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Poverty alleviation research in rural China:

Three decades and counting

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Abstract

Poverty alleviation is a hallmark of post-revolution Chinese policymaking. Since 1978, the Communist Party of China (CPC) has implemented successive waves of poverty alleviation policies whose effects have become the focus of an ever-increasing body of academic literature. This paper reviews this diverse but limited literature that evaluates the impact of the CPC's poverty reduction programs through four major channels, namely fiscal investment programs, social safety nets, rural governance on the village-, county- and provincial level, and the relocation of rural populations from destitute regions. This paper aims to synthesize results and evaluate whether and how the abovementioned poverty alleviation programs have had distinct positive or negative impacts on regional development outcomes. Furthermore, I highlight contradictions in empirical findings to motivate the discussion about contextual importance when designing and implementing future poverty alleviation programs. Finally, I suggest that an exhaustive and critical

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appraisal of the empirical strategies used in this literature would further the development and application of more accurate and informative methodologies.

Keywords: Poverty alleviation, poverty analysis, depressed areas, welfare, regional policy

1 Introduction

Since Deng Xiaoping's monumental market reforms in 1978, 700 million Chinese people have been lifted out of absolute poverty, accounting for 70% of poverty reduction worldwide (Majendie, 2018). In 2013, General Secretary Xi Jinping set the ambitious goal of lifting all 1.4 billion people out of destitution by the end of 2020, 10 years ahead of the United Nation's goal of eradicating poverty worldwide by 2030 (Wescott and Wang, 2019). By the end of 2018, the 832 poorest counties have already been reduced by least 430, and at least 100,000 villages have exited extreme poverty (South China Morning Post, 2018). The 13th Five-Year Plan (2016-2020) aims to lift 30 million people out of poverty through industrialization and investment, 10 million through employment opportunities, 10 million through *ex situ* resettlement, and 20 million through social security programs (Central Committee of the Communist Party of China, 2016; Zuo, 2019).

Despite the CPC's remarkable progress in poverty alleviation, the nature of rural poverty and the interplay of its causal factors have confounded scholars for decades.

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The first attempt to empirically document rural poverty[1] was Travers and Ma (1994), who investigated whether agricultural intensification and investment raise peasant incomes. Since then, rural poverty measurement in the literature has evolved from single-dimensional—that is, purely income-based—to multidimensional, which takes into account social deprivations, the lack of human capital, and vulnerability to enter poverty. However, the integration of multiple poverty indicators is difficult, and empirically measuring such indicators with precision remains challenging. While scholars have come to the consensus that a numeric cut-off line is an oversimplified model of defining absolute poverty[2], approaches have generally differed regarding poverty identification methods.

This paper is structured as follows: the first section gives a brief history of rural Chinese poverty alleviation. The second section outlines the review methodology. The third section discusses the evolution of research focus and experimental design of the

[1] There may have been earlier attempts to document poverty (especially in the Chinese literature), but those articles were excluded from the review for reasons described in the methodology section.

[2] The former official definition of poverty is based on the Chinese national poverty cut-off line of RMB 2300 ($362.5) per capita annual income. Criticisms of the national poverty line—in addition to its dismissal of other poverty causes—are centered around its inflexibility. For example, the living standards of a person with a per capita annual income of RMB 2301 is virtually identical as one with a per capita annual income of RMB 2299. The cut-off is also criticized for being set too low in relation to the international standard. Using a 10-year panel data set from three provinces, Glauben et al. (2011) demonstrated that while only 4% of the households in lived five or more years in poverty according to the national poverty line, the portion increases to almost 40% when remeasured using the international poverty line (Glauben et al., 2011).

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literature. The fourth section discusses the key findings of this review. The fifth section concludes the paper.

1.1 A brief history of poverty alleviation in rural China

1949-1977 Economic development was stagnant in rural areas, whose populations were in a state of constant poverty during this period. Poverty alleviation policies were fruitless and misguided, focusing on the most basic physiological needs (food, clothing) of rural populations (Liu et al., 2018). This passive blood-transfusion form of poverty alleviation discouraged local economic growth, and transitions back into poverty were pervasive.

1978-1985 Deng Xiaoping's opening-up reforms led to gradual liberalizations in agriculture and business development. The household responsibility system inspired farmers to increase land output, which prompted a healthy increase in agricultural product prices. The formation of township and village enterprises (TVEs) laid the framework for rural economic structure. Poverty alleviation efforts became more comprehensive (e.g. fiscal investment in disparate and contiguous rural areas). Absolute poverty dropped 17.86 million people annually, and individuals with basic needs dropped by from 30% to 15% of the rural population during this period.

1986-1993 The rural economy sustained its economic growth, but inequalities emerged between eastern coastal cities and midwestern contiguous poverty areas. In 1986, the CPC established the State Council Leading Group on Poverty Alleviation and

 doi:10.20944/preprints201909.0119.v1

Development (LGOPAD 国务院扶贫开发领导小组). The establishment of this administration marked the first state-led poverty alleviation program in China.

1994-2000 This phase of poverty alleviation is characterized by the *National 8-7 Plan,* which was implemented to resolve food and clothing problems of 80 million poor in midwestern mountainous regions. 82% of the 592 national poverty counties (an increase of 261 from the previous period) concentrated in midwestern areas. The target of the 8-7 Plan was achieved in 2000—one year ahead of its planned completion date—and led to a 48-million decrease in rural poverty population in China. The 8-7 Plan marked a turning point in Chinese poverty alleviation policy as it had clear objectives, solutions, and duration (Liu et al., 2018).

2001-2013[3] Since the drafting of the "Outline for Development-Oriented Poverty Reduction for China's Rural Area" in 2001, rural China oversaw over a decade of village-centric poverty reduction (Yan, 2016; Liu et al., 2018). Whole-village advancement measures such as rural infrastructure development and community-based development paved the way for more region-specific poverty alleviation, a precursor to the era of targeted poverty alleviation (2014-present). The 2001 tax-for-fee reforms (*shuifei gaige* 税费改革) reduced agricultural tax burden for farmers; only five years later in 2006 did the CPC eliminate the two-thousand-year-old agricultural surcharge. In 2003, the new-type rural cooperative healthcare system (NRCHS) was designed to counteract poverty

[3] Other scholars categorize time periods differently. Liu et al. (2018) uses the period 2001-2012. Yan (2016) uses the period 2001-2010. 2013 was chosen as the end date in this paper because of the initiation to targeted poverty alleviation, which marked a turning point in the mechanism of the poverty alleviation program.

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incidence caused by illness. The healthcare relief policies in 2004 provided "destitute" households with "five welfare guarantees", benefitting 3.04 million deprived population in rural villages. By the end of 2010, China had lifted 58.26 million out of poverty and became the first nation to achieve the UN Millennium Development target of halving the poverty population.

2014-2020 Since 2013, China has implemented the 'targeted' poverty alleviation strategy (*jingzhun fupin* 精准扶贫). In 2013, the State Council released "Opinions on Promoting Rural Poverty Alleviation through Innovation Mechanisms," a programmatic document that stresses the need for an appropriate identification process for poverty alleviation. The document requires local governments to generate electronic reports for individual households, detailing the causes and circumstances of their poverty. In June 2015, Chairman Xi Jinping ratified the targeted poverty alleviation plan and positioned it at the forefront of Chinese poverty alleviation policy.

2 Review Methodology

Here I provide a brief overview of the methodology used to review the empirical works included in this review.

The quasi-systematic review of empirical methods and data. Original, peer-reviewed research articles were selected from Elsevier, JSTOR, and SSRN. Publication dates were divided into time periods (1990-2000, 2001-2010, and 2011-2019) as they correspond to major poverty alleviation policies as well as shifts in the focus, methodology, and findings in the literature. I review the literature in rural instead of in

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urban China because of its significantly higher poverty incidence, persistence and severity, and the rural-centricity of government policies. I omit research articles analyzing poverty alleviation perspectives on ecology, biodiversity, energy use, and tourism as environmental aspects of poverty bear little relevance to the canonical channels of poverty alleviation. Each study in this review was evaluated based on the components of its experimental design (geographical scope, time frame, sample source, sample size, dependent variables).

Search methodology. I use Elsevier, JSTOR, and Google Scholar as primary search engines. Restrictions were placed on the date of publication (1990-2000; 2001-2010; 2011-2019), the repository (restricted to Elsevier, JSTOR and SSRN), and topic (studies in other developing nations were rejected). The authors must have used a clear empirical approach to analyze the effects of poverty alleviation policy in rural China. The research articles were catalogued according to the policies they analyze[4].

Examples of search phrases:

- *China poverty alleviation "[insert methodology here]" -urban.*
- *Rural microfinance China poverty Elsevier -Vietnam -Thailand*
- *Poverty alleviation resettlement rural China JSTOR*

[4] In this review: fiscal investment, social support, resettlement, and governance mechanisms.

 doi:10.20944/preprints201909.0119.v1

There are important points to be discussed about this methodology. First, this work should not be considered a meta-analysis, as a formal search algorithm was not used[5], and there has been no attempt to create standardized impact estimates. Secondly, I acknowledge the exclusion of Chinese research, or other international research, that may not be included in the repositories. I therefore acknowledge that there may exist publication and inclusion bias resulting from the specific sources used for this review.

3 Experimental design in the literature

3.1 Research questions

Scholars have posed research questions that have both evolved and remained the same with the progression of poverty alleviation policy. While new research focuses have emerged, core concerns such as the optimization of quantitative methods to more accurately measure poverty have remained the same. Travers and Ma (1994) investigated the effects of agricultural investment on rural poverty, consistent with the primary objective of the eight Five-Year Plan (1991-1995) of direct irrigation investment. The first definitions of transient and chronic poverty were provided by Jalan and Ravallion (1998), followed up by another study that probed the causes of transient poverty and how the implications of the interplay between transient and chronic poverty

[5] The relatively limited literature in poverty alleviation research in rural China and the dissimilarity of geographic regions rendered an algorithm unnecessary. Alterations in word order in the searches generally did not affect search results.

 doi:10.20944/preprints201909.0119.v1

for measurements of overall poverty (Jalan and Ravallion, 1999). These pioneer studies allowed for more specific analyses in the mutual exclusivity of transient and chronic poverty (Jalan and Ravallion 2000, 2001; Mcculloch and Calandrino, 2003; Duclos et al., 2010), and, on a broader level, introduced the inherent complexity of rural poverty—perhaps foreshadowing the need for multidimensional approaches—and how effective policy should adapt to rural poverty's unpredictable fluctuations.

