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DO GOVERNMENT TRANSFERS REDUCE POVERTY IN CHINA? MICRO EVIDENCE FROM FIVE REGIONS

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By Ben Westmore

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ABSTRACT/RESUMÉ

Do government transfers reduce poverty in China? Micro evidence from five regions

This paper estimates urban and rural poverty rates across five Chinese administrative regions (Shanghai, Liaoning, Guangdong, Henan and Gansu) in 2014 using representative household level data from the China Family Panel Studies survey. The types of government transfer payments that households in poverty received and the ability for such payments to lift households from poverty are also assessed. Consistent with official estimates, the results highlight substantial disparities in poverty rates between administrative regions. Smaller differences exist between urban and rural locations within the same administrative region. In 2014, the most common types of government transfer received by households in poverty were agricultural subsidies or social assistance - principally the *dibao*. Regarding the latter, the results suggest some improvement in payment targeting in rural areas, but most *dibao* recipients had income above the poverty line (as defined in this paper) in 2014. Furthermore, across all administrative regions, the vast majority of households living below the defined poverty line did not receive social assistance at that time.

This Working Paper relates to the 2017 OECD Economic Survey of China (www.oecd.org/eco/surveys/economic-survey-china.htm).

JEL classification codes: I30, I32, I38, O53, R20, R28

Keywords: China, poverty, development, social assistance policies

Les transferts gouvernementaux réduisent-ils la pauvreté en Chine? Ce que disent les données micro dans cinq régions

Ce document estime les taux de pauvreté urbaine et rurale dans cinq régions administratives chinoises (Shanghai, Liaoning, Guangdong, Henan et Gansu) en 2014 en utilisant les données représentatives des ménages tirées du sondage China Family Panel Studies. Les types de paiements de transfert du gouvernement que les ménages en situation de pauvreté ont reçus et la capacité de ces paiements à sortir les ménages de la pauvreté sont également évalués. Conformément aux estimations officielles, les résultats mettent en évidence des disparités importantes entre les taux de pauvreté d'une région à l'autre. Des différences plus faibles existent entre zones urbaines et rurales dans la même région. En 2014, le type de transfert gouvernemental le plus fréquent reçu par les ménages pauvres était soit l'aide sociale - principalement le *dibao* - soit les subventions agricoles. Les résultats suggèrent également que, malgré une certaine amélioration du ciblage des paiements dans les zones rurales, la plupart des bénéficiaires de *dibao* avaient un revenu supérieur au seuil de pauvreté (tel qu'il est défini ici) en 2014. En outre, dans l'ensemble des régions administratives, la grande majorité des ménages vivant sous le seuil de pauvreté défini ne recevaient pas d'aide sociale à cette époque.

Ce Document de travail se rapporte à l'Etude économique de l'OCDE de la Chine 2017 (www.oecd.org/fr/eco/etudes/etude-economique-chine.htm).

Codes de classification JEL : I30, I32, I38, O53, R20, R28

Mots-clés : Chine, pauvreté, développement, politiques d'aide sociale

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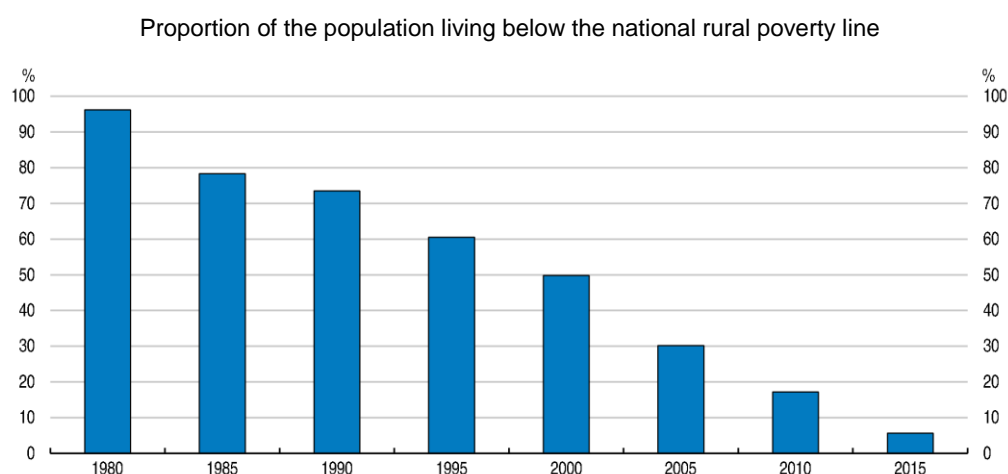
DO GOVERNMENT TRANSFERS REDUCE POVERTY IN CHINA? MICRO EVIDENCE FROM FIVE REGIONS

by Ben Westmore¹

Introduction

Since the late 1970s, rapid growth in market incomes and steady improvements in the coverage and adequacy of the social security system have contributed to an enormous decline in the number of Chinese people living in extreme poverty. Measured according to China's 2010 constant price rural poverty standard, the share of the rural population living in poverty declined from 96.2% in 1980 to 5.7% in 2015 (Figure 1). Even so, there were still around 56 million rural people in poverty at that time. The government aims to lift all the remaining extremely poor rural population above the current poverty standard by 2020.

Figure 1. Rural poverty has declined dramatically



Note: The rural poverty rate is measured according to China's 2010 constant price rural poverty standard of CNY 2300 annual per capita net income.

Source: China Statistical Yearbook 2016.

