

CASH CONDITIONAL TRANSFER, PRENATAL CONSULTATIONS AND MOTIVATION FOR HEALTH CHOICES AT SOULEDE-ROUA (FAR NORTH)

BASKOUDA ABUJA Boris

(Faculty of Economics and Management/University of Maroua)

Abstract: *The purpose of this paper is to empirically examine if impacts of Cash Conditional Transfers (CCT) on prenatal consultations and motivation for health choices are too strong after the end of payment. We used the double-difference method for the impact evaluation introduced by Rubin. It used data which was collected in 2018 at Soulede-Roua with a survey questionnaire. The results show that CCT has positive impact on use of public health structure for birth, but not for prenatal care. Finance is the main way of dissatisfaction of households for health care infrastructure access, but it is not a barrier for them.*

Keywords: *Cash Conditional Transfer, Prenatal consultations, Health Motivation, Soulede-Roua*

I- Introduction

Does CCT impacts on health are too strong to continue after the end of payments on prenatal use and motivation for some health choices? This question is of course particularly for consequences of poverty on health in the context of public spending rationalization. Particularly for decisions makers, it is important to get ways on decisions, on making necessary changes for the effectiveness of the policies applied.

In Cameroon, poverty index is 37.5% and is severe in Far North region [1]. There is a close link between poverty, education, health and nutrition. Regarding health, to receive healthcare in Cameroon, patient must directly pay. Despite poverty, the contribution of households in healthcare financing has still grown from 73% in 1996 to 83% in 2009 [2]. Nearly 60% of households in Cameroon have difficulty accessing health care financially [3], and in rural areas, 54% of households have not access to healthcare [4].

Nowadays, in order to fight poverty, the Cameroonian government is committed to improve its social safety net system by correcting its methodology on poverty alleviation, developing new national skills for their implementation, and ultimately improving the living conditions of poor and vulnerable populations [5]. A pilot project of Cash Conditional Transfer (CCT) has been set up at Soulede-Roua, in the Far North of Cameroon from December 2013 to January 2016. Poor people had to use money mainly for education, nutrition, health, and income-generating activities [5].

This study aims to determine the impact of those CCT on health at Soulede-Roua. Specifically, this paper seeks to examine the following objective:

- To assess impact of CCT on prenatal consultation ;
- To assess impact of CCT on factors which motivate health choices ;

II- Literature review

Importance of healthcare in pregnancy process is a great determinant for delivering outcome. A lot of empirical works show evidence that delivering in health facility improved health outcomes. Women who give birth with professional health care facility have better pregnancy outcomes [6]. In rural areas in Nigeria, children born without health care facilities the last 24-hour were twice likely to die than others who made it [7].

Our study states that poverty represents an important barrier to achieve new economic development based on human capital growth. Expected impacts of new policies against poverty are to enhance access to education, health, nutrition and finance. Social safety nets are emerging as major elements in the fight against or reduction of poverty. Their purpose is to provide the most targeted interventions to help the poorest populations on a regular basis and with reliability. These populations must realize ways which provide them continuous remuneration through effective activities. They are based on a participatory approach that becomes the key to

their differentiation from previous projects against poverty. They are important elements of development strategies designed by different countries to reduce poverty sustainably [8]. They are structured around non-contributory transfers that focus on poor and vulnerable populations [9]. These interventions affect people who have specific disabilities to meet basic needs to the status of consumers of essential commodities and services. Social safety nets also raise questions about the way social protection is structured in African countries, where it is delivered piecemeal. Interventions include subsidies, fee exemptions, school canteen support and cash transfers.

Social safety nets are one tool in implementation of social protection. The instruments of social protection are linked, on the one hand, to its static approach, which links it to the objectives of protection, prevention and risk reduction. On the other hand, recent works show the distinction between protection and promotion, which has led to the transformation of living standards. Those social protection tools are specific to the contexts of each country, they can be classified according to two standard approaches: social insurance and social assistance [10], before reaching the transformation dimension.

