CCT and Rural Long-Term Poverty Reduction: International Experiences and China's Practice

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Abstract: *China's anti-poverty strategy in the post-2020 era will focus on reducing chronic poverty and alleviating relative poverty. As a common international approach for long-term multidimensional poverty reduction, conditional cash transfer (CCT) payments reduce current poverty, prevent future poverty, and improve income distribution by providing poor households with cash allowances and promoting children's human capital accumulation. For such reasons, CCT serves as an anti-poverty policy instrument worth referencing for China. This paper systematically reviewed the theoretical basis and development journey of CCT, the short-term and long-term implementation effects, as well as the decision-making basis, design and potential limitations. In this paper, we have further analyzed the poverty-reducing effects and problems of China's rural public transfer payment policies in the current stage and discussed the achievements and inadequacies of China's ongoing CCT pilot programs. Results indicate that the further development of CCT in China calls for a combination top-down and bottom-up policy-making approaches in project design and implementation, as well as an evolving poverty governance system complementary with other relevant policies.*

Keywords: *Conditional cash transfer (CCT), chronic poverty, multidimensional poverty, relative poverty, human capital*

JEL Classification Codes: H51, H52, I38, O15

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I. Introduction

Having achieved the goal of eradicating absolute poverty by 2020, China's anti-poverty strategy will focus on reducing long-term poverty and alleviating relative poverty. Since the reform and opening up policy was adopted in 1978, China's rural poverty reduction owes a great deal to its rural public transfer payment policy system encompassing the rural minimum subsistence guarantee system, the New Rural Pension Scheme (NRPS) and other cash allowances[1] (Xie, 2017). Yet poverty reduction cannot be achieved at one goal. It requires long-term efforts to implement precise and effective pro-poor measures to help target groups foster capabilities to escape poverty in the long run and prevent relapse into poverty

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[1] From a broad perspective, public transfer payments include both cash transfer payments (such as incomes from the minimum subsistence guarantee system and pension insurance) and in-kind transfer payments (such as education and public health services). Public transfer payments mentioned in this paper are of the narrow sense, i.e. cash transfers.

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and new poverty. In the post-2020 new era, China needs to further improve and innovate the rural public transfer payment system and consider piloting and rolling out conditional cash transfers (CCT) and other incentive-compatible transfer payment policies to achieve long-term and sustainable poverty reduction (Gan, 2019).

In the long run, human capital accumulation offers endogenous momentum for preventing health-related poverty and intergenerational poverty transmission and easing relative poverty (Cai, 2020). Childhood is the stage of life when human capital investment promises the highest return. Continuous and precise investment on children's human capital is an important initiative for long-term national development (Heckman and Corbin, 2016). China's significant achievements in child development are unbalanced and inadequate. Less developed countryside is still faced with such challenges as undernourishment, psychological problems, and lack of access to education, and great importance should be attached to addressing those challenges in the post-2020 era (China Development Research Foundation, 2017). As a long-term multidimensional poverty reduction scheme extensively deployed internationally, CCT programs realize long-term poverty reduction and inclusive and balanced development through a combination of cash transfer payments and children's human capital accumulation, offering a policy option worth referencing for China's poverty reduction transition.

Chinese scholars have discussed CCT programs in some developing countries (Fang, 2016; Wang and Zeng, 2016). Other Chinese scholars also began to assess CCT pilot programs in rural areas of China's western regions and the policy effects of the pilot programs (Mo *et al.*, 2013; Zhou *et al.*, 2020). Policymakers should systematically learn about the principles and effects of those CCT programs and develop a science-based and reasonable implementation scheme. At least the following three aspects warrant further analysis and discussions, including the theoretical basis for CCT programs, the short-term and long-term implementation effects, as well as the basis for determining project implementation, program design and potential limitations. In view of those aspects, this paper will systematically review international experience of CCT programs, discuss the poverty-reducing effects of China's rural public transfer payment policies and the ongoing CCT pilot programs, and offer an evaluation and outlook of the future implementation of CCT programs as reference for optimizing the anti-poverty policy system.

2. Theoretical Foundation and Development Journey of CCT

2.1 Concepts and Economic Foundation of CCT

CCT payments are given to a target group in return for fulfilling specific conditions. Popular CCT programs include cash allowances provided by the government or non-governmental public-welfare organizations to poor groups under the condition that beneficiary households invest in their children's human capital by certain criteria. Normally, eligible cash allowance recipients under the CCT programs are female guardians, who are required to invest in their children's human capital in terms of education and health. For instance, such requirements include children's school attendance rate or academic performance, and pregnant women and children's regular receipt of preventive health services and nutritional supplements. CCT programs aim to reduce current poverty through cash transfer payments and prevent the intergenerational transmission of poverty by investing in children's human capital and improving income distribution. The implementation of CCT programs is predicated upon the following economic theories or facts: First, return on human capital investment in the early stage of life is always higher than in the late stage of life; second, the limited rationality of poor households will lead to an under-investment in children's human capital; third, precise and effective public transfer payments help correct market failures and achieve long-term poverty reduction goals in a fair and efficient manner.

2.1.1 Lifecycle theory of human capital investment

Carneiro and Heckman (2003) described the "Heckman curve" of diminishing return on human capital investment from preschool, school and continuing education, i.e. with other conditions held

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constant, human capital investment always yields a higher return in early stages of life than in late stages. The explanations are threefold: First, psychological and brain science research has proven a more lasting return on early-stage human capital investment and greater plasticity of early-stage abilities (especially cognitive abilities). Second, the acquisition of skills is self-reinforcing, i.e. skills acquired in the early stage of life will sustain in later stages of life and reinforce the acquisition of other skills. Third, the acquisition of skills is complementary, i.e. skills acquired in the early stage help raise return on human capital in later stages of life, and the effects of human capital investment across various stages of life are complementary. Meanwhile, continuous investments are needed to bring out the full potentials of early-stage investments. Due to the self-reinforcing and complementary effects, the formation and development of individual skills are subject to the multiplier effect, which gives rise to the aggregation effect of skills acquisition. There are critical and sensitive periods for human capital formation: While return on human capital investment is high in childhood, it becomes relatively more difficult for later remedial measures to acquire new skills in youth. No balance has to be struck, therefore, between fairness and efficiency for human capital investment in childhood, and proactive and high-quality interventions should be made to promote children's human capital accumulation (Heckman and Corbin, 2016).