Reducing poverty is a major tenet of the government's current push to improve social welfare. In addition to moral or political motives, reducing poverty can benefit economic growth (Ravallion, 2012). For example, poverty can reduce the capacity of individuals to accumulate skills and search for appropriate jobs. It may be especially debilitating when experienced in childhood given that it can result in gaps in the developmental trajectory for children in their formative years (OECD, 2015). Such dynamics can lead to poverty traps and inequality in future generations and thus to a lack of intergenerational social mobility. Therefore, it is important to ensure that all individuals have at least a subsistence level of income. Recent evidence has highlighted the dwindling income share of poorer Chinese households (Kanbur et al., 2017; Westmore, 2017), despite the reduction in poverty conditions evident in the official estimates.

¹ Ben Westmore (ben.westmore@oecd.org) is a member of the OECD Economics Department. The author would like to thank Margit Molnar, Vincent Koen, Alvaro Pereira, Robert Ford, Sean Dougherty and Axelle Arquie from the OECD Economics Department and Céline Thévenot from the OECD Directorate for Employment, Labour and Social Affairs for valuable discussions and feedback on earlier drafts. Special thanks to Carlotta Balestra from the OECD Statistics Directorate for help with the data and comments on the paper. The author would also like to give special thanks to Thomas Chalaux and Hyunjeong Hwang for statistical support and Mercedes Burgos and Sisse Nielsen for editorial assistance, all from the OECD Economics Department.

Furthermore, based on estimates of the Gini coefficient, inequality remains substantially higher in China than in OECD countries (OECD, 2017a; OECD, 2017b).

Against this background, identifying the incidence and characteristics of those Chinese households in poverty is important. The official rural poverty rate figures highlight large disparities between regions: while the published rural poverty rate in Zhejiang was around 1% in 2014, over 20% of the rural population in Gansu were in poverty at the time. This could be because the effectiveness of government transfer policies in reducing poverty varies across regions. Therefore, an assessment of the regional disparities in poverty rates (Section 4.1), the characteristics of those households in poverty (Section 4.2) as well as the role of government transfer policies (Section 4.3) is apposite.

Calculating poverty rates

One way of measuring the incidence of poverty is by calculating the headcount ratio, the share of the population living below a poverty line. Such a metric is easily communicable, but comes with various drawbacks. For instance, it is unreasonable to suggest that there is a discontinuity in the welfare function such that those with income just above the poverty line are substantially better off than those just below it. The headcount ratio also does not take into account the distribution of those living below the threshold, even though the average distance of poor households from the threshold matters for aggregate wellbeing. While measures exist that take into account such features of the income distribution, the results are more difficult to explain and do not tend to yield vastly different conclusions to the headcount ratio when making comparisons across regions or time (Deaton, 2006).

In this study, the headcount ratio is derived from household income per capita reported in the China Family Panel Studies (CFPS) survey (for further details, see Section 3). The definition of the household unit used in the CFPS survey is based on the economic relationship between individuals rather than reflecting the current residence of the respondent. Household members who have left home for school or work but have a close economic relationship with other members of the household are treated as household members (though the household unit is still reported as located at the point of origin). This definition is appealing given the importance of economic migration and remittance flows for the finances of many Chinese households. Non-immediate relatives who are economically related and have been living in the same household for three months or longer are also included in the household unit.

Defining the urban poverty line

As mentioned, China has a well-defined absolute national poverty line for rural areas. This was first established in 1986, but has been updated a number of times since. In 2011, the government raised the line to CNY 2300 per year (at 2010 constant prices).

To estimate a poverty rate across both rural and urban areas, a poverty line for the urban population is required. Some past work (Zhang et al., 2014) uses the minimum income thresholds from the urban minimum living standard guarantee programme (or *dibao*) for this purpose. The *dibao* is meant to provide very low income households with a transfer payment so that they can purchase basic necessities. Under the scheme, a direct payment is provided to households equal to the difference between the average income per person in the household and the defined minimum income threshold. This threshold should be equivalent to the cost of clothing, food and other staples (Box 1). Any definition of poverty that is based on the standard is thus an “absolute” poverty line that aims to measure the minimum income required to live a healthy and active life. This contrasts with “relative” poverty lines, such as those set at a constant proportion of current mean income or consumption (Ravallion, 2012). Such measures tend to be more widely used in OECD countries, where absolute poverty has become less of an issue at the same time as social exclusion and inequality in standards of living has increasingly attracted the attention of policymakers (OECD, 2017a; OECD, 2017b).

Box 1. China's Minimum Income Living Standard

The minimum living allowance (*dibao*) was introduced in urban areas in 1997, partly to cushion the impact of planned state-owned enterprise reforms that resulted in tens of millions of layoffs. There were also some isolated pilot programmes for the rural *dibao* in the 1990s, before a nationwide rural programme was established in 2007.

The *dibao* is supposed to provide very low income households with a transfer payment so that they can purchase basic necessities. Under the scheme, a direct payment is provided to households equal to the difference between the average income per person in the household and a minimum income standard. The Regulation of Minimum Living Guarantee for Urban Residents (1997) stipulates that the urban *dibao* should cover the cost of clothing, food, accommodation, certain expenses for water and gas and compulsory education for children. For the rural *dibao*, the State Council issued a document in 2007 that highlighted its purpose in assisting households to purchase food, clothing and expenses for water and electricity.

