Private Intra-household Transfers as a Palliative for the Incompleteness of Social Protection: Evidence from Niger

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Abstract
This paper explores the distribution of private intra-household transfers in Niger. It aims to understand how these transfers could be a palliative to the inadequacy of social protection. Data provided from the Survey on Living Conditions of Households and Agriculture, conducted in 2014 were used. Multivariate statistics permitted to characterize private transfers received and quantile regressions to identify their determinants. Results of quantile regressions reveal that the household size, the donor's place of residence and the relationship with the donor positively explain the private transfers, which largely depend on various degrees of quantiles. The transfer from children to direct parents shows that an intergenerational solidarity allowing the elderly to be taken care. Results also show that the low level of education would lead to fewer transfers. Moreover, social events, often associated with immediate consumption and conspicuous spending, are sometimes favored to the detriment of private investments that could stimulate the country's economic growth. In terms of policy implications, two major challenges must be overcome. The first one is to formally mobilize private transfers to broaden the scope of social security. The second one is the ability to redirect these transfers to the needy populations and to productive investments. From this point of view, this study may be of interest to money transfer companies, particularly in their strategy for setting up agencies according to the national mapping of transfer flows.

Keywords: Private transfers; Quantile regressions; Intergenerational solidarity; Social protection; Niger

JEL Classification Codes: D31 - D33 - O17.

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1. Introduction

While social coverage is very high in industrialized countries, more than half of the world's population has any kind of social protection. In Sub-Saharan Africa and Asia, 5-10% of the working population has only partial social coverage (OIT, 2017). In these conditions, it is necessary to study the social protection function played by private transfers, particularly in reducing social exclusion, poverty and vulnerability. These transfers include financial and maintenance support from relatives, friends or other persons outside the household. Thus, the individual may transfer part of his savings because he is concerned about the well-being of family or community members.

In Niger, private intra-household transfers strictly dominate the social protection sphere, with more than 80% of beneficiary households as against less than 3% of the total population benefiting from social protection (PDES, 2017-2021[1]; Banque mondiale, 2019). This social protection, which proves insufficient among workers in the formal sector, is non-existent in the informal sector. Moreover, it does not necessarily concern the poorest households, which only survive because of the solidarity of other households or private institutions, most often through transfers.

In view of its importance in terms of solidarity amongst populations, it is essential to examine ways and means to better understand, mobilize and allocate them so as to reduce vulnerability. With a view to a better social protection policy, it is necessary to identify the key determining factors of these transfers thereby enhancing its roles in the current social security system. This is why this study focuses on these private transfers as palliatives to the inadequacy of social protection in Niger.

The purpose of this article is to determine the contribution of private transfers received by households in Niger to social protection by using a quantile regression model. Specifically, this article seeks to characterize the flows of private transfers according to its origins, and destinations and as well as the profile of the beneficiaries. Multivariate statistics and quantile regressions are used to characterize and identify the determinants of private transfers. Results generally show that private transfers have a positive and significant effect on the well-being of recipient households, by providing expenses related to daily life and social events, even if this effect is weak in terms of productive investment.

This present paper is organized as follows: a state of knowledge on the social protection dimensions of private transfers (2); data and methodology (3); results and discussion (4) and conclusion (5).

2. Social protection functions of private intra-household transfers

Social protection refers to everything that the State and its branches, charities and associations provide to individuals or households to enable them to access health care or to guarantee them income security, particularly in circumstances such as old age, unemployment, illness, disability, industrial accident, maternity, or the disappearance of a breadwinner (Devereux and White, 2010).

In the context of developing countries (DCs), particularly in sub-Saharan Africa, the current supply of social protection remains largely below the needs of the populations. Indeed, these States lack appropriate financing tools, particularly because of the dominance of informal sector (Bhorat *et al.*, 2017). Given that the majority of workers are engaged in informal employment,

[1] Economic and Social Development Program, 2017-2021, Niger

it becomes difficult to identify them and demand their contribution to overall tax revenues. Thus, in the absence of sufficient sources of funding for social protection systems against the increasingly large and evolving social risks, private intra-household transfers play an important role in reallocating resources. In particular, in low-income and conflict countries, the survival of most households depends on private cash and in-kind transfers (Watson, 2016).

Private intra-household transfers (bequests, inheritance, grants or donations) and social protection (formal public transfers) are two solidarity mechanisms organized respectively by the family and the State (education of young children, support for old parents)[2]. In developing countries, private transfers have often a greater impact on the living conditions of poor households as compared to benefits offered by public social protection programs (Cox and Jimenez, 1990). For instance, studies in Latin America and sub-Saharan Africa show that the impact of social transfers (private and public) on food security, nutrition, economic and productive capacity for the poorest and marginalized communities has been well documented (Bhorat and al., 2017). These examples have illustrated that private transfers play similar social and economic functions to those assigned to public social protection programs (reduction of social exclusion, inequality, poverty and vulnerability).