2.1.2 Limited rationality of poor households concerning children's human capital investment

According to the theory of household economics, children are compared to the "durable consumer goods" of households, and their human capital accumulation helps increase household utility (Becker, 1991). As can be learned from the equilibrium conditions of children's human capital investment by the optimal solution of the household utility function, household decisions on children's human capital investment are determined by two factors; first, the level of household resources. When household resources increase, parents will invest more in their children's human capital and increase consumption of other commodities. The second factor is the shadow price of children's human capital investment (opportunity cost). With household resources being constant, when the prices of other commodities are higher than the shadow price of children's human capital accumulation (for instance, return of child labor for a household), the household will cut back on other commodities and invest more in their children's human capital.

In this sense, the reasons for poor households normally under-investing in their children's human capital are threefold: First, poor households lack socio-economic resources to invest in their children's human capital to meet their children's needs for sufficient development. Second, the lack of access to critical information for poor households leads to the limited rationality of their decision-making behaviors (Banerjee and Duflo, 2011). Even if poor households are aware of the long-term value from their children's human capital investment, they may not maximize the long-term utility of such investment due to indecision, preoccupation with short-term effects or conflict of interest among family members. Third, given the positive externalities of human capital, the optimal human capital investment decisions for households may not be choices that maximize social welfare. For instance, both education and health generate positive externalities (Glaeser and Lu, 2018). Without sufficient access to information and consideration of externalities in making decisions, household decisions will lead to market failures and under-investment in children's human capital.

2.1.3 Conditional cash transfer (CCT) payments: giving priority to both fairness and efficiency

While promoting fairness, non-CCT payments may not guarantee efficiency in the use of transfer payment funds. Given their limited rationality, poor households receiving non-conditional cash allowances may spend more money on consumption than on their children's human capital investment, which may not achieve the best effects of long-term poverty reduction. In comparison, CCT payments not only create an income effect that reduces poverty in the short run, but generate a substitution effect

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that promotes children's human capital accumulation, thus ensuring both the fairness and efficiency of public transfer payments in reducing poverty. Previous research suggests that female guardians are more inclined to use household resources for children's education and health. For this reason, mothers are usually the recipients of cash allowances of CCT programs, and families with girls tend to receive more allowances, which will to some extent promote the gender equality of education and health service opportunities (Parker and Todd, 2017). Theoretically, CCT programs will not only reduce household poverty in the short run through transfer payments, but also prevent the intergenerational transmission of poverty by promoting children's human capital accumulation and reducing the feminization of poverty.

2.2 Origin and Development of CCT Programs

CCT programs originated from Latin America at the end of the 20th century. In 1997, the Mexican government implemented the world's first CCT program, i.e. the "Oportunidades" program to end the vicious cycle of poverty for the poor and the extremely poor, which is one of the most representative CCT programs in the world.[2] The Oportunidades has the following features: First, precise identification of poor populations from a multidimensional perspective. The Oportunidades program first evaluated the fringeness of a household's region based on such aspects as geographical location and level of infrastructure before specifying a measurable point system that is hard to manipulate, encompassing household demographic structure and physical assets, for measuring each household's socio-economic conditions to overcome the targeting bias with income as the yardstick of poverty, and beneficiary households would receive one qualification review every three years.

Second, the amount of cash allowances for each household under the Oportunidades program was based on a set of criteria, including the fulfilment of given educational and health service conditions and family structure (such as the number of children, gender and age). For instance, recipient households were required to keep their children's school attendance above a minimum level and regularly receive preventive health services as the condition for obtaining cash allowances.

Third, the methods and recipients of cash transfer payments were determined reasonably. In dispensing cash allowances under the Oportunidades program, the Mexican government required that recipients should be mothers or primary caretakers of children.

Fourth, a program monitoring and impact assessment system was put into place. Prior to its implementation, the Oportunidades program's design team carried out a national household baseline survey and regional pilot programs, followed by a randomized controlled trial (RCT) for 31,000 households and a third-party nationwide policy impact assessment by the International Food Policy Research Institute (IFPRI), and engaged professionals to monitor the acceptance of intervention by beneficiary households.

According to a report released by the World Bank,[3] 63 large and medium-sized countries across the world implemented CCT programs in 2016, most of which were middle-income countries (see Table

Table 1: Regional Distribution of Global CCT Programs

Region	Latin America	Asia	Africa	Europe	Oceania	Sum
Number of countries	20	16	21	5	1	63
Population coverage (million persons)	99.530	62.781	19.087	1.555	0.004	182.957

Source: Compiled by authors according to data from the World Bank's Report *The State of Social Safety Nets* 2018.

[2] The Mexican government implemented the conditional cash transfer payment program in 1997 for the poor and the extremely poor under the "Progresa" program, which was renamed into "Oportunidades" in 2002 and "Prospera" in 2015. After those renames, the overall program design remained constant, but the coverage of target groups and budgetary spending increased.

[3] See the World Bank, *The State of Social Safety Nets 2018*, https://openknowledge.worldbank.org/handle/10986/29115.

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1). Among them, CCT programs with broad population coverage include Brazil's household allowance program (41.81 million), Indonesia's Kelurga Harapan program (23.40 million), the Philippines's 4Ps program (20.24 million) and Colombia's Mas Mamilias en Accion program (13.67 million), among others.

3. Implementation Effect of CCT Programs

3.1 Short-Term Effects of CCT Programs

The short-term effects of CCT manifest in two aspects - household consumption and poverty level, and spending on children's education and health. Referencing Fiszbein *et al*. (2009), Paes-Sousa *et al*. (2011), and Glewwe and Kassouf (2012), this paper has summarized the poverty-reducing effects of CCT programs in the first decade of implementation, with results shown in Table 2.

Regarding household consumption and poverty, most CCT programs could significantly promote total household consumption, especially programs offering large sums of cash allowances. To varying degrees, those programs eased household poverty by reducing poverty incidence and depth. In terms of consumption structure, most CCT programs sharply increased the level and share of household spending on food, which was conducive to children's intake of meat proteins and other nutrients and raising women's bargaining power in their families (Parker and Todd, 2017). Meanwhile, programs offering smaller sums of cash allowances did little to increase household consumption, as in the case of Cambodia and Ecuador.