A fundamental understanding of rural poverty has enabled scholars to scrutinize poverty alleviation policy in its distinct forms[6]. Hannum (2003) investigated how local community resources influence educational inequality, providing a reference for a two-decade study that incorporated multidimensional poverty measurement metrics to evaluate child poverty (Qi and Wu, 2015). Cheng (2006, 2007) examined the targeting efficacy of rural microfinance policy, leading the way for further investigation in the welfare outcomes of microfinance programs (Li et al., 2011; Turvey and Kong, 2010; You and Annim, 2014; Ding et al., 2018). Carrin et al. (1999) provided the first temporal evaluation of the Rural Cooperative Medical System in fourteen pilot counties, laying the framework for further analysis of distributive properties of healthcare policy in poverty alleviation (Yang et al., 2016; Chen et al., 2018). It was not until 2017 when the innerworkings of social poverty policy was elucidated, likely because of the abstract nature of measuring social capital and the paucity of large datasets. The works of Ratigan (2017), Zhang et al. (2017), Golan et al. (2017), and Kakwani et al. (2017)

[6] It should be noted, however, that there were not particular focuses on specific poverty alleviation programs until after 2010.

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analyzed regional differences in social welfare provision, the association between social relationships and the probability of living in poverty and the effectiveness of the *dibao* program. In light of recent poverty resettlement efforts, Xue et al. (2013) inspected the mechanisms of voluntary[7] poverty resettlement as Lo and Wang gauge the distributive properties and potential biases of such programs.

The efforts in the literature to characterize rural poverty in China, described above, points to the multifaceted nature of rural poverty. A breakthrough in poverty measurement came in 2007 when developmental economists Sabina Alkire and James Foster published a series of papers on multidimensional poverty that encapsulated—as the name suggests—the multiple causal factors of poverty. Yu (2013), Qi and Wu (2015), Wang and Wang (2016), and Alkire and Wang (2018) used this method to paint a more complete picture of multidimensional rural poverty in China (see Appendix A). It is likely that these multidimensional measurements will receive more attention in the future for their ability to capture previously underappreciated contributors to rural poverty.

3.2 Sampling

The geographical scope and (quasi-)experimental design of the research articles have generally remained comparable, which can be explained by the recurrence and

[7] The definition of "voluntary" versus that of "involuntary" poverty alleviation resettlement programs was a debated topic, with Wilmsen and Wang (2015) proposing that a people-centered approach, not volition is the driver of improved outcomes in PAR.

 doi:10.20944/preprints201909.0119.v1

persistence of poverty in the mid-west and northwestern regions over the past three decades. The time frames of the empirical literature are attuned to the dates of key policies such as the National 8-7 Plan (1994-2000). Therefore, it is of interest and more feasible to investigate clearly defined periods of poverty policy to gauge the effects thereof[8].

The limited sampling capacity of empirical research during the first phase (1990-2000) of poverty alleviation research can largely be derived from geographical heterogeneity and highly decentralized and county- and village-specific policy implementation. Implementation bears little similarity across counties, sometimes even within villages (Park and Wang, 2010). As a result, researchers often resorted to the analysis of two to three provinces with adequately similar geographic and demographic characteristics with regards to poverty. The corollary of geographic limitations is a restricted sample size, which is often limited to county- or village-level populations. In addition, the data source was fairly homogenous among the studies during this period, with 3 of 5 studies using data from the Rural Household Survey[9] (RHS), with the exception of Chen and Ravallion (1996), who conducted face-to-face interviews with

[8] Another reason that scholars are not able to extend the temporal scope of empirical research is the paucity of credible and accessible poverty statistics. These poverty data are rarely made public and require personal relations with local officials, which is also a determining factor of the effectiveness of qualitative research, explored more in the section on empirical methodologies.

[9] The RHS began in 1955, presumably the oldest survey accessible. The credibility of the surveys, however, was questionable and access to the results were largely restricted until the early 1990s.

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local officials. Jalan and Ravallion (2001) even opted to re-use survey data from studies done several years ago due to the scarcity of reliable data and of national-level surveys conducted by the government. Overall, there was little attempt to empirically measure and interpret rural poverty during this period.

With the maximum length of five years[10], studies during the first phase were relatively uninformative about whether and how the central government should optimize policy options for distinct geographical regions. Observations from poverty measurement studies had been derived from national household surveys (e.g. Rural Household Survey (RHS)), which are cross-sectional, not longitudinal, data. Cross-sectional data obtained at a single point in time do not provide any indication of the *a priori* or *post priori* conditions of poverty, thereby failing to capture fluctuations in poverty levels between the times of measurement. It was not until 1998 when Jalan and Ravallion (1998) addressed this by constructing a new panel data set was from the RHS[11] done by China's State Statistical Bureau (SSB).

[10] Jalan and Ravallion (1996, 1998, 2001) used the same dataset likely due to data unavailability from other surveys.

[11]The authors note that the RHS has been a well-designed budget survey of a random sample of households drawn from a sample frame spanning rural China (including small-medium towns), with unusual effort made to reduce non-sampling errors. Sampled households fill in a diary on daily expenditures and are visited on average every two weeks by an interviewer to check on the diaries and collect other data. There is also an elaborate system of cross-checking at the local level. The consumption data obtained from such an intensive survey process are almost certainly more reliable than those obtained by the far more common cross-sectional surveys in which the consumption data are based on recall at a single interview or possibly with one follow-up interview. For a six-year period 1985–1990, the survey was also longitudinal, as it sampled the same households over time.

A clear upward trend in sample size and data variety began in the late-2000s. Montalvo and Ravallion (2009), using a sub-national panel dataset constructed by the authors and China's National and Provincial Bureaus of Statistics, evaluated rural China's economic growth from 1983 to 2001, re-defining the "longitudinal study" in rural Chinese poverty alleviation research. Duclos et al. (2010) used survey data conducted annually by China's Research Center for Rural Economy (RCRE) to measure long-term changes in transient and chronic poverty incidence from 1986 to 2002, followed by many others that used the growing wealth of rural poverty data provided by all levels of Chinese administration (Appendix A).

4 Findings and Discussion

Drawing on the diverse repertoire of literature in Chinese poverty alleviation, I argue that there is no chief culprit for rural poverty[12] and that whether the CPC's poverty alleviation programs are effective is not so clear-cut. All the evidence points to the fact that Chinese rural poverty is a concoction of geographic location and natural conditions, local governance, and the array of stochastic indicators of transient and chronic poverty.

Several generalizations can be made. Expectedly, investment in agriculture has remained effective in reducing poverty (Travers and Ma, 1994; Montalvo and Ravallion,

[12] Though there certainly are primary causes of poverty for inhabitants in specific contexts (e.g. for the poor people living in mountainous areas, natural factors and lack of infrastructure is the main contributor of poverty).

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2009; You, 2014; Imai and You, 2014), especially in the poorest areas where there are no readily available external sources of employment. Investment in education has also been shown to be successful in reducing poverty vulnerability (Hannum, 2003; Goh et al., 2009; Glauben et al., 2011; Imai and You, 2014; Lü, 2015; Ratigan, 2017; Ren et al., 2017; Alkire and Shen, 2018), although the study areas are generally limited to several provinces and may not reflect regional peculiarities[13]. It seems that the programs that are commonly associated with international poverty alleviation generally hold true for rural China despite drastic demographic and spatial differences. That said, inequalities remain and whether and how they will be addressed is a moot point.

Perhaps the most important finding of this review is that studies that analyze the same policy can produce different, even opposite, findings. I argue that, ceteris paribus[14], these differences can primarily be attributed to spatial heterogeneity[15] and that regional differences in sampling in studies are not negligible. Whereas Ravallion and Chen (2005) find that microfinance programs have little or no impact on permanent income, Li et al. (2011), You and Annim (2014) and Ding et al. (2018) all find significant positive impacts thereof. A comparison of geographic regions of the studies reveals that the study done by Ravallion and Chen was conducted in southwestern provinces,

[13] Goh et al. (2009) is an exception (see Appendix A).

[14] I acknowledge that there may be other variables driving these differences (e.g. differences in methodology, time frame); however, only geographic heterogeneity has been concretely shown to be involved in differences in poverty severity and type.

[15] I refer to not only geographic and natural characteristics but also the variation in the attention local governments pay to individual counties or villages (i.e. differences in local governance).

 doi:10.20944/preprints201909.0119.v1

whereas the three others focus almost exclusively on central and northern provinces. Whereas Xue et al. (2013) find positive effects of poverty alleviation resettlement (PAR programs) on economic opportunities and social welfare, Lo and Wang (2018) find inconsistencies in implementation and Liu et al. (2018) emphasize distinct program outcomes between different relocation regions. Yang et al. (2016) finds coverage issues in the New Cooperative Medical Scheme (NCMS) in the inland Shaanxi Province, whereas Chen et al. (2018) find improved service accessibility in the eastern coastal Zhejiang Province. The pattern of provincial and regional exceptions plays itself out in all channels of poverty alleviation—grave targeting errors or questionable local accountability cannot and should not be generalized, and the failure of an investment program on one region does not mean that it will have the same effect in another.

The fact that the literature can be identified with distinct aspects of rural poverty, among them fiscal, social and health poverty, signifies that poverty alleviation programs are not yet inclusive enough to confront all dimensions of poverty. That said, PAR programs do hold some promise as they have been shown, at least regionally, to dramatically improve living and economic conditions for those that chose to re-locate. It is expected that PAR programs will do even more to reduce the financial burden on the relocated by providing more affordable transportation services, carry out community-based programs to foster social capital, assist the relocated in their search job searches by providing training in specific skills, and, most importantly, ensuring that the non-movers do not continue to suffer from endemic chronic poverty.