From this perspective, the empirical evidence of the effectiveness of private transfers in their social protection function is well documented (Cox *and al*., 1998; Bouoiyour, 2013; Akim and Robillard, 2019). Indeed, several studies attribute to them a variety of functions such as, the reduction of income inequalities; the social insurance function; the contribution to human capital formation and all interacting with public transfers.

Concerning the function of reducing income inequalities, empirical work has shown that private transfers tend to increase the income of the poorest households. In Kenya, for example, private transfers increase the bottom income quintile of urban households by 90%; they increase the bottom quintile of total household consumption share by 14% in Peru (Cox *et al.* ,1998). In a study of several developing countries, Cook and Pincus (2014) showed that a 1% increase in the average amount of cash transfers per day per capita leads to a 1.79% decrease in the Gini coefficient. This type of transfer provides consistent and regular income support to protect recipients from poverty-related shocks, by promoting better access to health, education, job search networks and transportation. The World Bank (2015) corroborates this relationship and thus reinforces the finding that the absolute value of the amount transferred is crucial for reducing inequality and poverty levels. It finds that in most African countries with very low per capita transfers, this translates into very limited reductions in income inequality. Furthermore, it has been empirically proven that high-income households make more transfers, while low-income households tend to receive more transfers (Ravallion and Dearden, 1988).

In addition, several studies have highlighted the insurance function of private transfers. Indeed, it has been proven that these transfers can serve as insurance against income declines following shocks, such as few rainfalls, illness, disability, job loss, and old age (Coate and Ravaillon, 1993; Gubert, 2002). This insurance function can be particularly important in developing countries where public social protection programs are inaccessible or insufficient. In these countries, retirement pensions concern only a minority of workers in the formal sector. For example, in Niger, effective old-age pension coverage amounts to 1.5% of the working-age population, but does not cover informal sector workers, whose share is nevertheless estimated at 93% of the workforce (Banque mondiale, 2019). As a result, the elderly (excluded from the

[2] Social protection is based on the affirmation and institutionalization of the principle of solidarity between people. Private transfers, on the other hand, are based on the principle of mechanical solidarity, characteristics of small communities in which individuals organize themselves by similarity (region, ethnicity, religion, culture).

social protection system) can only rely on the younger generations (via private transfers) to supplement their income or ensure their survival. For example, in Peru (Cox et al., 1998), more than a quarter of the private transfers received by parents come from their children. In addition, in Peru, more than a third of people over 60 receive transfers, twice as many as those aged 40-50. In the same vein, it has been empirically proven that private transfers improve the economic situation of people who are disabled, sick and unemployed. Indeed, studies have shown that in Indonesia (Ravallion and Dearden, 1988), households with sick or unemployed members are more likely to receive transfers. In particular, being unemployed significantly increases the probability of receiving a larger transfer.

This brief review of the literature has provided evidence that private intra-household transfers often fulfil the same social and economic functions as public social protection programs in developing countries, like reducing inequality, social exclusion and social insurance. However, this role as an instrument of social protection is rarely studied, especially in Niger. It is why this article analyses their redistributive effect using data from a survey on household living conditions in Niger. It is assumed that high amounts of transfers, mainly targeted at the poorest, will have the effect of reducing social inequalities and exclusions (Barrientos et al., 2013).

3. Data and method

3.1. Data

Data from the 2014 Survey on Household Living Conditions and Agriculture (ECVMA) were used. This is a survey conducted by the National Institute of Statistics (INS) of Niger. The main objective of this survey is to assess poverty and living conditions of households in Niger. To achieve this objective, , enumeration areas were firstly identified by using relative probability as function of size of the population (data used is from the General Census of Population and Housing of 2012 Secondly, 12 and 18 households were respectively selected from each urban and rural enumeration area by assuming equal probability. Similarly, the administration of the questionnaire was done in two phases, meaning that each household is visited twice. The first visit took place during the rainy season (at planting time), while the second visit took place during the harvest time. A total of eighteen sections are filled in through the questionnaire administered possessed eighteen sections, but for the purpose of this article, only the sections relating to socio-demographic characteristics, consumption expenditure and private intra-household transfers were used.

Therefore, the sample size was 3617 households and out of which 2945 (81.42%) reported receiving a transfer in the twelve months prior to the survey was retained. Table 1 summarizes the composition of the sample.