With respect to children's education and health, most CCT programs could significantly raise children's school attendance and increase the utilization of medical services for children to some extent.[4] Some studies, however, suggested that the short-term effects on children's education and health were insignificant. A possible reason is that it took some time for human capital accumulation to occur, or program effectiveness hinged upon the improvement of children's learning behaviors and parenting quality. Differences in the socio-economic conditions and target groups across regions may also result in certain deviations in the effects of project implementation.[5]

3.2 Long-Term Effects of CCT Programs

In evaluating the long-term effects of CCT programs, we focused on children's transitions in two lifecycle stages. First, we examined the educational performance and health conditions of children from prenatal or early life stages to school-age stage (below the age of six); second, we analyzed changes in the employment, compensation and other benefits after the children entered into adulthood from the school-age stage to the adult employment stage (above 18 years).

Millan *et al*. (2019) identified ten CCT programs with the long-term effect of lengthening children's education (see Table 3). Research suggests that Ecuador's BDH cash transfer program (2004-2014) improved children's cognitive and non-cognitive abilities, improved their school performance, nutrition and health, and helped increase their employment participation rate and income in adulthood (Araujo *et al.*, 2018). Mexico's "Oportunidades" program (1997-2010) increased children's average length of education by 1.4 years as chiefly manifested in a sharp increase of middle school graduation rate and raised women's labor participation rate and wage level by 11% and 50%, respectively, and men's formal employment rate by nine percentage points (Parker and Vogl, 2018). Nicaragua's CCT program (2000-

[4] The randomized intervention trial (RCT) evaluation result suggests that Nicaragua's conditional cash transfer payment programs increased school enrolment rate by 12.8% for children aged 7 to 13 and increased children's medical consultation rate and vaccination rate at designated clinics within six months by 13.1% and 18%, respectively.

[5] Of course, the correct use of evaluation method will also influence the final research results, but the effect is hard to discern if the data treatment process is unknown. Hence, this paper assumes the conclusions of existing studies to be reliable without delving into methodologies.

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Table 2: Short-Term Effects of Conditional Cash Payment Transfer Programs (%)

	Brazil	Cambodia	Colombia	Ecuador	Honduras	Mexico	Nicaragua
Household consumption							
Share of cash allowance	8	2-3	13-17	7-10	9-11	19-20	18-30
Total household consumption	7.0**	NS	10.0**	NS	7.0*	8.3**	20.6**
Food consumption	12.0**	NA	6.0**	NS	NS	NA	31.0**
Share of food consumption	0.02**	NA	0.04**	0.04**	NS	NA	0.04**
Household poverty							
Poverty incidence	NA	NS	–0.03*	NS	NS	0.00	–0.05**
Poverty depth	NA	NS	–0.07**	NS	–0.02*	–0.02**	–0.09**
Poverty depth squared	NA	NS	–0.02**	NS	–0.02*	–0.03**	–0.09**
Children's school enrolment							
Primary school enrolment rate	0.50***	NA	2.1**	10.3**	3.3***	NS	6.6***
Middle school enrolment rate	0.30***	21.4***	5.6***	10.3**	NA	8.7***	6.6***
Child health							
Medical consultation rate for children aged 0-1	NA	NA	22.8***	NS	20.2***	NS	6.3***
Medical consultation rate for children aged 2-4	NA	NA	33.2***	NS	20.2***	NS	6.3***
Medical consultation rate for children aged 4-6	NA	NA	1.5*	NS	NA	NS	6.3***
Vaccination rate	NA	NA	8.9*	6.9***	NA	NS	18.0***
Height/length for age	1.3***	NA	0.16*	NS	NS	0.96***	NS
Time of evaluation	2002	2007	2002-2006	2003-2005	2000-2002	1998-1999	2000-2002

Source: Compiled and supplemented based on the World Bank report: *Conditional Cash Transfers: Reducing Present and Future Poverty*.

Notes: (i) "NS" means no significant effect; "NA" means missing results. (ii) ***, ** and * denote significance at 1%, 5% and 10% levels.

2010) increased the school performance and positive mentality of boys by 0.2 standard deviations after receiving intervention and raised their non-farm income by 10% to 30% in the labor market (Barham *et al.*, 2017).

Yet some studies suggested that CCT had limited effects on children's long-term development, especially after entering the labor market. Possible reasons include the poor design and implementation of those programs to achieve long-term effects, or the duration of evaluation could not fully reveal children's development journey (Devereux *et al.*, 2017).

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Table 3: Long-Term Effects of CCT Programs

	Mexico	Columbia	Nicaragua	Honduras	Ecuador	Cambodia	Pakistan	Malawi	Salvador
Effects of early-stage intervention on school-age stage									
Physical development	0/0	NA	NA/0	NA	NA	NA	NA	NA	NA
Cognitive abilities	0/0	+/+	NA/+	NA	0/0	NA	NA	NA	NA
Social emotions	+/+	NA	NA	NA	0/0	NA	NA	NA	NA
School enrolment	0/0	NA	NA	+/+	NA	NA	NA	NA	+/+
School performance	NA	NA	NA	NA	0/0	NA	NA	NA	NA
Effects of school-age stage on the youth stage									
Advancement to a higher grade of school	+/+	+/+	0/+	+/+	+/+	+/+	+/NA	+/NA	NA
School performance	0/0	?/?	0/+	NA	NA	0/0	NA	0/NA	NA
Labor participation	0/?	NA	+/+	?/0	0/0	0/0	-/NA	0/NA	NA
Income	NA	NA	+/+	0/0	NA	0/0	NA	0/NA	NA

Source: Millan, T. M., T. Barham, K. Macours, J. A. Maluccio and M. Stampini, 2019, "Long-Term Impacts of Conditional Cash Transfers: Review of the Evidence", World Bank Research Observer, 34(1): 119-159.

Notes: (i) All results in the table are displayed as "female samples/male samples"; (ii) "+" and "-" respectively denote the positive or negative sign of (significant) effect; 0 means insignificant, ? means different results, and NA means missing results.

3.3 Spillover Effects of CCT Programs

CCT programs may have some positive or negative spillover effects. First, parents improved their child-raising behaviors in participating in the CCT programs. Possible reasons are twofold: The programs contained educational and health knowledge training, or cash allowances disbursed to recipient mothers increased their bargaining power at home, prompting households to pay more attention to the method and quality of upbringing.

