UNIVERSITÉ DU BURUNDI
GRENIER DU SAVOIR DU BURUNDI
Dépôt institutionnel officiel
https://repository.ub.edu.bi

Leveraging remittances to households in Burundi: Implications in terms of consumption expenditures and assets acquisition

NYAMWERU, Jean-Claude; NSENGIYUMVA, Théogène

2024

UB, CURDES no 20

https://repository.ub.edu.bi/handle/123456789/1149

Document téléchargé depuis le **Grenier du Savoir du Burundi** — https://repository.ub.edu.bi

LEVERAGING REMITTANCES TO HOUSEHOLDS IN BURUNDI: IMPLICATIONS IN TERMS OF CONSUMPTION EXPENDITURES AND ASSETS ACQUISITION

NYAMWERU Jean Claude & NSENGIYUMVA Théogène

Faculté des Sciences Economiques et de Gestion, Université du Burundi ;

Abstract

In a context of a poor economy recovering from decades of civil conflicts, remittances to households as a supplementary income can be associated with significant welfare gains. Applying the propensity scores matching (PSM) with inverse probability-weighted regression adjustment (IPWRA) estimation approach to the national wide dataset from Integrated Survey on Households' Living Conditions 2019/2020 (EICVMB 2019/2020), three hypotheses have been tested: the positive effects of remittances on food expenditures, on non-food expenditures, and on assets acquisition. Findings of this study revealed that remittances to households yield no positive effect on households' food expenditures (ATE = -167),

rather a positive effect on households' assets acquisition as proxied by Asset Index (ATE = 0.5). These results suggest that remittances constitute a means for households to invest in assets rather than food consumption. These findings have implications for economic policy making in the perspective of leveraging remittances for sustainable households' welfare improvements.

Key words: *Remittances, Consumption expenditures, Assets acquisition, Propensity score matching, Inverse probability-weighted regression adjustment, Burundi*

1. Introduction

Burundi is recovering from decades of civils conflicts that have devastated its economy and households are struggling to improve welfare status. Among other means for welfare improvement – and this not only for Burundi, rather a worldwide phenomenon, remittances to households have become recently an increasing means for supplementary income (Seydou, 2023; Nanziri and Mwale, 2023; Smith and Floro, 2021). This can even be an important survival means for post-conflicts countries like Burundi where family members living abroad support their families left in the country (Fransen and Mazzucato, 2014).

The analysis of current trends of remittances to households in Burundi reveals that they fall into two categories; i.e. funds received and funds sent out. This research focuses on funds received. These maybe from abroad or may have been received from local (national) sources. These funds received constitute an important source of income for beneficiary households. As reported from Integrated Survey on Households' Living Conditions in Burundi 2019/2020 (EICVMB 2019/2020), transfers received during the year 2019 amount to BIF 128,093.9 million, of which BIF 50,906.8 million (i.e. 39.7%) were from outside (INSBU, 2021).

Further to this, the funds sent have several destinations. For example, 69.6% are sent by people who have relatives while 30.4% are sent by people without any relatives. Among those who receive these funds, 70.5% of households live in rural areas while 65.7% are received by urban households. On the other hand, for households with no kinship with those who sent the funds29.5% of these live in rural areas while 34.3% of them live in urban areas. Of the transfers received from abroad, 75.4% were received by households living in Bujumbura capital city and 24.6% by rural households (INSBU, 2021).

According to the same source, the beneficiaries of remittances have several socioeconomic and demographic characteristics. With respect to gender, transfers are mostly received by women (61.7%) compared to men (38.3%). The report by INSBU (2021) also points out that the majority (51.2%) of people who received transfers are aged between 15-35 years. An important proportion (34.6%) of beneficiaries can also be observed for the category of 36-64 years old. Regarding the level of education, the beneficiaries mainly have secondary level (30.4%) or primary level (23.6%) of education. They are followed by those who have not attended school (22.6%). The report from EICVMB 2019/2020 data points out also the fact that most of the beneficiary of remittances are married people (68.2%). Further to this characterization of remittances, the report points out the fact that funds received have several usages ranging from day-to-day support to the payment of school fees or other urgent needs.

Though there is an active phenomenon of remittances to household in Burundi, there is a missing link in the theoretical and empirical analysis of the impact of remittances on the well-being of recipient households. There is scant literature on the extent to which remittances contribute to effectively improve livelihoods of beneficiary households.

A few empirical works on the matter by Fransen and Mazzucato (2014) and by Fransen (2015) have been conducted in a context of lack of national wide representative data. This paper aims to contribute to filling this literature gap by using a national wide dataset from integrated survey on households' living conditions to test three hypotheses i.e. the positive effects of remittances on food expenditures, on non-food expenditures, and on assets acquisition. Insights from the findings are expected to contribute to economic policy making in the perspective of leveraging remittances for households' welfare improvements. The rest of the paper is organized in literature review that guided the study, methodology, findings presentation and discussions.