In most province-level administrative regions, the minimum income standard is set at the provincial or prefecture level. Then, local authorities in each county within the region can choose to fund an increase in the standard in their location. In 2012, the central government released the *Opinion on Furthering the Regulation on the Formulation and Adjustment of Dibao Standards* to communicate to local governments the principles that should be followed when setting the minimum income standard. Nevertheless, there is no universal model for how it is calculated. The local minimum wage, average local per capita income or the national rural poverty line may all be used as reference points for the standard depending on the location. Some local authorities also link the standard to the proportion of the household budget of low-income people devoted to basic food and the cost of local basic necessities (Xinping, 2016). Furthermore, differences in local government financing capacity influence the generosity of the standard across locations (Leung and Xiao, 2015; Golan et al., 2015). As a result, there is substantial variation in the minimum income standard both between and within provinces (OECD, 2017c).

Three criteria are considered in determining *dibao* eligibility: firstly, the household must have local household registration status (for a description of China's household registration system, see Westmore, 2017); secondly, household income per capita must be below the minimum income standard and thirdly, the value of household assets must not exceed a specified amount that can vary by location. The extent to which the household owns luxury items, the existence of wealthy relatives or whether household members lead an "immoral lifestyle" can also be taken into account (State Council of China, 2007), although these are more subjective criteria. The income of immediate family members who have moved out of the household is generally included in the calculation of household income per capita. However, when the individual moves outside the local area, the method for calculating income is not uniform: while some counties may use actual income, others use the average or statutory minimum wage in the location where the family member is working.

Households generally apply for *dibao* through basic community offices, which exist in most communities and offer services for the local population (e.g. those relating to employment, property, education, social assistance, household registration and local culture). In some rural locations, applications are made directly to township governments. Not all eligible households receive the *dibao*. The county government often determines a quota of *dibao* payments that can be made based on available funding. This quota is then allocated across townships in the county, before the township government allocates their quota across the local villages.

To assess a *dibao* application, officials (usually from the county government) visit the applicant's home to check on their living conditions and will often interview neighbours to gather information about the applying household. There will also be some input from urban and rural resident committees about the eligibility of the household. Community feedback is then sought by publishing the name of the family, number of household members and proposed benefits on local government bulletin boards. The duration of this feedback period can differ depending on locations. In Zhaoqing City in Guangdong Province, for example, the list of *dibao* applicants is published for seven days. Once a household receives the *dibao*, community members are encouraged to report *dibao* recipients who they see purchase luxury goods.

The high level of community consultation in the application process reflects the difficulty in verifying income and assets that are largely self-reported (Leung and Xiao, 2015). The income of rural households undertaking small-scale farming may be particularly difficult to track. This also complicates the calculation of the eventual *dibao* payment, leading to practices departing from the official policy. For example, in some rural areas, local authorities classify households into tiers according to their judged level of poverty before paying a fixed benefit for each tier.

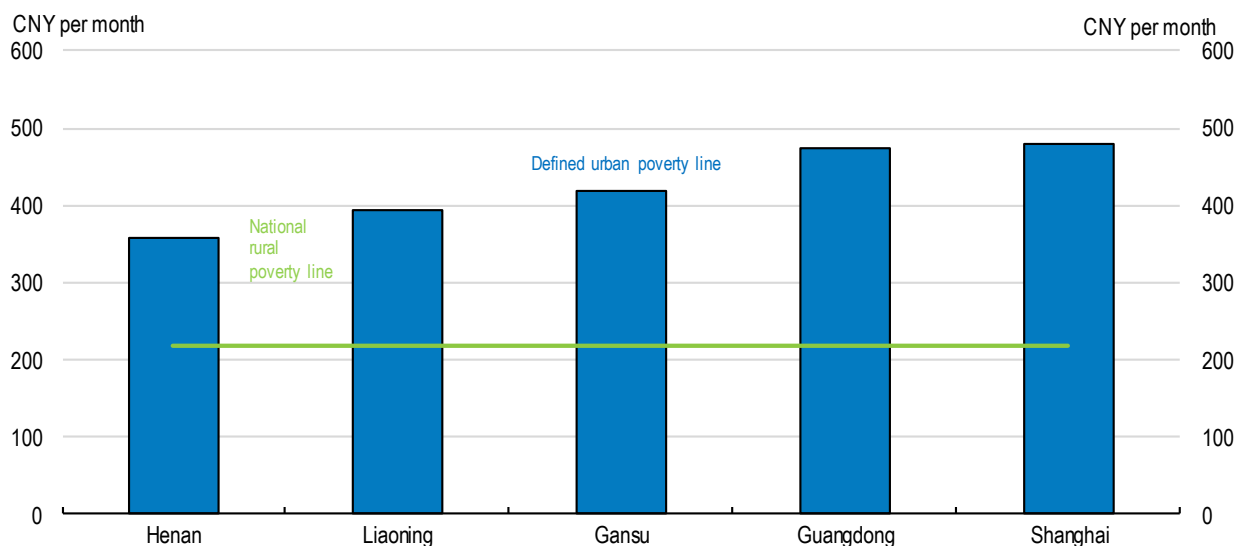
The personal information of *dibao* recipients is verified on an ongoing basis, through the use of government databases and in-home inspections. Nevertheless, the regularity of the reviews differs depending on the characteristics of the recipient. While able-bodied individuals who have the capacity to enter employment are reviewed regularly, elderly recipients may be visited only once per year. The design of the *dibao* system may provide disincentives to take

up work, as an increase in household wage income will result in a proportionate decrease in the *dibao* benefit received (implying an effective tax rate on participation of 100%). However, some locations are in the process of implementing measures to reduce the disincentives inherent in the system (Westmore, 2017). For example, a portion of any increase in household salary may not be included as assessable household income for calculating the *dibao* benefit for a defined period (usually three to six months).