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The policy implications of these findings are far-reaching: the specificity to which policies may be required to adapt will need to be on the village- or even on the household-level. Future attempts to create more targeted poverty alleviation programs should aim to ensure that not one of the millions of people who exit poverty relapses for any reason, be it a transient income shock, adverse natural conditions, or poor local governance. The "eradication" of poverty should therefore be defined as the elimination of every possible root cause of poverty through painstakingly specific programs and the ridding of the whack-a-mole approach to policy implementation that still plagues some of the poorest rural areas. The sources of poverty that we know of[16] may be incredibly difficult to control for given that there are hundreds of counties and thousands of villages in poverty at any given time. Because of the context-specific nature of rural poverty, a more holistic and multidimensional approach should be used to evaluate poverty not only in rural China but also internationally. Despite clear evidence that certain aspects of the CPC's plan can and must be improved, we must refrain from making brazen conclusions about the plan's validity or effectiveness.

It is important to be cognizant of the inherent noise involved in rural Chinese poverty alleviation research. This paper assumes that the data sources are free of error and bias[17] and that empirical strategies are optimal for the context of a specific

[16] These conclusions are made on the assumption that scholars have already "decoded" all the possible sources of poverty. It may well be that new or unknown sources of poverty will surface as time progresses and as more novel poverty alleviation approaches such as e-commerce and tourism become more widespread.

[17] This is especially concerning when designing mass questionnaires and collecting data from millions of poor people from geographically distinct regions.

province, county, or village. We also lack a firm grip on the precise mechanisms by which poverty alleviation is carried out in the poorest of the poor areas, and it is certainly possible that exogenous influences such as ulterior political motives distort survey data. An in-depth survey of empirical strategies and the relationship between the context of rural poverty and empirical methods will be a crucial step in our quantitative understanding of poverty and development in rural China. I have provided an overview of all the empirical methods researchers have used to date (Appendix B) and anticipate that these methods will continue to be fine-tuned to match the dynamics of Chinese rural poverty.

5 Conclusion

To the author's knowledge, this is the first quasi-systematic review of the rural Chinese poverty alleviation literature. It is reasonable to conclude that Chinese poverty alleviation policy is partitioned into periods of gradual and intense focus, as is the research that seeks to better understand rural poverty dynamics. As poverty alleviation shifted from being more material-centric to region- and household-specific, so did the literature.

As of April 2019, there are still approximately 373.1 million people living in extreme poverty (World Bank, 2019)[18] in China. Eradicating poverty by 2020 remains a daunting

[18] While the UN rightly defines 'extreme' as earning less than $5.50 a day, the literature has acknowledged that poverty is not entirely income-dependent (although it plays a large role in poverty) and there may be, especially in a country as large and complex as China, millions suffering from poverty with other inadequacies, among them social poverty, education

 doi:10.20944/preprints201909.0119.v1

task despite the extensive scale of poverty alleviation efforts. It is likely that rural poverty and its intricacies will continue to pose challenges for the CPC even after supposed 'eradication'.[19] The CPC nevertheless appears to be willing to devote as much resource as needed into this unprecedented effort for as long as rural poverty persists in China.

deprivation and the inaccessibility of healthcare. This situation, again, stresses the need for more holistic measurements of poverty that encompass multiple possible sources of rural poverty.

[19] The reviewed literature has made a strong case for more optimized policy for different types of poverty (e.g. transient or chronic) in different regions of China.

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Appendix A: Study design

Authors of study	*Geographical scope*	*Time frame*	*Data source*	*Research question(s)*	*Key findings*
Travers and Ma (1994)	12 provinces[20]	1980-1987	China's County Level Rural Economic Statistical Abstract	Can agricultural intensification and investment raise peasant incomes in poor areas?	- Increased use of machinery and fertilizer offers some potential for increasing peasant income in rural areas. - Investment in irrigation in poor regions would only increase net peasant incomes if government subsidies compensate for at least a third of the costs of the projects.
Chen and Ravallion (1996)	Guangxi, Yunnan, Guizhou, and Guangdong	1985-1990[21]	Rural Household Survey (RHS); in-person interviews with county officials	(1) How can we better understand and validate poverty rates from existing data (i.e. how can we improve	- Poor distributional effects of policies led to preferential growth in rural areas in coastal regions. - Inland provinces experienced slower growth.

[20] Heilongjiang, Neimenggu, Hebei, Henan and Shanxi are in North and North East China; Sichuan, Hubei, Jiangxi, and Jiangsu.

[21] The authors note that 1984 data was unavailable because it was a trial period and the data produced were unreliable.

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				data-collecting methods)? (2) How can we corroborate the concerns of policymakers regarding the effectiveness of the policies in the 1980s?		
Jalan and Ravallion (1998)	Four contiguous provinces in southern China, namely Guangxi, Yunnan, Guizhou and Guangdong	1985-1990	Rural Household Survey (RHS)	How can we better understand and measure the extent of poverty through different time scales[22]?	-	Consumption variability is responsible for much of the observed poverty and possibly poses a severe barrier on efforts to combat chronic poverty.
Jalan and Ravallion (1999)	Guangxi, Yunnan, Guizhou and Guangdong	1985-1990	RHS	To what extent are the needs of households in poor rural economies similar or different, and does the existing consumption insurance	-	There is ample evidence for the existence of consumption insurance in poor villages in southern China; however, these programs work noticeably less well for the poorest of the poor.

[22] The first definitions of transient and chronic poverty.

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				work better for some groups than others?	- There is evidence for inequitable economic growth within poor rural economies in Southern China.
Carrin et al. (1999)	14 pilot counties (two counties in each of seven designated provinces)[23]	1994	Same as *Carrin et al. (1996)*	(1) To what extent have counties and their townships been able to reduce the burden of healthcare costs on the rural population? (2) How effective are the policies' population coverage and how adequate is the reimbursement structure?	- Although all counties are rural, the population structure by occupation and income clearly varies. - The project has, however, adapted itself to the variety in population structure, and it has given sustained support in implementation and in monitoring the progress in the different pilot counties. - The average population coverage in most townships is adequate and that full population coverage seems to be a feasible goal. However, coverage requires drastic

[23] Tongxian and Pinggu (Beijing), Qidong and Xinghua (Jiangxu Province), Haining and Xiaoshan (Zhejiang Province), Xinmi and Wuzhi (Henan Province), Wuxue and Changyang (Hubei Province), Yongning and Lingwu (Ningxia Province) and Yongxiu and Yihuang (Jiangxi Province); early 1995, Tongxian County was replaced by Fangshan County of Beijing.

 doi:10.20944/preprints201909.0119.v1

					Improvements in some townships as well. - Reimbursement rates differ, often significantly, from the scheduled rates.
Jalan and Ravallion (2000)	Guangxi, Yunnan, Guizhou, and Guangdong	1985-1990	Rural Household Survey (RHS)	Is transient poverty is determined by a process that is similar to chronic poverty?	- The causes of poverty identified in these provinces have weak explanatory power for transient poverty. - Some determinants of transient poverty have no connection to chronic poverty and sometimes even have the opposite effect (i.e. mutually exclusivity). - Effective measures to alleviate chronic poverty may have no effect on transient poverty.
Jalan and Ravallion (2001)	Guangdong, Guangxi, Guizhou, and Yunnan	1985-1990	Data from *Jalan and Ravallion*	How do characteristics of household income dynamics influence the long-term effects of a transient shock?	- Two types of dynamics may result from an income shock: 1) a temporary drop in household income and 2) a declining income

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			(1998), Jalan and Ravallion (1999)[24]			path, possibly leading to chronic poverty.
Park et al. (2002)	592 national poverty counties	1981-1995[25]	National panel data	How effective is regional targeting in alleviating rural poverty?	-	While the coverage of policies has improved, political factors have affected targeting and leakage has increased.
					-	The selection of 'poor' counties may be politically biased.
Hannum (2003)	Nationwide	1992	Rural component of the National Sample Survey of the Situation of Chinese Children	(1) How do local community resources influence educational inequality? (2) In what ways do village characteristics affect children?	-	Village and household incomes and village provision of junior high schools impacted on children's enrollment probabilities.
					-	Village income effects did not change with family income. i.e. the effect of village income was additive.

[24] While the authors base their paper off of past results, they approach the data with improvements in quantitative methods, outlined in the next section of this review.

[25] The panel data is broken down into the time periods 1981–1985, 1985–1989, 1989–1992, and 1992–1995

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Mcculloch and Calandrino (2003)	Sichuan Province	1991-1995	Household Survey Division of the Rural Survey Organization in the National Bureau Statistics (NBS)	How chronic is poverty in China?	- 57% of the households experience transient poverty (one or more years of poverty). - Geographic location has the most significant impact on poverty vulnerability[26] as well as chronic poverty. - Household size is significantly related to chronic poverty.
Ravallion and Chen (2005)	20 project counties, 200 villages in southwestern provinces	1996-2000	Rural Household Survey (RHS)	What is the savings behavior of beneficiaries of a large poor-area development project?	- A large share of the income gained was saved by the participants in the project over 5 years. - Despite an overall gain income, little to no impact on consumption was found upon comparing the first and final years of the project. - The project's effects on permanent income are unknown.
Cheng (2007)	Aohan, Nanzhao, Zhuoquan, Linxian	Mid-2005	RHS	(1) What factors affect the household demand	- Microfinance projects in China failed to target the poorest of the

[26] The authors stress the need for a more location-dependent targeting mechanism.