2. Literature review

Remittances make up a significant portion of income or diversified sources of income and as such raise standards of living for beneficiary households at various extent (Mohapatra et al., 2011; 2017; World Bank, 2021). Most crucially, the effects of remittances are felt by the beneficiary households through smoothening expenditures (Combes and Ebeke, 201; Rodima-taylor, 2023) and acquisition of human capital (Namgha et al., 2019; Xia et al., 2022).

Most of these studies have been conducted in a context of developing countries where they analyzed the effects of remittances on household consumption stability. The literature suggests that remittances have four essential positive effects, namely the stability of consumption for beneficiary households, the insurance in the face of agricultural shocks, the variability of exchange rates or natural shocks and also play the role of stabilizer in countries with a poorly developed financial system (FMI, 2021). This positive role of remittances becomes increasingly important, especially when the country has many migrants (Mohapatra et al., 2012) and in many

ways, remittances allow developing countries to solve the problem of budget deficit (Alok and Mishra, 2022). In practice, the volume of funds sent depends heavily on the favorable macroeconomic framework as well as the quality of governance in the host country (Lotfalipour et al., 2022).

The phenomenon of remittances is increasingly high in low- and middle-income countries compared to high-income countries (Beck and Demirgüç-Kunt, 2009). Remittances are made through several channels ranging from hand-to-hand delivery to the use of modern transfer tools (Martins, 2021; Olivié and Shea, 2022).

In post-conflict countries like Burundi, the study by Fransen and Mazzucato (2014) show that remittances allow beneficiary households to obtain assets that are more social than economic. According to these authors, remittances allow beneficiaries to improve their well-being and smooth their consumption as well as obtain productive assets. Fransen and Mazzucato (2014) conclude their analysis by affirming that remittances constitute insurance means for poor households compared to rich ones. By all means, this has a corollary a reduction of poverty.

Diving in social benefits of remittances, Arif and Inayatullah (2020) affirmed that households benefiting from remittances manage to bear social expenses such as wedding, funeral and baptism expenses. The literature supports also the fact that remittances enable beneficiary households to finance productive activities, finance the education of their children and bear other obligatory social expenses (AM Shah et al., 2021).

Further empirical works confirmed that that remittances positively impact the economic stability of developing countries by substituting to a significant portion of gross domestic product (Combes and Ebeke, 2011).

According to the same author, remittances play an undeniable role in financial stabilization as well as insurance against exogenous shocks by allowing beneficiary households to smoothen their consumption (Jayaweera and Verma, 2023).

In terms savings potential, studies in Ghana confirmed that the savings rate is higher among households that receive transfers than those that do not (Quartey et al., 2018). Similar results have been also observed for the Vietnam case where, for example, transfer of funds allows beneficiary households to invest in education and to develop income-generating activities (Thanh et al., 2015; Elizabeth and Limbikani, 2023; James et al., 2022). These effects are greater in urban than in rural areas (Fransen and Mazzucato, 2014). Further to these facts, Namgha et al. (2019) confirmed that remittances have a positive impact on the formation of human and financial capital compared to social capital which is relatively weak or even insignificant.

For some authors like Bourdet and Falck (2006), remittances produce negative effects on beneficiary households which are due for instance to the fact that transferred funds are invested in non-productive sectors (Kalyan et al., 2022). Same conclusions have been derived by Tchekoumi et al. (2023) in the CEMAC zone where they concluded that sending

remittances alone does not produce positive effects on economic growth. Authors, for instance Farhani et al. (2023), defended that the effects depend on other factors, in particular the degree of trade openness, the level of private investment, the exchange rate, the weight of the informal sector and political stability. Moreover, the effects of remittances differ depending on whether these funds come from outside or inside the area of the beneficiary household. For example, households whose remittances come from abroad have higher expenditure than those whose remittances come from the same area (Shair et al., 2023).

In the same way, Shahadath et al. (2021) observed that remittances allow households to make investments. These can either be oriented towards human capital, or towards social or physical capital and that these effects differ from one region to another. Generally, as continued by Shahadath et al. (2021), remittances have positive effects on human, social and physical capital.