One problem with the definition of poverty used by Zhang et al. (2014) is that differences in minimum income thresholds largely reflect the financing capacity of local governments (Leung and Xiao, 2015; Golan et al., 2015). In order to partially abstract from such differences, an urban poverty line is derived by first taking an average of the urban minimum income thresholds across 31 provinces and their administrative equivalents in June 2014. This implicitly assumes that *dibao* benefits are insufficient in as many locations as they are excessive, but that on average across provinces they adequately proxy the income needed to purchase the basic necessities. Price differences between the administrative regions also need to be controlled for so that poverty lines are “utility consistent” (Ravallion, 2012). Consequently, the average minimum income threshold is adjusted using the provincial urban spatial price deflators of Brandt and Holz (2006), extrapolated to 2014 using province-specific consumer price indexes.

The derived urban poverty lines differ materially between locations. For example, the poverty line in urban Shanghai is around one-third higher than that in urban Henan (Figure 2). All of the derived lines exceed the \$1.90 per day threshold (at 2011 purchasing power parity terms) the World Bank uses for global poverty monitoring.² If converted into comparable units, the defined rural poverty line equates to \$2.10 per day, while the urban poverty lines vary from around \$3.50 per day (Henan) to \$4.60 per day (Shanghai). As such, poverty rates are likely to be higher when using the derived poverty lines than if the World Bank poverty line were used.

Figure 2. Derived urban poverty lines differ across administrative regions according to the cost of living
Urban and rural poverty lines, 2014



Note: The average urban income standard is adjusted using the spatial price deflators for urban areas in each province, or administrative equivalent, taken from Brandt and Holz (2006) that are extrapolated using the province-specific consumer price index.

² It should be noted that some past work has criticised the World Bank poverty line as not being adequately anchored in a specification of the real requirements of human beings (Reddy and Pogge, 2010). There have also been some large revisions to World Bank poverty estimates in recent years due to the update of the Purchasing Power Parity (PPP) indexes to 2011 prices. Deaton and Aten (2017) suggest that these revisions were warranted insofar as the 2011 PPPs were more accurate than those calculated in the previous round.

Li and Gibson (2013) outline potential limitations with such a methodology. The national rural poverty line in the figure reflects the 2011 update.

Source: Author calculations based on data from China Ministry of Civil Affairs.

Data description

The China Family Panel Studies (CFPS) longitudinal survey is conducted by the Institute of Social Science Survey at Peking University. The baseline survey was officially launched in April 2010, with a small-scale follow-up interview survey undertaken in 2011. Full follow-up surveys were conducted between July 2012 and March 2013 (the 2012 wave) and July 2014 and May 2015 (the 2014 wave). The survey gathers information relating to various aspects of the wellbeing of the Chinese population including their economic activities, education outcomes, living arrangements and health. Respondents also report the types of government assistance they receive.

The survey covers 25 provinces or their administrative equivalents, which collectively account for around 95% of the total population in mainland China.³ A unique feature of the survey is that it covers all household members, not only the head or the main representative. The sampling approach of the survey divides the respondents into six independent sampling frames: i) Shanghai ii) Liaoning iii) Henan iv) Gansu v) Guangdong and vi) other provinces. Within each frame, households were selected using a three-stage probability-proportional-to-size sampling design with implicit stratification. In the first stage, counties (in rural areas) or administrative districts (in urban areas) were stratified according to their socioeconomic status (proxied by GDP per capita) and then sampled according to the size of the local population. In the second stage, stratification was undertaken at the neighbourhood community (in urban areas) or administrative village (in rural areas) level. In the third stage, households within a village or urban neighbourhood community were mapped and randomly sampled based on their geographic location. Migrant workers (i.e. those living in urban areas with rural household registration status) are included in the survey sample.

The independent sampling frames for the five administrative regions (referred to as “provinces” henceforth: Shanghai, Liaoning, Henan, Gansu and Guangdong) mean that the survey data for these are representative at the province level. This allows province-level inferences and cross-province comparisons. In each of these five areas, 1600 households were sampled, with 8000 additional households sampled in the “other provinces” frame. Past work has validated the robustness of the sampling strategy based on the similarity of the sex-age structure of the respondent group to that recorded by the 2010 Census (Xie et al., 2014). Nevertheless, the very small size of the provincial sample compared with the entire provincial population mean that caution should be exercised when deriving strong statistical inferences.

The analysis presented here focuses on the five representative provinces (the “other provinces” observations are excluded). The 2014 cross section was primarily used, although the analysis was repeated on the 2012 cross section to test the reliability of the findings and highlight noteworthy differences in the results across the two waves.

Although extensive data cleaning was undertaken by the Institute of Social Science Survey, a number of additional steps were taken to ensure the robustness of the analysis. Households who did not report income or their location were dropped from the dataset. Some observations were also excluded if there were large inconsistencies between answers in different parts of the survey. Once these steps were taken, 5543 households remained in the 2014 sample (6152 for the 2012 wave). Of these, roughly half were urban and half were rural households.

³ The income data used to calculate various metrics for China in the OECD Income Distribution Database (OECD, 2017b) is also derived from the CFPS survey.