Social insurance is due to the incompleteness of standard insurance. It is the socialization of certain fields of insurance. The birth of the insurance market, between the 14th and 18th centuries, was due to the need for market capitalism to cover transactions associated with maritime and fire risks [11]. Insurance, in its tacit approach, aims to transform the relationship between man and adversity. Insurance, in game theory, is characterized by the positive sum, because the supplier, the claimant and society are jointly winners. Indeed, profits reward insurers; the assumption of risk by compensating claimants makes the claimant a winner, while the attraction of risk favors investment, which is beneficial to society as a whole. Thus, this activity is no longer confined to a simple transfer of risk, but becomes a source of added value through the principles of actuarial calculation [12].

Social assistance offers support to people to get out of unfavorable positions such as poverty. It is generally made up of all forms of public actions in place to ensure a transfer of resources to people deemed eligible because of their deprivation [13]. These actions are financed by governments and NGOs, with no mandatory contribution from the beneficiaries. This focus on formal means, particularly public finance, shows the importance attached to the role of government [14] as an implementer of social assistance policies and instruments.

The instruments used in the dissemination of social assistance aim to promote direct transfers to vulnerable individuals and households. These include school feeding programs, social cash transfer programs, public works programs, social pensions, etc [15]. These programs are shaped by contextual objectives, to improve the well-being of beneficiary populations in the short term. These programs, characterized by their timeliness, allow capacity building of vulnerable populations, encouraging them to reduce their risk aversion in entrepreneurial initiatives.

In African context, studies show in Tanzania significant increases in take-up of health insurance and the likelihood of seeking treatment when ill due to cash transfers [16]. Also in Tanzania, research show that timely clinic attendance when ill improves child health outcomes [17]. In Kenya, unconditional cash transfer improved mental health and food consumption [18]. In Zambia, cash transfer show no overall impacts on maternal health care utilization, but positive impacts only for women with better access to health services [19]. Studies which make comparison of unconditional conditional transfers and conditional cash transfers find an increase of health in Burkina Faso when health is conditioned [20].

III- Data and Methodology of the Study

3.1 Description of survey

This study mainly covered two research areas, namely Soulede-Roua and Hina. The selection was made on the basis of research documents provided by the project evaluation department of the Social Safety Nets Project in Yaoundé. In order to understand changes brought by the Social Safety Net Project, we began with a preliminary survey of the non-existence of similar projects in the community since the end of the project in January 2016. This prior investigation was conducted in the study area from January 28, 2018 to February 10, 2018. It involved exchanges with administrative and public authorities (sub-prefects, mayors, gendarmerie commander, and senator), blama or chief and various inhabitants. The results were satisfactory in removing this concern. Our evaluation survey was paired with the economic anthropology survey. They covered the period from January 28, 2018 to April 16, 2018, when the surveyors were paid. The period of selection and training of investigators for the Soulede-Roua research zone was from January 31, 2018 to February 10, 2018. For the Hina zone, it went from February 24, 2018 to March 02, 2018.

These initial activities were effortless due to the prior passage in June 2016 of the survey team from the National Institute of Statistics (INS). To smooth our surveys activities, we used trained and seasoned human capital in the field, especially in the Hina research area where little data on the INS passage was available from the administrative authorities. To target households to be surveyed, lists of beneficiaries and potential beneficiaries

were reconstructed from data provided by people who participated in the Local Targeting Groups (LGTs) and Local Citizen Control Groups (LCGs), as well as from lists provided by the Soulede-Roua town hall and sub-prefecture. Based on this data, survey groups were made up by village, so that respondents would travel in pairs for the least informative villages and in groups of three for the most involved villages. Various methods were instituted to avoid the use of snipers. These include the almost daily collection of survey forms by zone supervisors, constant contact with team leaders in groups, counter-surveys in the villages, and careful evaluation of the questionnaires that are returned. These techniques were used to detect and ban the questionnaires of those who had not done a good job in the same village, so that the survey work could be repeated in their zones by the teams that had proven themselves.