3. Methodology

3.1. Study design and data

This study is quasi-experimental research using cross-sectional data to evaluate effects of remittances on three outcome variables; i.e. monetary poverty,

assets acquisition and savings. Data used are secondary data from Integrated National Survey on Households Living Conditions (EICVMB 2019-2020). The data have been collected for the period of 2019 – 2020 using multistage sampling process at national level by the Burundi National Bureau of Statistics (ISTEEBU, currently named as INSBU – *Institut National de la Statistique du Burundi*). The data constitute a unified questionnaire reflecting all thematic areas relating to households living conditions, including information on money transfers received on sent out by household heads and also all information relating to households assets ownership and savings trends. This makes the database as "integrated", hence enabling us to empirically test the three hypotheses that have been put forward in this study; i.e. the positive effects of remittances on food expenses, non-food expenses and asset acquisition.

3.2. Analytical approaches and variables description

In the absence of completely randomized data, quasi-experimental research approaches are used. In this research, we rely on EICVB 2019-2020 cross-sectional secondary data from the National Bureau of Statistics. We therefore have applied propensity scores matching (PSM) with inverse probability-weighted regression adjustment (IPWRA) approaches the three hypotheses.

The rationale of this analytical approaches is that combining PSM and IPWRA enables estimating an unbiased treatment effects in the case of absence of completely randomized data that would avoid confounding (Caldera, 2019; Słoczyński and Wooldridge, 2018).

With the absence of randomized data, similar to our case, the IPWRA helps overcoming the problem of confounding in a 4-steps process; i.e. (i) estimation of selection to treatment (treatment model), (ii) prediction of treatment for all observations, (iii) assigning the inverse of probability of treatment for treated individuals and the inverse probability of not being treated for control individuals and then (iv) re-estimation of the outcome model using these new weights (Caldera, 2019). As such, key feature of IPWRA is the double robustness (Caldera, 2019).

Our aim is to evaluate the effect of remittances on three outcome variables (monetary poverty, asset ownership – proxied by asset index and savings), but theoretically, there are other covariates that are associated with those outcome variables. These are household's individual socio-economic characteristics, namely household head's age, place of residence, gender, marital status and education attainment. Together with the three outcome variables, a complete description of these variables, measurement scales and related empirical references are presented in Table 1.

Table 1: Variables description

Variable	Description	Measurement	Relevant Literature
Treatment Variable: Receiving remittances			
Received remittances	The fact that an individual has received remittances	A binary variable: 0 = has not received remittances; 1 = has received remittances	Fransen and Mazzucato (2014),
Outcome Variable			
Food expenses	This is amount of money that has been spent on food items during the period under survey	Continuous variable	
Non-food expenses	This is amount of money that has been spent on non-food items during the period under survey. It excludes the amount spent on household's assets	Continuous variable	
Asset Index	Assets acquisition reflects the non-monetary poverty status. It is proxied by Asset Index. Sample mean Asset Index was calculated to serve as the poverty index	Continuous variable	Namgha et al. (2019)

Independent Variables			
Age category of household head	The age was categorized with an intention to realize the effect of remittance for young, active or retire persons.	1 = 15 to 24 years ; 2 = 25 to 34 years ; 3 = 35 to 59 years ; 4 = 60 years and above	ISTEEBU (2021)
Place of residence	Place of residence of the household head	A binary variable : rural = 0; urban = 1	Fransen and Mazzucato (2014),
Marital status	Marital status of the household head	1 = Single; 2 = married; 3 = widow; 4 = divorced	Fransen and Mazzucato (2014),
Gender	Gender of the household head	A binary variable: female = 0; male = 1	Fransen and Mazzucato (2014),
Education level	Education level of the household head	A categorical variable: 1 = none ; 2 = fundamental ; 3 = post fundamental ; 4 = tertiary	Fransen and Mazzucato (2014),

Source: *Authors, based on EICVMB 2019-2020 data*

Analytically, the assignment is to estimate the Average Treatment Effect (ATE) which is the difference between the potential outcomes (Heckman et al., 1997), in our case, food expenditures,

non-food expenditures and assets acquisition (here proxied by Asset Index) of households who received remittances and those who did not.

First, propensity scores matching (PSM) is used to create a statistical contrast system where the unit being treated (here the fact of receiving remittances) is compared by measurable covariates (here age, place of residence, gender, marital status and education attainment) with unit in the control group (those who did not receive remittances) for a random assignment of treatment (Rosenbaum and Rubin, 1983). PSM is used in two steps. The first step is the probit modeling.

of the attribute of receiving remittances and determine the propensity score of each observation. The model specification was done as follows:

$$P(R = 1)/X_i) = E(R/X_i) = F\{h(X_i)\} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (1)$$

Where F(.) is the binary model. Xi is a vector of covariates i.e. age, place of residence, gender, marital status and education attainment.

After the propensity score is determined, the second step is to measure the overall impact on the individual (ATE), by comparing those received remittances with those who did not conditioned on similar attributes.