Results

Poverty rate estimates across provinces

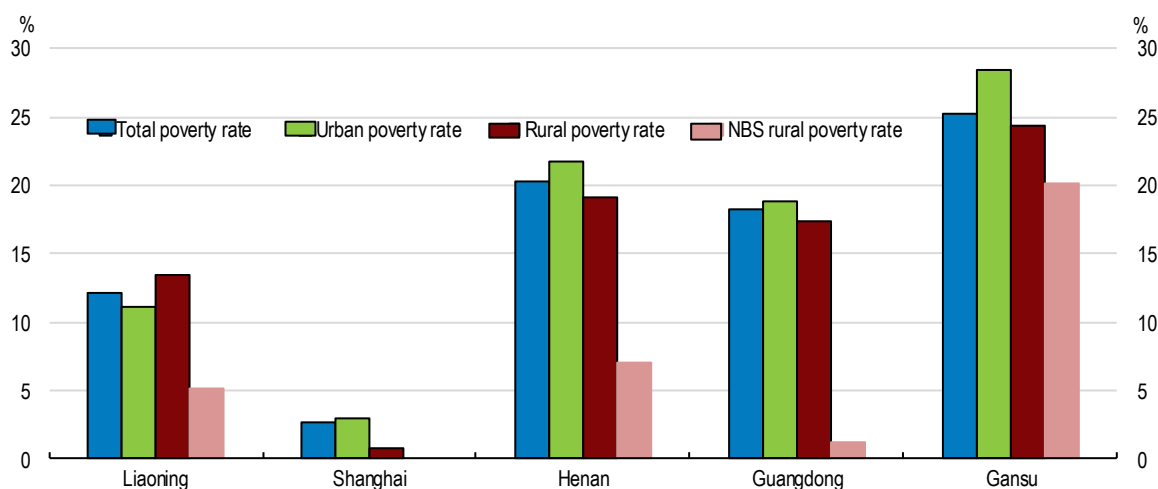
The estimates highlight major differences in poverty conditions between locations in 2014 (Figure 3). Across all households living in these five provinces, the estimated poverty rate was highest in Gansu (25.2%) and lowest in Shanghai (2.6%). In all areas outside of Gansu, the poverty rate declined in 2014 compared with estimates using the 2012 data (Appendix 1). Nevertheless, the estimated rural poverty rates in 2014 were significantly higher for each province than those reported by China's National Bureau of Statistics (NBS) for the same year.

In each province, outside of Liaoning, the estimated poverty rate was higher in urban than in rural areas. This may reflect the steep increase in urban minimum income thresholds in many provinces over the past few years, as the measured poverty rates were typically higher in rural than in urban areas in 2012 (Appendix 1). Additionally, it may owe to the fact that rural incomes have grown rapidly relative to urban incomes over the past few years (OECD, 2017c).

As a robustness check, urban poverty rates were re-estimated taking the actual province-level urban minimum income threshold in June 2014 as the poverty line (i.e. the definition employed by Zhang et al., 2014). The results in Appendix 1 highlight that the ranking of provinces by urban poverty rates are robust to this alternative specification. Furthermore, on average across the provinces, the difference in the estimated urban poverty rate from the baseline results is less than 2%.

Figure 3. Estimated poverty rates varied markedly between provinces

Share of the population living below the poverty line, 2014



Note: The urban poverty rates are calculated according to the derived urban poverty lines presented in Figure 2.
Source: CFPS, National Bureau of Statistics, authors' calculations.

Consumption patterns of the households in poverty

The CFPS survey also collects information about the expenditure baskets of households. This allows some assessment of the difference in the composition of expenditure depending on poverty status. Such an assessment is beneficial insofar as it signals the types of costs that may be contributing to a household falling into, or being stuck in, poverty.

Across the five provinces, on average, households living below the poverty line spent 33% of their income on food compared with 34.7% for households not living in poverty (Figure 4). Given strong co-movement in income and consumption inequality in China (Ding and He, 2016), the slightly higher food

share of the households not living in poverty suggests the results may conflict with “Engel’s Law” - the ratio between food and total expenditure decreases as total expenditure increases. However, this relationship is directly tested using simple regressions of the food expenditure share on total expenditure per household member, with the results confirming the posited negative relationship (Appendix 2).

Households below the poverty line also tended to spend a higher share of their income on medical services across the five provinces in 2014 (Figure 4). The difference in expenditure share between the two groups was especially pronounced in urban Shanghai and Henan and rural Liaoning (Table 1). For Shanghai, this may reflect particularly high demand for health care in China’s largest cities that has manifested itself in higher costs. There are also a relatively large number of migrant workers in Shanghai, many of whom would have been covered by rural health insurance schemes that had lower reimbursement rates in 2014 (Yu, 2015).

Figure 4. Households in poverty spent more of their income on health and housing
Share of total expenditure (%), 2014



Source: CFPS, authors' calculations.

Table 1. Households in poverty spent a higher share of their income on health and housing in most provinces
Average % of total household expenditure, 2014

	Shanghai		Liaoning		Henan		Gansu		Guangdong	
	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
Medical share										
Above poverty line	6.9	8.1	7.8	9.5	9.1	11.6	9.6	12.2	5.6	10.1
Below poverty line	11.9	6.8	10.7	14.8	14.9	15.8	9.1	13.7	9.1	11.5
Housing share										
Above poverty line	10.0	12.1	10.9	10.8	10.4	9.4	12.1	15.4	11.5	10.3
Below poverty line	13.1	13.6	15.3	9.4	10.5	11.4	16.3	18.7	13.5	8.6

Source: CFPS, authors' calculations.

