Studies* 2: 149-67 (in Chinese).
- Herd, Pamela. 2005. Universalism without the targeting: Privatizing the old-age welfare state. *The Gerontologist* 45 (3): 292-8.
- Hsiao, Cheng, and A. K. Tahmiscioglu. 2008. Estimation of dynamic panel data models with both individual and time-specific effects. *Journal of Statistical Planning and Inference* 138 (9) (9/1): 2698-721.
- Kenworthy, Lane. 1999. Do social-welfare policies reduce poverty? A cross-national assessment. *Social Forces* 77 (3) (March 01): 1119-39.
- Lanjouw, Peter, and Martin Ravallion. 1994. *Poverty and household size*. Washington D.C.: The World Bank, World Bank Policy Research Working Paper 1332.
- Lei, Jie, and Alan Walker. 2013. The big society in China: A failed experiment. *Social Policy and Society* 12 (1): 17-30.
- Liu, Haiyong. 2008. The China health and nutrition survey: An important database for poverty and inequality research. *Journal of Economic Inequality* 6 (4): 373-6.
- Meng, Xin, Robert Gregory, and Guanhua Wan. 2007. Urban poverty in China and its contributing factors, 1986–2000. *Review of Income and Wealth* 53 (1): 167-89.

- Mok, Ka Ho, Yu Cheung Wong, Richard M. Walker, and Xiulan Zhang. 2010. Embracing the market: Examining the consequences for education, housing, and health in Chinese cities. In *Social cohesion in greater China: Challenges for social policy and governance.*, eds. Ka Ho Mok, Yuen-Wen Ku, 187-224. Singapore: World Scientific.
- Morduch, Jonathan, and Terry Sicular. 2000. Politics, growth, and inequality in rural China: Does it pay to join the party? *Journal of Public Economics* 77 (3) (9): 331-56.
- Nee, Victor. 1991. Social inequalities in reforming state socialism: Between redistribution and markets in China. *American Sociological Review* 56 (3) (Jun.): 267-82.
- Ngok, King-lun. 2010. Social assistance policy and its impact on social development in china: The case of the minimum living standard scheme (MLSS). *China Journal of Social Work* 3 (1): 35-52.
- Nikoloski, Zlatko. 2011. Impact of financial crises on poverty in the developing world: An empirical approach. *Journal of Development Studies* 47 (11): 1757-79.
- OECD. 2001. Poverty Reduction, DAC Guidelines and Reference Series, Paris: OECD Publishing.
- OECD. 2011. *Divided we stand: Why inequality keeps rising*. Paris: OECD Publishing.
- Peng, Zhaiwen, and Yi Ding. 2012. Tackling urban poverty in China: The minimum living standard scheme and its limitations. *Journal of Poverty and Social Justice* 20 (3): 261-76.
- Raudenbush, Stephen W., and Anthony S. Bryk. 2002. *Hierarchical linear models :Applications and data analysis methods*. Advanced quantitative techniques in the social sciences. 2nd ed. Vol. 1. Thousand Oaks, CA: Sage Publications.
- Ravallion, Martin. 2003. *Targeted transfers in poor countries: Revisiting the trade-offs and policy options*. The World Bank, Policy research working paper 3048, .
- Ravallion, Martin, and Shaohua Chen. 2007. China's (uneven) progress against poverty. *Journal of Development Economics* 82 (1) (1): 1-42.
- Riskin, Carl, and Qin Gao. 2009. *The changing nature of urban poverty in China*, working paper.

- Sabates-Wheeler, Rachel, and Stephen Devereux. 2007. Social protection for transformation. *IDS Bulletin* 38 (3): 23-8.
- Shang, Xiaoyuan, and Xiaoming Wu. 2004. Changing approaches of social protection: Social assistance reform in urban China. *Social Policy and Society* 3 (3): 259-71.
- Sicular, Terry, Yue Ximing, Björn Gustafsson, and Li Shi. 2007. The urban–rural income gap and inequality in China. *Review of Income and Wealth* 53 (1): 93-126.
- Snijders, Tom A. B., and Roel J. Bosker. 2012. *Multilevel analysis: An introduction to basic and advanced multilevel modeling*. London: SAGE publications.
- Solinger, Dorothy J. 2008. The 'dibao' recipients: Mollified anti-emblem of urban modernization. *China Perspectives* (76): 36-46.
- Statistical Report on the Development of Civil Affairs in China, 1999-2011, Ministry of Civil Affairs of the PRC. <http://www.mca.gov.cn/>
- Ulriksen, Marianne Sandvad. 2012. Questioning the pro-poor agenda: Examining the links between social protection and poverty. *Development Policy Review* 30 (3): 261-81.
- UNRISD. 2006. Transformative Social Policy: Lessons from UNRISD Research, UNRISD Research and Policy Brief 5, www.sida.se/shared/jsp/download.jsp, United Nations, New York.
- UNRISD. 2010. *Combating poverty and inequality: Structural change, social policy and politics*. Geneva, Switzerland: United Nations Research Institute for Social Development.
- Wiman, R. T. Voipio and M. Ylonen. 2007. *Comprehensive Social Policies for Development in a Globalizing World*, National Research and Development Centre for Welfare and Health (STAKES), Helsinki.
- You, J. 2011. Evaluating poverty duration and transition: A spell-approach to rural China. *Applied Economics Letters* 18 (14) (09/01; 2012/08): 1377-82,
- Zhang, Yin, and Guanghua Wan. 2006. The impact of growth and inequality on rural poverty in China. *Journal of Comparative Economics* 34 (4) (12): 694-712.
- Zhang, Quanhong, and Jianhua Zhang. 2010. The dynamics of China's rural poverty: 1981-2005--based on alternative poverty lines and indices. *Statistical Research* 2: 28-35 (in Chinese).