The ATE (as specified in equation (2)) is the net impact of remittances on food expenditures, non-food expenditures and Asset Index of those who received remittances:

$$ATE = E(Y_i^1 - Y_i^0 \,/R = 1) = \frac{1}{N_R}(\sum_{i\in R} Y_i^1 - \sum_{i\notin R} \varphi(i,j)Y_i^0) \ldots\ldots (2)$$

N_R denotes the number of household heads who received remittances, Y_i^1 and Y_i^0 represent food expenditures, non-food expenditures and Asset Index for those who received remittances and those who did not, respectively; $\varphi(i,j)$ is the corresponding factor used in the matching process. The sensitivity of PSM was checked by apply relevant approach preconized in the literature (Imbens, 2004), i.e. nearest-neighbor matching, kernel-based matching and radius matching to serve as robustness check. To address the limitations of PSM, inverse probability-weighted regression adjustment (IPWRA) was used as an appropriate solution bias ATEs estimates arising from propensity score models in the presence of misspecification, hence ensure accurate results as it allows the treatment and the outcome models to compensate for the misspecification (Danso-Abbeam et al., 2020).

The robust ATEs estimates were calculated in a two-step process following the specification by Imbens and Wooldridge (2009) as follows:

$$Y_i = \delta_i + \omega_i X_i + \varepsilon_i \ldots\ldots (3)$$

In the first step, the propensity score is generated. Second, linear ordinary least squares (OLS) is used to estimated δ_i and ω_i using inverse probability weighted least square, specified as:

$\min_{\delta_0 \omega_0} \sum_{i0}^{N} (Y_i - \delta_0 - \omega_0 X_i) \, / P(X, \hat{Y})$ if $k_i = 1$

Finally, the ATE can be computed as:

$$ATE = \frac{1}{N_R} \sum_{i}^{N_R} \left[\left(\widehat{\delta_1} - \widehat{\delta_0} \right) - \left(\widehat{\omega_1} - \widehat{\omega_0} \right) X_i \right] \quad \text{..... (4)}$$

where $(\widehat{\delta_1}, \widehat{\omega_1})$ are the inverse probability weighted estimates for household heads who received remittances and $(\widehat{\delta_0}, \widehat{\omega_0})$ are the estimated inverse probability weighted estimates for the household heads who did not received remittances. N_R, and X_i are as defined earlier.

The Asset Index as a proxy for welfare (Michelson et al., 2013) was computed from data on assets owned by households. The computational approach by Michelson et al. (2013) was done as follows:

$$IR_i = \frac{\sum_{k=1}^{K} \sum_{j=1}^{J_k} \bar{\omega}_{j,k} I_{j,k,i}}{K} \quad \text{..... (5)}$$

where IR_i is the Asset Index of the i^{th} household, k is the total possible number of assets for one type of asset likely to be owned by the household, J_k is the number of categories of the assets k, $\bar{\omega}_{j,k}$ is the weight of modality j of the asset k, $I_{j,k,i}$ is a binary variable taking the value 1 when individual i has modality j of the indicator k and 0 otherwise.

Defined as that, the Asset Index is the average of the weights of the binary qualitative variables. Factor analysis methods are often used and have the advantage of being able to determine the weighting coefficients of each variable entering into the construction of the index, thus avoiding arbitrariness. The weight $\overline{\omega}_{j,k}$ to be assigned to each component of the composite index is the normalized score of the modality $I_{j,k,i}$ obtained after application of multiple correspondence analysis according to the formula:

$$\overline{\omega}_{j,k}^{\alpha} = \frac{\overline{\omega}_{j,k}}{\sqrt{\lambda_a}} \quad \dots\dots (6)$$

where $\overline{\omega}_{j,k}^{\alpha}$ represents the score of modality j of indicator k on the axis α et λ_a, the eigenvalue of the axis α

4. Findings and discussions

4.1. Findings

Findings of this study are presented in manner that we conclude in line with the three hypotheses that we aimed to test; i.e. the positive effects of remittances on food expenditures, on non-food expenditures, and on assets acquisition proxied by Asset Index. Before we present results from estimation (Table 3), we discuss summary statistics (Table 2) on variables used.