The housing expenditure share was also relatively high for those in poverty in both urban and rural areas in each of the provinces, with the exception of rural Guangdong and rural Liaoning. This is

unsurprising given that housing affordability among the poor has become a significant issue in many areas over the past decade. Amongst other things, this has been due to relatively weak growth in one of the main types of public housing, so-called “economic housing” (Huang, 2012). Such housing is constructed by property developers on land obtained from the local government (usually at no cost) and can then be purchased by eligible households at government-controlled prices.

The role of government transfers in reducing poverty

The survey data suggest that government transfers to households reduced the poverty rate in the five provinces in 2014 (Table 2). This was especially the case in rural areas. Comparing household’s pre and post transfer income, government payments resulted in an average decline in estimated rural poverty rates across the provinces of 1.9 percentage points. In urban areas, the average decline was 1.3 percentage points. This is consistent with past work highlighting the beneficial role of Chinese government transfers in poverty alleviation (Wu and Ramesh, 2014). Across provinces, the greatest transfer-induced declines in poverty rates were in Gansu, with the most modest being in Shanghai (partly reflecting the relatively low pre-transfer poverty rate in that area). It should be noted that these estimates do not take into account the potential influence of such payments on labour supply. There is some evidence of government transfers negatively impacting labour supply in China (Chen et al., 2015). If this were the case in the five relevant provinces in 2014, it would mean that the pre-transfer income estimated here would be understated, and the role of government payments in reducing poverty overstated.

Around 83% of those households living below the defined poverty line in rural areas (prior to government transfers) in 2014 received some form of subsidy from the government, while it was around 60% in urban areas. The fact that such a high subsidy rate did not translate into a larger decline in the poverty rate reflects the fact that the majority of these subsidies increased income without lifting households above the defined poverty line. In some cases, this may be because the value of social assistance payments was too meagre. However, it may also reflect the receipt of some government payments that do not have poverty reduction as their primary objective.

Table 2. Government transfers reduced the estimated poverty rate
2014

	Poverty rate pre government transfers (%)		Poverty rate post government transfers (%)		Change in poverty rate from government transfers (%)	
	Urban	Rural	Urban	Rural	Urban	Rural
Liaoning	12.1	15.6	11.1	13.4	-1.0	-2.2
Shanghai	3.3	2.3	2.9	0.8	-0.4	-1.5
Henan	23.0	21.1	21.8	19.1	-1.2	-2.0
Guangdong	19.8	18.9	18.8	17.3	-1.0	-1.6
Gansu	31.3	26.8	28.5	24.4	-2.8	-2.4

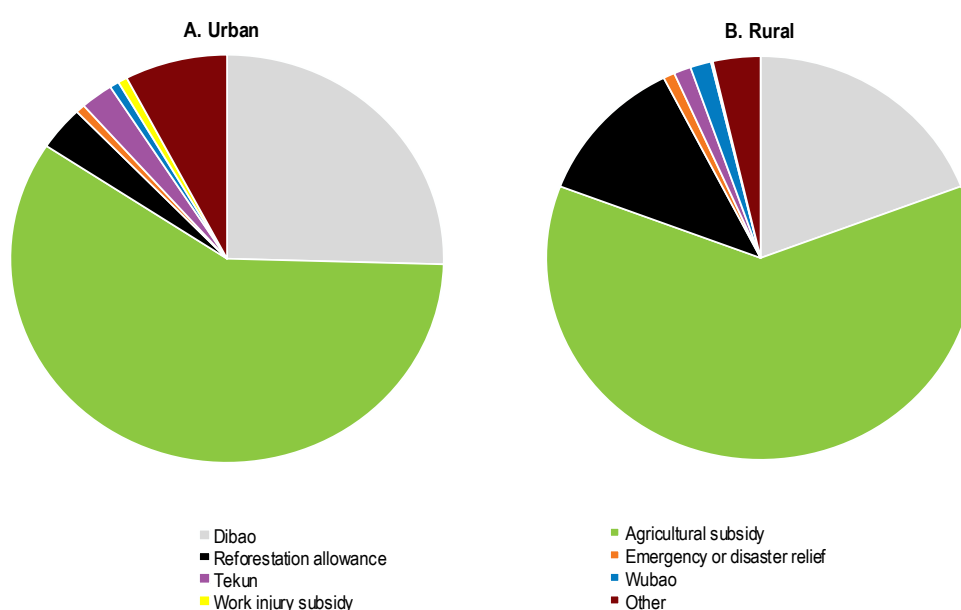
Source: CFPS, authors’ calculations.

The *dibao* and agricultural subsidies were most commonly received by those in poverty in 2014 (Figure 5). These two types of transfers accounted for over 80% of the volume of government subsidies making their way to people living below the poverty line in both urban and rural areas. Indeed, less than 15% of the households lifted out of poverty by government transfer payments received neither the *dibao* nor an agricultural subsidy.