Second, CCT programs may have reduced parents' labor participation while increasing children's human capital investment and reducing child labor. In addition, the welfare effect of public transfer payments may have allowed parents to spend more time taking care of their children to meet program criteria.

Third, CCT programs may crowd out private transfer payments to some extent. If the goal of the altruistic behaviors of decision-makers for private transfer payments (for instance, migrant workers remitting cash to their families) is to maximize household utility, the equilibrium condition for the optimal allocation of household resources is that each unit of resources has identical marginal utility for family members, and when a household receives public transfer payment, decision-makers will reduce private transfer payments to maximize the entire household's welfare (Angelucci *et al.*, 2012).

Fourth, CCT may influence fertility rate and boy preference. Currently, there are two opposite results and explanations on the relationship between CCT and fertility. Steckloy *et al.* (2007) found that poor households in Honduras had raised their average fertility rate by two to four percentage points to receive more cash allowances from CCT programs. Todd *et al.* (2012) found that CCT programs in Nicaragua had reduced household demand for children and lengthened women's childbearing interval while reducing household poverty and promoting children's human capital investment. In addition, poverty reduction and program preference toward girls have also to some extent reduced households' boy preference (Parker and Todd, 2017).

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Fifth, CCT programs were conducive to improving the existing systems through policy monitoring and evaluation. All CCT programs had relatively complete monitoring and evaluation systems for the extensive application of impact assessment methods (especially randomized controlled trials) in policy formulation and promotion, thus promoting the development of experimental economics and the use of quasi-experiment impact assessment methods (Banerjee and Duflo, 2009).

4. Implementation Basis and Design of CCT Programs

4.1 Prerequisites for Implementing CCT Programs

As mentioned before, CCT payments are intended to accommodate fairness and efficiency and prevent future poverty by investing in children's human capital while using cash subsidies to reduce current poverty and inequalities. Based on the CCT theory, Fiszbein *et al.* (2009) listed the criteria for assessing the necessity of implementing CCT programs (see Figure 1). First, the necessity of public transfer payments to reduce household poverty and improve income distribution should be evaluated in terms of fairness. Second, the necessity of cash transfer payments based on children's human capital investment should be evaluated in terms of efficiency. When the income effect of public transfer payments is insufficient as to realize sustainable poverty reduction in the long run, human capital investment in children should be additionally included as a condition to maximize the substitution effect, prevent market failure, and increase household and social welfare.

4.2 Design of Cash Transfer Payment Programs

Design of scientific and effective program schemes requires in-depth discussions of program

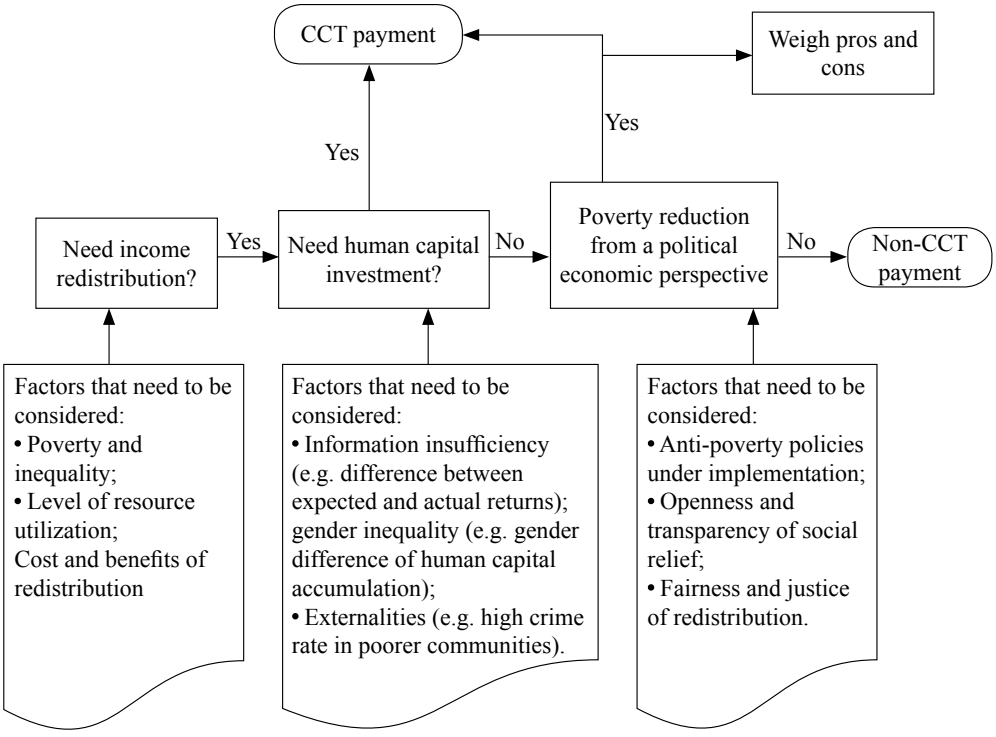


Figure 1: Implementation Basis and Assessment Procedure of CCT Programs

Source: The World Bank, Conditional Cash Transfers: Reducing Present and Future Poverty, https://openknowledge.worldbank.org/handle/10986/2597.

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characteristics and methodologies. First, eligibility for receiving CCT should be based on both households' income and consumption dimensions and children's human capital accumulation, i.e. multidimensional criteria for target groups should be established to identify poor households and increase poverty reduction efficiency (Azevedo and Robles, 2013). Second, additional conditions should be designed reasonably based on the actual conditions of poor households, e.g. the required school attendance rate of school-age children and the categories, frequencies and locations of health services received by pregnant women and children. Lastly, the level of cash transfer payment process needs to be specified according to cohort heterogeneity. Given the possible marginal diminishing effect of transfer payments and the heterogeneous opportunity costs for households of different structures to invest in children's human capital, it is necessary to determine the amount of cash allowance for different target groups to maximize the efficiency of implementation. Regarding the payment process, consideration should be given to such factors as the payment method, payment frequency and recipients.

In designing the specific scheme, most previous CCT programs were determined by the government's policy design team according to international experience and relevant local quantitative and qualitative information. Despite efficient policy-making and implementation of this government-led approach, it cannot avoid inefficient resource allocation due to government failure and the interference of other factors (Jia, 2017). Given the vital role of the target groups' participation in policy implementation, policy design should also address the needs of poor households and follow a bottom-up approach that gives initiative to local authorities, especially for CCT programs intended to improve household human capital investment behaviors. Hence, a new direction of research on CCT is to improve current policy design by precisely measuring the true preferences of poor households for different CCT programs.