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	Counties of Chifeng Prefecture			for micro-loans in an evolving economic environment? (2) How can we understand the demand of the poor for microfinance from a behavioral perspective? (3) How effective and far-reaching are microfinance institutions in targeting the poor?	poor and have not made a positive impact to poverty reduction. - The demand for micro-loans is positively correlated to household income, opportunities for off-farm investment and the educational level of borrowers. - Wealthier (middle-income and above) rural households are the key beneficiaries of microfinance institutions. - The institutions were effective in reducing overall poverty despite the targeting errors.
Montalvo and Ravallion (2009)	All 23 provinces + 3 municipalities[27]	1983-2001	Sub-national panel dataset constructed by the authors and China's National and Provincial	What role does economic growth—which has been highly uneven across regions	- Agriculture has been the driving force in poverty reduction, rather than secondary (manufacturing) or tertiary (services) sectors.

[27] Beijing, Tianjin, and Shanghai. The authors also note that Chongquing, a newly created municipality at the time of writing, offered limited amounts of data and was therefore not included in the empirical analysis.

 doi:10.20944/preprints201909.0119.v1

			Bureaus of Statistics	since 1980—play in poverty reduction?	- The unevenness of growth across sectors greatly attenuated the overall pace of poverty reduction. - China has had great success in reducing poverty through economic growth, but all this happened in the context of an overall unevenness in its sectoral pattern of growth.
Goh et al. (2009)	Liaoning, Shandong, Jiangsu, Henan, Hubei, Hunan, Guangxi and Guizhou Provinces[28].	1989-2004	CHNS	What are the patterns of income growth and inequality nationwide from 1989 to 2004?	- Overall national income increased despite inequality between coastal central provinces. - Income growth can be derived from increased investment in education and the shift from agricultural employment to manufacturing and services sectors.
Turvey and Kong (2010)	Gansu, Henan, Qianyang, Shaanxi	October 2007, July 2008, September	RHS	(1) What is the connection between informal and formal lending in rural China?	- About two-thirds of farm households with debt borrowed from friends or relatives.

[28] The provinces were selected because they are regionally representative.

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		2008, October 2008		(2) How might the strength of informal lending affect microfinance?	- Informal borrowing may be preferred to formal borrowing[29].
Duclos et al. (2010)	Anhui, Gansu, Guangdong, Henan, Hunan, Jiangsu, Jilin, Shanxi, and Sichuan	1986-2002	Survey data conducted annually by China's Research Center for Rural Economy (RCRE)	How can better statistical and empirical methods be employed to more accurately measure transient and chronic poverty?	- Different poverty measurements yield significantly different estimates of chronic and transient poverty.
Park and Wang (2010)	Six unnamed provinces	2001-2004	A subset of the National Bureau of Statistics (NBS) annual RHS	How effective is community-based development (poor village investment program)?	- The program generally increased both governmental and village investments. - While the program did not increase the income or consumption of poorer households, it did increase

[29] The authors point out that cultural factors and the role of trust is a key determinant of informal borrowing dynamics in rural China. To demonstrate this point, they compare informal borrowing preferences outcomes from this study with a study in four Indian districts and found that Chinese farmers, on average, is much more inclined to borrow from family and relatives compared to Indian farmers (see Kumar, C. (2009) "Credit Rationing and The Economics Of Informal Lending: Theoretical Results and Econometric Inferences Using the Household Surveys From China and India". Unpublished PhD Dissertation. Cornell University August 2009.)

 doi:10.20944/preprints201909.0119.v1

					the income and consumption of richer households. - There is evidence that governance matters in the distribution of program benefits. Relative gains were greater for richer households in villages with more educated leaders, and higher quality village committees delivered greater benefits to both richer and poorer households.
Glauben et al. (2011)	Zhejiang, Hubei, Yunnan Provinces	1995-2004	Survey data conducted annually by China's Research Center for Rural Economy (RCRE)	What are the determinants of long-term poverty and what is the duration dependence on the probability to leave poverty?	- The majority of population seems to be only temporary poor. - However, the probability to leave poverty for those who were poor is differently affected by poverty duration across provinces, ranging from no duration dependence in Zhejiang to highly significant duration dependence in Yunnan. - The number of nonworking family members, education, and several

 doi:10.20944/preprints201909.0119.v1

					village characteristics seem to be the most important covariates. - Despite the general conclusion that poverty is a transitory phenomenon, poor Chinese provinces show a higher relevance of persistent poverty across all poverty thresholds. Thus, different policy measures are needed in order to well address these issues.
Li et al. (2011)	Hubei Province	2008-2009	Survey interview using structured questionnaire	What is the impact of microfinance programs on household welfare outcomes such as income and consumption in rural China?	- Participating in microfinance programs helps improve households' welfare by raising household income and consumption. - Total amounts of microfinance obtained by the households have a positive and significant impact on welfare outcomes, suggesting a positive relationship between household involvement in microfinance programs and benefit.

 doi:10.20944/preprints201909.0119.v1

Xue et al. (2013)	Linfen Prefecture in Shanxi Province	July-August 2010, July 2012	Local PAR officials, in-person interviews	What are the mechanisms by which the voluntary relocation of villagers is carried out?	- PAR generally does not jeopardize livelihoods. - The displaced population experienced an increase in income and was given new economic opportunities and access to better social services. - The displaced retained their productive capacity and enjoyed better housing quality.
Meng (2013)	National poor counties of the 8-7 Plan	1981-1995	Ministry of Agriculture (MOA)	What is the impact of the National 8-7 Plan on rural income growth at the county level over its disbursement period?	- the 8-7 Plan resulted in an approximately 38-percent increase in rural income for counties that were treated between 1994 and 2000. - Initial endowments are important in future economic development.
Yu (2013)	Heilongjiang, Liaoning, Shandong, Jiangsu, Henan, Hubei, Hunan, Guangxi and Guizhou Provinces	2000-2009	CHNS	How can we estimate multidimensional poverty from a health and nutrition perspective?	- Rapid economic growth has resulted not only in a reduction in income

 doi:10.20944/preprints201909.0119.v1

					- Poverty but also in a reduction in multidimensional poverty in the last decade. - However, there are disparities across provinces and between urban and rural areas (poverty is 1.5 times higher in rural areas than in urban ones in 2009)
Rogers (2014)	Ji County, Shanxi Province	2012, 2013	Survey interview using structured questionnaire	What is the pattern of resource allocation in terms of poverty alleviation and rural development in one of China's poverty counties?	- The county government is 'betting on the strong': concentrating resources in villages with better existing conditions or potential for development. - Unfortunately, the poorer villages who are in greater need, suffer from an inequitable resource allocation.
You (2014)	Jiangsu, Shandong, Henan, Hubei, Hunan, Guangxi and Guizhou Provinces	1989, 1991, 1993, 1997,	China Health and Nutrition Survey (CHNS)	How can we better understand the persistent hardship in some Chinese rural households from the	- Overall, households' responses to uninsured shocks and risk cause inefficiencies and deficiencies of investment in agricultural asset accumulation.

Preprints (www.preprints.org) | NOT PEER-REVIEWED | Posted: 11 September 2019 doi:10.20944/preprints201909.0119.v1

		2000, 2004 and 2006		perspective of assets, stressing the long-run implications of shocks and risk on households' agricultural asset holdings (i.e. *why* has poverty persisted)?	- Multiple equilibria in the dynamics of household agricultural assets as well as under-investment as a response to risk make some households less able to earn income above the poverty line and keep them trapped in long-term low-equilibrium asset poverty.
You and Annim (2014)	Gansu Province	2000, 2004	Gansu Survey of Children and Families (GSCF)	What are the effects of formal microcredit programs on children's educational outcomes in northwest rural China?	- There is a significant positive impact of microcredit on children's schooling years in 2000 only. - There appears to be no relationship between academic performance and microcredit programs in both 2000 and 2004. - In the long term, microcredit has the positive effects of both longer schooling years. - Formal microcredit appears to improve education in long term compared to the short term.

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Imai and You (2014)	Jiangsu and Shandong, Henan, Hubei and Hunan, Guizhou and Guangxi	1989-2009	CHNS	How can we measure stochastic fluctuations in poverty without oversimplifying long-term changes in poverty?	- Education can lower the probability of households entering *initial* poverty but not subsequent entrances into poverty. - Agricultural assets reduce the probability of entering initial poverty. - Land holdings and agriculture seem to serve as valuable safety nets.
Lü (2015)	Nation-wide	1994-2000	Various[30]	How effective were the intergovernmental transfers of the National 8-7 Plan?	- There is no evidence that intergovernmental transfers enhanced local education spending during the 8-7 Plan. - Intergovernmental transfers had neither short- nor long-term impacts on reducing illiteracy for the targeted poverty counties.

[30] China Education Finance Statistical Yearbooks, National Prefecture and County Finance Statistics Compendium, Compulsory Education in National Poor Regions Project.

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Ward (2015)	Jiangsu, Shandong, Henan, Hubei, Hunan, Guangxi, and Guizhou	1991-2006	China Health and Nutrition Survey (CHNS[31])	(1) How can we more robustly differentiate between transient or chronic poverty? (2) How can we represent the dichotomy using probabilities instead of using traditional poverty indicators, which are merely snapshot summaries of poverty dynamics?	-	Most households shifted from chronic to transient. - Vulnerability to poverty declined over time, despite intermediate variability in the declines. - By 2006, most of the poverty observed is due to transitory income shocks and not entrenchment in chronic poverty[32].
Qi and Wu (2015)	Heilongjiang, Liaoning, Shandong, Jiangsu,	1989-2009	China Health and Nutrition survey (CHNS)	(1) What is the multidimensional child poverty status and its	-	the overall rate of poverty declined during this period, largely because of the reduction of child poverty,

[31] CHNS is an ongoing open cohort, international collaborative project between the Carolina Population Center at the University of North Carolina and the National Institute for Nutrition and Health at the Chinese Center for Disease Control and Prevention (CCDC). It is designed to examine the effects of the health, nutrition, and family planning policies and programs implemented by national and local governments and to see how the social and economic transformation of Chinese society is affecting the health and nutritional status of its population.

[32] Despite the positivity of the reduction of chronic poverty, the consistency of transitory income shocks from 1991 to 2006 raises the concern that policies were not been able to prevent transitory entrance into poverty.