Table 1: Distribution of Households by Region and Area of Residence

	Basic sample		Sample of transfers	
	Obs	%	Obs	%
Respondent's region				
Agadez	382	10,56	382	12,97
Diffa	363	10,04	363	12,33
Dosso	392	10,84	392	13,31
Maradi	461	12,75	461	15,65
Tahoua	427	11,81	427	14,50
Tillabéry	367	10,15	367	12,46
Zinder	475	13,13	475	16,13
Niamey	750	20,74	78	2,65
Respondent's place of residence				
Urban	1298	35,9	1095	37,18
Rural	2319	64,1	1850	62,82
Gender of head of household				
Male	2995	82,80	2432	82,58
Woman	622	17,20	513	17,42
Total	**3 617**	**100**	**2 945**	**81,42**

Source : ECVMA, 2014

3.2. Quantile regressions

To analyze the redistributive effects of private transfers, quantile regressions were conducted with the "*amount of transfers received*" by a household from another member of the household in the twelve months preceding the survey as the variable of interest.

Quantile regression is similar to linear regression. While linear regression is based on a conditional mean model, quantile regression is based on conditional quantiles (Koenker and Hallock, 2001). Thus, this approach provides more significant results because being capable to study the whole distribution on its different quantiles. Moreover, it allows the analysis of the effect of certain income distribution operations, especially when these would have a limited scope as compared to the average. Quantile regression is also more suitable for data on censored variables, truncated variables, the presence of extreme values, or in the case of a non-linear model (Haultfoeuille and Givord, 2014). Furthermore, the quantile regression is robust to outliers. Stated differently, the presence of outliers does not affect the quantile regression results, except for the coefficients of the constant.

Quantile regression attempts to assess how the parameters of the conditional quantiles $Q_{Y/X}(\theta)$ of the explained variable change as a function of the explanatory variables $X \in \mathbb{R}^p$. Stated differently, the impact of a given variable X varies based on different quantiles of the distribution. Implicitly, the θ^{th} quantile equation can be specified as follows:

$$Q_\theta(Y/X) = X\beta \qquad (1)$$

Y is the natural logarithm of the amount of transfers received X is a matrix of independent variables. This can be mathematically expressed as follows:

$$Y = X'\beta + \varepsilon \qquad (2)$$

Where $\beta = (\beta_1, \beta_2, \beta_3, \dots, \beta_n)$ is a vector of coefficients corresponding to the p explanatory variables forming the matrix $X = (1, X_1, X_2, X_3, \dots, X_n)$ and ε represents the error terms, which is normally distributed with mean zero and constant variance σ_ε^2.

In this paper, the independent variables are the socio-demographic characteristics of recipients and donors, the origins of the funds and the reasons for the transfers (see Lucas and Stark, 1985); (2009). Thus, six main variables have been identified as potential determinants of private transfers in Niger:

- the origins of the transfers in order to identify the zones of attraction or presenting more economic opportunities;
- the level of kinship with the donor, which would make it possible to analyze the degree of solidarity;
- the household size, an important socio-economic element in Niger;
- the motives of these private transfers;
- the level of education of the donor to appreciate the contribution of human capital in this informal social protection,
- the impact of shocks on the willingness to give to one's own.

The parameters are simultaneously estimated for five quantiles (10 th, 20th, 50th, 80th and 90th) by using the bootstrap method with several replications. The how result is interpreted is quite different from that of OLS (D'Haultfoeuille and Givord, 2014). Indeed, the difference between coefficients of the quantile estimates reflects the potential change in the dependent variable resulting from a variation in the explanatory variable. For The pseudo-R^2, the multicollinearity test and the tests of equality of coefficients are used to assess the quality of estimates (Li et al., 2012).

4. Results and discussion

Data from ECVMA data globally provide interesting results for the analysis of private transfers, particularly in their social protection function.

4.1. Characteristics of private transfers

Results indicate that 81.42% of the households surveyed stated that they had received remittances from a relative, either who had stayed in the country or who had emigrated. This statistic shows the extent of transfers in Niger, even if the motives behind them may be different. However, the way in which these transfers are distributed remains the essential element of this analysis.

4.1.1. Origins of private transfers

The average of private transfer received by households is estimated to be 77,204 CFA francs [3](Table 2), or more than 2.5 times the minimum wage[4]in Niger. These transfers are declared in cash or in kind (valued in CFA francs). Thus, nearly 60% of households receive them in cash as opposed to 40% in kind, in the form of food products or gifts for social events (naming ceremonies or weddings).

[3] 1 EUR = 655.957 F CFA. This is a fixed parity.

[4] The minimum wage is 30,047 CFA francs as of 1th January 2019.