Using a CCT program in Mexico as an example, Alix-Garcia (2019) estimated households' willingness to accept (WTA) and designed a CCT scheme based on the WTA and deforestation risk. Simulation found that this scheme could more precisely identify target groups with a sharp reduction in the social cost.[6] According to the impact assessment result of Jia *et al.* (2017) for China's rural small credit programs, the accuracy of poverty targeting and poverty reduction effectiveness and sustainability can be sharply increased by integrating top-down and bottom-up poverty reduction programs. That is to say, government-led (top-down) approach and local initiative (bottom-up) should be combined to reduce government failure and coordination cost to enhance capital efficiency and policy effectiveness.

4.3 Integrated Evaluation of CCT

Although most studies have verified the short-term effects of CCT programs, conclusions have yet to be formed regarding their long-term effects, especially whether such programs may prevent the intergenerational transmission of poverty. Moreover, CCT may have the following limitations: While such programs improve household behaviors of investing in their children's human capital, the level and quality of education and health services should be improved from the supply side. A basic assumption for CCT programs to improve households' human capital investment behaviors is the quality of educational and health services, without which such programs may distort households' original rational behaviors and cause inefficient resource allocation without improving household and social welfare.

Second, policymakers should give sufficient consideration to the potential labor disincentives of CCT programs and take countermeasures to reduce the welfare dependence of poor households. Based on existing research results, CCT programs may generate negative spillovers on adult labor supply, giving rise to the poverty trap. Hence, policymakers should design reasonable program entry and exit

[6] Programs with the goal to alter the behaviors of participants are usually subject to the self-selection problem. For instance, some households eligible to participate may still invest in their children's human capital even without receiving cash allowance. Transfer payments to such groups will, to some extent, result in inefficient use of capital. Hence, the consideration of the self-selection problem is an important reason why policy scheme preferences and WTA analysis help increase policy targeting accuracy.

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mechanisms and explore the possibility of combining CCT with employment incentives.

Third, policymakers should clarify the position of CCT programs in the social security system and bring out synergy and complementarity between CCT programs and other anti-poverty policies. As a policy instrument, CCT programs should serve as an important supplement or improvement to social security policies instead of replacing existing anti-poverty policies. The reasons are twofold: On one hand, CCT programs cannot cover all poor groups such as families with elderly persons and childless families, who rely on the rural minimum subsistence guarantee system, the New Rural Pension Scheme (NRPS), among other social protection policies.[7] On the other hand, the biggest advantage of CCT programs is the prevention of chronic poverty by inducing human capital investment. For this reason, such programs are primarily intended to address structural poverty problems rather than coping with temporary poverty due to contingencies such as the COVID-19. The latter needs to be addressed with supplemental policy instruments such as employment and social relief programs.

5. CCT Payments to China's Countryside: Right Time for Implementation?

5.1 China's Rural Public Transfer Payments and Children's Human Capital Development

The rural minimum subsistence guarantee system and the New Rural Pension Scheme (NRPS) are key components of China's rural public transfer policy system. While the former aims to protect rural residents in absolute poverty with household per capita income below the local minimum subsistence level, the latter's target group is rural elderly persons not covered by any other pension insurance system. Although both sorts of policies help reduce rural poverty, their respective weaknesses also exist. For one thing, the rural minimum subsistence guarantee system still has great room to improve due to its limited targeting efficiency. For another, the New Rural Pension Scheme (NRPS) has a limited poverty-reducing effect with its small amount of pension payments, which is subject to a long-term diminishing effect.

Since the rural minimum subsistence guarantee system and the NRPS system are primarily designed to ensure the basic living standards of rural low-income and elderly groups, few studies have been carried out to investigate rural public transfer payments and children's human capital development. With increasing research on major policy goals, some researchers have turned their eyes to the spillover effects of existing rural public transfer payments, including the effects on children's human capital development. For instance, Liu and Qi (2019) found that the rural minimum subsistence guarantee system would lead to more household educational input and better upbringing while significantly increasing rural children's cognitive abilities, but the low efficiency and level of relief had limited the positive effects of the minimum subsistence guarantee system. Yu *et al*. (2019) and Zheng *et al*. (2020) found that the New Rural Pension Scheme (NRPS) had raised rural children's nutrition and health levels, especially for rural left-behind children, but the economic significance of such effects remains limited.

Despite falling poverty incidence in China's countryside and great improvements in children's educational equality, nutrition and health, children's development remains unbalanced and inadequate across regions, especially in poor rural areas. According to the *Report on Children's Development in China 2017*, more than 20% of the most vulnerable children in poor areas still lack sufficient nutritional intake, early-stage parenting, access to educational opportunities, and so on. Such children are also highly vulnerable to psychological problems, abuse and negligence. Despite the implementation of various pilot programs on rural children's development (see Table 4) and the inclusion of children's development into national development and poverty relief planning, China has yet to establish a formal transfer payment policy for rural children. According to the Asian Development Bank (2012), it is

[7] Consolidation of policies with similar functions not only improve the effects of policy implementation, but may avoid efficiency loss arising from repetitive coverage of target groups by different programs. The flip side is that such consolidation may also incur administrative and social costs and require a cost-benefit analysis in making decisions.

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Table 4: Major Policies on Rural Children's Development in China since the Dawn of the 21st Century

Major policies	Year of implementation	Targeted recipients	Description
"Two Exemptions and One Subsidy"	2001	Poor areas	Exemptions of tuition and miscellaneous fees and textbook fees; living allowances for boarding students
New Rural Cooperative Medical Scheme	2003	Poor areas	Establish new-type rural cooperative medical system focusing on social pooling for catastrophic diseases
Folic Acid Supplement	2009	Rural areas	Reduce the neurological defects of newborn babies
Pre-School Education Action Plan	2011	Rural areas in central and western regions	Increase access to kindergartens
Nutrition improvement program	2011	Poor areas	Improve nutrition for students in rural compulsory education
Rural schools and children's palaces	2011	Rural areas	Improve learning and cultural and entertainment conditions for rural students
"Nutrition pack" program	2012	Poor areas	Provide infants and babies aged six and 24 months and improve guardians' knowledge about scientific feeding practices
Early childhood development program	2014	Pilot poor areas	Promote early childhood development for children aged 0-3 years
Family education program	2016	Rural areas	Establish parents' schools or family upbringing guidance service stations

Source: Compiled based on the *Report on Child Development in China*, *Administrative Measures for the Central Special Public Welfare Fund from Lottery Proceeds*, and the *Five-Year Plan on the Guidance of Family Education (2016-2020)*.

appropriate to carry out CCT programs for the poor in China, which helps realize inclusive and balanced development, and CCT programs for the promotion of rural children's human capital investment can be a favorable supplement to the existing policy system.