While the *dibao* is a social assistance measure designed to reduce financial hardship for low-income earners (Box 1), the role of agricultural subsidies in achieving this aim may be less expected. Chinese government support to agricultural producers has grown rapidly since 2000 (OECD, 2016). Since 2014, agricultural support as a percent of gross farm receipts has been higher in China than in the average EU28 country. This has been both through increased government intervention in agricultural markets as well as

greater direct agricultural transfer payments. The latter both provides income support, primarily to rural households, and promotes other government objectives such as agricultural modernisation and grain self-sufficiency (Westmore, 2015). In recent years, China has started the process of combining three direct agricultural measures – payments for grain producers, the comprehensive subsidy on agricultural inputs and the seed variety subsidy – into a single payment called “agricultural support and protection subsidy”. The fact that over 40% of urban households living below the poverty line in the five provinces received an agricultural subsidy may suggest that the targeting of such policies was relatively loose in 2014. Nevertheless, it is not uncommon for households living in areas classified as urban to be involved in some agricultural activity. Almost 70% of those urban households living below the poverty line who received an agricultural subsidy reported elsewhere in the survey that the household engaged in agricultural work during the year.

Figure 5. Agricultural subsidies and *dibao* were the payments most commonly received by those in poverty
Share of the total number of subsidies received by those below the poverty line (pre government transfer), 2014



Note: In recent years, the *Tekun* and *Wubao* programmes have been combined. For additional information about these measures, see Westmore (2015) and OECD (2017).

Source: CFPS, authors' calculations.

While the 2014 CFPS questionnaire does not require households to divulge the amount of payments received under each type of government transfer, this information was collected in the 2012 wave. On average, in 2012, the value of *dibao* payments to households living below the poverty line was much higher than the value of agricultural subsidies (Table 3). This was especially the case in urban areas, reflecting the fact that the urban minimum income standard is typically higher than that for the rural population (OECD, 2017c) and urban agricultural production is typically low. For those households living below the poverty line and receiving the *dibao*, such payments contributed the majority of their income, on average, in urban Shanghai, Liaoning and Gansu.

Table 3. The average value of *dibao* payments was high relative to agricultural subsidies
Average annual transfer payment to households living below the poverty line (pre government transfer), 2012

	Shanghai		Liaoning		Henan		Gansu		Guangdong	
	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
<i>Dibao</i>:										
Value (CNY per year)	3353	400	3651	1539	1933	1146	3862	1712	3395	1462
% of income	62.7	7.7	70.6	42.2	45.8	48.2	51.0	37.0	36.8	32.3
Agricultural subsidy:										
Value (CNY per year)	256	-	333	597	366	477	566	564	204	280
% of income	4.6	-	16.1	23.7	11.5	19.8	22.2	17.1	14.7	22.5

Note: The “% of income” is calculated as the average ratio of the transfer payment to household income (including government transfer payments) for those living below the poverty line who received the payment. The results for rural Shanghai should be interpreted with caution due to a small sample size.

Source: CFPS, authors' calculations.

The extent to which *dibao* payments were received by households in poverty varied substantially across provinces (Table 4). In 2014, above 50% of *dibao* recipients in urban Henan reported household income that was below the defined poverty line. In contrast, this was the case for less than one quarter of *dibao* recipients in urban Liaoning. These differences reflect targeting errors of the *dibao* programme, as well as discrepancies between the defined poverty line and the applicable minimum income standard in each local area. Given the fairly invasive techniques of local governments for verifying eligibility (Box 1), they may also reflect some eligible households choosing not to apply for the benefit.

The estimates in Table 4 suggest there has been an increase in the share of rural households in poverty that received the *dibao*. A higher proportion of rural *dibao* recipients were in poverty in 2014 compared with 2012, though this was not the case in most of the urban areas. Overall, the results suggest a higher proportion of *dibao* payments were received by the neediest households than studies using earlier data. For example, Golan et al. (2015) estimated that just 10% of *dibao* recipients had income (excluding government transfers) that was below the county minimum income standard in 2009. Across the provinces analysed here, around 35% of rural *dibao* recipients had income below the applicable poverty line in 2014.

There has been some effort by authorities to improve *dibao* targeting in recent years. This may be a key factor behind the estimated increased share of rural households in poverty receiving the *dibao* in 2014. Along with the introduction of fines for local government officials or *dibao* recipients acting improperly, databases have been gradually developed to help verify payment eligibility. Beginning in 2014, an increased focus by the central government on reducing corruption in the *dibao* programme may have further helped improve targeting performance (Solinger, 2016).

Table 4. *Dibao* coverage of households in poverty varied across provinces
Share of the households receiving *dibao* who were below the poverty line (pre government transfer), %

Province	Urban		Rural	
	2012	2014	2012	2014
Liaoning	57.8	42.9	27.5	31.1
Shanghai	33.3	23.5	16.7	20.0
Henan	36.5	51.0	38.0	38.8
Guangdong	72.7	42.9	34.9	56.3
Gansu	39.1	44.6	30.9	31.5

Note: Household income excludes government transfer payments. The results for rural Shanghai should be interpreted with caution due to a small sample size.

Source: CFPS, authors' calculations.

Despite signs of improved targeting, at least in rural areas, the majority of households with income below the poverty line (prior to government transfers) did not receive the *dibao* in all of the provinces analysed (Table 5). This may reflect both low-income households being ineligible based on local criteria (perhaps reflecting a high value of household assets) and the fact that not all eligible households can

receive the *dibao*. Indeed, financial constraints mean that county governments usually allocate a quota of payments that can be spread across townships in the local area. The township officials then decide the quota of payments allocated to each local village (Box 1). Of the areas examined here, Gansu Province recorded the highest share of households below the poverty line that received the *dibao* in urban areas. This is consistent with the relatively large estimated impact of government transfers on poverty alleviation in urban Gansu (presented further above in Table 2). Focusing on the urban *dibao* in 2003/04, Chen et al. (2006) estimated that around three-quarters of eligible urban households were not covered by the assistance programme. The results presented in Table 5 suggest that a similar proportion of urban households below the defined poverty line were not covered by *dibao* in 2014. Broadening the analysis to include the other identified types of social assistance payments (i.e. *wuban* and *tekun*) leads to the conclusion that the vast majority of households in poverty across the five provinces did not receive a social assistance payment in that year.