Preprints (www.preprints.org) | NOT PEER-REVIEWED | Posted: 11 September 2019 doi:10.20944/preprints201909.0119.v1

	Henan, Hubei, Hunan, Guizhou and Guangxi			dynamic changes in China from 1989 to 2009? (2) Do certain geographic regions receive more poverty alleviation than others?	signifying an improvement in child living conditions. - All poverty headcount ratios in different provinces were reduced over time, but provinces with middle economic growth rates oversaw the largest reduction in child multidimensional poverty. - Multidimensional poverty rates decreased in both urban and rural areas, and the gap between the two have been reduced.
Wilmsen and Wang (2015)	Linfen Prefecture, Shanxi	2003-2012	Local PAR officials, in-person interviews	Is there really a dichotomy between voluntary and involuntary poverty alleviation resettlement?	- A people-centered approach, not volition is the driver of improved outcomes in PAR. - While volition was not different between the PAR and the Three Gorges Project, the aims and beneficiaries, the identification of population and affected poverty sites, integration into broader national development plans, and

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						accountability and corruption differed significantly between the two.
Wang et al. (2016)	12 counties in five provinces/autonomous regions[33]. 20 townships/towns were selected from 12 counties, and 120 villages were further selected.	2010	China Child Welfare Demonstration Area Baseline Survey (2010)	(1) How can we better measure urban-rural development (URD) in China? (2) What are the spatiotemporal characteristics and internal relationships of China's URD? (3) What are the policy implications for achieving coordinated URD?	-	The western and northeastern regions of China have experienced slower poverty reduction than other regions from 1990 to 2010. - Southeastern China is enriched in infrastructure and development; the north provinces of Heilongjiang and Xinjiang, and the lowest values are in southwestern China.
Wang and Wang (2016)	Hechi City, Guangxi Zhuang Autonomous Region, China, and is a part of Yunnan and	2013	2013 Census Data, poverty alleviation department of Hechi City	How can we measure multidimensional poverty in poverty-	-	The main factors contributing to poverty are: unsafe housing, family health and adult illiteracy.

[33] Sichuan, Yunnan, Henan, Xinjiang Uygur autonomous region, and Shanxi.

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	Guangxi and Guizhou rocky desertification areas.			stricken counties in rural China?	- Multidimensional poverty indexes increased with an increasing degree of desertification and rocky desertification, corroborating previous findings that multidimensional poverty is strongly region-dependent.
Yang et al. (2016)	Shaanxi Province	2013	5th National Health Service Survey of Shaanxi Province	What are the effects of the New Cooperative Medical Scheme (NCMS) on alleviating financial-induced health rural poverty?	- While the NCMS can alleviate health poverty, the coverage is lacking— the benefits of the NCMS is greater for hospital admission-insured than for general-insured; serious diseases as well as more common illnesses should receive equal attention.
Golan et al. (2017)	Hebei, Jiangsu, Zhejiang, Anhui, Henan, Hubei, Guangdong, Chongqing, and Sichuan	2007-2009	CHIP survey	What are the targeted poverty reduction implications of China's rural *dibao* program?	- The rural dibao program provided sufficient income to poor beneficiaries, but the overall impact on poverty was small. - Although total *dibao* expenditures are fairly large relative to the poverty gap, the program did not

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					substantially reduce poverty whether measured in terms of the head- count or poverty gap. - Targeting analysis reveals large inclusionary and exclusionary targeting errors.
Ratigan (2017)	Jiangsu, Hunan, Gansu	2009-2013	The Finance Yearbook of China	(1) Do Chinese provinces differ in their social welfare provision? (2) How does provincial social welfare policy differ from one another? (3) What factors contribute to the variation in provincial social spending?	- Economic development and social instability are related to distinct approaches to social welfare spending. - Developmental provinces identified in the study tend to be wealthier and more involved with the international economy, and value education over other social policies. - Social-autocratic provinces[34] prioritize poverty alleviation and are less developed in social insurance, pensions, and healthcare.

[34] The authors define 'social-autocratic provinces' as the ones that focus on poverty alleviation instead of a labor-intensive, export-led economy like developmental provinces.

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Ren et al. (2017)	13 contiguous poverty-stricken counties designated in 2011[35]	2013	State council leading group office of poverty alleviation and development (CPAD)	What are the geographical patterns in rural poverty at the county level? How do we estimate the effects of socioeconomic predictors of poverty incidence?	- Poverty incidence was negatively associated with rural income, urbanization and education[36] in the 13 poverty-stricken counties. - Urbanization policy did not incorporate the development of poverty-stricken rural areas. - Investment in senior high schools in rural Yunnan Province could significantly contribute to poverty reduction. - Irrigation is negatively correlated with poverty, although there is variability.
Zhang et al. (2017)	11 western provinces (unnamed)	Late 2000s	Data from a joint research project administered by the Ministry of Science of Technology of	What is the relationship between social capital and households' probability of living under poverty?	- Social assets such as business ties, political connections, and social organizations can contribute significantly to poverty reduction.

[35] The authors note that the fourteenth contiguous poverty county, Tibet, was excluded due to unavailability of data.

[36] Gross enrolment ratio of senior high school students

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			China and Norway Fafo Institute		- The uneven distribution of social resources significantly impacts the probability of living in poverty. - More upper-reaching social connections can help rural households overcome economic constraints.
Liu et al. (2017)	14 contiguous poverty counties	1978[37], 2000-2015	2015 Yearbook of China's Poverty Alleviation and Development, Poverty Monitoring Report of Rural China, China Rural Statistical Yearbook	What is the spatial distribution of rural poverty in China?	- Poverty is manifested as spatially "clustered" regions (agglomerations). - Poverty is concentrated in rocky mountainous areas, consistent with previous results. The majority of these areas remain plagued with both chronic and transient poverty. - The "islanding effect"—that is, the isolation of destitute areas that lack public infrastructure and

[37] Data from 1978 and 2014 are derived from a previous study (for details see Li, Z., Wu, G., Wang, S., Sun, R., Hu, S., 2007. China's poverty alleviation performance and its factors. In: Li, Z. (Ed.), Anti-poverty and Sustainable Development in China. Science Press, Beijing, pp. 225e274)

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					imprecise poverty alleviation measures—may be exacerbated in the future.
Hua et al. (2017)	Jinchuan county, Tibetian Plateau (upper reaches of the Dadu river)	May-Aug 2011, Sep 2012	Responses from semi-structured interviews from 357 households	How can we quantitatively measure the relationship between livelihood assets and livelihood strategies?	- There are significant differences in the livelihood assets owned by house- holds with different livelihood strategies. Human, natural, and financial assets have significant influences on livelihood strategies, and the choice of livelihood strategy varies by livelihood assets. - with improvements in household labor capacity and cash income per capita, the livelihood strategies of non- agricultural and non-farming households may shift away from agriculture, while an increase in farmland cultivated per capita, cash income per capita, and household labor capacity may encourage

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						households to adopt agriculture-dependent livelihood strategies
Alkire and Shen (2018)	Liaoning, Shanghai, Guangdong, Henan and Gansu Provinces	2010-2014	China Family Panel Studies (CFPS)	What are the national levels of rural multidimensional poverty?	-	Dimensions such as nutrition, education, safe drinking water and cooking fuel aggravate overall non-fiscal poverty.
Alkire and Fang (2018)	Liaoning, Heilongjiang, Jiangsu, Shandong, Henan, Hubei, Hunan, Guangxi, and Guizhou	All 9 rounds of the CHNS[38]	China Health and Nutrition Survey (CHNS)	How can we paint a more complete picture of poverty in rural China by combining traditional income poverty measures and new multidimensional poverty measures?	-	both the income poverty and multidimensional poverty decline quickly as the time goes, and rural multidimensional poverty is more severe than urban areas, especially in sanitation, drinking water and cooking fuel, it mainly attributes to the segregation produced by the China's registration system and its induced formed rural living habits, lagged infrastructure construction and high transformation costs.

[38] 1989, 1991, 1993, 1997, 2000, 2004, 2006, 2009, and 2011

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					- rural education and rural malnutrition is still not very optimistic.
Chen et al. (2018)	Two counties of Ningbo City, Zhejiang.	2013	In-person interviews	What are the equity impacts of the NCMS in rural China?	- While NCMS has improved its coverage and generally alleviated the economic liability of illnesses, its impact on mitigating the economic vulnerability of illness and promoting equity in health services is negligible.
Ding et al. (2018)	Gansu, Jilin, Shaanxi, and Sichuan, Hebei and Jiangsu	1997, 2002	Chinese Agricultural Policy Village Survey 2003 (CAPVS 2003) [39]	What are the anti-poverty effects before and after the first government-led microfinance project in rural China?	- Microfinance projects have a statistically significant effect on improving the net income of the farmers and reducing rural poverty in China, consistent with previous findings. - The programs prompt an increased access to non-farm activities

[39] Admittedly, constrained by data availability, the assessment of the government-led microfinance project focuses on the average net income growth of villages but not further using individual-level data. It prevents us from examining the heterogeneity among beneficiaries, and, hence, this issue remains an interesting topic for future research.

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						instead of the reliance on the growth of the farm sector.
Zhang et al. (2018)	28 unnamed provinces[40]	2011, 2013, 2015	China Health and Retirement Longitudinal Survey (CHARLS[41])	How can we estimate the vulnerability to food poverty for the rural elderly?	-	food poverty incidence and vulnerability of the elderly with chronic diseases in rural China is 41.9% and 35% respectively, which is 8% and 6% higher, respectively, than the elderly that are in good health.
Tian et al. (2018)	14 contiguous poverty counties	1951-2012	Various[42]	How can we quantitatively connect poverty causes and geographical characteristics?	-	The main contributing factors to poverty in the mountainous areas in *eastern* part of China[43] are the lack of human capital and information technology.

[40] the Tibet Autonomous Region was excluded

[41] CHARLS was a nationwide survey aiming to collect personal and familial information regarding the elderly population. People of the age 45 and older were randomly selected to be interviewed in the survey.