5.2 Implementation and Outlook of CCT Programs in China

Currently, most studies on China's CCT programs and randomized controlled trial (RCT) assessments have been carried out by Prof. Zhang Linxiu's research team at the Chinese Academy of Sciences (CAS) and Peking University, as well as Prof. Gan Li's research team at the Southwest University of Finance and Economics (SWUFE). Prof. Zhang Linxiu's research team has carried out RCT assessments of CCT programs with the themes of children's education and maternal and child health in poor rural areas of China's northwestern regions. According to the results of an RCT conducted by this research team for 1,507 junior middle school students in China's northwestern region in 2009-2010, rural children receiving program intervention were 60% less likely to drop out from school, but their academic performance (test scores) underwent no significant change (Mo *et al*., 2013). Regarding maternal and child health, the project team carried out an RCT of village-level CCT programs in 75 villages below national average levels of maternal and child health services. In the intervention-group villages, if a pregnant or childbearing woman had received any of the seven maternal and child health services (as a CCT condition),[8] she would receive a cash allowance of 1,000 yuan from the program team. Research found that this program sharply increased pregnant and childbearing women's access to and awareness of maternal and child health services, but the health of newborn babies experienced no significant improvement (Zhou *et al*., 2020).

[8] These seven women and child health services (as conditions) include: prenatal inspections, delivery at hospital, postnatal inspection, breastfeeding within one hour after childbirth, breastfeeding for six months after childbirth, necessary vaccinations after childbirth, and physical examinations after childbirth.

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The CCT program named "Adolescent Education Promotion Initiative" led by Prof. Gan Li's team focused on rural children's education, and CCT payments to students' families and teachers were subject to the fulfillment of certain criteria of children's educational performance. Since April 2015, the program started to be implemented in Leshan City of Sichuan Province for over 7,000 teachers and students from 5,700 families and 32 primary schools as beneficiaries. According to the program's impact assessment result, the Chinese language and math scores of the primary school students participating in the randomized controlled trial (RCT) increased by 7.5% and 19%, respectively, and the effect was more significant for students with previously poor test scores and those from poor families (Gan, 2019).

While most of the CCT programs piloted in China have achieved relatively good results, sufficient research has yet to be carried out to optimize program design. The long-term implementation of CCT programs on a broader scale, therefore, requires in-depth discussions of program design, implementation and development approaches at least in the following three aspects (see Figure 2):

First, the main characteristics of CCT programs should be designed reasonably, focusing on the preferences of target groups for policy on the demand side and the quality of educational and health services. The basis for designing CCT programs is the identification of development stage, target groups, scope of implementation, and conditions. In China, children's development is uneven across urban and rural areas in various regions, and preschool education and early childhood upbringing are insufficient (China Development Research Foundation, 2017). CCT programs, therefore, should be designed for children in rural poor areas and identify target groups and formulate entry and exit mechanisms based on multidimensional criteria. While attention is paid to the school attendance and academic performance of school-age children, priority should also be given to services for women and children's health, preschool education and guardians' parenting behaviors, as well as the determination of relevant cash transfer payment conditions. The government may identify poor villages and develop program master plans according to regional development conditions (top-down mechanism). In determining the conditions, amount and payment process of allowances, the government may encourage the participation and autonomy of farmer households based on local initiative and referencing existing experiences ("bottom-up" mechanism). For instance, CCT programs can be designed based on the preferences of target groups for different CCT programs and the verification of randomized controlled trials (RCTs) at a certain scale.

Second, the government should give sufficient consideration to the potential limitations of CCT programs, and analyze the necessity and feasibility of consolidating CCT programs and other anti-poverty policies. The potential labor disincentive and policy fragmentation of CCT programs will directly affect the effectiveness of program implementation. The solutions are twofold: First, the welfare dependence of poor households can be reduced through a combination of CCT programs and employment incentives. For instance, Prof. Gan Li's research team at the Southwest University of Finance and Economics launched a "labor income incentive program" to encourage the labor participation of poor populations referencing the US labor income tax credit system (Gan, 2019). Initial result of the field experiment suggests that this program could significantly increase the level of participation of poor households and household labor income and consumption, which creates a portfolio of policy instruments for coping with a likely labor disincentive of CCT programs. Second, the government should try to integrate CCT programs with the rural minimum subsistence guarantee system and other rural development programs to address the inefficiency from the repetitive coverage of poor groups. For instance, CCT programs may be integrated into the rural minimum subsistence security system as a way to target at families with children for long-term multidimensional poverty reduction. For childless families and those with elderly persons, CCT policy should be enacted to protect their subsistence needs. Meanwhile, attempts can be made to combine CCT programs with existing child development programs such as nutrition improvement programs for babies and preschool children for more effective resource allocation.

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Third, the government should try to establish a CCT monitoring and evaluation system and implementing agency and expand the target group when appropriate following the trend of urban and rural development. Aside from policy design, effective implementation and timely adjustment will determine the success and future development of CCT programs. It is necessary, therefore, to conduct regular monitoring and management of CCT participation and exit, and the compliance of recipient households with program conditions to ensure the precise targeting and sustainability of CCT programs. Meanwhile, counterfactual causality evaluation methods should be employed for a science-based evaluation of CCT programs' short-term and long-term poverty-reducing effects, identify the inadequacies of such programs, and improve program design and implementation. Considering the possible structural factors of the decision-making system, it is suggested to create a dedicated CCT program monitoring and evaluation agency for cross-departmental coordination and cooperation[9] (Xu and Zhang, 2016). In conducting policy evaluation, third-party institutions should be invited for fair and open evaluation of program effects. In addition, the target groups of CCT programs should also be adjusted according to the trends of urban and rural development. Although the main battlefield for poverty reduction in China in the post-2020 era remains in the countryside, the priority of poverty reduction will shift to a combination of both the countryside and cities (Chen *et al.*, 2019). Farmer households will continue to migrate, and an increasing number of rural migrant workers have brought their children to cities, where restrictions under the household registration system and the high cost of