Table 5. Most households in poverty did not receive the *dibao*

Share of the households below the poverty line (pre government transfers) that received *dibao*, %

Province	Urban		Rural	
	2012	2014	2012	2014
Liaoning	25.0	16.0	10.1	16.1
Shanghai	21.8	17.4	6.3	33.3
Henan	19.0	19.5	19.0	24.1
Guangdong	11.9	5.7	14.4	24.7
Gansu	38.3	32.1	25.6	22.4

Note: Household income excludes government transfer payments. The results for rural Shanghai should be interpreted with caution due to a small sample size.

Source: CFPS, authors' calculations.

Conclusion

Confirming official estimates, marked differences arise in the estimated poverty rates across the five provinces for which the China Family Panel Studies dataset provides a representative sample. Nevertheless, the estimated rural poverty rates in 2014 were significantly higher for each province than reported by China's National Bureau of Statistics (NBS). The estimates highlight differences in the estimated poverty rates between urban and rural areas within the same province. Outside of Liaoning, the rate was higher in urban than in rural areas. This is partly due to the higher cost of living in urban China which is reflected in the poverty lines constructed for this analysis.

Across the five provinces, and generally across both urban and rural regions, households in poverty spent a higher share of their income on housing and health services than households not in poverty. Accordingly, policy reforms that reduce medical and housing costs for poor households could have a tangible positive effect on their wellbeing.

The survey data also highlight some beneficial impact of government transfer payments in lifting households out of poverty. For those who do receive transfers, the *dibao* programme and agricultural subsidies appear to be particularly common types of payments. Focusing on the *dibao*, there is some evidence of improved payment targeting in rural areas in the years leading up to 2014. Nevertheless, most *dibao* recipients had income above the defined poverty line at that time. Across all the examined provinces, the vast majority of households living below the defined poverty line did not receive social assistance in 2014.

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APPENDIX 1 – ESTIMATED POVERTY RATES IN THE FIVE PROVINCES

Figure A1. Share of the population living below the poverty line (%)

	2012	2014		
	Baseline	Baseline	Alternative poverty line	NBS
Urban				
Liaoning	13.7	11.1	12.1	
Shanghai	6.4	2.9	6.3	
Henan	19.4	21.8	19.4	
Guangdong	21.6	18.8	17.4	
Gansu	15.4	28.5	28.5	
Rural				
Liaoning	20.9	13.4	13.4	5.1
Shanghai	8.4	0.8	0.8	0
Henan	22	19.1	19.1	7.0
Guangdong	19.9	17.3	17.3	1.2
Gansu	22.9	24.4	24.4	20.1
Total				
Liaoning	17.1	12.2	12.7	
Shanghai	6.8	2.6	5.4	
Henan	20.9	20.3	19.2	
Guangdong	20.9	18.2	17.3	
Gansu	21.4	25.2	25.2	

Note: In the “Baseline” specification, the urban poverty line is estimated by first taking an average of the urban minimum income standard across 31 provinces and their administrative equivalents in June 2014. Then, for each of the five provinces of interest, the average minimum income standard is adjusted using the urban spatial price deflators of Brandt and Holz (2006), extrapolated to 2014 using province-specific consumer price indexes. The poverty rates in the “Alternative poverty line” column are estimated based on an urban poverty line that is estimated as the actual minimum income threshold at the provincial level in June 2014. The “NBS” column presents the rural provincial poverty rate for 2014 published by China’s National Bureau of Statistics.

Source: CFPS, National Bureau of Statistics, authors’ calculations.

APPENDIX 2 – THE RELATIONSHIP BETWEEN HOUSEHOLD INCOME AND EXPENDITURE ON FOOD

The relationship between the expenditure share of food and total household expenditure is tested using a simple linear regression model on the 2014 dataset (Table A.1). The estimation equation is:

$$\log(\text{food exp share})_i = \alpha + \beta_1 \log(\text{total exp})_i + \partial_i + \beta_2 \text{fsize} + \varepsilon_i$$

Where *food exp share* is the expenditure share of food of the household *i*, *total exp* is total expenditure per household member and ∂ is a province-level dummy to control for unobserved explanatory factors specific to the province. There is also a control variable for the potential impact of household size (*fsize*) on food demand.

The regression results displayed in Table A.1 confirm “Engel’s Law”, the ratio between food and total expenditure decreases as total expenditure per capita increases. An alternative specification that includes household income per capita (instead of expenditure) as an independent variable also suggests a negative relationship between income and the share of spending devoted to food. Consistent with past cross-country evidence (Deaton and Paxson, 1998), the results suggest that larger households have a lower food expenditure share.

Table A.1. The relationship between income and the food expenditure share of households

Dependent variable = $\log(\text{food exp share})$

$\log(\text{total exp})$	-0.22*** (12.9)
<i>Fsize</i>	-.03*** (3.7)
Constant	3.6*** (29.1)
R ²	0.03
Observations	5510

*** p<0.01, ** p<0.05, * p<0.10

Note: t-statistics in parentheses. Standard errors are clustered at the county level, which allows for some intra-cluster correlation of standard errors.