Table 2: Summary statistics on treatment, outcome, and covariable variables used in the analysis

Variable	Obs	Mean	Std. Dev.	Min	Max
Treatment: The fact of receiving remittances					
Received remittances	29,202	0.09	0.29	0.0	1.0
Outcome variables					
Amount spent on food	29,202	1,499	2,780	50	90,000
Amount spent on non-food items	29,202	4,015	11,515	100	360,000
Asset_Index	29,202	0.00	1.09	-2.92	1.40
Covariates					
Place of residence					
Urban	29,202	0.21	0.40	0	1
Gender					
Male	29,202	0.47	0.50	0	1
Age category					
15 to 24 years	29,202	0.03	0.38	0	1
25 to 34 years	29,202	0.22	0.42	0	1
35 to 59 years	29,202	0.61	0.49	0	1
60 years and above	29,202	0.14	0.34	0	1
Marrital status					
Single	29,202	0.66	0.36	0	1
Married	29,202	0.30	0.46	0	1
Widow	29,202	0.03	0.16	0	1

Divorced	29,202	0.01	0.10	0	1
Education attainement					
None educated	29,202	0.42	0.19	0	1
Fundamental	29,202	0.48	0.50	0	1
Post Fundamental	29,202	0.06	0.23	0	1
Tertiary	29,202	0.05	0.22	0	1

Source: *Authors, based on EICVMB 2019-2020 data*

Results in Table 2 are summary statistics on variables used in this study. On the top of the Table are summary statistics on treatment variable (the attribute of receiving remittances) and outcome variables of interest. At the bottom of the Table are covariates included in the analysis. As it is revealed from these statistics, 9% of the sampled households have received remittances. It also appears that average spending on food and non-food items is BIF 1,499 and BIF 4,015 respectively. The average asset index is 0.00. From the analysis of socio-economics characteristics of sampled households' heads, it appears that 21% reside in the rural places and 47% are males. As per age, it is observed that the majority (61%) of households' heads are aged between 35 and 59 followed by the age category of 25 to 34 age (22%). Furthermore, the majority of individual in the sample are single (66%) followed by those who are married (30%).

It also was observed that the majority of respondents are educated up to Fundamental level (48%) but also with an important proportion on none educated households (42%).

Table 3: Results from estimation of IPWRA model

Variable	Food expenditures			Non-food expenditures			Asset Index		
	Coef.	Std. Err.	P-values	Coef.	Std. Err.	P-values	Coef.	Std. Err.	P-values
Average Treatment Effect (ATE) (Received transfers Vs No transfers received)	-167.04***	58.06	0.00	11.60	192.92	0.95	0.05**	0.02	0.04
Potential-outcome means (POMs)									
No transfers received	1517.97***	21.72	0.00	4019.01***	72.30	0.00	-0.01	0.01	0.18
Received transfers	1350.93***	54.03	0.00	4030.61***	180.12	0.00	0.04*	0.02	0.07
Covariates									
Place (ref=rural)	0.42***	0.03	0.00	0.39***	0.03	0.00	0.38***	0.03	0.00

Gender (ref=female)	0.02	0.03	0.56	0.01	0.02	0.62	0.01	0.02	0.63
Age (ref=15 to 24 years)									
25 to 34 years	-0.29***	0.07	0.00	-0.30***	0.05	0.00	-0.30***	0.05	0.00
35 to 59 years	-0.38***	0.06	0.00	-0.41***	0.05	0.00	-0.41***	0.05	0.00
60 years and above	-0.28***	0.07	0.00	-0.31***	0.06	0.00	-0.31***	0.06	0.00
Marital status (ref=Single)									
Married	0.52***	0.03	0.00	0.53***	0.02	0.00	0.53***	0.02	0.00
Widow	0.75***	0.07	0.00	0.83***	0.05	0.00	0.83***	0.05	0.00
Divorced	0.63***	0.10	0.00	0.64***	0.09	0.00	0.64***	0.08	0.00
Education attainment (ref=None)									
Fundamental	0.00	0.03	0.87	0.01	0.02	0.66	0.01	0.02	0.66
Post Fundamental	0.30***	0.05	0.00	0.32***	0.04	0.00	0.32***	0.04	0.00
Tertiary	0.18***	0.05	0.00	0.17***	0.05	0.00	0.17***	0.05	0.00

****, ** and *: Significant at 1%, 5% and 10%*

Source: *Authors, based on EICVMB 2019-2020 data with IPWRA estimation*

Table 3, results from estimation are presented. On the top of the Table are ATEs estimates for all the three outcomes variables of interest; i.e. food expenditures, non-food expenditures and Asset Index. Potential outcome means (POMs) are also presented for the three outcome variables for both treated (those who received remittances) and control (those who did not receive remittances) groups. Significant levels are also presented for ATEs and POMs as well as for covariates estimated.

Clearly from estimation results, ATEs estimates is significantly negative for food consumption expenditures (1% level of significance), not significant for non-food consumption expenditures and significantly positive (5% level of significance) for Asset Index. For covariates included in the analysis, parameters estimates associated with these all are significant, except the gender and education at fundamental level.