3.2 Description of data

The surveys were validated in a total of 18 villages and not 19 villages (the villages that benefited), due to a large problem of flanking shooters in one of the villages. In the Soulede-Roua zone, surveys were conducted in the villages of Ndimché, Soulede-Goldak, Midré-Dzah, Bao-Ndemroua, Bao-Ndevgaï, Matakam-Soulede, Dissambak, Koné, Zogom, Mazam-Zhere, Golibaï, Fogom, Bao-Gouro and Mbalda. At Hina area, surveys were conducted in the villages of Houva, Bering, Madina and Gamdougoum. The criteria for selecting people to benefit from the project were based on income and the quality of the roofing material of the house. According to the data from the field exchanges, the criterion that was the most stringent was that of income, even though it had flaws in the manufacture of the wage earner concept in the mind inhabitants. Social Safety Nets Project innovates particularly on its flexibility according to the realities of the field. The roofing criterion appears to be closer of asset ownership. In terms of eligibility for the impact assessment survey, three groups were considered, namely:

- Households that benefited from the project in the fourteen (14) villages selected in Soulede-Roua;
- Potential beneficiary households in the fourteen (14) villages selected in Soulede-Roua because they were targeted as beneficiaries by the community but rejected by the Proxy Means Test (PMT) and households that were not able to benefit in the 14 villages selected in Soulede-Roua because they were not targeted by the community;
- Control households that are among the poorest in the four selected villages in Hina.

Computing power was based on the one done by the INS. It is of the order of 628 households per group. It corresponds to the drawing of a sample of units from a population in order to estimate their characteristics. Our survey was made on 2,234 households, for 4,886 individuals from beneficiary households at Soulede-Roua, 3,202 individuals from non-beneficiary households at Soulede-Roua and 3,314 individuals from control households at Hina.

Table 1 : Distribution of households by group for the survey

Households surveyed	Beneficiary households	Non-beneficiary households at Soulede-Roua		Non-beneficiary households at Hina	Total
		Potential beneficiary	Non-beneficiary		
	902	298	381	653	2234

Source : Auteur

2,234 households were surveyed, with 4,886 individuals from beneficiary households in Soulede-Roua, 3,202 individuals from non-beneficiary households in Soulede-Roua, and 3,314 individuals from control households in Hina.

3.3 Methodology of the study

We used the double-difference method for the impact evaluation introduced by Rubin [21] and generalized by Heckmann, Ichimura and Todd [22]. In the evaluation of social safety nets or conditional cash transfers, the double difference is used [23]. In order to implement it, two groups were formed: households which benefited from the social safety net project (treatment group), and non-participants in the project (control group). Due to our methodology, the selection of the Social Safety Nets project in Cameroon and the anticipation of the project designers of the evaluation method, the double difference is the most appropriate method. The comparison between the treated and untreated groups is made under the assumption that the differences observed before the treatment would have remained the same if the treated groups had not been treated. This is the Parallel Trends hypothesis [24-26].

The first step is the identification of individuals and the evaluation of similarities between the treatment and control groups according to the control variables. In our model, a probit was used to obtain the propensity scores. These propensity scores were used to match the participants with the non-participant closest to their profile. With the Nearest Neighbor Matching (NNM) method, each treated individual is matched with an individual from the control group whose propensity score is almost similar.

A linear regression is used to obtain the estimator. This approach is preferred when treated and untreated individuals are observed more than twice or when treatment dates differ between treated individuals. The following equation is used:

$$Y_{it} = \alpha + \beta \cdot T_i \cdot t + \gamma \cdot t + \rho \cdot T_i + \varepsilon_{it}$$

Y_{it} : the observed value of "Education" for individual i at date t

T_i : is a participation indicator that takes the value 1 if the individual i is treated and 0 if not

t : measures time. It is noted 0 in date 0 and 1 in date 1

ε_{it} : is a random disturbance that measures the fact that the observation of T_i and t does not allow us to know everything about Y . It is assumed to be uncorrelated with the variables T_i and t under the hypothesis that the unobserved heterogeneity is fixed and additive. This condition is verified.