[42] GIS data, National Meteorological Administration of China Meteorological Administration, National Natural Atlas of the People's Republic of China, 2016 National Transport Digital Map of the Ministry of Communications, China County (City) Social and Economic Statistical Yearbook, China City Statistical Yearbook, China's Sixth Census Data, National Geographic Information Center.

[43] Namely the Dabie mountain area, the Yanshan-Taihang mountain area and the southern Greater Khingan mountain area

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					- The main factors behind regional poverty in the *central* mountain areas[44] are poor transportation and infrastructure, and other natural factors. - Western mountain regions[45] are particularly susceptible to natural factors; even then, each area has a unique cause for poverty.
Liu and Ma (2018)	592 national poverty counties	1993-2010	China's Ministry of Agriculture, China County Statistical Yearbooks, various Provincial Statistical Yearbooks	How effective is the National Poor Counties Program (NPC)?	- The NPC program failed to foster local economic growth. - Local elite capture is partly responsible for NPC's ineffectiveness. - Placed-based poverty alleviation may be influenced by limited local accountability.

[44] Namely the LuoXiao mountain area, the Lvliang mountain area and the Wuling mountain

[45] Namely Tibet, Tibetan areas in four provinces, South Xinjiang's three districts and the West Yunnan border area

 doi:10.20944/preprints201909.0119.v1

Lo and Wang (2018)	Shanxi and Shaanxi Province	March-June 2013	Fieldwork at 20 poverty alleviation resettlement (PAR) projects	How effective *really* is China's poverty resettlement program?	-	Inconclusive and conflicting findings.
					-	On the one hand, the respondents strongly expressed that they willingly participated in resettlement. The perception of willingness was especially high among those who were younger, wealthier, and had off-farm employment. Furthermore, the consent to relocate was mostly free and driven by a desire to improve the quality of life. On the other hand, consent was not fully informed due to inadequate consultation.
Naminse and Zhuang (2018)	Baise, Liuzhou and Guilin villages, Guangxi Province	July-August 2015	Semi-structured interviews	How might farmer entrepreneurship alleviate poverty?	-	Socio-cultural capability[46] has the greatest influence on farmer entrepreneurship growth.

[46] The authors define this as social interactions, networking capabilities, improved culture and available opportunities to farmers.

					- The qualitative and socio-cultural growth of farmer entrepreneurship more significantly impacts rural poverty than the attitude towards farmer entrepreneurship growth. - Socio-cultural capabilities of farmers is strongly associated with entrepreneurship and therefore may play a role in alleviating poverty.
Liu et al. (2018)	Ankang prefecture, Shaanxi province	2015	Local PAR officials; 657 questionnaires	Does the PAR achieve poverty vulnerability reduction, and do different relocation characteristics lead to different livelihoods?	- there is a difference in exposure, sensitivity, and the adaptive capacity of rural households with different relocation characteristics, hence generating different livelihood vulnerabilities. - Project-induced relocation has a significant positive effect on vulnerability, but there is a significant negative correlation between livelihood vulnerability and

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						relocation region, relocation time, and relocation subsidy.
Kakwani et al. (2019)	Beijing, Liaoning, Jiangsu, Shandong, Guangdong, Shanxi, Anhui, Henan, Hubei, Hunan, Gansu, Sichuan, Chongqing, and Yunnan	2013	2013 Chinese Household Income Project (CHIP 2013), Subset of the NBS annual RHS	To what extent does the *dibao* program meets its intended objective of reducing rural poverty?	-	the rural *dibao* program suffers from very low targeting accuracy, high exclusion error, and inclusion error, and yields a significant negative social rate of return.
Yang and Fu (2019)	21 provinces	2010-2016	CFPS	Does inclusive finance programs play a role in multidimensional poverty?	-	Labor capacity influences poverty alleviation outcomes in financial development - Financial institutions can achieve both sustainable development and poverty alleviation by targeting the services more precisely to the working-age population in rural areas.

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Appendix B: Empirical methods

Authors of study	*Empirical method and usage*	*Data source*	*Research question(s)*
Travers and Ma (1994)	A variable elasticity model to gauge aggregate agricultural production and its impacts on poverty.	China's County Level Rural Economic Statistical Abstract	Can the agricultural intensification and investment raise peasant incomes in poor areas?
Chen and Ravallion (1996)	Two poverty lines (on the basis of the standard poverty line made by the State Statistics Bureau) to measure the extent to which rural populations are considered poor.	Rural Household Survey (RHS); in-person interviews with county officials	(1) How can we better understand and validate poverty rates from existing data (i.e. how can we improve data-collecting methods)? (2) How can we corroborate the concerns of policymakers regarding the effectiveness of the policies in the 1980s?
Jalan and Ravallion (1998)	A poverty index to measure household-level consumption over time.	RHS	How can we better understand and measure the extent of poverty through different time scales[47]?
Jalan and Ravallion (1999)	Generalized Method of Moments to estimate risk insurance.	Rural Household Survey (RHS)	To what extent are the needs of households in poor rural economies similar or different, and does the existing

 doi:10.20944/preprints201909.0119.v1

			consumption insurance work better for some groups than others?
Carrin et al. (1999)	Summary statistics of reimbursement structure in the selected counties.	Data is based off of Carrin et al. (1996)	(1) To what extent have counties and their townships been able to reduce the burden of healthcare costs on the rural population? (2) How effective are the policies' population coverage and how adequate is the reimbursement structure?
Jalan and Ravallion (2000)	Tobit and logit models to estimate transient and chronic poverty.	Rural Household Survey (RHS)	Is transient poverty is determined by a process that is similar to chronic poverty?
Jalan and Ravallion (2001)	A nonlinear dynamic model to take into account long-term fluctuations in mean household income.	Data from *Jalan and Ravallion (1998), Jalan and Ravallion (1999)*	How do characteristics of household income dynamics influence the long-term effects of a transient shock?
Park et al. (2002)	Propensity-score matching method to measure regional differences in targeting.	National panel data	How effective is regional targeting in alleviating rural poverty?
Hannum (2003)	Binary logit models to test the impact of community characteristics (topography, demography) on the prediction of educational provision.	Rural component of the National Sample Survey of the Situation of Chinese Children	(1) How do local community resources influence educational inequality? (2) In what ways do village characteristics affect children?
Mcculloch and	A vulnerability measure (based on the probability of being in poverty in any given	Household Survey Division of the Rural Survey Organization in	How chronic is poverty in China?

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Calandrino (2003)	year) to measure the relationship between chronic poverty and poverty vulnerability.	the National Bureau Statistics (NBS)	
Ravallion and Chen (2005)	Difference-in-difference (DID) to measure differences in outcomes between the treatment and non-treatment group before and after project implementation	Rural Household Survey (RHS)	What is the savings behavior of beneficiaries of a large poor-area development project?
Cheng (2007)	Grameen methodology to test the sustainability and effect of microfinance projects.	RHS	(1) What factors affect the household demand for micro-loans in an evolving economic environment? (2) How can we understand the demand of the poor for microfinance from a behavioral perspective?
Montalvo and Ravallion (2009)	Regression models to determine whether the pattern of China's growth played a significant role in poverty reduction.	Sub-national panel dataset constructed by the authors and China's National and Provincial Bureaus of Statistics	What role does economic growth—which has been highly uneven across regions since 1980— play in poverty reduction?
Goh et al. (2009)	Growth incidence curve[48] and the Poverty–Growth–Inequality arithmetic[49] to measure the extent of change in income growth over time.	CHNS	What are the patterns of income growth and inequality nationwide from 1989 to 2004?

[48] Adapted from the nonlinear model of Ravallion and Chen (2001).

[49] See Bourguignon, François (February 2004). "The Poverty-Growth-Inequality Triangle" (PDF). World Bank Website.

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Turvey and Kong (2010)	Summary statistics on farm household attributes and ran a Bonferroni test against the null hypothesis of households being equal in attributes.	RHS	(1) What is the connection between informal and formal lending in rural China? (2) How might the strength of informal lending affect microfinance?
Duclos et al. (2010)	A new index to measure transient and chronic poverty that is based on the Jalan-Ravallion method.	Survey data conducted annually by China's Research Center for Rural Economy (RCRE)	How can better statistical and empirical methods be employed to more accurately measure transient and chronic poverty?
Park and Wang (2010)	Difference-in-Difference Propensity Score Matching. (DID-PSM). The authors compare incomes and public investment levels between (similar) villages that took advantage of community-based development programs, and those that did not.	A subset of the National Bureau of Statistics (NBS) annual RHS	How effective is community-based development (poor village investment program)?
Glauben et al. (2011)	A hazard model to take into account the fact that the likelihood to leave poverty may be associated with the amount of time spent in poverty.	Survey data conducted annually by China's Research Center for Rural Economy (RCRE)	What are the determinants of long-term poverty and what is the duration dependence on the probability to leave poverty?
Li et al. (2011)	Adjusted Difference in Difference Approach. In lieu of a matching method these authors perform a DID estimation which includes household characteristics as controls.	Survey interview using structured questionnaire	What is the impact of microfinance programs on household welfare outcomes such as income and consumption in rural China?

 doi:10.20944/preprints201909.0119.v1

Xue et al. (2013)	Descriptive surveys taken by local officials and households.	Local PAR officials, in-person interviews	What are the mechanisms by which the voluntary relocation of villagers is carried out?
Yu (2013)	Alkire-Foster (A-F) method to measure income, living standard, education, health and social security.	CHNS	How can we estimate multidimensional poverty from a health and nutrition perspective?
Meng (2013)	Regression Discontinuity (RD) and DID to estimate the effectiveness of the agricultural investment program on income growth.	Ministry of Agriculture (MOA)	What is the impact of the National 8-7 Plan on rural income growth at the county level over its disbursement period?
Rogers (2014)	Qualitative data recovered from field interviews (71) with both village officials and households. Prevalence of specific village-targeted programs were also compared at the village level to evaluate the distributions of these benefits.	Face to face interviews in Ji County.	What is the pattern of resource allocation in terms of poverty alleviation and rural development in one of China's poverty counties?
You (2014)	Fixed-effects model to estimate the changes in consumption in response to income shocks.	CHNS	How can we better understand the persistent hardship in some Chinese rural households from the perspective of assets, stressing the long-run implications of shocks and risk on households' agricultural asset holdings (i.e. *why* has poverty persisted)?

 doi:10.20944/preprints201909.0119.v1

You and Annim (2014)	Static and dynamic regression-discontinuity designs are used to measure microfinance programs' impact on education outcomes. The models also control for unobservables between borrowers and non-borrowers.	Gansu Survey of Children and Families (GSCF)	What are the effects of formal microcredit programs on children's educational outcomes in northwest rural China?
Imai and You (2014)	Discrete hazard model to model poverty entry and exit.	CHNS	How can we measure stochastic fluctuations in poverty without oversimplifying long-term changes in poverty?
Lü (2015)	Fuzzy-Regression Discontinuity (Fuzzy RD); the author exploits the rolling-introduction of intergovernmental transfers for public good provision to test for signs of elite capture and corruption in local Chinese governments.	China Education Finance Statistical Yearbooks, National Prefecture and County Finance Statistics Compendium, Compulsory Education in National Poor Regions Project	How effective were the intergovernmental transfers of the National 8-7 Plan?
Ward (2015)	Income regression model to control for both household and time effects.	CHNS	(1) How can we more robustly differentiate between transient or chronic poverty? (2) How can we represent the dichotomy using probabilities instead of using traditional poverty indicators, which are merely snapshot summaries of poverty dynamics?