Table 2: Descriptive statistics of transfers received (in thousands of CFA francs)

	Sample	%Obs.	Min	Max	Mean	Standard deviation
Private transfers (aggregate)	2945	100,00	0,1	7 620	77,20	258,36
Types of transfers						
Internal transfers	1853	62,90	0,1	2 700	62,60	160,83
External transfers	1092	37,10	0,5	7 620	101,93	367,74
Nature of the transfers						
Cash transfers	1758	59,69	0,1	7 620	105,80	328,04
Transfers in kind	1187	40,31	0,4	720	34,85	57,14
Origins of transfers						
Niger	1853	62,92	0,100	2700	60,90	146,04
WAEMU[5]	617	20,95	1,50	2500	74,53	175,40
Africa without WAEMU	371	12,60	0,50	7620	108,80	410,37
Out of Africa	104	3,53	2,00	6000	294,95	807,47
No. of observations						**2945**

Source: Authors

Moreover, these transfers are from internal (domestic) and external (international) sources (origins). In terms of importance, internal transfers represent 51% of the total of transfers received against 49% for external transfers (graph 1). They originate essentially from seasonal migrants who leave their villages to go and work in the urban centers of Niger, but also from intra-family mutual aid between individuals residing in the same place (town or village). Similarly, on average, external transfers are more important than internal transfers (respectively 101,930 FCFA against 62,635 FCFA).

External transfers mainly come from European and North American countries where the level of wage and economic opportunities are more important. However, African migration is also highly coveted by Nigeriens. Among the WAEMU countries, the most visited are Ivory Coast and Benin Republic. In Africa (outside the WAEMU), it is mainly Nigeria, Cameroon and Ghana that receive the most Nigerien migrants (INS, 2015). Figure 1 below illustrates the importance of remittances received according to their origin.

[5] West African Economic and Monetary Union. It includes Benin, Burkina Faso, Côte d'Ivoire, Guinea Bissau, Mali, Niger, Senegal and Togo.

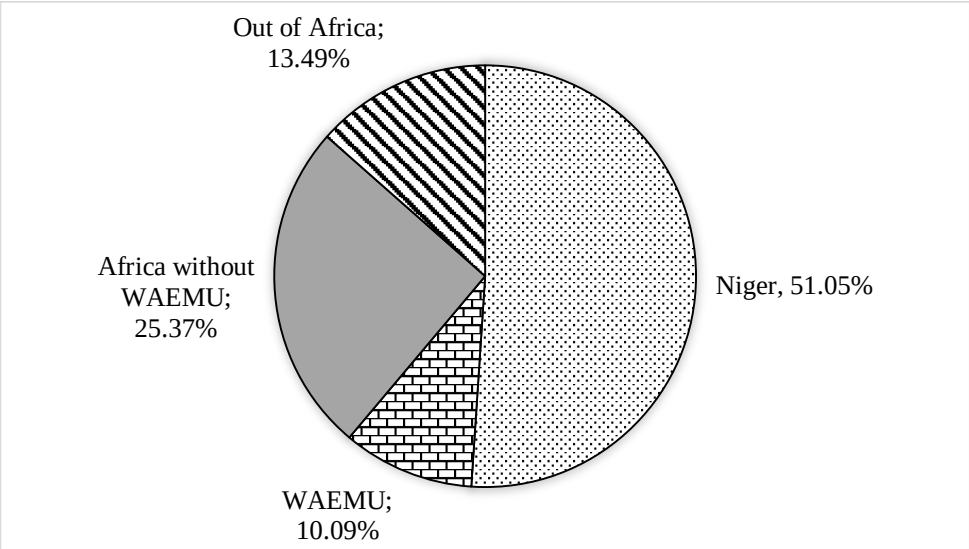

Figure 1: Sources of Transfer

Source: Authors

4.1.2 Destinations of private transfers

When discussing about the destinations of private transfers, two aspects can be considered based on its geographical distribution (region or area of residence) and its allocation according to the socio-demographic characteristics of the beneficiary (in this case the head of the household).

From a geographical point of view, we note that Zinder and Maradi States have received most transfers, while Diffa and Niamey are the least benefited (Table 3). On the other hand, when considering the average of transfers received, Niamey has received most transfers, followed by Zinder and Maradi. The States that have recorded the fewest transfers on average are Agadez and Diffa. There are also strong inter and intra-regional disparities, as all standard deviations are higher than averages in all States.

These results call for two possible comments. The first is related to the redistributive role of private transfers to fight poverty. Indeed, this is proven by significant correlation between the distribution of these transfers and the incidence of poverty by region (figure 2).

The poorest regions are the most fitted by transfers. For example, Zinder and Maradi, having the highest poverty rates, have received more transfers as compared to other. From this perspective, we can conclude that private transfers would play a palliative of social protection in Niger, due to the fact that they mainly target the poorest regions (Akim and Robillard, 2019). This idea is corroborated by the reality of poverty levels in rural Niger.