α , β , γ et ρ are the coefficients to be estimated for the regression. It is the coefficient β that allows us to estimate the impact of the project on education. But it can only be estimated correctly if, on the one hand, the effect of the passage of time and the average difference in the value of Y between the treated and the untreated, and on the other hand, the absence of any treatment are neutralized. The variables T_i and t play this role, hence their indispensability in the regression equation.

3.4 Description of variables levels

In this study, the impact on health was assessed on four (04) levels: The description of these four (04) outcome variables is structured as follows:

- Prenatal consultation. It encompasses data on (i) pregnancies over the last three (03) years, (ii) prenatal cares for the last pregnancy, (iii) outcome of the last pregnancy, and (iv) location of the last birth;
- Factors which motivate health choices. It encompasses data on (i) reason for choosing some health services, (ii) reason of making consultations, and (iii) reasons for dissatisfaction on access to the nearest hospital, health center and (pro) pharmacy;

IV- Results

In the area of prenatal consultation and factors which motivate health choices, evaluation of CCT impacts shows different results.

4.1 Prenatal consultation

Regarding pregnancy status, related question is "have you been pregnant in the last three years (since 2015)?" It is observed that the equation considered 1549 treated individuals and 2124 untreated individuals. A positive difference of 0,036 is observed (see table 2). It positive impact for more pregnancy in treated group.

Table 2: Pregnancy status

Variable	Sample	Treated	Controls	Difference	S.E.	T-stat
s21q15	Unmatched	1.75160875	1.66101695	.090591802	.015238591	5.94
	ATT	1.75145255	1.71465462	.036797934	.015886691	2.32

Note: $p < 0.01$ for link between pregnancy status and safety nets project

Regarding prenatal care during last pregnancy, related question is "did you receive prenatal care during the last pregnancy?". It is observed that the equation considered 385 treated individuals and 720 untreated individuals. A negative difference of -0,036 is observed (see table 3). It shows less prenatal care in treated group.

Table 3: prenatal care during last pregnancy

Variable	Sample	Treated	Controls	Difference	S.E.	T-stat
s21q16	Unmatched	1.17357513	1.20416667	-.030591537	.024925783	-1.23
	ATT	1.17402597	1.21038961	-.036363636	.028406772	-1.28

Regarding numbers of prenatal care during last pregnancy, related question is "how many times did you receive prenatal care for this pregnancy?". It is observed that the equation considered 296 treated individuals and 486 untreated individuals. There is no difference between both groups (see table 4).

Table 4: numbers of prenatal care during last pregnancy

Variable	Sample	Treated	Controls	Difference	S.E.	T-stat
nombre_visites	Unmatched	.573825503	.582304527	-.008479023	.048162055	-0.18
	ATT	.574324324	.574324324	0	.049819846	0.00

Regarding outcome of the last pregnancy, related question is “*what was the outcome of your last pregnancy?*”. It is observed that the equation considered 269 treated individuals and 485 untreated individuals. A negative difference of -0,011 is observed (see table 5). It shows more alive birth in treated group.

Table 5: outcome of the last pregnancy

Variable	Sample	Treated	Controls	Difference	S.E.	T-stat
accouchement	Unmatched	.922509225	.931958763	-.009449538	.019554963	-0.48
	ATT	.925650558	.936802974	-.011152416	.021856449	-0.51

Regarding location of the last childbirth, related question is “*where did you deliver the last live birth?*”. It is observed that the equation considered 249 treated individuals and 452 untreated individuals. A positive difference of 0,052 is observed (see table 6). It shows that for the last birth, treated individuals use more public hospital, public health center and private health center than untreated households.