4.2. Discussions

Effects of remittances on food expense

With regard to the effects of remittances on food expenditures, findings of this study show that remittances and food consumption expenditures move in opposite direction.

This result implies that households receiving remittances are more likely to spend the money other expenses than food ones. This finding led to the rejection of our hypothesis of positive effects of remittances on food expenditures.

These results are similar to those of Elizabeth and Limbikani (2023), Bourdet and Falck (2006), Bersch et al. (2021) or Moniruzzaman (2020) where these authors confirmed that remittances modify the consumption habits of beneficiary households. They have observed, for example, that households that receive remittances can use them to acquire increasingly expensive goods that were previously inaccessible to them. Likewise, according to these authors, remittances improve the well-being of beneficiary households by 2% than those who do not receive them.

Worldwide, Smith et al. (2020) have found that both domestic and international remittances improve consumption for recipient households, but these effects are greater for international than domestic transfers and that these effects are not felt in the same way in all countries and that most crucial, effects are greater in low-income countries than in middle-income ones. However, Bourdet and Falck (2006) found a negative effect of remittances on economic activity.

For these authors, remittances reduce the competitiveness of high value-added export sectors. These negative effects can be reduced by the establishment of a regulatory environment that promotes the development of digital financial services (Bersch et al., 2021).

This means that the remittances constitute a source of potential and secure income that they use to plan their future in a stable manner. In light of this finding, Burundi policy makers should put in place a legal and regulatory framework to leverage remittances. This means that conducive regulatory framework is key for remittances to produce multiplier positive effects.

Effects of remittances on non-food expenses

Results reveal that remittances have a positive but insignificant effect on non-food expenditure. This leads us to partially validate the second hypothesis of our study. This may be a knock-on effect. The effects of remittances on non-food expenditure are captured at several levels, mainly remittances constitute adaptation factors and/or additional income for beneficiary households, (Cooray, 2012; Mora-rivera and Gameren, 2021) hence constitute a determining factor for livelihoods improvement.

These results corroborate with findings by Raza (2016) or Azam et al. (2005) who asserted that remittances enable recipient families to invest in other needs that food items like reducing their vulnerability and thus improve their living conditions (Azam et al., 2016).

These results are similar to those of Földes (2020) in the case of Romania where the author found that younger people who move abroad in search of better-paid work send remittances to their parents who have stayed at home to support them in their various needs, such as health care, taking part in village or neighborhood festivities, paying for clothes etc. In all means, remittances constitute a source of financing of various needs for beneficiary households by resolving budgetary constraints (Urama et al., 2016; Amuedo-dorantes et al., 2010) including expenses corresponding to the social relationships (Fransen, 2015).

Effects of remittances on assets acquisition

As revealed by this study, remittances have a significant positive effect on the acquisition of assets for beneficiary households. These results lead us to validation of our third hypothesis.

This finding corroborates with that of Fransen and Mazzucato (2014) who found that remittances have a significant positive effect on non-productive assets and a weak effect on productive assets.
Linking this finding to reasons of sending money to ones' relatives, Havolli (2009) mentions the acquisition of assets and the need to invest in the country of origin. These assets allow then households to invest and create income-generating activities (Martins, 2021).

According to Deere and Alvarado (2016), women are able to acquire assets in their families than men when it comes to remittances received. This highlights the capacity of women to be economically self-sufficient (Lopez-ekra et al., 2011). It should be noted, as observed by Lopez-ekra et al. (2011), that these remittances are also used to acquire school assets such as notebooks, pens, means of transportation to get to school such as bicycles, pay for uniforms, shoes, etc.

Remittances may differ according to the gender of the head of household (Dharmadasa et al., 2020). According to the authors, male-headed households who receive remittances spend more on leisure, transport or one-off purchases and less on education, while women spend more of the money they receive on food. They conclude their analysis by saying that

remittances to rural households are not directed towards investment or the accumulation of human capital. In conclusion,

remittances allow households to acquire productive and non-productive assets that enable them to invest in productive activities (Ajefu, 2017).

5. CONCLUSION

The aim of this study was to examine the effects of remittances on recipient families in Burundi. Applying PSM with IPWRA regression on EICVMB 2019-2020 data, this study revealed that remittances were less used for food consumption expenditure. For other non-food expenditures, remittances have a positive but insignificant effect. As for the acquisition of assets for households receiving remittances, findings revealed a positive and significant effect. This shows that households that received remittances used them to acquire goods they needs to improve their well-being than food consumption. In right of these results, it is desirable for policy makers to put in place a legal and regulatory framework that would enable leveraging remittances as a means for welfare improvement.