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Qi and Wu (2015)	A-F method to calculate dimension scores.	CHNS	(1) What is the multidimensional child poverty status and its dynamic changes in China from 1989 to 2009? (2) Do certain geographic regions receive more poverty alleviation than others?
Wilmsen and Wang (2015)	Presentation of descriptive accounts and survey results.	Local PAR officials, in-person interviews	Is there really a dichotomy between voluntary and involuntary poverty alleviation resettlement?
Wang et al. (2016)	Entropy method to measure differences in urban and rural development.	China Child Welfare Demonstration Area Baseline Survey (2010)	(1) How can we better measure urban-rural development (URD) in China? (2) What are the spatiotemporal characteristics and internal relationships of China's URD? (3) What are the policy implications for achieving coordinated URD?
Wang and Wang (2016)	A-F method and GIS spatial analysis to measure multidimensional poverty.	2013 Census Data, poverty alleviation department of Hechi City	How can we measure multidimensional poverty in poverty-stricken counties in rural China?

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Yang et al. (2016)	In-person interviews	5th National Health Services Survey (NHSS) of Shaanxi Province	What are the effects of the New Cooperative Medical Scheme (NCMS) on alleviating financial-induced health rural poverty?
Golan et al. (2017)	Probit regression models (household is the unit of analysis).	CHIP survey	What are the targeted poverty reduction implications of China's rural *dibao* program?
Ratigan (2017)	Cluster Analysis, between-Effects estimation to test for evidence of statistically significant divergence in public spending patterns for provinces in China. Significant differences in spending patterns were then used to create a typology.	The Finance Yearbook of China	(1) Do Chinese provinces differ in their social welfare provision? (2) How does provincial social welfare policy differ from one another? (3) What factors contribute to the variation in provincial social spending?
Ren et al. (2017)	Multi-Level Mixed-Effect Model – The authors test for regional heterogeneities in the response of incidences of poverty to specific development variables.	State council leading group office of poverty alleviation and development (CPAD)	What are the geographical patterns in rural poverty at the county level? How do we estimate the effects of socioeconomic predictors of poverty incidence?
Zhang et al. (2017)	Multi-Level Mixed Effects Model with Matching – The authors control for between-group heterogeneities using a multi-level ME model, and test whether social capital is effective in reducing the probability that a household will fall below (inter)national poverty lines.	Data from a joint research project administered by the Ministry of Science of Technology of China and Norway Fafo Institute	What is the relationship between social capital and households' probability of living under poverty?

Liu et al. (2017)	Spatial Autocorrelation; creation of a Moran statistic, which indicates visually the concentration of individuals living below the national poverty line in 2015.	2015 Yearbook of China's Poverty Alleviation and Development, Poverty Monitoring Report of Rural China, China Rural Statistical Yearbook	What is the spatial distribution of rural poverty in China?
Hua et al. (2017)	Two-step cluster analysis to quantify household livelihood.	Responses from semi-structured interviews from 357 households	How can we quantitatively measure the relationship between livelihood assets and livelihood strategies?
Alkire and Shen (2018)	A-F method to measure health and social characteristics	CFPS	What are the national levels of rural multidimensional poverty?
Alkire and Fang (2018)	A-F method to measure health indicators.	CHNS	How can we paint a more complete picture of poverty in rural China by combining traditional income poverty measures and new multidimensional poverty measures?
Chen et al. (2018)	Multi-stage stratified cluster random sampling method to draw the study sample.	In-person interviews were conducted using a questionnaire	What are the equity impacts of the New Cooperative Medical Scheme (NCMS) in rural China?
Ding et al. (2018)	Difference-in-Difference Propensity Score Matching. (DID-PSM) The authors use panel data on	Chinese Agricultural Policy Village Survey 2003 (CAPVS 2003) [50]	What are the anti-poverty effects before and after the first government-led microfinance project in rural China?

[50] Constrained by data availability, the assessment of the microfinance program focuses on the average income growth of villages, not households or individuals

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	villages between 1998 and 2003 to compare incomes in villages that undertook microfinance programs to those that did not.		
Zhang et al. (2018)	Three-Stage Feasible GLS - The authors create a metric for food vulnerability, the probability a household will fall below a specific level of caloric intake.	China Health and Retirement Longitudinal Survey (CHARLS[51])	How can we estimate the vulnerability to food poverty for the rural elderly?
Tian et al. (2018)	Creates a topography index to quantify *destitute areas* then investigates the links between certain geographic features and regional poverty.	Several topographic databases (SPI, DEM databases) Income Survey Data	Are there regionally-specific determinants of poverty in China?
Liu and Ma (2018)	Regression Discontinuity (RD). The authors exploit the discontinuous cut-off for the National Poverty County (NPC) program to compare development outcomes between participant and non-participant villages.	Chinese Ministry of Agriculture (1992) China County Statistical Yearbooks (2010) Provincial Statistical Yearbooks (2010)	Have there been any short run (1994 – 2000) or long run (1994-2010) impacts from the NPC program?
Lo and Wang (2018)	Household surveys and semi-structured interviews to measure satisfaction with PAR programs.	Fieldwork at 20 poverty alleviation resettlement (PAR) projects	How effective *really* is China's poverty resettlement program?

[51] CHARLS was a nationwide survey aiming to collect personal and familial information regarding the elderly population. People of the age 45 and older were randomly selected to be interviewed in the survey.

 doi:10.20944/preprints201909.0119.v1

Naminse and Zhuang (2018)	Structural Equation Modelling (SEM). The authors use structural modelling to investigate correlations between farmer entrepreneurship and rural poverty rates	Survey Data in Guangxi Province	How might farmer entrepreneurship alleviate poverty?
Liu et al. (2018)	Creation of Livelihood Vulnerability Index (1-13) Originating from cross-sectional survey of rural living practices. Higher value = less vulnerable.	Local PAR officials; 657 questionnaires	Does the PAR achieve poverty vulnerability reduction, and do different relocation characteristics lead to different livelihoods?
Yang and Fu (2019)	Evolutionary game model to evaluate the equilibrium strategies of financial institutions and the poor in poverty reduction programs	CFPS	Does inclusive finance programs play a role in multidimensional poverty?
Kakwani et al. (2019)	Population Proportions and Population Averages – The authors create population averages from National-level survey data then test the changes in the proportions as impacted by poverty-alleviation programs.	2013 Chinese Household Income Project (CHIP 2013), subset of the NBS annual RHS	To what extent does the *dibao* program meets its intended objective of reducing rural poverty?

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Appendix C: Explanatory and dependent variables

Authors of study	*Explanatory and dependent variables*
Travers and Ma (1994)	Income, output, labor, land, mechanical power, irrigation area, fertilizer consumption
Chen and Ravallion (1996)	Head-count index (H), poverty gap index (PG), squared poverty gap index (SPG).
Jalan and Ravallion (1998)	Mean consumption, poverty line, household size, level of education of household head (hh), wealth of hh, standard deviation (std) of hh wealth, mean agricultural yield.
Jalan and Ravallion (1999)	Richest decile, 70-90th percentile, 40-70th percentile, 40th percentile, poorest decile.
Jalan and Ravallion (2000)	Household size (log) Household with couple & child (dummy), Household with couple & 2 children (dummy), Household with couple & 3+ children (dummy), Three generation household (dummy), Proportion of children: 6—11 years Proportion of children: 12—14 years Proportion of children: 15—17 years, Age of household head, Age of household head, Proportion of adults: illiterate Proportion of adults: primary school educated, Proportion of adults: secondary school educated, Highest education of labor: illiterate (dummy), Highest education of labor: primary school (dummy), Highest education of labor: middle school (dummy), Proportion of children: primary school educated Proportion of children: secondary school educated, Household member works in state sector (dummy), Household member works in TVE's (dummy), Household member works out of town (dummy), Mean grain yield, Standard deviation of grain yield, Mean wealth per capita, Standard deviation of wealth per capita, Cultivated land per capita, Plains (dummy), Coast (dummy),