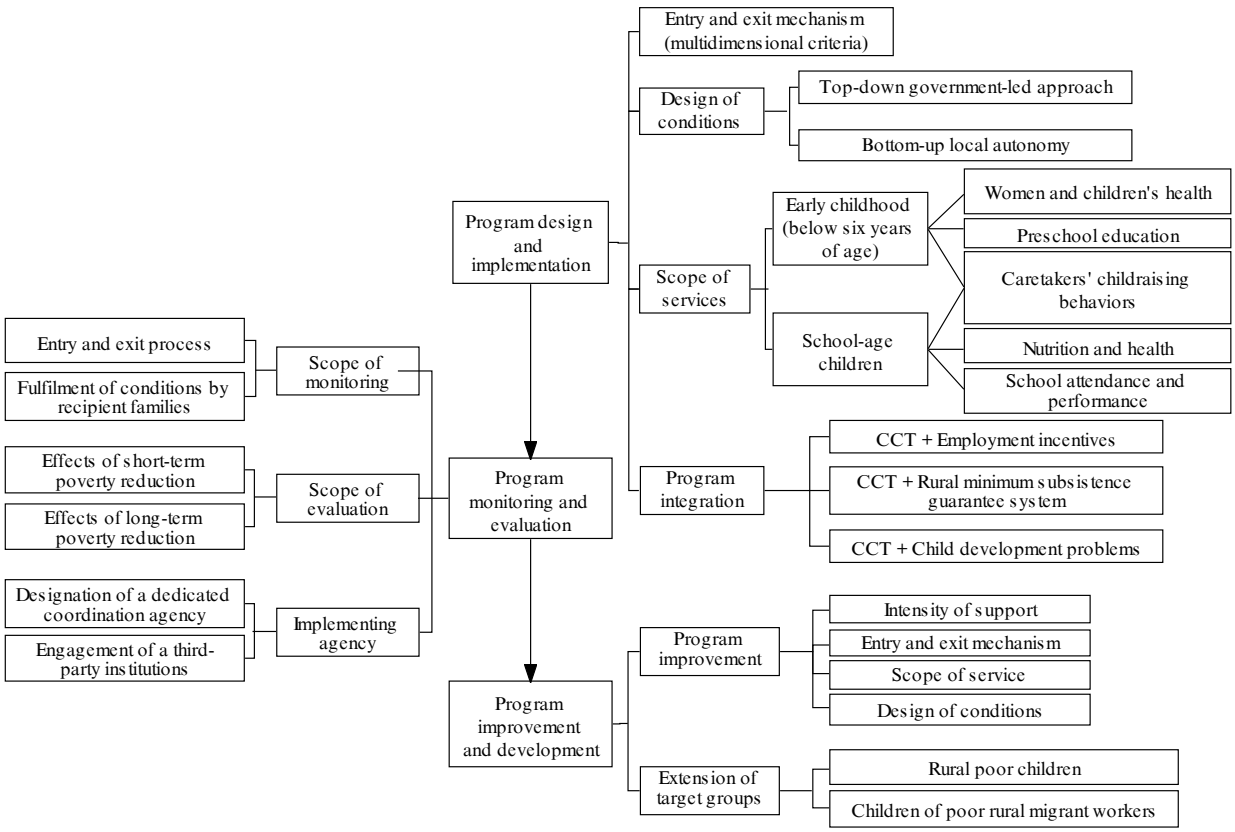


Figure 2: Design, Implementation and Development of CCT Programs for China's Countryside

[9] Since CCT programs also involve children's education and health services in addition to cash transfer payments, participating policy authorities theoretically should include the Ministry of Human Resources and Social Security, the Ministry of Finance, the Ministry of Education, and the National Health and Family Planning Commission (NHFPC).

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living highlight the human capital and household poverty of rural migrant workers' children. Therefore, it is also necessary to consider implementing CCT programs targeted at the rural migrant workers' children living in cities and help establish an integrated urban and rural poverty reduction system.

6. Conclusion Remarks

This study considers CCT as a policy instrument worth considering for China to achieve long-term poverty reduction in the countryside. Existing randomized controlled trial (RCT) studies have demonstrated the significant short-term effects of CCT programs in rural areas of China's western regions. While the long-term effects of CCT programs have yet to be shown, researchers and policymakers should attach great importance to improving policy design and resource allocation, which is a critical factor for CCT programs to develop sustainably in China. CCT programs should be designed and implemented with the characteristics of China's rural poverty and children's development taken into full account, combining top-down and bottom-up policy-making approaches. Meanwhile, the government should consider both target groups on the demand side and services on the supply side and further integrate and coordinate CCT programs with other anti-poverty policies to avoid policy fragmentation. Moreover, sound monitoring and evaluation are essential to the effective implementation and improvement of CCT programs, and the target groups and scope of coverage should also be adjusted according to the new situations of urban and rural development. In a nutshell, anti-poverty policies including CCT programs should be designed according to current, local and poverty conditions to offer targeted solutions to the root cause of poverty.

References:

[1] Alix-Garcia, J. M., K. R. E. Sims, and D. J. Phaneuf. 2019. "Using Referenda to Improve Targeting and Decrease Costs of Conditional Cash Transfers." *Journal of Public Economics*, 176: 1-70.

[2] Angelucci, M., O. Attanasio, and V. D. M. D. Maro. 2012. "The Impact of Oportunidades on Consumption, Savings and Transfers." *Fiscal Studies*, 33(3): 305-334.

[3] Araujo, M. C., M. Bosch, and N. Schady. 2016."Can Cash Transfers Help Households Escape an Inter-Generational Poverty Trap?" NBER Working Paper22670, http://www.nber.org/papers/w22670.

[4] Asian Development Bank. 2012. *The Case for Conditional Cash Transfers in the People's Republic of China*. Beijing: Asian Development Bank Representative Office in China.

[5] Azevedo, V., and M. Robles. 2013. "Multidimensional Targeting: Identifying Beneficiaries of Conditional Cash Transfer Programs." *Social Indicators Research*, 112(2): 447-475.

[6] Banerjee, A. V., and E. Duflo. 2009. "The Experimental Approach to Development Economics." *Annual Review of Economics*, 1(1): 151-178.