REFERENCES

Ajefu, J. B. (2017). Migrant remittances and assets accumulation among Nigerian households. *Migration and Development*, *2324*(October), 1–13.

Alok, P. J., & Mishra, K. (2022). Macroeconomic determinants of remittances to India. *Economic Change and Restructuring*, *55*(2), 1229–1248.

AM Shah ; MK Khan and N Reayat. (2021). *The Socio-Economic Effect of Remittances on Left behind Families in District Chitral*. *7*(1), 195–200.

Amuedo-dorantes, C., Georges, A., Pozo, S., & Georges, A. (2010). Migration, Remittances, and Children's Schooling in Haiti. *The ANNALS of the American Academy of Political and Social Science*.

Arif Hussain and Inayatullah Jan. (2020). Effect of Foreign Remittances on Social Festivities in District Kurram, Khyber Pakhtunkhwa: Effect of Foreign Remittances on Social Festivities. *Journals.Qurtuba.Edu.Pk*, 1–11.

Azam, M., Haseeb, M., Samsudin, S. (2016). *THE IMPACT OF FOREIGN REMITTANCES ON POVERTY ALLEVIATION : GLOBAL EVIDENCE*. *9*(1), 264–281.

Azam, J., Gubert, F., & Azam, J. (2005). Those in Kayes The Impact of Remittances on Their Recipients in Africa Those in Kayes. *Revue Économique*, *56*.

Beck, T., & Demirgüç-Kunt, A. (2009). Financial Institutions

and Markets across Countries and over Time -- Data and Analysis. *Mimeo*, (May), 1–42.

Bersch, J., Clevy, J. F., Muhammad, N., Ruiz, M. E. P., & Yakhshilikov, and M. Y. (2021). *Fintech Potential for Remittance Transfers: A Central America Perspective*.

Bourdet, Y., & Falck, H. (2006). Emigrants' remittances and Dutch disease in cape verde. *International Economic Journal*, *20*(3), 267–284.

C. D. Deere and G. Alvarado. (2016). Gender , Remittances , and Decision Making in Ecuador. *International Center for Research on Women (ICRW)*, *51*(4), 249–270.

Combes, J. L., & Ebeke, C. (2011). Remittances and Household Consumption Instability in Developing Countries. *World Development*, *39*(7), 1076–1089.

Cooray, A. (2012). *The Impact of Migrant Remittances on Economic Growth : Evidence from South Asia*. *20*(5), 985–998. https://doi.org/10.1111/roie.12008

Dharmadasa, R. A.P.I.S; Rathnayake, K.K.H.M. and Samaraweera, W. G. R. . (2020). Impact of Remittances and Gender on Expenditure Pattern : An Insight into Intra-Household Resource allocation of Rural Sector Households in Sri Lanka. *Kelaniya Journal of Management*, *09*(01), 87–114.

Elizabeth, L., & Limbikani, M. (2023). Remittances , crowd-in effect , and household welfare. *Scientific African*, *19*,

e01521.

Farhani, R., Aloui, A., & Mohsin, K. (2023). Asymmetric effect of real exchange rate changes on poverty : The role of remittances and the informal sector Asymmetric effect of real exchange rate changes on poverty : The role of remittances and the informal sector. *Cogent Social Sciences*, *9*(1).

FMI. (2021). *How Do Transaction Costs Influence Remittances?*

Földes, I. (2020). Linked Lives across Borders : Economic Remittances to Ageing Parents in Romania. *Comparative Population Studies*, *45*, 65–86.

Fransen, S. (2015). Remittances , Bonds and Bridges : Remittances and Social Capital in Burundi. *The Journal of Development Studies*, *51*(September), 1–15.

Fransen, S., & Mazzucato, V. (2014). Remittances and Household Wealth after Conflict : A Case Study on Urban Burundi. *World Development*, *60*, 57–68.

Havolli, S. (2009). *Determinants of remittances: the case of Kosovo*.

INSBU. (2021). *Rapport de l'enquête intégré sur les conditions de vie des ménages au Burundi (EICMB,2019-2020)*. Bujumbura/Burundi.

James, J., Rodriguez, M., Cuandros-menaca, A., & Cuadros-menaca, A. (2022). *Schooling , Migration and Social*

Violence in Colombia.

Jayaweera, R., & Verma, R. (2023). Social Sciences & Humanities Open Are remittances a solution to housing issues ? A case study from Sri Lanka. *Social Sciences & Humanities Open*, *7*(1), 100392.

Kalyan, E., Bablu, C., Dhar, K., & Issa, A. (2022). *Impact of Remittance on Economic Progress : Evidence from Low - Income Asian Frontier Countries*. (0123456789).