Table 6: location of last birth

Variable	Sample	Treated	Controls	Difference	S.E.	T-stat
birth_location	Unmatched	.488	.420353982	.067646018	.039137818	1.73
	ATT	.485943775	.43373494	.052208835	.044694815	1.17

Note: $p < 0.1$ for link between pregnancy status and safety nets project

4.2 Motivation for health choices

Regarding use of health infrastructure, related question is “*does at least, one member of your household use this infrastructure (i) nearest district hospital, (ii) nearest health center, and (iii) nearest pharmacy or pro-pharmacy?*”. For nearest district hospital, it is observed that the equation considered 362 treated households and 532 untreated households. A positive difference of 0,1740 is observed (see table 7). There is a positive impact on treated households in use of nearest district hospital.

Table 7: use of nearest district hospital

Variable	Sample	Treated	Controls	Difference	S.E.	T-stat
s34q3_07	Unmatched	1.29752066	1.13345865	.164062015	.026702856	6.14
	ATT	1.29834254	1.12430939	.174033149	.029688635	5.86

Note: $p < 0.01$ for link between use of nearest district hospital and safety nets project

For nearest health center, it is observed that the equation considered 591 treated households and 900 untreated households. A low positive difference of 0,049 is observed (see table 8). There is a positive impact on treated households in use of nearest health center.

Table 8: use of nearest health center

Variable	Sample	Treated	Controls	Difference	S.E.	T-stat
s34q3_08	Unmatched	1.10810811	1.06	.048108108	.014236436	3.38
	ATT	1.10829103	1.05922166	.049069374	.016065467	3.05

Note: $p < 0.01$ for link between use of nearest health center and safety nets project

For nearest pharmacy or pro-pharmacy, it is observed that the equation considered 189 treated households and 424 untreated households. A positive difference of 0,3015 is observed (see table 9). There is a positive impact on treated households in use of nearest pharmacy or pro-pharmacy.

Table 9: use of nearest pharmacy or pro-pharmacy

Variable	Sample	Treated	Controls	Difference	S.E.	T-stat
s34q3_09	Unmatched	1.32105263	1.02122642	.299826216	.025009652	11.99
	ATT	1.32275132	1.02116402	.301587302	.035677263	8.45

Note: $p < 0.01$ for link between use of nearest pharmacy or pro-pharmacy and safety nets project

Regarding way to choose some healthcare structure, related question is “*in which health structure he/she was consulted the last time of illness?*”. It is observed that the equation considered 3792 treated individuals and 3792 untreated individuals. A negative difference of -0,1195 is observed (see table 10). There is a negative impact on treated households in use of public structure in their last time illness.

Table 10: use of public structure for health services

Variable	Sample	Treated	Controls	Difference	S.E.	T-stat
public_structure	Unmatched	.728708961	.849419831	-.12071087	.009150369	-13.19
	ATT	.729957806	.849419831	-.119462025	.009259374	-12.90

Note: $p < 0.01$ for link between use of public health structure and safety nets project

Regarding reason to choose some healthcare structure, related question is “*what was the main reason for this choice?*”. It is observed that the equation considered 4747 treated individuals and 6176 untreated individuals. A negative difference of -0,073 is observed (see table 11). About financial reasons, treated households are less affected than untreated households.

Table 11: reason choosing health structure

Variable	Sample	Treated	Controls	Difference	S.E.	T-stat
financial_reason	Unmatched	.205721498	.268620466	-.062898969	.00823381	-7.64
	ATT	.205814198	.278912998	-.073098799	.008764552	-8.34

Note: $p < 0.01$ for link between preventive care and safety nets project

Regarding preventive care, related question are “*what was the main reason for this consultation?*”. It is observed that the equation considered 4727 treated individuals and 6174 untreated individuals. A negative difference of -0,030 is observed (see table 12). It shows a negative impact on treated group for preventive care.

Table 12: preventive care

Variable	Sample	Treated	Controls	Difference	S.E.	T-stat
preventive_care	Unmatched	.028728348	.063654033	-.034925685	.004136764	-8.44
	ATT	.028770891	.059234187	-.030463296	.0042076	-7.24

Note: $p < 0.01$ for link between preventive care and safety nets project

Regarding perception of health status, related question are “*what do you think of your health status?*”. It is observed that the equation considered 4759 treated individuals and 6195 untreated individuals. A positive difference of 0,0155 is observed (see table 13). It shows a best perception of health status in treated group.