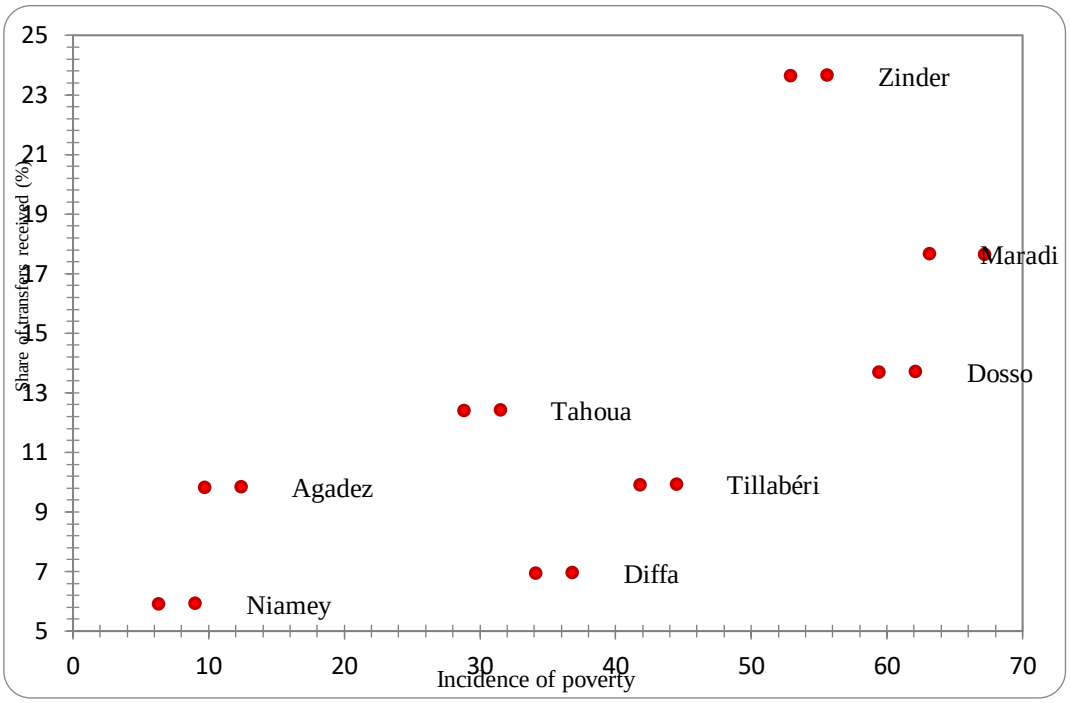

Figure 2: Scatterplot of poverty and private transfers in the regions

Source: Authors

According to ECVMA data, poverty affects about 52.4% of rural households against only 9.1% of urban households (INS, 2015). At the same time, we observe that nearly 77% of transfers are destined for the rural areas (Table 3).

Table 3: Destinations of private transfers (in thousands of CFA francs)

	Sample	Mean	Standard deviation	Share of transfers (%)
Region of the recipient				
Agadez	382	58,53	151,41	9,83
Diffa	363	43,50	139,96	6,94
Dosso	392	79,89	336,69	13,70
Maradi	461	86,99	377,67	17,64
Tahoua	427	66,03	116,57	12,40
Tillabéry	367	61,46	158,82	9,92
Zinder	475	113,15	224,48	23,64
Niamey	78	172,45	621,54	5,92
Place of residence of the beneficiary				
Urban	626	84,58	253,74	23,28
Rural	2319	75,21	259,60	76,72

Source: Authors

Table 4 reports statistics of quintiles for household consumption expenditure. . Results show that 20% least well-off have received an average of 90,000F CFA, followed by the middle class with an average around 67,000 and 78,000F CFA. The wealthiest (20%) have received about 72,000 FCFA. Furthermore, results also indicated that the largest sums (the maximum) go to the poorest. Finally, despite the greater variability at the level of poor households, the latter

benefit more from private transfers than the richest. Hence, the redistributive and social protection role have motivated these transfers.

Table 4: Distribution of transfers by quintiles (thousand CFA francs)

	Mean	Min	Max	Standard
1st quintile	90,3	0,5	7 620,0	418,7
2nd quintile	67,7	0,4	2 200,0	138,3
3rd quintile	78,6	0,9	2 500,0	199,4
4th quintile	77,4	0,5	2 700,0	217,8
5th quintile	71,9	0,1	5 000,0	228,6

Source: Authors

The second comment that we can derive from these results is related to migratory flows. Indeed, the regions of Niger that have benefited the most remittances are also those where net migration is relatively high (INS, 2015). Stated differently, these private transfers mostly initiated from internal and international migration.

4.1.3. Profile of beneficiaries

Table 5 presents the beneficiary profile. Results indicate that the relationship with the donor, the transfers received mainly originated from children (41.74%), followed by brothers and sisters (17.48%), husbands/wives and other relatives. The smallest transfers received are from people with whom the donor has no specific relationship (8.52%). However, in terms of the average amount of transfers received, the spouse (husband or wife) outranks the children. We can therefore conclude that the distribution of transfers according to relationship establishes a certain hierarchy according to the degree of solidarity or moral obligation.