Lopez-ekra, S., Aghazarm, C., Kötter, H., Mollard, B., Lopez-ekra, S., Aghazarm, C., & Ko, H. (2011). The impact of remittances on gender roles and opportunities for children in recipient families : research from the International Organization for Migration The impact of remittances on gender roles and opportunities for children in recipient families : re. *Gender & Development*, (October 2014), 37–41.

Lotfalipour, M. R., Falahi, M. A., Zareei, A., & Matuszczak, A. (2022). *How Good Governance (gg) Affects Diaspora Motivations for Remittances to Iran*. 1–27.

Mahapatro, S., Bailey, A., James, K. S., & Hutter, I. (2017). Remittances and household expenditure patterns in India and selected states. *Migration and Development*, *6*(1), 83–101.

Martins, A. A. (2021). Nigerian Migrants ' Remittances : The Unofficial Channel. *European Journal of Business and*

Management, *13*(23), 58–71. https://doi.org/10.7176/EJBM/13-23-05

Mohapatra, S., Joseph, G., & Ratha, D. (2012). Remittances and natural disasters: Ex-post response and contribution to ex-ante preparedness. In *Environment, Development and Sustainability* (Vol. 14).

Mohapatra, S., Ratha, D., & Silwal, A. (2011). Migration and development Brief. *Outlook*.

Moniruzzaman, M. (2020). *The Impact of remittances on household food security : Evidence from a survey in Bangladesh*.

Mora-rivera, J., & Gameren, E. Van. (2021). The impact of remittances on food insecurity : Evidence from Mexico. *World Development*, *140*, 105349.

Namgha, T., Ganesh, L., & Jyotishi, A. (2019). Influence of remittances on capital endowment of Tibetan refugees in India. *International Journal of Development Issues*, *18*(3), 290–309.

Olivié, I., & Shea, M. S. O. (2022). *The role of remittances in promoting sustainable development*.

Quartey, P., Ackah, C., Lambon-quayefio, M. P., & Quartey, P. (2018). *Inter-linkages between remittance and savings in Ghana savings*.

Raza, M. A. and S. A. (2016). Do Workers ' Remittances Boost Human Capital Development ? *The Pakistan*

Development Review, *2*(55), 123–149.

Rodima-taylor, D. (2023). *Sending Money Home in Conflict Settings: Revisiting Migrant Remittances*. *23*(1), 43–51.

Shahadath Hossain and Adesola Sunmoni. (2021). *Do Remittances Influence Household Investment Decisions ? Evidence from Sub- Saharan Africa*.

Shair, W., Anwar, M., Shair, W., & Anwar, M. (2023). Effect of internal and external remittances on expenditure inequality in Pakistan Effect of internal and external remittances on expenditure inequality in Pakistan. *Cogent Economics & Finance*, *11*(1).

Smith, M. D., Floro, M. S., Smith, M. D., & Floro, M. S. (2020). The Effects of Domestic and International Remittances on Food Insecurity in Low- and Middle-Income Countries The Effects of Domestic and International Remittances on Food Insecurity in Low- and Middle-Income Countries. *The Journal of Development Studies*, *00*(00), 1–23.

Tchekoumi, L. B., Nya, P. D., Tchekoumi, L. B., & Nya, P. D. (2023). Remittances and economic growth : What lessons for the CEMAC zone ? Remittances and economic growth : What lessons for the CEMAC zone ? *Cogent Economics & Finance*, *11*(1).

Thanh, T., Bui, N., Thanh, T., Le, N., & Daly, K. J. (2015). Micro-level impacts of remittances on household behavior: Vietnam case study. *Emerging Markets*

Review, 1–24.

Urama, N. E., Nwosu, E. O., Yuni, D. N., & Aguegboh, S. E. (2016). International Migrant Remittances and Labour Supply in Nigeria. *International Migration*, 1–14.

World Bank. (2021). Remittance Flows Register Robust 7.3 Percent Growth in 2021.

Xia, Chengjuan, Md. Qamruzzaman, A. H. A. (2022). *An Asymmetric Nexus : Remittance-Led Human Capital Development in the Top 10 Remittance-Receiving Countries : Are FDI and Gross Capital Formation Critical for a Road to Sustainability ?*

Centre Universitaire de Recherche pour le Développement Economique et Social

Référence bibliographique des Cahiers du CURDES

Pour citer cet article / How to citate this article

NYAMWERU Jean-Claude, NSENGIYUMVA Théogène, Leveraging remittances to households in Burundi: Implications in terms of consumption expenditures and assets acquisition, pp. 54-87, Cahiers du CURDES n° 20, Mars 2024.

Contact CURDES : curdes.fsea@yahoo.fr