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	Mountains (dummy), Revolutionary base area (dummy) Border area (dummy), Minority area (dummy), Proportion of illiterates among the 15+ in county, Medical persons per 10,000 population in county, Proportion of pop employed in commercial enterprises
Carrin et al. (1999)	Average income, average health expenditure, population coverage, level of insurance
Jalan and Ravallion (2001)	Expenditure, income
Park et al. (2002)	Average income in other counties in prefecture, percent of other counties in pref. designated poor (1986–1992), percent of other counties in pref. designated poor (1993–1995)
Hannum (2003)	Village logged income, population, labor force, irrigated land, terrain, electrification, educational infrastructure.
Mcculloch (2003)	Household size, dependency ratio, old revolutionary area, minority area, female-headed household, flat-land/adult (acres), hilly land/adult (acres), lake area/adult (acres), value of assets, head with no or primary education, proportion of illiterate males in hh, proportion of illiterate females in hh, located in hilly area, located in mountainous area.
Ravallion and Chen (2005)	Village on the plains, Hills, Mountainous, Whether village has electricity, Telephones, Road passing through it Radio transmitters, Whether village can receive TV transmission Located 5 km from the nearest market, 5–10 km from the nearest market, 10–20 km from the nearest market, # of days in a cycle during which the market assembles County town within 5 km, Distance from village county town is (5–10 km, 10–20 km or 20 km), Distance from village to township is within (5 km, 5–10 km or 10–20 km), Main mode of transportation used by the villager: bicycle or bus, Other automobile, Walking, Nearest train station is within (5 km, 5–10 km or 10-20 km), Nearest bus station is within 5 km (5–10 km 10–20 km or >20 km), Whether village has a day-care center Elementary school is in village, Nearest elementary school is within 5 km or 5–10 km, Middle school is in village, Nearest middle school is within 5 km, 5–10 km, 10–20 km or >20 km, Medical

 doi:10.20944/preprints201909.0119.v1

	clinic in village, Nearest medical clinic is within 5 km, 5–10 km 10–20 km or >20 km, Total population of the village Elevated land (mu), Forest land (mu), # of people work in TVE over # of labor Whether village has TVE, Output of grain per capita (kg/person) , Net income per capita , (End of year) # of pigs per person, (End of year) # of cows per person, (End of year) # of sheep, goat per person (End of year) # of poultry per person , (End of year) # of honey bee per person Workforce per capita, Average household size, Share of workforce female, Cultivated land per capita (mu), Grassland per capita (mu)
Cheng (2007)	Loan demand, hh income[52], head school, partner school, head skill, labour ratio, official status, wage ratio, off-farm ratio, land area, Event 2004[53], RCC loan, informal loan, A2, and A3 (dummy variables for county 2 and 3, respectively).
Montalvo and Ravallion (2009)	Counterfactual vector of rates of poverty reduction, counterfactual change in the headcount index, counterfactual of the average growth of each sector.
Goh et al. (2009)	Age of household head, average age of other adults excluding household head, completed years of formal education of household head, dummy of coastal provinces, occupation of household head, number of skilled workers in the household excluding, type of firm of household head, number of household members with an occupation outside of agriculture, household's farmed land per member, participation in off-farm activities
Turvey and Kong (2010)	Year farming, farm size, total household income, % income from farming, number of people living in household, outstanding debt, amount of debt, asset value, informal loan value, formal loan value, both informal and formal loan value, debt to asset ratio.
Duclos et al. (2010)	Transient and chronic poverty

[52] Separated into net family income per capita and net family income per capita squared.

[53] Whether the family had large events in 2004, including wedding, funerals, and house-building.

Park and Wang (2010)	Net income, consumption expenditures, education of the household head, household size, number of laborers, number of out-migrants, and cultivated land area.
Glauben et al. (2011)	Household characteristics (footnote), farm characteristics (footnote), village characteristics (footnote)
Li et al. (2011)	Household annual income, household annual consumption
Xue et al. (2013)	Unspecified, presumably satisfaction levels of resettlement
Meng (2013)	National poor counties, non-national poor counties.
Yu (2013)	Per capita income of household, access to clean water, access to improved sanitation facilities, access to electricity, access to improved cooking fuel, body Mass Index (BMI), completion of primary school, medical insurance
Rogers (2014)	Registered population (hukou), Natural villages, Poverty resettlement villages/areas1 Economy, Approximate gross per capita income (RMB), Primary production, 2012 apple production (tonnes), Land, Farming area, Converted sloping land, Infrastructure, Shops, Health clinic Cold storage Junior school Public transport.
You (2014)	Hh per capita consumption, hh size, age of hh head, # years of education for hh head, % male members in hh, % off-farm employment in hh, agricultural assets, business assets, consumer duables, housing, human capital, covariate income shock, idiosyncratic income shock, # of ill members, # of deaths, wedding/dowry/funeral (binary), specialized farm hh (binary) price shock of agricultural input and output, % sown land affected by natural disasters, dependency ratio, out-migration networks, on-farm labor ratio
You and Annim (2014)	children's educational outcomes, quantity and quality of education, schooling, academic performance
Imai and You (2014)	Household(hh) per capita consumption, hh size, Age of hh head, % primary education, % secondary edu., % tertiary edu., no. of adults, ln(cultivated land), Index of agricultural assets, Small hh business, % local non-

	agricultural employment in hh, % village out-migration, % hh members having health insur, % hh members having commercial insurance % hh members having gov. free insur, % hh members having cooperative insurance, Urbanization, Economic activity, Access to markets, Social service, Purchasing price change of farm products, Prov. % cultivated land in natural disasters.
Lü (2015)	Log Education Spending Per Capita, Log Budgetary Education Spending Per Capita
Ward (2015)	Age of hh head, number of dependents, # of working age hh members, female-headed hh (=1), education of hh head, avg. education of hh members, natural logarithm (ln) of Land Area Cultivated, Agricultural capital index, business capital index, Communting near open-trade area (=1), Pct. Ag. Employment in comm., pct. Migrants in comm.
Qi and Wu (2015)	Nutrition, water, sanitation facilities, shelter, education, health, information
Wilmsen and Wang (2015)	Satisfaction levels of resettlement, volition of resettlement, living conditions pre- and post-resettlement
Wang et al. (2016)	Economic development, Urban-rural livelihood, Urban share, Employment structure, Industrial structure, Ratio of urban built land, Urban-rural income gap, Urban-rural consumption comparison, Industrial labor productivity disparity
Wang and Wang (2016)	Unsafe housing, family health, adults' illiteracy, fuel type, children enrollment rate, rocky desertification degree and topographic fragmentation degree
Yang et al. (2016)	Gender, age groups, marital status, education status, employment status, economic status

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Golan et al. (2017)	Household size, Average age of adult household members, Share of male household members, Share of household members age > 60, Share of household members age < 16, Household member with bad health, Disabled household member, Household member with migrant job, Share of income from wages, Share of income from non-agricultural business, Household has no major appliance, Household has motorized transport, Natural disaster occurrence, Marriage in household, Death in household, Log housing area, Share of housing area that is multi-story, Household cultivated land area (mu), Water flush toilet, Piped water, Revolutionary area, Mountainous area, Road covered by asphalt/cement, Distance to township gov't >10 km, Distance to county seat >20 km
Ratigan (2017)	Human capital, Exports and imports, Political instability, Public security spending, Wealth, Ln (GRP), Needs, Dependency ratio Inequality (20:20 ratio) Illiteracy (%), Central transfers, Fiscal transfers, Key universities, Social safety net transfers, Control variables, Population, Urban (% of population)
Ren et al. (2017)	Poverty incidence (%), Rural income (Yuan/person), Urbanization (%), Senior high school (%), Village nursery (%), Road density (kilometres/square kilometres) Grain production (kilogramme/person), Irrigated land ratio (%)
Zhang et al. (2017)	Household social capital, social networks
Liu et al. (2017)	spatial distribution characteristics of poverty in rural China
Hua et al. (2017)	Non-farm activity, Land transfer, Livestock input, Self-employment, Non-farm income per capita, Crops income
Alkire and Shen (2018)	Nutrition, education, safe drinking water, cooking fuel, gender of the household heads, age, education level, marital status, household size, migration status, ethnicity, and religion
Alkire and Fang (2018)	Education, health, living standard

Chen et al. (2018)	No. of peasants, N (%), Male, N (%), average age, annual per capita income (RMB), consumption per capita (RMB), medicine expenditure per capita (RMB), NCMS coverage rate (%), villager's pay for NCMS (RMB), NCMS reimbursement rate (%)
Ding et al. (2018)	Log of annual nonfarm income per capita, Log of annual farm income per capita, Share of households with family business, Share of households engaged in farm activities, number of villages
	Food Expenditure, Total Expenditure, NRPS Pension Age, Male (Illiterate/Elementary School/Middle School High School/ Working/Saving), Chronic Disease Household Income [yes=1; no=0]
Zhang et al. (2018)	Degree of voluntarism, Social connections, Incomes and expenses, Post-resettlement satisfaction
Lo and Wang (2018)	Relocated, relocation type, relocation region, relocation time, and relocation subsidy
Liu et al. (2018)	Per capita real disposable income, per capita real household consumption
Yang and Fu (2019)	Permeability, Usability, Utility, Quality, Affordability[54]
Kakwani et al. (2019)	Targeting Indicators disposable income consumption, Total Rural Population (million), Gini index, Official poverty line (Yuan per year), % of poor, Poverty gap ratio %, Severity of poverty %, Number of poor(million), Number of non-poor (million), Welfare indicator, Per capita household welfare: Yuan per year, Per capita household welfare of poor: Yuan per year, Per capita household welfare of Non- poor: Yuan per year, Per capita welfare of Dibao beneficiaries: Yuan per year, Beneficiary Incidence, % of beneficiaries, Number of beneficiaries(million), Number of poor included in Dibao (million), Number of poor excluded from Dibao (million), Exclusion error(% of poor excluded), Number of non-poor included in Dibao (million), % of beneficiaries among the poor , % of beneficiaries among non-poor (inclusion error), Leakage (% of all

[54] The variables are part of the inclusive financial development index system.

beneficiaries from non-poor), Benefit incidence, Average transfer in the population Yuan per year, Average transfer among the poor Yuan per year, Average transfer among the non-poor, Total transfers going to beneficiaries per year (billion), Total transfers going to poor beneficiaries (billion), Total transfers going to non-poor beneficiaries (billion), Leakage: Proportion of total transfers going to non-poor%, Average transfer per beneficiary (Yuan per year), Average transfer per beneficiary among the poor, Average transfer per beneficiary among the non-poor

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