The distribution of transfers by age illustrates some particularities. The households' head whose ages range from 15 to25years, have benefited very few transfers. This result is not surprising, because most of the respondents are often young couples with few or no children, and therefore have fewer expenses. On the other hand, it is seemed that the large share for the 25–35-year-old may seem paradoxical but, this age group is the most numerous and they have received most of the transfers to finance social events (naming ceremonies, weddings), there by explaining the large transfers in its favor. This is followed by the 35-65 age group that are less affected by these phenomena, but they have benefited transfers from their children. The oldest person group (+65 years), in principle retired, have received only about 13% of the transfers. However, this age group is not adversely affected, since it represents less than 4% of the total population. This distribution by age shows that private transfers in Niger are transversal to all states, which is a proven fact of intra and inter-generational solidarity.

Table 5: Distribution of private transfers by recipient profile

	Sample	Mean	Standard deviation	Share of transfers (%)
Relationship to donor				
Husband/Wife	242	127,34	236,79	13,55
Father/Mother	189	73,63	142,13	6,12
Child	880	107,84	385,90	41,74
Brother/Sister	636	62,47	194,11	17,48
Others parents	667	42,92	119,07	12,59
Not a parent	231	58,53	194,24	8,52
Gender of the head of the beneficiary household				
Male	2432	77,36	271,30	82,75
Woman	513	76,47	185,23	17,25
Age of the head of the beneficiary household				
[15 - 25]	78	64,49	87,16	2,21
]25 - 35]	683	81,91	333,82	24,61
]35 - 45]	677	68,77	173,79	20,48
]45 - 55]	617	77,00	235,56	20,90
]55 - 65]	528	82,02	209,58	19,05
Over 65	362	80,13	341,42	12,76

Source: Authors

Moreover, given the relative share of transfers allocated to health and education (2.90%), it is to be expected that they have little impact on investment in human capital.

4.1.4. Reasons for transfers

Concerning the reasons given to justify the transfers received, results show that these transfers constitute a significant support for daily expenses (e.g., food) for 75.58% of households and those related to social events for 18.79% of them (Table 6). These results highlight the importance of social solidarity in Niger, as in other African countries (Bréant, 2013). However, the amount of transfers allocated to productive investments (agricultural and entrepreneurial activities) is very low (0.77%) and concerns less than 5% of households.

Table 6: Reasons for transfers (Mean is in thousands of CFA francs)

	Sample	Mean	Standard deviation	Share (%) of total
Reasons for transfers				
Education of children	45	74,35	249,74	1,78
Health or illness	34	59,17	80,48	1,12
Current support	2633	39, 89	74,07	75,58
Support for field work	13	62,65	136,79	0,22
Support for non-agricultural business	135	55,799	55,87	0,77
Social Events (deaths, weddings,)	28	18,72	233,89	18,79
Others reasons	57	269,12	684,66	1,94

Source: Authors

In summary, the identification of the characteristics of private transfers and their recipients has made it possible to account for their role in informal social protection. The main information that can be drawn is that the impact of private transfers in Niger is very important for poor households, especially in rural areas. More efforts are therefore needed to channel and effectively exploit this potential for social solidarity in favor of regional development through the promotion of productive investments.

4.2. Determinants and redistribution of private transfers

Table 7 reports the estimates from the OLS regressions and for five quantiles of the amount of transfers received. Results show that estimates based on qualitative view point are satisfactory, as shown by the VIF values of the different variables without any multicollinearity problem. Similarly, the Breusch-Pagan test fails to detect the existence of heteroscedasticity for the quantile regressions either. Results of the latter obtained by bootstrapping from 1000 replications generate stable coefficients in terms of sign and different quantiles at different variables. The Fisher test of overall significance is accepted, although the share of variance explained remains low, which can be explained by the absence of other relevant exogenous variables, such as the income of the donor or even the status of his work (Mouhoud, 2016). There is also a clear difference in coefficients between multiple linear regression (OLS) and quantile regressions, which otherwise justifies the use of the latter estimation method.

The first result highlights the size of the household as an essential variable in explaining private transfers. Results of the different quantile estimates show that the amounts of transfers being received increase with the number of household members. The positive difference between the coefficients of the 90^{th} and 10^{th}quantiles (which is 0.128) confirms this and illustrates that household size has a significant impact on the amount of transfers being received. This is a very expected result given the demographic structure of Niger, where the average household size (in our sample) is 6 individuals.