[7] Banerjee, A. V., and E. Duflo. 2011. *Poor Economics: A Radical Rethinking of the Way to Fight Global Poverty*. New York: Public Affairs Press.

[8] Barham, T., K. Macours, and J. A. Maluccio. 2017. "Are Conditional Cash Transfers Fulfilling Their Promise? Schooling, Learning, and Earnings After 10 Years." CEPR Discussion Papers 11937, https://ideas.repec.org/p/cpr/ceprdp/11937.html.

[9] Becker, G. S., 1991. *A Treatise on the Family*. Cambridge: Harvard University Press.

[10] Cai, Fang. 2020. "The Second Demographic Dividend as Driver of China's Growth." *International Economic Review*, 2: 42-11.

[11] Carneiro, P. M., and J. J. Heckman. 2003. "Human Capital Policy." NBER Working Paper 9495, https://www.nber.org/papers/w9495.

[12] Chen, Kevin, Jieying Bi, Guobao Wu, Xiaojun He, and Zimeiyi Wang. 2019. "Post-2020 Rural Urban Integrative Poverty Reduction Strategy: Development Status, Evolution, New Vision and Key Areas." *Chinese Rural Economy*, 1: 2-16

[13] China Development Research Foundation. 2017. *China Children's Development Report 2017: Anti Poverty and Early Childhood Development*. Beijing: China Development Press.

[14] Devereux, S., E. Masset, R. Sabates-Wheeler, M. Samson, A. M. Rivas, and D. T. Lintelo. 2017. "The Targeting Effectiveness of Social Transfers." *Journal of Development Effectiveness*, 9(2): 162-211.

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[15] Fang, Lianquan. 2016. “Exit Strategy in International Poverty Alleviation: Practice in Developing Countries.” *International Economic Review*, 6: 86-104+6.

[16] Fiszbein, A., N. Schady, Ferreira F. H. G., Grosh M., Keleher N., Olinto P., and Skoufias E. 2009. *Conditional Cash Transfers: Reducing Present and Future Poverty*. Washington D.C.: The World Bank.

[17] Gan, Li. 2019. “Establishing Incentive Compatible Cash Transfer Payment System to Solve Relative Poverty.” Sina Finance, http://finance.sina.com.cn/zl/china/2019-11-08/zl-iicezuev8010047.shtml.

[18] Glaeser, E. L., and M. Lu. 2018. “Human-Capital Externalities in China.” NBER Working Papers 24925, http:www.nber.org/papers/w24925.

[19] Glewwe, P. A. L. Kassouf. 2012. “The Impact of the Bolsa Escola/Familia Conditional Cash Transfer Program on Enrollment, Dropout rates and Grade Promotion in Brazil.” *Journal of Development Economics*, 97(2): 505-517.

[20] Heckman, J. J., and C. O. Corbin. 2016. “Capabilities and Skills.” *Journal of Human Development and Capabilities*, 17(3): 342-359.

[21] Jia, Junxue, Cong Qin, Yongzheng Liu. 2017. “Policy Design for the Integration of ‘Top-Down’ and ‘Bottom-Up’: An analysis Based on Poverty Alleviation Rural Development Projects.” *China Social Sciences*, 9: 68-89+206-207.

[22] Liu, Chengkui, and Xinghui Qi. 2019. “Can Public Transfers Teach People How to Fish? A Study of Intergenerational Human Capital.” *Public Finance Research*, 11:77-90.

[23] Millan, T. M., T. Barham, K. Macours, J. A. Maluccio, and M. Stampini. 2019. “Long-Term Impacts of Conditional Cash Transfers: Review of the Evidence.” *World Bank Research Observer*, 34(1): 119-159.

[24] Mo, D., L. Zhang, H. Yi, R. Luo, S. Rozelle, and C. Brinton. 2013. “School Dropouts and Conditional Cash Transfers: Evidence from a Randomised Controlled Trial in Rural China’s Junior High Schools.” *Journal of Development Studies*, 49(2): 190-207.

[25] Paes-Sousa, R., L. M. P. Santos, and É. S. Miazaki. 2011. “Effects of a Conditional Cash Transfer Programme on Child Nutrition in Brazil.” *Bulletin of the World Health Organization*, 89(7): 496-503.

[26] Parker, S. W., and P. E. Todd. 2017. “Conditional Cash Transfers: The Case of Progresa/Oportunidades.” *Journal of Economic Literature*, 55(3): 866-915.

[27] Parker, S. W., and T. Vogl. 2018. “Do Conditional Cash Transfers Improve Economic Outcomes in the Next Generation? Evidence from Mexico.” NBER Working Paper 24303, https://www.nber.org/papers/w24303.

[28] Todd, J. E., P. Winters, and G. Stecklov. 2012. “Evaluating the Impact of Conditional Cash Transfer Programs on Fertility: The Case of the Red de Protección Social in Nicaragua.” *Journal of Population Economics*, 25(1): 267-290.

[29] Wang, Sangui, and Xiaoxi Zeng. 2016. “International Experience of Poverty Reduction with Conditional Cash Transfer.” *Study Times*, February 25, http://paper.cntheory.com/html/2016-02/25/nw.D110000xxsb_20160225_3-A2.htm.

[30] Xie, E. 2017. “The Effects of Public Transfers on Income Distribution and Poverty in China.” *Economic Research Journal*, 52(09):103-116

[31] Xu, Xiaoxin, and Xiulan Zhang. 2016. “Incorporating the Family Angle into Public Policy: An Analysis of the Policy of Compulsory Education for Migrant Children.” *China Social Sciences*, 6: 151-169+207.

[32] Yu , Xinliang, and Yiwen Shangguan, and Huimin Liu. 2019. “New Rural Social Endowment Insurance, Intergenerational Care and Children’s Health.” *Chinese Rural Economy*, 7: 125-144.

[33] Zheng, X., X. Fang, and D. S. Brown. 2020. “Social Pensions and Child Health in Rural China.” *Journal of Development Studies*, 56(3): 545-559.

[34] Zhou, H., Y. Wu, C. Liu, C. Sun, Y. Shi, L. Zhang, A. Medina, and S. Rozelle. 2020. “Conditional Cash Transfers, Uptake of Maternal and Child Health Services, and Health Outcomes in Western Rural China.” *BMC Public Health*, 20(1): 870.

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