Table 13: health perception

Variable	Sample	Treated	Controls	Difference	S.E.	T-stat
health_percept~n	Unmatched	.783256399	.764003228	.019253171	.008077533	2.38
	ATT	.78314772	.767598235	.015549485	.008554876	1.82

Note: $p < 0.05$ for link between health perception and safety nets project

Regarding reasons for dissatisfaction on access to the nearest hospital, health center and (pro) pharmacy, related question is “*what is the main reason for dissatisfaction?*”.

For the nearest district hospital, it is observed that the equation considered 121 treated households and 295 untreated households. A positive difference of 0,0909 is observed (see table 14). It shows more financial barrier for treated households.

Table 14: access of nearest district hospital

Variable	Sample	Treated	Controls	Difference	S.E.	T-stat
financial_barr~H	Unmatched	.20661157	.074576271	.132035299	.033637491	3.93
	ATT	.20661157	.115702479	.090909091	.047102605	1.93

Note: $p < 0.01$ for link between access of nearest district hospital and safety nets project

For the nearest health center, it is observed that the equation considered 161 treated households and 378 untreated households. A positive difference of 0,236 is observed (see table 15). It shows more financial barrier for treated households.

Table 15: access of nearest health center

Variable	Sample	Treated	Controls	Difference	S.E.	T-stat
financial_barr~C	Unmatched	.353293413	.121693122	.231600291	.035341817	6.55
	ATT	.360248447	.124223602	.236024845	.046047639	5.13

Note: $p < 0.01$ for link between access of nearest health center and safety nets project

For the nearest pharmacy or pro-pharmacy, it is observed that the equation considered 56 treated households and 223 untreated households. A positive difference of 0,4107 is observed (see table 16). It shows more financial barrier for treated households.

Table 16: access of nearest pharmacy or pro-pharmacy

Variable	Sample	Treated	Controls	Difference	S.E.	T-stat
financial_barr~P	Unmatched	.446428571	.067264574	.379163997	.047377796	8.00
	ATT	.446428571	.035714286	.410714286	.071550221	5.74

Note: $p < 0.01$ for link between access of nearest pharmacy or pro-pharmacy and safety nets project

V- CONCLUSION

This article allowed us to examine if after the end of payments, impacts of CCT continues through the time. The study was based on double-difference method for the impact evaluation introduced by Rubin (**Rubin, 1977**) and generalized by Heckmann, Ichimura and Todd (**Heckmann, Ichimura and Todd, 1998**). Mainly, it shows that the end of payment is a financial shock for poor beneficial households, so they have difficulties for accessing some healthcare infrastructures or services.