Concerning the origins of the transfers, all the coefficients are positive and significant at the threshold of at least 5%, except for the 10^{th} and 20^{th}quantiles relating to the origin of the WAEMU. However, it can be seen that external transfers originating from outside Africa have a more positive effect on the variation of transfers. Moreover, they are dispersed and sensitive to the different quantiles.

We find practically the same result for the "*relationship to the donor*" variable. All the coefficients are positive and significant at the 1% level, except for the "*non-relative"* category, whose coefficients are negative and significant at the quantile level. Coefficients relating to children and husbands/wives are larger than the others. Although coefficient for other parents is significant at the 10% level but transfers below the 1^{st} quartile and above the 3^{rd}one are not significant. These results reveal that the family relationship is an unquestionable determinant of private transfers in Niger, in accordance with numerous previous studies (Lucas and Stark, 1985). Moreover, while the distribution seems stable for parents and siblings, it is sensitive and increases with the quantiles when it comes to the children or wife of the donor.

Table 7: OLS and quantiles regressions results of private transfers

	OLS	10ème Q.	20ème Q.	50ème Q.	80ème Q.	90ème Q.
Constant	9,673***	7,427***	8,164***	9,208***	10,382***	11,316***
	(37,55)	(0,60)	(0,47)	(0,48)	(0,52)	(0,78)
Household size (ln)	0,169***	0,109	0,151***	0,190***	0,193***	0,237***
	(4,23)	(0,07))	(0,05)	(0,05)	(0,06)	(0,07)
Age of the beneficiary (ln)	0,013	0,166	0,095	0,026	-0,149	-0,204
	(0,18)	(0,11)	(0,09)	(0,09)	(0,11)	(0,14)
Male donor	0,574***	0,636***	0,537***	0,548***	0,704***	0,681***
	(9,53)	(0,09)	(0,07)	(0,07)	(0,09)	(0,11)
Female beneficiary	-0,005	0,003	0,056	0,002	-0,049	-0,080
	(-0,10)	(0,12)	(0,08)	(0,07)	(0,09)	(0,11)
Origins of transfers						
WAEMU	0,178**	0,072	0,069	0,202**	0,267*	0,419***
	(2,20)	(0,15)	(0,10)	(0,10)	(0,15)	(0,15)
Africa without WAEMU	0,265***	0,362***	0,285***	0,280***	0,262***	0,232**
	(4,48)	(0,09)	(0,08)	(0,74)	(0,09	(0,11)
Out of Africa	0,729***	0,760***	0,669***	0,738***	0,870***	1,018***
	(5,72)	(0,21)	(018)	(0,16)	0(,21)	0,27)
Niger	Ref	Ref	Ref	Ref	Ref	Ref
Relationship to donor						
Child	0,866***	0,946***	0,765***	0,919***	0,845***	0,759***
	(13,17)	(0,11)	(0,08)	(0,07)	(0,11)	(0,11)
Husband/wife	1,023***	0,921***	0,821***	1,055***	1,087***	1,088***
	(10,50)	(0,15)	(0,13)	(0,12)	(0,15)	(0,21)
Father/Mother	0677***	0,791***	0,612***	0,698***	0,699***	0,662***
	(6,48)	(0,13)	(0,13)	(0,11)	(0,16)	(0,21)
Brother/Sister	0,285***	0,363***	0,135	0,303***	0,290**	0,304**
	(4,05)	(0,11)	(0,09)	(0,08)	(012)	(0,13)
Non-parent	-0,169**	-0,098	-0,298***	-0,129	-0,108	-0,089
	(-1,96)	(0,192)	(0,11)	(0,10)	(0,13)	-0,24)
Others parents	Ref	Ref	Ref	Ref	Ref	Ref
Donor's level of education						
None	-0,384***	-0,337**	-0,379***	-0,404***	-0,401***	-0,427*
	(-4,10)	(0,16)	(0,11)	(0,11)	(0,12)	0,24)
Primary	-0,409***	-0,389*	-0,331**	-0,409***	-0,486***	-0,485*
	(-3,56)	(0,21)	(0,13)	(0,13)	(0,15)	(0,26)
College	-0,047	-0153	0,030	-0,080	-0,035	-0,025
	(-0,41)	(0,22)	(0,15)	(0,14)	(0,17)	(0,25)
High School	0,222*	0,328	0,268*	0,290	0,276	0,191
	(1,68)	(0,24)	(0,14)	(0,17)	(0,18)	(0,31)
University	0,602***	0,361	0,459***	0,593***	0,706***	0,858***
	(4,91)	(0,26)	(0,14)	(0,17)	(0,20)	(0,31)
Don't know	Ref	Ref	Ref	Ref	Ref	Ref
Suffered from a shock	0,192***	0,157*	0,141***	0,204***	0,236***	0,125
	(4,05)	(0,08)	(0,06)	(0,06)	(0,77)	(0,09)

	OLS	10ème Q.	20ème Q.	50ème Q.	80ème Q.	90ème Q.
Motives for sending funds						
Business support	-0,196	0,337	0,490	0,192	0,223	-0,289
	(-0,64)	(0,595	(0,31)	(0,33)	(0,36)	(0,72)
Field work	-0,015	0518	0,408	0,155	0,760*	0,349
	(-0,07)	(0,32	(0,25)	(0,25)	(0,31)	(0,50)
Social events	0,104	-0,237	0,057	0,880	0,996*	0,275
	(0,24)	(0,90)	(0,91)	0,63)	(0,46)	(0,57)
Health/illness	-0,668**	-0,603	-0,791	-0,266	0,502	-0,020
	(-2,43)	(0,37)	(0,414	(0,49)	(0,42)	(0,66)
Education	-0,390**	-0,061	-0,019	-0,068	0,361	0,242
	(-2,29)	(0,31	(0,21)	(0,22)	(0,26)	(0,45)
Others reasons	-0,449*	-0,236	0,258	-0,111	0,853	1,900**
	(-1,79)	(0,46	(0,308)	(0,33)	(0,61)	(0,91)
Current support	Ref	Ref	Ref	Ref	Ref	Ref
Pseudo R^2	**0,498**	**0,109**	**0,114**	**0,116**	**0,110**	**0,111**
Fisher test	**30,17*** **					
Breusch-Pagan	**1,35**					
VIF	**1,78**					
Sample	**2945**	**2945**	**2945**	**2945**	**2945**	**2945**

Note : Q. Quantiles. * : p < 0,1 ; ** : p < 0,05 ; *** : p < 0,01. Wald statistic in parenthesis.

Source: Authors' calculations

Among the donor's characteristic variables, the fact of being male explains positively the transfers. This result is entirely consistent with Nigerien realities. In fact, transfers are more likely to come from a man than from a woman, except for social events (baptisms and weddings) where women seem to be more supportive than men.

The level of education produces two opposite effects. On the one hand, the low level of education (none and primary) explains the transfers negatively, and on the other hand, the secondary and higher levels are positively significant. This result indirectly confirms the role of human capital in income distribution. We admit here that the donor makes a transfer according to what he earns and that this gain is proportional to the level of his qualification.

The occurrence of a shock in the family also explains the transfers received at all levels. This result recalls first the high frequency of idiosyncratic and covariant shocks in Niger (Watson, 2016), and second the solicitations from the family when such risks occur.

The motives seem to be the variable that generated the most unexpected results. Indeed, apart from the "others reasons" category, whose coefficient is significant at the 5% level at the 90th^{ème}quantile, the other categories do not contribute to explaining the transfers. Worse still, certain categories such as education or health have negative and significant coefficients depending on the OLS. This result is difficult to explain insofar as it cannot be said that these reasons discourage private transfers. However, we can put forward as an explanation that the uses of the transfers as declared by the beneficiary (respondent) do not always correspond to reality. To convince ourselves of this, the high rate for the reason "current support" (75.58%, table 6) shows that this expenditure item can be a "catch-all".

5. Conclusion

The objective of this article is to determine the redistributive effects of private intra-household transfers in Niger, in order to take them into account in the national social protection policy under construction since 2011. The underlying idea lies in the hope of organizing some national intra- and inter-generational solidarity for the benefit of the most vulnerable households based on the determinants of private transfers. Results generally show that private transfers have a positive and significant effect on the well-being of recipient households, by providing expenses related to daily life and social events, even if this effect is weak in terms of productive investment (health, education, agricultural and commercial activities). These transfers therefore play a social protection role in the sense that the recipient household can access a higher level of consumption and income security. These private transfers offer the same opportunities to reduce social exclusion, poverty and vulnerability as the social protection system.

However, results of quantile regressions reveal that the distribution of private transfers in Niger is often a function of the quantiles of these transfers. Thus, household size, the donor's place of residence and the relationship with the donor positively explain these transfers, which largely depend on various degrees of quantiles. The transfer from children to fathers/mothers also shows that an intergenerational solidarity allowing the elderly to be taken care. On the other hand, the low investment in human capital (health and education) may constitute an important counterweight in the future perspectives of capturing the demographic dividend. Results also reveal that the low level of education would lead to fewer transfers. Moreover, social events, often associated with immediate consumption and conspicuous spending, are sometimes favored to the detriment of private investments that could stimulate the country's economic growth.

In terms of interactions with public social protection policy, there are two major challenges to overcome. The first one is to formally mobilize private transfers to broaden the scope of social security. The second one is the ability to redirect these transfers to the needy populations and to productive investments. From this point of view, this study may be of interest to money transfer companies, particularly in their strategy for setting up agencies according to the national mapping of transfer flows that we have been able to establish.

6. References

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