REFERENCES

- [1]. Institut National de la Statistique, *Troisième Enquete Camerounaise auprès des Ménages, ECAM3*. 2009, République du Cameroun: Yaoundé.
- [2]. MINSANTE, *Etat des lieux et diagnostic des ressources humaines*, in *Plan de Développement des Ressources Humaines du Système de Santé du Cameroun*, MINSANTE, Editor. 2012, MINSANTE: Yaoundé. p. 144.
- [3]. Commeyras, C., et al., *Comportement de recours aux soins et aux médicaments au Cameroun*. Cahiers d'Etudes et De Recherche Francophone, 2006. **16**(1): p. 5-12.
- [4]. Institut National de la Statistique, *Rapport principal de l'Enquête démographique et de santé à indicateurs Multiples (EDS-MICS) 2011*. 2012, République du Cameroun: Yaoundé.
- [5]. Banque Mondiale, *Cameroun. Mise en oeuvre et effets du projet pilote filets sociaux*. 2016, Banque Mondiale: Yaoundé. p. 18.
- [6]. Ronsman, C., et al., *Professional assistance during birth and maternal mortality in two indonesian districts*. Bulletin World Health Organization, 2009. **87**(6): p. 416-423.
- [7]. Okeke, E. and A.V. Chari, *Health care at birth and infant mortality: evidence from nighttime deliveries in Nigeria*. Nigerian Social Science Med., 2018. **196**: p. 86-95.
- [8]. Banque Mondiale and Développement Humain Afrique, *Réduire la pauvreté et investir dans le capital humain: le nouveau rôle des filets sociaux en Afrique- Etudes de cas dans 22 pays*. 2013. p. 20.
- [9]. Grosh, M., et al., *For protection and promotion. The design and implementation of effective safety nets*. 2008, Washington DC: The World Bank.
- [10]. Kabeer, N., *Scoping study on social protection : Evidence on impacts and future research directions*. DFID, 2009: p. 67.
- [11]. Rotschild and J.E. Stiglitz, *Equilibrium in Competitive Insurance Market*. Quarterly Journal of Economics, 1976. **11**: p. 629-649.
- [12]. Blanchet, D., *La référence assurantielle en matière de protection sociale : Apports et limites*. Economie et statistiques, 1996. **291-292**.

- [13]. Commission Européenne, *Social protection for inclusive development : A new perspective in EU cooperation with Africa*, in *European Report on Development*, Robert Schuman Centre for Advanced Studies, Editor. 2010, European University Institute: San Domenico di Fiesole. p. 217.
- [14]. Sen Amartya, K., *Development as capability expansion*. Journal of Development Planning, 1989. **19**: p. 41-58.
- [15]. Cook, S. and N. Kabeer, *Socio-economic security over the life course : A global review of social protection*, in *Social protection scoping study*, Ford Foundation, Editor. 2009, Center for social protection: Sussex. p. 34.
- [16]. Evans, D., B. Holtemeer, and K. Kosec, *Cash transfers and health: evidence from Tanzania*. World Bank Economic Review, 2019. **2**(33): p. 394-412.
- [17]. Adhvaryu, A. and A. Nyshadham, *Return to treatment in the formal health care sector: evidence from Tanzania*. American Economic Journal: Economic Policy, 2015. **7**(3): p. 29-57.
- [18]. Haushofer, J. and J. Shapiro, *The short-term impact of unconditional cash transfers to the poor: Experimental evidence from Kenya*. The Quarterly Journal of Economics, 2016. **131**(4): p. 1973-2042.
- [19]. Handa, S., et al., *Income transfers and maternal health: evidence from a national randomized social cash transfer program in Zambia*. Health Economics, 2015. **25**(2): p. 12.
- [20]. Akresh, R., D.G. Caruso, and H. Thirumurthy, *Medium-term health impacts of shocks experienced in utero and after birth: evidence from detailed geographic information on war exposure*. NBER WORKING PAPER SERIES, 2014: p. 42.
- [21]. Rubin, D.B., *Assignment to treatment group on the basis of a covariate*. Journal of Educational Statistics, 1977. **2**(1): p. 1-26.
- [22]. Heckman, J.J., H. Ichimura, and P.E. Todd, *Matching as an econometric evaluation estimator: evidence from evaluating a job training programme*. The Review of Economics Studies, 1997. **64**(4): p. 605-654.
- [23]. Schultz, P.T., *School subsidies for the poor: Evaluating the Mexican Progresa poverty program*. Economic Growth Center, 2001. **Center Discussion paper NO. 834**: p. 77.
- [24]. Baker, J.L., *Evaluation de l'impact des projets de développement sur la pauvreté. Manuel à l'attention des praticiens*. 2000, Washington, D. C.: Banque Mondiale.
- [25]. Chambers, R., et al., *Méthodologie de l'évaluation d'impact: présentation de différentes approches*. 3ie, 2009. **Working Paper 4**: p. 37.
- [26]. Gertler, P., et al., *L'évaluation d'impact en pratique*. 2011, Washington: Banque Mondiale.